Oregon
John A. Kitzhaber, MD, Governor

Department of Transportation
Office of the Director, MS 11
355 Capitol St NE
Salem, OR 97301-3871

DATE: April 2, 2013

TO: Oregon Transportation Commission

FROM: Matthew L. Garrett
Director

SUBJECT: **Consent 6** - Adoption of the Oregon 126 Fern Ridge Corridor Plan

Requested Action:
Request approval to adopt the Oregon 126 Fern Ridge Corridor Plan. Adoption of this corridor plan implements policies in the Oregon Highway Plan (OHP). Findings of compliance in support of this action are found in Exhibit B. Adoption of the corridor plan will constitute an amendment to the 1999 OHP.

Background:
The Oregon Department of Transportation (ODOT) has worked with the cities of Veneta and Eugene, Lane County, and the Lane Transit District to develop a 20-year plan to maintain the function of Oregon 126 (Florence-Eugene Highway and Beltline Highway). The plan identifies solutions to short- and long-term multimodal transportation issues through the 20-year planning period. The corridor plan has been adopted by Lane County and has been incorporated into the county's Comprehensive Plan and Transportation System Plan. Prior to its action, Lane County provided appropriate notice of public hearings to all agencies and individuals entitled to notice, including the Department of Land Conservation and Development (DLCD). No portion of the facility plan is located within the Cities of Veneta or Eugene, therefore, approval by those cities is not required. The corridor plan has also been endorsed by the Lane County Area Commission on Transportation. Lane County transmitted the notice of adoption to DLCD and other affected agencies on February 25, 2013, and no comments were received.

Attachment:
- Exhibit A – Oregon 126 – Fern Ridge Corridor Plan link
- Exhibit B – Findings of Compliance
- Location and Vicinity maps

Copies (w/attachment) to:

Jerri Bohard	Dale Hormann	Patrick Cooney	Lisa Martinez
Paul Mather	Robert Maestre	Erik Havig	Sonny Chickering
Frannie Brindle	David Warren	Nancy Murphy	Bob Cortright, DLCD

Exhibit A

Oregon 126 – Fern Ridge Corridor Plan
Corridor Plan Draft and related documents

ftp://ftp.odot.state.or.us/Reg2Planning/OR_126/

Exhibit B

Findings of Compliance with OAR 731-015-0065
OR 126 Fern Ridge Corridor Plan

ODOT's State Agency Coordination Agreement requires that the Oregon Transportation Commission (OTC) adopt findings of fact when adopting facility plans (OAR 731-015-0065). Pursuant to these requirements ODOT provides the following findings to support the OTC adoption of the OR 126 Fern Ridge Corridor Plan.

731-015-0065

Coordination Procedures for Adopting Final Facility Plans

(1) Except in the case of minor amendments, the Department shall involve DLCD and affected metropolitan planning organizations, cities, counties, state and federal agencies, special districts and other interested parties in the development or amendment of a facility plan. This involvement may take the form of mailings, meetings or other means that the Department determines are appropriate for the circumstances. The Department shall hold at least one public meeting on the plan prior to adoption.

FINDING: The Department has involved DLCD, the cities of Veneta and Eugene, Lane County, and the Lane Transit District in development of this facility plan. An extensive public involvement program was also conducted and is documented in Appendix I of the Corridor Plan. The public meeting requirement is met by the Commission's adoption proceedings for this Corridor Plan.

(2) The Department shall provide a draft of the proposed facility plan to planning representatives of all affected cities, counties and metropolitan planning organization and shall request that they identify any specific plan requirements which apply, any general plan requirements which apply and whether the draft facility plan is compatible with the acknowledged comprehensive plan. If no reply is received from an affected city, county or metropolitan planning organization within 30 days of the Department's request for a compatibility determination, the Department shall deem that the draft plan is compatible with that jurisdiction's acknowledged comprehensive plan. The Department may extend the reply time if requested to do so by an affected city, county or metropolitan planning organization.

FINDING: Lane County has adopted the Corridor Plan and incorporated it into the County's Comprehensive Plan and Transportation System Plan. The County's staff report and adopting ordinance is found in Corridor Plan Appendix K. The Corridor Plan has also been endorsed by the Lane County Area Commission on Transportation.

(3) If any statewide goal or comprehensive plan conflicts are identified, the Department shall meet with the local government planning representatives to discuss ways to resolve the conflicts. These may include:

(a) Changing the draft facility plan to eliminate the conflicts;

(b) Working with the local governments to amend the local comprehensive plans to eliminate the conflicts; or

(c) Identifying the conflicts in the draft facility plan and including policies that commit the Department to resolving the conflicts prior to the conclusion of the transportation planning program for the affected portions of the transportation facility.

FINDING: No statewide goal or comprehensive plan conflicts have been identified with the Corridor Plan. Corridor Plan Appendix A addresses consistency with adopted state, regional, and local plans.

(4) The Department shall evaluate and write draft findings of compatibility with acknowledged comprehensive plans of affected cities and counties, findings of compliance with any statewide planning goals which specifically apply as determined by OAR 660-030-0065(3)(d), and findings of compliance with all provisions of other statewide planning goals that can be clearly defined if the comprehensive plan of an affected city or county contains no conditions specifically applicable or any general provisions, purposes or objectives that would be substantially affected by the facility plan.

FINDING: The Final Draft Corridor Plan is attached for the Commission's consideration. Corridor Plan Appendix A and Appendix K address compliance with applicable statewide planning goals and the comprehensive plan of Lane County.

(5) The Department shall present to the Transportation Commission the draft plan, findings of compatibility with the acknowledged comprehensive plans of the affected cities and counties and findings of compliance with applicable statewide planning goals.

FINDING: The Final Draft Corridor Plan is attached for the Commission's consideration. Corridor Plan Appendix A and Appendix K address compliance with applicable statewide planning goals. Appendix K also contains documentation of Lane County's adoption of the Corridor Plan and its incorporation into the County's Comprehensive Plan and Transportation System Plan.

(6) The Transportation Commission shall adopt findings of compatibility with the acknowledged comprehensive plans of affected cities and counties and findings of compliance with applicable statewide planning goals when it adopts the final facility plan.

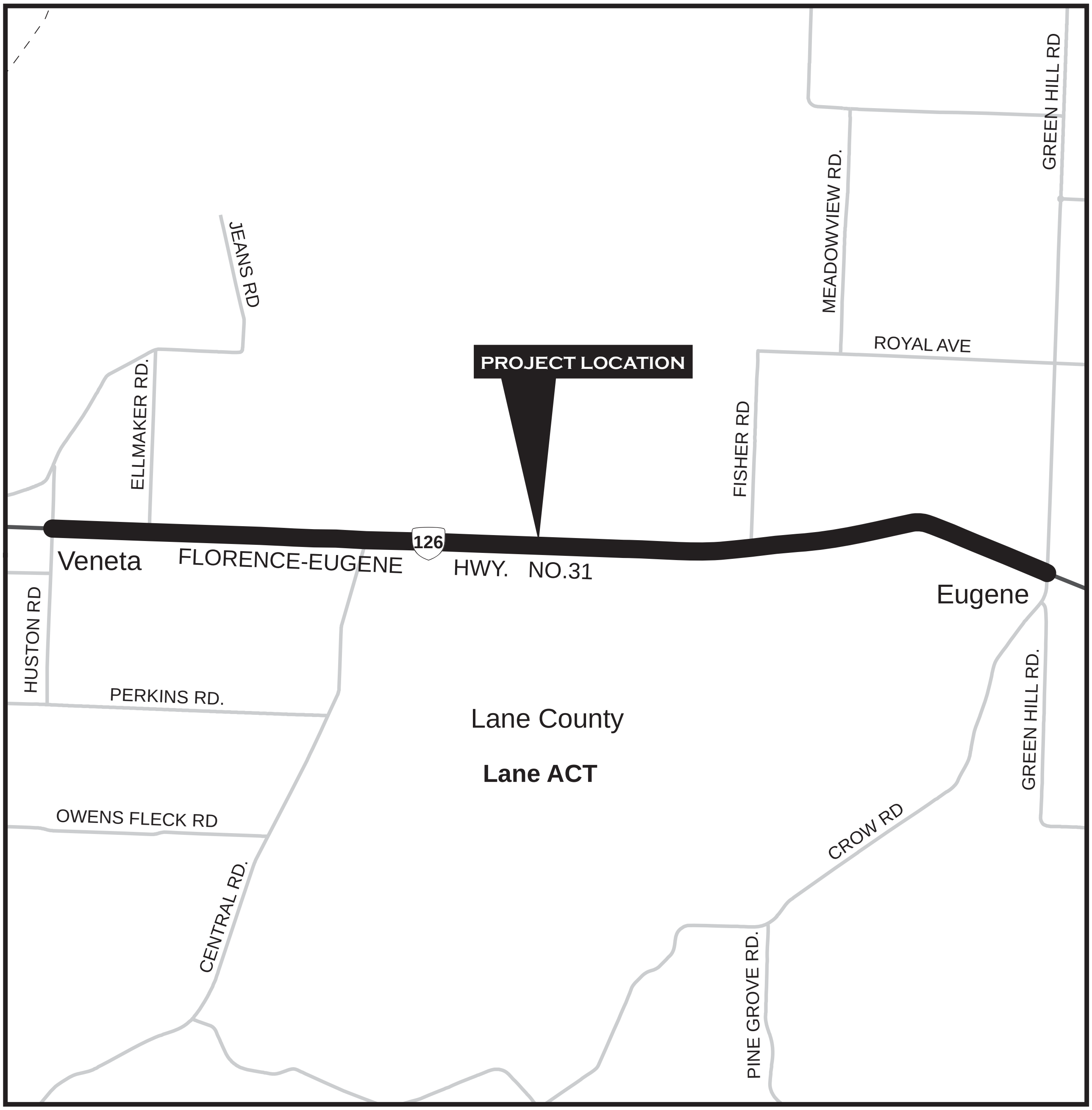
FINDING: The Final Draft Corridor Plan is attached for the Commission's consideration. Corridor Plan Appendix A and Appendix K address compliance with applicable statewide planning goals and compatibility with the local comprehensive plan of Lane County.

(7) The Department shall provide copies of the adopted final facility plan and findings to DLCD, to affected metropolitan planning organizations, cities, counties, state and federal agencies, special districts and to others who request to receive a copy.

FINDING: The Department will provide copies of the Adopted OR 126 Fern Ridge Corridor Plan, including all required findings to DLCD, Lane County, the Cities of Veneta and Eugene, Lane Transit District and others who request a copy.

PROJECT LOCATION

ODOT REGION 2



LEGEND

PROJECT LOCATION

STATE HIGHWAY CLASSIFICATION

INTERSTATE

STATEWIDE

REGIONAL / DISTRICT

REGIONAL BOUNDARY

COUNTY BOUNDARY

ACT BOUNDARY

HIGHWAY 126 FERN RIDGE CORRIDOR PLAN
KEY NO. to be determined

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PROJECT VICINITY

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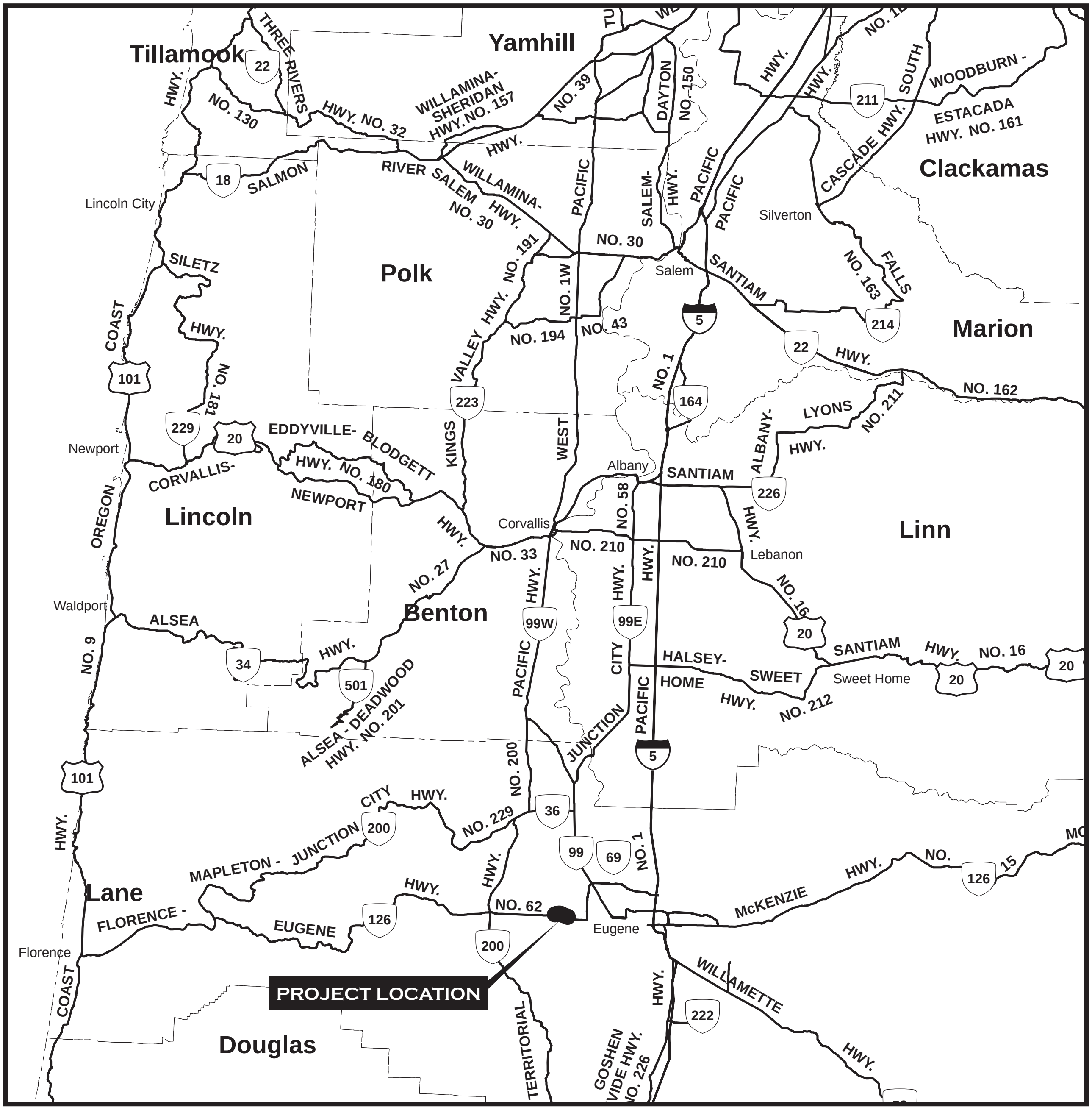

HIGHWAY 126 FERN RIDGE
CORRIDOR PLAN
KEY NO. to be determined

LEGEND

PROJECT LOCATION
STATE HIGHWAY
COUNTY BOUNDARY
STATE BOUNDARY

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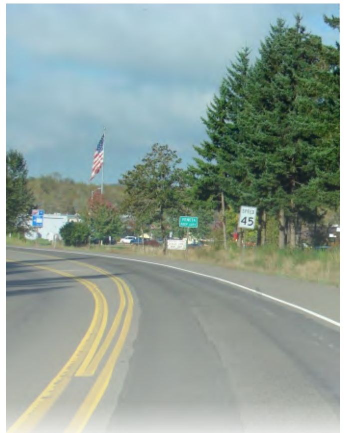


HIGHWAY 126 FERN RIDGE CORRIDOR PLAN

Draft Plan - February 2013

Prepared for

OREGON DEPARTMENT OF TRANSPORTATION

Prepared by

DKS

Highway 126 Fern Ridge Corridor Plan

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Acknowledgements

The Highway 126 Fern Ridge Corridor Plan was a collaborative process among various public agencies, key stakeholders and the community. Input, assistance and outreach by the following helped make the Corridor Plan possible:

- **Cogito Partners**
  Ellen Teninty
  Julie Fischer
  Christian Watchie
- **City of Eugene**
  Chris Henry
- **City of Veneta**
  Ric Ingham
- **Lane County**
  Lydia McKinney
  Celia Barry
- **Lane Transit District**
  Natalie Stiffler
  Tom Schwetz

Contents

Appendix

Section 1. Introduction

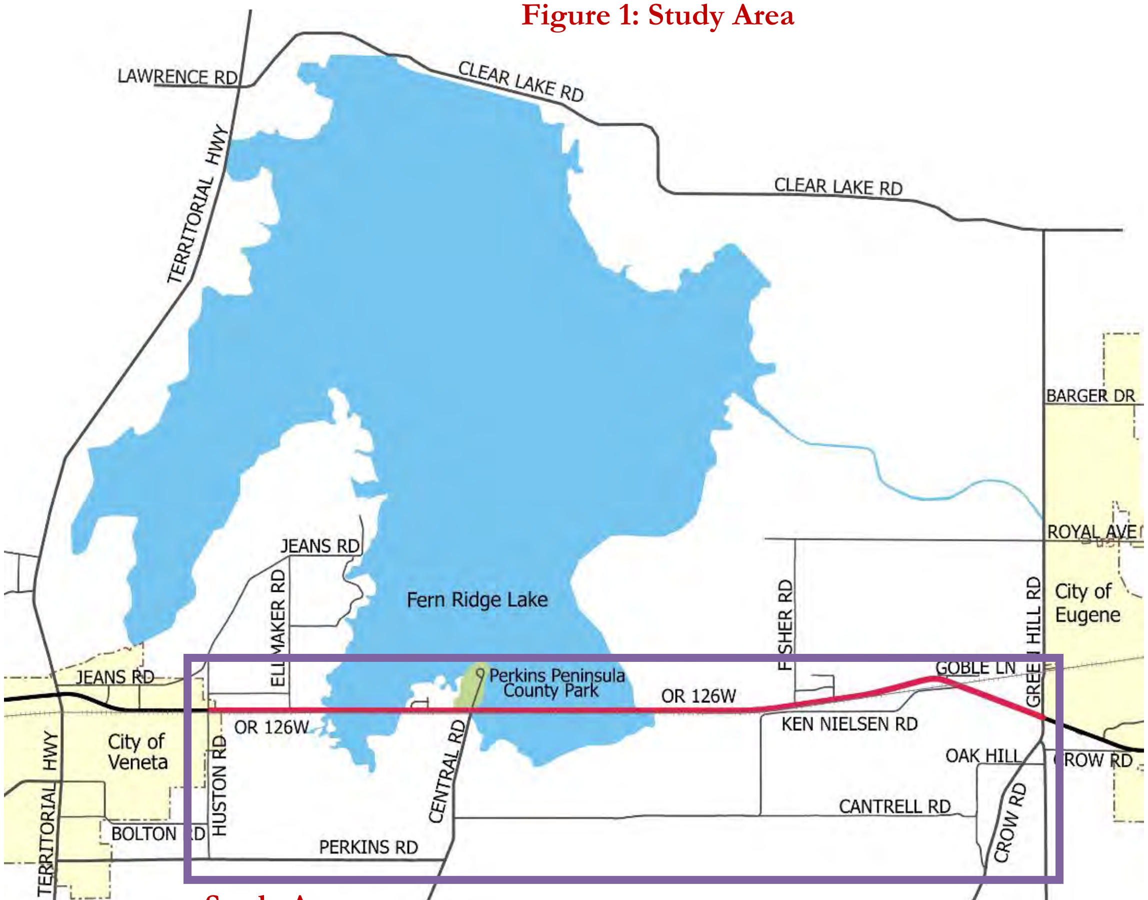
The Highway 126 Fern Ridge Corridor Plan identifies improvement needs and develops solutions to address highway safety and mobility needs for all transportation system users of the six-mile corridor between the cities of Veneta and Eugene. The highway is an important regional connection for commuters, freight, residents, and tourists traveling between the two cities and to the Oregon Coast.

OR 126W is designated as a Statewide Highway and freight route and has a posted speed of 55 miles per hour through the project study area. The highway is intersected by numerous county roads and private driveways that access directly onto the highway. There are limited turn lanes from the highway to these side streets and driveways, and passing opportunities are limited during the peak periods due to heavy traffic volumes. The highway travels through an environmentally sensitive area and has limited connectivity and available right-of-way due to the adjacent railroad tracks and Fern Ridge Lake.

This plan is the first of what may be several phases required to construct improvements along the corridor. Subsequent phases would consist of Phase 2 - environmental documentation to meet National Environmental Policy Act (NEPA) requirements and to select a preferred alternative, Phase 3 - preparation of construction plans, and Phase 4 – construction of improvements. This corridor plan is intended to:

- Develop a problem statement, purpose, needs, goals and objectives for the corridor
- Develop an understanding and inventory of the transportation and environmental conditions through the corridor
- Identify facility deficiencies and opportunities
- Create and evaluate conceptual alternative solutions
- Recommend the most viable solutions that can be implemented

Figure 1: Study Area



Study Area

Study Area

The study area extends along OR 126W from Huston Road on the west to Green Hill Road on the east, generally covering the rural area between the Urban Growth Boundaries for the cities of Veneta and Eugene (see Figure 1). This section of the highway has received little detailed analysis, unlike roadways within Veneta and Eugene where transportation system plans have been prepared. The Corridor Plan considered several alternatives along three potential routes, including the:

- OR 126W route from Huston Road to Green Hill Road
- Perkins Road, Central Road, Cantrell Road, and Crow Road route between Huston Road and Green Hill Road
- Territorial Highway, Clear Lake Road, and Green Hill Road route around Fern Ridge Lake

The outcome of this Corridor Plan was a set of preferred improvements to address operational and safety issues in the project study area.

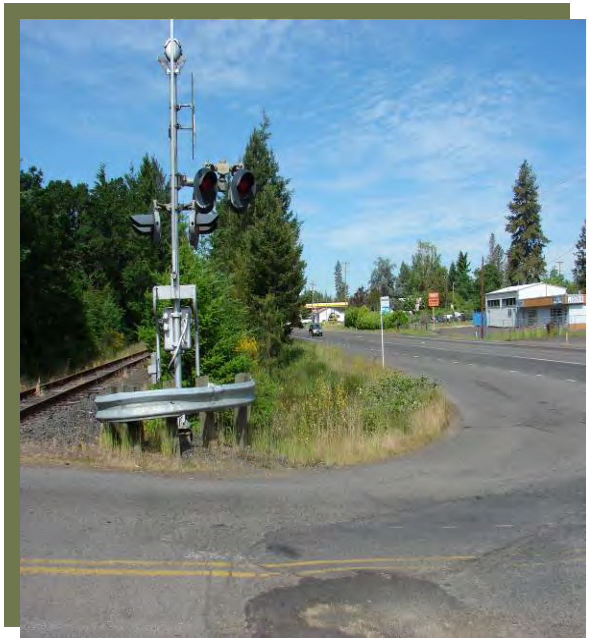
Project Purpose

The primary purpose of the Highway 126 Fern Ridge Corridor Plan was to identify corridor improvement options to safely and efficiently accommodate the needs of all roadway users, including pedestrians, bicyclists, motorists, freight and transit.

Goals and Objectives

A set of goals and objectives was developed to outline how the project purpose would be realized:

1. **Transportation Goal:** Provide a multi-modal transportation system from Veneta to Eugene to meet existing and future safety and mobility needs for all transportation system users.
   - *Objective A. Improve safety for pedestrians, bicyclists, motor vehicles, freight, and transit*
   - *Objective B. Encourage use of alternative transportation modes*
   - *Objective C. Maintain/enhance motor vehicle/freight mobility and traffic flow*
   - *Objective D. Support freight mobility along the corridor*
   - *Objective E. Improve safety and efficiency at railroad crossings*
   - *Objective F. Avoid or minimize impacts to the railroad*
   - *Objective G. Improve reliability for emergency vehicles*
   - *Objective H. Provide a facility that meets future growth in the corridor*
   - *Objective I. Where appropriate support opportunities in the corridor for future rail transit service*
2. **Environmental Goal:** Minimize the impacts to local environmental and community resources while incorporating opportunities to enhance those resources.
   - *Objective A. Avoid or minimize adverse impacts to local environmental, visual, and community resources*
   - *Objective B. Support/seek opportunities for enhancements to local environmental and community resources*
3. **Social and Economic Goal:** Support the economic viability of the region including industrial, commercial, recreational, and tourist activities; protect the livability and integrity of the residential areas; provide a financially viable project.
   - *Objective A. Support and enhance multi-modal access for the residential, commercial, recreational, and tourist areas*
   - *Objective B. Improve freight movement throughout the corridor*
   - *Objective C. Enhance transportation facilities which are accessible to all members of the community*
   - *Objective D. Support adopted economic plans*
   - *Objective E. Minimize capital costs while meeting project objectives*
   - *Objective F. Minimize disruption to the community resulting from highway construction and operation*
   - *Objective G. Maximize the cost effectiveness of transportation system investments*
   - *Objective H. Minimize impacts to private properties and farmland*
   - *Objective I. Support rail related freight opportunities for Veneta's industrial areas*
4. **Community Values Goal:** Be consistent with the adopted long term goals and policies of the community and the region.
   - *Objective A. Support community/regional facilities*
   - *Objective B. Consistent with adopted state, county, regional, and local Transportation System Plans and policies*



The Evaluation Criteria

A variety of criteria was used to evaluate and compare the alternatives proposed for the Highway 126 Fern Ridge Corridor Plan. The individual evaluation measures for each criteria were derived from the project goals and objectives. For more information on the project goals, objectives, and evaluation criteria, see Appendix C and Appendix F.

Transportation Goal: Eleven measures used in this goal focused on minimizing conflict points; increasing motor vehicle, freight and emergency vehicle mobility; minimizing impacts to railroad service; and providing safe and accessible pedestrian, bicycle, transit, and motor vehicle facilities.

Environmental Goal: Seven measures were evaluated within this goal. These measures focused on minimizing adverse impacts to natural, historical, cultural, and visual resources; improving access to recreational areas; and supporting regional modal alternatives to the motor vehicle.

Social and Economic Goal: Nine measures were evaluated within this goal that focused on improving access to residential, commercial, and recreational areas; providing accessible transportation facilities; limiting project costs and property related impacts; supporting freight and rail travel; and maintaining consistency with local economic development plans.

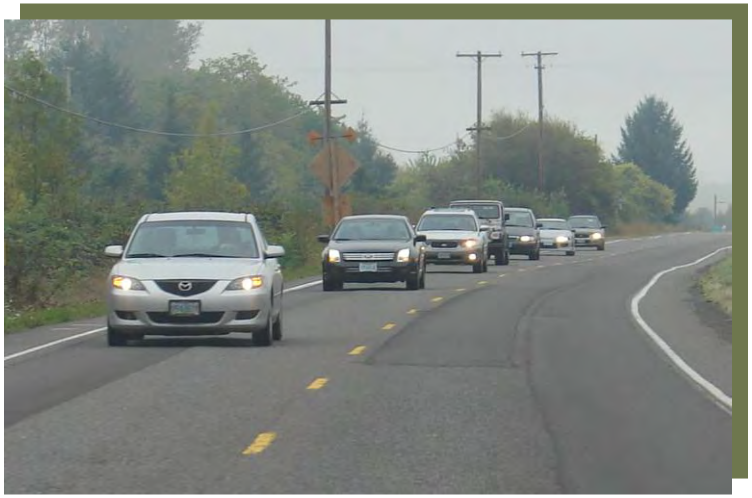
Community Values Goal: The ten measures used in this goal focused on consistency with state and local plans.

Section 2. Existing Conditions and Demonstrated Needs

OR 126W between Eugene and Veneta is a two-lane highway where the existing multi-modal, safety, and operational needs are expected to worsen over time. The highway is an important regional connection for commuters, freight, residents and tourists traveling between the two cities and to the Oregon Coast. The highway also crosses an environmentally sensitive area and has limited connectivity and available right-of-way due to the adjacent railroad tracks and Fern Ridge Lake.

OR 126W is under ODOT jurisdiction and is classified as a Statewide Highway. It is also part of the National Highway System, and is a state freight route and a federally designated truck route. Between Huston Road and Green Hill Road, the width and layout of OR 126W varies. The typical layout of the street is configured as follows and shown in Figure 2:

- One 12-foot travel lane in each direction
- Paved shoulders ranging in width from four to ten feet
- Left-turn lanes at major intersections
- No sidewalks or bike lanes



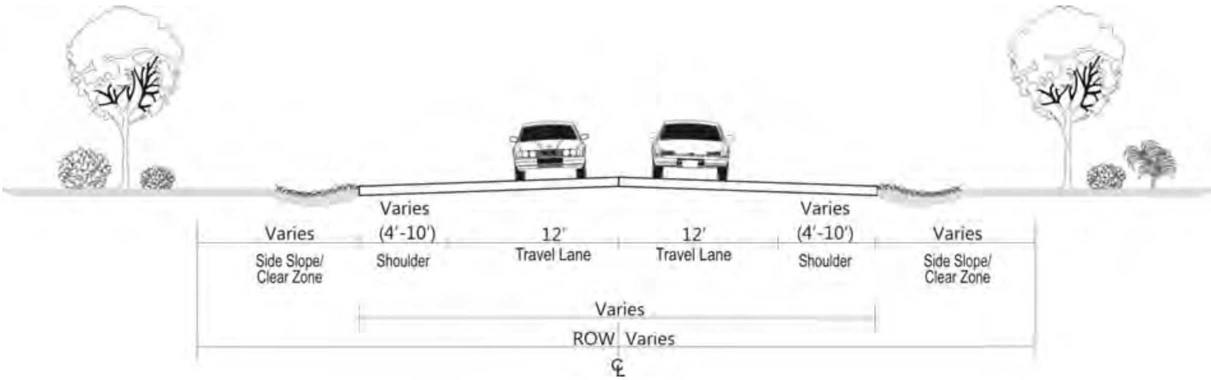


Figure 2: Typical Section of OR 126W Today

Multi-modal Considerations

The existing paved shoulders on OR 126W range from four to ten feet and could be used by cyclists; however, due to the high vehicle travel speeds along the corridor (often more than 55 miles per hour), there are no comfortable accommodations for pedestrian or bicyclists between the cities of Veneta and Eugene.

Along OR 126W, there are several places that attract walking and biking trips (activity generators). These include:

- Fern Ridge Lake
- Fern Ridge Trail System
- Fern Ridge Wildlife Area
- Perkins Peninsula County Park
- Bird watching
- Transit stops at Green Hill Road, Fisher Road, Central Road, Ellmaker Road and Huston Road
- Businesses between Huston Road and Ellmaker Road

Multi-modal Needs

Overall, the following multi-modal needs were identified along the OR 126W study corridor (for more information on the multi-modal needs in the study area, see Appendix B):

- A walking connection between Veneta and Eugene, with access to activity generators between the two cities
- A biking connection between Veneta and Eugene, and to activity generators between the two cities
- Accessible bus stops
- Improved bus stop amenities, such as bus pullouts, shelters, lighting, or park-and-rides

Safety Considerations

OR 126W is a two-lane rural highway that lacks pedestrian and bicycle facilities. On an average day, the highway carries approximately 14,500 vehicles, increasing to nearly 18,000 vehicles per day in the peak summer months. The posted speed is 55 miles per hour; however, most drivers travel at or below speeds of 62 miles per hour.[1]

The OR 126W corridor between Veneta and Eugene also has an above average crash rate compared to other similar highways in Oregon (between 2005 and 2009); and the highway has averaged two fatalities or debilitating injuries per year over the past 15 years (see Figure 3). The following factors could be contributing to the high collision frequency along the corridor:

- Narrow shoulders
- Railroad alignment along the south side
- Fern Ridge Lake on both sides of the middle section
- Numerous closely spaced driveways at the western end
- Pavement ruts

In addition, there are several unsignalized streets and driveways that access the corridor but have no left- or right-turn lanes. Drivers attempting to turn at these locations are often forced to stop or slow in the travel lanes, which causes queuing and increases the potential for rear-end collisions. The collision evaluation showed that the access density along the corridor has contributed to increased collisions.

Pedestrians or bicyclists have been involved in five collisions along the OR 126W study corridor over the past 15 years. The lack of pedestrian and bicycle facilities could be contributing factors and could also limit use of the corridor by walkers and bikers.

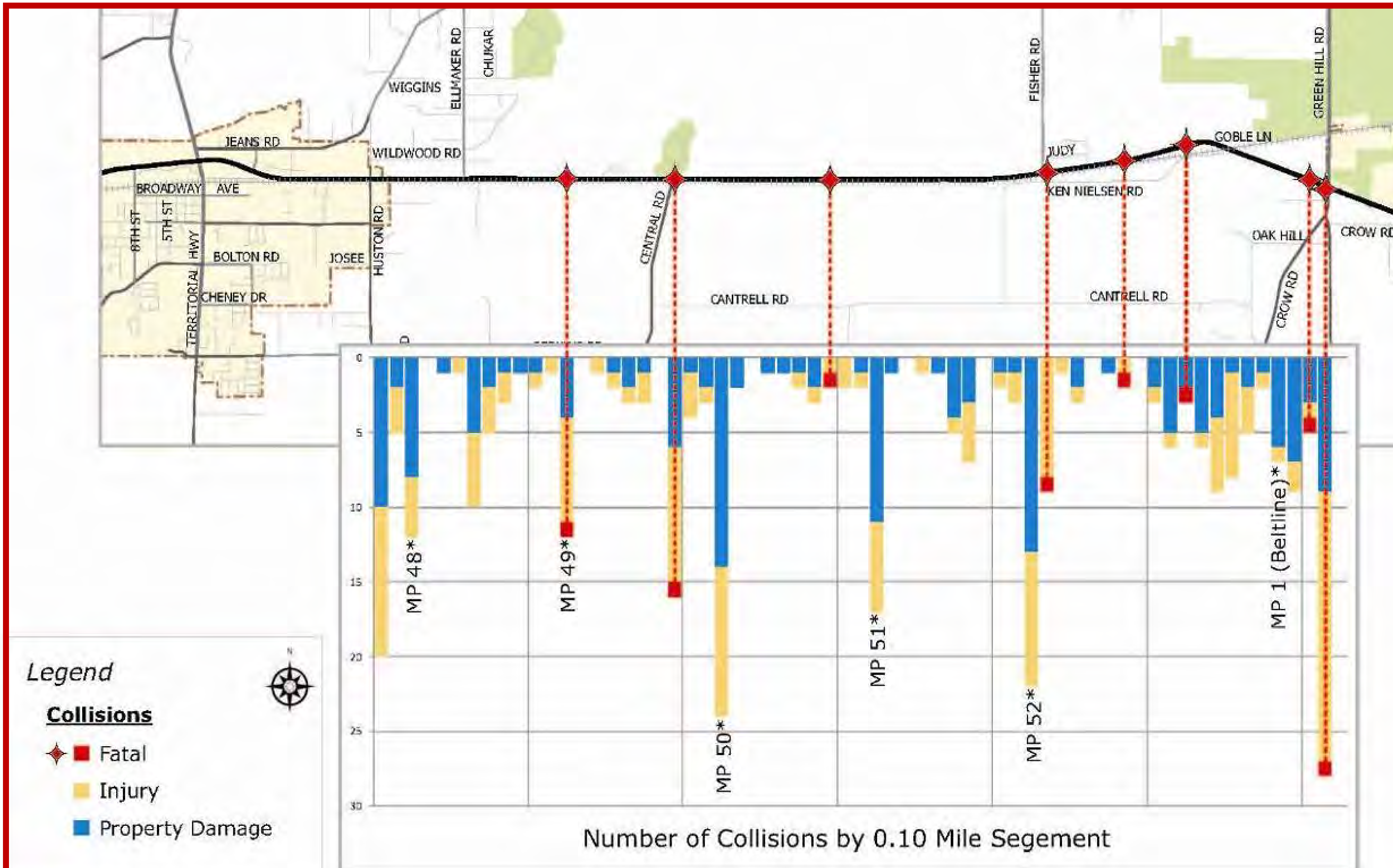
Although safety issues have been identified, there are no locations along the study corridor that rank among the top ten percent of state highways in Oregon for collision frequency or severity (no top 10% SPIS sites).

Safety Needs

Overall, the following safety needs were identified along the OR 126W study corridor (for more information on the safety needs in the study area, see Appendix B):

- Reduce the collision potential
- Create safe passing opportunities
- Establish more reliable emergency response times
- Manage access points by consolidating driveways to adjacent properties
- Provide left- and right-turn lanes at major streets and driveways
- Accommodate all users

[1] As determined by the 85th percentile speed for the corridor, which is defined as the speed below which 85 percent of the vehicles are traveling.



*Note: Some ODOT collision records only specify the general milepoint.

Figure 3: Collision Locations and Frequency (1994 to 2009)

Operational Considerations

Today, intersections along the OR 126W corridor meet ODOT's target for intersection operations.[2] But by 2035, increased vehicular volumes are expected to cause several intersections to become substandard (not meeting the intersection volume to capacity target). The large through traffic volumes on OR 126W would generally be expected to increase the delay drivers experience at side street approaches to the highway. Drivers will require more time to find an acceptable gap in traffic to make a left turn onto the highway, thereby, reducing the lane capacity of the side street. The following intersections are expected to be substandard by 2035 (see Figure 4):

- OR 126W/Green Hill Road
- OR 126W/Huston Road
- OR 126W/Shady Rest Drive
- OR 126W/Lake Side Drive
- OR 126W/Central Road
- OR 126W/Fisher Road
- OR 126W/Richmond Street
- OR 126W/Ken Nielsen Road

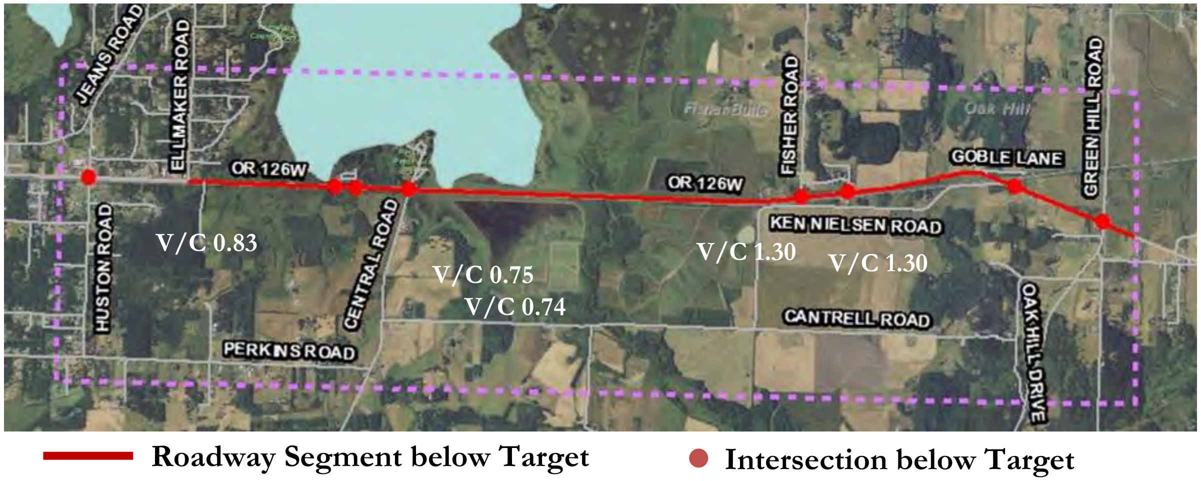
In addition to the intersection-level analysis of the corridor, a segment-level traffic operations analysis was conducted on OR 126W between Ellmaker Road to Green Hill Road. This analysis also indicated that the corridor is expected to be substandard by the year 2035. Additional through capacity is needed on OR 126W to accommodate higher traffic volumes and support the continued growth of Veneta, Eugene, and the Oregon Coast.

Operational Needs

Overall, the following operational needs were identified along the OR 126W study corridor (for more information on the operational needs in the study area, see Appendix B and Appendix D):

- Increase roadway capacity to accommodate through traffic volumes during the summer
- Design an accessible and adaptable roadway that accommodates users with varying travel patterns and driving characteristics including local, commuter, freight, and recreational trips

Figure 4: OR 126W Operational Needs



[2] Outside Urban Growth Boundary, ODOT Freight Route on a Statewide Highway, Stop-controlled side street with a maximum volume to capacity ratio of 0.80. Oregon Highway Plan, Table 6, August 2005.

Environmental and Other Considerations

OR 126W travels through environmentally sensitive areas and the roadway has limited connectivity and available right-of-way due to its proximity to the parallel Coos Bay rail line and Fern Ridge Lake.

The design of project alternatives within the study area was guided by regulatory requirements and considerations for avoiding and minimizing impacts to the following sensitive resources and features (see Figure 5):

- Wetlands and other water resources
- Fern Ridge Lake
- Fern Ridge Wildlife Area
- Perkins Peninsula County Park
- Willamette daisy, Fender's blue butterfly and Kincaid's lupine critical habitat
- Coos Bay rail line
- Potential historic structures
- Hazardous material sites

Additional information relating to environmental constraints within the study area is provided in Appendix H.

It is anticipated that ODOT will obtain federal funds to implement improvements recommended in the Highway 126 Fern Ridge Corridor Plan. Therefore, the project would be required to comply with the National Environmental Policy Act (NEPA) and other relevant federal, state, and local laws and regulations.

The Corridor Plan will be used by ODOT to identify the type of NEPA environmental documentation (Class 1, 2 or 3) that is ultimately required when selecting a preferred alternative. The Corridor Plan will also support development of NEPA documentation in the project's next phase.

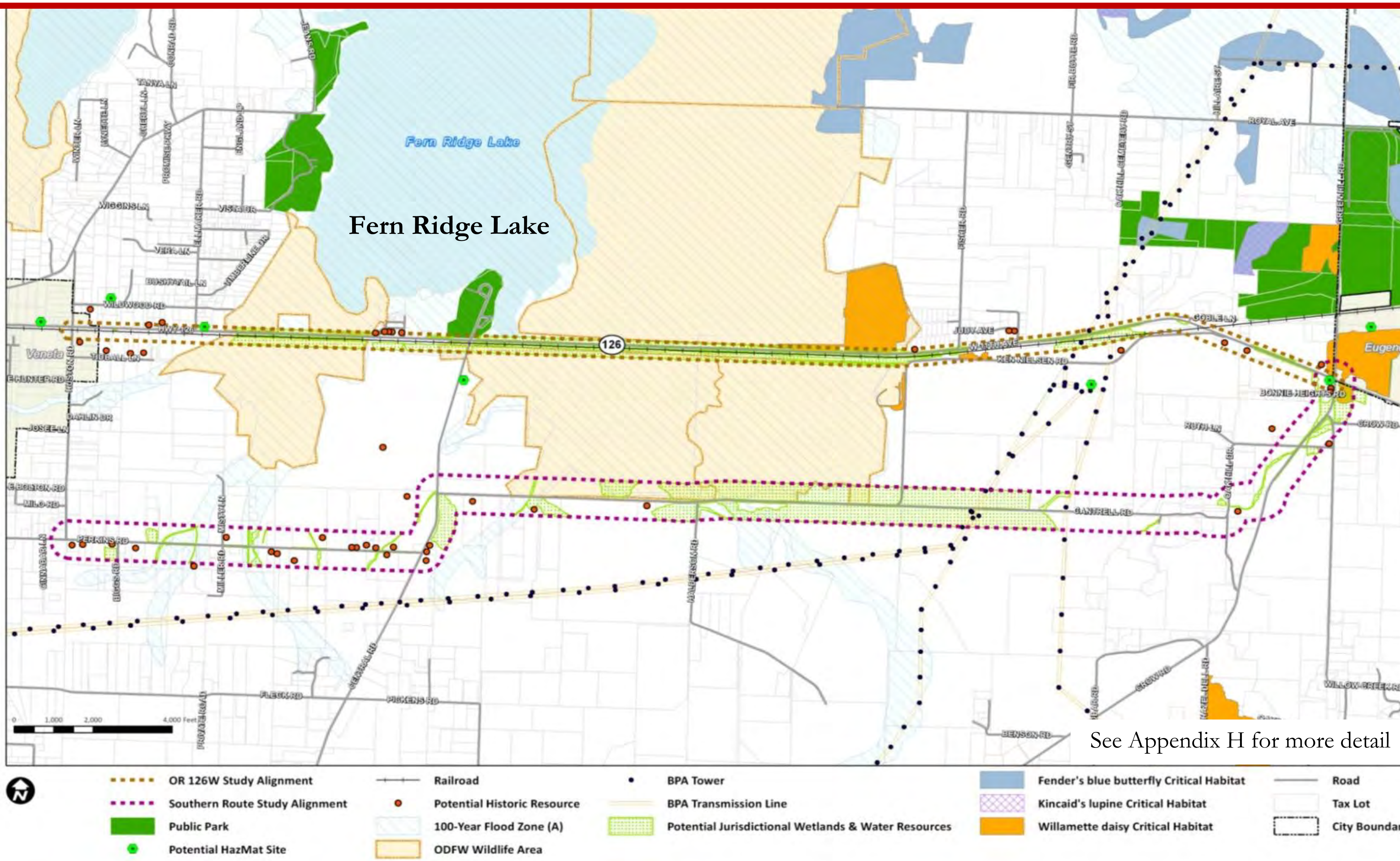


Figure 5: OR 126W Study Area Constraints

Section 3. Public Process

The Highway 126 Fern Ridge Corridor Plan was a collaborative process among various public agencies, key stakeholders and the community. Throughout this project, the project team took time to understand multiple points of view, obtain fresh ideas and resource materials, and encourage participation from the community.

Project staff conducted individual interviews, hosted small focus group meetings and regular meetings with decision makers, and conversed informally with members of the community. At key stages, project staff also held three public workshops (or community forums) that gave residents an opportunity to learn about the study and contribute their concerns on how the corridor might be improved. This section summarizes this public process and the ideas generated by the community at the three community forums. For more information on the public process, see Appendix I.

Community involvement played a key role in the development of the Corridor Plan

Stakeholder Interviews/Focus Groups

Key project issues and potential transportation solutions were brainstormed

Community Forum #1

The community provided feedback on the project alternatives

Community Forum #2

The community provided feedback on the first screening process (tier 1)

Community Forum #3

The community provided feedback on the second screening process (tier 2)

Corridor Plan

What Issues Matter to the Community?

Between May and August 2011, forty stakeholder interviews were conducted to help identify the following key project issues:

- Address the needs of all corridor users
- Improve safety and accessibility
- Support economic viability
- Enhance environmental conditions
- Minimize impacts to property owners, residents, and businesses
- Improve multi-modal options and access

Stakeholders helped to identify four specialized focus groups with concerns in the corridor, including:

- Focus Group #1: Corridor users, such as commuters, tourists, and freight truck drivers who travel through the corridor
- Focus Group #2: Multi-modal users and planners for the corridor, such as bicycle advocates and transit service providers
- Focus Group #3: Non-profit and agency organizations with environmental programs or regulatory authority in the corridor, such as conservation groups and federal and state natural resource agencies
- Focus Group #4: People who live and / or work along the corridor, such as residents and business owners

The focus groups met between June and September 2011. These groups provided feedback on the project's goals and objectives and on the needs and deficiencies of the OR 126W corridor, and they brainstormed solutions to address roadway safety and congestion. Their input guided the project team in developing transportation solutions.

Community Forum #1

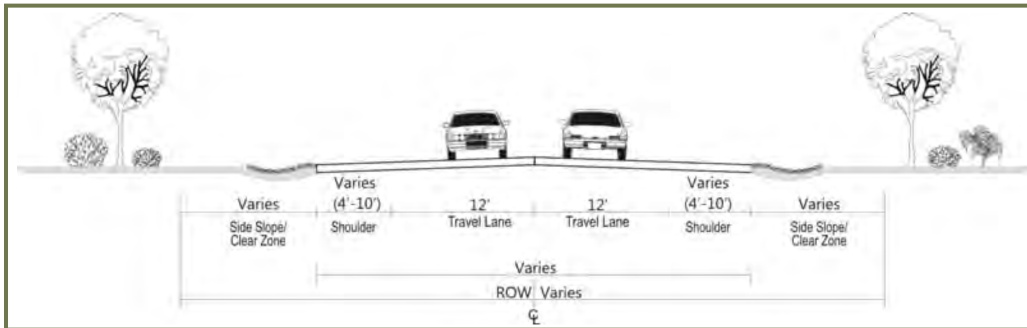
On October 6, 2011, the first of three community forums was held. At this first community forum, the project team presented an overview of the project, opportunities and constraints information and possible project options. Participants commented on the project's problem statement, purpose and need statement, goals and objectives, and several alternatives.

Eight alternatives (summarized in Figure 7a and Figure 7b) along three potential routes were presented at Community Forum #1 (for more information on project alternatives, see Appendix E):

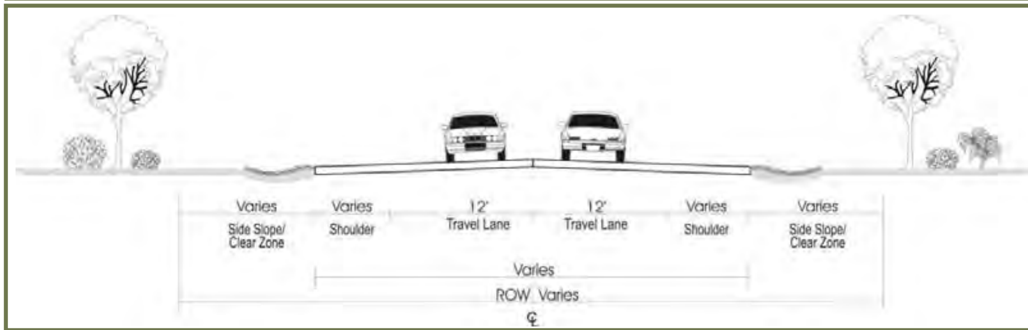
- **OR 126W Route:** The five alternatives considered along the OR 126W route from Huston Road to Green Hill Road (see Figure 6) were doing nothing (No Build), transportation system management improvements, spot improvements, and roadway widening to three or four lanes.
- **Southern Route:** Two alternatives considered along the Perkins Road, Central Road, Cantrell Road, and Crow Road route between Huston Road and Green Hill Road (see Figure 6) were widening various segments of this route to three travel lanes and widening portions of the shoulder as appropriate or adding a multi-use trail for pedestrian and bicycle travel.
- **Northern Route:** One alternative was considered along the Territorial Highway, Clear Lake Road, and Green Hill Road route around Fern Ridge Lake (see Figure 6). This alternative would widen various segments of this route to three lanes and widen portions of the shoulder as appropriate.

Figure 6: Routes Considered for Improvements

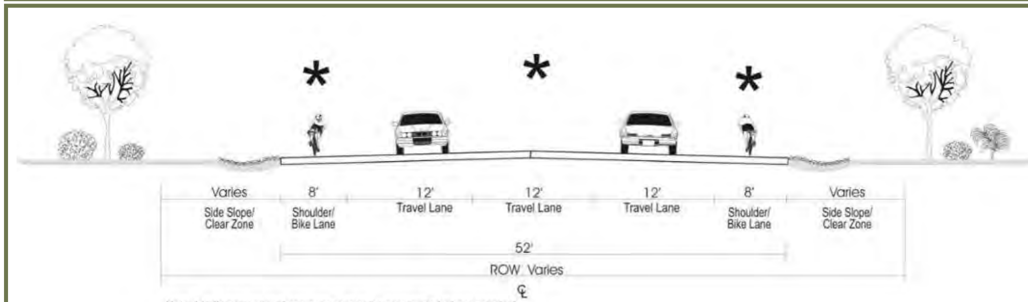
Figure 7a: The Eight Alternatives



OR 126W Route No-Build Alternative would construct no improvements. OR 126W would maintain one travel lane in each direction, with left-turn lanes where they currently exist. The shoulders would continue to vary in size.

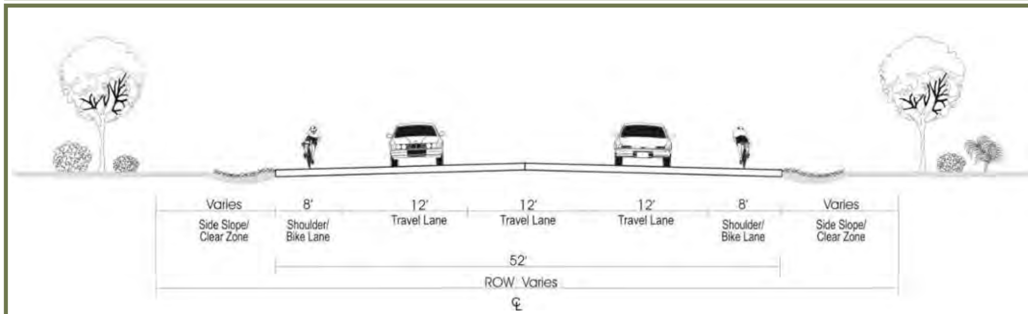


OR 126W Route Transportation System Management Alternative would include no roadway widening (OR 126W would maintain the existing cross-section). Lower cost improvements would be implemented such as improved signing and roadway striping, alternate mobility standards or transit and access management enhancements.



Note: * Indicates optional component as to be constructed where practical

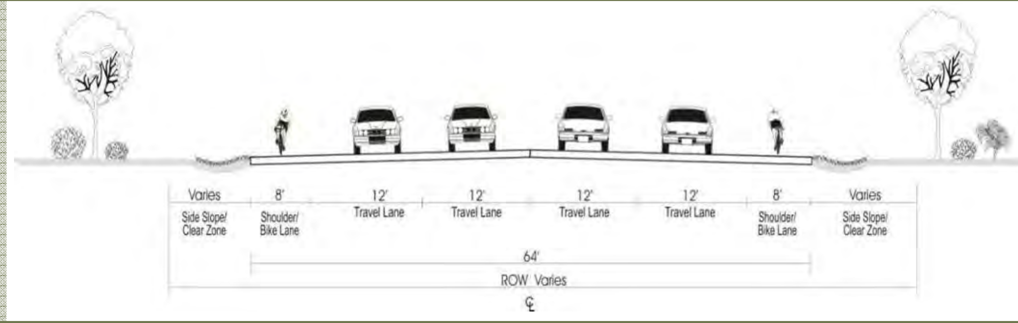
OR 126W Route Spot Improvement Alternative would modify OR 126W where practical to include additional turn lanes, intersection improvements and shoulder widening. The shoulders would continue to vary in size and the roadway would transition between two and three lanes.



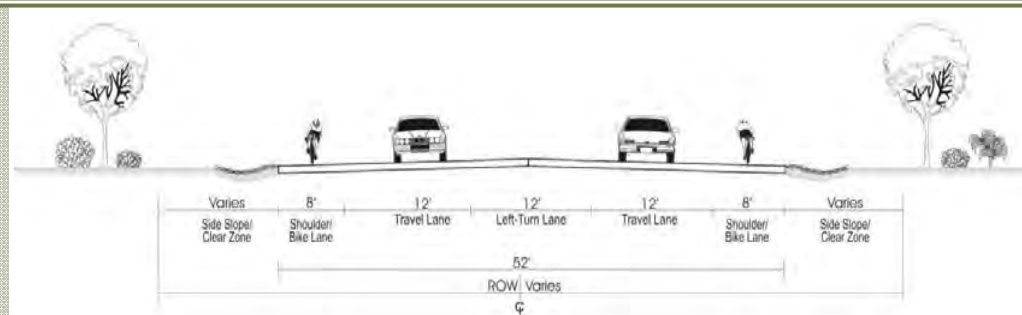
OR 126W Route Three Lane Alternative would widen OR126W to include one travel lane in each direction and a center lane for either turning or passing as appropriate. The shoulders would be widened to eight feet.

Figure 7b: The Eight Alternatives

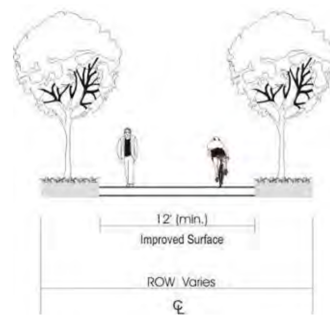
OR 126W Route Four Lane Alternative would widen OR126W to include two travel lanes in each direction. The shoulders would be widened to eight feet. Dedicated left-turn lanes would be added where appropriate.



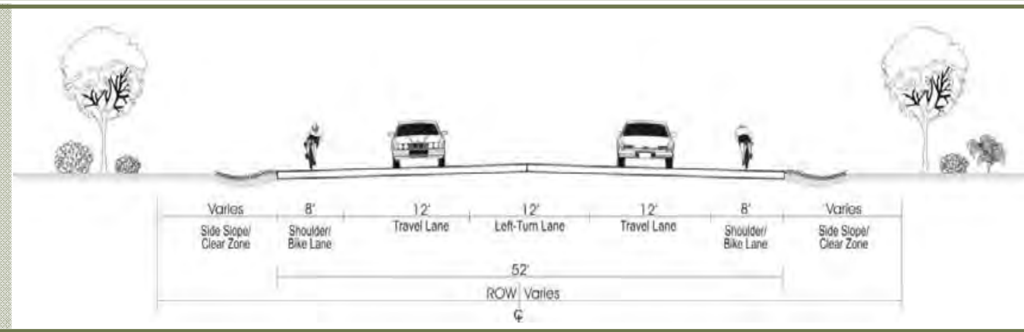
Southern Route Two/Three Lane Alternative would modify Perkins and Cantrell Roads where needed to include additional turn lanes and widened shoulders. The roadways would transition between two and three lanes.

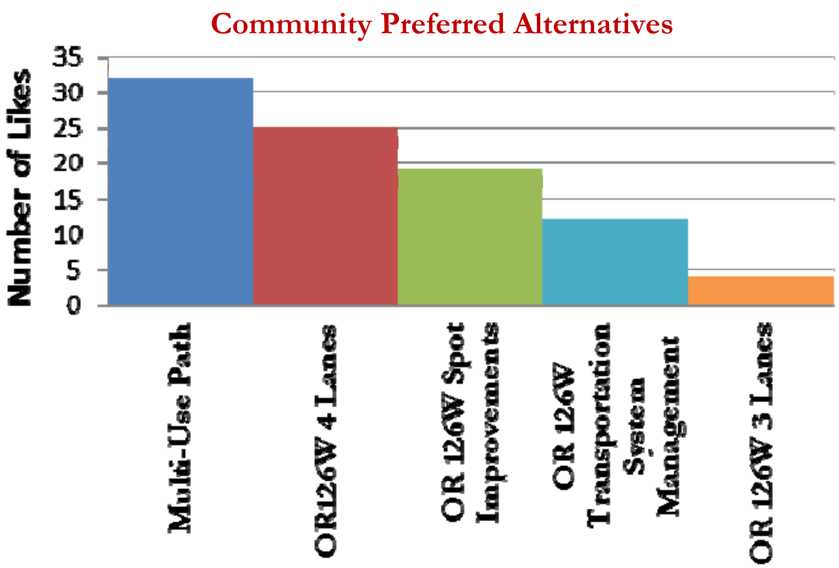


Southern Route Multi-use Path Alternative would construct a multi-use path for pedestrian and bicycle travel between Huston Road and Green Hill Road generally near the Perkins and Cantrell Road alignments. No additional roadway improvements would be constructed (OR 126W would maintain the existing cross-section).



Northern Route Alternative would modify Territorial Highway, Clear Lake, and Green Hill Roads where needed to include additional turn lanes and widened shoulders. The roadways would transition between two and three lanes.





Community Preferred Alternatives

At Community Forum #1, project staff asked community members to fill out a survey indicating which alternative they prefer. The majority of respondents said they liked the OR 126W Route Four Lane Alternative or the OR 126W Route Spot Improvements Alternative. The alternatives for Transportation System Management and three lanes along the OR 126W Route were also preferred by a few community members.

The separated multi-use path alternative was favored by most community members in attendance, but only if this alternative was combined with another alternative that would improve OR 126W (such as widening to four lanes). Ultimately, all of the alternatives were advanced for further refinement and community review.

Community Forum #2

On January 24, 2012, the second of three community forums was held where the results of the first screening and evaluation process was presented. Participants commented on the project alternatives and design options recommended for further study in Community Meeting #1.

Several design options were developed to supplement the eight project alternatives under consideration:

- **A separated multi-use path:** Providing a separated multi-use path for pedestrian and bicycle travel would be beneficial when compared to the same alternative without that option. It was also evident based on public input that a separated multi-use path would be preferred to bicycle facilities adjacent to the highway. For the purposes of comparing project alternatives, the project team developed a separated multi-use path design option (see Figure 8) that could be constructed either adjacent to OR 126W or along the southern route (via Cantrell and Perkins Roads) and that could be added to any alternative. This option would more comfortably and safely accommodate pedestrian and bicycle modes.
- **OR 126W Causeway Options**: Widening the highway under the three- or four-lane alternative would require modifying the existing dike across Fern Ridge Lake. Two causeway options were considered, as shown in Figure 9, including widening the existing dike to support the expanded roadway or replacing the dike with support piers to improve water flow under the roadway. Since subtle differences would be expected between the two causeway options for most evaluation criteria, they were evaluated as separate design options. Therefore, the three- and four-lane alternatives for OR 126W were each evaluated with a causeway on a dike and a causeway on piers.

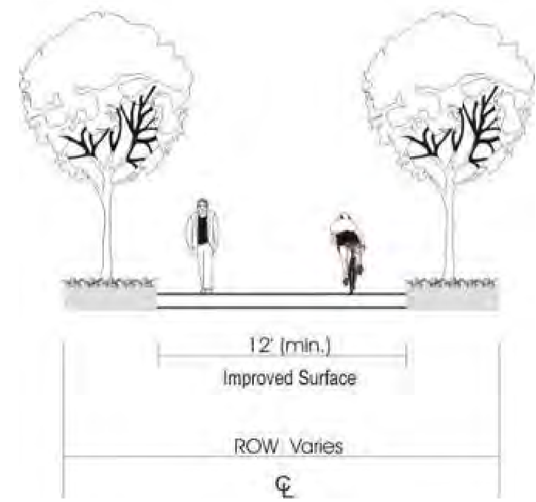


Figure 8: Multi-use Path Design Option

Figure 9: OR 126W Causeway Design Options

Screening and Evaluation Process (Tier 1)

Each alternative was evaluated with a high-level Tier 1 screening process (see Figure 10) that determined how well each achieved the measures of the criteria. The alternatives were scored on a scale from one (poor) to three (good). The individual evaluation criteria scores were added up for each goal (see "The Evaluation Criteria" section earlier in this document), helping to distinguish among alternatives.

The "Transportation" criteria resulted in noticeable differences. Three- and four-lane roadways were favored over smaller cross-sections, though this meant a greater impact to properties and resources. The three- and four-lane alternatives would also be expected to greatly enhance multi-modal safety, mobility, and accessibility through the corridor. In addition, any alternative that provided a separated multi-use path for pedestrian and bicycle travel would be preferable to the same alternative without that option; however, the separated multi-use path would also greatly impact property and environmental resources and be more costly to implement.

Two alternatives (Multi-Use Path Only and Northern Route via Clear Lake Road) were determined to have fatal flaws under the "Transportation" criteria. The Multi-Use Path Only Alternative would not address motor vehicle operational and safety factors on OR 126W. The Northern Route Alternative would require too much out-of-direction travel to serve as a viable parallel route and, therefore, would not improve vehicle operational and safety factors on OR 126W. Due to these fundamental flaws, these two alternatives were not recommended for further evaluation. For more information on the first screening and evaluation process, see Appendix F and Appendix H.

Figure 10: Result of Tier 1 Screening and Evaluation Process

Goals	OR 126W- No Build	OR 126W- Transportation System Management	OR 126W- Spot Improvements	Design Option: Spot Improvements with Multi-Use Path	OR 126W- 3 lanes w/ Causeway on Dike	Design Option: 3 lanes w/ Causeway on Piers	OR 126W- 4 lanes w/ Causeway on Dike	Design Option: 4 lanes w/ Causeway on Piers	Southern Route- Perkins and Cantrell Roads	Southern Route- Multi-Use Path Only	Northern Route (Clear Lake Road)
Transportation	15	16	17	21	26	27	29	30	21	FF	FF
Environmental	18	18	19	15	12	15	11	15	13	-	-
Social and Economic	11	11	13	18	18	18	20	20	15	-	-
Community Planning	14	14	15	21	18	19	20	21	16	-	-
Total Raw Score	58	59	64	75	74	79	80	86	65	FF	FF
Ranking of Alternative	6	5	-	**3**	-	**2**	-	**1**	4	FF	FF

OR 126W Route | Southern Route | Northern Route — FF = Fatal Flaw

Alternatives Advancing to the Second Screening Process

Overall, the top three alternatives from the Tier 1 screening determined to have the greatest likelihood to meet the project goals and objectives were advanced to the second screening process (Tier 2):

- OR 126W Route Four-Lane Alternative with Causeway on Dike
- OR 126W Route Three-Lane Alternative with Causeway on Dike
- OR 126W Route Spot Improvements

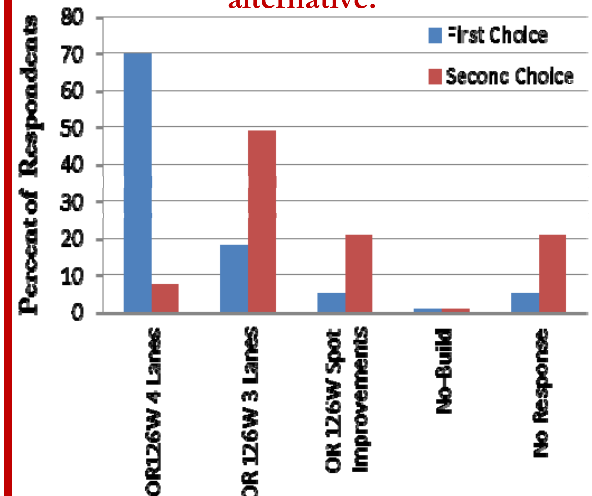
The No-Build Alternative, although ranked the lowest in meeting the project goals and objectives, was required to be advanced and compared to the improvement alternatives throughout the project development and NEPA documentation process.

The OR 126W Spot Improvements offer short-term modifications that would be consistent if either the three- or four-lane improvement alternative is chosen as a long-term solution for the corridor. The southern route alternative along Perkins and Cantrell Roads would have a moderate effect on mobility and safety through the OR 126W corridor; however, this alternative would not effectively supplement a long-term solution along the OR 126W corridor.

Therefore, the third alternative recommended for advancement to the second screening process was the OR 126W Route Spot Improvements. The following design options were also evaluated with the alternatives that advanced to the second screening process:

- A separated multi-use path
- Causeway on piers

The community overwhelmingly prefers the OR 126W 4 lane alternative, followed by the OR 126W 3 lane alternative.



Community Forum #3

On May 8, 2012, the third community forum was held. At this community forum, the result of the Tier 2, screening and evaluation process was presented (see Figure 11). Participants commented on whether they agreed with the recommended project alternatives and design options that were derived from the Tier 2 screening and evaluation process.

Figure 11: Result of Tier 2 Screening and Evaluation Process

OR 126W Route	OR 126W- No Build	OR 126W- Spot Improvements	OR 126W- 3 lanes with Causeway on Dike	OR 126W- 4 lanes with Causeway on Dike
Transportation	19	39	42	48
Environmental	30	28	24	19
Social and Economic	13	21	33	37
Community Planning	17	39	40	41
Total Score	**79**	**127**	**139**	**145**
Ranking of Alternative	**4**	**3**	**2**	**1**

How did the Alternatives Compare to One Another?

In the Tier 2 screening evaluation, each alternative was evaluated and rated based on how well it achieved the measures set for each of the criteria; scoring was on a scale from one (poor achievement) to five (best achievement). The Tier 2 screening involved a more detailed evaluation of each alternative that included conceptual drawings, traffic operations and capacity, cost estimates, and constructability. The evaluation was intended to help distinguish differences between the alternatives and aid decision makers in determining which alternative best met the various project criteria.

Overall, the alternative determined to have the greatest likelihood of meeting the project goals and objectives was the OR 126W Four-Lane Alternative. The OR 126W Three-Lane Alternative ranked a close second. The Spot Improvements and the No Build Alternative were ranked a distant third and fourth, respectively.

Corridor Operation Comparison

The OR 126W Four-Lane Alternative performed the best with all study intersections meeting mobility targets through 2035. The No Build, Three-Lane and Spot Improvement Alternatives had several study intersections that would not meet mobility targets through 2035.

Walking and Biking Comparison

All alternatives assumed a separated multi-use path along one of two alignments, either adjacent to OR 126W or via Cantrell and Perkins Roads.

Cost Comparison

OR 126W Spot Improvements with separated multi-use path: $15 million

OR 126W Three-Lane Alternative with separated multi-use path

- Causeway on Dike: $95 million
- Causeway on Piers: $145 million

OR 126W Four-Lane Alternative with separated multi-use path

- Causeway on Dike: $130 million
- Causeway on Piers: $195 million

Outcome of the Tier 2 Screening Process

The following improvements, derived from the more rigorous Tier 2 screening process, are recommended for the Highway 126 Fern Ridge Corridor (for more information on the Tier 2 screening and evaluation process, see Appendix G and Appendix H):

- **OR 126W Four-Lane Alternative:** This alternative was determined to have the greatest likelihood to meet project goals and objectives and is the preferred alternative by the community.

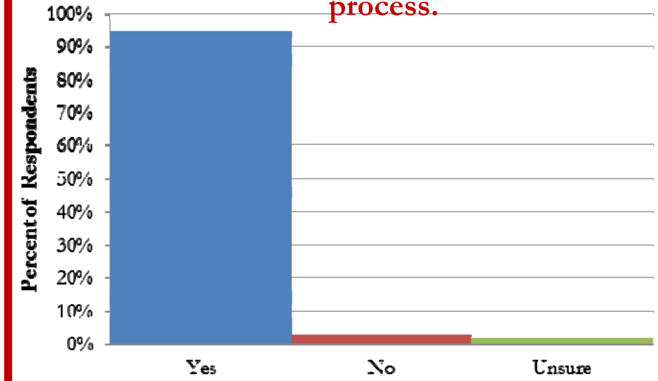
  This alternative could be accomplished either by widening the existing dike to support the expanded roadway or replacing the dike with support piers to improve water flow under the roadway. The selection of the causeway design option will likely be determined through the NEPA and Project Development process.

- **Spot Improvements Alternative as an interim solution**: This alternative could serve as an interim solution to achieve some of the project goals and objectives in the short-term due to the higher construction costs of the OR 126W Four-Lane alternative.

- **Separated Multi-use Path Design Option**: It is recommended that the separated multi-use path design option along Perkins Road, Cantrell Road and Ken Nielsen Road be advanced. Since there were negligible differences between the two pathway options, the multi-use path adjacent to OR 126W should also be moved forward for further evaluation.

  The selection of the multi-use pathway design option will likely be determined through the next phase of the overall project.

Of the 61 respondents at Community Forum #3, 95 percent strongly support the outcome of the Tier 2 screening process.



Section 4. Recommended Corridor Plan

The recommendation for the Highway 126 Fern Ridge Corridor Plan is the Four-lane Alternative. Based on the stakeholder interviews, specialized input group discussions and feedback from the community forums, this alternative offers a vision for OR 126W that best meets the diverse needs of all users of the corridor.

Long Term Recommendation

The OR 126W Four-Lane Alternative was determined to have the greatest likelihood to meet the project goals and objectives and is recommended as the long-term design for the corridor. The separated multi-use path design option, either adjacent to OR 126W or along the southern route (via Cantrell and Perkins Roads) is also recommended with the long-term plan. This path is planned to connect Veneta with the end of the existing Fern Ridge Trail just north of the OR 126W/Green Hill Road intersection. Under both alignments, the separated multi-use path could run adjacent to OR 126W or along the railroad tracks between Ken Neilsen Road and Green Hill Road.

Two typical roadway section designs were developed for OR 126W, including designs for constrained (Figure 12) and very constrained right-of-ways (Figure 13). Note that the typical sections show an adjacent multi-use path; however, the ultimate alignment (adjacent to OR 126W or along the southern route via Cantrell and Perkins Roads) will likely be determined through the NEPA and Project Development process.

The recommended corridor design and the associated typical section can be seen in Figures 14a to 14g. The multi-use path design option adjacent to OR 126W can also been seen in Figures 14a to 14g. The multi-use path design option along the southern route (via Cantrell and Perkins Roads) can be seen in Figure 15.

Figure 12: Constrained 4-Lane Section with adjacent Multi-Use Path

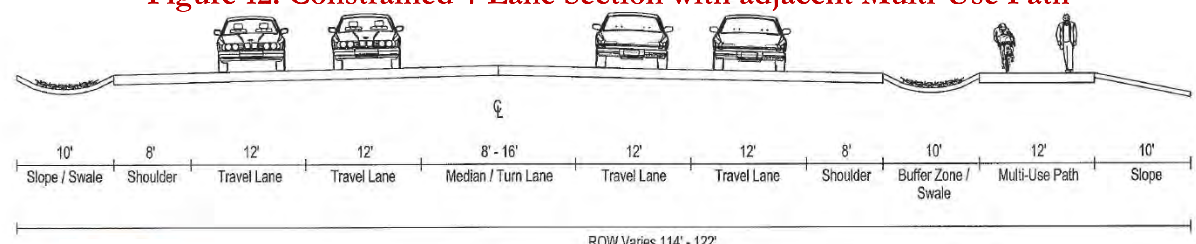


Figure 13: Very Constrained 4-Lane Section with adjacent Multi-Use Path

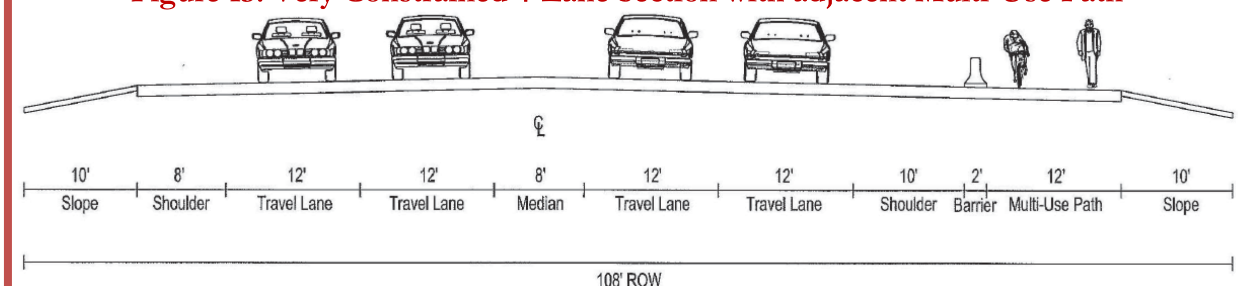


Figure 14a: Recommended Corridor Plan: Huston Road to Ellmaker

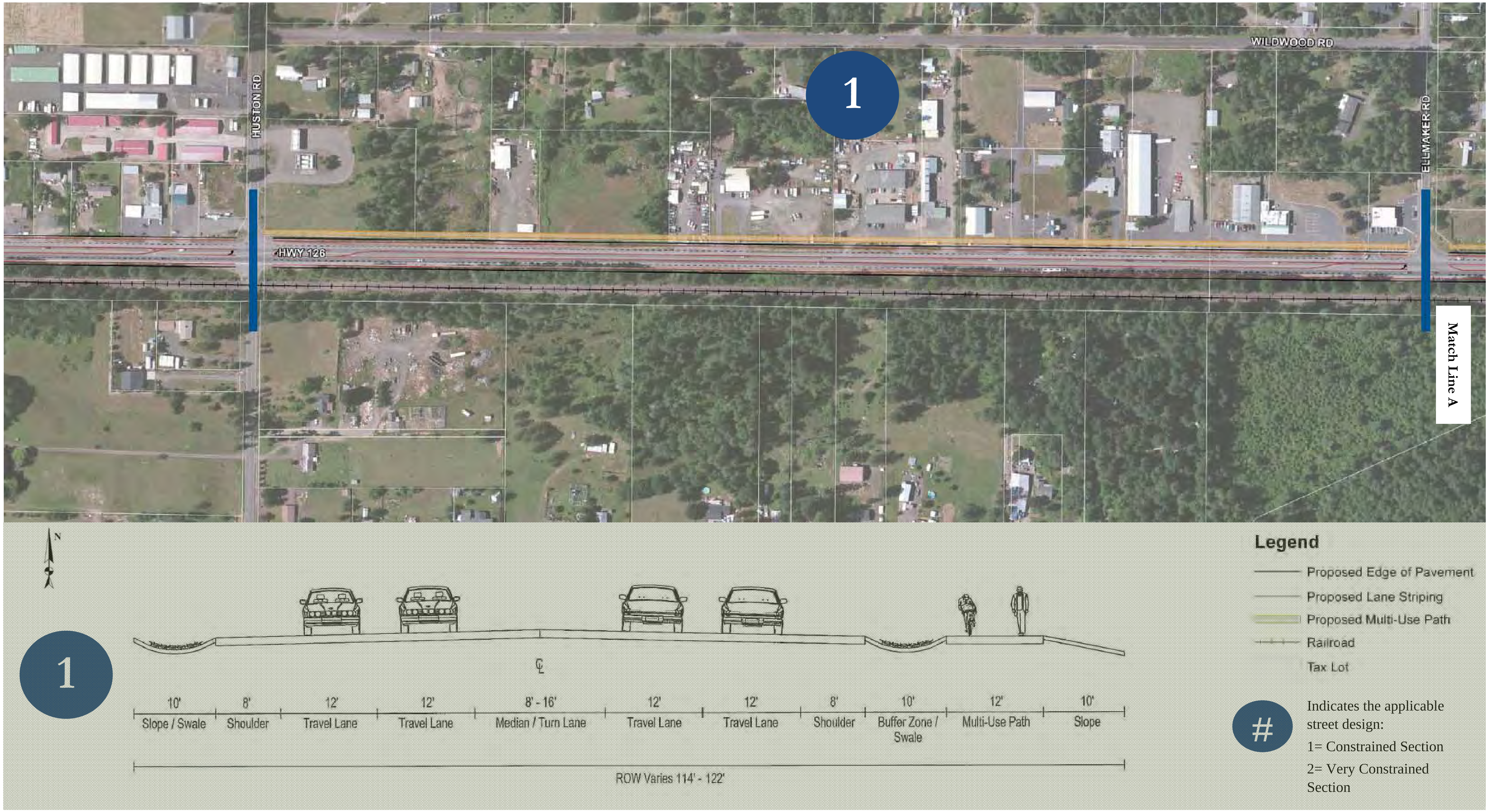


Figure 14b: Recommended Corridor Plan: Ellmaker Road to Shady Rest Drive

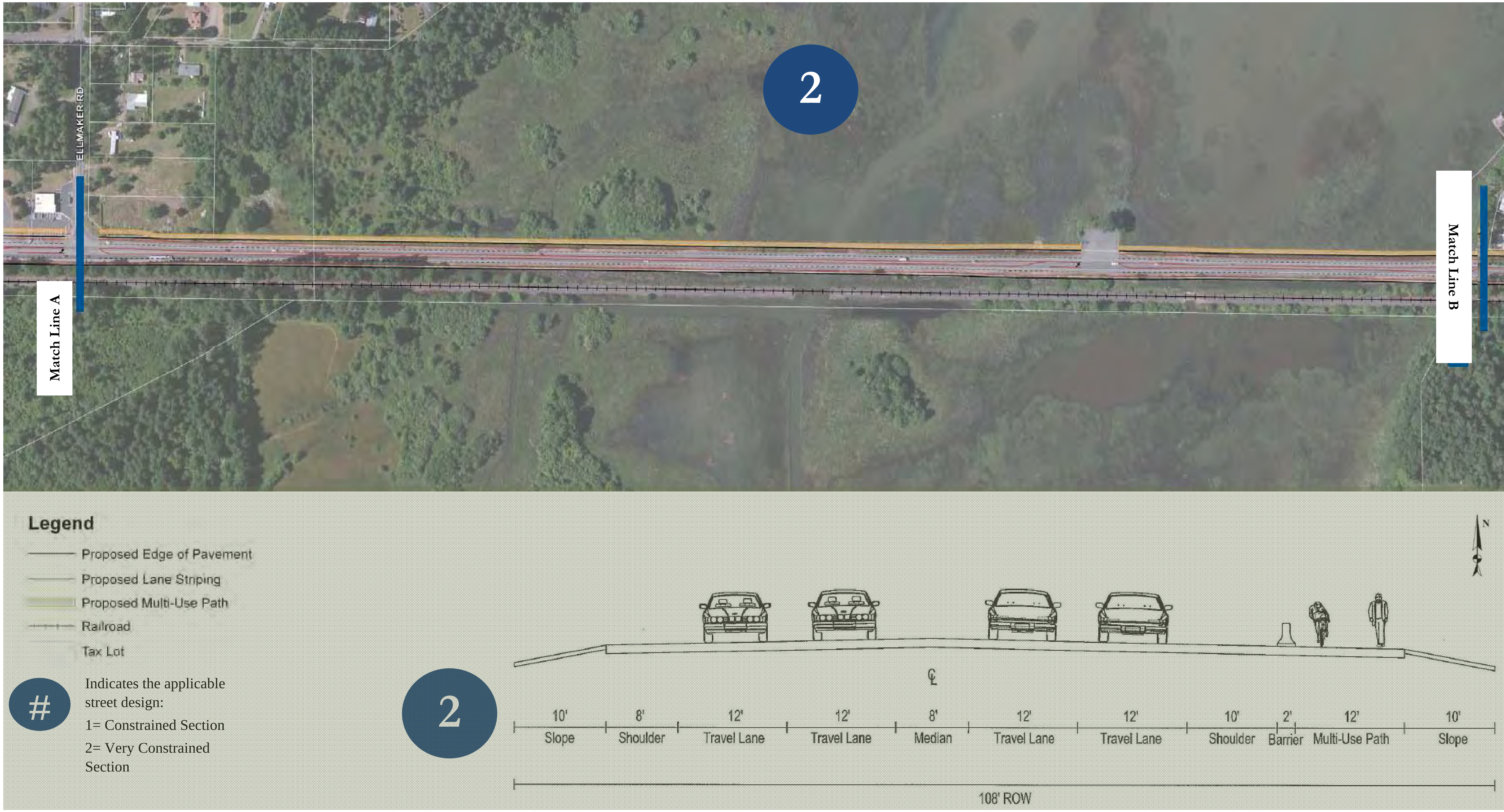


Figure 14c: Recommended Corridor Plan: Shady Rest Drive to Central Road

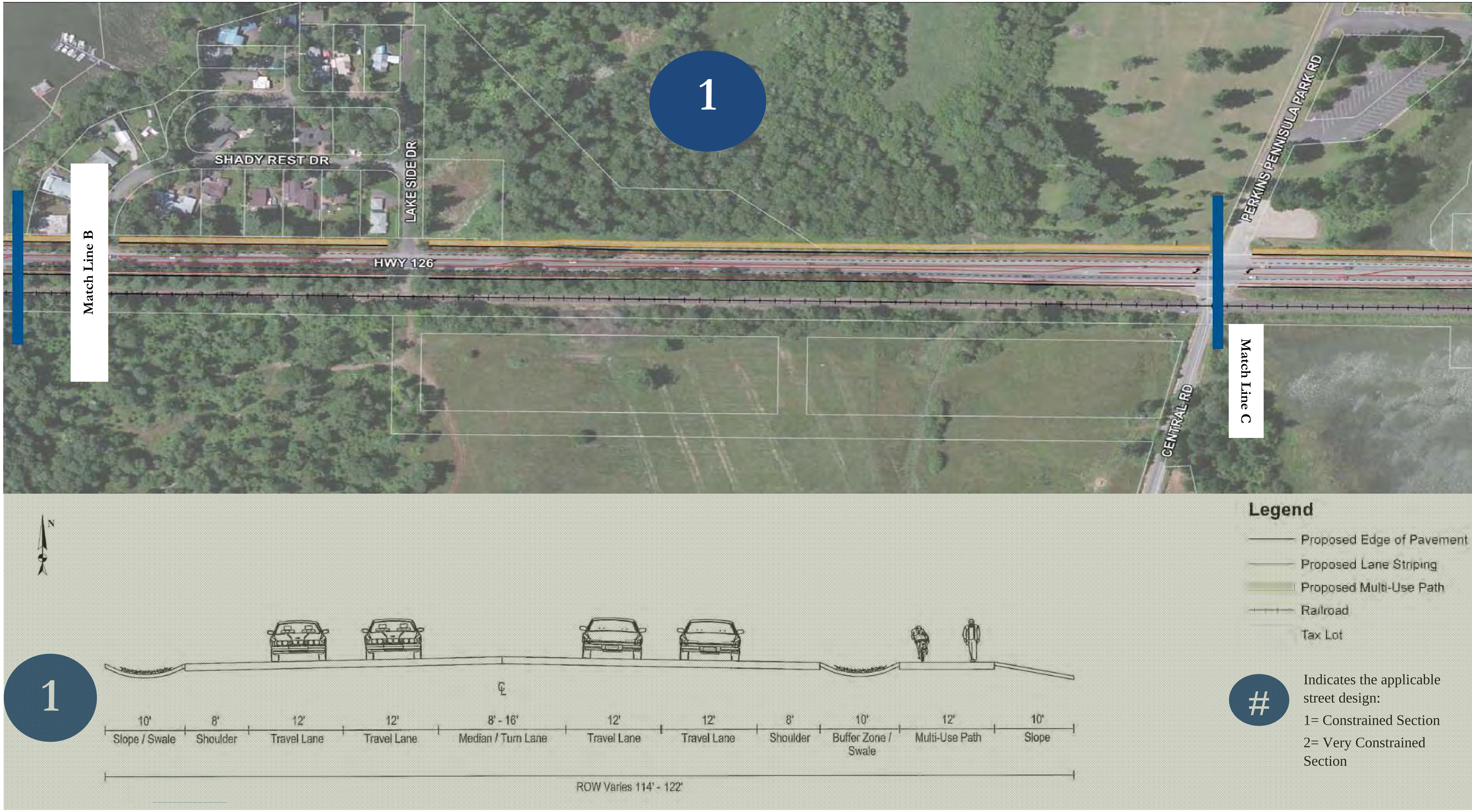


Figure 14d: Recommended Corridor Plan: Central Road to Coyote Creek

Legend

- Proposed Edge of Pavement
- Proposed Lane Striping
- Proposed Multi-Use Path
- Railroad
- Tax Lot

\# Indicates the applicable street design:
1= Constrained Section
2= Very Constrained Section

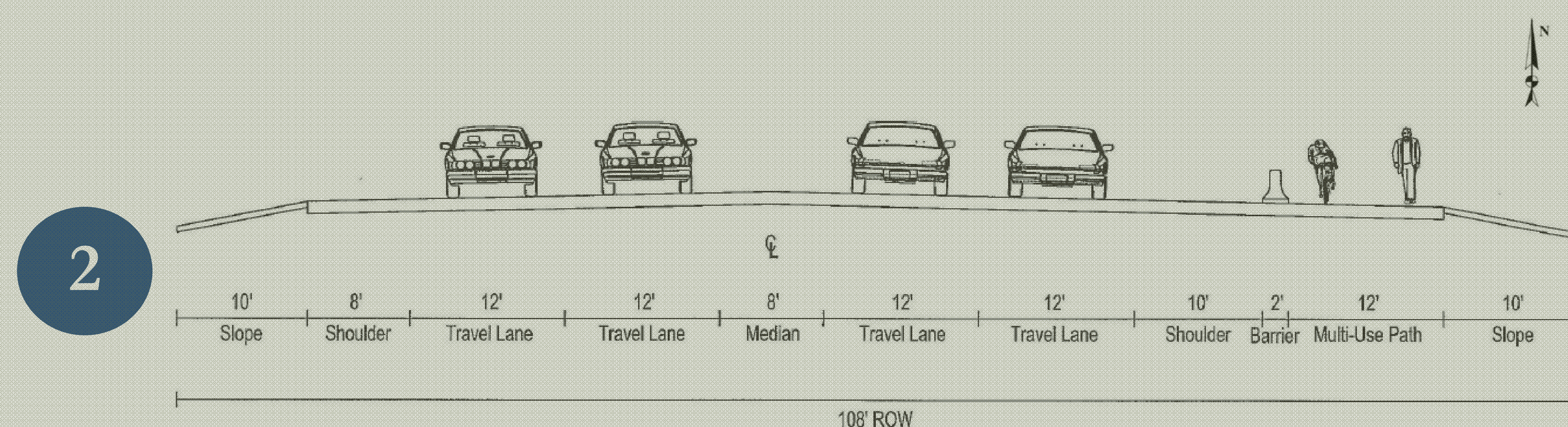


Figure 14e: Recommended Corridor Plan: Coyote Creek to west of Fisher Road

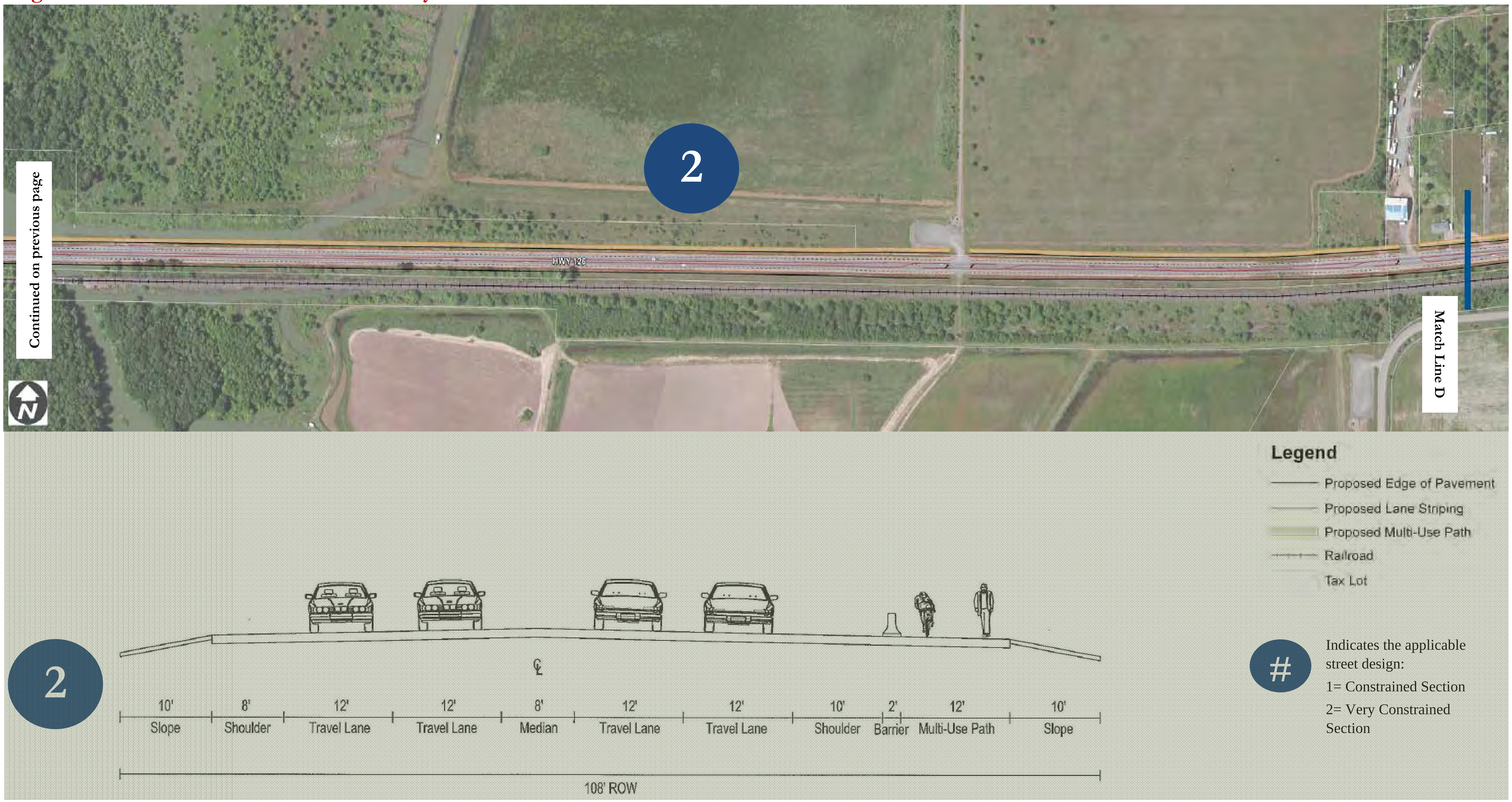


Figure 14f: Recommended Corridor Plan: West of Fisher Road to east of Richmond Street

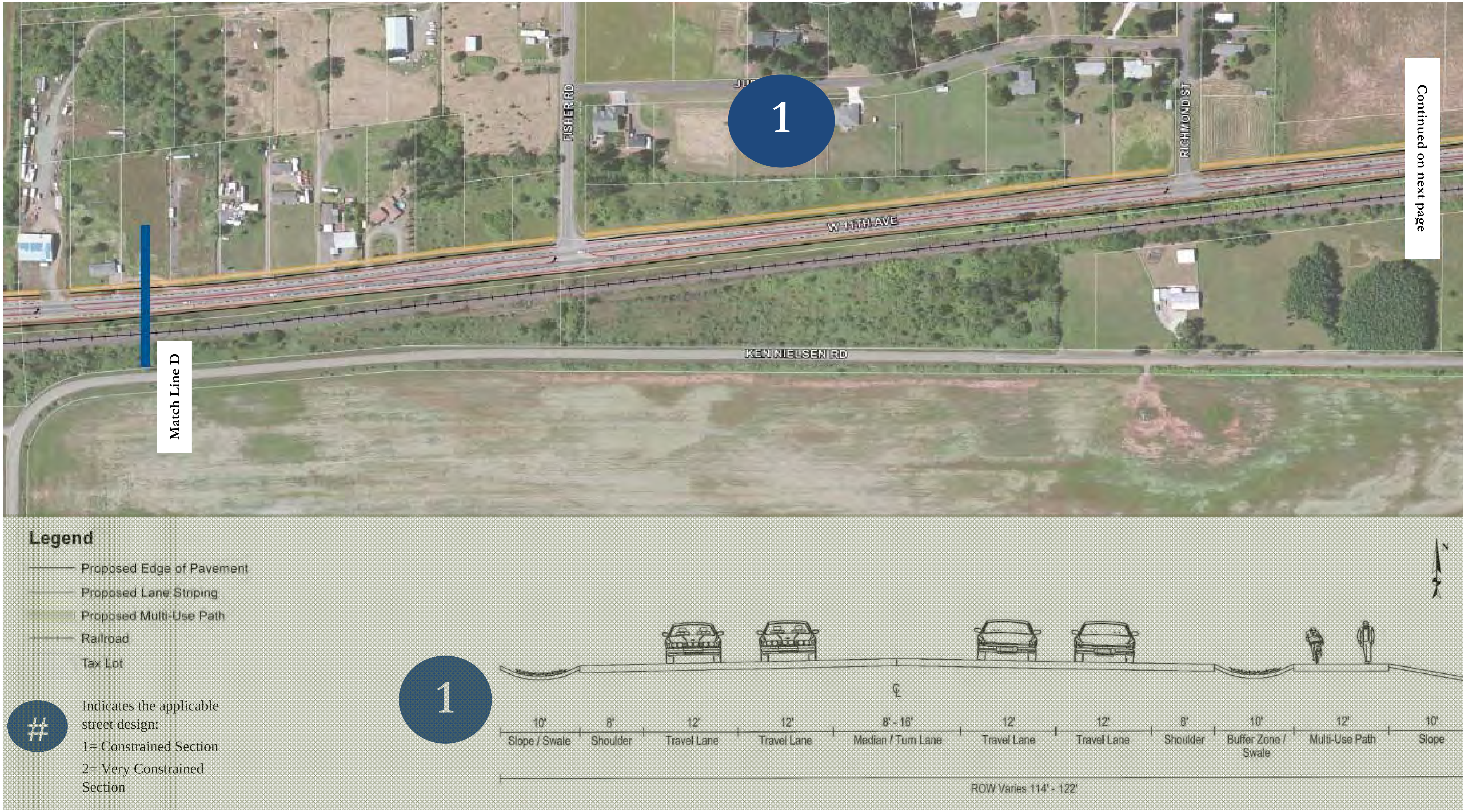


Figure 14g: Recommended Corridor Plan: East of Richmond Street to Greenhill Road

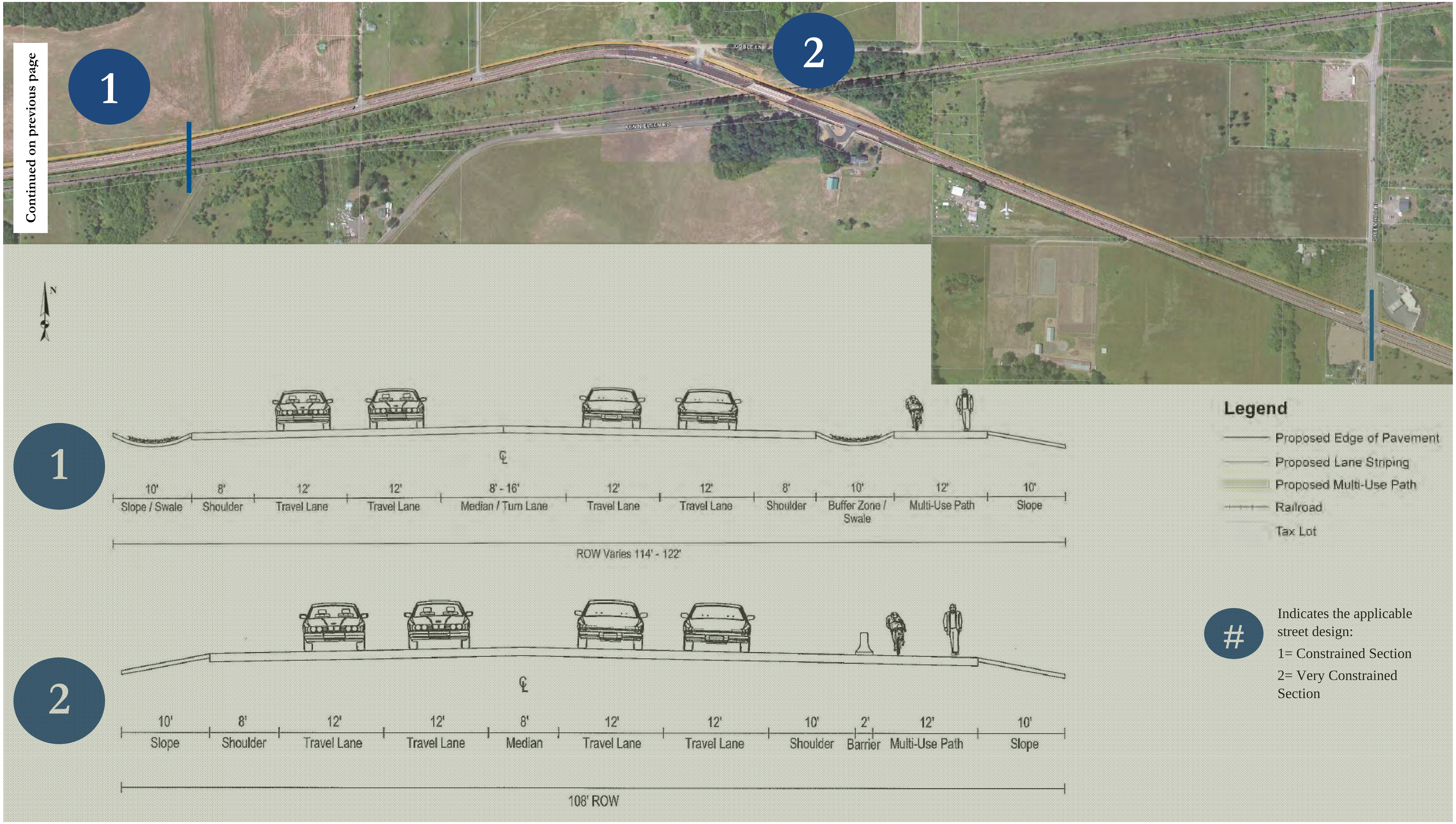
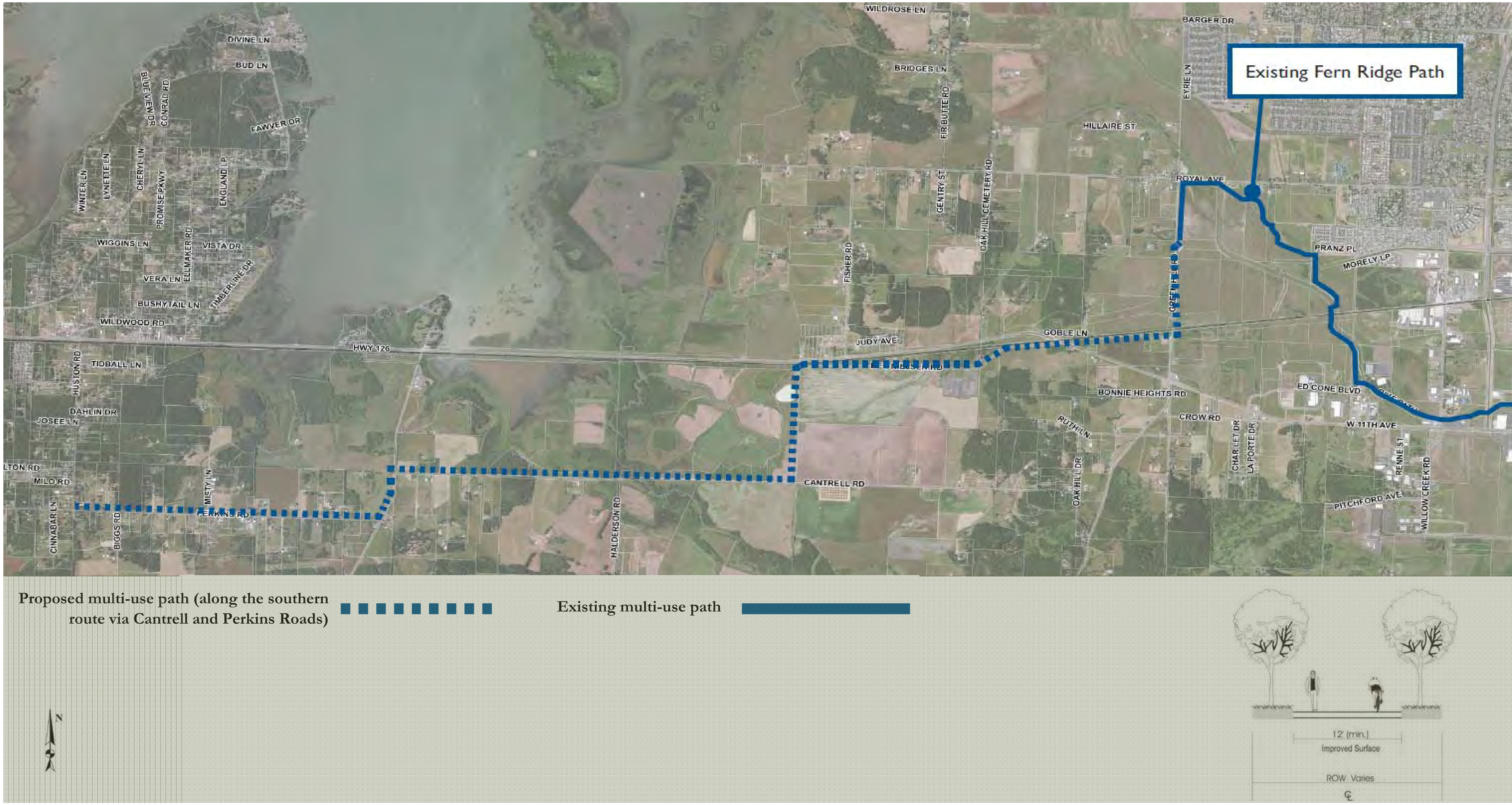


Figure 15: Recommended Corridor Plan: Separated Multi-Use Path Design Option along the Southern Route



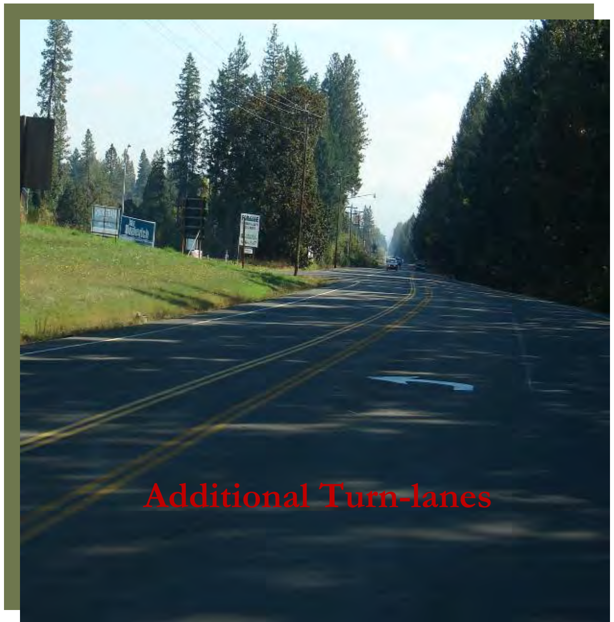


Image source: WSDOT

Short-term Recommendations

The Spot Improvements Alternative was recommended as an interim solution to achieve some of the project goals and objectives in the short-term due to the higher construction costs of the OR 126W Four-Lane Alternative. As shown in Figures 16a and 16b, the short-term recommendations include walking and biking, transit, and motor vehicle safety and capacity enhancements.

Walking and Biking

Short-term walking and biking recommendations were:

- Investigate crosswalks and enhanced crossing treatments along OR 126W
- Add sidewalk connections from marked crossings on OR 126W to bus stops
- Add street lighting

Transit

Short-term transit recommendations were:

- Relocate bus stops to the far side of intersections
- Add bus pull-outs, landing pads, benches and shelters at bus stops

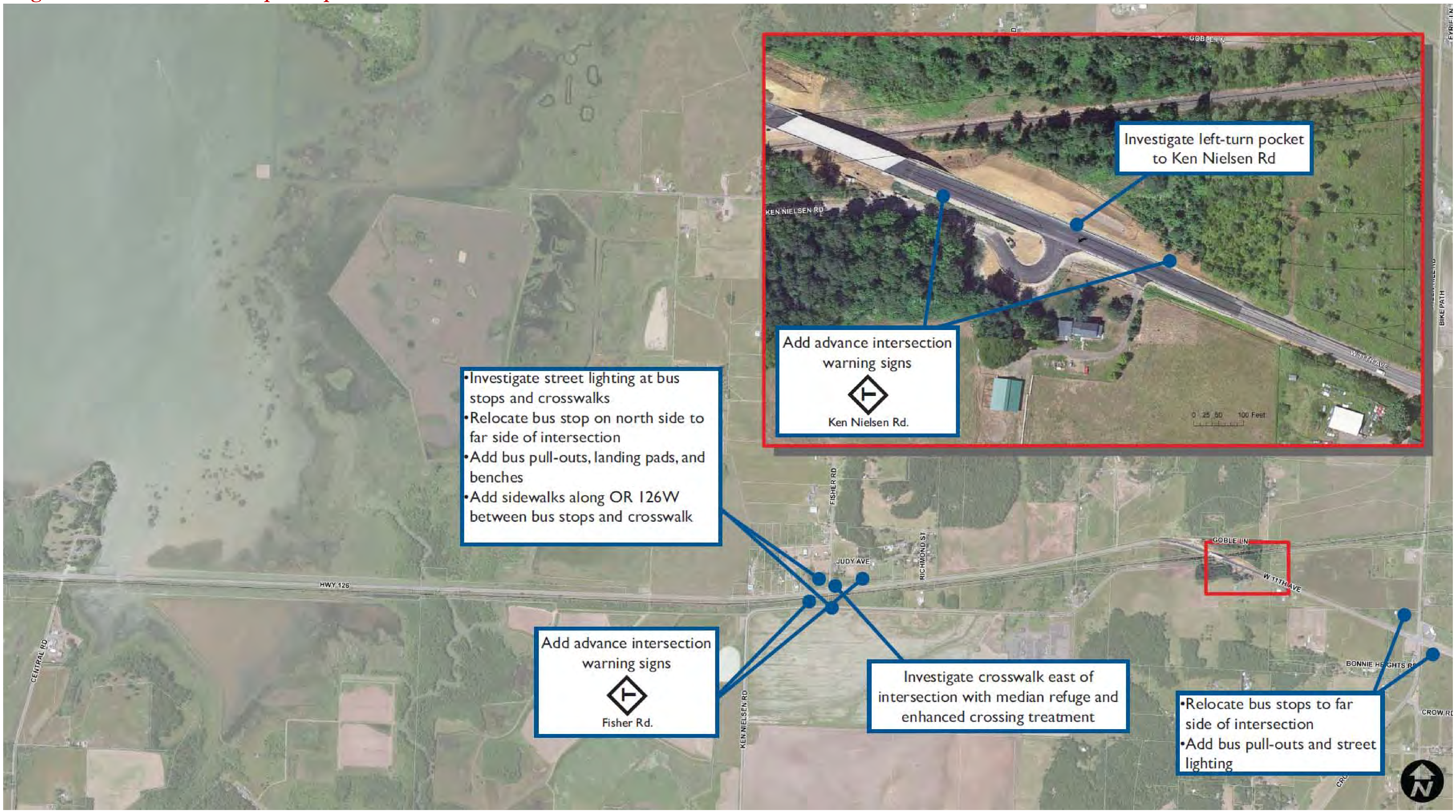
Motor Vehicle Safety and Capacity

Short-term motor vehicle safety and capacity recommendations were:

- Investigate the potential for traffic signals at intersections in close proximity to the railroad crossing
- Add left- and right-turn lanes
- Add advanced intersection warning signs

Figure 16a: Recommended Spot Improvements: Huston Road to Central Road

Figure 16b: Recommended Spot Improvements: Central Road to Green Hill Road



Access Management Plan

A key element of the Highway 126 Fern Ridge Corridor Plan is the long-range preservation of operational efficiency and safety of any proposed improvements in managing access to the highway. Access points- where side roads or driveways intersect the highway- are potential locations for vehicle conflicts. Vehicles frequently stop or slow down at these access points, which can significantly degrade the flow of traffic and reduce the efficiency of the transportation system. By reducing the number of access points and separating them more widely, the impacts of these conflicts can be minimized.

Access Strategies

Short-, medium-, and long-range strategies have been identified for managing access to OR 126W:

Short-Range Strategies

- Implement turn lanes at driveways and intersections
- Install non-traversable medians to restrict turning movements. A short-term solution is to stripe a solid double yellow line with yellow cross-hatching between the lines. In the future, the striped median could be replaced with a physical median or barrier.

Medium-Range Strategies

- Consider sharing or consolidating access points when/if properties are redeveloped in the future
- Reconsider the short-range strategies previously discussed, such as restriping roadways to establish turn lanes or installing non-traversable medians

Long-Range Strategies

- Provide a connection to Wildwood Road for the properties along the north side of OR 126W between Huston Road and Ellmaker Road to connect properties to the local street network that currently depend on OR 126W for access

Section 5. Adoption and Implementation

This section presents the plan elements that are intended to adopt, implement and monitor the Highway 126 Fern Ridge Corridor Plan.

Implementation

It is important to note that the recommended transportation improvements identified in the Four-Lane Alternative are not guaranteed to be funded and implemented during the planning horizon. Consequently, these projects cannot be relied upon to support plan amendments or zone changes and to achieve compliance with Oregon Administrative Rule 660-012-0060 unless or until they are included in the adopted Statewide Transportation Improvement Program (STIP) or a specific funding source is identified and supported by ODOT in writing. The projects recommended in this document simply represent state and local agreement about transportation system needs in the OR 126W project study area that have been identified through extensive analysis.

The transportation improvements identified in the Spot Improvements Alternative are of a type or scale that ODOT believes can be implemented through some combination of state and/or local funds. The Spot Improvements can, therefore, be considered reasonably likely to be completed within the 20-year planning period.

To ensure that the Corridor Plan remains relevant and flexible enough to respond to changes over time, the following steps should be implemented by the affected jurisdictions. At a minimum:

- ODOT and Lane County should develop an interagency funding strategy outlining improvement prioritization, affected area, agency roles and responsibilities, and necessary condition of approval revisions to previously-approved land uses. As part of this process, the jurisdictions should consider how the Corridor Plan could impact previous land use decisions and approval conditions.
- ODOT and Lane County should review right-of-way and access management needs for the long-term solutions prior to adopting local plan amendments or as part of local land use actions.
- ODOT and Lane County should develop an interagency monitoring program that includes safety and operational review to determine the need for and timing of improvements.

Corridor Plan Monitoring and Updates

The purpose of the Highway 126 Fern Ridge Corridor Plan is to ensure that safety and operational constraints are addressed for highway users through the 20-year horizon. The corridor plan should remain dynamic and responsive to development and changes to the adopted land use and transportation plans. To accomplish this, Lane County and ODOT should agree on a monitoring process that identifies triggers for reviewing the Corridor Plan and how development within the surrounding area will be reviewed and coordinated with all parties.

Periodically, the program for implementing the Corridor Plan may need to be evaluated to ensure it is meeting the needs of the managing agencies. Events that could trigger a review of the corridor plan include:

- Safety issues that have been identified by periodic review of crash data, statewide ranking and prioritization, and findings from traffic impact studies.
- Mobility failures that have been identified through periodic agency review and findings from traffic impact studies.
- Zone change applications.

Endorsement

- This plan received endorsement from the Lane County Area Commission on Transportation on August 8, 2012.

Adoption

The adoption sequence has proceeded as follows:

- The plan was unanimously recommended by the Lane County Planning Commission on October 2, 2012.
- This plan was adopted as a refinement plan to the Lane County TSP according to Ordinance No. PA 1297 on February 12, 2013.

Final Step:

- Schedule the Oregon Transportation Commission adoption hearing to consider amending the Oregon Highway Plan to include the Highway 126 Fern Ridge Corridor Plan.

Appendix A. Technical Memorandum #1, Highway 126 Fern Ridge Corridor Plan – Transportation Review of Plans, Policies, Regulations, and Standards (DKS, 2011)

DKS Associates
TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM #1

TO: Project Management Team

FROM: Scott Mansur, P.E., P.T.O.E., DKS Associates
Peter Coffey, P.E., DKS Associates
Brad Coy, E.I.T., DKS Associates

DATE: September 12, 2011

SUBJECT: **OR 126W Fern Ridge Corridor Plan – Transportation Review of Plans, Policies, Regulations, and Standards (Task 3)** P09042-019-003

This memorandum documents the prior plans, policies, regulations, and standards that are applicable to OR 126 between Veneta and Eugene, Oregon. It identifies the applicable information, relationships, conflicts, and discrepancies of the various documents. This review memorandum will be used as a resource in the preparation of the OR 126W Fern Ridge Corridor Plan to help ensure that the plan builds off of past effort, addresses any outstanding issues, and fits into the larger regional context.

This resource memorandum is divided into two parts. First, it lists key issues and recommendations identified in prior studies and plans that have findings or guidelines relevant to the project corridor. Second, it provides general documentation of the prior plans, policies, regulations, and standards.

Key Transportation Issues and Recommendations

The key issues and recommendations identified in prior studies and plans that have findings or guidelines relevant to OR 126 between Veneta and Eugene are provided in the following list:

- The *Interim Corridor Strategy: Highway 126 West* provides corridor planning framework and was intended to be used as the starting point for the development of a Corridor Plan for OR 126 from Florence to Eugene. It also recommended a refinement plan (and identified a few potential improvement ideas) addressing safety and congestion for the segment from Veneta to Eugene to explore alternatives through a community consensus-building process.
- The other corridor-related studies further identify corridor concerns and provide potential improvement ideas that should be considered.
- The City of Veneta studies outline goals and objectives of the City. They also identify various improvements, particularly on the west end of the study corridor.
- The City of Eugene (and overall Central Lane MPO) studies outline goals and objectives of the Eugene-Springfield area. They also identify various improvements, particularly on the east end of the study corridor.

- The Lane County studies outline goals and policies for the County. They also identify various improvements, particularly on the side streets that intersect OR 126 in the rural area between Veneta and Eugene.
- The ODOT plans provide information and standards that are applicable to OR 126, including:
  - The OR 126 project study area corridor is classified as a Statewide Highway. It is also part of the National Highway System (NHS), is a State Freight Route (FR), and is a Federally Designated Truck Route (TR). The eastern section of the corridor is part of the Beltline Highway (Highway #569), and the western section is part of the Florence-Eugene Highway (Highway #62).
  - Goals, policies, and standards are provided for each transportation mode to be serviced on the corridor.
  - Access spacing standards (1,320 feet given 55 mile per hour speed limit)
  - Oregon Highway Plan (OHP) mobility standards (vary between 0.70 and 0.80 for intersections and free movements and between 0.80 and 0.90 for side street stopped approaches depending on corridor segment)
  - Highway Design Manual (HDM) mobility standards (vary between 0.60 and 0.75 depending on corridor segment)
  - Implementation resources are provided that guide the preparation and adoption of facility plans.

Background Documents

The background documents that were reviewed include plans, policies, regulations, and standards relevant to OR 126 between Veneta and Eugene. Documents were obtained from the City of Veneta, the City of Eugene, Lane County, and the Oregon Department of Transportation (ODOT). A list of the documents reviewed and the page in this memorandum where each document is summarized is provided below:

The following environmental plans were not reviewed as part of this transportation memorandum; however, they have been reviewed by project team members and their related discussion is attached to this memorandum in the appendix:

- Oregon DFW Draft Fern Ridge Area Wildlife Management Plan (2009)
- Oregon DFW Long Tom Sub-basin Fish Management Plan (1992)
- USACE Fern Ridge Lake Shoreline Management Plan (1997)
- USACE Fern Ridge Lake Operational Management Plan (1998)
- Lane County Parks and Open Space Master Plan Update (2009)

The appendix to this memorandum also includes a policies and codes review. This additional review identifies any existing policies or codes that might result in land use or transportation scenarios inconsistent with the goals and objectives of the OR 126 Facilities Plan.

Interim Corridor Strategy: Highway 126 West

April 1998, Oregon Department of Transportation, Region 2

This report covers the section of OR 126 from Highway 101 in Florence to Interstate 5 in Eugene. It was prepared as a long-range plan for managing and improving transportation facilities and services to meet the needs for moving people and goods. This corridor plan assists in the development of transportation projects for implementation through the *Statewide Transportation Improvement Program* (STIP). It was prepared for this particular corridor due to its statewide significance: OR 126 West is an important route for national, state, regional, and local users and is a significant route for commuters, tourists, and truck traffic. It is the primary route connecting the central Oregon Coast to the Eugene-Springfield metropolitan area in the southern Willamette Valley. It is critical in regards to regional connectivity in southwest Oregon.

The Interim Strategy was submitted to the OTC, Lane County, LTD, and the cities of Eugene, Veneta, and Florence for endorsement. After being endorsed, it was intended that the strategy would inform the agencies' transportation plans and comprehensive land use plans as appropriate. In addition, the Interim Strategy would be used as the starting point for the development of a Corridor Plan. The Corridor Plan would include further technical analysis and public outreach, with the intended result being prioritized project lists (based on short- and long-term costs and benefits) for each jurisdiction that has the responsibility for implementation as appropriate. The project lists would also include cost estimates and financing strategies. The final Corridor Plan would then be adopted by ODOT as an element of the state transportation system plan.

The Interim Corridor Strategy includes the following chapters:

- Executive Summary
- Chapter 1: Overview of Corridor Planning
- Chapter 2: Highway 126 West Corridor Overview
- Chapter 3: Existing Conditions and Facilities
- Chapter 4: Future Conditions
- Chapter 5: Issues, Opportunities, and Constraints
- Chapter 6: Interim Corridor Strategies

Specific public comments, analysis findings, and strategy recommendations from the strategy for the section of OR 126 from Veneta to Eugene include the following:

Safety and Crash Profile

- Two of the four fatalities on the corridor between 1994 and 1996 occurred between Veneta and the Beltline Highway in Eugene. This is a proportionately high number of fatalities (relative to total collisions) compared to the other corridor segments.
- Safety was one of the most frequently cited public concerns for the corridor. Curves, rain, and darkness were three of the main contributors to unsafe conditions, especially in locations where there are higher traffic volumes, the road is narrower, and there are ruts in the pavement. In addition, the lack of shoulders creates difficulties for service vehicle and emergency situations. Priority locations along the corridor should be identified.

Public Transit

- The Strategy recommends working with existing providers to improve transit service and inter-modal links along the corridor; specifically, proposes that Lane Transit District (LTD) improve bus service within the City of Veneta and from Eugene to Veneta, including a Park-and-Ride in Veneta with convenient express service to Eugene.

Bicycles

- The Strategy recommends widening shoulders as needed (specific sections to be mapped in Phase II); particular concern for the section between Veneta and Eugene. Constraints include varying shoulder widths, limited alternative routes, geographic constraints, and environmental issues.
- The Eugene Bicycle Coalition recommended designating a bike route from Territorial Road to Eugene: travel east on East Bolton Road, south on Huston, east on Perkins, east on Cantrell, and north on Nielson to Highway 126, where cyclists would cross at Willow Creek and use the Fern Ridge Path the remainder of the way to Eugene. This would require repaving gravel on Cantrell and Nielson and signing the route.

Pedestrians

- There are no sidewalks along the corridor. The need for pedestrian facilities along the corridor was not a large concern for corridor users due to reliance on the automobile. However, facilities should be considered within Veneta and at other locations with pedestrian activity.

Environmental

- There are multiple potential conflicts with natural resources (including multiple plant and animal habitats) near the highway due to the proximity of the Fern Ridge Reservoir. However, the Fern Ridge Reservoir and other scenic and natural resources could be made into destinations for recreation, with improvements such as a bike path connection and turning wetland mitigation areas into recreational education areas.
- There is interest in balancing the needs of people versus the environment.

Freight Rail

- The Strategy recommends supporting appropriate land use designations to provide increased freight rail access opportunities.

Motor Vehicle Capacity

- The section between Veneta and Eugene is the most heavily congested on the corridor. Congestion could increase with employment growth in west Eugene and residential development in Veneta.

Refinement Planning

- The Strategy recommends a refinement plan addressing safety and congestion for the segment from Veneta to Eugene to explore alternatives through a community consensus-building process. This section is of particular concern to residents of the Veneta area, many of whom commute regularly to the Eugene-Springfield metropolitan area for work, services, and other activities. Growing residential development pressures in Veneta and booming industrial and commercial development in west Eugene have heightened concerns about the future capacity of OR 126 for all travel modes. The highway has two lanes with minimal shoulders. Expansion of the roadway is severely limited by environmental constraints. Some identified congestion and capacity improvements to consider include (1) widening the shoulders for bike lanes and emergency parking, (2) expanding the highway to four lanes, (3) paving K.R. Nielsen Road for use as an alternative route, (4) rerouting OR 126 around the Fern Ridge Reservoir, and (5) adding a reversible HOV lane between Veneta and Eugene.

Florence-Eugene Highway Conditions Report

2001, Oregon Department of Transportation

This report provides information about the OR 126W corridor in an electronic format primarily using interactive maps. It contains a comprehensive data set that describes the current physical and operating conditions on OR 126W. It also provides a general forecast of future travel demand and an assessment of the ability of the existing highway to handle expected growth through 2025 under no-build conditions (i.e., if no improvements are made between now and then). Therefore, its intent is to pinpoint the geometric, operational, and safety deficiencies that are likely to occur if there is no investment in OR 126W, beyond those currently planned and programmed. Using the information in this report, ODOT and local partners will be able to define critical problems, analyze alternative improvement concepts, and develop recommended long-term solutions to the problems created by the deficiencies in the 126W corridor.

The study addresses the following issues (which are listed along with some specific information related to the corridor segment between Veneta and Eugene):

- Overview of related plans, policies, and studies
- Discussion of corridor significance and history
- Trends in population, employment, land use, and travel growth
    - Majority of traffic volume growth occurs between Veneta and Eugene
- Existing and forecast conditions for each of the eleven 126W study intersections analyzed and each mainline highway segment
    - Future congestion expected at all unsignalized intersections between Veneta and Eugene
- Environmental conditions
- Opportunities and recommendations for short-term improvements (i.e., those that could be made before the completion of a full alternatives analysis for the corridor)
    - Widen shoulders
    - Restripe roadway
    - Install advance intersection sign

This report is intended to help ODOT focus its planning efforts on the most significant problems and to act as a catalyst for further discussion about how best to invest in OR 126W. The next phase in planning for the future of 126W is to determine which transportation improvement alternatives will best protect and improve travel conditions in the corridor. The second-phase was expected to take the form of a corridor plan or refinement plan involving the following basic steps:

- Evaluate the deficiencies identified in phase one
- Identify the problems that cause the deficiencies
- Identify alternatives to address the problems
- Evaluate the alternatives
- Develop solution recommendations

TPAU Review of Florence-Eugene Highway Conditions Report

December 7, 2001, ODOT Transportation Planning Analysis Unit

The ODOT Transportation Planning Analysis Unit (TPAU) performed a traffic analysis that was used in the preparation of the *2001 Florence-Eugene Highway Conditions Report*. The analysis was for 30th highest hour traffic volumes under the 2001 Existing and 2025 Future No-Build scenarios. The memorandum indicates that traffic characteristics for the section of OR 126 from Florence to Veneta was characterized as daily commuter traffic with a peak hour from 5:00 to 6:00 p.m. This finding was supported by the higher volume-to-capacity ratio at the OR 126/Territorial Highway intersection during the weekday p.m. peak hour versus the weekend recreational peak hour (both peak hours were analyzed for this intersection).

The future analysis indicated that in the 2025 No-Build scenario, both unsignalized intersections and the entire mainline between Veneta and Eugene fail to meet the 1999 OHP mobility standards. One potential improvement that would address congestion (though may have other undesirable impacts), would be to widen this section of the highway to four lanes. In addition, the Fisher Street and Central Road intersections with OR 126 are locations that may need turn lanes in the future due to safety and operational concerns. If turn lanes on OR 126 are provided in the future, then they should be sufficiently long to accommodate potential queues caused by gate down time at the adjacent railroad track. The Fisher Street intersection was also identified as a location that is expected to meet traffic signal warrants under the 2025 Future scenario.

Oregon 126 Safety Study

April 8, 2005

This study provides an analysis of highway safety on OR 126W between the western edge of the Eugene metro area and US 101 in Florence. The study identifies the types, causes, and severity of crashes given the current highway condition and daily traffic. One purpose of the study was to assess the impacts of future projected traffic as well as previously unanticipated casino traffic growth on the existing safety condition in the corridor. Study recommendations include safety mitigation priorities that encompass the range of alternatives including education, enforcement, and engineering options.

The study includes the following sections:

- Executive Summary (April 8, 2005)
- Safety Concern Spreadsheet
- Crash Analysis Report (July 2004)
- Law Enforcement/EMS Interviews (July 26, 2004)
- Casino Safety Impacts (October 25, 2004)
- Implementation Strategy/Conceptual Mitigation Alternatives (November 23, 2004)

Some of the specific findings and recommendations for the corridor segment between Veneta and Eugene include the following:

- Enforcement staff and EMS first responders would benefit from:
  - Turnarounds and launch pads
  - Roadway and/or shoulder widening
- Safety could be improved by installing:
  - Shoulder rumble strips where 4' shoulders are available
  - Edge and centerline raised pavement markers when permitted by ODOT (or other centerline demarcation to help reduce cross-over collisions)
- The segment between Milepoints 49.00 to 49.49 (near Fern Ridge Reservoir) is a two lane roadway with guardrail that protects drivers from water (wetlands) on each side of the roadway. This segment was examined in greater detail due to higher occurrence of crash severity and frequency. The analysis indicated that this segment:
  - Has a long straight section with intersection at MP 49 not clearly defined with decreased sight visibility due to location and placement of guardrail
  - Needs improved visibility or audible for improved recognition of intersection
- A major contributing factor to crash potential appears to be the diverse mix of corridor users that includes everything from log trucks to recreational travelers heading to and from the coast. Accordingly, raising the awareness of all drivers to the need to drive safely is expected to produce the most beneficial and observable results

West 11th Avenue Corridor Study

July 2010, DKS Associates for the City of Eugene

A study of the West 11th Avenue corridor (which transitions into OR 126 as it heads west and leaves the Eugene UGB) was completed for the City of Eugene in 2010. The purpose of the study was to identify short-term strategies to improve bicycle and pedestrian facilities, corridor safety, access, signal timing, and traffic operations. The corridor study area spanned from Green Hill Road on the west to Chambers Street on the east.

The only overlap of the *West 11th Avenue Corridor Study* with the current OR 126W Fern Ridge Corridor Plan is near the Green Hill Road intersection (both studies include this as a study intersection). The *West 11th Avenue Corridor Study* identified the need to either upgrade West 11th Avenue to a five-lane urban arterial or construct a dual-lane roundabout at the West 11th Avenue

(OR 126W)/Green Hill Road intersection (though this improvement was not one of the four improvements identified as highest priority for ODOT and the City of Eugene).

The study also identified the need to provide an improved bicycle connection between Ed Cone Boulevard (which has bike lanes and connects to the Fern Ridge Path) and Crow Road (which is a major cycling route). Any bicycle facility improvements on OR 126 should consider how best to connect to the Fern Ridge Path in this vicinity.

A New Vision for West Eugene

March 2009, West Eugene Collaborative

The West Eugene Collaborative (WEC) formed in early 2007 with the aid of the Oregon Consensus Program. It is an ad hoc group encompassing a broad variety of viewpoints, including political and governmental leaders, business leaders, leaders of neighborhood groups, leaders of nonprofit organizations, and leaders within the environmental community. The WEC's purpose is to "develop an integrated land use and transportation solution, supported by stakeholders, that will facilitate movement of people and commerce from/through/to west Eugene and west of Eugene while enhancing community, business, and the environment."

This report documents analysis and recommendations that cover a large area of interest that extends as far west as Veneta. It is intended to be viewed as a general course that seems to have potential for addressing concerns in the west Eugene area. One of the recommendations was to complete a safety and mobility study for OR 126. All recommendations are intended to promote further public input, discussion, and consideration. Therefore, the WEC recommends efficient and transparent public planning, local community outreach and relationship building, and continued collaboration among all agencies and stakeholders.

City of Veneta Comprehensive Plan (Ordinance 416)

Adopted September 25, 2000; most recently amended November 23, 2009

The comprehensive Plan serves as Veneta's long-range land use plan and as a policy guide to physical development decisions. It consists of the following eleven plan elements:

- Growth Management
- Community, Building, and Site Design
- Residential Land and Housing
- Economic Development
- Utilities
- Community Facilities and Services
- Transportation
- Parks and Open Space
- Natural Resources
- Air, Water, and Land Resource Quality
- Areas Subject to Development Constraints

The Transportation element (pages 47 to 56) of the Veneta Comprehensive Plan provides goals and policies to guide the development of the TSP and to monitor future transportation strategies and improvements. These goals and policies address quality of life, congestion, connectivity, access, multi-modal mobility, environmental impact, coordination, design standards, and other issues.

Veneta Transportation System Plan (Ordinances 401, 427, 432, and 464)

Adopted November 9, 1998; most recently amended April 24, 2006

Veneta adopted their first TSP in 1998. This plan has been amended by ordinance three times (in 2001, 2002, and 2006). The TSP is the long-range policy document that guides transportation planning within the Veneta Urban Growth Boundary (UGB) for the next 20 years. The plan assumes that the city will grow from its population of approximately 2,850 residents in 1996 (and 480 jobs in 1994) to approximately 5,450 residents and 840 jobs by the year 2015 (between 4% and 5% yearly growth). The plan was written by Lane Council of Governments and funded by ODOT and the City of Veneta. The TSP chapters include:

- Chapter 1: Introduction
- Chapter 2: Mission, Goals, and Policies
- Chapter 3: Modal Plans
- Chapter 4: Implementation Actions
- Chapter 5:Financing Strategies

Key Issues Applicable to OR 126 Study Area Corridor

The issues raised in the TSP that are applicable to the OR 126 study area corridor include:

Traffic Control and Access

- Traffic control (i.e. signing, striping, etc.) is not adequate to control flow of traffic
- Only one signal (Territorial Road intersection)
- Huston Road provides one additional access point which could be used to divert some of the traffic through connectivity with other streets; directing traffic to Huston Road may increase need for additional signal
- Ingress/egress standards need to be fair for all access/users
- Alternate access needed for emergency vehicles
- Recommendation: Additional Traffic Signal(s) on Hwy 126

Traffic Congestion

- Only route to the coast from Eugene
- Congestion of a wide variety of vehicle types on road; i.e. commercial, recreational, commuter
- Road capacity is not adequate, nor has it been for 25 years
- Future traffic on highway likely to increase
- Recommendation: Widen Highway to 4 lanes

Safety

- Frequent accidents at major intersections
- Difficult to access Hwy 126 from side streets during peak traffic hours

Speed

- Speed limits are too high between Ellmaker and West Lane Center
- More traffic enforcement is needed
- Conflict between speeds driven by highway travelers and business customers. Ingress and egress for businesses is hazardous
- Greater speed reduction zone near traffic signal is needed

Projects along OR 126 Study Area Corridor

The projects identified in the TSP for the OR 126 study area corridor include:

- **Project B6 (Safe Pedestrian and Bicycle Crossing of OR 126, shared responsibility between ODOT and City of Veneta):** The best location for a grade separated crossing improvement is most likely west of Huston Road (i.e., near Hope Lane). However, crossing improvements, such as median refuge islands and other treatments may be beneficial in the study corridor.
- **Project B8 (Traffic Signal at OR 126/Huston Road Intersection, shared responsibility between ODOT and City of Veneta, Cost Estimate = $5 million):** The TSP reported that Huston Road was not meeting signal warrants at the time of the TSP preparation. Once the intersection meets warrants (based on a future traffic study: Study D-4), then a signal should be constructed. The proximity of the railroad crossing south of the intersection will affect improvement design and costs.
- **Project B14 (Off-Street Paths, responsibility of City of Veneta, Cost Estimate = $500,000):** Construct paths for bicyclists and pedestrians along the drainage-ways within the area already designated open space/greenway in the Comprehensive Plan. The cost estimate does not include right-of-way or easement acquisition.

City of Veneta Land Development (Ordinance 493)

Adopted January 25, 2010

Article 5 provides land development supplementary provisions, including the following transportation-related sections:

- SECTION 522: Pedestrian Access and Circulation (page 115)
- SECTION 523: Transit Facilities (page 116)
- SECTION 524: Access Management (page 117)
- SECTION 527: Traffic Impact Analysis and Mitigation (page 122)
- SECTION 528: Street Trees (page 123)

Fern Ridge Trail System: Visions and Strategies
July 2007

The Fern Ridge Trail System visioning document is a long range vision and conceptual tool that provides general insight in the following areas:

- Establishing the need for the proposed trail system
- Potential trail location and opportunities identification (descriptions, table, and map)
- Factors that influenced mapping and project prioritization
- Funding strategies (includes trial project grant schedule)
- Community input (group meetings, open house, and questionnaires)

This preliminary planning process was intended to raise awareness about the vision, to create a conceptual framework that helps facilitate the development of partnerships, and to place the City of Veneta in a better position to obtain grant funding and other forms of assistance as opportunities arise. It is a starting point to explore the feasibility of the individual projects and trail segments identified in the vision. The map of proposed routes is intended to be refined and adjusted based on additional planning and implementation efforts. Some additional efforts that are needed prior to implementing individual trail projects include a more detailed analysis of such issues as engineering, cost, funding, and environmental, social, and economic impacts.

Eugene-Springfield Metropolitan Area General Plan (Metro Plan)
2004 Update

The *Eugene-Springfield Metropolitan Area General Plan*, also known as the *Metro Plan* is an overarching guidance document and functions as a framework for supplemental documents to provide more detailed programs, plans, and policies for the metropolitan area of Lane County and the cities of Eugene and Springfield. The Metro Plan is a long-range planning document that establishes and the goals and policies to guide land use. Land use encompasses growth, development, redevelopment and conservation of resources. The Metro plan includes a transportation element; however it does not provide location-specific recommendations.

TransPlan: Eugene-Springfield Transportation System Plan
July 2002

The Eugene-Springfield Transportation System Plan (TSP), also known as *TransPlan*, contains transportation goals, policies, and strategies to address transportation needs for the Eugene-Springfield metropolitan area through the year 2021. The *TransPlan* theme was “Improving Our Transportation Choices” which reflects the plan’s focus to provide a variety of transportation modes and smooth connections between those modes.

TransPlan has developed a Capital Investment Action Project List. The list includes both Financially Constrained 20-year Capital Investment Actions and Future (Beyond 20 Years) 20-Year Capital Investment Actions. The constrained projects are then subdivided into Programmed projects which are expected to have a 0-5 year implementation horizon that have funding sources identified and un-programmed projects that do not have specific funding identified but are expected to be funded within the 20-year planning future. The *TransPlan* Financially Constrained 20-Year Capital Investment Action project lists were adopted and incorporated by amendment into the *Metro Plan*. They are also the same projects identified in the *Central Lane MPO Regional Transportation Plan*. There are some differences, but the *Central Lane MPO Regional Transportation Plan* is more up-to-date.

Central Lane MPO Regional Transportation Plan

November 2007, Lane Council of Governments

The Central Lane Metropolitan Planning Organization (MPO) Regional Transportation Plan (RTP) guides regional transportation system planning and development in the CLMPO metropolitan area. The RTP includes provisions for meeting the transportation demand of residents over a 20-year planning horizon (2031) while addressing transportation issues and making changes that can contribute to improvements in the region's quality of life and economic vitality represents a required update to the federal RTP.

The RTP is adopted by the Metropolitan Policy Committee (MPC) and is required to be updated every four years (i.e., the next update is anticipated for 2011). The ongoing nature of regional transportation planning allows the RTP to be a dynamic plan of action for the future transportation system, rather than a static snapshot in time. The RTP is particularly important for guiding transportation public policy and investment decision making over the three- to five-year period following plan adoption, until the next plan update.

The RTP establishes the framework upon which the region's public agencies can make consistent and coordinated planning decisions regarding inter- and intra-jurisdictional transportation. The regional planning process ensures that the planning activities and investments of the local jurisdictions are coordinated in terms of intent, timing, and effect. The RTP sets forth the long-range policy framework for decision making for the following elements of the region's multi-modal transportation system:

- Regional roadways
- Regional transit system
- Regional bikeways and pedestrian circulation
- Regional goods movement (multiple modes)
- Regional aspects of other modes, including air, rail, and inter-city bus service

Implementation actions also accompany the policy element as a core component of the RTP. The RTP Policy Framework (Chapter Two) and Implementation Actions (Chapter Three) are structured around three fundamental components of transportation planning:

- Land use
- Transportation demand management
- Transportation system improvements

The RTP Policy Framework (Chapter Two) includes goals, objectives, and policies.

- **Goal:** Broad statement of philosophy that describes the hopes of the people of the community for the future of the community. A goal may never be completely attainable but it is used as a point towards which to strive.
- **Objective:** An attainable target that the community attempts to reach in striving to meet a goal. An objective may also be considered as an intermediate point that will help fulfill the overall goal.
- **Policy:** Statement adopted as part of *TransPlan* to provide a consistent course of action, moving the community towards attainment of its goals

Projects Applicable to OR 126 Project Study Area

The Central Lane MPO boundary covers Eugene, Springfield, Coburg, and some adjacent surrounding areas. On the west, its boundary extends just west of Green Hill Road. Therefore, only a small portion of the study area is within the MPO boundary (in the MPO's Geographic District 4). The following projects were identified in the plan:

RTP Table 1a-Financially Constrained – Capital Investment Actions: Roadway Projects

- **Project 333. West 11th Avenue (Green Hill Road to Terry Street):** Upgrade to 5-lane urban facility; ODOT and Eugene; $20,000,000; 1.51 miles; includes striped bike lane
- **Project 485. Green Hill Road (Airport Road to Barger Drive):** Rural widening and intersection modifications; Lane County; $2,800,000; 1.98 miles; includes striped bike lane

RTP Table 3a-Financially Constrained – Capital Investment Actions: Bicycle Projects

- **Project 453. Green Hill Road (West 11th Avenue to Crow Road):** Striped bike lane/shoulder; Lane County; $250,000; 0.26 miles;

RTP Table 3b-Illustrative – Capital Investment Actions: Bicycle Projects

- **Project 426. Fern Ridge Path #3 (Royal Avenue to Fern Ridge Reservoir):** Multi-use path; Eugene and Lane County; $6,891,000; 0.91 miles;

Central Lane MPO Unified Planning Work Program (FY 2012 and 2013)

May 2011 (Covering July 1, 2011 to June 30, 2013)

The Unified Planning Work Program (UPWP) is a federally required certification document describing the transportation planning activities to be undertaken in the Central Lane metropolitan area for a specific fiscal year or years. Development of the UPWP provides local agencies with an opportunity to identify transportation needs, objectives, and products.

This document identifies the "Oregon 126: Veneta-Eugene Facility Plan" as one of the Major Facility Studies (LCOG Action Item #5). This study will be conducted in partnership with ODOT, the City of Eugene, and Lane County. The document states the following about the plan:

- **Project Description*:*** The Oregon 126W corridor, from Veneta to Eugene, is primarily a two-lane highway with capacity and environmental constraints. Since 1998, three reports discuss existing conditions and interim safety improvements to the highway. No long-term improvement plan to address capacity, safety, or operations issues exists. This project is a planning-level analysis for the Oregon 126 corridor, specifically from Veneta to Eugene. The analysis will precede a future National Environmental Policy Act (NEPA) process and will reduce the costs during that process by completing a high-level alternatives analysis for the facility. This planning-level analysis will examine existing reports, existing highway conditions, future 'no-build' conditions, and opportunities and constraints. A variety of long-term solutions, including identification of alternate routes, highway capacity improvements, and/or a combination of solutions to address safety and operations will also be analyzed. The analysis will identify any fatal flaws of alternatives considered and recommend solutions to forward for more detailed examination during the future NEPA process.
- **Lead Agency:** ODOT
- **Partner Agencies:** City of Eugene Lane County, LTD, and LCOG
- **Current Status:** Project start-up
- **Estimated Completion:** 2013
- **Estimated Project Cost:** $500,000

2010 Federal Priorities: United Front Partners of Lane County, Oregon

This document was presented to the Oregon Congressional Delegation and identified the federal priorities of the United Front partners in Lane County for fiscal year 2011. One of the priorities was obtaining funding for the *Highway 126W/Green Hill Rd to Veneta Corridor Study (Lane County)*. The specified intent of the project was to perform initial planning and NEPA Study work to begin the process to identify problems and potential solutions for the Highway 126 West (OR 126) corridor extending from Green Hill Road on the western boundary of the Eugene-Springfield urban growth area to the City of Veneta. Detailed background information and a project description are provided for the project.

Lane County Rural Comprehensive Plan

Updated January 2005

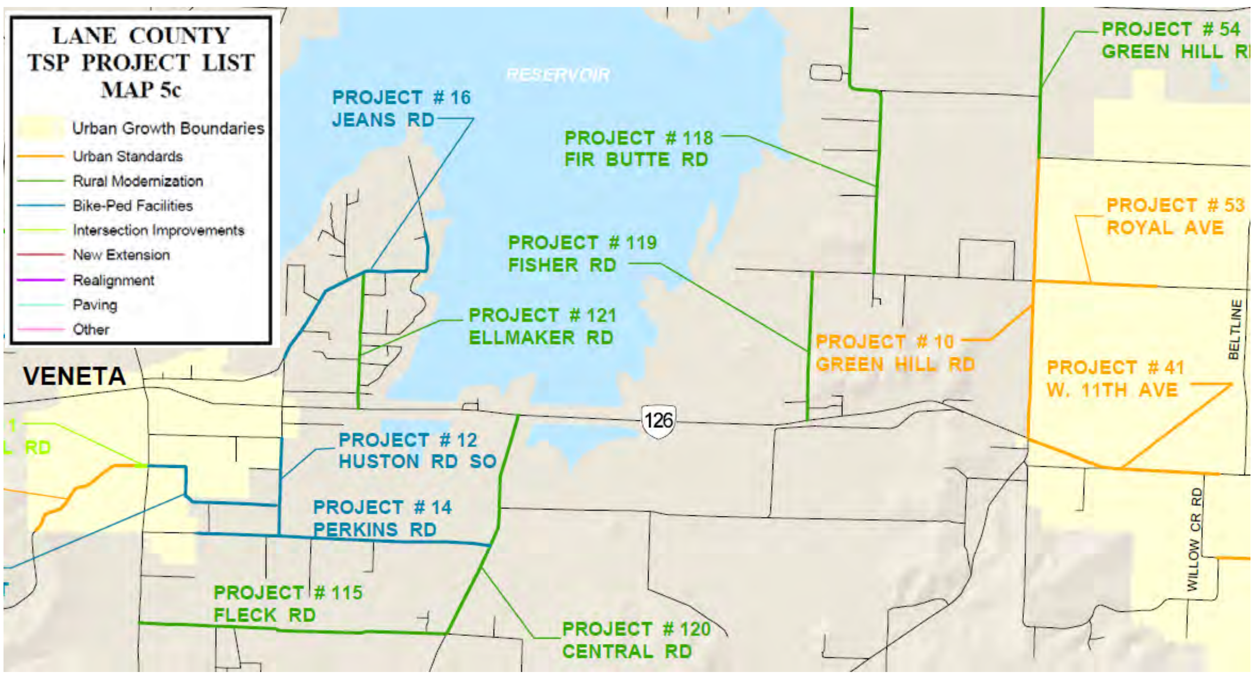
The Lane County Rural Comprehensive Plan applies to all unincorporated lands within the County beyond the Urban Growth Boundaries of incorporated cities in the County and beyond the boundary of the Eugene-Springfield Metropolitan Area Plan. It includes general County planning policies that provide broad direction and interpretation of approaches for County planning needs and complying with State of Oregon planning law.

Goal 12 of the plan addresses transportation. It includes policies directed at providing a coordinated, balanced, efficient, safe, and attractive transportation system.

Lane County Transportation System Plan

May 5, 2004

The Lane County Transportation System Plan (TSP) is a 20-year planning document that provides greater clarity for planning and managing the County transportation system in terms of coordination with new development, targeted transportation improvements, fiscal management, and cooperation with local and state agencies on transportation issues. The TSP fulfills state requirements in accordance with OAR 660-012. The applicable area of Figure 5c from the TSP is provided below and shows the proposed projects in the vicinity of the OR 126 Project Study Area. Most projects are rural modernization or upgrading to urban standards. There are also some bicycle and pedestrian projects near Veneta.



Lane Code: Ch. 16 (Rural Comprehensive Plan and Rural Zoning) and Ch. 10 (Zoning)

The Lane Code includes transportation-related code information in Chapter 16 (Rural Comprehensive Plan and Rural Zoning) and Chapter 10 (Zoning). Chapter 16 provides for allowable rural transportation uses and development outside of urban growth boundaries, while Chapter 10 provides for transportation uses and development inside urban growth boundaries and outside of city limits. Lane County delegated authority to Eugene (and Springfield) to regulate zoning inside Eugene's (and Springfield's) urban growth boundaries.

Oregon Transportation Plan
Adopted September 20, 2006

The Oregon Transportation Plan (OTP) is a comprehensive plan that addresses the future transportation needs of the State of Oregon through the year 2030. It considers all modes of transportation, including airports, bicycle and pedestrian facilities, highways and roadways, pipelines, ports and waterway facilities, public transportation, and railroads.

Seven goals with associated policies and strategies are provided in the plan to address the core challenges and opportunities facing transportation in Oregon. The seven goals are:

- **Goal 1 – Mobility and Accessibility:** To enhance Oregon's quality of life and economic vitality by providing a balanced, efficient, cost-effective and integrated multimodal transportation system that ensures appropriate access to all areas of the state, the nation and the world, with connectivity among modes and places.
- **Goal 2 – Management of the System:** To improve the efficiency of the transportation system by optimizing the existing transportation infrastructure capacity with improved operations and management.
- **Goal 3 – Economic Vitality:** To promote the expansion and diversification of Oregon's economy through the efficient and effective movement of people, goods, services and information in a safe, energy efficient and environmentally sound manner.
- **Goal 4 – Sustainability:** To provide a transportation system that meets present needs without compromising the ability of future generations to meet their needs from the joint perspective of environmental, economic and community objectives. This system is consistent with, yet recognizes differences in, local and regional land use and economic development plans. It is efficient and offers choices among transportation modes. It distributes benefits and burdens fairly and is operated, maintained and improved to be sensitive to both the natural and built environments.
- **Goal 5 – Safety and Security:** To plan, build, operate and maintain the transportation system so that it is safe and secure.
- **Goal 6 – Funding the Transportation System:** To create a transportation funding structure that will support a viable transportation system to achieve state and local goals today and in the future.
- **Goal 7 – Coordination, Communication and Cooperation:** To pursue coordination, communication and cooperation among transportation users, providers and those most affected by transportation activities to align interests, remove barriers and bring innovative solutions so the transportation system functions as one system.

There are also six key initiatives identified to reflect the desired direction of the plan and to frame the plan implementation. These initiatives are:

- Maintain the existing transportation system to maximize the value of the assets. If funds are not available to maintain the system, develop a triage method for investing available funds.

- Optimize system capacity and safety through information technology and other methods.
- Integrate transportation, land use, economic development and the environment.
- Integrate the transportation system across jurisdictions, ownerships and modes.
- Create a sustainable funding plan for Oregon transportation.
- Invest strategically in capacity enhancements.

The Implementation Framework section of the OTP also describes the implementation process and how state multimodal, modal/topic plans, regional and local transportation system plans, and facility plans will refine the OTP's broad policies and investment levels. The OR 126 corridor plan is a facility plan. The State Agency Coordination Program defines a facility plan as: "a plan for individual transportation facilities that includes identification of needs for using the facility, an overall plan for improving the system and policies for operating the facility." Facility plans must be adopted by the Oregon Transportation Commission (OTC), and must be developed with public involvement and implement the OTP and the applicable modal/topic plan goals, policies, implementation strategies, and broad investment scenarios.

The OTP also includes the following elements that affect OR 126 and that were also reviewed as part of this Background Document Review memorandum:

- Bicycle and Pedestrian Plan (Adopted 1995)
- Highway Plan (Adopted 1999, Reaffirmed 2006)
- Oregon Public Transportation Plan (Adopted 1997)
- ODOT Rail Plan (Adopted 2001)

Oregon Bicycle and Pedestrian Plan

Adopted 1995, Included in September 2006 Oregon Transportation Plan

The Oregon Bicycle and Pedestrian Plan is an element of the Oregon Transportation Plan (OTP), which was most recently adopted in September 2006. The goal of the plan is to provide safe and accessible bicycling and walking facilities in an effort to encourage increased levels of bicycling and walking. The plan provides actions that will assist local jurisdictions in understanding the principals and policies that ODOT follows in providing bike and walkways along state highways. In order to reach the plan's objectives, the strategies for system design are outlined, including:

- Providing bikeway and walkway systems and integrating with other transportation systems.
- Providing a safe and accessible biking and walking environment.
- Developing educational programs that improve bicycle and pedestrian safety.

Specific information pertaining to *Bike & Walkway Planning Design, Maintenance & Safety* can be found in Section 2 of the *ODOT Bike and Pedestrian Plan*. Guidance is given for walkway design, street crossings, and intersection pedestrian crossings. Additional guidance is also given for bicycle facility design. In addition, the Policy and Action section contains background information, legal mandates and current conditions, goals, actions and implementation strategies ODOT proposes to improve bicycle and pedestrian transportation.

1999 Oregon Highway Plan (OHP)
August 2006 Version (Includes Amendments Nov. 1999 through Jan. 2006)

The basic framework for the *1999 Oregon Highway Plan (OHP)* is a refinement and application of the goals and policies stated in the Oregon Transportation Plan to the state highway system. The OHP gives policy and investment direction to large scale plans (such as the OR 126 Facilities Plan), but is not intended to direct specific projects and modal alternatives.

One of the key goals of the OHP is to maintain and improve safe and efficient movement of people and goods, while supporting statewide, regional, and local economic growth and community livability. The implementation of this goal occurs through a number of policies and actions that guide management and investment decisions by defining a classification system for state highways, setting standards for mobility, employing access management techniques, supporting intermodal connections, encouraging public and private partnerships, addressing the relationship between the highway and land development patterns, and recognizing the responsibility to maintain and enhance environmental and scenic resources.

Specific OHP policies with bearing on the OR 126 Facilities Plan include the following:

Policy 1A – State Highway Classification System

- The OR 126 project study area corridor is classified as a Statewide Highway. It is also part of the National Highway System (NHS), is a State Freight Route (FR), and is a Federally Designated Truck Route (TR). The eastern section of the corridor is part of the Beltline Highway (Highway #569), and the western section is part of the Florence-Eugene Highway (Highway #62).

Policy 1B: Land Use and Transportation

- Land use and transportation planning and development should be coordinated between state, regional, county, and city agencies. Key elements of this policy indicate that the State of Oregon and local agencies should:
    - Work together to provide safe and efficient roads for livability and economic viability for all citizens
    - Work collaboratively in planning and decision-making related to transportation system management
    - Maintain the mobility and safety of the highway system
    - Encourage the availability and use of transportation alternatives

Policy 1C: State Highway Freight System

- OR 126 has been designated a Freight Route by ODOT, which places added emphasis on efficient operation to ensure the timely and dependable movement of goods. To support this function, special management objectives for freight routes were developed as outlined in Policy 1C of the OHP. Key objectives relating to this plan include:
    - Application of higher highway mobility standards than other Statewide Highways;

- Examine options to treat designated freight routes as expressways where the routes are outside of urban growth boundaries and unincorporated communities and continue to treat freight routes as expressways within urban growth boundaries where existing facilities are limited access or where corridor or transportation system plans indicate limited access
- Consider the importance of timeliness in freight movements in developing and implementing plans and projects.

Policy 1F: Highway Mobility Standards

- ODOT has adopted standards for mobility for state facilities through the OHP and the *Highway Design Manual* (HDM). Standards contained in the OHP are used for planning purposes to identify deficiencies, while facilities and improvements are designed to HDM standards.
- The OHP Highway mobility standards are based on various factors, including highway classification and designations, whether it is within a metropolitan planning organization (MPO) or urban growth boundary (UGB), and the posted speed. The section of OR 126 being studied is a Statewide Highway designated as both a truck route and freight route. The Green Hill Road intersection is within the Central Lane MPO, and the Huston Road intersection is within the Veneta UGB. The speed limit along the entire study corridor is posted at 55 mph. Table 6 from the OHP indicates the applicable mobility standards based on the location and posted speed of a given highway segment. The entries of Table 6 that are applicable to the study corridor are provided in the following table.

ODOT Mobility Standards[a] Applicable for OR 126 (from OHP Table 6)

Highway Category	Inside Eugene UGB	Inside Veneta UGB	Outside UGB
	Inside Central Lane MPO	*≥45 mph posted speed*	*Rural Lands*
Freight Route on a Statewide Highway[b]	0.80 (Green Hill Road intersection)	0.70 (Huston Road intersection)	0.70 (Rest of Corridor)
Stop-controlled side streets[c]	0.90	0.80	0.80

[a] ODOT operating standards obtained from August 2005 version of Table 6 in OHP.
[b] At signalized intersections, these standards are to be applied to the intersection as a whole. At unsignalized intersections, these standards are applicable only to movements that are not required to stop.
[c] For movements at unsignalized intersections that are required to stop or otherwise yield the right of way, the standards for District/Local Interest Roads shall be applied for areas within urban growth boundaries and a maximum v/c ratio of 0.80 shall be applied for areas outside of urban growth boundaries.

Policy 1G: Major Improvements

- According to this policy, the highest priority should be placed on protection of the existing system, followed by improvements in efficiency and capacity of existing facilities. Once these options have been investigated, the third and fourth priorities would be to add capacity to the existing system and then to add new facilities.

Policy 2A: Partnerships

- The limited resources available for transportation planning and development should be efficiently and effectively used by coordinating the efforts of all agencies. For the project corridor, the applicable agencies include the City of Veneta, the City of Eugene, Lane County, and ODOT.

Policy 2B: Off-System Improvements

- The State is to provide financial assistance for local road projects when the projects are cost-effective in improving state facility conditions.

Policy 2D: Public Involvement

- The City should offer opportunities for effective public involvement in transportation planning and project development.

Policy 2F: Traffic Safety

- Increase the safety of the state transportation system through engineering, education, enforcement, and emergency medical services. Key elements from this policy include:
    - In identifying solutions to traffic safety problems, consider solutions including but not limited to: Increasing traffic enforcement; Involving business and community groups and the media in educational efforts; using educational materials and special signing to change driving practices; making engineering improvements such as geometrics, signing, lighting, striping, signals, improving sight distance, and assessing conditions to establish appropriate speed; constructing appropriate bicycle and pedestrian facilities including safe and convenient crossings; managing access to the highway; developing incident response and motorist assistance programs; ensuring the uniformity of traffic control devices; and developing driver information systems.
    - Continue to develop and implement the State's Safety Management System to target resources to sites and routes with the most significant safety problems. Encourage local governments to adopt a safety management system.
    - Work with citizens and local jurisdictions to address safety concerns on the state highway system.

Policy 3A: Classification and Spacing Standards

- Access to state highways should be managed to assure safe and efficient operations consistent with the classification system outlined in Policy 1A. Access considerations include the location, spacing, and type of access (i.e., public versus private). Access spacing standards and management objectives for OR 126 are based on its designation as a Statewide Highway (NHS) and Non-Expressway (i.e., Rural Other):
    - Statewide Rural Highways provide for high speed, continuous flow and through traffic movement.
    - Direct access to the abutting property is a minor objective.

- The function of the highway is consistent with purchasing access rights. As the opportunity arises, access rights should be purchased. Preference is to purchase access rights in full.
- The primary function of these highways is to provide connections to larger urban areas, ports and major recreation areas of the state not served by Freeways or Expressways.

Policy 3B: Medians

- Policy 3B in the OHP addresses the installation of non-traversable medians in state highways. According to this policy, the installation of non-traversable medians shall be considered for (only potentially applicable conditions for OR 126 are listed):
  - Highways not undergoing modernization where a median could improve safety;
  - Highways where forecasted average daily traffic is anticipated to be 28,000 vehicles per day during the 20-year planning period
  - The annual accident rate is greater than the statewide average accident rate for similar roadways
  - Pedestrians are unable to safely cross the highway, as demonstrated by an accident rate that is greater than the statewide annual average accident rate for similar roadways
  - Topography and horizontal or vertical alignment result in inadequate left-turn intersection sight distance and it is impractical to relocate or reconstruct the connecting approach road or highway to improve the situation

Goal 3 (Access Management) is critical in transportation planning efforts that involve state transportation facilities. This goal is implemented through OAR 734-051, which is reviewed later in this Background Document Review Memorandum. Goal 4 (Travel Alternatives) and Goal 5 (Environmental and Scenic Resources) also apply, if in limited ways. Goal 5, with an aim to go beyond what is required by other state and federal regulations, calls for natural resources to be maintained and even improved by transportation planning and projects involving state facilities.

Oregon Public Transportation Plan

Adopted 1997

The transit modal plan, called the Oregon Public Transportation Plan (OPTP), develops the Oregon Transportation Plan (OTP) goals and objectives related to the public transportation system, including public transit, special needs transportation, transportation options and intercity bus. Public Transit Division's programs are designed to implement the OPTP. The OPTP was adopted in 1997, and is scheduled to be updated beginning in 2011-2013.

ODOT Rail Plan

Adopted 2001, Included in September 2006 Oregon Transportation Plan

The Oregon Rail Plan is a comprehensive assessment of the state's rail planning, freight rail, and passenger rail systems (not including light rail or other rail transit type services). It documents and describes various federal and state rail planning requirements and highlights specific goals and policies. It also reviews the development of the state freight and passenger rail systems and identifies needed improvements. Particular emphasis is placed on safety, public and private coordination, efficiency, and multi-modal integration. Segments of the plan that are expected to be the most relevant to the OR 126 Facilities Plan are referenced below (and should be referred to as needed throughout the planning process):

- **Rail Division Involvement:** Whenever any road work (including construction of a sidewalk) is proposed within 500 feet of a railroad track, the party responsible for the project should consult ODOT Rail Division. A checklist guiding ODOT Rail is provided on pages 23-24.
- **New Crossing Construction:** Related information is provided on page 24.
- **Alteration of Existing Public Crossings:** Related information is provided on page 24.
- **Improving Safety:** Safety is the most important conflict to mitigate in most urban areas. There are a variety of ways to improve safety at grade crossings that may be applied individually or in combination. These alternatives are identified on pages 31-32.
- **Minimizing Conflict and Increasing Access:** Careful planning can mitigate conflict and improve access. Recommendations for local jurisdictions are provided on page 33.

Draft Oregon Freight Plan

December 15, 2010 (most recent draft)

The *Oregon Freight Plan (OFP)* is currently in draft form and has not yet been adopted. Its purpose will be to improve freight connections to local, state, regional, national and global markets in order to increase trade-related jobs and income for Oregon workers and businesses. It will provide a roadmap for the Oregon Department of Transportation (ODOT), other state and local agencies, and the private sector to work together to preserve and enhance the State's freight system.

Oregon State Rail System Maps

The railroad that runs parallel to OR 126 is identified on the Oregon State Rail System maps as an Oregon Short Line. There is no passenger rail that uses this track, but OR 126 is identified as an Intercity Bus Route as well as an Interline Thruway Bus Route.

2009 ODOT Traffic Manual

The ODOT Traffic Manual is a comprehensive reference for traffic engineering practices published by the Traffic Engineering and Operations Section. This manual covers recommended practices for use on state facilities in the areas of access management, bicycle treatments, capacity analysis, crash analysis, crosswalks, illumination, signing, pavement markings, parking, sight distance, speed zones, traffic calming, turn lanes, u-turns, and other topics.

Oregon Statewide Transportation Improvement Program (STIP)

2010 – 2013 STIP and 2012 – 2015 Draft STIP

The current adopted (2010-2013) Statewide Transportation Improvement Program (STIP) serves as ODOT's short term capital improvement program and provides funding and scheduling information for transportation projects for both ODOT and the metropolitan planning organizations in the state. Projects funded in the STIP reflect and advance the Oregon Transportation Plan for highways, public transportation, and for freight, passenger rail, bicycle, and pedestrian facilities. No projects on the OR 126 study area roadway were identified within the adopted 2010-2013 STIP or the draft 2012-2015 STIP.

ODOT Safety Priority Index System (SPIS)

Prepared in 2010 using data from 2007 to 2009

The Safety Priority Index System (SPIS) is a method developed by ODOT for identifying potential safety problems on state highways. SPIS scores are developed based upon crash frequency, severity, and rate. A prioritized list is created for each region (the top 10 percent of statewide SPIS sites) and the top five percent are investigated by the five Region Traffic manager's offices. There are not locations on the OR 126 study corridor within either the top five or top 10 percent, but the Green Hill Road intersection is in the top 15 percent of statewide SPIS sites.

In addition to the SPIS, the Safety Investment Program (SIP) is a tool used to identify accident history in 0.10 mile or variable length segments on state highways. The OR 126 study corridor has a Category 3 SIP rating because from 2007 to 2009 it had three to five fatal or serious injury crashes per 5 mile segment.

Oregon Access Management Rule (OAR 734-051)

The purpose of Oregon's Access Management Rule is to control the issuing of permits for access to state highways, state highway rights of way, and other properties under the State's jurisdiction. In addition, the ability to close existing approaches, set spacing standards, and establish a formal appeals process in relation to access issues is also identified.

These rules enable the State to set policy and direct location and spacing of intersections and approaches on state highways, ensuring the relevance of the functional classification system and preserving the efficient operation of state routes. Regulating access can:

- Protect resource lands
- Preserve highway capacity
- Ensure safety for segments of state routes with sharp curves, steep grades, or obstructed sight distance.

The access management standards adopted by ODOT and applicable to the OR 126 project study corridor are summarized in the table below.

Applicable ODOT Access Management Standards (from 1999 OHP, Appendix C, Table 14)

Highway Category[a]	Spacing Standards[b] (by Posted Speed)			
	≥55 mph	*40,45 mph*	*30,35 mph*	*≤25 mph*
Statewide Highway (urban)	1,320 feet	990 feet	720 feet	520 feet
Statewide Highway (rural)	1,320 feet	990 feet	770 feet	550 feet

[a] *OR 126 is classified by ODOT as a Statewide Highway.*
[b] *Measurement of the approach road spacing is from center to center on the same side of the roadway.*

Source: 1999 Oregon Highway Plan, Appendix C, Table 14

ODOT applies the urban access standards for OR 126 within the Eugene and Veneta UGBs and the rural standards elsewhere. Any new street or driveway connections, as well as any changes to existing street or driveway connections, on OR 126 must be found to be in compliance with these rules by ODOT.

The 2011 Oregon Legislature passed SB 264 which will result in significant changes in how ODOT manages access to state highways. Some of the proposed changes will be incorporated into statute and will go into effect immediately. ODOT is also directed to make changes to OAR 734-51 to implement provisions of the bill.

2003 ODOT Highway Design Manual and Amendments

2003, with revisions in 2004 and 2005-2006

The *ODOT Highway Design Manual* (HDM) contains standards for the design of state highways and various highway elements. Included in the manual are elements to be considered for evaluating the feasibility of construction and determination of right of way needs such as the general alignments, roadway widths, and criteria for installation of turn lanes. In addition, the HDM should be used to identify areas where design exceptions may be required.

The HDM displays the maximum allowable volume to capacity ratios for the 30th highest annual hour of traffic for use in the design of highway projects. These standards are to be applied to conditions forecasted to exist 20 years after completion of the proposed improvement. If the applicable mobility standard cannot be met, a design exception would be required. Mobility standards from the HDM applicable to the study area are presented in the following table.

Applicable Highway Design Manual 20 Year Design-Mobility Standards (v/c ratios)

Highway Category	Inside Eugene UGB	Inside Veneta UGB	Outside UGB
	Inside Central Lane MPO	*≥45 mph posted speed*	*Rural Lands*
Statewide (NHS) Freight Route	0.75 (Green Hill Road intersection)	0.70 (Huston Road intersection)	0.60 (Rest of Corridor)

[a] ODOT operating standards obtained from 2003 HDM, Table 10-1.

ODOT Practical Design Strategy

March 1, 2010, ODOT Highway Division

Practical Design is a relatively new term used to define and improve current best practices for developing cost-effective transportation solutions that are the right projects, at the right time, at the right cost, and in the right way. It is a strategy that delivers focused benefits for the State's transportation system while working with the realities of a fiscally constrained funding environment. It focuses more on meeting the specific purposes, needs, and context of transportation projects and on identifying solutions that are considered sufficient to improve the transportation system without being excessive. Therefore, there is more flexibility in design, which will typically result in greater analysis and planning costs. However, the intended result is a more cost effective roadway solution.

ODOT has developed a strategy for Practical Design that provides a foundation for thought and processes to achieve more focused improvements at a lower cost, even if those improvements are not as long lived as traditional ODOT highway improvements. This strategy is presented in a guidebook that has the following sections:

- I. Philosophy
- II. Focus
- III. Roles and Responsibilities of Primary Decision Makers
- IV. Integrating Practical Design and Project Delivery
- V. Success Indicators
- VI. Future Improvements
- VII. Appendices

The guidebook identifies the focus of Practical Design in Oregon, as shown in box below (which was taken from page 9 of the guidebook).

Q: *What's different with ODOT's Practical Design effort?*

A: *Our emphasis on* ***doing just what's needed for specific results.***

Our emphasis on making the ***whole system*** *better, while* ***stretching our funding*** *so that it goes further.*

Our ***decision-making toolkit*** *- which helps us achieve our goals and live our values when making system improvements.*

Our ***emphasis on utilizing different perspectives and having all available information about a project, early in the process,*** *to frame up appropriate problem statements and cost-conscientious solutions.*

Practical design in Oregon takes a systematic approach to deliver the broadest benefits to the transportation system, within existing resources, by establishing appropriate project scopes, to deliver specific results.

ODOT has five key values associated with Practical Design. These values are represented by the acronym ***S.C.O.P.E.***:

- **S**afety
- **C**orridor Context
- **O**ptimize the System
- **P**ublic Support
- **E**fficient Cost

The guidebook also states the following:

> "Although it is not a "silver bullet," Practical Design **is** the next logical step for ODOT. It allows us to deliver the broadest benefits to the transportation system, within existing resources, by establishing appropriate project scopes to deliver specific results. It provides flexible parameters so that design teams can be confident that a particular solution is sufficient to improve the transportation system as a whole."

Additional information on ODOT's approach to Practical Design is provided on the following website:

- http://www.oregon.gov/ODOT/HWY/TECHSERV/practical_design.shtml

Appendix B. Technical Memorandum #2, Highway 126 Fern Ridge Corridor Plan– Existing Transportation Conditions (DKS, 2011)

DKS *Associates*

TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM #2

REGISTERED PROFESSIONAL ENGINEER 56,267 Scott M. Mansur OREGON JULY 9, 2002 SCOTT M. MANSUR EXPIRES: 12-31-2012

TO: Project Management Team

FROM: Scott Manscur, P.E., P.T.O.E., DKS Associates SM
Peter Coffey, P.E., DKS Associates
Brad Coy, E.I.T., DKS Associates

DATE: September 23, 2011

SUBJECT: **OR 126W Fern Ridge Corridor Plan – Existing Transportation Conditions**

P09042-019-004

This memorandum documents existing transportation conditions for OR 126W between Veneta and Eugene, Oregon (see Figure 1), and is part of the OR 126W Fern Ridge Corridor Plan. It identifies existing facilities as well as operational and safety deficiencies. The sections of this memorandum document the roadway network, daily motor vehicle traffic characteristics, origin-destination survey, intersection traffic volumes and operations, collision analysis, pedestrian and bicycle facilities and activity, transit service, and rail facilities and activity.

Roadway Network

OR 126W is the primary east-west roadway in the study area and is a rural route between the cities of Eugene and Veneta. It traverses farmland, runs parallel to the Coos Bay rail line (CBRL), and skirts the southern edge of the Fern Ridge Reservoir, which is a popular recreational area. It is primarily used by commuters traveling between Eugene and Veneta, but it is also the primary route connecting the Eugene-Springfield area with the Oregon coast.

OR 126W is under Oregon Department of Transportation (ODOT) jurisdiction and is classified as a Statewide Highway. It is also part of the National Highway System (NHS), is a State Freight Route (FR), and is a Federally Designated Truck Route (TR). Table 1 lists the existing study area roadway characteristics of OR 126W as well as the primary cross streets in the study area that provide access to OR 126W. All study area roadways (including OR 126W) are two-lane facilities, though OR 126W widens on occasion to accommodate a left-turn lane at key intersections. In addition, none of the roadways have designated bike lanes or sidewalks, though OR 126W through the study area has shoulders that range from four to ten feet wide.

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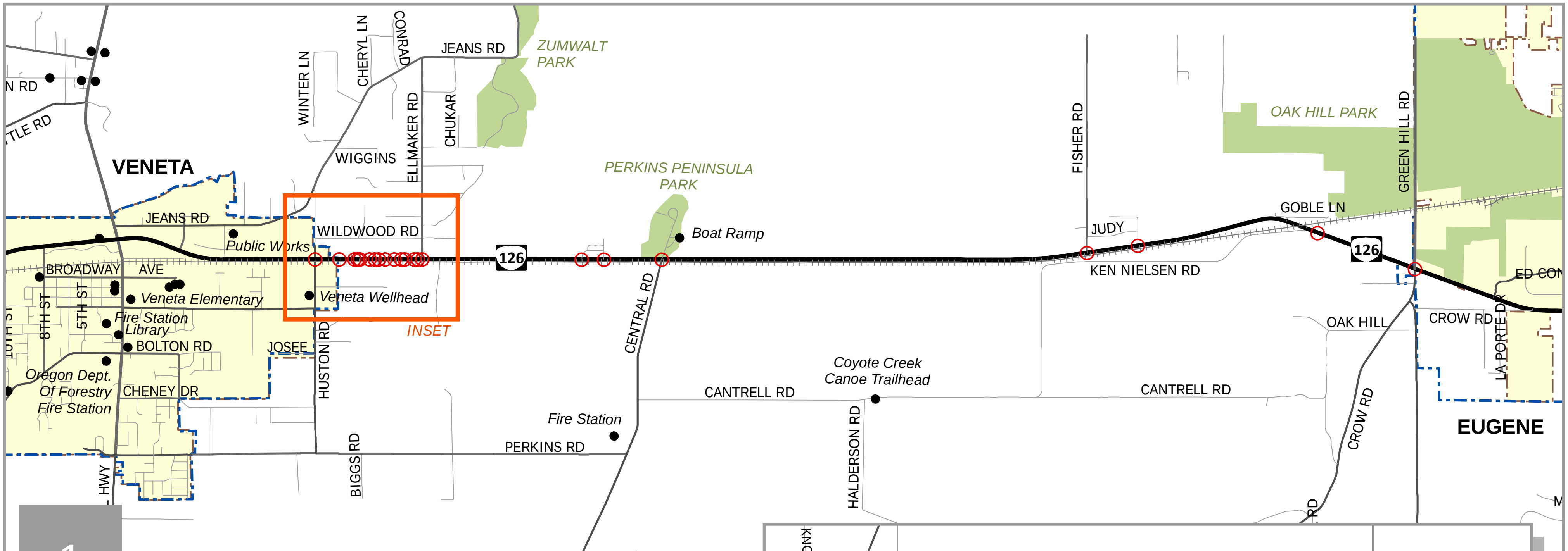
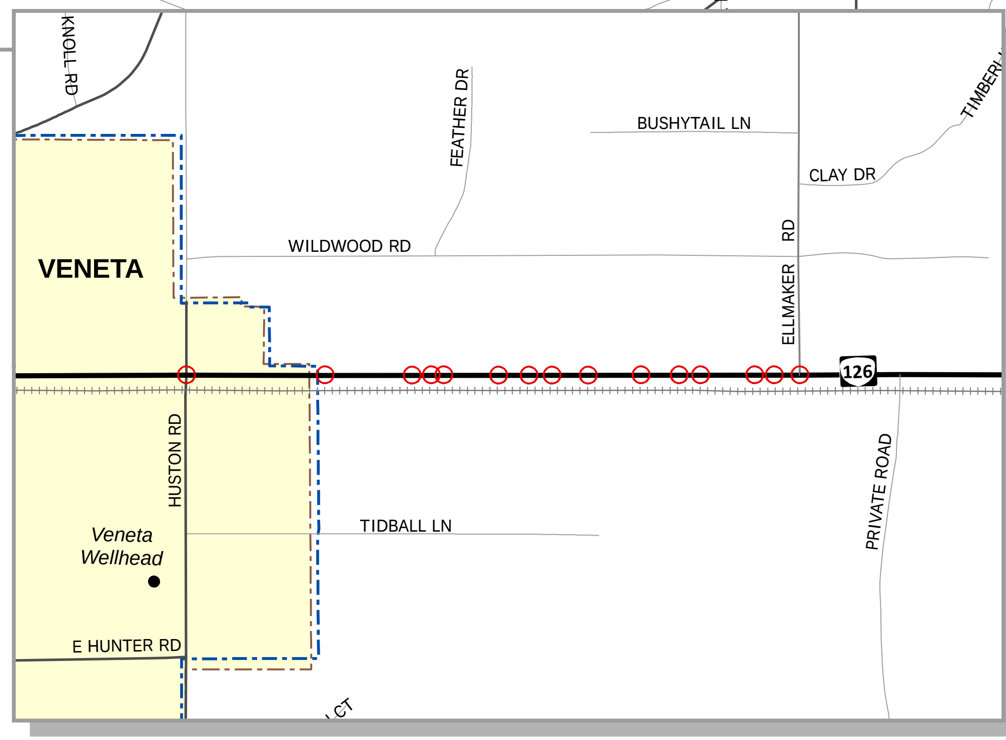
STUDY AREA



1

OR 126W Fern Ridge Corridor Plan



Legend

Study Intersection	Railroad
Place of Interest	Urban Growth Boundary
Major Arterial	City Limit
Minor Arterial	Park
Collector	
Local	

Table 1: Existing Roadway Characteristics (Study Area)

Roadway	Jurisdiction	Functional Classification	Travel Lanes	Posted Speed	Side-walk	Bike Lanes
OR 126W	ODOT	Statewide Highway[a]	2	55	No	No
Huston Rd	City of Veneta	Major Collector[b]	2	55	No	No
Ellmaker Rd	Lane County	Rural Minor Collector[c]	2	NP[d]	No	No
Shady Rest Dr	Private	N/A	2	NP[d]	No	No
Lake Side Dr	Lane County	Rural Local[c]	2	NP[d]	No	No
Central Rd	Lane County	Rural Major Collector[c]	2	NP[d]	No	No
Fisher Rd	Lane County	Rural Minor Collector[c]	2	NP[d]	No	No
Richmond St	Lane County	Rural Local[c]	2	NP[d]	No	No
Kenneth Nielson Rd	Lane County	Rural Local[c]	2	NP[d]	No	No
Green Hill Rd	Lane County	Rural Major Collector[c]	2	NP[d]	No	No
Crow Rd	Lane County	Rural Major Collector[a]	2	NP[d]	No	No
Perkins Rd	Lane County	Rural Minor Collector[c]	2	NP[d]	No	No
Cantrell Rd	Lane County	Rural Local[c]	2	NP[d]	No	No

[a] Source: 1999 Oregon Highway Plan (August 2006 Version).
[b] Source: Veneta Transportation System Plan (Adopted Nov. 9, 1998, Amended Apr. 24, 2006).
[c] Source: Lane County Transportation System Plan (Adopted May 5, 2004).
[d] NP = Not Posted (“basic rule” or safe speed for the conditions applies)

Daily Motor Vehicle Traffic Characteristics

Daily motor vehicle traffic characteristics were evaluated along OR 126W using bi-directional traffic volumes, speeds, and vehicle classification data. The data was collected using roadway tubes on a summer weekday[1] at the following five locations:

- OR 126W east of Huston Road
- OR 126W west of Central Road
- OR 126W west of Fisher Road
- OR 126W west of Ken Nielsen Road
- OR 126W west of Green Hill Road

Figure 2 shows the bi-directional average daily traffic (ADT) volumes, 85th percentile speeds,[2] and heavy vehicle percentages recorded at these five locations. The ADTs along the corridor range between 13,390 and 15,850 vehicles per day, with the greatest volumes occurring in the center of the corridor near Fisher Road. Heavy vehicle activity ranges from three to five percent along the corridor. The 85th percentile speed exceeds the 55-mph speed limit by more than 5 mph at the four westernmost locations.

[1] All Traffic Data 24-hour classification and speed counts were collected on Thursday, June 2, 2011.
[2] The 85th percentile speed is defined as the speed below which 85 percent of the vehicles are traveling.

Figure 3 provides additional insight regarding traffic trends by comparing the bi-directional traffic volumes by the hour of the day. As shown, there is a significant eastbound morning peak of approximately 800 vehicles per hour (vph) between 7:00 a.m. and 8:00 a.m., which drops off but then maintains a fairly consistent 400 vph until approximately 5 p.m. In the westbound direction, hourly traffic volumes gradually build throughout the day, with peak volumes of approximately 800 vph between 4:00 p.m. and 6:00 p.m. Therefore, this graph shows a distinct commuter trend during the weekday as Veneta residents drive to work in Eugene for the morning and then return home in the evening.

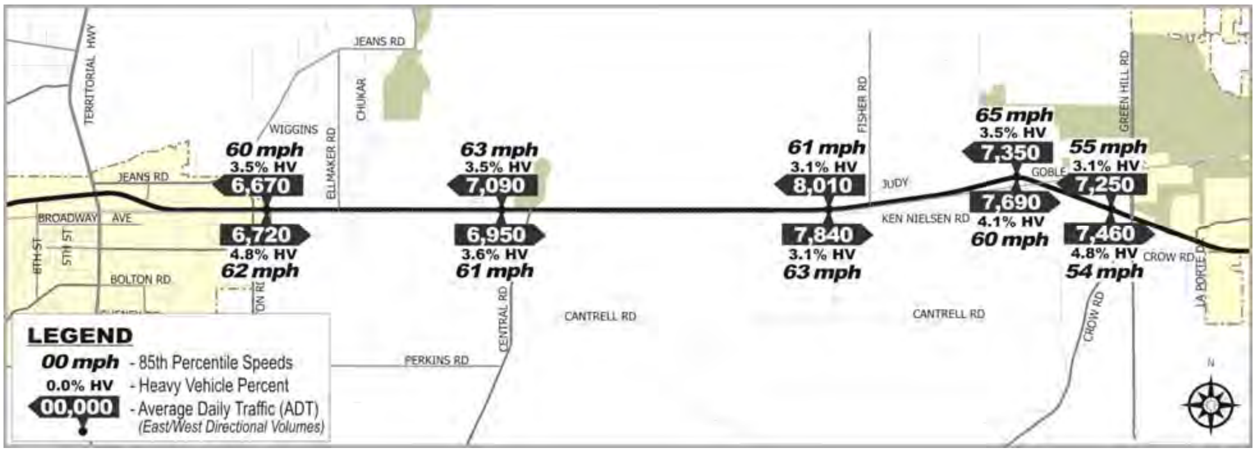


Figure 2: Daily Motor Vehicle Traffic Characteristics

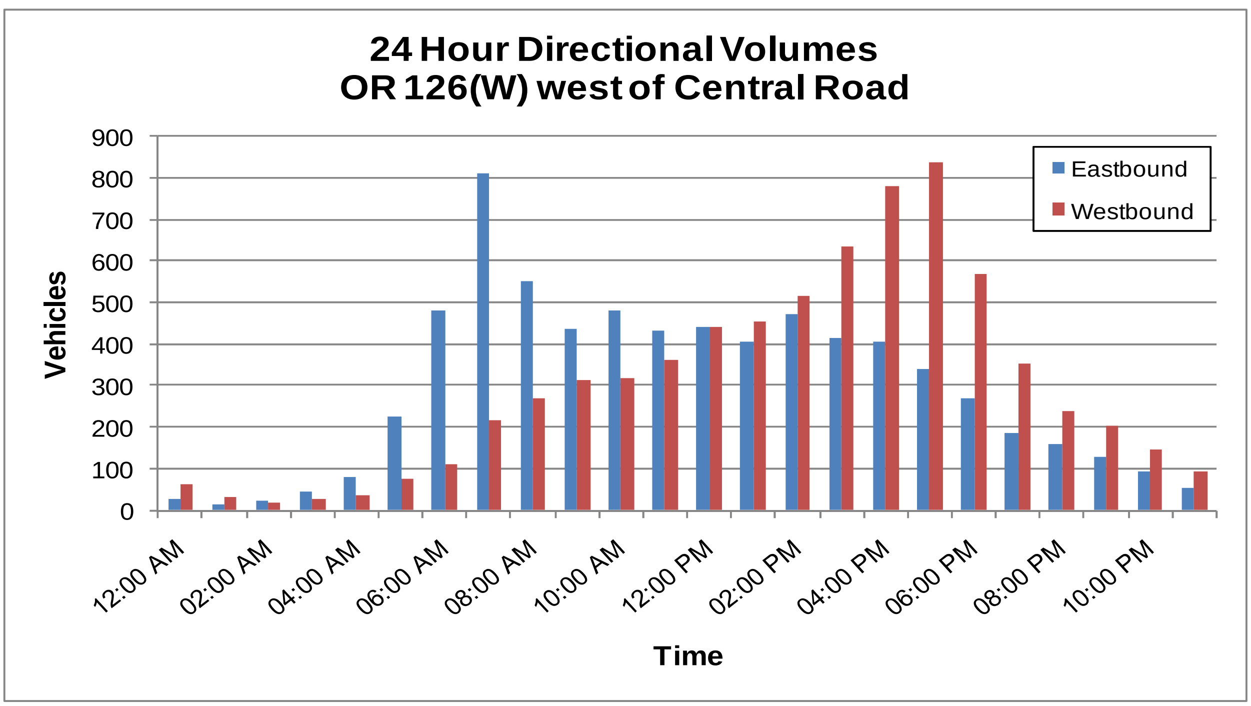


Figure 3: Bi-Directional Volume Comparison by Hour of the Day (Summer Weekday)

Origin-Destination Survey

To understand the use of OR 126W to travel to, from, or through Veneta, an origin-destination (O-D) survey utilizing MAC address (i.e., Bluetooth) sampling was conducted over three weekdays in June 2011.[3] Three data collection points were used to estimate the percentage of vehicles originating in or destined for Veneta or the surrounding areas versus the percentage of vehicles remaining on OR 126W and traveling through Veneta. The O-D survey collection points included the following (which are shown in Figure 4):

- West of 8th Avenue on OR 126 (west of Veneta)
- East of Ellmaker on OR 126 (near western study corridor extent)
- West of Green Hill Road on OR 126 (near eastern study corridor extent)

MAC addresses recorded at all three collection points indicate a through trip that remains on OR 126W, while those only recorded at one or two points indicate a trip either beginning or ending in Veneta or somewhere within the study corridor. Figure 4 shows the origin-destination survey results as percentages of vehicles entering the study corridor at the two ends of OR 126W. Of the recorded westbound vehicles entering the study area, the O-D surveys indicate that approximately 25 percent turn off of OR 126W prior to reaching Veneta, 50 percent turn off within Veneta, and 25 percent pass through Veneta and continue westbound on OR 126W. Of the recorded eastbound vehicles entering Veneta, the O-D surveys indicate that approximately 50 percent are destined for Veneta while the remaining 50 percent stay on OR 126W and continue eastbound towards Eugene.

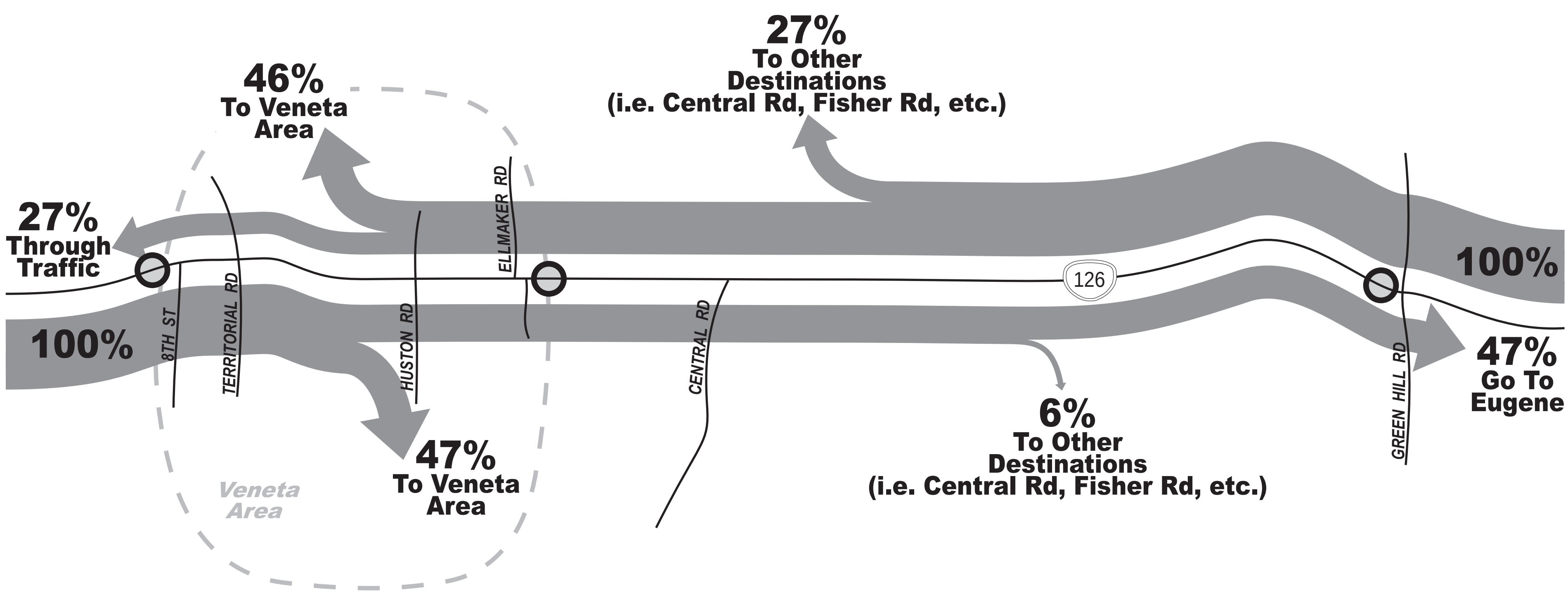
Intersection Traffic Volumes and Operations

Traffic volumes were collected and operating conditions were analyzed at each of the following study intersections and driveways along the OR 126W study corridor.

- OR 126/Huston Road
- OR 126/ 13 existing private driveways between Huston Road and Ellmaker Road
- OR 126/Ellmaker Road
- OR 126/Shady Rest Drive
- OR 126/Lake Side Drive
- OR 126/Central Road
- OR 126/Fisher Road
- OR 126/Richmond Street
- OR 126/Ken Nielsen Road
- OR 126/Green Hill Road

The 30th highest hourly volumes, average annual weekday volumes, intersection performance, and turn lane needs are documented in this section of the memorandum.

[3] Bluetooth sampling was conducted for full 24-hour periods on June 2nd (Thursday), 3rd (Friday), and 6th (Monday), 2011.



LEGEND

- Bluetooth (MAC Address) Location

00% - Traffic Direction and Percent

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NO SCALE

Figure 4

Bluetooth Origin-Destination Survey

30th Highest Hourly Volumes

ODOT's Analysis Procedures Manual (APM) indicates that existing conditions operations analysis is to be performed using the 30th highest hour volume (30th HV).[4] The 30th HV for the OR 126W study corridor intersections were determined by following three steps:

- Step 1 – Collect Peak Hour Traffic Counts
- Step 2 – Apply Seasonal Factor
- Step 3 – Round and Balance Volumes

Step 1 – Collect Peak Hour Traffic Counts

Motor vehicle turn movement counts were collected at the study intersections and driveways for the a.m. and p.m. peak periods.[5] Based on the raw data, which are provided in the appendix, the system peak hours for the corridor were determined to be 7:15 to 8:15 a.m. and 4:45 to 5:45 p.m.

Step 2 – Apply Seasonal Factor

A seasonal factor was applied to each study intersection to calculate the 30th HV. Three optional methods for calculating a seasonal factor are outlined in ODOT's Analysis Procedures Manual (APM). These three methods are listed in order of preference, though specific requirements must be met for each to be used:

- Option 1 – On-Site Automatic Traffic Recorder (ATR)
- Option 2 – ATR Characteristics Table
- Option 3 – ATR Seasonal Trend Table

Option 1 is not applicable because the study corridor does not have an on-site ATR. Option 2 is also not applicable because there are no other ATRs in Oregon that have sufficiently similar characteristics as those exhibited by the study corridor. Therefore, the ATR Seasonal Trend method was used to determine the seasonal adjustment factor. Because OR 126W serves a mix of commuter traffic and coastal destination traffic,[6] the average of these two traffic trend characteristics was used. The result for the June 2, 2011, intersection turn movement count date is a seasonal adjustment factor[7] of 1.11. The raw system p.m. peak hour turn movement volumes were multiplied by this factor to determine the 30th HV. The raw system a.m. peak hour volumes were also multiplied by this factor to determine the corresponding a.m. peak hour design volumes to use for existing conditions analysis.

Step 3 – Round and Balance Volumes

The 30th highest hourly volumes were rounded and balanced as appropriate based on direction provided in the APM. Rounding helps clarify that absolute precision is not expected for the traffic

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[4] Analysis Procedures Manual, Oregon Department of Transportation, January 2011, page 4-1.
[5] All Traffic Data turn movement counts were collected on Thursday, June 2, 2011, from 6-9 a.m. and 3-6 p.m.
[6] The OR 126W study corridor between Veneta and Eugene serves commuter traffic for Veneta residents. In addition, it is the primary coastal access route for the Eugene-Springfield metropolitan area, and the APM indicates that the Florence-Eugene Highway (OR 126) is characterized by the "Coastal Designation" trend.
[7] The 2010 Seasonal Trend Table and associated calculations are provided in the appendix.

volumes, and balancing ensures that reasonable progression on a corridor is being considered. However, for very low volume turn movements (i.e., less than three vehicles) rounding was not performed. Instead, the actual volumes are shown for clarity in reporting where turn movements actually occurred. Figure 5 provides the 30th HV (and the associated a.m. peak hour volumes) for the OR 126W study intersection that results from rounding and balancing.[8] This figure also identifies the existing intersection traffic control and turn lane geometries.

Average Annual Weekday Volumes

The average annual weekday traffic volumes for the OR 126W study corridor intersections were determined in a similar manner as the 30th HV. The only difference was that because June volumes are higher than average, the raw system p.m. peak hour turn movement volumes were multiplied by 0.95 factor (i.e., reduced by five percent).[9] The raw system a.m. peak hour volumes were also multiplied by this factor to determine the corresponding a.m. peak hour design volumes. The volumes were then rounded and balanced as previously discussed. Figure 6 shows the resulting annual average weekday turn movement counts for each of the study intersections.

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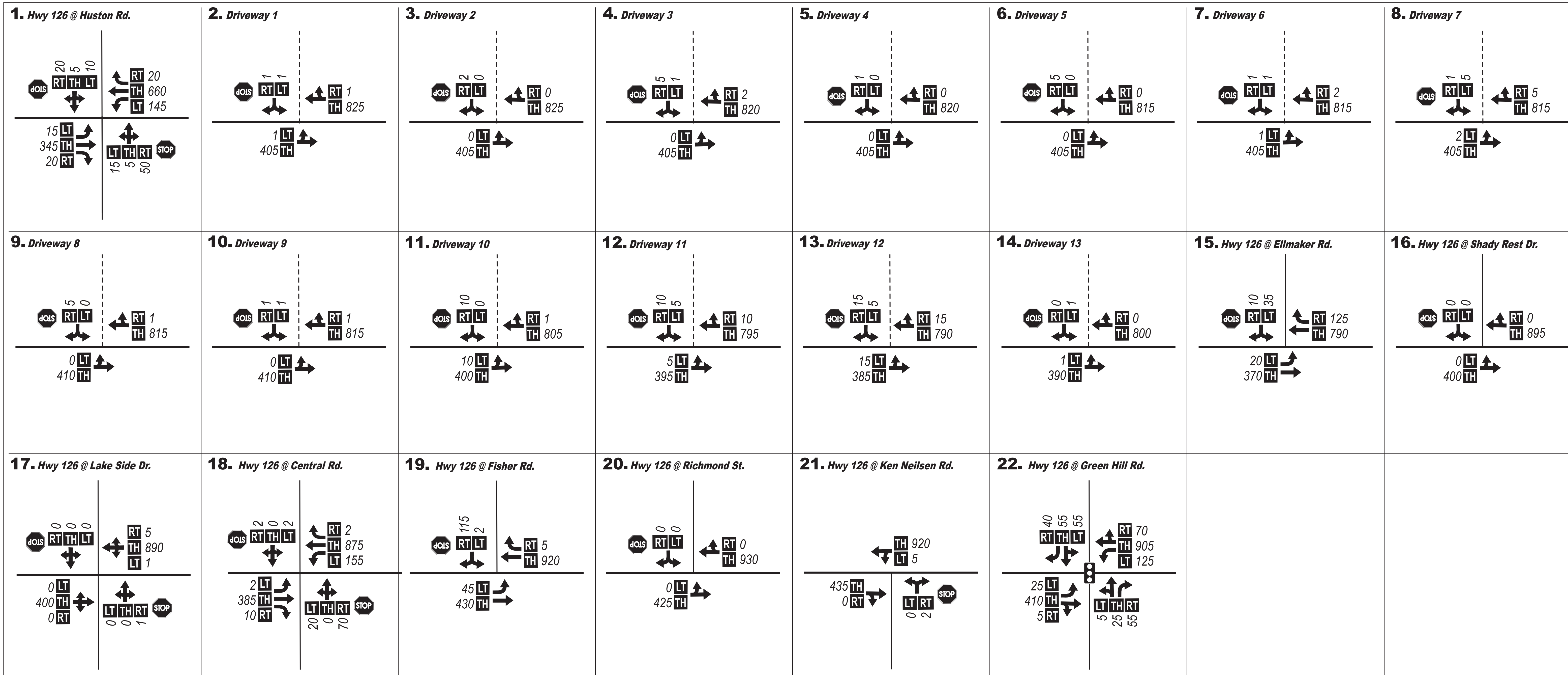
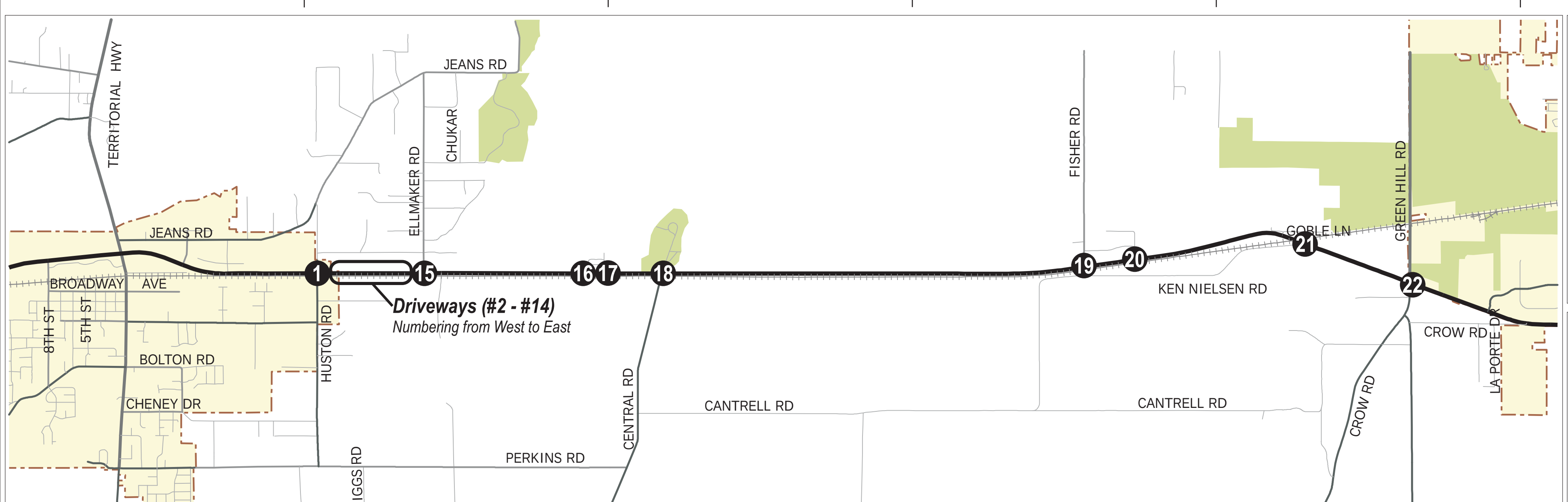
[8] Turn movement volumes at the driveways of less than 3 vehicles were not rounded to avoid either rounding down to zero or inflating the volumes, due to the significant number of low volume driveways on the study corridor.

[9] The average annual weekday factor was also determined using the 2010 Seasonal Trend Table, with calculation provided in the appendix.





LEGEND

- 00 - Study Intersection
- STOP - Stop Sign
- Traffic Signal
- Driveway
- Lane Configuration
- 00 - 30th Highest Hour Traffic Volume
- LT TH RT - Volume Turn Movement (Left-Thru-Right)

NO SCALE

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Figure 5

2011 30TH HIGHEST HOUR TRAFFIC VOLUMES, LANE GEOMETRY, AND TRAFFIC CONTROL

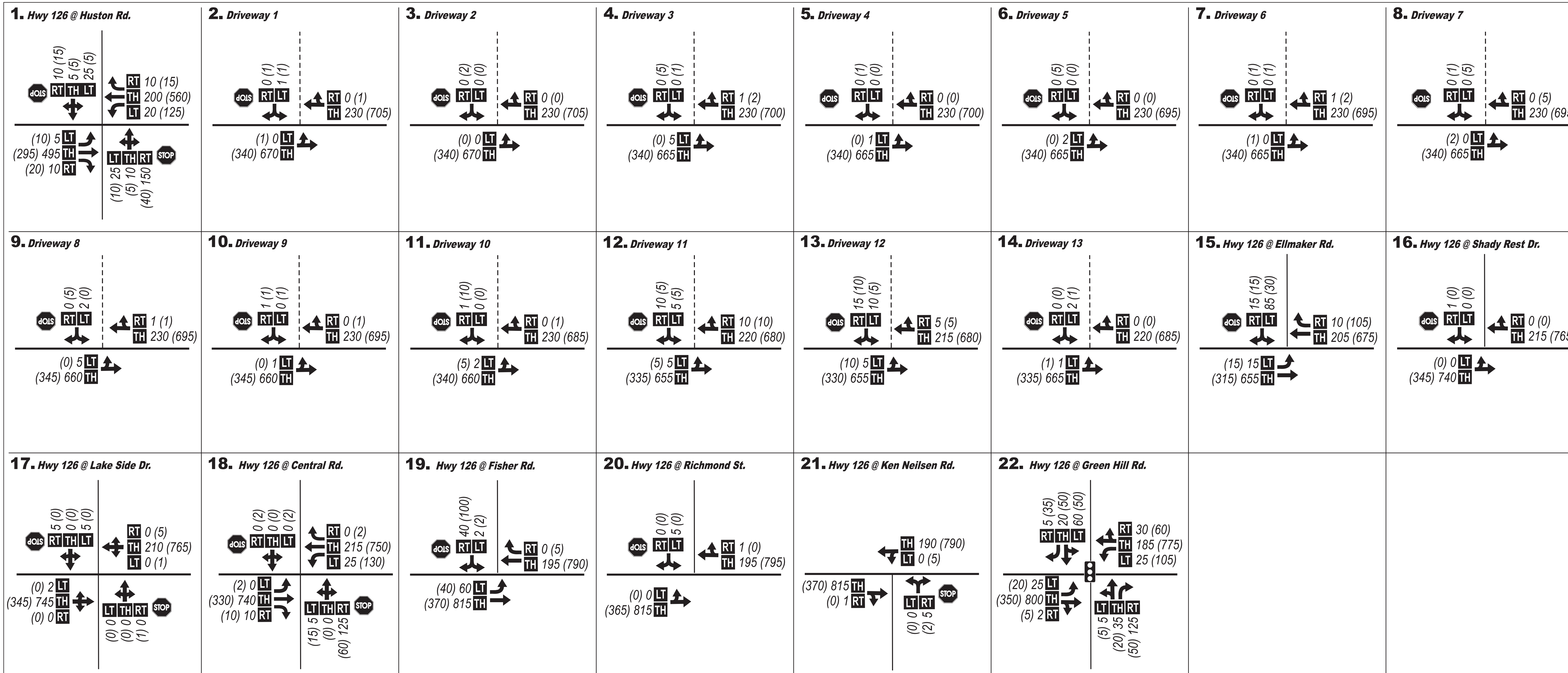

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Figure 6

2011 AVERAGE ANNUAL PEAK HOUR TRAFFIC VOLUMES, LANE GEOMETRY, AND TRAFFIC CONTROL

Intersection Performance

The performance of each OR 126W study corridor intersection under 30th HV and average annual conditions was evaluated and compared to the applicable volume-to-capacity (v/c) mobility standard(s),[10] as required by ODOT and Lane County. Table 2 shows the applicable mobility standards for the OR 126W study corridor intersections. The ODOT mobility standards are controlling because they require the intersection to operate at a lower v/c ratio.

Table 2: ODOT and Lane County Mobility Standards[a]

Roadway Category	**Inside Veneta UGB, Non-MPO with 55 mph speed limit** *(i.e. Huston Road intersection)*	**Outside UGBs** *(i.e., all intersections between Huston Road and Green Hill Road)*	**Inside Eugene UGB and Central Lane MPO** *(i.e. Green Hill Road intersection)*
ODOT			
Freight Route on a Statewide Highway[b]	0.70	0.70	0.80
Stop-controlled side streets[c]	0.80	0.80	N/A
Lane County			
County Roads (worst movement)	N/A	0.80	N/A

[a] ODOT operating standards obtained from August 2005 version of Table 6 in OHP, Lane County operating standards obtained from Table 6 of 2004 Lane County TSP.
[b] At signalized intersections, these standards are to be applied to the intersection as a whole. At unsignalized intersections, these standards are applicable only to movements that are not required to stop.
[c] For movements at unsignalized intersections that are required to stop or otherwise yield the right of way, the standards for District/Local Interest Roads shall be applied for areas within urban growth boundaries and a maximum v/c ratio of 0.80 shall be applied for areas outside of urban growth boundaries.

The operating performance of the study intersections were evaluated using Synchro™ software, which employs methodology from the *2000 Highway Capacity Manual*.[11] The traffic volumes, traffic control, and lane configurations shown in Figure 5 and Figure 6 were used in the analysis.[12] Table 3 (30th highest hour) and Table 4 (average annual weekday peak hours) provide the volume-to-capacity ratios for the public intersections (both signalized and unsignalized) as well as the private driveways located between Huston Road and Ellmaker Road. As shown, all intersections and driveways meet applicable mobility standards for both peak periods and under 30th HV and average annual peak hour traffic conditions. The only intersection approaching the mobility standard is OR 126W/Green Hill Road, which the eastern most intersection, is the only signalized intersection, and is the only intersection inside the Eugene UGB.

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[10] The volume-to-capacity (v/c) ratio is a decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used (i.e., the saturation) at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.
[11] *2000 Highway Capacity Manual*, Transportation Research Board, Washington, D.C. 2000.
[12] Intersection signal timing for the OR 126W/Green Hill Road intersection was obtained from the City of Eugene and used in the analysis.

Table 3: Study Intersection Peak Hour Performance 30th highest hour

Intersection[a]	Mobility Standard[b]		30th Highest Hour (v/c Ratio)[c,d]	
	Mainline	*Side Street*	*Mainline*	*Side Street*
Signalized				
(22) OR 126W/Green Hill Rd	0.80 v/c		0.79	
Unsignalized				
(1) OR 126W/Huston Rd	0.70 v/c	0.80 v/c	0.42 (WB-T)	0.31 (NB-LTR)
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.80 v/c	0.49 (WB-T)	0.23 (SB-LR)
(16) OR 126W/Shady Rest Dr	0.70 v/c	0.80 v/c	0.56 (WB-TR)	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.80 v/c	0.00 (WB-LTR)	0.00 (NB-LTR)
(18) OR 126W/Central Rd	0.70 v/c	0.80 v/c	0.56 (WB-TR)	0.48 (NB-LTR)
(19) OR 126W/Fisher Rd	0.70 v/c	0.80 v/c	0.57 (WB-TR)	0.42 (SB-LR)
(20) OR 126W/Richmond St	0.70 v/c	0.80 v/c	0.59 (WB-TR)	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen Rd	0.70 v/c	0.80 v/c	0.28 (EB-TR)	0.00 (NB-LR)
Driveways				
(2) OR 126W/Driveway 1	0.70 v/c	0.80 v/c	0.52 (WB-TR)	0.01 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.80 v/c	0.52 (WB-TR)	0.01 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.02 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.01 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.01 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.03 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.01 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.01 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.80 v/c	0.50 (WB-TR)	0.03 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.80 v/c	0.50 (WB-TR)	0.06 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.80 v/c	0.50 (WB-TR)	0.07 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.80 v/c	0.50 (WB-TR)	0.01 (SB-LR)

[a] Numbers correspond with Figure 6.
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Table 4: Study Intersection Peak Hour Performance Average Annual Weekday Peak

Intersection[a]	Mobility Standard[b]		A.M. Peak Hour		P.M. Peak Hour	
	Mainline	*Side Street*	*Mainline*	*Side Street*	*Mainline*	*Side Street*
Signalized						
(22) OR 126W/Green Hill Rd	0.80 v/c		0.70		0.67	
Unsignalized						
(1) OR 126W/Huston Rd	0.70 v/c	0.80 v/c	0.36 (EB-T)	0.56 (NB-LTR)	0.35 (WB-T)	0.22 (NB-LTR)
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.80 v/c	0.48 (EB-T)	0.49 (SB-LR)	0.42 (WB-T)	0.16 (SB-LR)
(16) OR 126W/Shady Rest	0.70 v/c	0.80 v/c	0.16 (WB-TR)	0.00 (SB-LR)	0.48 (WB-TR)	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.80 v/c	0.00 (WB-TR)	0.04 (SB-LTR)	0.00 (WB-LTR)	0.00 (NB-LTR)
(18) OR 126W/Central Rd	0.70 v/c	0.80 v/c	0.54 (EB-T)	0.51 (NB-LTR)	0.48 (WB-TR)	0.26 (NB-LTR)
(19) OR 126W/Fisher Rd	0.70 v/c	0.80 v/c	0.59 (EB-T)	0.08 (SB-LR)	0.49 (WB-TR)	0.30 (SB-LR)
(20) OR 126W/Richmond St	0.70 v/c	0.80 v/c	0.14 (WB-TR)	0.03 (SB-LR)	0.50 (WB-TR)	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen	0.70 v/c	0.80 v/c	0.56 (EB-TR)	0.02 (NB-LR)	0.24 (EB-TR)	0.00 (NB-LR)
Driveways						
(2) OR 126W/Driveway 1	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.00 (SB-LR)	0.44 (WB-TR)	0.02 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.00 (SB-LR)	0.44 (WB-TR)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.43 (WB-TR)	0.01 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.03 (SB-LR)	0.44 (WB-TR)	0.03 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.00 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.00 (SB-LR)	0.43 (WB-TR)	0.03 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.04 (SB-LR)	0.43 (WB-TR)	0.04 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.80 v/c	0.16 (WB-TR)	0.08 (SB-LR)	0.43 (WB-TR)	0.05 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.80 v/c	0.16 (WB-TR)	0.01 (SB-LR)	0.43 (WB-TR)	0.00 (SB-LR)

[a] Numbers correspond with Figure 5.
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Turn Lane Needs

For most of its length through the study corridor, OR 126W is a two-lane roadway; however, there are multiple intersections where OR 126W has turn lanes. At intersections where turn lanes do not currently exist, applicable criteria from ODOT's Analysis Procedures Manual (APM)[13] were considered to determine whether additional left- and right- turn lanes are recommended.

Due to the high peak hour traffic volumes and travel speeds (55 mph) on OR 126W, the ODOT criteria indicate that left-turn lanes are needed at movements where volumes exceed ten left-turning vehicles during the 30th highest hour. Table 5 lists the left-turn lane analysis results for the study intersections that do not currently have left-turn lanes. While the ten-vehicle threshold is not met for any of the study intersections, the ODOT criteria do also indicate that left-turn lanes would be beneficial and may be considered at these locations due to the higher travel speeds and traffic volumes.

Table 5: Existing Left-Turn Lane Criteria (Intersections without Left-Turn Lanes)

Intersection	**Movement**	**Left-Turn Vehicles**		**Criteria Met?**	**Recommended Storage Length**
		ODOT Threshold	*Turn Volume*		
OR 126W/Shady Rest Dr	EB Left	10	0	Consider[a]	-
OR 126W/Lake Side Dr	EB Left	10	0	Consider[a]	-
OR 126W/Richmond St	EB Left	10	0	Consider[a]	-
OR 126W/Ken Nielson Rd	WB Left	10	5	Consider[a]	-

[a] Through volumes and speeds are sufficiently high that even though there are less than ten turning vehicles, careful consideration be given to installing a left-turn lane due to the increased potential for accidents in the through lanes.

Left-turn lane analysis was also performed for the 13 driveways between Huston Road and Ellmaker Road and is provided in the appendix. Because two of the driveways (i.e., Driveways 10 and 12, which are approximately 230 feet and 720 feet, respectively, west of Ellmaker Road) have more than ten vehicles making left-turn movements, they both meet the turn-lane criteria. Both of these driveways are along the section of OR 126W where it widens to accommodate the eastbound left-turn lane onto Ellmaker Road. Therefore, OR 126W is sufficiently wide to accommodate left-turn lanes at both driveways; however, current striping does not support the use of the center median/lane for vehicle storage at these driveways. Specifically, the eastbound left-turn lane for Ellmaker Road extends beyond Driveway 12, and there is a striped center median (i.e., two double-yellow lines) that extends farther west beyond Driveway 10.

Right-turn lane analysis was performed for the study intersections that do not currently have standard right-turn lanes. Due to the high traffic volumes and travel speeds (55 mph) on OR 126W, the ODOT criteria indicate that right-turn lanes are needed at movements where volumes exceed approximately 20 right-turning vehicles during the 30th highest hour. Table 6 lists right-turn lane

[13] Analysis Procedures Manual, Oregon Department of Transportation, January 2011.

analysis results. The only location where the right-turn lane criteria are met is at the westbound right-turn movement at Ellmaker Road. This location currently has a flared approach and large turn radius that may partially serve as a right-turn lane, but it is recommended that a standard right-turn lane be provided.

Table 6: Existing Right-Turn Lane Criteria (Intersections without Right-Turn Lanes)

Intersection	Movement	Right-Turn Vehicles		Criteria Met?
		ODOT Threshold	*Turn Volume*	
OR 126W/Ellmaker Rd	WB Right	20	125	Yes
OR 126W/Shady Rest Dr	WB Right	20	0	No
OR 126W/Lake Side Dr	WB Right	20	5	No
OR 126W/Central Rd	EB Right	28	10	No
	WB Right	20	2	No
OR 126W/Fisher Rd	WB Right	20	5	No
OR 126W/Richmond St	WB Right	20	0	No
OR 126W/Ken Nielson Rd	EB Right	25	0	No

Collision Analysis

Collision analysis was performed for the OR 126W study corridor using collision records provided by the ODOT Crash Analysis and Reporting Unit. The past 16 years of data (i.e., 1994 to 2009) were first reviewed to identify long-term trends as well as fatalities and pedestrian/bicycle collisions. Then, collision rates were analyzed for the most recent five years of available data (i.e., 2005 through 2009), consistent with ODOT standard methodology.

Between January 1, 1994, and December 31, 2009, 310 collisions were recorded on OR 126W between Huston Road and Green Hill Road. Therefore, over the last 16 years this six mile section of highway has averaged approximately 20 collisions per year. Eight of these collisions resulted in fatalities[14] and 22 resulted in debilitating injuries (i.e., an average of two fatalities or debilitating injuries per year). Nearly half of the recorded collisions resulted in injuries, with two of these collisions involving pedestrians and three of them involving bicyclists; the bicycle and pedestrian collisions occurred near Ellmaker Road, Central Road, the scenic viewpoint between these two roads, and between Central Road and Fisher Road.

Another helpful measure for identifying collision trends is the five-year rolling average. Figure 7 shows the five-year rolling average for total collisions and fatalities/disabling injuries per year relative to the vehicle-miles traveled along the 6-mile corridor. While vehicle-miles traveled has been relatively unchanged at approximately 80,000 vehicle-miles per day, the average number of collisions has been increasing since 2002 from a low of 13.2 collisions per year to a current high of

[14] There were nine total fatalities because one of the collisions resulted in two fatalities.

24.8 collisions per year. The average number of fatalities or debilitating injuries has been fairly steady between 1.8 and 3.0 fatalities or debilitating injuries per year.

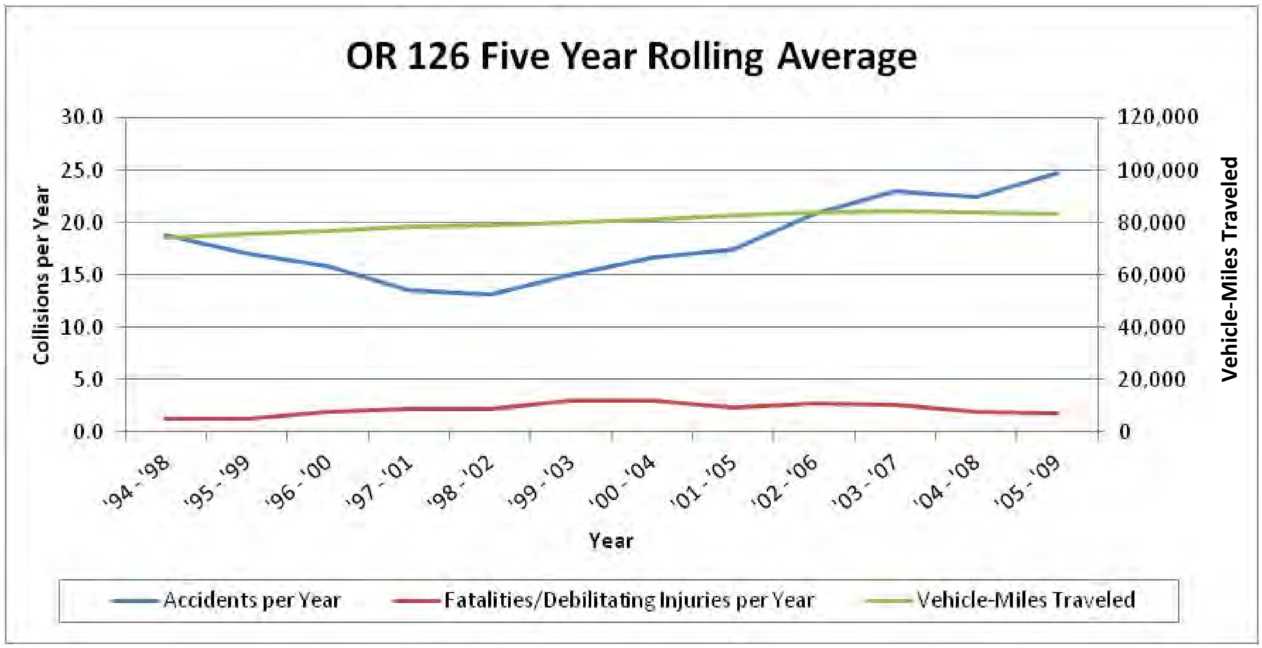
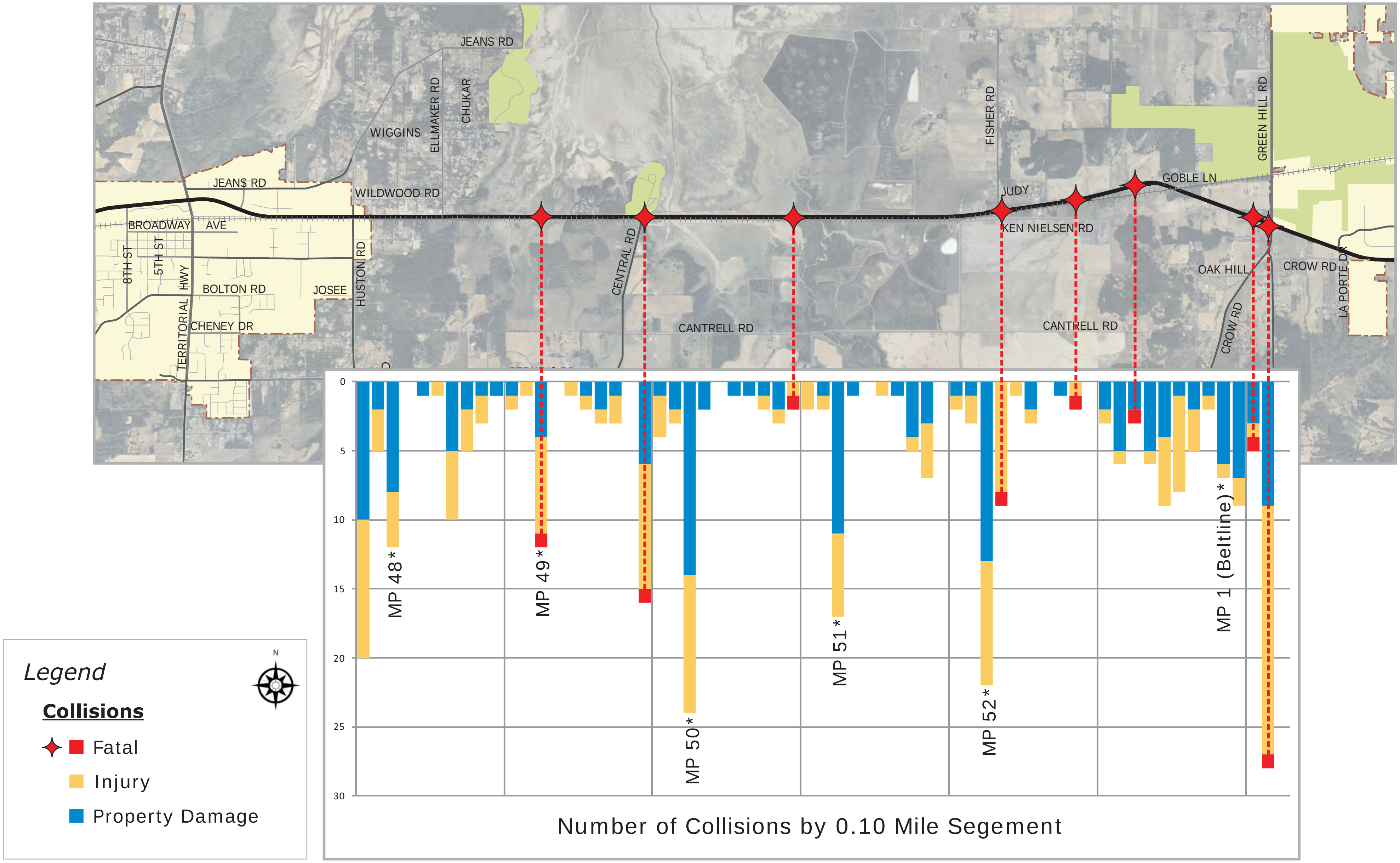


Figure 7: OR 126W Collisions Relative to Vehicle-Miles Traveled (Five Year RollingAverage)

Figure 8 shows how the 310 collisions are distributed along the study corridor and also identifies the collision severity. As shown, five of the eight fatal collisions occurred in the eastern third of the study corridor. This same segment (i.e., from Green Hill Road to Fisher Road) also has a higher proportion of all collisions on the study corridor, with a particular spike in injury collisions near Green Hill Road and Fisher Road. There are also spikes in collisions at Central Road, Ellmaker Road, and Huston Road. These are expected locations due to the additional turning movements that occur at these locations. In addition, because of citizen-reported collision information in Oregon, some ODOT collision records only specify the general milepoint; therefore, there appear to be spikes at these locations, but it is likely that these collisions should be more evenly distributed throughout the milepoint.



*Note: Some ODOT collision records only specify the general milepoint.

Collision rates were also estimated for OR 126W, but only the past five years of collision data were evaluated due to changing traffic characteristics over time and to allow a comparison of collision rates on similar facilities throughout the State of Oregon. Table 7 lists the average collision rate for OR 126W between Veneta and Eugene, which is slightly higher than that of other similar highways in Oregon. The table also indicates that the average fatality and debilitating injury rate is lower than other similar highways in Oregon. However, as shown previously in Figure 9, the total number of collisions on OR 126W have been increasing since 2002. This is the opposite trend of the average collision rate for the state, which has been steadily dropping during the same time period. Another important item of note is that this segment of OR 126W does not currently have any top five or ten percent ODOT Safety Priority Index System (SPIS) locations identified (for the 2009 SPIS, which is based on collisions from 2007 to 2009). However, the intersection of OR 126/Green Hill Road has been identified as a top 15% SPIS site.

Table 7: OR 126W Collision Rates Compared with Statewide Averages (2005 to 2009)

Facility	**Total Collision Rate**[a,b]	**Fatal/Debilitating Injury Rate**[a,b]
OR 126W between Veneta and Eugene	0.82 per million VMT	5.93 per 100 million VMT
Oregon Principal Arterials (Statewide Average)	0.67 per million VMT	8.44 per 100 million VMT

[a] Collision Rate = (collisions*1,000,000)/(years*365*segment length*AADT)
[b] VMT = Vehicle Miles Traveled

Additional breakdowns of collisions were performed to evaluate the severity and type of collisions that occurred on the study corridor. Table 8 provides a breakdown by severity of the 124 collisions reported between 2005 and 2009. Two of the collisions were fatalities, and over half resulted in injuries.

Table 8: Collision Severity on OR 126W (2005 to 2009)

Roadway	**Collisions (by Severity)**				**Collisions Per year**
	Fatal	*Injury*	*Property Damage Only*	***Total***	
OR 126W	2	63	59	**124**	24.8

The study corridor collisions were also broken down by collision type for further evaluation. Figure 9 is a pie chart showing the percent of each type of collision. On the study corridor, more than 60% of the collisions were intersection related and were classified as rear-end, angle, or turning-movement collisions. The locations of the collisions (broken down by collision type) are provided in the appendix.

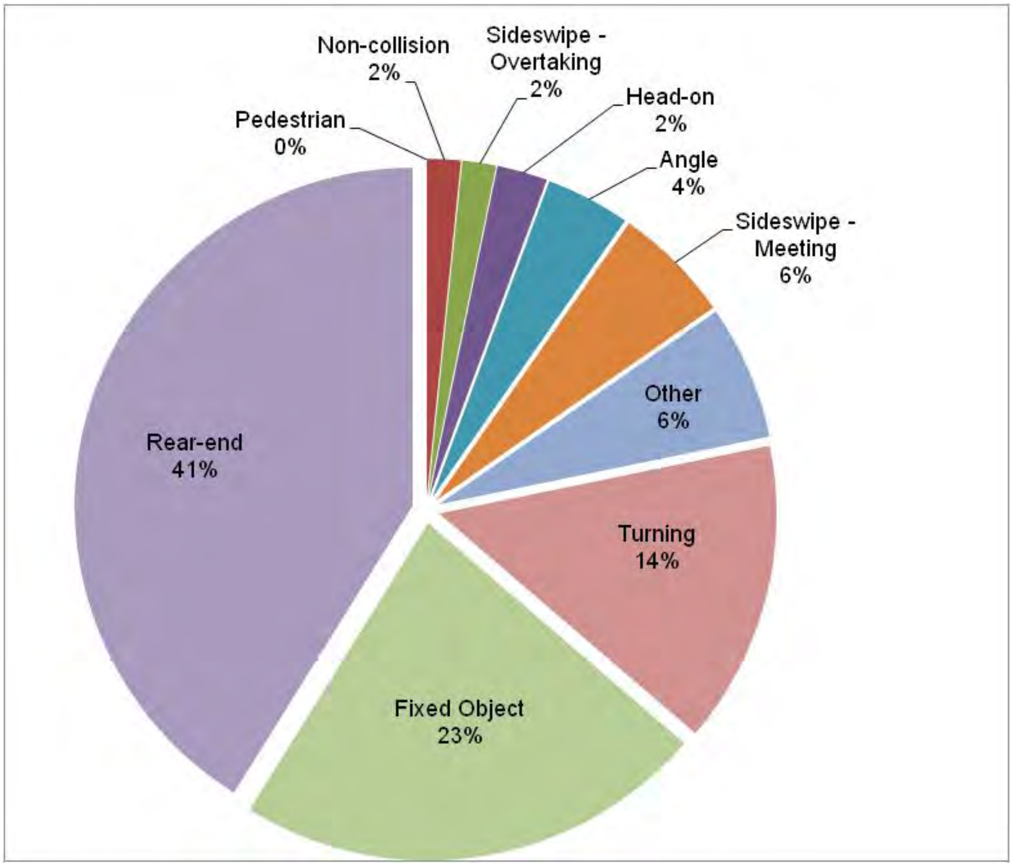


Figure 9: OR 126W Collision Types (2005 to 2009)

Another important consideration for the OR 126W study corridor is the effect that passing maneuvers have on corridor safety. While this information is not directly identified in the collision data, the collision records do indicate whether the driver drove left of the centerline (five collisions between 2005 and 2009) or performed improper overtaking (two collisions); these seven collisions comprise six percent of the total 124 collisions and include a fatality.

Pedestrian and Bicycle Facilities and Activity

As previously discussed, the segment of OR 126W between Huston Road and Green Hill Road is a rural corridor with no sidewalks or designated bicycle lanes and with shoulders that range from four to ten feet wideThese narrow shoulders force cyclists to travel immediately adjacent to and often on the edge of the vehicular travel lane.

Some expected multi-modal destinations include the county park (Perkins Peninsula County Park) located approximately two miles east of the Veneta city limits, the Fern Ridge Reservoir, and transit stops along the corridor. Pedestrian and bicycle traffic recorded during the weekday a.m. and p.m. peak motor vehicular periods are shown in Figure 10. As shown, few pedestrians and no bicyclists were observed during these periods.

Figure 10: Pedestrian and Bicycle Facilities and Activity on OR 126W

Transit Service

Lane Transit District (LTD) provides public transit service between the Eugene-Springfield area and Veneta. LTD Route 93 route extends from Eugene Station on the east to West Lane Shopping Center in Veneta on the west, and Eugene Station has connections to downtown Eugene. Figure 11 shows Route 93, the locations of the bus stops, and the average weekday ons and offs that were collected during the month of May 2011.

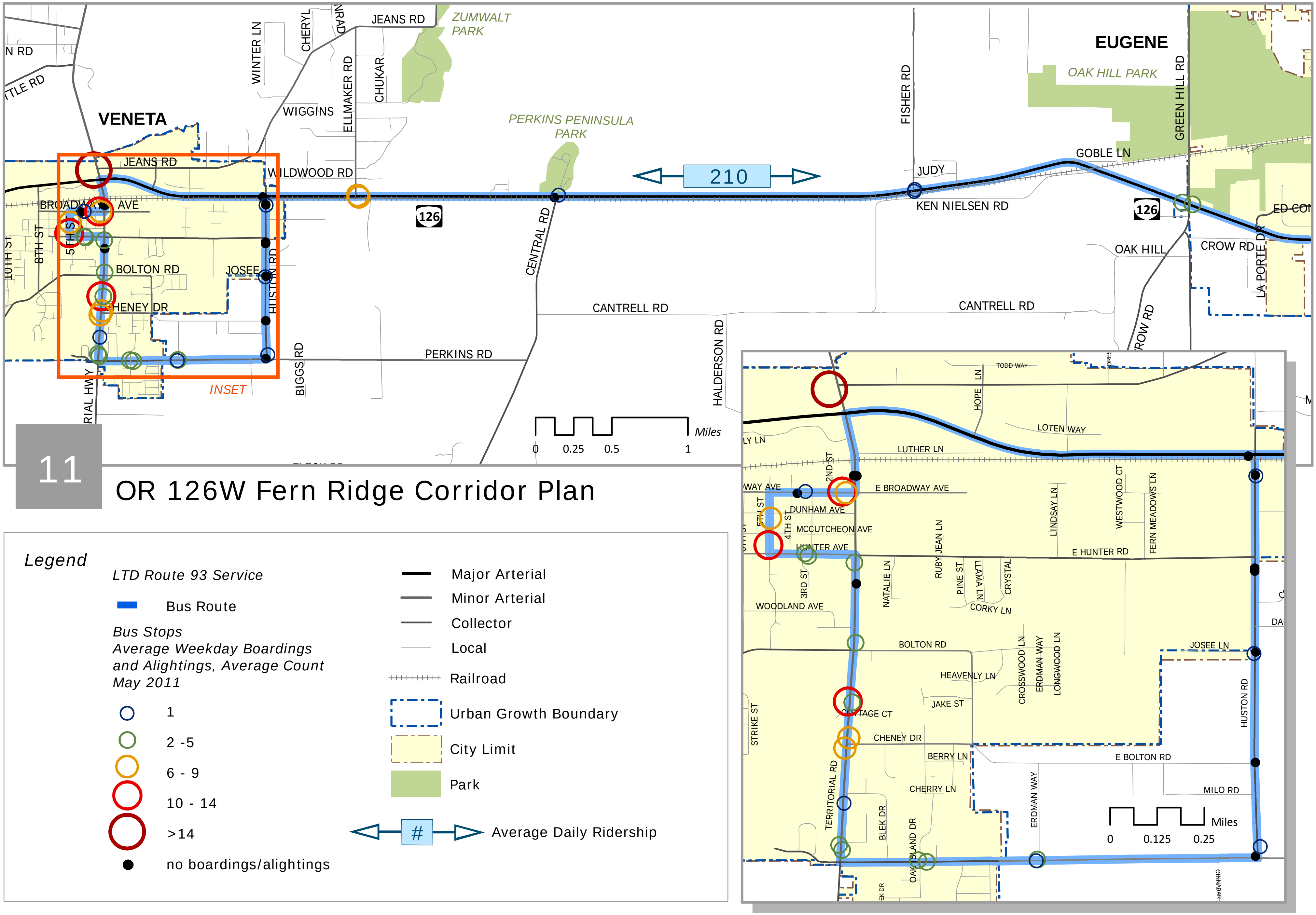
Table 9 lists the current Route 93 transit service. There are eight regularly scheduled weekday trips beginning at approximately 7:00 am and ending at 6:00 pm. There are two regularly scheduled Saturday trips. Productivity on rural routes is measured in terms of the number of customer boardings per round trip. LTD's current standard is 30 boardings per trip. Route 93 averages 42 boardings per trip within the study area. The greatest activity occurs in the vicinity of the OR 126/Elmaker Road intersection, though most bus stop locations have an average of one or two daily boardings and alightings (i.e., ons and offs).[15]

Table 9: Route 93 (Veneta) Transit Service

Service Period	Hours of Operation	Headway
Monday-Friday		
A.M. Peak Period	6:40 to 11:00 a.m.	30, 60, or 120 min. (4 buses)
P.M. Peak Period	1:40 to 7:00 p.m.	60 or 120 min. (4 buses)
Saturday		
A.M. Peak Period	9:30 to 10:40 a.m.	1 bus
P.M. Peak Period	4:50 to 6:00 p.m.	1 bus

[15] Route 93 profile information for fall 2010.

TRANSIT ROUTES AND BOARDINGS

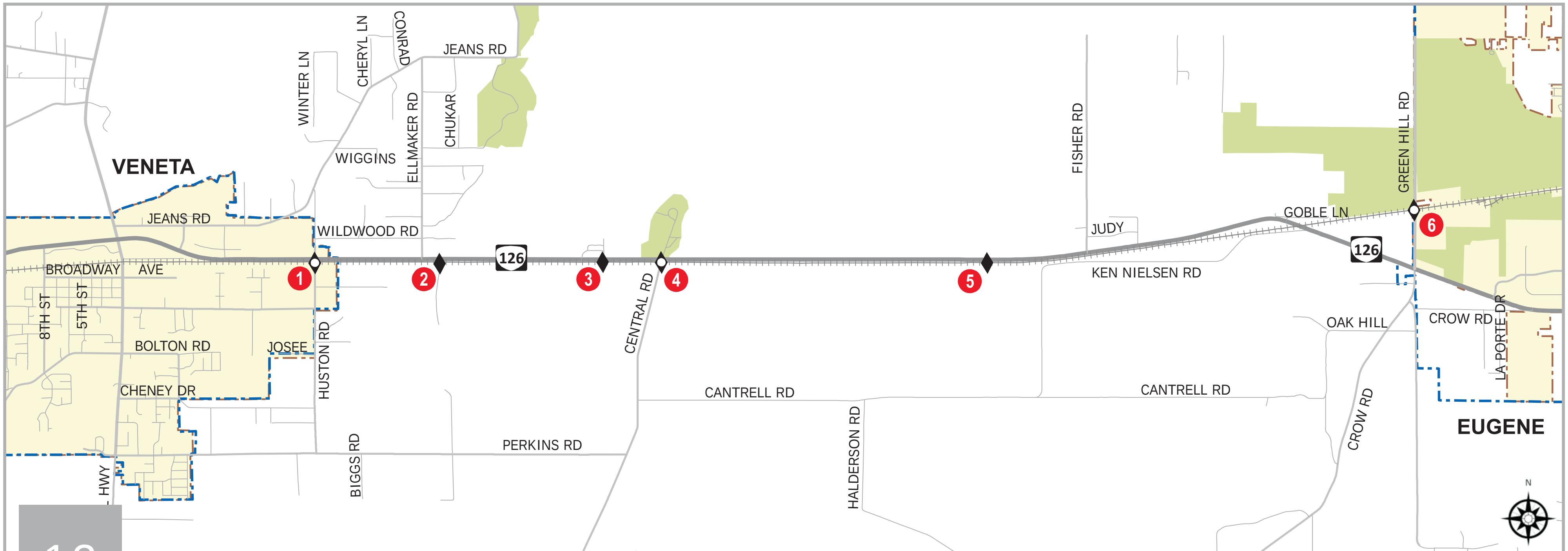


Rail Facilities and Activity

The Coos Bay Rail Line (CBRL) runs parallel and in close proximity to OR 126W (less than 75 feet south of highway) for the segment between Huston Road and Richmond Street (approximately 4.5 miles). The rail line has not experienced any activity since 2007 but is scheduled to resume operation by October 2011. There are presently two gated and four stop controlled railroad crossings along the OR 126W study corridor. Three of the crossings are along public streets and the remaining three are along private roads. Figure 3-4 shows the location and a picture of each of the six railroad crossings.

All of the crossing locations, with the exception of Green Hill Road are within approximately 50 feet of the edge of the traveled way on OR 126W. At most, this allows for the storage of one or two vehicles between OR 126W and the railroad crossing. The Green Hill Road crossing is approximately one-third mile north of OR 126W; however, it is along a higher volume roadway. Lane County has received approval from the ODOT Rail Division to install a signalized crossing at the Green Hill Road at-grade railroad crossing.

RAILROAD CROSSINGS



OR 126W Fern Ridge Corridor Plan

Legend

- Private Crossing
- Public Crossing
- Railroad

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Appendix

24-Hour Tube Counts

Origin-Destination Surveys

A.M. Peak Hour Turn Movement Counts

P.M. Peak Hour Turn Movement Counts

16-Hour Turn Movement Counts

Seasonal Adjustment Factor

Level of Service Descriptions

HCM Intersection Analysis – 30th HV

HCM Intersection Analysis – Average Annual Weekday A.M./P.M. Peak Hours

ODOT Collision Data

LTD Route 93 Information

DKS Associates
TRANSPORTATION SOLUTIONS

24-Hour Tube Counts

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 23 Class
Hwy 126 E-O Huston Rd

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
6/2/11	2	13	3	0	4	0	0	0	1	0	0	0	0	0	23
01:00	0	10	5	0	2	0	0	0	0	1	0	0	0	0	18
02:00	3	12	7	0	3	0	0	0	0	0	0	0	0	0	25
03:00	6	23	12	0	7	1	0	1	0	0	0	0	2	0	52
04:00	3	41	21	0	7	0	0	1	0	0	0	0	0	0	73
05:00	16	88	63	0	36	4	0	1	1	0	0	0	1	0	210
06:00	34	218	112	2	58	9	0	4	2	2	0	0	0	0	441
07:00	32	450	160	8	64	18	0	7	4	0	0	0	1	0	744
08:00	34	312	124	5	38	9	0	4	1	0	0	0	1	0	528
09:00	33	202	122	3	35	11	0	7	2	0	0	0	3	0	418
10:00	22	242	101	4	46	15	2	4	3	1	0	0	2	0	442
11:00	35	203	107	5	41	9	0	6	5	2	0	1	3	0	417
12 PM	42	190	122	11	44	11	1	7	4	0	0	0	1	0	433
13:00	31	201	90	6	45	8	0	7	4	1	0	0	2	0	395
14:00	46	193	104	8	54	16	0	10	5	1	0	0	1	0	438
15:00	32	192	95	6	45	13	0	11	4	1	0	0	0	0	399
16:00	26	210	88	5	48	14	0	4	5	0	0	0	0	0	400
17:00	29	194	70	3	35	5	0	4	2	0	0	0	0	0	342
18:00	13	140	67	4	21	7	1	3	1	1	0	0	1	0	259
19:00	9	110	46	2	18	2	0	2	0	1	0	0	0	0	190
20:00	11	112	44	2	15	0	0	0	0	0	0	0	0	0	184
21:00	13	72	34	1	11	2	0	1	1	0	0	0	2	0	137
22:00	5	62	20	0	5	0	0	0	0	1	0	0	1	0	94
23:00	5	34	11	0	5	0	0	0	1	1	0	0	2	0	59
Total	482	3524	1628	75	687	154	4	84	46	13	0	1	23	0	6721
Percent	7.2%	52.4%	24.2%	1.1%	10.2%	2.3%	0.1%	1.2%	0.7%	0.2%	0.0%	0.0%	0.3%	0.0%	
AM Peak	11:00	07:00	07:00	07:00	07:00	07:00	10:00	07:00	11:00	06:00		11:00	09:00		
Vol.	35	450	160	8	64	18	2	7	5	2		1	3		
PM Peak	14:00	16:00	12:00	12:00	14:00	14:00	12:00	15:00	14:00	13:00			13:00		
Vol.	46	210	122	11	54	16	1	11	5	1			2		
Grand Total	482	3524	1628	75	687	154	4	84	46	13	0	1	23	0	6721
Percent	7.2%	52.4%	24.2%	1.1%	10.2%	2.3%	0.1%	1.2%	0.7%	0.2%	0.0%	0.0%	0.3%	0.0%	

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WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
6/2/11	1	35	13	1	2	0	0	1	1	0	0	0	1	0	55
01:00	1	18	8	0	0	0	0	0	1	1	0	0	1	0	30
02:00	0	9	2	1	1	0	0	0	0	0	0	0	0	0	13
03:00	0	9	5	0	6	0	0	2	1	0	0	0	0	0	23
04:00	0	16	10	0	4	0	0	1	2	1	0	0	0	0	34
05:00	2	35	18	1	9	1	0	7	0	1	0	0	4	0	78
06:00	4	52	24	5	14	3	0	3	4	2	0	0	0	0	111
07:00	6	114	56	3	16	3	0	3	4	1	0	0	2	0	208
08:00	4	151	77	7	33	3	0	6	4	2	0	0	1	0	288
09:00	6	149	85	11	39	0	0	8	6	1	0	0	3	0	308
10:00	5	190	85	3	29	2	0	5	1	0	0	0	3	0	323
11:00	7	187	109	3	31	4	0	9	5	1	0	0	2	0	358
12 PM	8	222	125	1	41	3	0	14	5	1	0	0	0	0	420
13:00	5	268	103	6	45	1	0	13	2	2	0	0	1	0	446
14:00	4	282	114	6	52	3	1	5	1	1	0	0	1	0	470
15:00	9	361	153	3	58	1	0	6	2	0	0	0	0	0	593
16:00	17	439	171	6	62	0	0	6	1	1	0	0	1	0	704
17:00	12	477	172	3	71	0	2	7	1	0	0	0	0	0	745
18:00	8	331	123	2	42	0	0	2	2	4	0	0	0	0	514
19:00	3	196	75	2	32	0	0	5	0	1	0	0	1	0	315
20:00	0	121	57	1	14	1	0	2	2	0	0	0	2	0	200
21:00	2	131	45	1	18	0	0	5	0	0	0	0	0	0	202
22:00	3	90	40	1	7	1	0	2	0	2	0	1	2	0	149
23:00	0	57	17	1	5	0	0	1	2	1	0	1	2	0	87
Total	107	3940	1687	68	631	26	3	113	47	23	0	2	27	0	6674
Percent	1.6%	59.0%	25.3%	1.0%	9.5%	0.4%	0.0%	1.7%	0.7%	0.3%	0.0%	0.0%	0.4%	0.0%	
AM Peak	11:00	10:00	11:00	09:00	09:00	11:00		11:00	09:00	06:00			05:00		
Vol.	7	190	109	11	39	4		9	6	2			4		
PM Peak	16:00	17:00	17:00	13:00	17:00	12:00	17:00	12:00	12:00	18:00		22:00	20:00		
Vol.	17	477	172	6	71	3	2	14	5	4		1	2		
Grand Total	107	3940	1687	68	631	26	3	113	47	23	0	2	27	0	6674
Percent	1.6%	59.0%	25.3%	1.0%	9.5%	0.4%	0.0%	1.7%	0.7%	0.3%	0.0%	0.0%	0.4%	0.0%	

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EB

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
6/2/11	1	0	0	0	0	1	1	4	4	3	7	2	0	0	23	64	66
01:00	0	0	0	0	0	0	0	1	2	8	5	1	1	0	18	64	70
02:00	2	0	0	1	0	0	0	3	4	8	3	3	0	1	25	65	68
03:00	3	0	0	0	0	0	0	1	11	20	7	9	1	0	52	66	69
04:00	4	0	0	0	0	1	1	2	13	22	16	12	**2**	0	73	66	69
05:00	5	0	0	0	0	1	4	10	34	65	64	**26**	1	0	210	65	68
06:00	8	0	0	0	0	5	7	33	74	171	**118**	24	1	0	441	64	66
07:00	10	0	0	1	1	**13**	13	**58**	**247**	**298**	91	10	0	**2**	**744**	60	64
08:00	15	0	0	1	**4**	8	11	38	174	203	67	6	1	0	528	60	64
09:00	**21**	**2**	0	0	4	5	**14**	56	113	150	49	4	0	0	418	60	64
10:00	8	0	0	**2**	3	6	9	35	100	212	60	6	1	0	442	61	64
11:00	1	1	0	0	1	6	10	39	103	202	50	3	1	0	417	60	64
12 PM	9	**4**	**4**	**10**	**7**	8	**13**	**48**	92	172	56	4	**4**	**2**	433	61	64
13:00	13	0	0	4	3	0	8	39	120	145	59	4	0	0	395	61	64
14:00	18	1	0	1	0	**12**	10	34	**127**	**176**	54	3	1	1	**438**	60	64
15:00	22	1	0	1	0	2	11	44	95	146	**70**	7	0	0	399	62	65
16:00	16	0	1	0	1	5	9	26	125	170	38	6	2	1	400	60	64
17:00	18	0	0	0	0	2	9	38	100	116	50	7	0	2	342	61	65
18:00	**24**	0	0	0	1	2	8	21	56	73	63	9	1	1	259	63	65
19:00	8	0	0	0	1	3	5	10	36	70	45	**10**	1	1	190	64	66
20:00	11	0	0	1	0	3	2	14	41	75	30	6	1	0	184	62	65
21:00	6	0	0	0	0	6	3	15	39	49	18	1	0	0	137	60	63
22:00	2	0	0	0	0	1	5	13	15	33	24	1	0	0	94	63	64
23:00	3	0	0	0	0	0	1	5	11	29	9	1	0	0	59	61	64
Total	228	9	5	22	26	90	154	587	1736	2616	1053	165	19	11	6721		
Percent	3.4%	0.1%	0.1%	0.3%	0.4%	1.3%	2.3%	8.7%	25.8%	38.9%	15.7%	2.5%	0.3%	0.2%			
AM Peak	09:00	09:00		10:00	08:00	07:00	09:00	07:00	07:00	07:00	06:00	05:00	04:00	07:00	07:00		
Vol.	21	2		2	4	13	14	58	247	298	118	26	2	2	744		
PM Peak	18:00	12:00	12:00	12:00	12:00	14:00	12:00	12:00	14:00	14:00	15:00	19:00	12:00	12:00	14:00		
Vol.	24	4	4	10	7	12	13	48	127	176	70	10	4	2	438		
Grand Total	228	9	5	22	26	90	154	587	1736	2616	1053	165	19	11	6721		
Percent	3.4%	0.1%	0.1%	0.3%	0.4%	1.3%	2.3%	8.7%	25.8%	38.9%	15.7%	2.5%	0.3%	0.2%			

	15th Percentile :	50 MPH
	50th Percentile :	56 MPH
	85th Percentile :	62 MPH
	95th Percentile :	65 MPH
Statistics	10 MPH Pace Speed :	51-60 MPH
	Number in Pace :	4352
	Percent in Pace :	64.8%
	Number of Vehicles > 55 MPH :	3864
	Percent of Vehicles > 55 MPH :	57.5%
	Mean Speed(Average) :	54 MPH

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WB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	0	0	0	0	0	0	2	8	13	23	9	0	0	0	55	61	63
01:00	1	0	0	0	0	0	1	4	10	9	3	2	0	0	30	60	63
02:00	1	0	0	0	1	0	0	0	4	3	4	0	0	0	13	62	63
03:00	0	0	0	0	0	0	1	2	3	6	11	0	0	0	23	64	65
04:00	1	0	0	0	0	0	0	7	10	9	6	0	1	0	34	61	64
05:00	4	0	0	0	0	1	1	4	16	40	10	2	0	0	78	60	64
06:00	2	0	1	0	0	0	1	10	22	61	8	2	2	2	111	60	65
07:00	12	0	0	0	0	0	2	13	59	88	27	4	1	2	208	61	65
08:00	7	0	0	0	1	1	11	50	86	101	29	1	1	0	288	60	63
09:00	11	0	0	1	2	4	3	37	129	100	18	2	1	0	308	59	62
10:00	9	0	0	0	1	1	10	39	115	123	23	1	0	1	323	60	62
11:00	5	1	1	0	2	6	15	45	145	110	27	1	0	0	358	59	62
12 PM	8	1	1	1	2	3	10	52	171	133	36	1	1	0	420	60	63
13:00	12	0	0	1	0	4	8	58	200	141	22	0	0	0	446	59	60
14:00	18	0	0	1	0	3	13	77	161	179	15	2	1	0	470	59	60
15:00	20	1	0	1	1	6	19	81	292	157	12	1	2	0	593	58	60
16:00	11	1	2	0	0	4	30	101	296	218	37	2	0	2	704	59	61
17:00	9	0	0	0	3	6	37	115	342	202	29	0	0	2	745	58	60
18:00	7	0	1	1	0	0	6	35	188	221	49	6	0	0	514	60	63
19:00	6	1	0	0	0	0	4	8	61	136	94	4	1	0	315	63	65
20:00	3	0	0	0	0	0	2	23	71	71	28	2	0	0	200	60	64
21:00	2	0	1	0	0	2	8	38	79	66	6	0	0	0	202	59	60
22:00	0	0	0	0	0	0	3	28	56	51	9	2	0	0	149	59	62
23:00	1	0	0	0	0	1	1	8	26	41	7	1	0	1	87	60	63
Total	150	5	7	6	13	42	188	843	2555	2289	519	36	11	10	6674		
Percent	2.2%	0.1%	0.1%	0.1%	0.2%	0.6%	2.8%	12.6%	38.3%	34.3%	7.8%	0.5%	0.2%	0.1%			
AM Peak	07:00	11:00	06:00	09:00	09:00	11:00	11:00	08:00	11:00	10:00	08:00	07:00	06:00	06:00	11:00		
Vol.	12	1	1	1	2	6	15	50	145	123	29	4	2	2	358		
PM Peak	15:00	12:00	16:00	12:00	17:00	15:00	17:00	17:00	17:00	18:00	19:00	18:00	15:00	16:00	17:00		
Vol.	20	1	2	1	3	6	37	115	342	221	94	6	2	2	745		
Grand Total	150	5	7	6	13	42	188	843	2555	2289	519	36	11	10	6674		
Percent	2.2%	0.1%	0.1%	0.1%	0.2%	0.6%	2.8%	12.6%	38.3%	34.3%	7.8%	0.5%	0.2%	0.1%			

	15th Percentile :	49 MPH
	50th Percentile :	55 MPH
	85th Percentile :	60 MPH
	95th Percentile :	63 MPH
Statistics	10 MPH Pace Speed :	51-60 MPH
	Number in Pace :	4844
	Percent in Pace :	72.6%
	Number of Vehicles > 55 MPH :	2865
	Percent of Vehicles > 55 MPH :	42.9%
	Mean Speed(Average) :	54 MPH

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6/2/11	1	19	2	0	3	0	0	0	0	1	0	0	0	0	26
01:00	0	10	5	0	0	0	0	0	0	0	0	0	0	0	15
02:00	0	17	2	0	1	0	0	0	1	0	0	0	1	0	22
03:00	1	25	9	0	3	1	0	1	0	1	0	0	1	0	42
04:00	5	51	16	0	3	1	0	2	0	0	0	0	0	0	78
05:00	9	137	52	0	19	2	0	1	0	1	0	0	2	0	223
06:00	8	314	105	1	40	2	0	4	2	1	0	0	1	0	478
07:00	9	574	157	3	50	6	0	4	4	2	0	0	1	0	810
08:00	6	406	103	2	23	4	1	4	0	0	0	0	1	0	550
09:00	4	279	113	2	20	4	0	7	3	0	0	0	2	0	434
10:00	4	305	124	3	24	6	1	5	4	1	0	0	3	0	480
11:00	9	299	85	2	23	3	0	3	7	1	0	0	1	0	433
12 PM	5	273	103	4	30	8	1	8	6	0	0	0	1	0	439
13:00	6	268	78	5	26	8	0	7	3	0	0	0	3	0	404
14:00	8	294	106	3	29	9	1	11	4	4	0	1	0	0	470
15:00	8	264	88	3	30	7	1	10	3	1	0	0	0	0	415
16:00	10	254	100	3	27	5	0	5	0	1	0	0	0	0	405
17:00	12	213	79	3	21	3	0	5	1	0	0	1	0	0	338
18:00	7	195	49	4	8	2	0	1	1	1	0	0	0	0	268
19:00	1	135	33	3	7	2	0	2	0	1	1	0	0	0	185
20:00	2	106	40	2	6	1	0	0	0	0	0	0	1	0	158
21:00	0	87	29	1	5	0	0	2	1	2	1	0	0	0	128
22:00	2	70	17	0	2	1	0	0	1	1	0	0	0	0	94
23:00	0	32	10	1	5	1	0	0	2	0	0	0	0	0	51
Total	117	4627	1505	45	405	76	5	82	43	19	2	2	18	0	6946
Percent	1.7%	66.6%	21.7%	0.6%	5.8%	1.1%	0.1%	1.2%	0.6%	0.3%	0.0%	0.0%	0.3%	0.0%	
AM Peak	05:00	07:00	07:00	07:00	07:00	07:00	08:00	09:00	11:00	07:00			10:00		
Vol.	9	574	157	3	50	6	1	7	7	2			3		
PM Peak	17:00	14:00	14:00	13:00	12:00	14:00	12:00	14:00	12:00	14:00	19:00	14:00	13:00		
Vol.	12	294	106	5	30	9	1	11	6	4	1	1	3		
Grand Total	117	4627	1505	45	405	76	5	82	43	19	2	2	18	0	6946
Percent	1.7%	66.6%	21.7%	0.6%	5.8%	1.1%	0.1%	1.2%	0.6%	0.3%	0.0%	0.0%	0.3%	0.0%	

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6/2/11	2	38	11	1	5	0	0	1	1	0	0	0	1	0	60
01:00	0	18	6	1	2	0	0	0	1	0	0	0	1	0	29
02:00	0	13	3	0	1	0	0	0	0	0	0	0	0	0	17
03:00	1	11	7	0	3	0	0	2	1	0	0	0	0	0	25
04:00	1	14	8	1	5	0	0	3	3	0	0	0	0	0	35
05:00	1	32	17	2	14	0	0	6	0	1	0	0	4	0	77
06:00	2	53	25	4	11	1	0	3	6	3	0	0	1	0	109
07:00	7	133	50	4	13	0	0	2	6	0	0	0	1	0	216
08:00	4	157	55	8	30	4	1	1	3	2	0	0	2	0	267
09:00	6	159	84	10	32	2	0	8	8	1	0	0	4	0	314
10:00	4	190	82	3	27	0	0	5	3	1	0	0	2	0	317
11:00	6	188	120	3	28	3	0	8	4	1	0	0	1	0	362
12 PM	6	246	119	1	46	1	0	17	4	2	0	0	0	0	442
13:00	11	270	102	7	46	1	0	14	3	1	0	0	0	0	455
14:00	5	317	120	8	53	5	0	3	2	1	0	0	1	0	515
15:00	5	373	170	3	72	2	0	6	1	0	0	0	0	0	632
16:00	9	478	203	4	72	2	0	8	1	0	0	0	1	0	778
17:00	13	524	202	3	81	3	0	7	2	1	0	0	0	0	836
18:00	4	379	124	2	46	3	0	2	2	4	0	0	0	0	566
19:00	2	218	80	4	37	0	0	5	2	1	1	0	1	0	351
20:00	2	151	65	0	15	0	0	2	2	1	0	1	1	0	240
21:00	1	125	55	1	14	0	1	5	1	0	0	0	1	0	204
22:00	5	91	29	1	13	0	0	2	1	2	0	0	2	0	146
23:00	1	65	12	1	7	0	0	1	1	2	0	0	3	0	93
Total	98	4243	1749	72	673	27	2	111	58	24	1	1	27	0	7086
Percent	1.4%	59.9%	24.7%	1.0%	9.5%	0.4%	0.0%	1.6%	0.8%	0.3%	0.0%	0.0%	0.4%	0.0%	
AM Peak	07:00	10:00	11:00	09:00	09:00	08:00	08:00	09:00	09:00	06:00			05:00		
Vol.	7	190	120	10	32	4	1	8	8	3			4		
PM Peak	17:00	17:00	16:00	14:00	17:00	14:00	21:00	12:00	12:00	18:00	19:00	20:00	23:00		
Vol.	13	524	203	8	81	5	1	17	4	4	1	1	3		
Grand Total	98	4243	1749	72	673	27	2	111	58	24	1	1	27	0	7086
Percent	1.4%	59.9%	24.7%	1.0%	9.5%	0.4%	0.0%	1.6%	0.8%	0.3%	0.0%	0.0%	0.4%	0.0%	

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 24 Speed
Hwy 126 W-O Central Rd

EB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	2	0	0	0	0	0	4	4	3	9	4	0	0	0	26	60	63
01:00	0	0	0	0	0	0	0	0	3	6	6	0	0	0	15	63	64
02:00	2	0	0	0	0	0	1	2	7	7	0	3	0	0	22	60	67
03:00	2	0	0	0	0	0	1	1	14	13	6	5	0	0	42	64	68
04:00	2	**2**	0	0	**2**	0	1	3	21	24	18	4	0	**1**	78	63	66
05:00	15	0	0	0	0	0	0	7	50	92	53	5	1	0	223	63	65
06:00	22	0	0	**1**	0	2	0	3	50	263	**122**	**12**	**2**	1	478	63	65
07:00	**26**	0	0	0	1	3	7	31	**241**	**375**	118	7	1	0	**810**	61	64
08:00	20	0	**1**	0	0	0	2	32	146	253	85	9	2	0	550	61	64
09:00	24	0	0	0	0	3	4	25	141	183	48	5	0	1	434	60	64
10:00	23	0	0	0	0	**11**	**16**	**55**	172	165	35	1	1	1	480	59	62
11:00	25	0	0	0	1	2	1	23	135	185	53	7	0	1	433	60	64
12 PM	23	0	0	**2**	0	1	**9**	34	168	154	45	3	0	0	439	60	63
13:00	23	**1**	0	0	0	3	4	16	106	**182**	**63**	5	**1**	0	404	61	64
14:00	29	0	0	1	0	3	3	28	**183**	173	45	4	0	**1**	**470**	60	63
15:00	**38**	1	0	0	**1**	2	3	30	134	165	38	3	0	0	415	60	63
16:00	26	0	0	1	1	**6**	2	23	117	168	57	4	0	0	405	60	64
17:00	25	1	0	0	0	4	7	**42**	95	115	42	**7**	0	0	338	60	64
18:00	15	0	0	0	0	1	1	16	72	112	43	6	1	1	268	62	65
19:00	8	1	**1**	0	0	2	1	7	47	87	27	4	0	0	185	61	64
20:00	7	0	0	0	0	0	1	8	45	73	21	3	0	0	158	60	64
21:00	8	0	0	0	0	0	0	10	42	53	13	2	0	0	128	60	63
22:00	3	0	0	1	0	3	3	2	27	40	11	3	0	1	94	61	65
23:00	3	0	0	0	0	0	1	4	12	24	5	2	0	0	51	60	64
Total	371	6	2	6	6	46	72	406	2031	2921	958	104	9	8	6946		
Percent	5.3%	0.1%	0.0%	0.1%	0.1%	0.7%	1.0%	5.8%	29.2%	42.1%	13.8%	1.5%	0.1%	0.1%			
AM Peak	07:00	04:00	08:00	06:00	04:00	10:00	10:00	10:00	07:00	07:00	06:00	06:00	06:00	04:00	07:00		
Vol.	26	2	1	1	2	11	16	55	241	375	122	12	2	1	810		
PM Peak	15:00	13:00	19:00	12:00	15:00	16:00	12:00	17:00	14:00	13:00	13:00	17:00	13:00	14:00	14:00		
Vol.	38	1	1	2	1	6	9	42	183	182	63	7	1	1	470		
Grand Total	371	6	2	6	6	46	72	406	2031	2921	958	104	9	8	6946		
Percent	5.3%	0.1%	0.0%	0.1%	0.1%	0.7%	1.0%	5.8%	29.2%	42.1%	13.8%	1.5%	0.1%	0.1%			

	15th Percentile :	51 MPH
	50th Percentile :	56 MPH
	85th Percentile :	61 MPH
	95th Percentile :	64 MPH
Statistics	10 MPH Pace Speed :	51-60 MPH
	Number in Pace :	4952
	Percent in Pace :	71.3%
	Number of Vehicles > 55 MPH :	4000
	Percent of Vehicles > 55 MPH :	57.6%
	Mean Speed(Average) :	54 MPH

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 24 Speed
Hwy 126 W-O Central Rd

WB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	4	0	0	0	0	0	1	0	14	19	19	3	0	0	60	64	65
01:00	0	0	0	0	0	0	0	0	5	9	10	3	1	**1**	29	66	75
02:00	1	0	0	0	0	0	0	0	5	7	2	1	1	0	17	61	70
03:00	1	0	0	0	0	0	0	0	6	7	11	0	0	0	25	63	65
04:00	2	0	0	0	0	**1**	0	0	1	14	13	2	**2**	0	35	65	70
05:00	2	0	0	0	0	0	0	1	8	27	31	7	0	1	77	65	67
06:00	13	0	0	0	0	0	1	6	15	47	24	2	1	0	109	63	65
07:00	9	**1**	0	0	0	1	0	3	46	87	61	7	0	1	216	63	65
08:00	13	0	**1**	0	0	1	3	7	44	142	54	2	0	0	267	62	64
09:00	19	0	1	0	0	0	2	9	73	149	51	7	2	1	314	62	65
10:00	**21**	0	0	**1**	**2**	1	**5**	**18**	63	144	59	3	0	0	317	62	64
11:00	21	0	0	0	1	0	2	6	**76**	**164**	**78**	**14**	0	0	**362**	63	65
12 PM	22	**1**	1	**1**	0	0	4	20	100	216	73	3	1	0	442	61	64
13:00	16	0	0	1	0	2	8	13	85	224	97	9	0	0	455	62	65
14:00	20	0	**2**	0	0	0	1	13	123	256	90	10	0	0	515	62	65
15:00	**42**	0	0	1	0	4	10	17	147	286	116	7	1	**1**	632	62	64
16:00	39	0	1	1	0	**7**	**11**	**41**	175	329	164	9	1	0	778	62	65
17:00	35	0	0	0	0	6	9	29	**240**	**337**	**167**	11	1	1	**836**	62	65
18:00	14	0	0	0	0	1	3	13	116	276	130	13	0	0	566	63	65
19:00	15	0	0	0	0	0	1	2	27	147	125	**30**	**3**	1	351	65	68
20:00	10	0	0	0	**1**	1	4	7	32	105	72	5	3	0	240	63	65
21:00	3	0	0	0	0	0	7	13	54	92	29	5	1	0	204	61	65
22:00	5	0	0	0	1	0	0	4	26	67	34	9	0	0	146	63	66
23:00	6	0	0	0	0	0	1	0	23	33	25	4	0	1	93	64	65
Total	333	2	6	5	5	25	73	222	1504	3184	1535	166	18	8	7086		
Percent	4.7%	0.0%	0.1%	0.1%	0.1%	0.4%	1.0%	3.1%	21.2%	44.9%	21.7%	2.3%	0.3%	0.1%			
AM Peak	10:00	07:00	08:00	10:00	10:00	04:00	10:00	10:00	11:00	11:00	11:00	11:00	04:00	01:00	11:00		
Vol.	21	1	1	1	2	1	5	18	76	164	78	14	2	1	362		
PM Peak	15:00	12:00	14:00	12:00	20:00	16:00	16:00	16:00	17:00	17:00	17:00	19:00	19:00	15:00	17:00		
Vol.	42	1	2	1	1	7	11	41	240	337	167	30	3	1	836		
Grand Total	333	2	6	5	5	25	73	222	1504	3184	1535	166	18	8	7086		
Percent	4.7%	0.0%	0.1%	0.1%	0.1%	0.4%	1.0%	3.1%	21.2%	44.9%	21.7%	2.3%	0.3%	0.1%			

15th Percentile : 52 MPH
50th Percentile : 58 MPH
85th Percentile : 63 MPH
95th Percentile : 65 MPH

Statistics

10 MPH Pace Speed : 56-65 MPH
Number in Pace : 4719
Percent in Pace : 66.6%
Number of Vehicles > 55 MPH : 4911
Percent of Vehicles > 55 MPH : 69.3%
Mean Speed(Average) : 55 MPH

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 25 Class
Hwy 126 W-O Fisher Rd

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
6/2/11	0	21	1	1	4	1	0	0	0	0	0	0	1	0	29
01:00	0	12	6	0	1	0	0	0	0	0	0	0	1	0	20
02:00	0	16	5	0	1	0	0	0	0	1	0	0	1	0	24
03:00	1	26	9	0	5	1	0	1	1	0	0	0	1	0	45
04:00	0	62	20	0	5	0	0	1	1	0	0	0	0	0	89
05:00	3	154	71	3	20	1	0	0	0	1	0	0	1	0	254
06:00	4	334	131	0	77	0	0	6	1	0	0	0	1	0	554
07:00	5	626	209	4	73	3	0	4	3	0	0	0	4	0	931
08:00	4	433	141	4	46	1	0	7	3	0	0	1	0	0	640
09:00	3	308	123	2	41	2	0	7	2	1	0	0	4	0	493
10:00	0	300	158	5	43	4	1	6	3	1	0	0	2	0	523
11:00	2	310	113	6	40	3	0	3	5	2	0	1	1	0	486
12 PM	2	274	132	5	46	2	1	11	4	0	0	0	2	0	479
13:00	7	254	108	8	38	4	0	9	1	1	0	0	3	0	433
14:00	10	282	135	7	61	6	0	10	3	3	0	0	0	0	517
15:00	5	302	111	5	44	1	0	15	3	1	0	0	1	0	488
16:00	4	266	114	6	48	7	0	7	3	0	0	0	2	0	457
17:00	7	236	103	4	34	4	0	3	2	0	1	1	1	0	396
18:00	4	193	70	4	22	1	0	3	2	0	0	1	0	0	300
19:00	1	143	48	3	11	1	0	3	0	2	0	0	1	0	213
20:00	1	105	38	5	17	0	0	0	0	0	0	0	2	0	168
21:00	3	85	33	0	10	0	0	2	1	0	1	0	2	0	137
22:00	1	73	20	0	7	0	0	0	0	1	0	0	2	0	104
23:00	0	34	12	0	5	0	0	0	2	1	0	0	3	0	57
Total	67	4849	1911	72	699	42	2	98	40	15	2	4	36	0	7837
Percent	0.9%	61.9%	24.4%	0.9%	8.9%	0.5%	0.0%	1.3%	0.5%	0.2%	0.0%	0.1%	0.5%	0.0%	
AM Peak	07:00	07:00	07:00	11:00	06:00	10:00	10:00	08:00	11:00	11:00		08:00	07:00		
Vol.	5	626	209	6	77	4	1	7	5	2		1	4		
PM Peak	14:00	15:00	14:00	13:00	14:00	16:00	12:00	15:00	12:00	14:00	17:00	17:00	13:00		
Vol.	10	302	135	8	61	7	1	15	4	3	1	1	3		
Grand Total	67	4849	1911	72	699	42	2	98	40	15	2	4	36	0	7837
Percent	0.9%	61.9%	24.4%	0.9%	8.9%	0.5%	0.0%	1.3%	0.5%	0.2%	0.0%	0.1%	0.5%	0.0%	

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 25 Class
Hwy 126 W-O Fisher Rd

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
6/2/11	1	37	16	0	3	0	0	1	0	2	0	1	0	0	61
01:00	0	21	7	1	1	0	0	0	1	0	0	0	1	0	32
02:00	1	11	9	0	2	0	0	1	0	0	0	0	0	0	24
03:00	0	12	5	0	5	0	0	2	0	1	0	0	0	0	25
04:00	0	20	9	1	7	0	0	2	3	0	0	0	0	0	42
05:00	1	35	25	2	15	0	0	6	0	0	0	0	4	0	88
06:00	2	83	35	4	9	1	0	2	6	3	0	0	1	0	146
07:00	1	155	57	4	17	5	0	2	1	0	0	0	2	0	244
08:00	2	164	68	10	31	4	0	3	3	4	0	0	1	0	290
09:00	4	181	94	8	35	2	0	8	8	0	0	0	5	0	345
10:00	2	205	92	3	23	1	0	5	0	1	0	1	2	0	335
11:00	2	226	117	4	28	2	1	10	5	2	0	0	1	0	398
12 PM	7	293	118	1	43	2	0	20	4	0	0	0	0	0	488
13:00	11	321	118	8	45	0	0	10	2	3	0	0	1	0	519
14:00	11	359	108	4	52	2	0	5	3	1	0	0	1	0	546
15:00	9	457	195	3	69	0	0	6	3	1	0	0	0	0	743
16:00	25	554	195	5	74	0	0	7	0	0	0	0	1	0	861
17:00	11	656	227	4	71	2	0	11	1	0	0	0	1	0	984
18:00	7	430	128	2	48	2	0	2	3	4	0	0	0	0	626
19:00	3	266	88	3	40	0	0	5	3	2	0	2	0	0	412
20:00	3	190	72	0	13	0	0	2	2	1	0	0	2	0	285
21:00	1	159	57	0	17	0	1	7	0	1	0	0	1	0	244
22:00	5	104	41	1	8	0	0	4	0	0	0	0	2	0	165
23:00	0	74	19	2	5	0	0	1	0	2	0	0	3	0	106
Total	109	5013	1900	70	661	23	2	122	48	28	0	4	29	0	8009
Percent	1.4%	62.6%	23.7%	0.9%	8.3%	0.3%	0.0%	1.5%	0.6%	0.3%	0.0%	0.0%	0.4%	0.0%	
AM Peak	09:00	11:00	11:00	08:00	09:00	07:00	11:00	11:00	09:00	08:00		00:00	09:00		
Vol.	4	226	117	10	35	5	1	10	8	4		1	5		
PM Peak	16:00	17:00	17:00	13:00	16:00	12:00	21:00	12:00	12:00	18:00		19:00	23:00		
Vol.	25	656	227	8	74	2	1	20	4	4		2	3		
Grand Total	109	5013	1900	70	661	23	2	122	48	28	0	4	29	0	8009
Percent	1.4%	62.6%	23.7%	0.9%	8.3%	0.3%	0.0%	1.5%	0.6%	0.3%	0.0%	0.0%	0.4%	0.0%	

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 25 Speed
Hwy 126 W-O Fisher Rd

EB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	2	0	0	0	0	1	4	2	6	7	6	0	0	1	29	62	65
01:00	0	0	0	0	0	1	1	2	1	7	6	2	0	0	20	64	66
02:00	1	0	0	0	0	0	1	2	7	8	4	0	1	0	24	61	64
03:00	0	0	0	0	0	2	1	0	10	19	5	8	0	0	45	66	68
04:00	1	**1**	0	0	0	0	2	3	15	37	22	6	2	0	89	64	68
05:00	5	0	0	0	0	1	3	4	46	116	68	6	**5**	0	254	63	65
06:00	15	0	0	**1**	0	0	1	9	54	257	**200**	**17**	0	0	554	64	65
07:00	18	0	**1**	0	0	1	6	**61**	**274**	**423**	140	7	0	0	**931**	61	64
08:00	13	0	0	0	**1**	1	12	27	143	310	128	3	0	**2**	640	62	64
09:00	19	0	0	1	0	0	5	26	104	239	93	5	1	0	493	62	64
10:00	17	1	1	0	1	**6**	**18**	29	175	200	72	3	0	0	523	60	64
11:00	**22**	0	0	0	1	2	4	16	135	211	80	14	1	0	486	62	65
12 PM	27	0	1	0	0	1	**17**	28	101	215	84	5	0	0	479	61	64
13:00	22	**2**	1	**2**	0	2	0	4	83	194	112	9	2	0	433	63	65
14:00	30	0	0	1	1	0	3	**44**	**159**	191	82	6	0	0	**517**	61	64
15:00	29	1	2	0	0	0	2	16	117	**223**	84	13	1	0	488	62	65
16:00	**31**	0	**3**	0	1	1	1	24	85	178	**121**	10	1	**1**	457	63	65
17:00	31	0	0	0	0	**3**	5	30	75	139	100	12	1	0	396	63	65
18:00	16	0	0	1	0	0	2	13	46	107	95	18	1	1	300	64	67
19:00	15	1	0	0	0	1	6	10	24	72	65	**19**	0	0	213	64	67
20:00	8	0	1	0	0	1	1	6	28	68	47	7	1	0	168	64	65
21:00	6	0	0	0	0	2	0	8	19	62	30	10	0	0	137	64	67
22:00	2	0	0	1	0	0	6	8	26	30	27	1	**3**	0	104	63	65
23:00	1	0	0	1	**2**	1	2	1	8	24	16	0	1	0	57	63	65
Total	331	6	10	8	7	27	103	373	1741	3337	1687	181	21	5	7837		
Percent	4.2%	0.1%	0.1%	0.1%	0.1%	0.3%	1.3%	4.8%	22.2%	42.6%	21.5%	2.3%	0.3%	0.1%			
AM Peak	11:00	04:00	07:00	06:00	08:00	10:00	10:00	07:00	07:00	07:00	06:00	06:00	05:00	08:00	07:00		
Vol.	22	1	1	1	1	6	18	61	274	423	200	17	5	2	931		
PM Peak	16:00	13:00	16:00	13:00	23:00	17:00	12:00	14:00	14:00	15:00	16:00	19:00	22:00	16:00	14:00		
Vol.	31	2	3	2	2	3	17	44	159	223	121	19	3	1	517		
Grand Total	331	6	10	8	7	27	103	373	1741	3337	1687	181	21	5	7837		
Percent	4.2%	0.1%	0.1%	0.1%	0.1%	0.3%	1.3%	4.8%	22.2%	42.6%	21.5%	2.3%	0.3%	0.1%			

15th Percentile : 51 MPH
50th Percentile : 57 MPH
85th Percentile : 63 MPH
95th Percentile : 65 MPH

Statistics

10 MPH Pace Speed : 51-60 MPH
Number in Pace : 5078
Percent in Pace : 64.8%
Number of Vehicles > 55 MPH : 5231
Percent of Vehicles > 55 MPH : 66.7%
Mean Speed(Average) : 55 MPH

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 25 Speed
Hwy 126 W-O Fisher Rd

WB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	1	0	0	0	0	0	0	1	9	21	23	6	0	0	61	65	67
01:00	0	0	0	0	0	0	2	2	2	13	6	5	2	0	32	67	70
02:00	1	0	0	0	0	0	1	1	3	6	9	2	0	**1**	24	64	67
03:00	2	0	0	0	0	0	0	0	1	6	10	5	1	0	25	67	70
04:00	3	0	0	0	1	1	1	1	4	13	12	5	1	0	42	65	69
05:00	8	0	0	0	1	1	5	8	5	20	25	**11**	**3**	1	88	66	70
06:00	14	0	0	0	0	5	11	7	7	66	25	7	3	1	146	63	67
07:00	**31**	0	**2**	0	0	3	17	20	39	86	38	8	0	0	244	62	65
08:00	30	0	0	**2**	0	**8**	14	**22**	55	94	59	4	2	0	290	62	65
09:00	26	0	0	0	2	5	10	14	**89**	136	57	5	0	1	345	61	64
10:00	13	0	0	0	**3**	3	7	16	81	155	51	5	1	0	335	61	64
11:00	26	**1**	0	1	2	5	**20**	17	72	**178**	**65**	9	2	0	**398**	62	65
12 PM	33	1	0	0	1	7	16	37	126	207	55	4	1	0	488	60	64
13:00	29	1	2	2	1	6	27	46	101	214	84	6	0	0	519	61	64
14:00	30	2	3	4	0	**12**	21	42	141	205	81	5	0	0	546	61	64
15:00	39	4	**4**	4	**3**	11	**52**	91	189	290	51	5	0	0	743	60	62
16:00	38	0	4	**8**	3	12	40	81	221	356	91	7	0	0	861	60	63
17:00	**52**	**5**	2	5	1	9	26	**104**	**290**	**375**	108	6	1	0	**984**	60	63
18:00	28	0	1	0	1	6	28	37	77	315	112	19	**2**	0	626	62	65
19:00	11	0	3	0	0	2	15	22	50	165	**120**	**23**	1	0	412	64	66
20:00	8	1	2	1	0	1	19	22	32	105	80	14	0	0	285	64	65
21:00	9	0	0	0	1	9	13	26	49	95	33	8	0	1	244	61	65
22:00	4	0	0	0	1	4	5	9	34	79	25	4	0	0	165	61	65
23:00	3	0	0	0	0	3	5	4	22	43	22	2	0	**2**	106	62	65
Total	439	15	23	27	21	113	355	630	1699	3243	1242	175	20	7	8009		
Percent	5.5%	0.2%	0.3%	0.3%	0.3%	1.4%	4.4%	7.9%	21.2%	40.5%	15.5%	2.2%	0.2%	0.1%			
AM Peak	07:00	11:00	07:00	08:00	10:00	08:00	11:00	08:00	09:00	11:00	11:00	05:00	05:00	02:00	11:00		
Vol.	31	1	2	2	3	8	20	22	89	178	65	11	3	1	398		
PM Peak	17:00	17:00	15:00	16:00	15:00	14:00	15:00	17:00	17:00	17:00	19:00	19:00	18:00	23:00	17:00		
Vol.	52	5	4	8	3	12	52	104	290	375	120	23	2	2	984		
Grand Total	439	15	23	27	21	113	355	630	1699	3243	1242	175	20	7	8009		
Percent	5.5%	0.2%	0.3%	0.3%	0.3%	1.4%	4.4%	7.9%	21.2%	40.5%	15.5%	2.2%	0.2%	0.1%			

	15th Percentile :	47 MPH
	50th Percentile :	57 MPH
	85th Percentile :	61 MPH
	95th Percentile :	65 MPH
Statistics	10 MPH Pace Speed :	51-60 MPH
	Number in Pace :	4942
	Percent in Pace :	61.7%
	Number of Vehicles > 55 MPH :	4687
	Percent of Vehicles > 55 MPH :	58.5%
	Mean Speed(Average) :	53 MPH

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 27 Class
Hwy 126 W-O Green Hill Rd

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
6/2/11	0	23	3	1	3	0	0	0	0	1	0	0	0	0	31
01:00	0	12	5	0	1	0	0	0	0	0	0	0	1	0	19
02:00	2	17	5	1	1	0	0	0	1	0	0	0	0	0	27
03:00	1	28	9	0	5	1	0	1	0	1	0	0	0	0	46
04:00	1	54	19	0	2	1	0	1	1	0	0	0	0	0	79
05:00	5	147	53	0	18	1	0	0	0	2	0	0	1	0	227
06:00	8	306	126	1	52	6	0	4	2	1	0	0	1	0	507
07:00	10	637	171	2	49	16	0	5	2	2	0	1	2	0	897
08:00	6	455	115	3	31	6	0	7	2	0	0	0	0	0	625
09:00	9	335	101	5	23	8	1	8	2	1	0	0	2	0	495
10:00	5	321	119	6	28	12	0	8	3	1	0	0	0	0	503
11:00	7	297	95	5	30	10	0	4	6	2	0	0	0	0	456
12 PM	3	309	97	5	29	9	1	11	6	2	0	0	1	0	473
13:00	9	278	81	7	28	10	1	9	3	3	0	0	2	0	431
14:00	5	276	99	3	34	23	0	17	5	1	0	0	2	0	465
15:00	3	293	87	4	28	12	0	11	2	0	0	0	0	0	440
16:00	6	266	86	6	30	19	1	9	2	0	0	0	2	0	427
17:00	7	255	68	3	20	10	1	5	2	1	1	0	1	0	374
18:00	8	200	58	6	14	4	0	2	2	0	0	0	2	0	296
19:00	1	144	35	2	6	3	0	3	0	1	0	0	2	0	197
20:00	0	115	27	2	12	2	0	0	0	0	0	0	2	0	160
21:00	1	89	24	0	4	2	0	1	0	1	0	1	2	0	125
22:00	0	74	17	1	4	0	0	1	0	0	0	0	0	0	97
23:00	0	38	11	0	4	1	0	1	3	0	0	1	0	0	59
Total	97	4969	1511	63	456	156	5	108	44	20	1	3	23	0	7456
Percent	1.3%	66.6%	20.3%	0.8%	6.1%	2.1%	0.1%	1.4%	0.6%	0.3%	0.0%	0.0%	0.3%	0.0%	
AM Peak	07:00	07:00	07:00	10:00	06:00	07:00	09:00	09:00	11:00	05:00		07:00	07:00		
Vol.	10	637	171	6	52	16	1	8	6	2		1	2		
PM Peak	13:00	12:00	14:00	13:00	14:00	14:00	12:00	14:00	12:00	13:00	17:00	21:00	13:00		
Vol.	9	309	99	7	34	23	1	17	6	3	1	1	2		
Grand Total	97	4969	1511	63	456	156	5	108	44	20	1	3	23	0	7456
Percent	1.3%	66.6%	20.3%	0.8%	6.1%	2.1%	0.1%	1.4%	0.6%	0.3%	0.0%	0.0%	0.3%	0.0%	

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 27 Class
Hwy 126 W-O Green Hill Rd

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
6/2/11	1	42	13	0	0	0	0	0	0	1	0	0	1	0	58
01:00	0	19	6	0	0	0	0	0	1	0	0	0	0	0	26
02:00	0	17	4	0	2	0	0	0	1	0	0	0	0	0	24
03:00	0	13	9	0	2	0	0	2	0	1	0	0	0	0	27
04:00	0	22	6	1	5	0	0	1	4	0	0	0	0	0	39
05:00	1	51	12	0	6	0	0	8	0	1	0	0	2	0	81
06:00	3	69	32	4	7	1	0	2	5	3	0	0	0	0	126
07:00	7	130	41	1	12	2	0	1	3	2	0	0	0	0	199
08:00	9	168	45	5	25	2	0	3	2	4	0	0	1	0	264
09:00	9	195	77	7	21	2	1	8	5	1	0	0	1	0	327
10:00	4	221	68	1	20	2	0	6	1	2	0	1	2	0	328
11:00	5	252	85	2	19	1	0	7	7	3	0	0	0	0	381
12 PM	8	296	94	1	32	2	0	13	4	1	0	0	1	0	452
13:00	13	308	81	8	35	2	0	6	2	3	0	0	0	0	458
14:00	8	360	89	2	32	3	0	7	4	2	0	0	0	0	507
15:00	9	451	137	5	44	3	0	3	2	1	0	0	0	0	655
16:00	6	570	144	2	48	2	0	8	2	2	0	0	0	0	784
17:00	2	692	152	2	39	4	0	5	1	0	0	0	1	0	898
18:00	5	407	95	0	27	1	1	4	2	2	0	0	0	0	544
19:00	2	266	53	1	29	4	0	4	2	1	0	1	1	0	364
20:00	1	190	49	0	9	0	0	1	2	0	0	0	1	0	253
21:00	0	150	39	1	13	0	1	5	1	1	0	0	1	0	212
22:00	0	102	30	0	6	0	0	2	1	1	0	0	3	0	145
23:00	1	73	14	1	6	0	0	1	2	1	0	0	2	0	101
Total	94	5064	1375	44	439	31	3	97	54	33	0	2	17	0	7253
Percent	1.3%	69.8%	19.0%	0.6%	6.1%	0.4%	0.0%	1.3%	0.7%	0.5%	0.0%	0.0%	0.2%	0.0%	
AM Peak	08:00	11:00	11:00	09:00	08:00	07:00	09:00	05:00	11:00	08:00		10:00	05:00		
Vol.	9	252	85	7	25	2	1	8	7	4		1	2		
PM Peak	13:00	17:00	17:00	13:00	16:00	17:00	18:00	12:00	12:00	13:00		19:00	22:00		
Vol.	13	692	152	8	48	4	1	13	4	3		1	3		
Grand Total	94	5064	1375	44	439	31	3	97	54	33	0	2	17	0	7253
Percent	1.3%	69.8%	19.0%	0.6%	6.1%	0.4%	0.0%	1.3%	0.7%	0.5%	0.0%	0.0%	0.2%	0.0%	

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 27 Speed
Hwy 126 W-O Green Hill Rd

EB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	4	0	0	0	0	0	11	7	5	4	0	0	0	0	31	54	57
01:00	1	0	0	0	0	0	4	8	3	3	0	0	0	0	19	55	57
02:00	2	1	0	0	1	1	5	10	3	2	2	0	0	0	27	53	61
03:00	2	0	0	0	1	1	7	16	15	3	1	0	0	0	46	54	57
04:00	3	0	0	0	0	1	4	20	29	18	4	0	0	0	79	58	60
05:00	17	0	0	0	0	2	8	37	100	**51**	**10**	**1**	0	**1**	227	58	61
06:00	12	1	0	2	8	10	68	162	**207**	34	3	0	0	0	507	55	57
07:00	11	1	**1**	**8**	**56**	**88**	**273**	**307**	147	4	0	1	0	0	**897**	51	54
08:00	**19**	0	1	0	14	14	157	267	142	9	2	0	0	0	625	53	55
09:00	7	0	0	1	9	13	107	162	178	18	0	0	0	0	495	54	55
10:00	11	**2**	0	2	14	26	124	171	130	20	1	1	**1**	0	503	53	55
11:00	14	1	1	2	12	18	84	162	143	19	0	0	0	0	456	54	55
12 PM	**12**	**2**	1	0	5	15	93	**196**	133	15	1	0	0	0	**473**	53	55
13:00	9	1	0	1	3	**18**	55	182	149	11	2	0	0	0	431	54	55
14:00	8	0	**2**	**2**	**20**	15	**134**	152	123	8	0	0	0	**1**	465	53	55
15:00	11	1	0	2	13	15	86	166	137	8	1	0	0	0	440	53	55
16:00	8	0	0	1	5	7	60	171	**156**	16	2	**1**	0	0	427	54	55
17:00	12	2	0	0	9	17	80	121	120	12	1	0	0	0	374	54	55
18:00	7	0	1	2	2	6	36	102	110	**27**	**3**	0	0	0	296	55	58
19:00	9	0	1	0	0	2	23	55	86	16	3	1	0	1	197	55	59
20:00	6	0	0	0	1	0	14	51	68	19	1	0	0	0	160	55	58
21:00	4	0	0	1	0	5	15	44	49	5	2	0	0	0	125	54	56
22:00	2	0	0	0	0	1	24	30	34	6	0	0	0	0	97	54	56
23:00	1	0	0	0	0	3	8	24	20	3	0	0	0	0	59	54	55
Total	192	12	8	24	173	278	1480	2623	2287	331	39	5	1	3	7456		
Percent	2.6%	0.2%	0.1%	0.3%	2.3%	3.7%	19.8%	35.2%	30.7%	4.4%	0.5%	0.1%	0.0%	0.0%			
AM Peak	08:00	10:00	07:00	07:00	07:00	07:00	07:00	07:00	06:00	05:00	05:00	05:00	10:00	05:00	07:00		
Vol.	19	2	1	8	56	88	273	307	207	51	10	1	1	1	897		
PM Peak	12:00	12:00	14:00	14:00	14:00	13:00	14:00	12:00	16:00	18:00	18:00	16:00		14:00	12:00		
Vol.	12	2	2	2	20	18	134	196	156	27	3	1		1	473		
Grand Total	192	12	8	24	173	278	1480	2623	2287	331	39	5	1	3	7456		
Percent	2.6%	0.2%	0.1%	0.3%	2.3%	3.7%	19.8%	35.2%	30.7%	4.4%	0.5%	0.1%	0.0%	0.0%			

15th Percentile :	42 MPH
50th Percentile :	48 MPH
85th Percentile :	54 MPH
95th Percentile :	56 MPH

Statistics

10 MPH Pace Speed :	46-55 MPH
Number in Pace :	4910
Percent in Pace :	65.9%
Number of Vehicles > 55 MPH :	379
Percent of Vehicles > 55 MPH :	5.1%
Mean Speed(Average) :	47 MPH

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 27 Speed
Hwy 126 W-O Green Hill Rd

WB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	1	0	0	0	0	3	15	22	13	4	0	0	0	0	58	53	56
01:00	1	0	0	0	0	0	3	11	6	5	0	0	0	0	26	56	59
02:00	2	0	0	0	0	0	6	6	7	1	2	0	0	0	24	54	61
03:00	2	0	0	1	0	1	6	9	5	3	0	0	0	0	27	54	57
04:00	3	0	0	0	0	4	5	9	11	6	1	0	0	0	39	56	59
05:00	8	0	0	0	0	0	5	20	26	16	**5**	1	0	0	81	58	62
06:00	6	0	**1**	1	1	1	23	24	39	24	5	0	**1**	0	126	58	60
07:00	**13**	**2**	1	0	6	5	36	61	40	33	2	0	0	0	199	56	59
08:00	11	0	1	**4**	2	12	40	108	60	23	2	0	1	0	264	54	58
09:00	8	1	0	0	6	13	74	123	77	22	3	0	0	0	327	54	57
10:00	6	0	0	0	1	19	**85**	113	62	36	3	**2**	0	**1**	328	55	59
11:00	8	0	1	0	**7**	**34**	61	**129**	**85**	**52**	3	0	0	1	**381**	55	59
12 PM	**18**	0	0	3	1	15	103	182	96	30	3	1	0	0	452	54	57
13:00	10	1	**2**	0	0	20	98	175	112	38	2	0	0	0	458	54	58
14:00	5	**2**	0	0	7	26	139	156	103	68	1	0	0	0	507	55	59
15:00	10	0	0	1	7	46	161	221	149	60	0	0	0	0	655	54	58
16:00	7	0	1	**12**	**25**	52	211	271	144	55	1	**2**	2	**1**	784	53	57
17:00	9	1	1	1	12	**96**	**225**	**346**	165	37	2	0	**3**	0	**898**	53	55
18:00	3	0	0	0	6	16	97	161	**178**	73	8	1	1	0	544	56	59
19:00	6	1	0	1	2	5	24	78	128	**103**	**16**	0	0	0	364	59	60
20:00	0	0	1	0	0	4	27	64	92	57	6	1	0	1	253	58	60
21:00	1	0	0	0	0	6	30	72	72	28	3	0	0	0	212	55	59
22:00	2	0	0	0	0	5	5	38	61	29	5	0	0	0	145	57	60
23:00	1	0	0	0	0	4	19	38	27	12	0	0	0	0	101	55	58
Total	141	8	9	24	83	387	1498	2437	1758	815	73	8	8	4	7253		
Percent	1.9%	0.1%	0.1%	0.3%	1.1%	5.3%	20.7%	33.6%	24.2%	11.2%	1.0%	0.1%	0.1%	0.1%			
AM Peak	07:00	07:00	06:00	08:00	11:00	11:00	10:00	11:00	11:00	11:00	05:00	10:00	06:00	10:00	11:00		
Vol.	13	2	1	4	7	34	85	129	85	52	5	2	1	1	381		
PM Peak	12:00	14:00	13:00	16:00	16:00	17:00	17:00	17:00	18:00	19:00	19:00	16:00	17:00	16:00	17:00		
Vol.	18	2	2	12	25	96	225	346	178	103	16	2	3	1	898		
Grand Total	141	8	9	24	83	387	1498	2437	1758	815	73	8	8	4	7253		
Percent	1.9%	0.1%	0.1%	0.3%	1.1%	5.3%	20.7%	33.6%	24.2%	11.2%	1.0%	0.1%	0.1%	0.1%			

	15th Percentile :	42 MPH
	50th Percentile :	49 MPH
	85th Percentile :	55 MPH
	95th Percentile :	59 MPH
Statistics	10 MPH Pace Speed :	46-55 MPH
	Number in Pace :	4195
	Percent in Pace :	57.8%
	Number of Vehicles > 55 MPH :	908
	Percent of Vehicles > 55 MPH :	12.5%
	Mean Speed(Average) :	48 MPH

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 25 Class
Hwy 126 W-O Ken Neilsen Rd

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
6/2/11	1	17	4	0	3	0	0	0	0	1	0	0	1	0	27
01:00	0	12	6	0	2	0	0	0	0	0	0	0	1	0	21
02:00	0	18	7	0	2	0	0	0	1	0	0	0	0	0	28
03:00	2	24	10	0	5	1	0	1	0	0	0	0	1	0	44
04:00	1	54	20	0	5	0	0	2	0	0	0	0	0	0	82
05:00	2	156	56	1	17	2	0	0	1	1	0	0	1	0	237
06:00	4	356	125	1	52	13	0	3	0	2	0	0	2	0	558
07:00	8	694	180	4	61	19	1	6	3	0	0	0	3	0	979
08:00	5	453	126	5	34	12	0	6	2	1	0	0	0	0	644
09:00	6	323	126	4	23	7	0	8	1	1	0	1	0	0	500
10:00	3	334	127	4	32	8	1	5	3	1	0	0	2	0	520
11:00	6	323	97	7	37	8	0	8	3	3	0	0	1	0	493
12 PM	2	298	112	4	35	9	1	10	6	1	0	0	0	0	478
13:00	7	286	90	7	33	8	0	7	3	1	0	0	1	0	443
14:00	5	295	115	5	35	10	1	17	3	2	0	1	2	0	491
15:00	1	286	92	5	36	5	0	10	2	2	0	0	0	0	439
16:00	2	264	102	6	33	10	0	6	0	2	0	0	1	0	426
17:00	3	231	90	2	27	9	1	5	0	1	1	0	0	0	370
18:00	1	188	66	4	15	6	0	2	1	1	0	0	0	0	284
19:00	0	128	41	4	10	0	0	3	0	2	0	0	0	0	188
20:00	3	99	34	2	12	2	0	0	0	0	1	0	2	0	155
21:00	1	86	22	0	6	0	0	1	2	1	1	1	1	0	122
22:00	2	69	19	3	8	0	0	0	0	1	0	0	0	0	102
23:00	0	30	11	1	7	1	0	0	1	2	0	0	1	0	54
Total	65	5024	1678	69	530	130	5	100	32	26	3	3	20	0	7685
Percent	0.8%	65.4%	21.8%	0.9%	6.9%	1.7%	0.1%	1.3%	0.4%	0.3%	0.0%	0.0%	0.3%	0.0%	
AM Peak	07:00	07:00	07:00	11:00	07:00	07:00	07:00	09:00	07:00	11:00		09:00	07:00		
Vol.	8	694	180	7	61	19	1	8	3	3		1	3		
PM Peak	13:00	12:00	14:00	13:00	15:00	14:00	12:00	14:00	12:00	14:00	17:00	14:00	14:00		
Vol.	7	298	115	7	36	10	1	17	6	2	1	1	2		
Grand Total	65	5024	1678	69	530	130	5	100	32	26	3	3	20	0	7685
Percent	0.8%	65.4%	21.8%	0.9%	6.9%	1.7%	0.1%	1.3%	0.4%	0.3%	0.0%	0.0%	0.3%	0.0%	

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 25 Class
Hwy 126 W-O Ken Neilsen Rd

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
6/2/11	0	31	18	0	6	1	0	1	1	1	0	0	1	0	60
01:00	1	17	8	1	1	0	0	1	0	0	0	0	1	0	30
02:00	0	13	5	0	3	0	0	0	1	0	0	0	0	0	22
03:00	0	15	9	0	4	0	0	2	0	0	0	0	0	0	30
04:00	2	16	10	1	6	0	0	1	3	0	0	0	0	0	39
05:00	1	37	16	4	13	0	0	5	0	0	0	0	0	0	76
06:00	0	68	41	7	12	1	0	1	4	1	0	0	0	0	135
07:00	2	115	57	4	24	3	0	2	2	1	0	0	1	0	211
08:00	4	137	67	10	37	6	0	6	1	2	0	0	2	0	272
09:00	5	144	102	11	46	2	0	12	3	0	0	0	2	0	327
10:00	1	190	105	4	31	2	0	5	1	0	0	0	0	0	339
11:00	5	180	132	6	43	3	0	15	0	0	0	0	0	0	384
12 PM	7	216	153	5	67	3	0	13	3	1	0	0	1	0	469
13:00	5	260	130	11	61	2	0	9	1	3	0	0	0	0	482
14:00	9	265	160	3	62	4	0	6	0	0	1	0	2	0	512
15:00	6	333	201	7	86	4	0	6	0	1	0	0	0	0	644
16:00	6	425	246	6	97	5	1	5	1	0	0	0	0	0	792
17:00	5	449	302	3	108	4	0	9	1	1	0	0	0	0	882
18:00	1	288	191	2	62	2	2	6	2	0	0	0	0	0	556
19:00	2	181	124	3	54	0	0	7	3	1	0	1	0	0	376
20:00	3	121	98	0	24	2	0	3	1	0	0	0	0	0	252
21:00	0	109	73	2	25	0	0	4	0	1	0	0	0	0	214
22:00	1	70	47	2	19	3	0	2	0	0	0	0	2	0	146
23:00	1	51	31	2	7	2	0	1	0	1	0	1	1	0	98
Total	67	3731	2326	94	898	49	3	122	28	14	1	2	13	0	7348
Percent	0.9%	50.8%	31.7%	1.3%	12.2%	0.7%	0.0%	1.7%	0.4%	0.2%	0.0%	0.0%	0.2%	0.0%	
AM Peak	09:00	10:00	11:00	09:00	09:00	08:00		11:00	06:00	08:00			08:00		
Vol.	5	190	132	11	46	6		15	4	2			2		
PM Peak	14:00	17:00	17:00	13:00	17:00	16:00	18:00	12:00	12:00	13:00	14:00	19:00	14:00		
Vol.	9	449	302	11	108	5	2	13	3	3	1	1	2		
Grand Total	67	3731	2326	94	898	49	3	122	28	14	1	2	13	0	7348
Percent	0.9%	50.8%	31.7%	1.3%	12.2%	0.7%	0.0%	1.7%	0.4%	0.2%	0.0%	0.0%	0.2%	0.0%	

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 25 Speed
Hwy 126 W-O Ken Neilsen Rd

EB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	2	0	0	0	0	0	0	2	7	14	0	1	1	0	27	59	70
01:00	3	0	0	0	0	0	0	1	2	8	5	2	0	0	21	64	66
02:00	3	0	0	0	0	0	1	6	5	7	4	1	0	1	28	62	66
03:00	3	0	0	0	0	1	0	3	14	11	8	4	0	0	44	63	67
04:00	2	0	0	0	0	2	0	0	13	43	14	**7**	0	1	82	64	67
05:00	9	0	0	0	0	6	0	5	56	102	51	2	**4**	**2**	237	63	65
06:00	11	0	0	0	4	21	5	12	134	312	55	4	0	0	558	60	63
07:00	7	**1**	**2**	0	**6**	**44**	7	**68**	**421**	**378**	38	5	2	0	**979**	59	60
08:00	5	1	1	0	2	15	1	24	223	311	**61**	0	0	0	644	60	63
09:00	**12**	0	1	0	0	10	7	17	165	249	38	1	0	0	500	60	62
10:00	9	0	0	0	5	16	**32**	54	190	179	32	3	0	0	520	59	62
11:00	11	0	0	**1**	5	5	4	30	170	218	45	3	0	1	493	60	63
12 PM	15	1	0	**1**	3	6	10	55	146	198	39	3	0	**1**	478	60	63
13:00	19	**3**	0	1	3	**10**	1	27	132	**207**	38	2	0	0	443	60	63
14:00	**20**	1	0	0	**4**	6	9	**70**	**164**	186	28	2	0	1	**491**	59	61
15:00	17	1	**1**	0	1	6	**11**	30	145	186	39	1	0	1	439	60	63
16:00	9	0	0	1	2	2	0	14	131	202	**58**	5	**1**	1	426	61	64
17:00	8	0	0	1	0	2	6	21	112	169	45	5	0	1	370	60	64
18:00	11	0	0	0	0	2	3	23	69	126	43	**6**	0	1	284	61	65
19:00	8	0	0	0	0	0	0	7	31	96	43	2	1	0	188	62	65
20:00	12	1	0	0	0	0	2	1	40	65	29	4	0	1	155	62	65
21:00	8	0	0	0	0	0	0	10	34	44	24	2	0	0	122	62	64
22:00	6	0	0	0	1	0	4	11	34	27	12	6	0	1	102	62	66
23:00	3	0	0	0	0	1	0	4	16	21	6	2	1	0	54	61	65
Total	213	9	5	5	36	155	103	495	2454	3359	755	73	10	13	7685		
Percent	2.8%	0.1%	0.1%	0.1%	0.5%	2.0%	1.3%	6.4%	31.9%	43.7%	9.8%	0.9%	0.1%	0.2%			
AM Peak	09:00	07:00	07:00	11:00	07:00	07:00	10:00	07:00	07:00	07:00	08:00	04:00	05:00	05:00	07:00		
Vol.	12	1	2	1	6	44	32	68	421	378	61	7	4	2	979		
PM Peak	14:00	13:00	15:00	12:00	14:00	13:00	15:00	14:00	14:00	13:00	16:00	18:00	16:00	12:00	14:00		
Vol.	20	3	1	1	4	10	11	70	164	207	58	6	1	1	491		
Grand Total	213	9	5	5	36	155	103	495	2454	3359	755	73	10	13	7685		
Percent	2.8%	0.1%	0.1%	0.1%	0.5%	2.0%	1.3%	6.4%	31.9%	43.7%	9.8%	0.9%	0.1%	0.2%			

	15th Percentile :	51 MPH
	50th Percentile :	56 MPH
	85th Percentile :	60 MPH
	95th Percentile :	64 MPH
Statistics	10 MPH Pace Speed :	51-60 MPH
	Number in Pace :	5813
	Percent in Pace :	75.6%
	Number of Vehicles > 55 MPH :	4210
	Percent of Vehicles > 55 MPH :	54.8%
	Mean Speed(Average) :	54 MPH

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

Site Code: 25 Speed
Hwy 126 W-O Ken Neilsen Rd

WB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
6/2/11	2	0	0	0	0	0	0	2	9	19	22	5	1	0	60	65	68
01:00	4	0	0	0	0	0	0	0	8	6	3	8	1	0	30	67	69
02:00	5	0	0	0	0	0	0	1	3	8	2	2	1	0	22	65	67
03:00	1	0	0	0	0	0	1	1	2	11	9	4	1	0	30	65	68
04:00	3	0	0	0	0	0	2	0	8	8	12	6	0	0	39	65	68
05:00	0	0	0	0	0	0	1	0	5	23	31	13	2	1	76	67	70
06:00	2	0	0	0	0	**2**	3	4	15	48	51	7	1	2	135	64	67
07:00	4	0	**3**	0	0	0	3	**11**	22	62	86	15	2	**3**	211	65	68
08:00	12	0	0	1	0	0	**7**	7	24	78	119	18	3	3	272	65	68
09:00	8	0	0	0	0	1	0	2	44	125	118	21	**6**	2	327	65	68
10:00	11	0	1	0	0	1	2	5	**55**	118	122	19	4	1	339	64	67
11:00	**15**	**1**	0	**3**	**1**	1	3	1	29	**143**	**140**	**39**	5	3	**384**	65	69
12 PM	9	0	1	**3**	0	1	2	10	45	171	182	40	4	1	469	65	68
13:00	**12**	**1**	0	0	0	1	0	5	47	170	195	46	4	1	482	65	68
14:00	8	0	1	0	**1**	2	3	11	59	181	208	33	3	2	512	65	67
15:00	7	0	**2**	0	1	1	4	24	111	260	209	21	2	2	644	64	65
16:00	6	0	0	2	1	2	**5**	18	110	318	287	36	6	1	792	64	66
17:00	9	0	2	0	0	**3**	1	**29**	**125**	**354**	**297**	56	5	1	**882**	64	67
18:00	9	0	0	0	0	1	0	0	20	203	226	81	**14**	2	556	66	70
19:00	1	0	1	0	0	0	0	1	13	97	158	**86**	13	**6**	376	68	70
20:00	2	0	0	0	0	0	0	3	10	56	111	55	12	3	252	68	71
21:00	0	0	0	0	0	0	4	3	25	71	79	26	6	0	214	65	69
22:00	1	0	0	0	0	0	1	4	21	46	59	12	1	1	146	65	68
23:00	1	0	0	1	0	0	0	2	7	29	45	10	0	3	98	65	69
Total	132	2	11	10	4	16	42	144	817	2605	2771	659	97	38	7348		
Percent	1.8%	0.0%	0.1%	0.1%	0.1%	0.2%	0.6%	2.0%	11.1%	35.5%	37.7%	9.0%	1.3%	0.5%			
AM Peak	11:00	11:00	07:00	11:00	11:00	06:00	08:00	07:00	10:00	11:00	11:00	11:00	09:00	07:00	11:00		
Vol.	15	1	3	3	1	2	7	11	55	143	140	39	6	3	384		
PM Peak	13:00	13:00	15:00	12:00	14:00	17:00	16:00	17:00	17:00	17:00	17:00	19:00	18:00	19:00	17:00		
Vol.	12	1	2	3	1	3	5	29	125	354	297	86	14	6	882		
Grand Total	132	2	11	10	4	16	42	144	817	2605	2771	659	97	38	7348		
Percent	1.8%	0.0%	0.1%	0.1%	0.1%	0.2%	0.6%	2.0%	11.1%	35.5%	37.7%	9.0%	1.3%	0.5%			

15th Percentile : 55 MPH
50th Percentile : 60 MPH
85th Percentile : 65 MPH
95th Percentile : 69 MPH

Statistics

10 MPH Pace Speed : 56-65 MPH
Number in Pace : 5376
Percent in Pace : 73.2%
Number of Vehicles > 55 MPH : 6170
Percent of Vehicles > 55 MPH : 84.0%
Mean Speed(Average) : 59 MPH

DKS Associates
TRANSPORTATION SOLUTIONS

Origin-Destination Surveys

Origin-Destination Survey Results (TTMATRIX_REPORT)

Travel Time Report Parameters

METHOD	ALL

Status of Station Pairs

	END STATION		
BEGIN STATION	*Site 1 - West of 8th*	*Site 2 - West of Green Hill*	*Site 3 - East of Ellmaker*
Site 1 - West of 8th		OK	OK
Site 2 - West of Green Hill	OK		OK
Site 3 - East of Ellmaker	OK	OK	

Mean Travel Time in Minutes

	END STATION		
BEGIN STATION	*Site 1 - West of 8th*	*Site 2 - West of Green Hill*	*Site 3 - East of Ellmaker*
Site 1 - West of 8th		11.25	3.96
Site 2 - West of Green Hill	11.98		7.51
Site 3 - East of Ellmaker	4.74	6.4	

All Measured Parameters

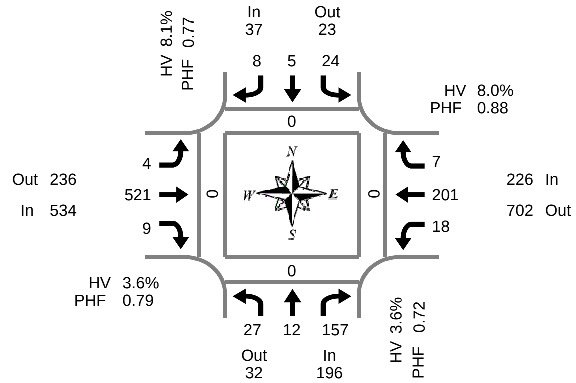
		END STATION		
BEGIN STATION		*Site 1 - West of 8th*	*Site 2 - West of Green Hill*	*Site 3 - East of Ellmaker*
Site 1 - West of 8th	count		338	380
	mean_minutes		11.25	3.96
	min_minutes		7.35	2.32
	max_minutes		77.22	25.25
	median_minutes		8.75	3.05
	PCT25_minutes		8.38	2.8
	PCT75_minutes		9.17	3.43
	PCT85_minutes		9.73	3.7
Site 2 - West of Green Hill	count	247		663
	mean_minutes	11.98		7.51
	min_minutes	7.53		4.63
	max_minutes	81.77		61
	median_minutes	8.92		5.68
	PCT25_minutes	8.48		5.5
	PCT75_minutes	9.55		5.9
	PCT85_minutes	12.17		6.08
Site 3 - East of Ellmaker	count	391	840	
	mean_minutes	4.74	6.4	
	min_minutes	2.27	4.6	
	max_minutes	28.02	57.57	
	median_minutes	3.15	5.6	
	PCT25_minutes	2.85	5.42	
	PCT75_minutes	3.59	5.78	
	PCT85_minutes	4.94	5.9	

A.M. Peak Hour Turn Movement Counts

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Huston Rd & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Huston Rd L	T	R	Bikes	Southbound Huston Rd L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	2	0	15	0	3	0	0	0	0	54	2	0	2	18	1	0	97	0	0	0	0
6:15 AM	0	0	27	0	2	0	1	0	1	68	3	0	2	19	1	0	124	0	0	0	0
6:30 AM	4	1	27	0	1	1	3	0	1	86	3	0	3	19	1	0	150	0	0	0	0
6:45 AM	5	0	29	0	3	1	6	0	1	98	2	0	1	28	0	0	174	0	0	0	0
7:00 AM	0	0	38	0	2	0	0	0	1	112	2	0	7	18	1	0	181	0	0	0	0
7:15 AM	5	4	44	0	7	1	0	0	1	129	2	0	7	37	0	0	237	0	0	0	0
7:30 AM	8	3	57	0	5	1	1	0	1	164	4	0	2	59	2	0	307	0	0	0	0
7:45 AM	8	2	30	0	6	2	4	0	0	119	0	0	6	46	3	0	226	0	0	0	0
8:00 AM	6	3	26	0	6	1	3	0	2	109	3	0	3	59	2	0	223	0	0	0	0
8:15 AM	4	1	22	0	5	1	1	0	0	123	1	0	9	47	2	0	216	0	0	0	0
8:30 AM	3	2	12	0	3	2	0	0	2	81	5	0	6	59	0	0	175	0	0	0	0
8:45 AM	2	3	12	0	2	1	2	0	1	88	0	0	13	76	2	0	202	0	0	0	0
Total Survey	47	19	339	0	45	11	21	0	11	1,231	27	0	61	485	15	0	2,312	0	0	0	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Huston Rd In	Out	Total	Bikes	Southbound Huston Rd In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total
Volume	196	32	228	0	37	23	60	0	534	236	770	0	226	702	928	0	993
%HV	3.6%				8.1%				3.6%				8.0%				4.7%
PHF	0.72				0.77				0.79				0.88				0.81

Pedestrians Crosswalk North	South	East	West
0	0	0	0

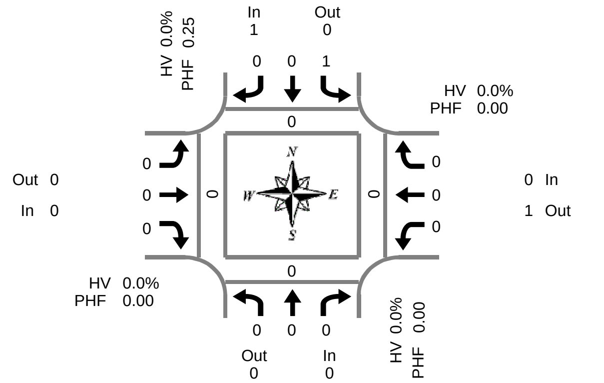
By Movement	Northbound Huston Rd L	T	R	Total	Southbound Huston Rd L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	27	12	157	196	24	5	8	37	4	521	9	534	18	201	7	226	993
%HV	3.7%	16.7%	2.5%	3.6%	8.3%	0.0%	12.5%	8.1%	25.0%	3.1%	22.2%	3.6%	11.1%	8.0%	0.0%	8.0%	4.7%
PHF	0.84	0.75	0.69	0.72	0.86	0.63	0.50	0.77	0.50	0.79	0.56	0.79	0.64	0.85	0.58	0.88	0.81

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Huston Rd L	T	R	Bikes	Southbound Huston Rd L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	11	1	98	0	9	2	10	0	3	306	10	0	8	84	3	0	545	0	0	0	0
6:15 AM	9	1	121	0	8	2	10	0	4	364	10	0	13	84	3	0	629	0	0	0	0
6:30 AM	14	5	138	0	13	3	9	0	4	425	9	0	18	102	2	0	742	0	0	0	0
6:45 AM	18	7	168	0	17	3	7	0	4	503	10	0	17	142	3	0	899	0	0	0	0
7:00 AM	21	9	169	0	20	4	5	0	3	524	8	0	22	160	6	0	951	0	0	0	0
7:15 AM	27	12	157	0	24	5	8	0	4	521	9	0	18	201	7	0	993	0	0	0	0
7:30 AM	26	9	135	0	22	5	9	0	3	515	8	0	20	211	9	0	972	0	0	0	0
7:45 AM	21	8	90	0	20	6	8	0	4	432	9	0	24	211	7	0	840	0	0	0	0
8:00 AM	15	9	72	0	16	5	6	0	5	401	9	0	31	241	6	0	816	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
6:45 AM to 7:45 AM

Driveway 1 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 1 L	T	R	Bikes	Southbound Driveway 1 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

Peak Hour Summary
6:45 AM to 7:45 AM

By Approach	Northbound Driveway 1 In	Out	Total	Bikes	Southbound Driveway 1 In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.00				0.00				0.25				

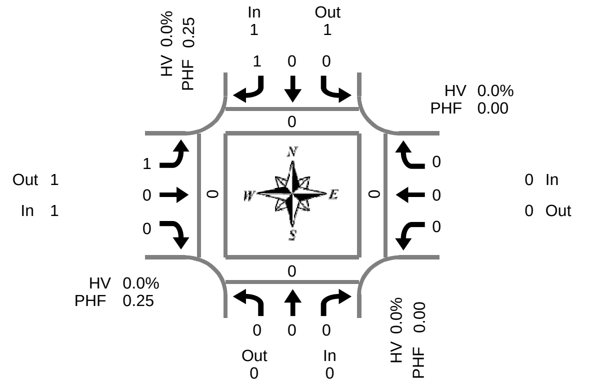
By Movement	Northbound Driveway 1 L	T	R	Total	Southbound Driveway 1 L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 1 L	T	R	Bikes	Southbound Driveway 1 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
8:00 AM to 9:00 AM

Driveway 2 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 2				Southbound Driveway 2				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Total Survey	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3	1	0	0	0

Peak Hour Summary
8:00 AM to 9:00 AM

By Approach	Northbound Driveway 2				Southbound Driveway 2				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	1	1	2	0	1	1	2	0	0	0	0	0	2	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.25				0.00				0.50				

By Movement	Northbound Driveway 2				Southbound Driveway 2				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	2
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.50

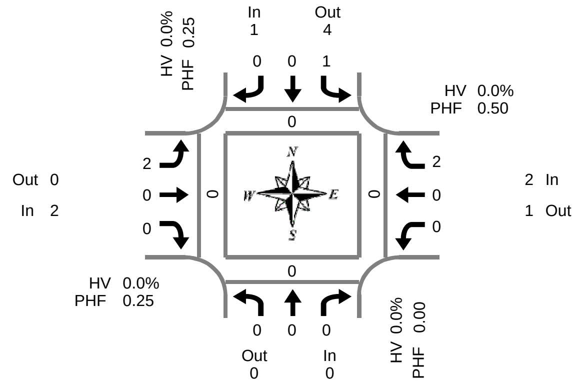
Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 2				Southbound Driveway 2				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
6:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
6:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
6:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
6:30 AM to 7:30 AM

Driveway 3 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 3 L	T	R	Bikes	Southbound Driveway 3 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	3	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
8:15 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	2	0	1	0	4	0	0	0	0	0	2	0	9	1	0	0	0

Peak Hour Summary
6:30 AM to 7:30 AM

By Approach	Northbound Driveway 3 In	Out	Total	Bikes	Southbound Driveway 3 In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	0	0	0	0	1	4	5	0	2	0	2	0	2	1	3	0	5	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.25				0.50				0.42				

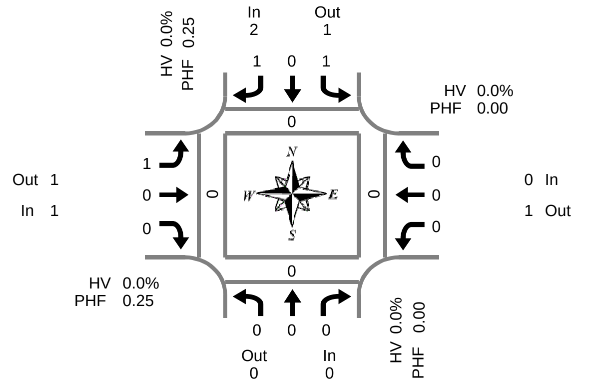
By Movement	Northbound Driveway 3 L	T	R	Total	Southbound Driveway 3 L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	1	0	0	1	2	0	0	2	0	0	2	2	5
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.25	0.00	0.00	0.25	0.00	0.00	0.50	0.50	0.42

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 3 L	T	R	Bikes	Southbound Driveway 3 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
6:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
6:30 AM	0	0	0	0	1	0	0	0	2	0	0	0	0	0	2	0	5	0	0	0	0
6:45 AM	0	0	0	0	1	0	0	0	2	0	0	0	0	0	2	0	5	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	0	2	0	0	0	0	0	2	0	5	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	5	0	0	0	0
7:30 AM	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	4	0	0	0	0
7:45 AM	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	4	0	0	0	0
8:00 AM	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	4	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:30 AM to 8:30 AM

Driveway 4 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 4				Southbound Driveway 4				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3	1	0	0	0

Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Driveway 4				Southbound Driveway 4				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	2	1	3	0	1	1	2	0	0	1	1	0	3	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.25				0.00				0.38				

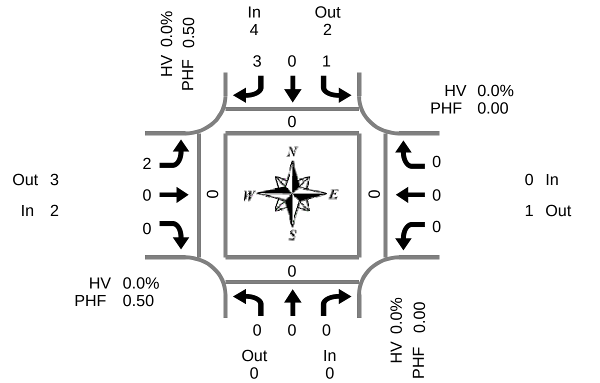
By Movement	Northbound Driveway 4				Southbound Driveway 4				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	1	0	1	2	1	0	0	1	0	0	0	0	3
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.25	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.38

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 4				Southbound Driveway 4				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
7:30 AM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3	0	0	0	0
7:45 AM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3	0	0	0	0
8:00 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
8:00 AM to 9:00 AM

Driveway 5 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 5 L	T	R	Bikes	Southbound Driveway 5 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Total Survey	0	0	0	0	1	0	3	0	4	0	0	0	0	0	0	0	8	0	0	0	1

Peak Hour Summary
8:00 AM to 9:00 AM

By Approach	Northbound Driveway 5 In	Out	Total	Bikes	Southbound Driveway 5 In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total
Volume	0	0	0	0	4	2	6	0	2	3	5	0	0	1	1	0	6
%HV	0.0%				0.0%				0.0%				0.0%				0.0%
PHF	0.00				0.50				0.50				0.00				0.50

Pedestrians Crosswalk North	South	East	West
0	0	0	0

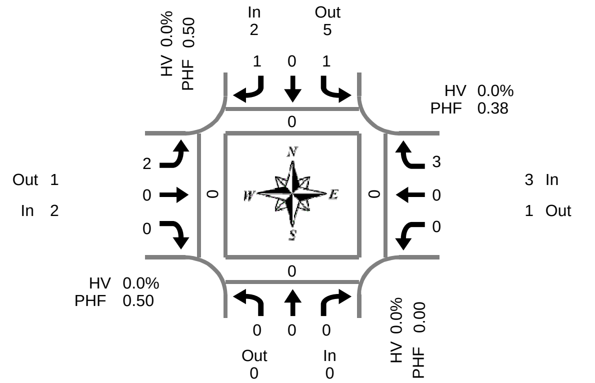
By Movement	Northbound Driveway 5 L	T	R	Total	Southbound Driveway 5 L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	1	0	3	4	2	0	0	2	0	0	0	0	6
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.38	0.50	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.50

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 5 L	T	R	Bikes	Southbound Driveway 5 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
7:30 AM	0	0	0	0	1	0	1	0	3	0	0	0	0	0	0	0	5	0	0	0	0
7:45 AM	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	4	0	0	0	0
8:00 AM	0	0	0	0	1	0	3	0	2	0	0	0	0	0	0	0	6	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
8:00 AM to 9:00 AM

Driveway 6 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 6				Southbound Driveway 6				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	4	0	0	0	0
Total Survey	0	0	0	0	1	0	1	0	2	0	0	0	0	0	3	0	7	0	0	0	1

Peak Hour Summary
8:00 AM to 9:00 AM

By Approach	Northbound Driveway 6				Southbound Driveway 6				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	2	5	7	0	2	1	3	0	3	1	4	0	7	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.50				0.50				0.38				0.44				

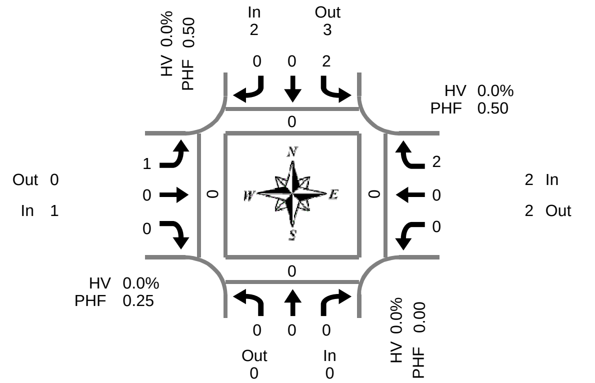
By Movement	Northbound Driveway 6				Southbound Driveway 6				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	1	0	1	2	2	0	0	2	0	0	3	3	7
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.50	0.50	0.00	0.00	0.50	0.00	0.00	0.38	0.38	0.44

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 6				Southbound Driveway 6				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	3	0	0	0	0
8:00 AM	0	0	0	0	1	0	1	0	2	0	0	0	0	0	3	0	7	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
8:00 AM to 9:00 AM

Driveway 7 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 7				Southbound Driveway 7				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
Total Survey	0	0	0	0	2	0	0	0	1	0	0	0	0	0	2	0	5	0	0	0	1

Peak Hour Summary
8:00 AM to 9:00 AM

By Approach	Northbound Driveway 7				Southbound Driveway 7				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	2	3	5	0	1	0	1	0	2	2	4	0	5	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.50				0.25				0.50				0.63				

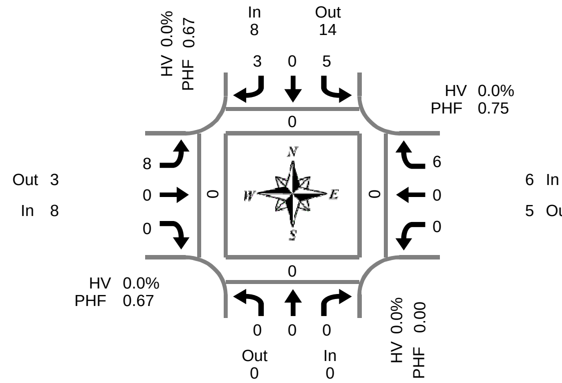
By Movement	Northbound Driveway 7				Southbound Driveway 7				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	2	0	0	2	1	0	0	1	0	0	2	2	5
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.50	0.25	0.00	0.00	0.25	0.00	0.00	0.50	0.50	0.63

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 7				Southbound Driveway 7				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	4	0	0	0	0
8:00 AM	0	0	0	0	2	0	0	0	1	0	0	0	0	0	2	0	5	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
8:00 AM to 9:00 AM

Driveway 8 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 8				Southbound Driveway 8				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
6:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	6	0	0	0	0
8:15 AM	0	0	0	0	1	0	2	0	3	0	0	0	0	0	2	0	8	0	0	0	0
8:30 AM	0	0	0	0	2	0	1	0	1	0	0	0	0	0	1	0	5	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3	0	0	0	0
Total Survey	0	0	0	0	6	0	3	0	8	0	0	0	0	0	9	0	26	0	0	0	1

Peak Hour Summary
8:00 AM to 9:00 AM

By Approach	Northbound Driveway 8				Southbound Driveway 8				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	8	14	22	0	8	3	11	0	6	5	11	0	22	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.67				0.67				0.75				0.69				

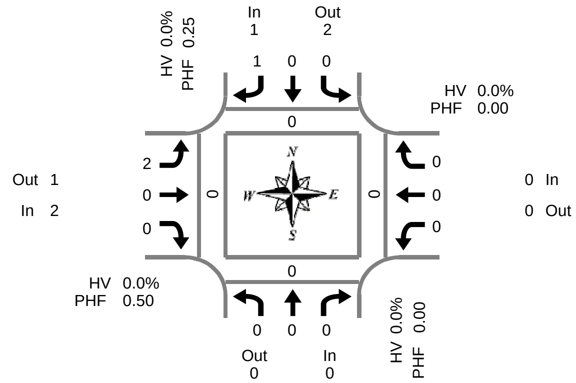
By Movement	Northbound Driveway 8				Southbound Driveway 8				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	5	0	3	8	8	0	0	8	0	0	6	6	22
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.63	0.00	0.38	0.67	0.67	0.00	0.00	0.67	0.00	0.00	0.75	0.75	0.69

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 8				Southbound Driveway 8				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	4	0	0	0	1
6:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	4	0	0	0	0
6:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	6	0	0	0	0
7:30 AM	0	0	0	0	3	0	2	0	6	0	0	0	0	0	3	0	14	0	0	0	0
7:45 AM	0	0	0	0	5	0	3	0	7	0	0	0	0	0	4	0	19	0	0	0	0
8:00 AM	0	0	0	0	5	0	3	0	8	0	0	0	0	0	6	0	22	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:30 AM to 8:30 AM

Driveway 9 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 9				Southbound Driveway 9				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	0	0	0	1

Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Driveway 9				Southbound Driveway 9				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	1	2	3	0	2	1	3	0	0	0	0	0	3	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.50				0.00				0.75				

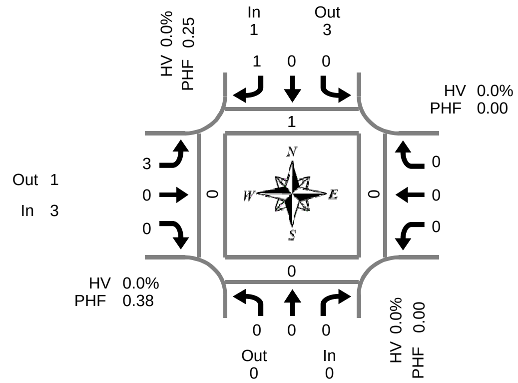
By Movement	Northbound Driveway 9				Southbound Driveway 9				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	0	0	1	1	2	0	0	2	0	0	0	0	3
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.75

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 9				Southbound Driveway 9				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Driveway 10 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 10 L	T	R	Bikes	Southbound Driveway 10 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
Total Survey	0	0	0	0	0	0	1	0	6	0	0	0	0	0	0	0	7	1	1	0	0

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Driveway 10 In	Out	Total	Bikes	Southbound Driveway 10 In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	0	0	0	0	1	3	4	0	3	1	4	0	0	0	0	0	4	1	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.38				0.00				0.50				

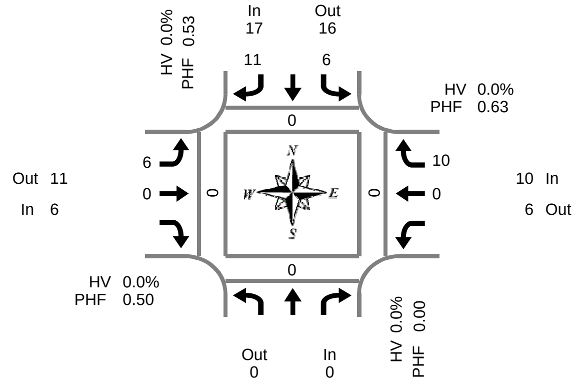
By Movement	Northbound Driveway 10 L	T	R	Total	Southbound Driveway 10 L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	0	0	1	1	3	0	0	3	0	0	0	0	4
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.38	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.50

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 10 L	T	R	Bikes	Southbound Driveway 10 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
6:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
6:30 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	1	0	0	0
6:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	1	0	0	0
7:00 AM	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	4	1	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:45 AM to 8:45 AM

Driveway 11 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 11				Southbound Driveway 11				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	0		0	0	0	0		0		0	0	0	0	0	1	0	0
6:15 AM				0	0		0	0	0	0		0		0	0	0	0	0	0	0	0
6:30 AM				0	0		0	0	0	0		0		0	0	0	0	0	0	0	0
6:45 AM				0	0		0	0	2	0		0		0	4	0	6	0	0	0	0
7:00 AM				0	0		1	0	2	0		0		0	1	0	4	0	0	0	0
7:15 AM				0	0		0	0	0	0		0		0	1	0	1	1	0	0	0
7:30 AM				0	0		0	0	0	0		0		0	1	0	1	0	0	0	0
7:45 AM				0	1		2	0	1	0		0		0	4	0	8	0	0	0	0
8:00 AM				0	2		6	0	3	0		0		0	4	0	15	0	0	0	0
8:15 AM				0	1		1	0	2	0		0		0	0	0	4	0	0	0	0
8:30 AM				0	2		2	0	0	0		0		0	2	0	6	0	0	0	0
8:45 AM				0	0		1	0	1	0		0		0	2	0	4	0	0	0	0
Total Survey				0	6		13	0	11	0		0		0	19	0	49	1	1	0	0

Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Driveway 11				Southbound Driveway 11				Eastbound Hwy 126				Westbound Hwy 126				Total
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	
Volume	0	0	0	0	17	16	33	0	6	11	17	0	10	6	16	0	33
%HV	0.0%				0.0%				0.0%				0.0%				0.0%
PHF	0.00				0.53				0.50				0.63				0.55

Pedestrians Crosswalk			
North	South	East	West
0	0	0	0

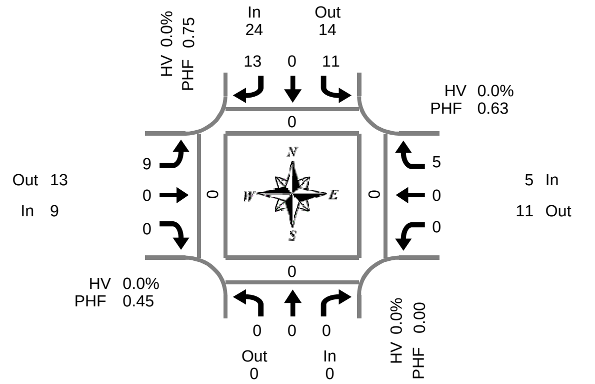
By Movement	Northbound Driveway 11				Southbound Driveway 11				Eastbound Hwy 126				Westbound Hwy 126				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	6		11	17	6	0		6		0	10	10	33
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	0.0%	NA	0.0%	NA	0.0%	0.0%	0.0%	0.0%
PHF				0.00	0.75		0.46	0.53	0.50	0.00		0.50		0.00	0.63	0.63	0.55

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 11				Southbound Driveway 11				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	0		0	0	2	0		0		0	4	0	6	0	1	0	0
6:15 AM				0	0		1	0	4	0		0		0	5	0	10	0	0	0	0
6:30 AM				0	0		1	0	4	0		0		0	6	0	11	1	0	0	0
6:45 AM				0	0		1	0	4	0		0		0	7	0	12	1	0	0	0
7:00 AM				0	1		3	0	3	0		0		0	7	0	14	1	0	0	0
7:15 AM				0	3		8	0	4	0		0		0	10	0	25	1	0	0	0
7:30 AM				0	4		9	0	6	0		0		0	9	0	28	0	0	0	0
7:45 AM				0	6		11	0	6	0		0		0	10	0	33	0	0	0	0
8:00 AM				0	5		10	0	6	0		0		0	8	0	29	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:30 AM to 8:30 AM

Driveway 12 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 12 L	T	R	Bikes	Southbound Driveway 12 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	2	0	0	0	5	0	0	0	0	0	1	0	8	1	0	0	0
6:15 AM	0	0	0	0	3	0	1	0	1	0	0	0	0	0	1	0	6	0	0	0	0
6:30 AM	0	0	0	0	1	0	2	0	3	0	0	0	0	0	1	0	7	0	0	0	0
6:45 AM	0	0	0	0	0	0	2	0	4	0	0	0	0	0	1	0	7	0	0	0	0
7:00 AM	0	0	0	0	1	0	2	0	2	0	0	0	0	0	1	0	6	0	0	0	0
7:15 AM	0	0	0	0	1	0	4	0	2	0	0	0	0	0	0	0	7	0	0	0	0
7:30 AM	0	0	0	0	5	0	2	0	3	0	0	0	0	0	0	0	10	0	0	0	0
7:45 AM	0	0	0	0	3	0	5	0	1	0	0	0	0	0	1	0	10	0	0	0	0
8:00 AM	0	0	0	0	1	0	5	0	0	0	0	0	0	0	2	0	8	0	0	0	0
8:15 AM	0	0	0	0	2	0	1	0	5	0	0	0	0	0	2	0	10	0	0	0	0
8:30 AM	0	0	0	0	1	0	1	0	2	0	0	0	0	0	1	0	5	0	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0
Total Survey	0	0	0	0	21	0	25	0	29	0	0	0	0	0	12	0	87	1	0	0	0

Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Driveway 12 In	Out	Total	Bikes	Southbound Driveway 12 In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	0	0	0	0	24	14	38	0	9	13	22	0	5	11	16	0	38	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.75				0.45				0.63				0.95				

By Movement	Northbound Driveway 12 L	T	R	Total	Southbound Driveway 12 L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	11	0	13	24	9	0	0	9	0	0	5	5	38
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.55	0.00	0.65	0.75	0.45	0.00	0.00	0.45	0.00	0.00	0.63	0.63	0.95

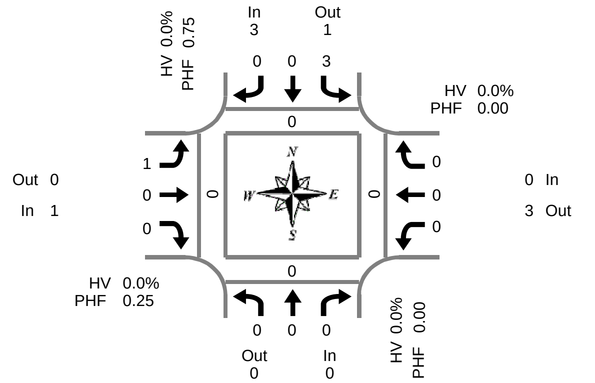
Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 12 L	T	R	Bikes	Southbound Driveway 12 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	6	0	5	0	13	0	0	0	0	0	4	0	28	1	0	0	0
6:15 AM	0	0	0	0	5	0	7	0	10	0	0	0	0	0	4	0	26	0	0	0	0
6:30 AM	0	0	0	0	3	0	10	0	11	0	0	0	0	0	3	0	27	0	0	0	0
6:45 AM	0	0	0	0	7	0	10	0	11	0	0	0	0	0	2	0	30	0	0	0	0
7:00 AM	0	0	0	0	10	0	13	0	8	0	0	0	0	0	2	0	33	0	0	0	0
7:15 AM	0	0	0	0	10	0	16	0	6	0	0	0	0	0	3	0	35	0	0	0	0
7:30 AM	0	0	0	0	11	0	13	0	9	0	0	0	0	0	5	0	38	0	0	0	0
7:45 AM	0	0	0	0	7	0	12	0	8	0	0	0	0	0	6	0	33	0	0	0	0
8:00 AM	0	0	0	0	5	0	7	0	8	0	0	0	0	0	6	0	26	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
7:30 AM to 8:30 AM

Driveway 13 & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 13				Southbound Driveway 13				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	4	0	0	0	2	0	0	0	0	0	1	0	7	1	0	0	0

Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Driveway 13				Southbound Driveway 13				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	3	1	4	0	1	0	1	0	0	3	3	0	4	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.75				0.25				0.00				0.50				

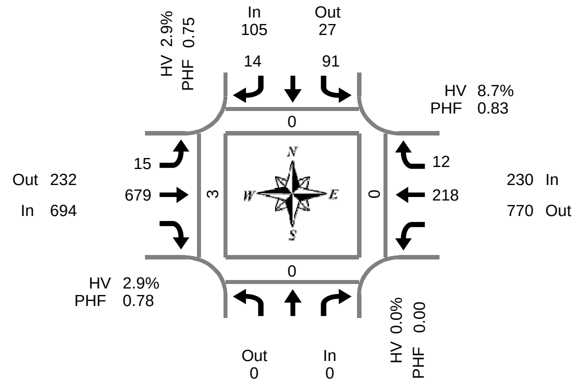
By Movement	Northbound Driveway 13				Southbound Driveway 13				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	3	0	0	3	1	0	0	1	0	0	0	0	4
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.75	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.50

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Driveway 13				Southbound Driveway 13				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	1	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0
7:30 AM	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0
7:45 AM	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0
8:00 AM	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Ellmaker Rd & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Ellmaker Rd				Southbound Ellmaker Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes	
6:00 AM				0	12		2	0	0	68		0		22	1	0	105
6:15 AM				0	23		3	0	1	100		0		21	2	0	150
6:30 AM				0	21		2	0	2	115		0		25	2	0	167
6:45 AM				0	21		4	0	1	124		0		28	1	0	179
7:00 AM				0	25		2	0	3	150		0		23	4	0	207
7:15 AM				0	30		5	0	4	177		0		49	1	0	266
7:30 AM				0	24		5	0	2	221		0		62	7	0	321
7:45 AM				0	18		2	0	4	144		0		52	2	0	222
8:00 AM				0	19		2	0	5	137		0		55	2	0	220
8:15 AM				0	17		3	0	2	138		0		61	7	0	228
8:30 AM				0	19		3	0	2	101		0		64	4	0	193
8:45 AM				0	9		12	0	4	89		0		72	7	0	193
Total Survey				0	238		45	0	30	1,564		0		534	40	0	2,451

Pedestrians Crosswalk			
North	South	East	West
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	3
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	3

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Ellmaker Rd				Southbound Ellmaker Rd				Eastbound Hwy 126				Westbound Hwy 126				Total
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	
Volume	0	0	0	0	105	27	132	0	694	232	926	0	230	770	1,000	0	1,029
%HV	0.0%				2.9%				2.9%				8.7%				4.2%
PHF	0.00				0.75				0.78				0.83				0.80

Pedestrians Crosswalk			
North	South	East	West
0	0	0	3

By Movement	Northbound Ellmaker Rd				Southbound Ellmaker Rd				Eastbound Hwy 126				Westbound Hwy 126				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	91		14	105	15	679		694		218	12	230	1,029
%HV	NA	NA	NA	0.0%	1.1%	NA	14.3%	2.9%	6.7%	2.8%	NA	2.9%	NA	8.7%	8.3%	8.7%	4.2%
PHF				0.00	0.76		0.70	0.75	0.75	0.77		0.78		0.88	0.43	0.83	0.80

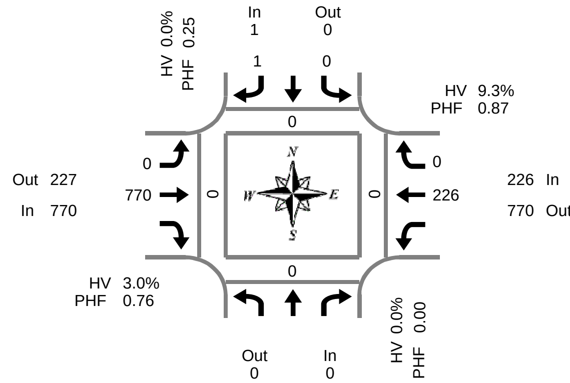
Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Ellmaker Rd				Southbound Ellmaker Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes	
6:00 AM				0	77		11	0	4	407		0		96	6	0	601
6:15 AM				0	90		11	0	7	489		0		97	9	0	703
6:30 AM				0	97		13	0	10	566		0		125	8	0	819
6:45 AM				0	100		16	0	10	672		0		162	13	0	973
7:00 AM				0	97		14	0	13	692		0		186	14	0	1,016
7:15 AM				0	91		14	0	15	679		0		218	12	0	1,029
7:30 AM				0	78		12	0	13	640		0		230	18	0	991
7:45 AM				0	73		10	0	13	520		0		232	15	0	863
8:00 AM				0	64		20	0	13	465		0		252	20	0	834

Pedestrians Crosswalk			
North	South	East	West
0	0	0	0
0	0	0	0
0	0	0	3
0	0	0	3
0	0	0	3
0	0	0	3
0	0	0	0
0	0	0	0
0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Shady Rest Dr & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Shady Rest Dr				Southbound Shady Rest Dr				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	0		0	0	0	82		0		21	0	0	103	0	0	0	0
6:15 AM				0	0		1	0	0	118		0		24	0	0	143	0	0	0	0
6:30 AM				0	0		0	0	0	136		0		28	0	0	164	0	0	0	0
6:45 AM				0	0		0	0	0	146		0		27	0	0	173	0	0	0	0
7:00 AM				0	0		0	0	0	170		0		28	0	0	198	0	0	0	0
7:15 AM				0	0		0	0	0	200		0		52	0	0	252	0	0	0	0
7:30 AM				0	0		0	0	0	254		0		65	0	0	319	0	0	0	0
7:45 AM				0	0		0	0	0	162		0		53	0	0	215	0	0	0	0
8:00 AM				0	0		1	0	0	154		0		56	0	0	211	0	0	0	0
8:15 AM				0	0		1	0	1	155		0		67	0	0	224	0	0	0	0
8:30 AM				0	1		0	0	0	123		0		68	0	0	192	0	0	0	0
8:45 AM				0	0		0	0	0	100		0		77	0	0	177	0	0	0	0
Total Survey				0	1		3	0	1	1,800		0		566	0	0	2,371	0	0	0	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Shady Rest Dr				Southbound Shady Rest Dr				Eastbound Hwy 126				Westbound Hwy 126				Total
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	
Volume	0	0	0	0	1	0	1	0	770	227	997	0	226	770	996	0	997
%HV	0.0%				0.0%				3.0%				9.3%				4.4%
PHF	0.00				0.25				0.76				0.87				0.78

Pedestrians Crosswalk			
North	South	East	West
0	0	0	0

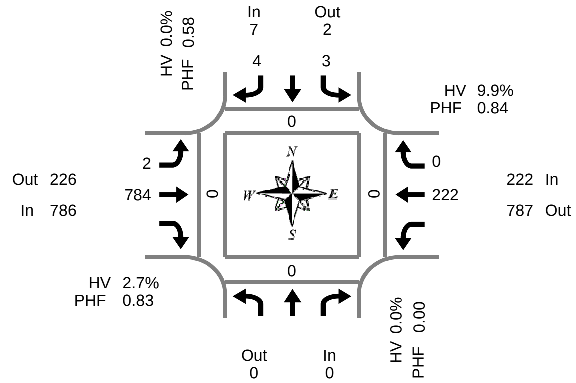
By Movement	Northbound Shady Rest Dr				Southbound Shady Rest Dr				Eastbound Hwy 126				Westbound Hwy 126				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		1	1	0	770		770		226	0	226	997
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	3.0%	NA	3.0%	NA	9.3%	0.0%	9.3%	4.4%
PHF				0.00	0.00		0.25	0.25	0.00	0.76		0.76		0.87	0.00	0.87	0.78

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Shady Rest Dr				Southbound Shady Rest Dr				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	0		1	0	0	482		0		100	0	0	583	0	0	0	0
6:15 AM				0	0		1	0	0	570		0		107	0	0	678	0	0	0	0
6:30 AM				0	0		0	0	0	652		0		135	0	0	787	0	0	0	0
6:45 AM				0	0		0	0	0	770		0		172	0	0	942	0	0	0	0
7:00 AM				0	0		0	0	0	786		0		198	0	0	984	0	0	0	0
7:15 AM				0	0		1	0	0	770		0		226	0	0	997	0	0	0	0
7:30 AM				0	0		2	0	1	725		0		241	0	0	969	0	0	0	0
7:45 AM				0	1		2	0	1	594		0		244	0	0	842	0	0	0	0
8:00 AM				0	1		2	0	1	532		0		268	0	0	804	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
_7:15 AM to 8:15 AM_

Lake Side Dr & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Lake Side Dr				Southbound Lake Side Dr				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	0		0	0	0	87		0		21	0	0	108	0	0	0	0
6:15 AM				0	0		0	0	0	114		0		25	1	0	140	0	0	0	0
6:30 AM				0	0		0	0	0	135		0		27	0	0	162	0	0	0	0
6:45 AM				0	1		0	0	0	133		0		28	0	0	162	0	0	0	0
7:00 AM				0	0		0	0	0	170		0		28	0	0	198	0	0	0	0
7:15 AM				0	2		1	0	1	211		0		49	0	0	264	0	0	0	0
7:30 AM				0	1		0	0	0	238		0		66	0	0	305	0	0	0	0
7:45 AM				0	0		2	0	0	178		0		53	0	0	233	0	0	0	0
8:00 AM				0	0		1	0	1	157		0		54	0	0	213	0	0	0	0
8:15 AM				0	0		0	0	1	149		0		62	0	0	212	0	0	0	0
8:30 AM				0	1		1	0	0	128		0		69	0	0	199	0	0	0	0
8:45 AM				0	0		0	0	0	102		0		78	0	0	180	0	0	0	0
Total Survey				0	5		5	0	3	1,802		0		560	1	0	2,376	0	0	0	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Lake Side Dr				Southbound Lake Side Dr				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	7	2	9	0	786	226	1,012	0	222	787	1,009	0	1,015	0	0	0	0
%HV	0.0%				0.0%				2.7%				9.9%				4.2%				
PHF	0.00				0.58				0.83				0.84				0.83				

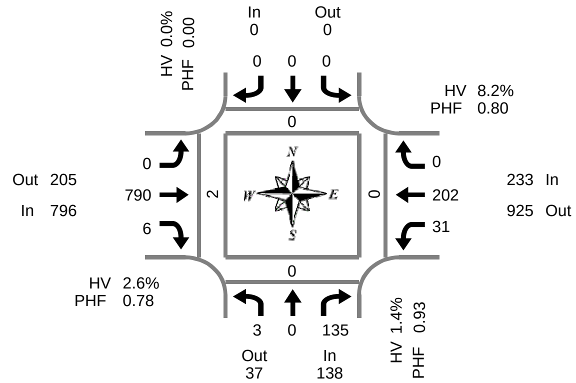
By Movement	Northbound Lake Side Dr				Southbound Lake Side Dr				Eastbound Hwy 126				Westbound Hwy 126				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	3		4	7	2	784		786		222	0	222	1,015
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	2.7%	NA	2.7%	NA	9.9%	0.0%	9.9%	4.2%
PHF				0.00	0.38		0.50	0.58	0.50	0.82		0.83		0.84	0.00	0.84	0.83

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Lake Side Dr				Southbound Lake Side Dr				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	1		0	0	0	469		0		101	1	0	572	0	0	0	0
6:15 AM				0	1		0	0	0	552		0		108	1	0	662	0	0	0	0
6:30 AM				0	3		1	0	1	649		0		132	0	0	786	0	0	0	0
6:45 AM				0	4		1	0	1	752		0		171	0	0	929	0	0	0	0
7:00 AM				0	3		3	0	1	797		0		196	0	0	1,000	0	0	0	0
7:15 AM				0	3		4	0	2	784		0		222	0	0	1,015	0	0	0	0
7:30 AM				0	1		3	0	2	722		0		235	0	0	963	0	0	0	0
7:45 AM				0	1		4	0	2	612		0		238	0	0	857	0	0	0	0
8:00 AM				0	1		2	0	2	536		0		263	0	0	804	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:00 AM to 8:00 AM

Central Rd & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Central Rd				Southbound Central Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	2	0	19	0	0	0	0	0	0	81	0	0	6	19	0	0	127	0	0	0	0
6:15 AM	1	0	17	0	0	0	0	0	0	116	1	0	8	22	0	0	165	0	0	0	0
6:30 AM	2	0	31	0	0	0	0	0	0	132	0	0	7	25	0	0	197	0	0	0	0
6:45 AM	0	0	32	0	0	0	0	0	0	136	2	0	14	28	0	0	212	0	0	0	0
7:00 AM	0	0	35	0	0	0	0	0	0	175	1	0	7	32	0	0	250	0	0	0	2
7:15 AM	0	0	37	0	0	0	0	0	0	198	4	0	8	50	0	0	297	0	0	0	0
7:30 AM	0	0	33	0	0	0	0	0	0	253	1	0	7	66	0	0	360	0	0	0	0
7:45 AM	3	0	30	0	0	0	0	0	0	164	0	0	9	54	0	0	260	0	0	0	0
8:00 AM	3	0	29	0	0	0	0	0	0	152	3	0	4	54	0	0	245	0	0	0	0
8:15 AM	2	0	20	0	0	0	0	0	0	152	3	0	7	62	0	0	246	0	0	0	0
8:30 AM	1	0	24	0	0	0	0	0	0	118	3	0	10	60	0	0	216	0	0	0	0
8:45 AM	4	0	21	0	0	0	0	0	1	104	0	0	4	77	0	0	211	0	0	0	0
Total Survey	18	0	328	0	0	0	0	0	1	1,781	18	0	91	549	0	0	2,786	0	0	0	2

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Central Rd				Southbound Central Rd				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	138	37	175	0	0	0	0	0	796	205	1,001	0	233	925	1,158	0	1,167	0	0	0	2
%HV	1.4%				0.0%				2.6%				8.2%				3.6%				
PHF	0.93				0.00				0.78				0.80				0.81				

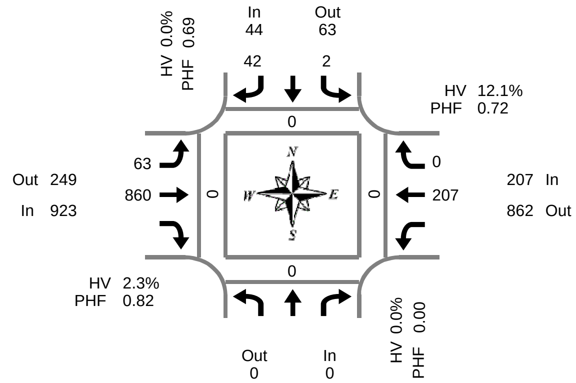
By Movement	Northbound Central Rd				Southbound Central Rd				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	3	0	135	138	0	0	0	0	0	790	6	796	31	202	0	233	1,167
%HV	0.0%	0.0%	1.5%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	16.7%	2.6%	3.2%	8.9%	0.0%	8.2%	3.6%
PHF	0.25	0.00	0.91	0.93	0.00	0.00	0.00	0.00	0.00	0.78	0.38	0.78	0.86	0.77	0.00	0.80	0.81

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Central Rd				Southbound Central Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
6:00 AM	5	0	99	0	0	0	0	0	0	465	3	0	35	94	0	0	701	0	0	0	0
6:15 AM	3	0	115	0	0	0	0	0	0	559	4	0	36	107	0	0	824	0	0	0	2
6:30 AM	2	0	135	0	0	0	0	0	0	641	7	0	36	135	0	0	956	0	0	0	2
6:45 AM	0	0	137	0	0	0	0	0	0	762	8	0	36	176	0	0	1,119	0	0	0	2
7:00 AM	3	0	135	0	0	0	0	0	0	790	6	0	31	202	0	0	1,167	0	0	0	2
7:15 AM	6	0	129	0	0	0	0	0	0	767	8	0	28	224	0	0	1,162	0	0	0	0
7:30 AM	8	0	112	0	0	0	0	0	0	721	7	0	27	236	0	0	1,111	0	0	0	0
7:45 AM	9	0	103	0	0	0	0	0	0	586	9	0	30	230	0	0	967	0	0	0	0
8:00 AM	10	0	94	0	0	0	0	0	1	526	9	0	25	253	0	0	918	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Fisher Rd & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	**Northbound** Fisher Rd				**Southbound** Fisher Rd				**Eastbound** Hwy 126				**Westbound** Hwy 126				**Interval Total**	**Pedestrians** Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	0		3	0	6	90		0		23	0	0	122	0	0	0	0
6:15 AM				0	0		7	0	13	113		0		21	0	0	154	0	0	0	0
6:30 AM				0	0		7	0	14	152		0		30	2	0	205	0	0	0	0
6:45 AM				0	0		7	0	14	147		0		35	2	0	205	0	0	0	0
7:00 AM				0	0		7	0	8	178		0		33	0	0	226	0	0	0	0
7:15 AM				0	2		11	0	17	237		0		47	0	0	314	0	0	0	0
7:30 AM				0	0		7	0	24	259		0		72	0	0	362	0	0	0	0
7:45 AM				0	0		16	0	11	195		0		42	0	0	264	0	0	0	0
8:00 AM				0	0		8	0	11	169		0		46	0	0	234	0	0	0	0
8:15 AM				0	0		9	0	18	150		0		64	0	0	241	0	0	0	0
8:30 AM				0	1		8	0	12	148		0		73	0	0	242	0	0	0	0
8:45 AM				0	1		10	0	3	119		0		63	1	0	197	0	0	0	0
Total Survey				0	4		100	0	151	1,957		0		549	5	0	2,766	0	0	0	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	**Northbound** Fisher Rd				**Southbound** Fisher Rd				**Eastbound** Hwy 126				**Westbound** Hwy 126				**Total**	**Pedestrians** Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	44	63	107	0	923	249	1,172	0	207	862	1,069	0	1,174	0	0	0	0
%HV	0.0%				0.0%				2.3%				12.1%				3.9%				
PHF	0.00				0.69				0.82				0.72				0.81				

By Movement	**Northbound** Fisher Rd				**Southbound** Fisher Rd				**Eastbound** Hwy 126				**Westbound** Hwy 126				**Total**
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	2		42	44	63	860		923		207	0	207	1,174
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	3.2%	2.2%	NA	2.3%	NA	12.1%	0.0%	12.1%	3.9%
PHF				0.00	0.25		0.66	0.69	0.66	0.83		0.82		0.72	0.00	0.72	0.81

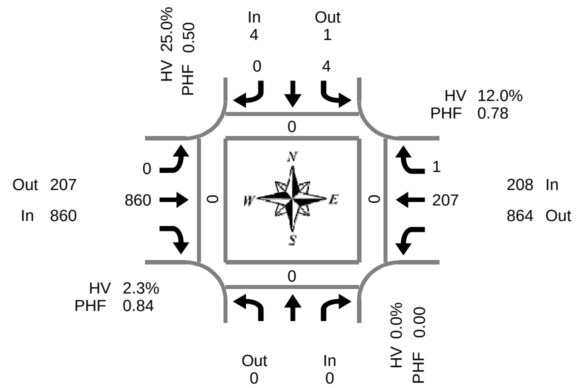
Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	**Northbound** Fisher Rd				**Southbound** Fisher Rd				**Eastbound** Hwy 126				**Westbound** Hwy 126				**Interval Total**	**Pedestrians** Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	0		24	0	47	502		0		109	4	0	686	0	0	0	0
6:15 AM				0	0		28	0	49	590		0		119	4	0	790	0	0	0	0
6:30 AM				0	2		32	0	53	714		0		145	4	0	950	0	0	0	0
6:45 AM				0	2		32	0	63	821		0		187	2	0	1,107	0	0	0	0
7:00 AM				0	2		41	0	60	869		0		194	0	0	1,166	0	0	0	0
7:15 AM				0	2		42	0	63	860		0		207	0	0	1,174	0	0	0	0
7:30 AM				0	0		40	0	64	773		0		224	0	0	1,101	0	0	0	0
7:45 AM				0	1		41	0	52	662		0		225	0	0	981	0	0	0	0
8:00 AM				0	2		35	0	44	586		0		246	1	0	914	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Richmond St & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Richmond St				Southbound Richmond St				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	0		0	0	0	87		0		27	0	0	114	0	0	0	0
6:15 AM				0	0		0	0	0	106		0		21	0	0	127	0	0	0	0
6:30 AM				0	0		0	0	0	153		0		27	0	0	180	0	0	0	0
6:45 AM				0	1		0	0	0	153		0		38	0	0	192	0	0	0	0
7:00 AM				0	1		0	0	0	177		0		30	0	0	208	0	0	0	0
7:15 AM				0	0		0	0	0	234		0		46	0	0	280	0	0	0	0
7:30 AM				0	2		0	0	0	255		0		66	1	0	324	0	0	0	0
7:45 AM				0	1		0	0	0	206		0		48	0	0	255	0	0	0	0
8:00 AM				0	1		0	0	0	165		0		47	0	0	213	0	0	0	0
8:15 AM				0	0		0	0	0	160		0		60	0	0	220	0	0	0	0
8:30 AM				0	2		0	0	0	142		0		71	0	0	215	0	0	0	0
8:45 AM				0	0		0	0	0	133		0		66	0	0	199	0	0	0	0
Total Survey				0	8		0	0	0	1,971		0		547	1	0	2,527	0	0	0	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Richmond St				Southbound Richmond St				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	4	1	5	0	860	207	1,067	0	208	864	1,072	0	1,072	0	0	0	0
%HV	0.0%				25.0%				2.3%				12.0%				4.3%				
PHF	0.00				0.50				0.84				0.78				0.83				

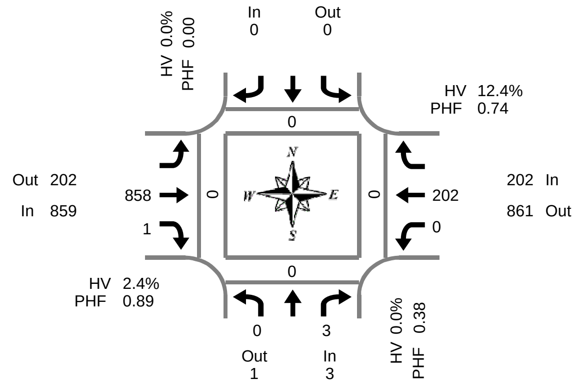
By Movement	Northbound Richmond St				Southbound Richmond St				Eastbound Hwy 126				Westbound Hwy 126				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	4		0	4	0	860		860		207	1	208	1,072
%HV	NA	NA	NA	0.0%	25.0%	NA	0.0%	25.0%	0.0%	2.3%	NA	2.3%	NA	11.6%	#####	12.0%	4.3%
PHF				0.00	0.50		0.00	0.50	0.00	0.84		0.84		0.78	0.25	0.78	0.83

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Richmond St				Southbound Richmond St				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
6:00 AM				0	1		0	0	0	499		0		113	0	0	613	0	0	0	0
6:15 AM				0	2		0	0	0	589		0		116	0	0	707	0	0	0	0
6:30 AM				0	2		0	0	0	717		0		141	0	0	860	0	0	0	0
6:45 AM				0	4		0	0	0	819		0		180	1	0	1,004	0	0	0	0
7:00 AM				0	4		0	0	0	872		0		190	1	0	1,067	0	0	0	0
7:15 AM				0	4		0	0	0	860		0		207	1	0	1,072	0	0	0	0
7:30 AM				0	4		0	0	0	786		0		221	1	0	1,012	0	0	0	0
7:45 AM				0	4		0	0	0	673		0		226	0	0	903	0	0	0	0
8:00 AM				0	3		0	0	0	600		0		244	0	0	847	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Ken Neilsen Rd & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Ken Neilsen Rd				Southbound Ken Neilsen Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes		T	R	Bikes	L	T		Bikes		North	South	East	West
6:00 AM	0		0	0				0		94	0	0	0	23		0	117	0	0	0	0
6:15 AM	0		0	0				0		97	0	0	0	22		0	119	0	0	0	0
6:30 AM	0		0	0				0		127	0	0	3	27		0	157	0	2	0	0
6:45 AM	0		0	0				0		161	0	0	1	40		0	202	0	0	0	0
7:00 AM	0		0	0				0		175	0	0	0	28		0	203	0	0	0	0
7:15 AM	0		0	0				0		211	1	0	0	47		0	259	0	0	0	0
7:30 AM	0		0	0				0		242	0	0	0	68		0	310	0	0	0	0
7:45 AM	0		2	0				0		239	0	0	0	42		0	283	0	0	0	0
8:00 AM	0		1	0				0		166	0	0	0	45		0	212	0	0	0	0
8:15 AM	0		1	0				0		156	0	0	0	68		0	225	0	0	0	0
8:30 AM	0		0	0				0		145	0	0	1	63		0	209	0	0	0	0
8:45 AM	0		0	0				0		127	0	0	0	64		0	191	0	0	0	0
Total Survey	0		4	0				0		1,940	1	0	5	537		0	2,487	0	2	0	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Ken Neilsen Rd				Southbound Ken Neilsen Rd				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	3	1	4	0	0	0	0	0	859	202	1,061	0	202	861	1,063	0	1,064	0	0	0	0
%HV	0.0%				0.0%				2.4%				12.4%				4.3%				
PHF	0.38				0.00				0.89				0.74				0.86				

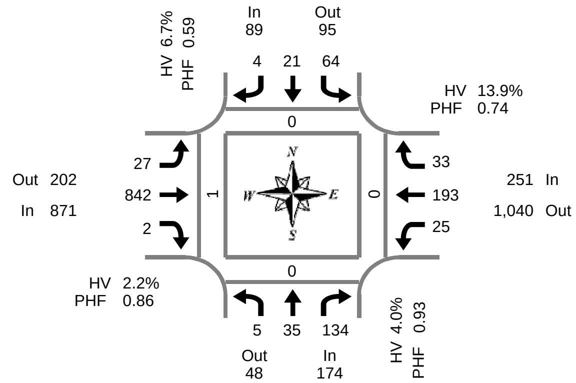
By Movement	Northbound Ken Neilsen Rd				Southbound Ken Neilsen Rd				Eastbound Hwy 126				Westbound Hwy 126				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	0		3	3				0		858	1	859	0	202		202	1,064
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	2.4%	0.0%	2.4%	0.0%	12.4%	NA	12.4%	4.3%
PHF	0.00		0.38	0.38				0.00		0.89	0.25	0.89	0.00	0.74		0.74	0.86

Rolling Hour Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Ken Neilsen Rd				Southbound Ken Neilsen Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes		T	R	Bikes	L	T		Bikes		North	South	East	West
6:00 AM	0		0	0				0		479	0	0	4	112		0	595	0	2	0	0
6:15 AM	0		0	0				0		560	0	0	4	117		0	681	0	2	0	0
6:30 AM	0		0	0				0		674	1	0	4	142		0	821	0	2	0	0
6:45 AM	0		0	0				0		789	1	0	1	183		0	974	0	0	0	0
7:00 AM	0		2	0				0		867	1	0	0	185		0	1,055	0	0	0	0
7:15 AM	0		3	0				0		858	1	0	0	202		0	1,064	0	0	0	0
7:30 AM	0		4	0				0		803	0	0	0	223		0	1,030	0	0	0	0
7:45 AM	0		4	0				0		706	0	0	1	218		0	929	0	0	0	0
8:00 AM	0		2	0				0		594	0	0	1	240		0	837	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Green Hill Rd & Hwy 126

Thursday, June 02, 2011
6:00 AM to 9:00 AM

15-Minute Interval Summary
6:00 AM to 9:00 AM

Interval Start Time	Northbound Green Hill Rd L	T	R	Bikes	Southbound Green Hill Rd L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	0	0	0	1	0	3	0	0	92	0	0	2	20	1	0	119	0	0	0	0
6:15 AM	0	2	7	0	3	3	1	0	4	93	0	0	6	19	2	0	140	0	0	0	1
6:30 AM	0	10	21	0	4	3	4	0	1	129	0	0	5	28	6	0	211	0	0	0	0
6:45 AM	0	9	30	0	13	3	2	0	8	164	0	0	2	33	3	0	267	1	0	0	1
7:00 AM	2	8	25	0	7	7	0	0	1	177	0	0	2	31	2	0	262	0	0	0	0
7:15 AM	1	6	33	0	7	3	0	0	5	200	0	0	4	40	7	0	306	0	0	0	0
7:30 AM	0	10	32	0	13	7	1	0	7	245	0	0	4	72	9	0	400	0	0	0	1
7:45 AM	4	8	33	0	28	10	0	0	9	235	2	0	10	38	11	0	388	0	0	0	0
8:00 AM	0	11	36	0	16	1	3	0	6	162	0	0	7	43	6	0	291	0	0	0	0
8:15 AM	1	11	29	0	6	6	5	0	2	155	1	0	15	60	4	0	295	0	0	0	0
8:30 AM	1	9	19	0	15	2	10	0	6	142	0	0	9	65	4	0	282	0	0	0	0
8:45 AM	0	7	26	0	10	7	5	0	3	130	1	0	10	56	13	0	268	0	0	0	0
Total Survey	9	91	291	0	123	52	34	0	52	1,924	4	0	76	505	68	0	3,229	1	0	0	3

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Green Hill Rd In	Out	Total	Bikes	Southbound Green Hill Rd In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	174	48	222	0	89	95	184	0	871	202	1,073	0	251	1,040	1,291	0	1,385	0	0	0	1
%HV	4.0%				6.7%				2.2%				13.9%				4.8%				
PHF	0.93				0.59				0.86				0.74				0.87				

By Movement	Northbound Green Hill Rd L	T	R	Total	Southbound Green Hill Rd L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	5	35	134	174	64	21	4	89	27	842	2	871	25	193	33	251	1,385
%HV	20.0%	2.9%	3.7%	4.0%	1.6%	23.8%	0.0%	6.7%	0.0%	2.3%	0.0%	2.2%	24.0%	13.0%	12.1%	13.9%	4.8%
PHF	0.31	0.80	0.93	0.93	0.57	0.53	0.33	0.59	0.75	0.86	0.25	0.86	0.63	0.67	0.75	0.74	0.87

Rolling Hour Summary
6:00 AM to 9:00 AM

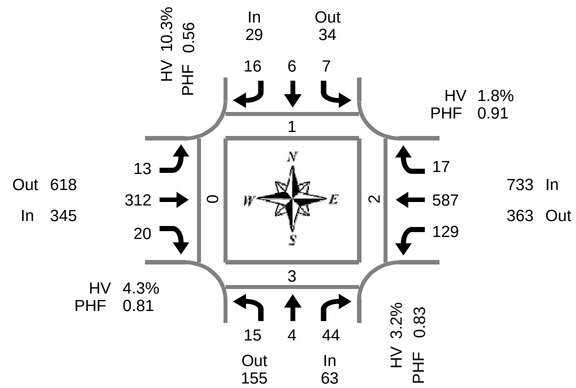
Interval Start Time	Northbound Green Hill Rd L	T	R	Bikes	Southbound Green Hill Rd L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
6:00 AM	0	21	58	0	21	9	10	0	13	478	0	0	15	100	12	0	737	1	0	0	2
6:15 AM	2	29	83	0	27	16	7	0	14	563	0	0	15	111	13	0	880	1	0	0	2
6:30 AM	3	33	109	0	31	16	6	0	15	670	0	0	13	132	18	0	1,046	1	0	0	1
6:45 AM	3	33	120	0	40	20	3	0	21	786	0	0	12	176	21	0	1,235	1	0	0	2
7:00 AM	7	32	123	0	55	27	1	0	22	857	2	0	20	181	29	0	1,356	0	0	0	1
7:15 AM	5	35	134	0	64	21	4	0	27	842	2	0	25	193	33	0	1,385	0	0	0	1
7:30 AM	5	40	130	0	63	24	9	0	24	797	3	0	36	213	30	0	1,374	0	0	0	1
7:45 AM	6	39	117	0	65	19	18	0	23	694	3	0	41	206	25	0	1,256	0	0	0	0
8:00 AM	2	38	110	0	47	16	23	0	17	589	2	0	41	224	27	0	1,136	0	0	0	0

DKS Associates
TRANSPORTATION SOLUTIONS

P.M. Peak Hour Turn Movement Counts

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:45 PM to 5:45 PM

Huston Rd & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Huston Rd				Southbound Huston Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	2	2	13	0	4	2	4	0	2	78	1	0	17	94	2	0	221	3	0	0	0
3:15 PM	4	1	11	0	4	3	5	0	4	93	2	0	19	105	7	0	258	0	1	0	0
3:30 PM	1	2	11	0	4	2	5	0	4	89	7	0	24	131	3	0	283	2	0	0	0
3:45 PM	2	3	9	0	0	3	11	0	1	74	6	0	27	136	7	0	279	0	0	0	0
4:00 PM	4	1	12	0	2	0	0	0	5	96	4	0	18	130	6	0	278	1	0	1	1
4:15 PM	2	2	14	0	2	0	2	0	4	74	1	0	28	155	5	0	289	2	0	0	1
4:30 PM	0	1	11	0	3	2	7	0	4	85	6	0	24	125	6	0	274	0	0	0	0
4:45 PM	4	1	14	0	3	1	4	0	4	79	8	0	29	156	10	0	313	0	0	0	0
5:00 PM	1	0	8	0	3	3	7	0	6	97	4	0	33	126	0	0	288	1	2	0	0
5:15 PM	4	1	12	0	0	2	1	0	1	72	2	0	31	142	5	0	273	0	0	0	0
5:30 PM	6	2	10	0	1	0	4	0	2	64	6	0	36	163	2	0	296	0	1	2	0
5:45 PM	5	2	12	0	2	1	4	0	0	59	1	0	33	159	3	0	281	0	1	0	1
Total Survey	35	18	137	0	28	19	54	0	37	960	48	0	319	1,622	56	0	3,333	9	5	3	3

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Huston Rd				Southbound Huston Rd				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	63	155	218	0	29	34	63	0	345	618	963	0	733	363	1,096	0	1,170	1	3	2	0
%HV	3.2%				10.3%				4.3%				1.8%				2.8%				
PHF	0.83				0.56				0.81				0.91				0.93				

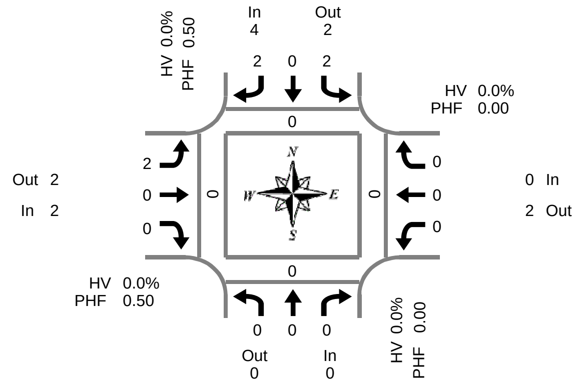
By Movement	Northbound Huston Rd				Southbound Huston Rd				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	15	4	44	63	7	6	16	29	13	312	20	345	129	587	17	733	1,170
%HV	0.0%	0.0%	4.5%	3.2%	14.3%	0.0%	12.5%	10.3%	0.0%	3.8%	15.0%	4.3%	1.6%	1.4%	17.6%	1.8%	2.8%
PHF	0.63	0.50	0.79	0.83	0.58	0.50	0.57	0.56	0.54	0.80	0.63	0.81	0.90	0.90	0.43	0.91	0.93

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Huston Rd				Southbound Huston Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	9	8	44	0	12	10	25	0	11	334	16	0	87	466	19	0	1,041	5	1	0	0
3:15 PM	11	7	43	0	10	8	21	0	14	352	19	0	88	502	23	0	1,098	3	1	1	1
3:30 PM	9	8	46	0	8	5	18	0	14	333	18	0	97	552	21	0	1,129	5	0	1	2
3:45 PM	8	7	46	0	7	5	20	0	14	329	17	0	97	546	24	0	1,120	3	0	1	2
4:00 PM	10	5	51	0	10	3	13	0	17	334	19	0	99	566	27	0	1,154	3	0	1	2
4:15 PM	7	4	47	0	11	6	20	0	18	335	19	0	114	562	21	0	1,164	3	2	0	1
4:30 PM	9	3	45	0	9	8	19	0	15	333	20	0	117	549	21	0	1,148	1	2	0	0
4:45 PM	15	4	44	0	7	6	16	0	13	312	20	0	129	587	17	0	1,170	1	3	2	0
5:00 PM	16	5	42	0	6	6	16	0	9	292	13	0	133	590	10	0	1,138	1	4	2	1

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:00 PM to 5:00 PM

Driveway 1 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 1				Southbound Driveway 1				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	2	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	4	0	3	0	2	0	0	0	0	0	2	0	11	6	0	2	0

Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Driveway 1				Southbound Driveway 1				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	4	2	6	0	2	2	4	0	0	2	2	0	6	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.50				0.50				0.00				0.50				

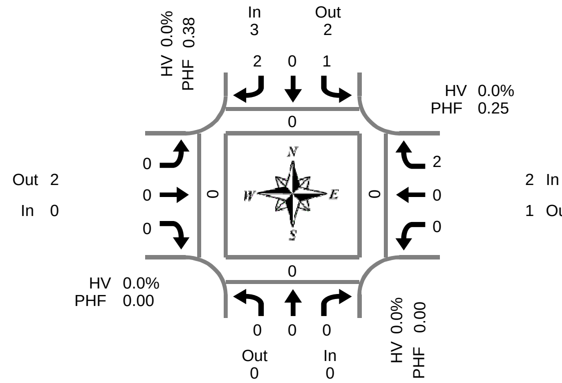
By Movement	Northbound Driveway 1				Southbound Driveway 1				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	2	0	2	4	2	0	0	2	0	0	0	0	6
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.50

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 1				Southbound Driveway 1				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	3	2	0	0	0
3:15 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	4	0	0	0	0
3:30 PM	0	0	0	0	2	0	1	0	1	0	0	0	0	0	1	0	5	0	0	0	0
3:45 PM	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	4	0	0	0	0
4:00 PM	0	0	0	0	2	0	2	0	2	0	0	0	0	0	0	0	6	0	0	0	0
4:15 PM	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	4	1	0	2	0
4:30 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	4	2	0	2	0
4:45 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	4	4	0	2	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	4	0	2	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Driveway 2 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

Peak Hour Summary
3:15 PM to 4:15 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 2				Southbound Driveway 2				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	4	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	1	0	4	0	2	0	0	0	0	0	3	0	10	0	0	0	0

Peak Hour Summary
3:15 PM to 4:15 PM

By Approach	Northbound Driveway 2				Southbound Driveway 2				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	3	2	5	0	0	2	2	0	2	1	3	0	5	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.38				0.00				0.25				0.31				

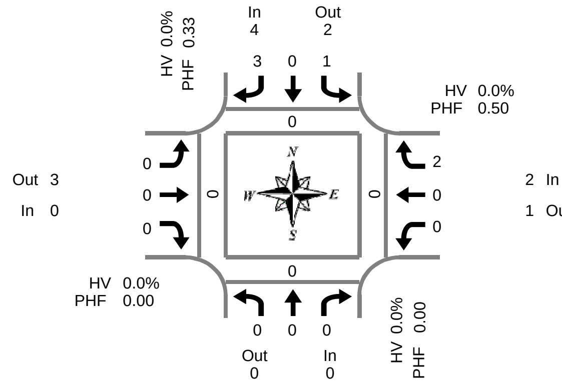
By Movement	Northbound Driveway 2				Southbound Driveway 2				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	1	0	2	3	0	0	0	0	0	0	2	2	5
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.50	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.31

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 2				Southbound Driveway 2				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	4	0	0	0	0
3:15 PM	0	0	0	0	1	0	2	0	0	0	0	0	0	0	2	0	5	0	0	0	0
3:30 PM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3	0	0	0	0
3:45 PM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	1	0	4	0	0	0	0
4:00 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	5	0	0	0	0
4:15 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	5	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	3	0	0	0	0
4:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Driveway 3 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

Peak Hour Summary
_4:15 PM to 5:15 PM_

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 3				Southbound Driveway 3				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	4	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	1	0	3	0	2	0	0	0	0	0	3	0	9	0	0	0	0

Peak Hour Summary
4:15 PM to 5:15 PM

By Approach	Northbound Driveway 3				Southbound Driveway 3				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	4	2	6	0	0	3	3	0	2	1	3	0	6	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.33				0.00				0.50				0.38				

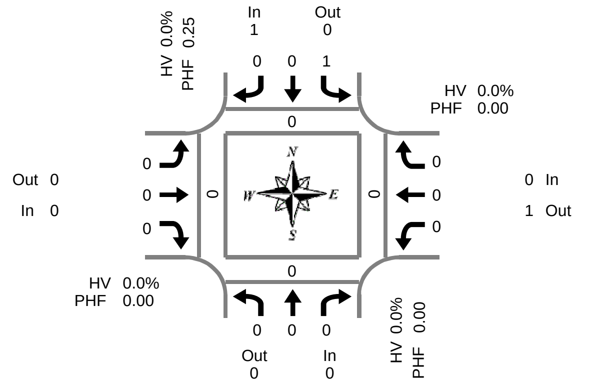
By Movement	Northbound Driveway 3				Southbound Driveway 3				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	1	0	3	4	0	0	0	0	0	0	2	2	6
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.38

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 3				Southbound Driveway 3				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0	5	0	0	0	0
4:15 PM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	2	0	6	0	0	0	0
4:30 PM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	2	0	6	0	0	0	0
4:45 PM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	2	0	6	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
3:15 PM to 4:15 PM

Driveway 4 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 4				Southbound Driveway 4				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0

Peak Hour Summary
3:15 PM to 4:15 PM

By Approach	Northbound Driveway 4				Southbound Driveway 4				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.00				0.00				0.25				

By Movement	Northbound Driveway 4				Southbound Driveway 4				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25

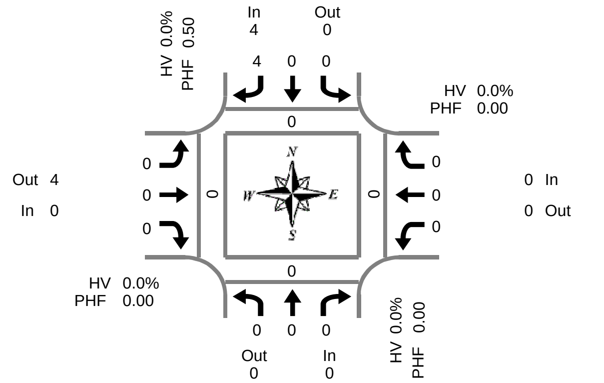
Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 4				Southbound Driveway 4				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
3:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
3:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
4:15 PM to 5:15 PM

Driveway 5 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 5				Southbound Driveway 5				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0
3:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	1	0	0

Peak Hour Summary
4:15 PM to 5:15 PM

By Approach	Northbound Driveway 5				Southbound Driveway 5				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	4	0	4	0	0	4	4	0	0	0	0	0	4	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.50				0.00				0.00				0.50				

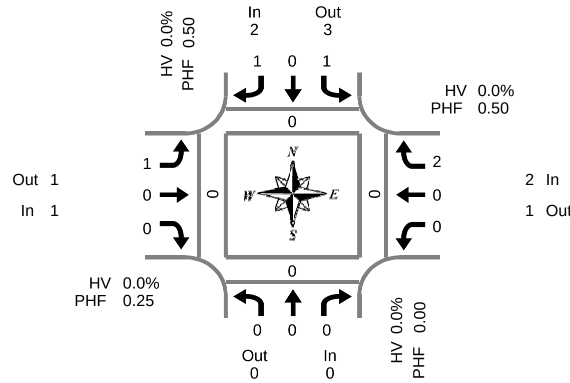
By Movement	Northbound Driveway 5				Southbound Driveway 5				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	4
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 5				Southbound Driveway 5				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	1	0	0
3:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
3:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
3:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
4:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0
4:15 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0	0	0	0
4:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0
4:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:00 PM to 5:00 PM

Driveway 6 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 6				Southbound Driveway 6				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0
3:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	1	0	4	0	1	0	0	0	0	0	4	0	10	0	1	0	0

Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Driveway 6				Southbound Driveway 6				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	2	3	5	0	1	1	2	0	2	1	3	0	5	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.50				0.25				0.50				0.42				

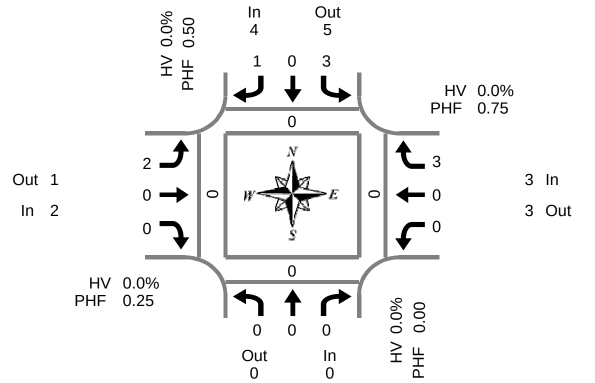
By Movement	Northbound Driveway 6				Southbound Driveway 6				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	1	0	1	2	1	0	0	1	0	0	2	2	5
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.50	0.25	0.00	0.00	0.25	0.00	0.00	0.50	0.50	0.42

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 6				Southbound Driveway 6				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	3	0	1	0	0
3:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	3	0	0	0	0
3:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0
3:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0
4:00 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	2	0	5	0	0	0	0
4:15 PM	0	0	0	0	1	0	2	0	1	0	0	0	0	0	1	0	5	0	0	0	0
4:30 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	4	0	0	0	0
4:45 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	2	0	5	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Driveway 7 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 7 L	T	R	Bikes	Southbound Driveway 7 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	1	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
3:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
3:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	3	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
5:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	7	0	2	0	2	0	0	0	0	0	7	0	18	0	1	0	0

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Driveway 7 In	Out	Total	Bikes	Southbound Driveway 7 In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	0	0	0	0	4	5	9	0	2	1	3	0	3	3	6	0	9	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.50				0.25				0.75				0.75				

By Movement	Northbound Driveway 7 L	T	R	Total	Southbound Driveway 7 L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	3	0	1	4	2	0	0	2	0	0	3	3	9
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.38	0.00	0.25	0.50	0.25	0.00	0.00	0.25	0.00	0.00	0.75	0.75	0.75

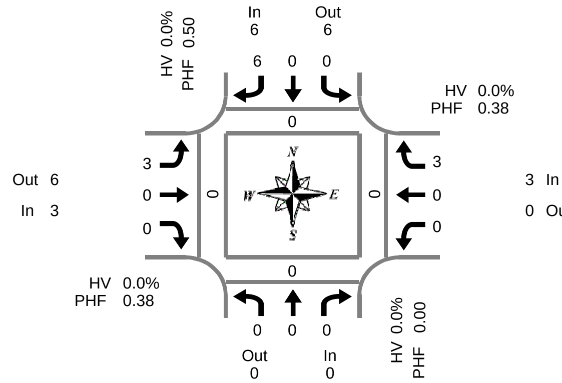
Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 7 L	T	R	Bikes	Southbound Driveway 7 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	0	0	0	0	4	0	1	0	0	0	0	0	0	0	2	0	7	0	1	0	0
3:15 PM	0	0	0	0	3	0	1	0	0	0	0	0	0	0	1	0	5	0	0	0	0
3:30 PM	0	0	0	0	3	0	1	0	0	0	0	0	0	0	2	0	6	0	0	0	0
3:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	3	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0	5	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	2	0	0	0	0	0	4	0	7	0	0	0	0
4:30 PM	0	0	0	0	3	0	0	0	2	0	0	0	0	0	3	0	8	0	0	0	0
4:45 PM	0	0	0	0	3	0	1	0	2	0	0	0	0	0	3	0	9	0	0	0	0
5:00 PM	0	0	0	0	3	0	1	0	0	0	0	0	0	0	2	0	6	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
3:15 PM to 4:15 PM

Driveway 8 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 8 L	T	R	Bikes	Southbound Driveway 8 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0
3:30 PM	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	4	0	0	0	0
3:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0
4:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	4	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	3	0	0	0	0
Total Survey	0	0	0	0	1	0	10	0	6	0	0	0	0	0	6	0	23	0	0	0	1

Peak Hour Summary
3:15 PM to 4:15 PM

By Approach	Northbound Driveway 8 In	Out	Total	Bikes	Southbound Driveway 8 In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total
Volume	0	0	0	0	6	6	12	0	3	6	9	0	3	0	3	0	12
%HV	0.0%				0.0%				0.0%				0.0%				0.0%
PHF	0.00				0.50				0.38				0.38				0.75

Pedestrians Crosswalk North	South	East	West
0	0	0	0

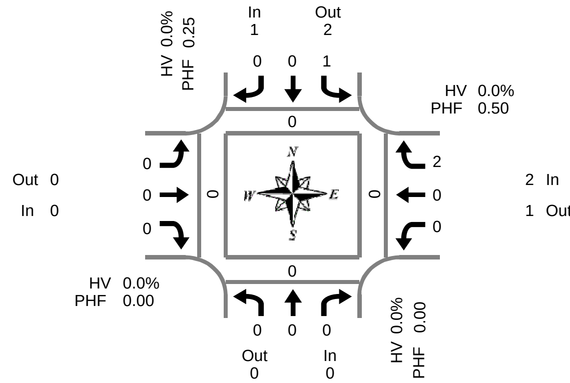
By Movement	Northbound Driveway 8 L	T	R	Total	Southbound Driveway 8 L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	0	0	6	6	3	0	0	3	0	0	3	3	12
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.38	0.00	0.00	0.38	0.00	0.00	0.38	0.38	0.75

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 8 L	T	R	Bikes	Southbound Driveway 8 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	0	0	0	0	0	0	4	0	4	0	0	0	0	0	1	0	9	0	0	0	1
3:15 PM	0	0	0	0	0	0	6	0	3	0	0	0	0	0	3	0	12	0	0	0	0
3:30 PM	0	0	0	0	0	0	6	0	2	0	0	0	0	0	4	0	12	0	0	0	0
3:45 PM	0	0	0	0	1	0	3	0	1	0	0	0	0	0	4	0	9	0	0	0	0
4:00 PM	0	0	0	0	1	0	5	0	1	0	0	0	0	0	3	0	10	0	0	0	0
4:15 PM	0	0	0	0	1	0	3	0	1	0	0	0	0	0	2	0	7	0	0	0	0
4:30 PM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	1	0	5	0	0	0	0
4:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	4	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	4	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:00 PM to 5:00 PM

Driveway 9 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 9				Southbound Driveway 9				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	1	0	2	0	0	0	0	0	0	0	2	0	5	0	0	0	1

Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Driveway 9				Southbound Driveway 9				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	1	2	3	0	0	0	0	0	2	1	3	0	3	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.00				0.50				0.38				

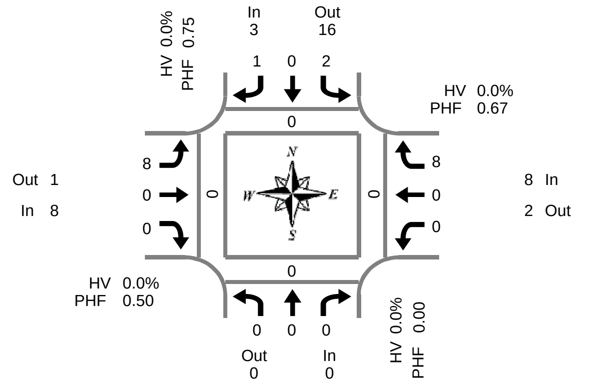
By Movement	Northbound Driveway 9				Southbound Driveway 9				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	2	3
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.38

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 9				Southbound Driveway 9				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
4:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	3	0	0	0	0
4:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	3	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Driveway 10 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

Peak Hour Summary
3:15 PM to 4:15 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 10				Southbound Driveway 10				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	1	0	0
3:15 PM	0	0	0	0	1	0	0	0	4	0	0	0	0	0	2	0	7	0	0	0	0
3:30 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0
3:45 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	5	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	4	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	3	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	5	0	0	0	0
4:45 PM	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3	2	0	0	0
5:00 PM	0	0	0	0	0	0	2	0	3	0	0	0	0	0	0	0	5	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4	0	0	0	0
5:30 PM	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1	0	4	0	0	0	0
5:45 PM	0	0	0	0	1	0	2	0	2	0	0	0	0	0	0	0	5	0	0	0	0
Total Survey	0	0	0	0	3	0	14	0	22	0	0	0	0	0	11	0	50	2	1	0	0

Peak Hour Summary
3:15 PM to 4:15 PM

By Approach	Northbound Driveway 10				Southbound Driveway 10				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	3	16	19	0	8	1	9	0	8	2	10	0	19	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.75				0.50				0.67				0.68				

By Movement	Northbound Driveway 10				Southbound Driveway 10				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	2	0	1	3	8	0	0	8	0	0	8	8	19
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.50	0.00	0.25	0.75	0.50	0.00	0.00	0.50	0.00	0.00	0.67	0.67	0.68

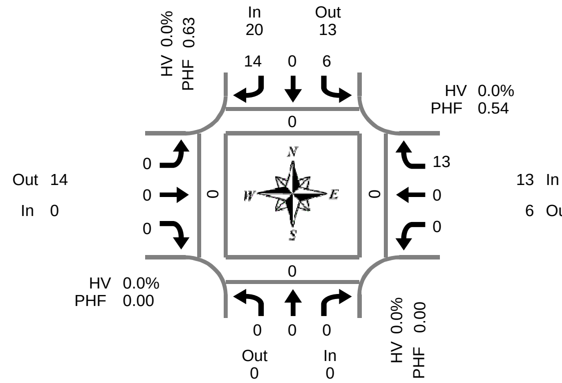
Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 10				Southbound Driveway 10				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	2	0	2	0	7	0	0	0	0	0	6	0	17	0	1	0	0
3:15 PM	0	0	0	0	2	0	1	0	8	0	0	0	0	0	8	0	19	0	0	0	0
3:30 PM	0	0	0	0	1	0	1	0	6	0	0	0	0	0	7	0	15	0	0	0	0
3:45 PM	0	0	0	0	0	0	3	0	7	0	0	0	0	0	7	0	17	0	0	0	0
4:00 PM	0	0	0	0	0	0	4	0	7	0	0	0	0	0	4	0	15	2	0	0	0
4:15 PM	0	0	0	0	0	0	6	0	8	0	0	0	0	0	2	0	16	2	0	0	0
4:30 PM	0	0	0	0	0	0	8	0	8	0	0	0	0	0	1	0	17	2	0	0	0
4:45 PM	0	0	0	0	0	0	8	0	7	0	0	0	0	0	1	0	16	2	0	0	0
5:00 PM	0	0	0	0	1	0	8	0	8	0	0	0	0	0	1	0	18	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
3:30 PM to 4:30 PM

Driveway 11 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 11				Southbound Driveway 11				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	6	0	1	0	0
3:15 PM	0	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	4	0	0	0	0
3:30 PM	0	0	0	0	3	0	5	0	0	0	0	0	0	0	3	0	11	0	0	0	0
3:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	4	0	0	0	0
4:00 PM	0	0	0	0	2	0	3	0	0	0	0	0	0	0	3	0	8	0	0	0	0
4:15 PM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	6	0	10	0	0	0	0
4:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	4	0	0	0	0
4:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	6	2	0	0	0
5:00 PM	0	0	0	0	3	0	2	0	0	0	0	0	0	0	0	0	5	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	2	0	0	0	0	0	1	0	4	0	0	0	0
5:30 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	5	0	8	0	0	0	0
5:45 PM	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	4	0	0	0	0
Total Survey	0	0	0	0	12	0	32	0	4	0	0	0	0	0	26	0	74	2	1	0	0

Peak Hour Summary
3:30 PM to 4:30 PM

By Approach	Northbound Driveway 11				Southbound Driveway 11				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	20	13	33	0	0	14	14	0	13	6	19	0	33	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.63				0.00				0.54				0.75				

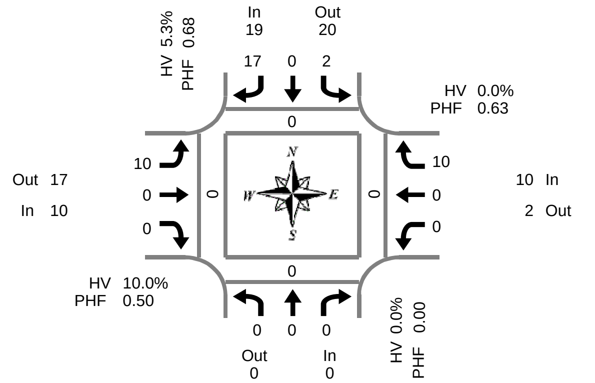
By Movement	Northbound Driveway 11				Southbound Driveway 11				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	6	0	14	20	0	0	0	0	0	0	13	13	33
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.50	0.00	0.70	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.54	0.75

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 11				Southbound Driveway 11				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	4	0	13	0	1	0	0	0	0	0	7	0	25	0	1	0	0
3:15 PM	0	0	0	0	6	0	13	0	1	0	0	0	0	0	7	0	27	0	0	0	0
3:30 PM	0	0	0	0	6	0	14	0	0	0	0	0	0	0	13	0	33	0	0	0	0
3:45 PM	0	0	0	0	3	0	12	0	0	0	0	0	0	0	11	0	26	0	0	0	0
4:00 PM	0	0	0	0	3	0	12	0	0	0	0	0	0	0	13	0	28	2	0	0	0
4:15 PM	0	0	0	0	4	0	11	0	0	0	0	0	0	0	10	0	25	2	0	0	0
4:30 PM	0	0	0	0	3	0	9	0	2	0	0	0	0	0	5	0	19	2	0	0	0
4:45 PM	0	0	0	0	4	0	7	0	3	0	0	0	0	0	9	0	23	2	0	0	0
5:00 PM	0	0	0	0	5	0	7	0	3	0	0	0	0	0	6	0	21	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
3:00 PM to 4:00 PM

Driveway 12 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 12				Southbound Driveway 12				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	3	0	5	0	0	0	0	0	2	0	10	0	0	0	0
3:15 PM	0	0	0	0	2	0	5	0	2	0	0	0	0	0	1	0	10	0	0	0	0
3:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	4	0	7	0	0	0	0
3:45 PM	0	0	0	0	0	0	6	0	3	0	0	0	0	0	3	0	12	0	0	0	0
4:00 PM	0	0	0	0	1	0	3	0	1	0	0	0	0	0	1	0	6	0	0	0	0
4:15 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	7	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	3	0	0	0	0	0	1	0	6	0	0	0	0
4:45 PM	0	0	0	0	0	0	4	0	1	0	0	0	0	0	1	0	6	0	0	0	0
5:00 PM	0	0	0	0	1	0	3	0	3	0	0	0	0	0	4	0	11	0	0	0	0
5:15 PM	0	0	0	0	1	0	4	0	7	0	0	0	0	0	2	0	14	0	0	0	0
5:30 PM	0	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	4	0	0	0	0
5:45 PM	0	0	0	0	2	0	3	0	2	0	0	0	0	0	1	0	8	0	0	0	0
Total Survey	0	0	0	0	8	0	40	0	30	0	0	0	0	0	23	0	101	0	0	0	0

Peak Hour Summary
3:00 PM to 4:00 PM

By Approach	Northbound Driveway 12				Southbound Driveway 12				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	19	20	39	0	10	17	27	0	10	2	12	0	39	0	0	0	0
%HV	0.0%				5.3%				10.0%				0.0%				5.1%				
PHF	0.00				0.68				0.50				0.63				0.81				

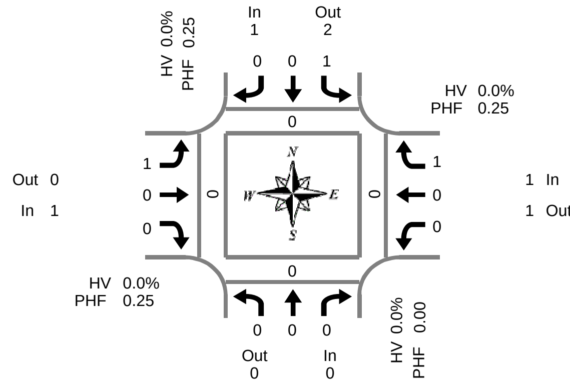
By Movement	Northbound Driveway 12				Southbound Driveway 12				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	2	0	17	19	10	0	0	10	0	0	10	10	39
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	5.3%	10.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	5.1%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.71	0.68	0.50	0.00	0.00	0.50	0.00	0.00	0.63	0.63	0.81

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 12				Southbound Driveway 12				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	2	0	17	0	10	0	0	0	0	0	10	0	39	0	0	0	0
3:15 PM	0	0	0	0	3	0	17	0	6	0	0	0	0	0	9	0	35	0	0	0	0
3:30 PM	0	0	0	0	1	0	14	0	6	0	0	0	0	0	11	0	32	0	0	0	0
3:45 PM	0	0	0	0	1	0	13	0	9	0	0	0	0	0	8	0	31	0	0	0	0
4:00 PM	0	0	0	0	1	0	11	0	7	0	0	0	0	0	6	0	25	0	0	0	0
4:15 PM	0	0	0	0	1	0	11	0	9	0	0	0	0	0	9	0	30	0	0	0	0
4:30 PM	0	0	0	0	2	0	13	0	14	0	0	0	0	0	8	0	37	0	0	0	0
4:45 PM	0	0	0	0	3	0	13	0	12	0	0	0	0	0	7	0	35	0	0	0	0
5:00 PM	0	0	0	0	5	0	12	0	13	0	0	0	0	0	7	0	37	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
_5:00 PM to 6:00 PM_

Driveway 13 & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 13 L	T	R	Bikes	Southbound Driveway 13 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Survey	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0

Peak Hour Summary
5:00 PM to 6:00 PM

By Approach	Northbound Driveway 13 In	Out	Total	Bikes	Southbound Driveway 13 In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	0	0	0	0	1	2	3	0	1	0	1	0	1	1	2	0	3	0	0	0	0
%HV	0.0%				0.0%				0.0%				0.0%				0.0%				
PHF	0.00				0.25				0.25				0.25				0.38				

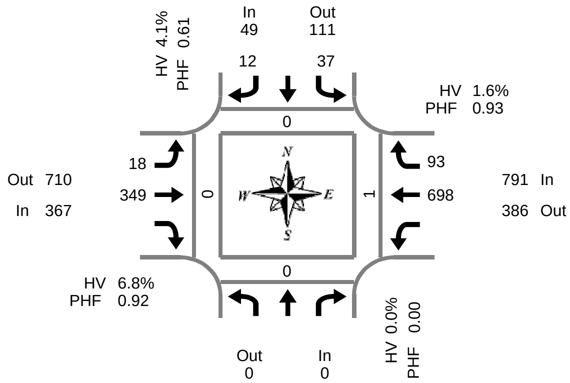
By Movement	Northbound Driveway 13 L	T	R	Total	Southbound Driveway 13 L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	1	0	0	1	1	0	0	1	0	0	1	1	3
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHF	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.25	0.00	0.00	0.25	0.00	0.00	0.25	0.25	0.38

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Driveway 13 L	T	R	Bikes	Southbound Driveway 13 L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Ellmaker Rd & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

Peak Hour Summary
4:00 PM to 5:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Ellmaker Rd				Southbound Ellmaker Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
3:00 PM				0	13		5	0	6	87		0		105	11	0	227	0	0	0	0
3:15 PM				0	13		2	0	3	101		0		144	25	0	288	0	0	0	0
3:30 PM				0	9		1	0	3	100		0		163	19	0	295	0	0	0	0
3:45 PM				0	7		6	0	2	81		0		147	18	0	261	1	0	0	1
4:00 PM				0	12		8	0	7	93		0		153	25	0	298	0	0	0	0
4:15 PM				0	10		4	0	4	81		0		189	24	0	312	0	0	0	0
4:30 PM				0	9		0	0	3	89		0		171	22	0	294	0	0	0	0
4:45 PM				0	6		0	0	4	86		0		185	22	0	303	0	0	1	0
5:00 PM				0	11		0	0	5	94		0		142	27	0	279	0	0	0	0
5:15 PM				0	6		0	0	4	73		0		189	32	0	304	0	0	0	0
5:30 PM				0	8		8	0	3	70		0		196	30	0	315	0	0	0	0
5:45 PM				0	6		6	0	5	60		0		175	26	0	278	0	0	0	0
Total Survey				0	110		40	0	49	1,015		0		1,959	281	0	3,454	1	0	1	1

Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Ellmaker Rd				Southbound Ellmaker Rd				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	49	111	160	0	367	710	1,077	0	791	386	1,177	0	1,207	0	0	1	0
%HV	0.0%				4.1%				6.8%				1.6%				3.3%				
PHF	0.00				0.61				0.92				0.93				0.97				

By Movement	Northbound Ellmaker Rd				Southbound Ellmaker Rd				Eastbound Hwy 126				Westbound Hwy 126				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	37		12	49	18	349		367		698	93	791	1,207
%HV	NA	NA	NA	0.0%	5.4%	NA	0.0%	4.1%	0.0%	7.2%	NA	6.8%	NA	1.7%	1.1%	1.6%	3.3%
PHF				0.00	0.77		0.38	0.61	0.64	0.94		0.92		0.92	0.93	0.93	0.97

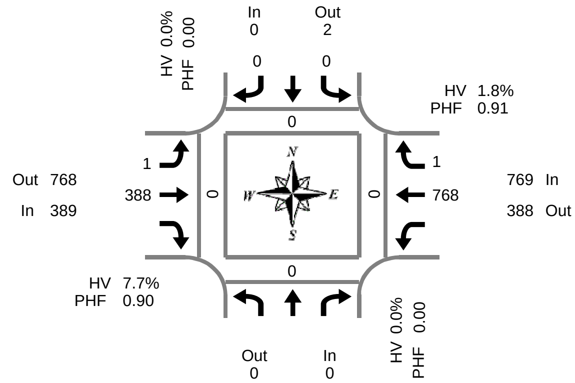
Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Ellmaker Rd				Southbound Ellmaker Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
3:00 PM				0	42		14	0	14	369		0		559	73	0	1,071	1	0	0	1
3:15 PM				0	41		17	0	15	375		0		607	87	0	1,142	1	0	0	1
3:30 PM				0	38		19	0	16	355		0		652	86	0	1,166	1	0	0	1
3:45 PM				0	38		18	0	16	344		0		660	89	0	1,165	1	0	0	1
4:00 PM				0	37		12	0	18	349		0		698	93	0	1,207	0	0	1	0
4:15 PM				0	36		4	0	16	350		0		687	95	0	1,188	0	0	1	0
4:30 PM				0	32		0	0	16	342		0		687	103	0	1,180	0	0	1	0
4:45 PM				0	31		8	0	16	323		0		712	111	0	1,201	0	0	1	0
5:00 PM				0	31		14	0	17	297		0		702	115	0	1,176	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
4:00 PM to 5:00 PM

Shady Rest Dr & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Shady Rest Dr				Southbound Shady Rest Dr				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
3:00 PM				0	0		2	0	0	100		0		112	0	0	214	0	0	0	0
3:15 PM				0	0		0	0	0	111		0		164	0	0	275	0	0	0	0
3:30 PM				0	0		0	0	0	108		0		190	1	0	299	0	0	0	0
3:45 PM				0	0		0	0	0	90		0		161	0	0	251	0	0	0	0
4:00 PM				0	0		0	0	0	108		0		180	0	0	288	0	0	0	0
4:15 PM				0	0		0	0	0	91		0		210	1	0	302	0	0	0	0
4:30 PM				0	0		0	0	1	97		0		187	0	0	285	0	0	0	0
4:45 PM				0	0		0	0	0	92		0		191	0	0	283	0	0	0	0
5:00 PM				0	0		0	0	0	108		0		165	0	0	273	0	0	0	0
5:15 PM				0	0		0	0	0	78		0		229	0	0	307	0	0	0	0
5:30 PM				0	0		0	0	0	73		0		221	0	0	294	0	0	0	0
5:45 PM				0	0		0	0	0	72		0		204	1	0	277	0	0	0	0
Total Survey				0	0		2	0	1	1,128		0		2,214	3	0	3,348	0	0	0	0

Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Shady Rest Dr				Southbound Shady Rest Dr				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	0	2	2	0	389	768	1,157	0	769	388	1,157	0	1,158	0	0	0	0
%HV	0.0%				0.0%				7.7%				1.8%				3.8%				
PHF	0.00				0.00				0.90				0.91				0.96				

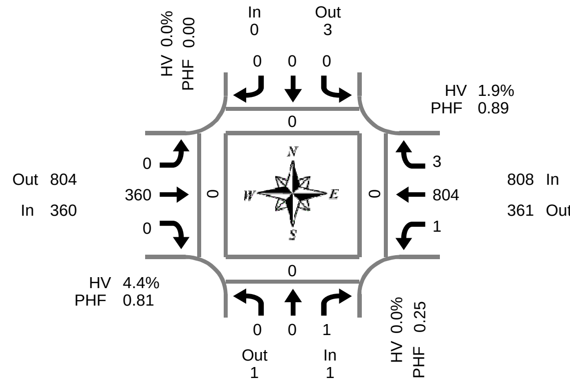
By Movement	Northbound Shady Rest Dr				Southbound Shady Rest Dr				Eastbound Hwy 126				Westbound Hwy 126				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		0	0	1	388		389		768	1	769	1,158
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	7.7%	NA	7.7%	NA	1.8%	0.0%	1.8%	3.8%
PHF				0.00	0.00		0.00	0.00	0.25	0.90		0.90		0.91	0.25	0.91	0.96

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Shady Rest Dr				Southbound Shady Rest Dr				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
3:00 PM				0	0		2	0	0	409		0		627	1	0	1,039	0	0	0	0
3:15 PM				0	0		0	0	0	417		0		695	1	0	1,113	0	0	0	0
3:30 PM				0	0		0	0	0	397		0		741	2	0	1,140	0	0	0	0
3:45 PM				0	0		0	0	1	386		0		738	1	0	1,126	0	0	0	0
4:00 PM				0	0		0	0	1	388		0		768	1	0	1,158	0	0	0	0
4:15 PM				0	0		0	0	1	388		0		753	1	0	1,143	0	0	0	0
4:30 PM				0	0		0	0	1	375		0		772	0	0	1,148	0	0	0	0
4:45 PM				0	0		0	0	0	351		0		806	0	0	1,157	0	0	0	0
5:00 PM				0	0		0	0	0	331		0		819	1	0	1,151	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:45 PM to 5:45 PM

Lake Side Dr & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Lake Side Dr				Southbound Lake Side Dr				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	0	0	0	0	0	0	0	0	97	0	0	0	112	1	0	210	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	116	0	0	0	165	0	0	281	0	0	0	0
3:30 PM	0	2	0	0	0	0	0	0	0	102	0	0	0	183	0	0	287	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	93	0	0	0	167	0	0	260	0	0	0	0
4:00 PM	0	0	0	0	0	0	1	0	0	111	0	0	0	177	1	0	290	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	87	0	0	0	203	1	0	291	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	91	0	0	0	195	0	0	286	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	98	0	0	1	198	1	0	299	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	111	0	0	0	162	0	0	273	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	76	0	0	0	220	0	0	296	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	75	0	0	0	224	2	0	301	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	0	73	0	0	0	206	0	0	280	0	0	0	0
Total Survey	0	2	1	0	1	0	1	0	0	1,130	0	0	1	2,212	6	0	3,354	0	0	0	0

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Lake Side Dr				Southbound Lake Side Dr				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1	1	2	0	0	3	3	0	360	804	1,164	0	808	361	1,169	0	1,169	0	0	0	0
%HV	0.0%				0.0%				4.4%				1.9%				2.7%				
PHF	0.25				0.00				0.81				0.89				0.97				

By Movement	Northbound Lake Side Dr				Southbound Lake Side Dr				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	1	1	0	0	0	0	0	360	0	360	1	804	3	808	1,169
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%	0.0%	4.4%	0.0%	1.9%	0.0%	1.9%	2.7%
PHF	0.00	0.00	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.81	0.00	0.81	0.25	0.90	0.38	0.89	0.97

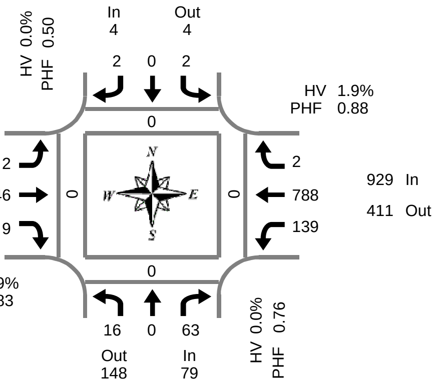
Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Lake Side Dr				Southbound Lake Side Dr				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	0	2	0	0	0	0	0	0	0	408	0	0	0	627	1	0	1,038	0	0	0	0
3:15 PM	0	2	0	0	0	0	1	0	0	422	0	0	0	692	1	0	1,118	0	0	0	0
3:30 PM	0	2	0	0	0	0	1	0	0	393	0	0	0	730	2	0	1,128	0	0	0	0
3:45 PM	0	0	0	0	0	0	1	0	0	382	0	0	0	742	2	0	1,127	0	0	0	0
4:00 PM	0	0	1	0	0	0	1	0	0	387	0	0	1	773	3	0	1,166	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	387	0	0	1	758	2	0	1,149	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	376	0	0	1	775	1	0	1,154	0	0	0	0
4:45 PM	0	0	1	0	0	0	0	0	0	360	0	0	1	804	3	0	1,169	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	335	0	0	0	812	2	0	1,150	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
4:45 PM to 5:45 PM

Central Rd & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Central Rd L	T	R	Bikes	Southbound Central Rd L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	3	0	22	0	0	0	2	0	0	97	4	0	22	97	3	0	250	0	0	0	0
3:15 PM	0	0	5	0	1	0	1	0	0	107	3	0	27	166	0	0	310	0	0	0	0
3:30 PM	1	0	18	0	0	0	0	0	0	100	7	0	13	183	0	0	322	0	0	0	0
3:45 PM	2	0	26	0	1	0	1	0	1	83	4	0	37	164	1	0	320	0	0	0	0
4:00 PM	1	0	10	0	0	0	1	0	0	103	2	0	21	173	1	0	312	0	0	0	0
4:15 PM	1	0	12	0	0	0	2	0	1	95	2	0	24	212	1	0	350	0	0	0	0
4:30 PM	4	0	18	0	2	0	0	0	0	94	1	0	27	180	1	0	327	0	0	0	0
4:45 PM	3	0	20	0	0	0	0	0	0	93	3	0	28	189	0	0	336	0	0	0	0
5:00 PM	7	0	13	0	0	0	1	0	1	104	2	0	28	162	1	0	319	0	0	0	0
5:15 PM	4	0	22	0	1	0	0	0	0	78	3	0	40	224	0	0	372	0	0	0	0
5:30 PM	2	0	8	0	1	0	1	0	1	71	1	0	43	213	1	0	342	0	0	0	0
5:45 PM	1	0	12	0	0	0	1	0	0	66	6	0	32	212	1	0	331	0	0	0	0
Total Survey	29	0	186	0	6	0	10	0	4	1,091	38	0	342	2,175	10	0	3,891	0	0	0	0

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Central Rd In	Out	Total	Bikes	Southbound Central Rd In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	79	148	227	0	4	4	8	0	357	806	1,163	0	929	411	1,340	0	1,369	0	0	0	0
%HV	0.0%				0.0%				3.9%				1.9%				2.3%				
PHF	0.76				0.50				0.83				0.88				0.92				

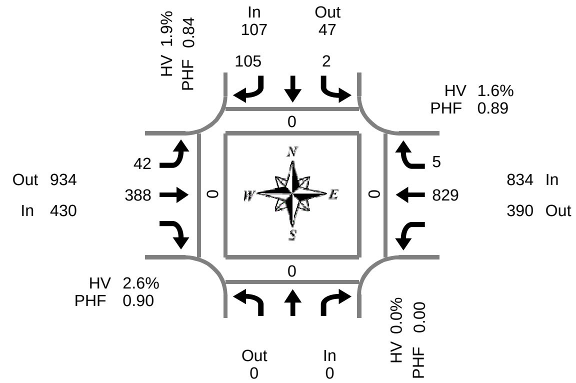
By Movement	Northbound Central Rd L	T	R	Total	Southbound Central Rd L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	16	0	63	79	2	0	2	4	2	346	9	357	139	788	2	929	1,369
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	3.9%	0.7%	2.2%	0.0%	1.9%	2.3%
PHF	0.57	0.00	0.72	0.76	0.50	0.00	0.50	0.50	0.50	0.83	0.75	0.83	0.81	0.88	0.50	0.88	0.92

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Central Rd L	T	R	Bikes	Southbound Central Rd L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	6	0	71	0	2	0	4	0	1	387	18	0	99	610	4	0	1,202	0	0	0	0
3:15 PM	4	0	59	0	2	0	3	0	1	393	16	0	98	686	2	0	1,264	0	0	0	0
3:30 PM	5	0	66	0	1	0	4	0	2	381	15	0	95	732	3	0	1,304	0	0	0	0
3:45 PM	8	0	66	0	3	0	4	0	2	375	9	0	109	729	4	0	1,309	0	0	0	0
4:00 PM	9	0	60	0	2	0	3	0	1	385	8	0	100	754	3	0	1,325	0	0	0	0
4:15 PM	15	0	63	0	2	0	3	0	2	386	8	0	107	743	3	0	1,332	0	0	0	0
4:30 PM	18	0	73	0	3	0	1	0	1	369	9	0	123	755	2	0	1,354	0	0	0	0
4:45 PM	16	0	63	0	2	0	2	0	2	346	9	0	139	788	2	0	1,369	0	0	0	0
5:00 PM	14	0	55	0	2	0	3	0	2	319	12	0	143	811	3	0	1,364	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Fisher Rd & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Fisher Rd				Southbound Fisher Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
3:00 PM				0	1		14	0	14	104		0		115	2	0	250	0	0	0	0
3:15 PM				0	0		30	0	9	107		0		170	0	0	316	0	0	0	0
3:30 PM				0	2		33	0	9	106		0		168	1	0	319	0	0	0	0
3:45 PM				0	0		29	0	7	123		0		174	2	0	335	0	0	0	0
4:00 PM				0	0		22	0	8	100		0		174	4	0	308	0	0	0	0
4:15 PM				0	0		30	0	8	103		0		207	1	0	349	0	0	0	0
4:30 PM				0	2		17	0	10	91		0		199	0	0	319	0	0	0	0
4:45 PM				0	1		24	0	16	104		0		187	1	0	333	0	0	0	0
5:00 PM				0	0		24	0	11	109		0		182	2	0	328	0	0	0	0
5:15 PM				0	0		32	0	8	94		0		227	0	0	361	0	0	0	0
5:30 PM				0	1		25	0	7	81		0		233	2	0	349	0	0	0	0
5:45 PM				0	1		28	0	11	70		0		219	2	0	331	0	0	0	0
Total Survey				0	8		308	0	118	1,192		0		2,255	17	0	3,898	0	0	0	0

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Fisher Rd				Southbound Fisher Rd				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	107	47	154	0	430	934	1,364	0	834	390	1,224	0	1,371	0	0	0	0
%HV	0.0%				1.9%				2.6%				1.6%				1.9%				
PHF	0.00				0.84				0.90				0.89				0.95				

By Movement	Northbound Fisher Rd				Southbound Fisher Rd				Eastbound Hwy 126				Westbound Hwy 126				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	2		105	107	42	388		430		829	5	834	1,371
%HV	NA	NA	NA	0.0%	50.0%	NA	1.0%	1.9%	4.8%	2.3%	NA	2.6%	NA	1.6%	0.0%	1.6%	1.9%
PHF				0.00	0.50		0.82	0.84	0.66	0.89		0.90		0.89	0.63	0.89	0.95

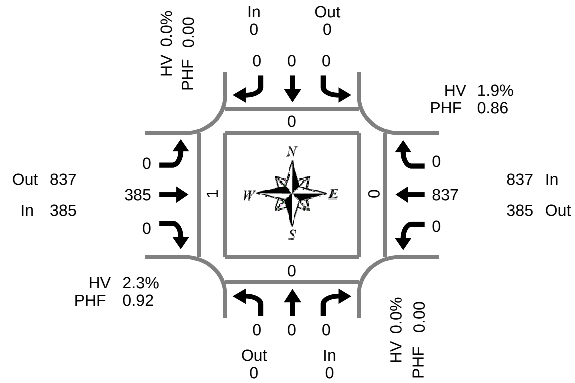
Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Fisher Rd				Southbound Fisher Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
3:00 PM				0	3		106	0	39	440		0		627	5	0	1,220	0	0	0	0
3:15 PM				0	2		114	0	33	436		0		686	7	0	1,278	0	0	0	0
3:30 PM				0	2		114	0	32	432		0		723	8	0	1,311	0	0	0	0
3:45 PM				0	2		98	0	33	417		0		754	7	0	1,311	0	0	0	0
4:00 PM				0	3		93	0	42	398		0		767	6	0	1,309	0	0	0	0
4:15 PM				0	3		95	0	45	407		0		775	4	0	1,329	0	0	0	0
4:30 PM				0	3		97	0	45	398		0		795	3	0	1,341	0	0	0	0
4:45 PM				0	2		105	0	42	388		0		829	5	0	1,371	0	0	0	0
5:00 PM				0	2		109	0	37	354		0		861	6	0	1,369	0	0	0	0

Total Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Peak Hour Summary
4:45 PM to 5:45 PM

Richmond St & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Richmond St L	T	R	Bikes	Southbound Richmond St L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	0	0	0	0	1	0	0	0	0	103	0	0	0	115	0	0	219	0	0	0	0
3:15 PM	0	0	0	0	1	0	0	0	1	100	0	0	0	167	0	0	269	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	97	0	0	0	172	1	0	270	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	126	0	0	0	173	2	0	301	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	110	0	0	0	186	1	0	297	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	104	0	0	0	198	0	0	302	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	94	0	0	0	192	0	0	286	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	103	0	0	0	196	0	0	299	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	105	0	0	0	176	0	0	281	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	93	0	0	0	221	0	0	314	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	84	0	0	0	244	0	0	328	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	73	0	0	0	217	1	0	291	0	0	0	0
Total Survey	0	0	0	0	2	0	0	0	1	1,192	0	0	0	2,257	5	0	3,457	0	0	0	1

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Richmond St In	Out	Total	Bikes	Southbound Richmond St In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	0	0	0	0	0	0	0	0	385	837	1,222	0	837	385	1,222	0	1,222	0	0	0	1
%HV	0.0%				0.0%				2.3%				1.9%				2.0%				
PHF	0.00				0.00				0.92				0.86				0.93				

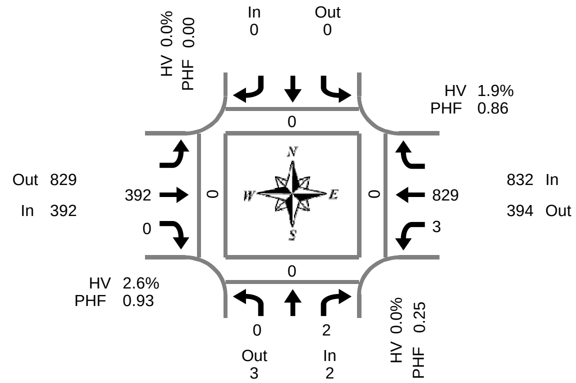
By Movement	Northbound Richmond St L	T	R	Total	Southbound Richmond St L	T	R	Total	Eastbound Hwy 126 L	T	R	Total	Westbound Hwy 126 L	T	R	Total	Total
Volume	0	0	0	0	0	0	0	0	0	385	0	385	0	837	0	837	1,222
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	2.3%	0.0%	1.9%	0.0%	1.9%	2.0%
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.92	0.00	0.86	0.00	0.86	0.93

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Richmond St L	T	R	Bikes	Southbound Richmond St L	T	R	Bikes	Eastbound Hwy 126 L	T	R	Bikes	Westbound Hwy 126 L	T	R	Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	0	0	0	0	2	0	0	0	1	426	0	0	0	627	3	0	1,059	0	0	0	0
3:15 PM	0	0	0	0	1	0	0	0	1	433	0	0	0	698	4	0	1,137	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	437	0	0	0	729	4	0	1,170	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	434	0	0	0	749	3	0	1,186	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	411	0	0	0	772	1	0	1,184	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	406	0	0	0	762	0	0	1,168	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	395	0	0	0	785	0	0	1,180	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	385	0	0	0	837	0	0	1,222	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	355	0	0	0	858	1	0	1,214	0	0	0	1

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:45 PM to 5:45 PM

Ken Neilsen Rd & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Ken Neilsen Rd L		R	Bikes	Southbound Ken Neilsen Rd			Bikes	Eastbound Hwy 126	T	R	Bikes	Westbound Hwy 126 L	T		Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	1		6	0				0		102	0	0	2	122		0	233	0	0	0	1
3:15 PM	0		1	0				0		108	0	0	2	156		0	267	0	0	0	0
3:30 PM	0		1	0				0		91	1	0	2	173		0	268	0	0	0	0
3:45 PM	0		1	0				0		118	1	0	2	160		0	282	0	0	0	0
4:00 PM	0		0	0				0		113	0	0	1	190		0	304	0	0	0	2
4:15 PM	0		1	0				0		98	0	0	0	217		0	316	0	0	0	0
4:30 PM	0		0	0				0		92	0	0	3	192		0	287	0	0	0	0
4:45 PM	0		0	0				0		105	0	0	1	187		0	293	0	0	0	0
5:00 PM	0		0	0				0		101	0	0	0	168		0	269	0	0	0	0
5:15 PM	0		0	0				0		97	0	0	1	242		0	340	0	0	0	0
5:30 PM	0		2	0				0		89	0	0	1	232		0	324	0	0	0	0
5:45 PM	0		1	0				0		66	0	0	0	216		0	283	0	0	0	0
Total Survey	1		13	0				0		1,180	2	0	15	2,255		0	3,466	0	0	0	3

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Ken Neilsen Rd In	Out	Total	Bikes	Southbound Ken Neilsen Rd In	Out	Total	Bikes	Eastbound Hwy 126 In	Out	Total	Bikes	Westbound Hwy 126 In	Out	Total	Bikes	Total	Pedestrians Crosswalk North	South	East	West
Volume	2	3	5	0	0	0	0	0	392	829	1,221	0	832	394	1,226	0	1,226	0	0	0	0
%HV	0.0%				0.0%				2.6%				1.9%				2.1%				
PHF	0.25				0.00				0.93				0.86				0.90				

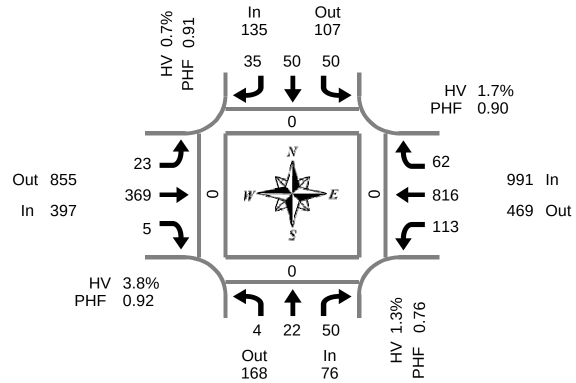
By Movement	Northbound Ken Neilsen Rd L		R	Total	Southbound Ken Neilsen Rd			Total	Eastbound Hwy 126	T	R	Total	Westbound Hwy 126 L	T		Total	Total
Volume	0		2	2				0		392	0	392	3	829		832	1,226
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	2.6%	0.0%	2.6%	0.0%	1.9%	NA	1.9%	2.1%
PHF	0.00		0.25	0.25				0.00		0.93	0.00	0.93	0.75	0.86		0.86	0.90

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Ken Neilsen Rd L		R	Bikes	Southbound Ken Neilsen Rd			Bikes	Eastbound Hwy 126	T	R	Bikes	Westbound Hwy 126 L	T		Bikes	Interval Total	Pedestrians Crosswalk North	South	East	West
3:00 PM	1		9	0				0		419	2	0	8	611		0	1,050	0	0	0	1
3:15 PM	0		3	0				0		430	2	0	7	679		0	1,121	0	0	0	2
3:30 PM	0		3	0				0		420	2	0	5	740		0	1,170	0	0	0	2
3:45 PM	0		2	0				0		421	1	0	6	759		0	1,189	0	0	0	2
4:00 PM	0		1	0				0		408	0	0	5	786		0	1,200	0	0	0	2
4:15 PM	0		1	0				0		396	0	0	4	764		0	1,165	0	0	0	0
4:30 PM	0		0	0				0		395	0	0	5	789		0	1,189	0	0	0	0
4:45 PM	0		2	0				0		392	0	0	3	829		0	1,226	0	0	0	0
5:00 PM	0		3	0				0		353	0	0	2	858		0	1,216	0	0	0	0

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
_4:45 PM to 5:45 PM_

Green Hill Rd & Hwy 126

Thursday, June 02, 2011
3:00 PM to 6:00 PM

15-Minute Interval Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Green Hill Rd				Southbound Green Hill Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	3	5	6	0	15	5	12	0	8	109	2	0	20	112	14	0	311	0	0	0	0
3:15 PM	3	10	17	0	12	11	12	0	6	88	3	0	17	153	16	0	348	0	0	0	0
3:30 PM	1	14	18	0	11	10	12	0	5	95	1	0	30	174	8	0	379	0	0	0	0
3:45 PM	2	8	11	0	7	5	16	0	8	111	1	0	30	151	13	0	363	0	0	0	0
4:00 PM	1	4	15	0	11	12	9	0	8	107	0	0	21	176	22	0	386	0	0	0	0
4:15 PM	1	8	11	0	19	14	7	0	3	103	1	0	23	191	9	0	390	0	0	0	0
4:30 PM	1	8	8	0	10	12	15	0	7	80	0	0	19	189	17	0	366	0	0	0	0
4:45 PM	1	4	11	0	13	17	6	0	4	103	1	0	25	181	15	0	381	0	0	0	0
5:00 PM	0	5	9	0	9	13	5	0	7	100	1	0	27	183	16	0	375	0	0	0	0
5:15 PM	1	7	17	0	17	9	11	0	6	87	1	0	34	224	16	0	430	0	0	0	0
5:30 PM	2	6	13	0	11	11	13	0	6	79	2	0	27	228	15	0	413	0	0	0	0
5:45 PM	0	8	8	0	12	11	11	0	4	60	1	0	28	199	16	0	358	0	0	0	0
Total Survey	16	87	144	0	147	130	129	0	72	1,122	14	0	301	2,161	177	0	4,500	0	0	0	0

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Green Hill Rd				Southbound Green Hill Rd				Eastbound Hwy 126				Westbound Hwy 126				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	76	168	244	0	135	107	242	0	397	855	1,252	0	991	469	1,460	0	1,599	0	0	0	0
%HV	1.3%				0.7%				3.8%				1.7%				2.1%				
PHF	0.76				0.91				0.92				0.90				0.93				

By Movement	Northbound Green Hill Rd				Southbound Green Hill Rd				Eastbound Hwy 126				Westbound Hwy 126				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	22	50	76	50	50	35	135	23	369	5	397	113	816	62	991	1,599
%HV	0.0%	0.0%	2.0%	1.3%	0.0%	2.0%	0.0%	0.7%	0.0%	3.8%	20.0%	3.8%	1.8%	1.6%	3.2%	1.7%	2.1%
PHF	0.50	0.79	0.74	0.76	0.74	0.74	0.67	0.91	0.82	0.90	0.63	0.92	0.83	0.89	0.97	0.90	0.93

Rolling Hour Summary
3:00 PM to 6:00 PM

Interval Start Time	Northbound Green Hill Rd				Southbound Green Hill Rd				Eastbound Hwy 126				Westbound Hwy 126				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
3:00 PM	9	37	52	0	45	31	52	0	27	403	7	0	97	590	51	0	1,401	0	0	0	0
3:15 PM	7	36	61	0	41	38	49	0	27	401	5	0	98	654	59	0	1,476	0	0	0	0
3:30 PM	5	34	55	0	48	41	44	0	24	416	3	0	104	692	52	0	1,518	0	0	0	0
3:45 PM	5	28	45	0	47	43	47	0	26	401	2	0	93	707	61	0	1,505	0	0	0	0
4:00 PM	4	24	45	0	53	55	37	0	22	393	2	0	88	737	63	0	1,523	0	0	0	0
4:15 PM	3	25	39	0	51	56	33	0	21	386	3	0	94	744	57	0	1,512	0	0	0	0
4:30 PM	3	24	45	0	49	51	37	0	24	370	3	0	105	777	64	0	1,552	0	0	0	0
4:45 PM	4	22	50	0	50	50	35	0	23	369	5	0	113	816	62	0	1,599	0	0	0	0
5:00 PM	3	26	47	0	49	44	40	0	23	326	5	0	116	834	63	0	1,576	0	0	0	0

16-Hour Turn Movement Counts

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

File Name : Huston&126 16HR
Site Code : 00000000
Start Date : 6/2/2011
Page No : 1

Groups Printed- Unshifted - Bank 1

	HUSTON RD Southbound					HWY 126 Westbound					HUSTON RD Northbound					HWY 126 Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00	0	1	2	0	3	1	8	0	0	9	2	0	4	0	6	0	21	0	1	21	1	39	40
05:15	1	0	0	0	1	1	15	0	0	16	2	0	10	0	12	0	34	0	0	34	0	63	63
05:30	2	0	0	0	2	1	19	1	0	21	1	1	12	0	14	0	36	0	0	36	0	73	73
05:45	2	0	1	0	3	0	18	1	0	19	0	1	14	0	15	0	50	0	0	50	0	87	87
Total	5	1	3	0	9	3	60	2	0	65	5	2	40	0	47	0	141	0	1	141	1	262	263
06:00	3	0	0	0	3	2	18	1	0	21	2	0	15	0	17	0	54	2	0	56	0	97	97
06:15	2	0	1	0	3	2	19	1	0	22	0	0	27	0	27	1	68	3	0	72	0	124	124
06:30	1	1	3	0	5	3	19	1	0	23	4	1	27	0	32	1	86	3	0	90	0	150	150
06:45	3	1	6	0	10	1	28	0	0	29	5	0	29	0	34	1	98	2	0	101	0	174	174
Total	9	2	10	0	21	8	84	3	0	95	11	1	98	0	110	3	306	10	0	319	0	545	545
07:00	2	0	0	0	2	7	18	1	0	26	0	0	38	0	38	1	112	2	0	115	0	181	181
07:15	7	1	0	0	8	7	37	0	0	44	5	4	44	0	53	1	129	2	0	132	0	237	237
07:30	5	1	1	0	7	2	59	2	0	63	8	3	57	0	68	1	164	4	0	169	0	307	307
07:45	6	2	4	0	12	6	46	3	0	55	8	2	30	0	40	0	119	0	0	119	0	226	226
Total	20	4	5	0	29	22	160	6	0	188	21	9	169	0	199	3	524	8	0	535	0	951	951
08:00	6	1	3	0	10	3	59	2	0	64	6	3	26	0	35	2	109	3	0	114	0	223	223
08:15	5	1	1	0	7	9	47	2	0	58	4	1	22	0	27	0	123	1	0	124	0	216	216
08:30	3	2	0	0	5	6	59	0	0	65	3	2	12	0	17	2	81	5	0	88	0	175	175
08:45	2	1	2	0	5	13	76	2	0	91	2	3	12	0	17	1	88	0	0	89	0	202	202
Total	16	5	6	0	27	31	241	6	0	278	15	9	72	0	96	5	401	9	0	415	0	816	816
09:00	3	0	2	0	5	7	51	1	0	59	2	1	5	0	8	0	77	3	2	80	2	152	154
09:15	1	0	0	0	1	5	76	2	0	83	2	2	25	0	29	2	97	4	1	103	1	216	217
09:30	5	1	1	0	7	8	67	2	0	77	0	1	12	0	13	3	68	0	0	71	0	168	168
09:45	0	0	4	0	4	3	71	0	0	74	2	0	15	0	17	0	85	2	0	87	0	182	182
Total	9	1	7	0	17	23	265	5	0	293	6	4	57	0	67	5	327	9	3	341	3	718	721
10:00	3	1	1	0	5	5	58	1	0	64	3	2	18	1	23	2	81	6	0	89	1	181	182
10:15	3	0	3	0	6	6	68	4	1	78	2	0	14	0	16	1	99	0	1	100	2	200	202
10:30	4	3	1	2	8	8	78	3	0	89	4	2	14	0	20	2	92	2	1	96	3	213	216
10:45	1	1	2	0	4	6	71	2	0	79	1	1	17	0	19	1	94	1	0	96	0	198	198
Total	11	5	7	2	23	25	275	10	1	310	10	5	63	1	78	6	366	9	2	381	6	792	798
11:00	2	1	3	1	6	10	76	1	0	87	3	0	20	0	23	2	93	1	0	96	1	212	213
11:15	1	0	3	2	4	9	60	1	0	70	2	1	16	0	19	1	80	3	0	84	2	177	179
11:30	1	0	1	0	2	13	65	4	0	82	5	0	9	0	14	0	92	4	1	96	1	194	195
11:45	2	2	3	0	7	13	81	5	0	99	5	1	6	0	12	0	86	4	0	90	0	208	208
Total	6	3	10	3	19	45	282	11	0	338	15	2	51	0	68	3	351	12	1	366	4	791	795
12:00	2	0	10	1	12	13	84	4	0	101	3	1	10	0	14	4	101	5	1	110	2	237	239
12:15	0	0	4	0	4	8	87	2	0	97	5	0	12	0	17	2	91	4	0	97	0	215	215
12:30	1	0	3	0	4	11	78	2	0	91	3	0	21	0	24	3	79	3	0	85	0	204	204
12:45	1	1	2	0	4	9	107	1	0	117	5	3	13	0	21	2	77	4	0	83	0	225	225
Total	4	1	19	1	24	41	356	9	0	406	16	4	56	0	76	11	348	16	1	375	2	881	883
13:00	1	1	2	1	4	11	85	2	0	98	4	2	9	0	15	3	78	3	0	84	1	201	202
13:15	3	1	0	0	4	19	93	5	0	117	2	2	8	0	12	1	81	1	0	83	0	216	216
13:30	2	1	4	0	7	23	87	3	0	113	5	0	22	1	27	2	85	6	1	93	2	240	242
13:45	3	0	3	0	6	7	94	3	0	104	2	1	10	0	13	3	83	2	0	88	0	211	211
Total	9	3	9	1	21	60	359	13	0	432	13	5	49	1	67	9	327	12	1	348	3	868	871
14:00	2	1	2	0	5	17	99	4	0	120	5	2	16	0	23	2	90	3	0	95	0	243	243
14:15	2	3	6	0	11	9	81	2	1	92	2	2	16	0	20	4	91	2	0	97	1	220	221
14:30	1	4	4	0	9	15	105	4	0	124	1	3	8	0	12	1	91	0	0	92	0	237	237
14:45	5	4	3	1	12	12	105	3	1	120	2	3	13	0	18	3	100	9	0	112	2	262	264
Total	10	12	15	1	37	53	390	13	2	456	10	10	53	0	73	10	372	14	0	396	3	962	965

File Name : Huston&126 16HR
Site Code : 00000000
Start Date : 6/2/2011
Page No : 2

Groups Printed- Unshifted - Bank 1

	HUSTON RD Southbound					HWY 126 Westbound					HUSTON RD Northbound					HWY 126 Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
15:00	4	2	4	3	10	17	94	2	0	113	2	2	13	0	17	2	78	1	0	81	3	221	224
15:15	4	3	5	0	12	19	105	7	0	131	4	1	11	1	16	4	93	2	0	99	1	258	259
15:30	4	2	5	2	11	24	131	3	0	158	1	2	11	0	14	4	89	7	0	100	2	283	285
15:45	0	3	11	0	14	27	136	7	0	170	2	3	9	0	14	1	74	6	0	81	0	279	279
Total	12	10	25	5	47	87	466	19	0	572	9	8	44	1	61	11	334	16	0	361	6	1041	1047
16:00	2	0	0	1	2	18	130	6	1	154	4	1	12	0	17	5	96	4	1	105	3	278	281
16:15	2	0	2	2	4	28	155	5	0	188	2	2	14	0	18	4	74	1	1	79	3	289	292
16:30	3	2	7	0	12	24	125	6	0	155	0	1	11	0	12	4	85	6	0	95	0	274	274
16:45	3	1	4	0	8	29	156	10	0	195	4	1	14	0	19	4	79	8	0	91	0	313	313
Total	10	3	13	3	26	99	566	27	1	692	10	5	51	0	66	17	334	19	2	370	6	1154	1160
17:00	3	3	7	1	13	33	126	0	0	159	1	0	8	2	9	6	97	4	0	107	3	288	291
17:15	0	2	1	0	3	31	142	5	0	178	4	1	12	0	17	1	72	2	0	75	0	273	273
17:30	1	0	4	0	5	36	163	2	2	201	6	2	10	1	18	2	64	6	0	72	3	296	299
17:45	2	1	4	0	7	33	159	3	0	195	5	2	12	1	19	0	59	1	1	60	2	281	283
Total	6	6	16	1	28	133	590	10	2	733	16	5	42	4	63	9	292	13	1	314	8	1138	1146
18:00	1	1	3	1	5	33	133	3	0	169	2	0	13	0	15	4	71	3	0	78	1	267	268
18:15	3	1	1	0	5	34	104	6	0	144	1	3	5	0	9	2	64	7	1	73	1	231	232
18:30	2	2	1	0	5	21	80	6	0	107	1	1	5	1	7	0	41	3	0	44	1	163	164
18:45	1	0	1	0	2	20	63	0	0	83	2	0	9	1	11	1	30	5	1	36	2	132	134
Total	7	4	6	1	17	108	380	15	0	503	6	4	32	2	42	7	206	18	2	231	5	793	798
19:00	1	3	2	0	6	17	74	2	0	93	4	2	9	0	15	0	35	5	0	40	0	154	154
19:15	0	0	3	0	3	13	53	0	0	66	5	1	4	0	10	2	36	4	0	42	0	121	121
19:30	1	1	1	0	3	13	59	2	0	74	0	2	7	0	9	0	39	2	0	41	0	127	127
19:45	1	1	1	0	3	17	54	2	0	73	1	1	2	0	4	4	42	3	0	49	0	129	129
Total	3	5	7	0	15	60	240	6	0	306	10	6	22	0	38	6	152	14	0	172	0	531	531
20:00	3	0	2	0	5	6	44	1	0	51	2	1	5	0	8	0	31	3	2	34	2	98	100
20:15	1	0	0	0	1	5	44	2	0	51	2	2	5	0	9	2	47	4	1	53	1	114	115
20:30	5	1	1	0	7	8	25	2	0	35	0	1	6	0	7	3	31	0	0	34	0	83	83
20:45	0	0	4	0	4	3	48	0	0	51	2	0	5	0	7	0	42	2	0	44	0	106	106
Total	9	1	7	0	17	22	161	5	0	188	6	4	21	0	31	5	151	9	3	165	3	401	404
Grand Total	146	66	165	18	377	820	4875	160	6	5855	179	83	920	9	1182	110	4932	188	17	5230	50	12644	12694
Apprch %	38.7	17.5	43.8			14	83.3	2.7			15.1	7	77.8			2.1	94.3	3.6					
Total %	1.2	0.5	1.3		3	6.5	38.6	1.3		46.3	1.4	0.7	7.3		9.3	0.9	39	1.5		41.4	0.4	99.6	
Unshifted	135	61	138		352	798	4629	144		5577	173	75	892		1149	98	4658	181		4954	0	0	12032
% Unshifted	92.5	92.4	83.6	100	89.1	97.3	95	90	100	95.2	96.6	90.4	97	100	96.5	89.1	94.4	96.3	100	94.4	0	0	94.8
Bank 1	11	5	27		43	22	246	16		284	6	8	28		42	12	274	7		293	0	0	662
% Bank 1	7.5	7.6	16.4	0	10.9	2.7	5	10	0	4.8	3.4	9.6	3	0	3.5	10.9	5.6	3.7	0	5.6	0	0	5.2

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

File Name : Ellmaker&126 16HR
Site Code : 00000000
Start Date : 6/2/2011

Groups Printed- Unshifted - Bank 1

	ELLMAKER RD Southbound					HWY 126 Westbound					ELLMAKER RD Northbound					HWY 126 Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00	1	0	0	0	1	0	3	2	0	5	0	0	0	0	0	1	41	0	0	42	0	48	48
05:15	7	0	0	0	7	0	11	4	0	15	0	0	0	0	0	0	43	0	0	43	0	65	65
05:30	10	0	1	0	11	0	22	4	0	26	0	0	0	0	0	0	48	0	0	48	0	85	85
05:45	16	0	0	0	16	0	16	1	0	17	0	0	0	0	0	4	65	0	0	69	0	102	102
Total	34	0	1	0	35	0	52	11	0	63	0	0	0	0	0	5	197	0	0	202	0	300	300
06:00	12	0	2	0	14	0	22	1	0	23	0	0	0	0	0	0	68	0	0	68	0	105	105
06:15	23	0	3	0	26	0	21	2	0	23	0	0	0	0	0	1	100	0	0	101	0	150	150
06:30	21	0	2	0	23	0	25	2	0	27	0	0	0	0	0	2	115	0	0	117	0	167	167
06:45	21	0	4	0	25	0	28	1	0	29	0	0	0	0	0	1	124	0	0	125	0	179	179
Total	77	0	11	0	88	0	96	6	0	102	0	0	0	0	0	4	407	0	0	411	0	601	601
07:00	25	0	2	0	27	0	23	4	0	27	0	0	0	0	0	3	150	0	0	153	0	207	207
07:15	30	0	5	0	35	0	49	1	0	50	0	0	0	0	0	4	177	0	3	181	3	266	269
07:30	24	0	5	0	29	0	62	7	0	69	0	0	0	0	0	2	221	0	0	223	0	321	321
07:45	18	0	2	0	20	0	52	2	0	54	0	0	0	0	0	4	144	0	0	148	0	222	222
Total	97	0	14	0	111	0	186	14	0	200	0	0	0	0	0	13	692	0	3	705	3	1016	1019
08:00	19	0	2	0	21	0	55	2	0	57	0	0	0	0	0	5	137	0	0	142	0	220	220
08:15	17	0	3	0	20	0	61	7	0	68	0	0	0	0	0	2	138	0	0	140	0	228	228
08:30	19	0	3	0	22	0	64	4	0	68	0	0	0	0	0	2	101	0	0	103	0	193	193
08:45	9	0	12	0	21	0	72	7	0	79	0	0	0	0	0	4	89	0	0	93	0	193	193
Total	64	0	20	0	84	0	252	20	0	272	0	0	0	0	0	13	465	0	0	478	0	834	834
09:00	15	0	3	0	18	0	57	4	0	61	0	0	0	0	0	3	85	0	0	88	0	167	167
09:15	13	0	5	0	18	0	82	6	0	88	0	0	0	0	0	2	123	0	0	125	0	231	231
09:30	12	0	5	0	17	0	73	9	0	82	0	0	0	0	0	1	84	0	0	85	0	184	184
09:45	10	0	0	0	10	0	66	6	0	72	0	0	0	0	0	3	91	0	0	94	0	176	176
Total	50	0	13	0	63	0	278	25	0	303	0	0	0	0	0	9	383	0	0	392	0	758	758
10:00	11	0	1	0	12	0	68	10	0	78	0	0	0	0	0	1	97	0	1	98	1	188	189
10:15	8	0	3	0	11	0	66	7	0	73	0	0	0	0	0	0	119	0	0	119	0	203	203
10:30	19	0	1	0	20	0	72	4	0	76	0	0	0	0	0	2	106	0	0	108	0	204	204
10:45	11	0	6	0	17	0	72	9	0	81	0	0	0	0	0	4	100	0	0	104	0	202	202
Total	49	0	11	0	60	0	278	30	0	308	0	0	0	0	0	7	422	0	1	429	1	797	798
11:00	11	0	5	0	16	0	85	11	0	96	0	0	0	0	0	3	104	0	0	107	0	219	219
11:15	12	0	2	0	14	0	71	10	0	81	0	0	0	0	0	3	88	0	0	91	0	186	186
11:30	7	0	5	0	12	0	75	4	0	79	0	0	0	0	0	1	99	0	0	100	0	191	191
11:45	7	0	5	0	12	0	90	8	0	98	0	0	0	0	0	1	95	0	0	96	0	206	206
Total	37	0	17	0	54	0	321	33	0	354	0	0	0	0	0	8	386	0	0	394	0	802	802
12:00	13	0	4	0	17	0	91	11	0	102	0	0	0	0	0	12	101	0	0	113	0	232	232
12:15	12	0	3	0	15	0	100	10	0	110	0	0	0	0	0	5	92	0	0	97	0	222	222
12:30	6	0	3	0	9	0	99	8	0	107	0	0	0	0	0	3	98	0	0	101	0	217	217
12:45	12	0	10	0	22	0	109	14	0	123	0	0	0	0	0	4	82	0	0	86	0	231	231
Total	43	0	20	0	63	0	399	43	0	442	0	0	0	0	0	24	373	0	0	397	0	902	902
13:00	8	0	1	0	9	0	89	4	0	93	0	0	0	0	0	1	79	0	0	80	0	182	182
13:15	12	0	7	0	19	0	105	14	0	119	0	0	0	0	0	3	90	0	0	93	0	231	231
13:30	10	0	4	0	14	0	108	14	0	122	0	0	0	0	0	2	100	0	0	102	0	238	238
13:45	8	0	4	0	12	0	107	6	0	113	0	0	0	0	0	4	88	0	2	92	2	217	219
Total	38	0	16	0	54	0	409	38	0	447	0	0	0	0	0	10	357	0	2	367	2	868	870
14:00	6	0	5	1	11	0	101	10	2	111	0	0	0	0	0	5	101	0	5	106	8	228	236
14:15	6	0	0	0	6	0	97	10	0	107	0	0	0	0	0	4	106	0	0	110	0	223	223
14:30	14	0	2	0	16	0	129	8	0	137	0	0	0	0	0	3	98	0	0	101	0	254	254
14:45	7	0	4	0	11	0	121	18	0	139	0	0	0	0	0	3	107	0	0	110	0	260	260
Total	33	0	11	1	44	0	448	46	2	494	0	0	0	0	0	15	412	0	5	427	8	965	973

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

File Name : Ellmaker&126 16HR
Site Code : 00000000
Start Date : 6/2/2011

Groups Printed- Unshifted - Bank 1

	ELLMAKER RD Southbound					HWY 126 Westbound					ELLMAKER RD Northbound					HWY 126 Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
15:00	13	0	5	0	18	0	105	11	0	116	0	0	0	0	0	6	87	0	0	93	0	227	227
15:15	13	0	2	0	15	0	144	25	0	169	0	0	0	0	0	3	101	0	0	104	0	288	288
15:30	9	0	1	0	10	0	163	19	0	182	0	0	0	0	0	3	100	0	0	103	0	295	295
15:45	7	0	6	1	13	0	147	18	0	165	0	0	0	0	0	2	81	0	1	83	2	261	263
Total	42	0	14	1	56	0	559	73	0	632	0	0	0	0	0	14	369	0	1	383	2	1071	1073
16:00	12	0	8	0	20	0	153	25	0	178	0	0	0	0	0	7	93	0	0	100	0	298	298
16:15	10	0	4	0	14	0	189	24	0	213	0	0	0	0	0	4	81	0	0	85	0	312	312
16:30	9	0	0	0	9	0	171	22	0	193	0	0	0	0	0	3	89	0	0	92	0	294	294
16:45	6	0	0	0	6	0	185	22	1	207	0	0	0	0	0	4	86	0	0	90	1	303	304
Total	37	0	12	0	49	0	698	93	1	791	0	0	0	0	0	18	349	0	0	367	1	1207	1208
17:00	11	0	0	0	11	0	142	27	0	169	0	0	0	0	0	5	94	0	0	99	0	279	279
17:15	6	0	0	0	6	0	189	32	0	221	0	0	0	0	0	4	73	0	0	77	0	304	304
17:30	8	0	8	0	16	0	196	30	0	226	0	0	0	0	0	3	70	0	0	73	0	315	315
17:45	6	0	6	0	12	0	175	26	0	201	0	0	0	0	0	5	60	0	0	65	0	278	278
Total	31	0	14	0	45	0	702	115	0	817	0	0	0	0	0	17	297	0	0	314	0	1176	1176
18:00	12	0	6	0	18	0	162	15	0	177	0	0	0	0	0	4	80	0	0	84	0	279	279
18:15	6	0	6	0	12	0	138	16	0	154	0	0	0	0	0	1	73	0	0	74	0	240	240
18:30	4	0	0	0	4	0	107	21	0	128	0	0	0	0	0	0	44	0	0	44	0	176	176
18:45	5	0	0	4	5	0	87	11	1	98	0	0	0	0	0	4	36	0	0	40	5	143	148
Total	27	0	12	4	39	0	494	63	1	557	0	0	0	0	0	9	233	0	0	242	5	838	843
19:00	3	0	0	0	3	0	94	11	2	105	0	0	0	0	0	4	45	0	0	49	2	157	159
19:15	1	0	1	0	2	0	71	5	0	76	0	0	0	0	0	1	40	0	0	41	0	119	119
19:30	3	0	3	0	6	0	76	7	0	83	0	0	0	0	0	6	44	0	0	50	0	139	139
19:45	5	0	2	0	7	0	71	8	0	79	0	0	0	0	0	1	41	0	0	42	0	128	128
Total	12	0	6	0	18	0	312	31	2	343	0	0	0	0	0	12	170	0	0	182	2	543	545
20:00	4	0	1	0	5	0	58	9	0	67	0	0	0	0	0	1	34	0	0	35	0	107	107
20:15	5	0	0	0	5	0	50	7	0	57	0	0	0	0	0	6	44	0	0	50	0	112	112
20:30	5	0	0	0	5	0	38	6	0	44	0	0	0	0	0	9	32	0	0	41	0	90	90
20:45	2	0	1	0	3	0	45	5	0	50	0	0	0	0	0	2	39	0	0	41	0	94	94
Total	16	0	2	0	18	0	191	27	0	218	0	0	0	0	0	18	149	0	0	167	0	403	403
Grand Total	687	0	194	6	881	0	5675	668	6	6343	0	0	0	0	0	196	5661	0	12	5857	24	13081	13105
Apprch %	78	0	22			0	89.5	10.5			0	0	0			3.3	96.7	0					
Total %	5.3	0	1.5		6.7	0	43.4	5.1		48.5	0	0	0		0	1.5	43.3	0		44.8	0.2	99.8	
Unshifted	667	0	185		858	0	5392	644		6042	0	0	0		0	191	5362	0		5565	0	0	12465
% Unshifted	97.1	0	95.4	100	96.7	0	95	96.4	100	95.2	0	0	0	0	0	97.4	94.7	0	100	94.8	0	0	95.1
Bank 1	20	0	9		29	0	283	24		307	0	0	0		0	5	299	0		304	0	0	640
% Bank 1	2.9	0	4.6	0	3.3	0	5	3.6	0	4.8	0	0	0	0	0	2.6	5.3	0	0	5.2	0	0	4.9

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

File Name : CentralPark&126 16HR
Site Code : 00000000
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Groups Printed- Unshifted - Bank 1

	CENTRAL RD Southbound					HWY 126 Westbound					CENTRAL RD Northbound					HWY 126 Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00	0	0	0	0	0	1	10	0	0	11	1	0	7	0	8	0	32	0	0	32	0	51	51
05:15	0	0	0	0	0	0	22	0	0	22	0	0	12	0	12	0	48	0	0	48	0	82	82
05:30	0	0	0	0	0	1	25	0	0	26	0	0	15	0	15	0	58	0	0	58	0	99	99
05:45	0	0	0	0	0	9	17	0	0	26	0	0	17	0	17	0	79	2	0	81	0	124	124
Total	0	0	0	0	0	11	74	0	0	85	1	0	51	0	52	0	217	2	0	219	0	356	356
06:00	0	0	0	0	0	6	19	0	0	25	2	0	19	0	21	0	81	0	0	81	0	127	127
06:15	0	0	0	0	0	8	22	0	0	30	1	0	17	0	18	0	116	1	0	117	0	165	165
06:30	0	0	0	0	0	7	25	0	0	32	2	0	31	0	33	0	132	0	0	132	0	197	197
06:45	0	0	0	0	0	14	28	0	0	42	0	0	32	0	32	0	136	2	0	138	0	212	212
Total	0	0	0	0	0	35	94	0	0	129	5	0	99	0	104	0	465	3	0	468	0	701	701
07:00	0	0	0	0	0	7	32	0	0	39	0	0	35	0	35	0	175	1	2	176	2	250	252
07:15	0	0	0	0	0	8	50	0	0	58	0	0	37	0	37	0	198	4	0	202	0	297	297
07:30	0	0	0	0	0	7	66	0	0	73	0	0	33	0	33	0	253	1	0	254	0	360	360
07:45	0	0	0	0	0	9	54	0	0	63	3	0	30	0	33	0	164	0	0	164	0	260	260
Total	0	0	0	0	0	31	202	0	0	233	3	0	135	0	138	0	790	6	2	796	2	1167	1169
08:00	0	0	0	0	0	4	54	0	0	58	3	0	29	0	32	0	152	3	0	155	0	245	245
08:15	0	0	0	0	0	7	62	0	0	69	2	0	20	0	22	0	152	3	0	155	0	246	246
08:30	0	0	0	0	0	10	60	0	0	70	1	0	24	0	25	0	118	3	0	121	0	216	216
08:45	0	0	0	0	0	4	77	0	0	81	4	0	21	0	25	1	104	0	0	105	0	211	211
Total	0	0	0	0	0	25	253	0	0	278	10	0	94	0	104	1	526	9	0	536	0	918	918
09:00	0	0	0	0	0	6	63	0	0	69	2	0	19	0	21	0	92	2	0	94	0	184	184
09:15	0	0	0	0	0	10	87	1	0	98	1	0	17	0	18	1	124	0	0	125	0	241	241
09:30	0	0	0	0	0	6	77	0	0	83	2	0	16	0	18	0	101	1	0	102	0	203	203
09:45	3	0	0	0	3	14	73	1	0	88	3	0	14	0	17	2	101	0	0	103	0	211	211
Total	3	0	0	0	3	36	300	2	0	338	8	0	66	0	74	3	418	3	0	424	0	839	839
10:00	0	0	1	0	1	4	73	0	0	77	1	0	19	0	20	0	106	2	0	108	0	206	206
10:15	0	0	0	0	0	4	72	0	0	76	3	0	20	0	23	1	124	3	0	128	0	227	227
10:30	1	0	0	0	1	10	74	0	0	84	1	0	10	0	11	1	121	0	0	122	0	218	218
10:45	1	0	0	0	1	12	80	0	0	92	0	0	14	0	14	0	111	3	0	114	0	221	221
Total	2	0	1	0	3	30	299	0	0	329	5	0	63	0	68	2	462	8	0	472	0	872	872
11:00	1	0	1	0	2	12	90	1	0	103	3	0	11	0	14	2	107	1	0	110	0	229	229
11:15	0	0	2	0	2	9	78	0	0	87	1	0	15	0	16	1	100	0	0	101	0	206	206
11:30	1	0	0	0	1	16	82	3	0	101	0	0	19	0	19	0	104	3	0	107	0	228	228
11:45	2	0	2	0	4	7	99	0	0	106	3	1	12	0	16	0	95	1	0	96	0	222	222
Total	4	0	5	0	9	44	349	4	0	397	7	1	57	0	65	3	406	5	0	414	0	885	885
12:00	0	0	0	0	0	10	91	1	0	102	3	0	14	0	17	0	114	3	0	117	0	236	236
12:15	0	0	1	0	1	20	111	0	0	131	2	0	12	1	14	1	103	1	0	105	1	251	252
12:30	1	0	0	0	1	15	105	1	0	121	1	0	10	0	11	0	100	1	0	101	0	234	234
12:45	0	0	0	0	0	10	112	0	0	122	2	0	16	0	18	1	98	1	0	100	0	240	240
Total	1	0	1	0	2	55	419	2	0	476	8	0	52	1	60	2	415	6	0	423	1	961	962
13:00	1	0	1	0	2	13	100	1	0	114	1	0	8	0	9	1	81	2	0	84	0	209	209
13:15	0	0	0	0	0	18	119	1	0	138	2	0	12	0	14	1	94	1	0	96	0	248	248
13:30	1	0	1	0	2	17	119	1	0	137	0	0	11	0	11	0	115	4	0	119	0	269	269
13:45	0	0	0	0	0	12	106	0	0	118	3	0	9	0	12	0	90	0	0	90	0	220	220
Total	2	0	2	0	4	60	444	3	0	507	6	0	40	0	46	2	380	7	0	389	0	946	946
14:00	1	0	0	0	1	5	107	0	0	112	2	0	17	0	19	2	110	2	0	114	0	246	246
14:15	0	0	1	0	1	13	106	2	0	121	3	0	14	0	17	0	100	4	0	104	0	243	243
14:30	2	0	1	0	3	17	135	1	2	153	5	0	12	0	17	1	112	1	0	114	2	287	289
14:45	0	1	0	0	1	20	136	0	0	156	1	0	13	0	14	1	117	1	0	119	0	290	290
Total	3	1	2	0	6	55	484	3	2	542	11	0	56	0	67	4	439	8	0	451	2	1066	1068

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File Name : CentralPark&126 16HR
Site Code : 00000000
Start Date : 6/2/2011

Groups Printed- Unshifted - Bank 1

	CENTRAL RD Southbound					HWY 126 Westbound					CENTRAL RD Northbound					HWY 126 Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
15:00	0	0	2	0	2	22	97	3	0	122	3	0	22	0	25	0	97	4	0	101	0	250	250
15:15	1	0	1	0	2	27	166	0	0	193	0	0	5	0	5	0	107	3	0	110	0	310	310
15:30	0	0	0	0	0	13	183	0	0	196	1	0	18	0	19	0	100	7	0	107	0	322	322
15:45	1	0	1	0	2	37	164	1	0	202	2	0	26	0	28	1	83	4	0	88	0	320	320
Total	2	0	4	0	6	99	610	4	0	713	6	0	71	0	77	1	387	18	0	406	0	1202	1202
16:00	0	0	1	0	1	21	173	1	0	195	1	0	10	0	11	0	103	2	0	105	0	312	312
16:15	0	0	2	0	2	24	212	1	0	237	1	0	12	0	13	1	95	2	0	98	0	350	350
16:30	2	0	0	0	2	27	180	1	0	208	4	0	18	0	22	0	94	1	0	95	0	327	327
16:45	0	0	0	0	0	28	189	0	0	217	3	0	20	0	23	0	93	3	0	96	0	336	336
Total	2	0	3	0	5	100	754	3	0	857	9	0	60	0	69	1	385	8	0	394	0	1325	1325
17:00	0	0	1	0	1	28	162	1	0	191	7	0	13	0	20	1	104	2	0	107	0	319	319
17:15	1	0	0	0	1	40	224	0	0	264	4	0	22	0	26	0	78	3	0	81	0	372	372
17:30	1	0	1	0	2	43	213	1	0	257	2	0	8	0	10	1	71	1	0	73	0	342	342
17:45	0	0	1	0	1	32	212	1	0	245	1	0	12	0	13	0	66	6	0	72	0	331	331
Total	2	0	3	0	5	143	811	3	0	957	14	0	55	0	69	2	319	12	0	333	0	1364	1364
18:00	0	0	0	0	0	22	163	0	0	185	2	0	21	0	23	0	91	3	0	94	0	302	302
18:15	1	0	0	0	1	18	153	0	0	171	3	0	5	0	8	1	71	3	0	75	0	255	255
18:30	0	0	1	0	1	17	120	1	0	138	1	0	10	0	11	0	49	2	0	51	0	201	201
18:45	0	0	0	0	0	21	106	0	0	127	0	0	5	0	5	0	41	0	0	41	0	173	173
Total	1	0	1	0	2	78	542	1	0	621	6	0	41	0	47	1	252	8	0	261	0	931	931
19:00	0	0	1	0	1	21	97	0	0	118	0	0	4	0	4	0	44	1	0	45	0	168	168
19:15	0	0	0	0	0	23	82	0	0	105	0	1	17	0	18	1	40	1	0	42	0	165	165
19:30	1	0	0	0	1	18	72	0	0	90	2	0	3	0	5	0	39	2	0	41	0	137	137
19:45	0	0	0	0	0	16	83	0	0	99	1	0	4	0	5	0	50	0	0	50	0	154	154
Total	1	0	1	0	2	78	334	0	0	412	3	1	28	0	32	1	173	4	0	178	0	624	624
20:00	0	0	0	0	0	10	68	0	0	78	1	0	3	0	4	0	38	1	0	39	0	121	121
20:15	0	0	1	0	1	13	56	1	0	70	1	0	2	0	3	0	49	0	0	49	0	123	123
20:30	0	0	0	0	0	12	54	0	0	66	1	0	6	0	7	0	26	0	0	26	0	99	99
20:45	0	0	0	0	0	12	56	0	0	68	0	0	7	0	7	0	37	2	0	39	0	114	114
Total	0	0	1	0	1	47	234	1	0	282	3	0	18	0	21	0	150	3	0	153	0	457	457
Grand Total	23	1	24	0	48	927	6203	26	2	7156	105	2	986	1	1093	23	6184	110	2	6317	5	14614	14619
Apprch %	47.9	2.1	50			13	86.7	0.4			9.6	0.2	90.2			0.4	97.9	1.7					
Total %	0.2	0	0.2		0.3	6.3	42.4	0.2		49	0.7	0	6.7		7.5	0.2	42.3	0.8		43.2	0	100	
Unshifted	21	1	23		45	899	5868	24		6793	96	2	955		1054	22	5873	105		6002	0	0	13894
% Unshifted	91.3	100	95.8	0	93.8	97	94.6	92.3	100	94.9	91.4	100	96.9	100	96.3	95.7	95	95.5	100	95	0	0	95
Bank 1	2	0	1		3	28	335	2		365	9	0	31		40	1	311	5		317	0	0	725
% Bank 1	8.7	0	4.2	0	6.2	3	5.4	7.7	0	5.1	8.6	0	3.1	0	3.7	4.3	5	4.5	0	5	0	0	5

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Groups Printed- Unshifted - Bank 1

	GREEN HILL RD Southbound					HWY 126 Westbound					GREEN HILL RD Northbound					HWY 126 Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
05:00	0	1	0	0	1	0	9	1	0	10	0	0	7	0	7	1	31	0	0	32	0	50	50
05:15	1	1	0	0	2	3	15	2	0	20	0	2	6	0	8	4	33	0	0	37	0	67	67
05:30	2	0	1	0	3	3	19	5	0	27	0	1	10	0	11	5	65	0	0	70	0	111	111
05:45	3	0	2	0	5	1	21	1	0	23	0	2	13	0	15	1	73	0	0	74	0	117	117
Total	6	2	3	0	11	7	64	9	0	80	0	5	36	0	41	11	202	0	0	213	0	345	345
06:00	1	0	3	0	4	2	20	1	0	23	0	0	0	0	0	0	92	0	0	92	0	119	119
06:15	3	3	1	0	7	6	19	2	0	27	0	2	7	0	9	4	93	0	1	97	1	140	141
06:30	4	3	4	0	11	5	28	6	0	39	0	10	21	0	31	1	129	0	0	130	0	211	211
06:45	13	3	2	1	18	2	33	3	0	38	0	9	30	0	39	8	164	0	1	172	2	267	269
Total	21	9	10	1	40	15	100	12	0	127	0	21	58	0	79	13	478	0	2	491	3	737	740
07:00	7	7	0	0	14	2	31	2	0	35	2	8	25	0	35	1	177	0	0	178	0	262	262
07:15	7	3	0	0	10	4	40	7	0	51	1	6	33	0	40	5	200	0	0	205	0	306	306
07:30	13	7	1	0	21	4	72	9	0	85	0	10	32	0	42	7	245	0	1	252	1	400	401
07:45	28	10	0	0	38	10	38	11	0	59	4	8	33	0	45	9	235	2	0	246	0	388	388
Total	55	27	1	0	83	20	181	29	0	230	7	32	123	0	162	22	857	2	1	881	1	1356	1357
08:00	16	1	3	0	20	7	43	6	0	56	0	11	36	0	47	6	162	0	0	168	0	291	291
08:15	6	6	5	0	17	15	60	4	0	79	1	11	29	0	41	2	155	1	0	158	0	295	295
08:30	15	2	10	0	27	9	65	4	0	78	1	9	19	0	29	6	142	0	0	148	0	282	282
08:45	10	7	5	0	22	10	56	13	0	79	0	7	26	0	33	3	130	1	0	134	0	268	268
Total	47	16	23	0	86	41	224	27	0	292	2	38	110	0	150	17	589	2	0	608	0	1136	1136
09:00	3	4	0	0	7	6	67	9	0	82	0	3	23	0	26	5	97	2	0	104	0	219	219
09:15	15	5	7	0	27	7	82	7	0	96	1	5	16	0	22	5	117	0	0	122	0	267	267
09:30	5	3	8	0	16	13	73	3	0	89	1	4	13	0	18	2	131	1	0	134	0	257	257
09:45	5	5	5	0	15	4	64	7	0	75	2	5	12	0	19	3	109	1	0	113	0	222	222
Total	28	17	20	0	65	30	286	26	0	342	4	17	64	0	85	15	454	4	0	473	0	965	965
10:00	6	6	6	0	18	11	71	5	0	87	0	5	8	0	13	2	97	0	1	99	1	217	218
10:15	9	5	0	0	14	11	69	8	0	88	0	7	17	0	24	4	118	1	0	123	0	249	249
10:30	10	7	3	0	20	14	78	8	0	100	0	7	10	0	17	5	115	2	0	122	0	259	259
10:45	2	8	7	0	17	8	83	12	0	103	1	7	15	0	23	11	126	1	0	138	0	281	281
Total	27	26	16	0	69	44	301	33	0	378	1	26	50	0	77	22	456	4	1	482	1	1006	1007
11:00	11	4	3	0	18	11	85	9	0	105	2	1	4	0	7	6	96	2	0	104	0	234	234
11:15	8	7	3	0	18	12	70	7	0	89	1	2	10	0	13	8	112	2	0	122	0	242	242
11:30	5	8	3	0	16	20	95	16	0	131	0	6	25	0	31	5	105	2	0	112	0	290	290
11:45	8	4	3	0	15	8	100	13	0	121	1	3	12	0	16	6	95	0	0	101	0	253	253
Total	32	23	12	0	67	51	350	45	0	446	4	12	51	0	67	25	408	6	0	439	0	1019	1019
12:00	11	4	9	0	24	6	88	14	0	108	0	1	14	0	15	9	123	0	0	132	0	279	279
12:15	15	5	6	0	26	13	121	6	0	140	1	3	18	0	22	6	97	0	0	103	0	291	291
12:30	9	3	11	0	23	10	98	11	0	119	1	8	18	0	27	6	103	1	0	110	0	279	279
12:45	16	6	7	0	29	16	101	11	0	128	3	9	15	0	27	6	103	1	2	110	2	294	296
Total	51	18	33	0	102	45	408	42	0	495	5	21	65	0	91	27	426	2	2	455	2	1143	1145
13:00	10	9	9	0	28	20	96	16	0	132	1	7	18	0	26	8	92	1	0	101	0	287	287
13:15	7	3	7	0	17	15	114	18	0	147	1	10	13	0	24	7	98	0	0	105	0	293	293
13:30	11	10	3	0	24	14	113	10	0	137	3	6	12	0	21	6	109	0	0	115	0	297	297
13:45	13	4	2	0	19	17	93	7	0	117	0	3	12	0	15	4	91	1	0	96	0	247	247
Total	41	26	21	0	88	66	416	51	0	533	5	26	55	0	86	25	390	2	0	417	0	1124	1124
14:00	9	10	6	0	25	22	95	10	0	127	1	6	21	1	28	2	103	0	0	105	1	285	286
14:15	12	8	9	0	29	15	101	12	0	128	1	12	7	0	20	6	105	0	0	111	0	288	288
14:30	8	7	5	0	20	16	135	15	0	166	0	4	18	0	22	7	104	0	0	111	0	319	319
14:45	12	10	9	0	31	17	129	11	0	157	1	5	11	0	17	9	108	3	0	120	0	325	325
Total	41	35	29	0	105	70	460	48	0	578	3	27	57	1	87	24	420	3	0	447	1	1217	1218

All Traffic Data Services, Inc.
15105 SE 17th St. Vancouver, WA. 98683
503-833-2740

File Name : GreenHill&126 16HR
Site Code : 00000000
Start Date : 6/2/2011

Groups Printed- Unshifted - Bank 1

	GREEN HILL RD Southbound					HWY 126 Westbound					GREEN HILL RD Northbound					HWY 126 Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
15:00	15	5	12	0	32	20	112	14	0	146	3	5	6	0	14	8	109	2	0	119	0	311	311
15:15	12	11	12	0	35	17	153	16	0	186	3	10	17	0	30	6	88	3	0	97	0	348	348
15:30	11	10	12	0	33	30	174	8	0	212	1	14	18	0	33	5	95	1	0	101	0	379	379
15:45	7	5	16	0	28	30	151	13	0	194	2	8	11	0	21	8	111	1	0	120	0	363	363
Total	45	31	52	0	128	97	590	51	0	738	9	37	52	0	98	27	403	7	0	437	0	1401	1401
16:00	11	12	9	0	32	21	176	22	0	219	1	4	15	0	20	8	107	0	0	115	0	386	386
16:15	19	14	7	0	40	23	191	9	0	223	1	8	11	0	20	3	103	1	0	107	0	390	390
16:30	10	12	15	0	37	19	189	17	0	225	1	8	8	0	17	7	80	0	0	87	0	366	366
16:45	13	17	6	0	36	25	181	15	0	221	1	4	11	0	16	4	103	1	0	108	0	381	381
Total	53	55	37	0	145	88	737	63	0	888	4	24	45	0	73	22	393	2	0	417	0	1523	1523
17:00	9	13	5	0	27	27	183	16	0	226	0	5	9	0	14	7	100	1	0	108	0	375	375
17:15	17	9	11	0	37	34	224	16	0	274	1	7	17	0	25	6	87	1	0	94	0	430	430
17:30	11	11	13	0	35	27	228	15	0	270	2	6	13	0	21	6	79	2	0	87	0	413	413
17:45	12	11	11	0	34	28	199	16	0	243	0	8	8	0	16	4	60	1	0	65	0	358	358
Total	49	44	40	0	133	116	834	63	0	1013	3	26	47	0	76	23	326	5	0	354	0	1576	1576
18:00	6	6	0	0	12	28	154	10	0	192	1	5	7	0	13	6	83	1	1	90	1	307	308
18:15	10	10	1	0	21	24	142	13	0	179	0	6	13	0	19	2	79	1	0	82	0	301	301
18:30	7	3	3	0	13	32	121	11	0	164	1	4	6	0	11	4	66	1	0	71	0	259	259
18:45	3	6	6	0	15	17	102	10	0	129	1	3	7	0	11	2	39	0	0	41	0	196	196
Total	26	25	10	0	61	101	519	44	0	664	3	18	33	0	54	14	267	3	1	284	1	1063	1064
19:00	5	5	5	0	15	11	96	5	0	112	0	1	5	0	6	1	44	0	0	45	0	178	178
19:15	5	8	2	0	15	20	93	6	0	119	1	3	3	0	7	0	46	2	0	48	0	189	189
19:30	4	6	5	0	15	13	75	12	0	100	0	3	5	0	8	2	43	1	0	46	0	169	169
19:45	4	7	2	0	13	16	82	4	0	102	1	2	5	0	8	0	42	0	0	42	0	165	165
Total	18	26	14	0	58	60	346	27	0	433	2	9	18	0	29	3	175	3	0	181	0	701	701
20:00	2	4	5	0	11	12	63	3	0	78	1	4	5	0	10	4	38	0	0	42	0	141	141
20:15	4	2	1	0	7	24	59	7	0	90	0	2	7	0	9	3	39	0	0	42	0	148	148
20:30	2	2	5	0	9	13	52	8	0	73	0	4	9	0	13	6	33	2	0	41	0	136	136
20:45	2	6	0	0	8	15	62	5	0	82	1	9	9	0	19	3	28	0	0	31	0	140	140
Total	10	14	11	0	35	64	236	23	0	323	2	19	30	0	51	16	138	2	0	156	0	565	565
Grand Total	550	394	332	1	1276	915	6052	593	0	7560	54	358	894	1	1306	306	6382	47	7	6735	9	16877	16886
Apprch %	43.1	30.9	26			12.1	80.1	7.8			4.1	27.4	68.5			4.5	94.8	0.7					
Total %	3.3	2.3	2		7.6	5.4	35.9	3.5		44.8	0.3	2.1	5.3		7.7	1.8	37.8	0.3		39.9	0.1	99.9	
Unshifted	531	363	316		1211	873	5723	567		7163	49	339	845		1234	297	6056	42		6402	0	0	16010
% Unshifted	96.5	92.1	95.2	100	94.8	95.4	94.6	95.6	0	94.7	90.7	94.7	94.5	100	94.4	97.1	94.9	89.4	100	95	0	0	94.8
Bank 1	19	31	16		66	42	329	26		397	5	19	49		73	9	326	5		340	0	0	876
% Bank 1	3.5	7.9	4.8	0	5.2	4.6	5.4	4.4	0	5.3	9.3	5.3	5.5	0	5.6	2.9	5.1	10.6	0	5	0	0	5.2

Seasonal Adjustment Factor

OR 126W Seasonal Adjustment Factor Calculations

2010 SEASONAL TREND TABLE (Printed: 07/07/10)																									Peak Period Seasonal Factor
TREND	1-Jan	15-Jan	1-Feb	15-Feb	1-Mar	15-Mar	1-Apr	15-Apr	1-May	15-May	1-Jun	15-Jun	1-Jul	15-Jul	1-Aug	15-Aug	1-Sep	15-Sep	1-Oct	15-Oct	1-Nov	15-Nov	1-Dec	15-Dec	
INTERSTATE URBANIZED	1.00	1.01	0.99	0.97	0.96	0.95	0.94	0.93	0.94	0.94	0.93	0.91	0.91	0.91	0.91	0.91	0.93	0.94	0.95	0.95	0.96	0.98	0.98	0.99	0.91
INTERSTATE NONURBANIZED	1.26	1.33	1.28	1.23	1.16	1.10	1.08	1.06	1.03	1.00	0.95	0.91	0.88	0.84	0.85	0.85	0.90	0.94	0.99	1.04	1.05	1.06	1.12	1.18	0.84
COMMUTER	1.01	1.02	1.01	0.99	0.98	0.98	0.95	0.93	0.93	0.93	0.92	0.90	0.90	0.90	0.90	0.90	0.91	0.93	0.93	0.94	0.96	0.99	1.00	1.01	0.90
COASTAL DESTINATION	1.20	1.22	1.20	1.18	1.14	1.09	1.09	1.08	1.06	1.04	0.99	0.94	0.88	0.82	0.82	0.83	0.88	0.94	1.01	1.07	1.12	1.16	1.17	1.18	0.82
COASTAL DESTINATION ROUTE	1.46	1.53	1.49	1.44	1.36	1.28	1.24	1.20	1.15	1.09	1.03	0.96	0.86	0.76	0.77	0.77	0.85	0.93	1.06	1.18	1.25	1.32	1.36	1.39	0.76
AGRICULTURE	1.16	1.18	1.15	1.13	1.11	1.08	1.04	0.99	0.96	0.94	0.92	0.90	0.89	0.88	0.87	0.87	0.89	0.91	0.92	0.93	0.97	1.01	1.07	1.14	0.87
RECREATIONAL SUMMER	1.82	1.95	1.90	1.84	1.73	1.63	1.51	1.40	1.22	1.03	0.95	0.87	0.80	0.74	0.75	0.77	0.82	0.88	1.00	1.11	1.30	1.48	1.59	1.69	0.74
RECREATIONAL SUMMER WINTER	1.22	1.35	1.35	1.35	1.36	1.37	1.53	1.69	1.64	1.60	1.35	1.09	0.97	0.85	0.91	0.96	1.11	1.27	1.61	1.96	1.74	1.51	1.30	1.08	0.85
RECREATIONAL WINTER	0.98	1.07	1.16	1.25	1.07	0.89	1.30	1.72	2.26	2.80	2.23	1.66	1.42	1.19	1.27	1.35	1.48	1.61	2.05	2.49	2.10	1.71	1.31	0.90	0.89
SUMMER	1.19	1.23	1.20	1.17	1.14	1.12	1.07	1.02	0.99	0.95	0.92	0.89	0.86	0.83	0.84	0.84	0.88	0.91	0.95	0.99	1.04	1.09	1.12	1.16	0.83
SUMMER < 2500	1.34	1.41	1.37	1.33	1.25	1.18	1.10	1.03	0.96	0.90	0.87	0.83	0.81	0.80	0.81	0.82	0.83	0.84	0.89	0.93	1.01	1.08	1.18	1.27	0.80

***Seasonal Trend Table factors are based on previous year ATR data and the table is updated yearly.**

Average for June 1st = 0.95 = Factor for adjustment to average annual traffic

Average for Peak Period = 0.86

$\frac{X}{X}$ = **1.11** Seasonal factor for 30th HV

Level of Service Descriptions

TRAFFIC LEVELS OF SERVICE

Analysis of traffic volumes is useful in understanding the general nature of traffic in an area, but by itself indicates neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of *level of service* has been developed to subjectively describe traffic performance. Level of service can be measured at intersections and along key roadway segments.

Level of service categories are similar to report card ratings for traffic performance. Intersections are typically the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is generally diminished in their vicinities. Levels of Service A, B and C indicate conditions where traffic moves without significant delays over periods of peak travel demand. Level of service D and E are progressively worse peak hour operating conditions and F conditions represent where demand exceeds the capacity of an intersection. Most urban communities set level of service D as the minimum acceptable level of service for peak hour operation and plan for level of service C or better for all other times of the day. The *Highway Capacity Manual* provides level of service calculation methodology for both intersections and arterials.[1] The following two sections provide interpretations of the analysis approaches.

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1 *2000 Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2000, Chapters 16 and 17.

UNSIGNALIZED INTERSECTIONS (Two-Way Stop Controlled)

Unsignalized intersection level of service is reported for the major street and minor street (generally, left turn movements). The method assesses available and critical gaps in the traffic stream which make it possible for side street traffic to enter the main street flow. The *2000 Highway Capacity Manual* describes the detailed methodology. It is not unusual for an intersection to experience level of service E or F conditions for the minor street left turn movement. It should be understood that, often, a poor level of service is experienced by only a few vehicles and the intersection as a whole operates acceptably.

Unsignalized intersection levels of service are described in the following table.

Level of Service	Expected Delay	(Sec/Veh)
A	Little or no delay	0-10.0
B	Short traffic delay	>10.1-15.0
C	Average traffic delays	>15.1-25.0
D	Long traffic delays	>25.1-35.0
E	Very long traffic delays	>35.1-50.0
F	Extreme delays potentially affecting other traffic movements in the intersection	> 50

Source: 2000 *Highway Capacity Manual*, Transportation Research Board Washington, D.C.

SIGNALIZED INTERSECTIONS

For signalized intersections, level of service is evaluated based upon average vehicle delay experienced by vehicles entering an intersection. Control delay (or signal delay) includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In previous versions of this chapter of the HCM (1994 and earlier), delay included only stopped delay. As delay increases, the level of service decreases. Calculations for signalized and unsignalized intersections are different due to the variation in traffic control. The *2000 Highway Capacity Manual* provides the basis for these calculations.

Level of Service	Delay (secs.)	Description
A	≤10.00	**Free Flow/Insignificant Delays:** No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Most vehicles do not stop at all. Progression is extremely favorable and most vehicles arrive during the green phase.
B	10.1-20.0	**Stable Operation/Minimal Delays:** An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles. This level generally occurs with good progression, short cycle lengths, or both.
C	20.1-35.0	**Stable Operation/Acceptable Delays:** Major approach phases fully utilized. Most drivers feel somewhat restricted. Higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, and the number of vehicles stopping is significant.
D	35.1-55.0	**Approaching Unstable/Tolerable Delays:** The influence of congestion becomes more noticeable. Drivers may have to wait through more than one red signal indication. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. The proportion of vehicles not stopping declines, and individual cycle failures are noticeable.
E	55.1-80.0	**Unstable Operation/Significant Delays:** Volumes at or near capacity. Vehicles may wait though several signal cycles. Long queues form upstream from intersection. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are a frequent occurrence.
F	≥80.0	**Forced Flow/Excessive Delays:** Represents jammed conditions. Queues may block upstream intersections. This level occurs when arrival flow rates exceed intersection capacity, and is considered to be unacceptable to most drivers. Poor progression, long cycle lengths, and v/c ratios approaching 1.0 may contribute to these high delay levels.

Source: *2000 Highway Capacity Manual*, Transportation Research Board, Washington D.C.

DKS Associates
TRANSPORTATION SOLUTIONS

HCM Intersection Analysis – 30th HV

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	345	20	145	660	20	15	5	50	10	5	20
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	16	371	22	156	710	22	16	5	54	11	5	22
Pedestrians		2						3			1	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	711			374			1454	1429	374	1482	1429	713
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	711			374			1454	1429	374	1482	1429	713
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	98			87			82	95	92	86	95	95
cM capacity (veh/h)	897			1182			88	116	664	76	116	415

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	16	371	22	156	710	22	75	38
Volume Left	16	0	0	156	0	0	16	11
Volume Right	0	0	22	0	0	22	54	22
cSH	897	1700	1700	1182	1700	1700	242	157
Volume to Capacity	0.02	0.22	0.01	0.13	0.42	0.01	0.31	0.24
Queue Length 95th (ft)	1	0	0	11	0	0	32	22
Control Delay (s)	9.1	0.0	0.0	8.5	0.0	0.0	26.4	35.0
Lane LOS	A			A			D	E
Approach Delay (s)	0.4			1.5			26.4	35.0
Approach LOS							D	E

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	405	825	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	431	878	1	1	1
Pedestrians		2			4	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	883				1315	884
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	883				1315	884
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	772				175	346

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	432	879	2
Volume Left	1	0	1
Volume Right	0	1	1
cSH	772	1700	232
Volume to Capacity	0.00	0.52	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	20.6
Lane LOS	A		C
Approach Delay (s)	0.0	0.0	20.6
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

3: OR 126(W) & Driveway 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	405	825	0	0	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	431	878	0	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	878				1309	878
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	878				1309	878
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	778				178	350

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	431	878	2
Volume Left	0	0	0
Volume Right	0	0	2
cSH	778	1700	350
Volume to Capacity	0.00	0.52	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	15.3
Lane LOS			C
Approach Delay (s)	0.0	0.0	15.3
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

4: OR 126(W) & Driveway 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	405	820	2	1	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	431	872	2	1	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	874				1304	873
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	874				1304	873
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	780				179	352

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	431	874	6
Volume Left	0	0	1
Volume Right	0	2	5
cSH	780	1700	303
Volume to Capacity	0.00	0.51	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	17.1
Lane LOS			C
Approach Delay (s)	0.0	0.0	17.1
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

5: OR 126(W) & Driveway 4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	405	820	0	0	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	431	872	0	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	872				1303	872
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	872				1303	872
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	782				179	353

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	431	872	1
Volume Left	0	0	0
Volume Right	0	0	1
cSH	782	1700	353
Volume to Capacity	0.00	0.51	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	15.2
Lane LOS			C
Approach Delay (s)	0.0	0.0	15.2
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

6: OR 126(W) & Driveway 5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	405	815	0	0	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	431	867	0	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	867				1298	867
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	867				1298	867
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	785				180	355

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	431	867	5
Volume Left	0	0	0
Volume Right	0	0	5
cSH	785	1700	355
Volume to Capacity	0.00	0.51	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	15.3
Lane LOS			C
Approach Delay (s)	0.0	0.0	15.3
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	405	815	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	431	867	2	1	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	869				1301	868
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	869				1301	868
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	784				179	355

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	432	869	2
Volume Left	1	0	1
Volume Right	0	2	1
cSH	784	1700	238
Volume to Capacity	0.00	0.51	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	20.3
Lane LOS	A		C
Approach Delay (s)	0.0	0.0	20.3
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	405	815	5	5	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	431	867	5	5	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	872				1305	870
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	872				1305	870
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	782				178	354

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	433	872	6
Volume Left	2	0	5
Volume Right	0	5	1
cSH	782	1700	194
Volume to Capacity	0.00	0.51	0.03
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.1	0.0	24.2
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	24.2
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

9: OR 126(W) & Driveway 8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	410	815	1	0	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	436	867	1	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	868				1304	868
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868				1304	868
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	785				179	355

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	436	868	5
Volume Left	0	0	0
Volume Right	0	1	5
cSH	785	1700	355
Volume to Capacity	0.00	0.51	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	15.3
Lane LOS			C
Approach Delay (s)	0.0	0.0	15.3
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

10: OR 126(W) & Driveway 9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	410	815	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	436	867	1	1	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	868				1304	868
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	868				1304	868
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	785				179	355

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	436	868	2
Volume Left	0	0	1
Volume Right	0	1	1
cSH	785	1700	238
Volume to Capacity	0.00	0.51	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	20.3
Lane LOS			C
Approach Delay (s)	0.0	0.0	20.3
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	400	805	1	0	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	426	856	1	0	11
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	859				1306	859
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	859				1306	859
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	97
cM capacity (veh/h)	789				176	358

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	436	857	11
Volume Left	11	0	0
Volume Right	0	1	11
cSH	789	1700	358
Volume to Capacity	0.01	0.50	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	0.4	0.0	15.3
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	15.3
Approach LOS			C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	395	795	10	5	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	420	846	11	5	11
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	858				1284	853
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	858				1284	853
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	97
cM capacity (veh/h)	790				182	361

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	426	856	16
Volume Left	5	0	5
Volume Right	0	11	11
cSH	790	1700	272
Volume to Capacity	0.01	0.50	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	0.2	0.0	19.1
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	19.1
Approach LOS			C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	15	385	790	10	5	15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	16	410	840	11	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	851				1287	846
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	851				1287	846
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	98				97	96
cM capacity (veh/h)	762				179	365

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	426	851	21
Volume Left	16	0	5
Volume Right	0	11	16
cSH	762	1700	290
Volume to Capacity	0.02	0.50	0.07
Queue Length 95th (ft)	2	0	6
Control Delay (s)	0.6	0.0	18.4
Lane LOS	A		C
Approach Delay (s)	0.6	0.0	18.4
Approach LOS			C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	390	800	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	415	851	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	851				1268	851
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	851				1268	851
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	796				188	363

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	416	851	1
Volume Left	1	0	1
Volume Right	0	0	0
cSH	796	1700	188
Volume to Capacity	0.00	0.50	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	24.3
Lane LOS	A		C
Approach Delay (s)	0.0	0.0	24.3
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	370	790	125	35	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	389	832	132	37	11
Pedestrians		1				
Lane Width (ft)		12.0				
Walking Speed (ft/s)		4.0				
Percent Blockage		0				
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	832				1263	833
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	832				1263	833
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				80	97
cM capacity (veh/h)	810				184	371

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	21	389	832	132	47
Volume Left	21	0	0	0	37
Volume Right	0	0	0	132	11
cSH	810	1700	1700	1700	207
Volume to Capacity	0.03	0.23	0.49	0.08	0.23
Queue Length 95th (ft)	2	0	0	0	21
Control Delay (s)	9.6	0.0	0.0	0.0	27.4
Lane LOS	A				D
Approach Delay (s)	0.5		0.0		27.4
Approach LOS					D

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	400	895	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	426	952	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	952				1378	952
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	952				1378	952
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	730				161	317

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	426	952	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	730	1700	1700
Volume to Capacity	0.00	0.56	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

17: OR 126(W) & Lake Side Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	400	0	1	890	5	0	0	1	0	0	0
Peak Hour Factor	0.97	0.97	0.92	0.92	0.97	0.97	0.92	0.92	0.92	0.97	0.92	0.97
Hourly flow rate (vph)	0	412	0	1	918	5	0	0	1	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	923			412			1335	1337	412	1336	1335	920
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	923			412			1335	1337	412	1336	1335	920
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	749			1147			131	153	640	132	154	331

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	412	924	1	0
Volume Left	0	1	0	0
Volume Right	0	5	1	0
cSH	749	1147	640	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.0	10.6	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.0	10.6	0.0
Approach LOS			B	A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

18: OR 126(W) & Central Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱		✣			✣	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	385	10	155	875	2	20	0	70	2	0	2
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
Hourly flow rate (vph)	2	418	11	168	951	2	22	0	76	2	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	951			418			1713	1711	418	1787	1711	951
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	951			418			1713	1711	418	1787	1711	951
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			85			66	100	88	96	100	99
cM capacity (veh/h)	730			1146			63	78	639	50	78	318

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	2	418	11	168	951	2	98	4
Volume Left	2	0	0	168	0	0	22	2
Volume Right	0	0	11	0	0	2	76	2
cSH	730	1700	1700	1146	1700	1700	212	86
Volume to Capacity	0.00	0.25	0.01	0.15	0.56	0.00	0.46	0.05
Queue Length 95th (ft)	0	0	0	13	0	0	56	4
Control Delay (s)	9.9	0.0	0.0	8.7	0.0	0.0	35.9	49.0
Lane LOS	A			A			E	E
Approach Delay (s)	0.1			1.3			35.9	49.0
Approach LOS							E	E

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	45	430	920	5	2	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	47	453	968	5	2	121
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	968				1516	968
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	968				1516	968
tC, single (s)	4.1				6.9	6.2
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.3
p0 queue free %	93				98	61
cM capacity (veh/h)	700				95	309

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	47	453	968	5	123
Volume Left	47	0	0	0	2
Volume Right	0	0	0	5	121
cSH	700	1700	1700	1700	298
Volume to Capacity	0.07	0.27	0.57	0.00	0.41
Queue Length 95th (ft)	5	0	0	0	49
Control Delay (s)	10.5	0.0	0.0	0.0	25.4
Lane LOS	B				D
Approach Delay (s)	1.0		0.0		25.4
Approach LOS					D

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	425	930	0	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	457	1000	0	0	0
Pedestrians			1			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			4.0			
Percent Blockage			0			
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1000				1458	1000
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1000				1458	1000
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	700				144	298

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	457	1000	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	700	1700	1700
Volume to Capacity	0.00	0.59	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	435	0	5	920	0	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	483	0	6	1022	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			483		1517	483
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			483		1517	483
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1090		132	587

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	483	1028	2
Volume Left	0	6	0
Volume Right	0	0	2
cSH	1700	1090	587
Volume to Capacity	0.28	0.01	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.2	11.2
Lane LOS		A	B
Approach Delay (s)	0.0	0.2	11.2
Approach LOS			B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.98	1.00
Satd. Flow (prot)	1805	1821		1770	1841			1885	1583		1835	1615
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00		0.83	1.00
Satd. Flow (perm)	1805	1821		1770	1841			1811	1583		1553	1615
Volume (vph)	25	410	5	125	905	70	5	25	55	55	55	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	27	441	5	134	973	75	5	27	59	59	59	43
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	52	0	0	38
Lane Group Flow (vph)	27	446	0	134	1046	0	0	32	7	0	118	5
Heavy Vehicles (%)	0%	4%	20%	2%	2%	3%	0%	0%	2%	0%	2%	0%
Turn Type	Prot			Prot			Perm		Perm	Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	1.9	47.5		10.2	55.8			10.4	10.4		10.4	10.4
Effective Green, g (s)	1.9	49.5		10.2	57.8			10.4	10.4		10.4	10.4
Actuated g/C Ratio	0.02	0.60		0.12	0.70			0.13	0.13		0.13	0.13
Clearance Time (s)	4.0	6.0		4.0	6.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	42	1098		220	1296			229	201		197	205
v/s Ratio Prot	0.01	0.24		c0.08	c0.57							
v/s Ratio Perm								0.02	0.00		c0.08	0.00
v/c Ratio	0.64	0.41		0.61	0.81			0.14	0.04		0.60	0.03
Uniform Delay, d1	39.8	8.6		34.1	8.3			31.9	31.5		33.9	31.4
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	29.0	0.2		4.7	3.8			0.3	0.1		4.8	0.1
Delay (s)	68.8	8.8		38.8	12.1			32.2	31.5		38.7	31.5
Level of Service	E	A		D	B			C	C		D	C
Approach Delay (s)		12.2			15.1			31.8			36.8	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	82.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Intersection Analysis – Average Annual Weekday A.M./P.M. Peak Hours

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	495	10	20	200	10	25	10	150	25	5	10
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	6	611	12	25	247	12	31	12	185	31	6	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	247			611			935	920	611	1111	920	247
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	247			611			935	920	611	1111	920	247
tC, single (s)	4.3			4.2			7.1	6.7	6.2	7.2	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.4			2.3			3.5	4.2	3.3	3.6	4.0	3.4
p0 queue free %	99			97			87	95	62	71	98	98
cM capacity (veh/h)	1196			926			230	248	492	106	264	768

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	6	611	12	25	247	12	228	49
Volume Left	6	0	0	25	0	0	31	31
Volume Right	0	0	12	0	0	12	185	12
cSH	1196	1700	1700	926	1700	1700	407	150
Volume to Capacity	0.01	0.36	0.01	0.03	0.15	0.01	0.56	0.33
Queue Length 95th (ft)	0	0	0	2	0	0	83	33
Control Delay (s)	8.0	0.0	0.0	9.0	0.0	0.0	24.5	40.5
Lane LOS	A			A			C	E
Approach Delay (s)	0.1			0.8			24.5	40.5
Approach LOS							C	E

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	670	230	0	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	838	288	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	288				1125	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				1125	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1286				229	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	838	288	1
Volume Left	0	0	1
Volume Right	0	0	0
cSH	1286	1700	229
Volume to Capacity	0.00	0.17	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	20.8
Lane LOS			C
Approach Delay (s)	0.0	0.0	20.8
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	670	230	0	0	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	838	288	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	288				1125	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				1125	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1286				229	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	838	288	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1286	1700	1700
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	665	230	1	0	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	831	288	1	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	289				1132	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	289				1132	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1285				226	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	838	289	0
Volume Left	6	0	0
Volume Right	0	1	0
cSH	1285	1700	1700
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.1	0.0	0.0
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

5: OR 126(W) & Driveway 4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	665	230	0	0	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	831	288	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	288				1121	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				1121	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1286				230	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	832	288	0
Volume Left	1	0	0
Volume Right	0	0	0
cSH	1286	1700	1700
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		

6: OR 126(W) & Driveway 5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	665	230	0	0	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	2	831	288	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	288				1124	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				1124	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1286				229	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	834	288	0
Volume Left	2	0	0
Volume Right	0	0	0
cSH	1286	1700	1700
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.1	0.0	0.0
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	665	230	1	0	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	831	288	1	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	289				1119	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	289				1119	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1285				231	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	831	289	0
Volume Left	0	0	0
Volume Right	0	1	0
cSH	1285	1700	1700
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	665	230	0	0	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	0	831	288	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	288				1119	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				1119	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1286				231	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	831	288	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1286	1700	1700
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	660	230	1	2	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	825	288	1	2	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	289				1126	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	289				1126	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1285				228	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	831	289	2
Volume Left	6	0	2
Volume Right	0	1	0
cSH	1285	1700	228
Volume to Capacity	0.00	0.17	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	21.0
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	21.0
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	660	230	0	0	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	825	288	0	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	288				1115	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				1115	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1286				232	756

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	826	288	1
Volume Left	1	0	0
Volume Right	0	0	1
cSH	1286	1700	756
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	9.8
Lane LOS	A		A
Approach Delay (s)	0.0	0.0	9.8
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	660	230	0	0	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	2	825	288	0	0	1
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	288				1118	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				1118	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1284				230	755

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	828	288	1
Volume Left	2	0	0
Volume Right	0	0	1
cSH	1284	1700	755
Volume to Capacity	0.00	0.17	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.1	0.0	9.8
Lane LOS	A		A
Approach Delay (s)	0.1	0.0	9.8
Approach LOS			A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	655	220	10	5	10
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	819	275	12	6	12
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	288				1114	282
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	288				1114	282
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	98
cM capacity (veh/h)	1284				231	761

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	825	288	19
Volume Left	6	0	6
Volume Right	0	12	12
cSH	1284	1700	431
Volume to Capacity	0.00	0.17	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.1	0.0	13.7
Lane LOS	A		B
Approach Delay (s)	0.1	0.0	13.7
Approach LOS			B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	655	215	5	10	15
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	819	269	6	12	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275				1103	272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275				1103	272
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	98
cM capacity (veh/h)	1300				235	772

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	825	275	31
Volume Left	6	0	12
Volume Right	0	6	19
cSH	1300	1700	403
Volume to Capacity	0.00	0.16	0.08
Queue Length 95th (ft)	0	0	6
Control Delay (s)	0.1	0.0	14.7
Lane LOS	A		B
Approach Delay (s)	0.1	0.0	14.7
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	665	220	0	2	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	831	275	0	2	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275				1109	275
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275				1109	275
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1300				234	769

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	832	275	2
Volume Left	1	0	2
Volume Right	0	0	0
cSH	1300	1700	234
Volume to Capacity	0.00	0.16	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	20.6
Lane LOS	A		C
Approach Delay (s)	0.0	0.0	20.6
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	15	655	205	10	85	15
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	19	819	256	12	106	19
Pedestrians			3			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			4.0			
Percent Blockage			0			
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	256				1116	256
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	256				1116	256
tC, single (s)	4.2				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	99				53	98
cM capacity (veh/h)	1280				227	754

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	19	819	256	12	125
Volume Left	19	0	0	0	106
Volume Right	0	0	0	12	19
cSH	1280	1700	1700	1700	254
Volume to Capacity	0.01	0.48	0.15	0.01	0.49
Queue Length 95th (ft)	1	0	0	0	63
Control Delay (s)	7.9	0.0	0.0	0.0	32.3
Lane LOS	A				D
Approach Delay (s)	0.2		0.0		32.3
Approach LOS					D

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	740	215	0	0	1
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	949	276	0	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	276				1224	276
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	276				1224	276
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1299				200	768

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	949	276	1
Volume Left	0	0	0
Volume Right	0	0	1
cSH	1299	1700	768
Volume to Capacity	0.00	0.16	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	9.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
17: OR 126(W) & Lake Side Dr

OR 126W Fern Ridge Corridor Study
2011 Average Annual Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	745	0	0	210	0	0	0	0	5	0	5
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	2	898	0	0	253	0	0	0	0	6	0	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	253			898			1161	1155	898	1155	1155	253
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	253			898			1161	1155	898	1155	1155	253
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	97	100	99
cM capacity (veh/h)	1324			765			172	198	341	175	198	791

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	900	253	0	12
Volume Left	2	0	0	6
Volume Right	0	0	0	6
cSH	1324	765	1700	287
Volume to Capacity	0.00	0.00	0.00	0.04
Queue Length 95th (ft)	0	0	0	3
Control Delay (s)	0.1	0.0	0.0	18.1
Lane LOS	A		A	C
Approach Delay (s)	0.1	0.0	0.0	18.1
Approach LOS			A	C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
18: OR 126(W) & Central Rd

OR 126W Fern Ridge Corridor Study
2011 Average Annual Weekday AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱		✥			✥	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	740	10	25	215	0	5	0	125	0	0	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	0	914	12	31	265	0	6	0	154	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	265			914			1241	1241	914	1395	1241	265
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	265			914			1241	1241	914	1395	1241	265
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			96	100	53	100	100	100
cM capacity (veh/h)	1310			738			148	169	331	62	169	778

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	0	914	12	31	265	0	160	0
Volume Left	0	0	0	31	0	0	6	0
Volume Right	0	0	12	0	0	0	154	0
cSH	1700	1700	1700	738	1700	1700	316	1700
Volume to Capacity	0.00	0.54	0.01	0.04	0.16	0.00	0.51	0.00
Queue Length 95th (ft)	0	0	0	3	0	0	68	0
Control Delay (s)	0.0	0.0	0.0	10.1	0.0	0.0	27.6	0.0
Lane LOS				B			D	A
Approach Delay (s)	0.0			1.1			27.6	0.0
Approach LOS							D	A

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	60	815	195	0	2	40
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	74	1006	241	0	2	49
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	241				1395	241
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	241				1395	241
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				98	94
cM capacity (veh/h)	1320				149	803

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	74	1006	241	0	52
Volume Left	74	0	0	0	2
Volume Right	0	0	0	0	49
cSH	1320	1700	1700	1700	664
Volume to Capacity	0.06	0.59	0.14	0.00	0.08
Queue Length 95th (ft)	4	0	0	0	6
Control Delay (s)	7.9	0.0	0.0	0.0	10.9
Lane LOS	A				B
Approach Delay (s)	0.5		0.0		10.9
Approach LOS					B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	815	195	1	5	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	982	235	1	6	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	236				1217	236
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	236				1217	236
tC, single (s)	4.1				6.6	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.7	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1343				179	808

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	982	236	6
Volume Left	0	0	6
Volume Right	0	1	0
cSH	1343	1700	179
Volume to Capacity	0.00	0.14	0.03
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	25.8
Lane LOS			D
Approach Delay (s)	0.0	0.0	25.8
Approach LOS			D

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	815	1	0	190	0	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	948	1	0	221	0	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			949		1169	948
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			949		1169	948
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	98
cM capacity (veh/h)			732		215	319

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	949	221	6
Volume Left	0	0	0
Volume Right	1	0	6
cSH	1700	732	319
Volume to Capacity	0.56	0.00	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	16.5
Lane LOS			C
Approach Delay (s)	0.0	0.0	16.5
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (prot)	1805	1862		1456	1649			1794	1520		1702	1615
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00		0.75	1.00
Satd. Flow (perm)	1805	1862		1456	1649			1733	1520		1324	1615
Volume (vph)	25	800	2	25	185	30	5	35	125	60	20	5
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	29	920	2	29	213	34	6	40	144	69	23	6
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	125	0	0	5
Lane Group Flow (vph)	29	922	0	29	243	0	0	46	19	0	92	1
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	0%	2%	0%	24%	13%	12%	20%	3%	4%	2%	24%	0%
Turn Type	Prot			Prot			Perm		Perm	Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	1.8	44.3		3.3	45.8			9.2	9.2		9.2	9.2
Effective Green, g (s)	1.8	46.3		3.3	47.8			9.2	9.2		9.2	9.2
Actuated g/C Ratio	0.03	0.65		0.05	0.68			0.13	0.13		0.13	0.13
Clearance Time (s)	4.0	6.0		4.0	6.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	46	1218		68	1113			225	198		172	210
v/s Ratio Prot	0.02	c0.50		c0.02	0.15							
v/s Ratio Perm								0.03	0.01		c0.07	0.00
v/c Ratio	0.63	0.76		0.43	0.22			0.20	0.09		0.53	0.00
Uniform Delay, d1	34.2	8.4		32.8	4.4			27.5	27.1		28.8	26.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	24.9	2.7		4.3	0.1			0.5	0.2		3.2	0.0
Delay (s)	59.0	11.1		37.1	4.5			28.0	27.3		32.0	26.8
Level of Service	E	B		D	A			C	C		C	C
Approach Delay (s)		12.6			7.9			27.5			31.7	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	70.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.9%	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												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	295	20	125	560	15	15	5	40	5	5	15
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	317	22	134	602	16	16	5	43	5	5	16
Pedestrians		2						3			1	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	603			320			1233	1214	320	1256	1214	605
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	603			320			1233	1214	320	1256	1214	605
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	99			89			88	97	94	95	97	97
cM capacity (veh/h)	984			1237			132	161	712	116	161	478

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	11	317	22	134	602	16	65	27
Volume Left	11	0	0	134	0	0	16	5
Volume Right	0	0	22	0	0	16	43	16
cSH	984	1700	1700	1237	1700	1700	299	237
Volume to Capacity	0.01	0.19	0.01	0.11	0.35	0.01	0.22	0.11
Queue Length 95th (ft)	1	0	0	9	0	0	20	9
Control Delay (s)	8.7	0.0	0.0	8.3	0.0	0.0	20.3	22.1
Lane LOS	A			A			C	C
Approach Delay (s)	0.3			1.5			20.3	22.1
Approach LOS							C	C

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	340	705	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	362	750	1	1	1
Pedestrians		2			4	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	755				1118	757
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	755				1118	757
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	862				230	409

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	363	751	2
Volume Left	1	0	1
Volume Right	0	1	1
cSH	862	1700	294
Volume to Capacity	0.00	0.44	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	17.3
Lane LOS	A		C
Approach Delay (s)	0.0	0.0	17.3
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	340	705	0	0	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	362	750	0	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	750				1112	750
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	750				1112	750
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	868				233	415

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	362	750	2
Volume Left	0	0	0
Volume Right	0	0	2
cSH	868	1700	415
Volume to Capacity	0.00	0.44	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	13.7
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.7
Approach LOS			B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	340	700	2	1	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	362	745	2	1	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	747				1107	746
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	747				1107	746
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	871				235	417

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	362	747	6
Volume Left	0	0	1
Volume Right	0	2	5
cSH	871	1700	369
Volume to Capacity	0.00	0.44	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	14.9
Lane LOS			B
Approach Delay (s)	0.0	0.0	14.9
Approach LOS			B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

5: OR 126(W) & Driveway 4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	340	700	0	0	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	362	745	0	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	745				1106	745
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	745				1106	745
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	872				235	417

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	362	745	1
Volume Left	0	0	0
Volume Right	0	0	1
cSH	872	1700	417
Volume to Capacity	0.00	0.44	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	13.6
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

6: OR 126(W) & Driveway 5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	340	695	0	0	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	362	739	0	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	739				1101	739
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	739				1101	739
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	876				237	420

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	362	739	5
Volume Left	0	0	0
Volume Right	0	0	5
cSH	876	1700	420
Volume to Capacity	0.00	0.43	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	13.7
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.7
Approach LOS			B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	340	695	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	362	739	2	1	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	741				1104	740
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	741				1104	740
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	875				235	420

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	363	741	2
Volume Left	1	0	1
Volume Right	0	2	1
cSH	875	1700	302
Volume to Capacity	0.00	0.44	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	17.0
Lane LOS	A		C
Approach Delay (s)	0.0	0.0	17.0
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	340	695	5	5	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	362	739	5	5	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	745				1108	742
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	745				1108	742
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	872				234	419

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	364	745	6
Volume Left	2	0	5
Volume Right	0	5	1
cSH	872	1700	252
Volume to Capacity	0.00	0.44	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.1	0.0	19.6
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	19.6
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	345	695	1	0	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	367	739	1	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	740				1107	740
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	740				1107	740
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	875				235	420

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	367	740	5
Volume Left	0	0	0
Volume Right	0	1	5
cSH	875	1700	420
Volume to Capacity	0.00	0.44	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	13.7
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.7
Approach LOS			B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	345	695	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	367	739	1	1	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	740				1107	740
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	740				1107	740
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	875				235	420

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	367	740	2
Volume Left	0	0	1
Volume Right	0	1	1
cSH	875	1700	301
Volume to Capacity	0.00	0.44	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	17.0
Lane LOS			C
Approach Delay (s)	0.0	0.0	17.0
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

11: OR 126(W) & Driveway 10

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	340	685	1	0	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	362	729	1	0	11
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	732				1104	731
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	732				1104	731
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	97
cM capacity (veh/h)	880				234	424

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	367	730	11
Volume Left	5	0	0
Volume Right	0	1	11
cSH	880	1700	424
Volume to Capacity	0.01	0.43	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.2	0.0	13.7
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	13.7
Approach LOS			B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

12: OR 126(W) & Driveway 11

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	335	680	10	5	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	356	723	11	5	5
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	736				1098	731
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	736				1098	731
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	877				236	425

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	362	734	11
Volume Left	5	0	5
Volume Right	0	11	5
cSH	877	1700	303
Volume to Capacity	0.01	0.43	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.2	0.0	17.3
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	17.3
Approach LOS			C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	330	680	5	5	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	11	351	723	5	5	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	729				1098	726
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	729				1098	726
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	99				98	98
cM capacity (veh/h)	848				235	428

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	362	729	16
Volume Left	11	0	5
Volume Right	0	5	11
cSH	848	1700	336
Volume to Capacity	0.01	0.43	0.05
Queue Length 95th (ft)	1	0	4
Control Delay (s)	0.4	0.0	16.3
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	16.3
Approach LOS			C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	335	685	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	356	729	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	729				1087	729
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	729				1087	729
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	884				241	426

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	357	729	1
Volume Left	1	0	1
Volume Right	0	0	0
cSH	884	1700	241
Volume to Capacity	0.00	0.43	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	20.0
Lane LOS	A		C
Approach Delay (s)	0.0	0.0	20.0
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

15: OR 126(W) & Ellmaker Rd

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	15	315	675	105	30	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	332	711	111	32	11
Pedestrians		1				
Lane Width (ft)		12.0				
Walking Speed (ft/s)		4.0				
Percent Blockage		0				
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	711				1074	712
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	711				1074	712
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				87	98
cM capacity (veh/h)	898				241	436

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	16	332	711	111	42
Volume Left	16	0	0	0	32
Volume Right	0	0	0	111	11
cSH	898	1700	1700	1700	272
Volume to Capacity	0.02	0.20	0.42	0.07	0.15
Queue Length 95th (ft)	1	0	0	0	14
Control Delay (s)	9.1	0.0	0.0	0.0	20.7
Lane LOS	A				C
Approach Delay (s)	0.4		0.0		20.7
Approach LOS					C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

16: OR 126(W) & Shady Rest Dr

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	345	765	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	367	814	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	814				1181	814
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	814				1181	814
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	822				212	381

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	367	814	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	822	1700	1700
Volume to Capacity	0.00	0.48	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

17: OR 126(W) & Lake Side Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	345	0	1	765	5	0	0	1	0	0	0
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
Hourly flow rate (vph)	0	356	0	1	789	5	0	0	1	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	794			356			1149	1152	356	1150	1149	791
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	794			356			1149	1152	356	1150	1149	791
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	836			1214			177	199	693	176	200	393

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	356	795	1	0
Volume Left	0	1	0	0
Volume Right	0	5	1	0
cSH	836	1214	693	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.0	10.2	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.0	10.2	0.0
Approach LOS			B	A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

18: OR 126(W) & Central Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	330	10	130	750	2	15	0	60	2	0	2
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
Hourly flow rate (vph)	2	359	11	141	815	2	16	0	65	2	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	815			359			1463	1461	359	1526	1461	815
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	815			359			1463	1461	359	1526	1461	815
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			88			83	100	91	97	100	99
cM capacity (veh/h)	821			1206			97	115	690	80	115	380

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	2	359	11	141	815	2	82	4
Volume Left	2	0	0	141	0	0	16	2
Volume Right	0	0	11	0	0	2	65	2
cSH	821	1700	1700	1206	1700	1700	311	132
Volume to Capacity	0.00	0.21	0.01	0.12	0.48	0.00	0.26	0.03
Queue Length 95th (ft)	0	0	0	10	0	0	26	3
Control Delay (s)	9.4	0.0	0.0	8.4	0.0	0.0	20.6	33.1
Lane LOS	A			A			C	D
Approach Delay (s)	0.1			1.2			20.6	33.1
Approach LOS							C	D

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	40	370	790	5	2	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	42	389	832	5	2	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	832				1305	832
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	832				1305	832
tC, single (s)	4.1				6.9	6.2
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.3
p0 queue free %	95				98	72
cM capacity (veh/h)	788				133	371

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	42	389	832	5	107
Volume Left	42	0	0	0	2
Volume Right	0	0	0	5	105
cSH	788	1700	1700	1700	358
Volume to Capacity	0.05	0.23	0.49	0.00	0.30
Queue Length 95th (ft)	4	0	0	0	31
Control Delay (s)	9.8	0.0	0.0	0.0	19.3
Lane LOS	A				C
Approach Delay (s)	1.0		0.0		19.3
Approach LOS					C

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	365	795	0	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	392	855	0	0	0
Pedestrians			1			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			4.0			
Percent Blockage			0			
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	855				1248	855
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	855				1248	855
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	794				193	361

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	392	855	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	794	1700	1700
Volume to Capacity	0.00	0.50	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	370	0	5	790	0	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	411	0	6	878	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			411		1300	411
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			411		1300	411
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1159		179	645

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	411	883	2
Volume Left	0	6	0
Volume Right	0	0	2
cSH	1700	1159	645
Volume to Capacity	0.24	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.1	10.6
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	10.6
Approach LOS			B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

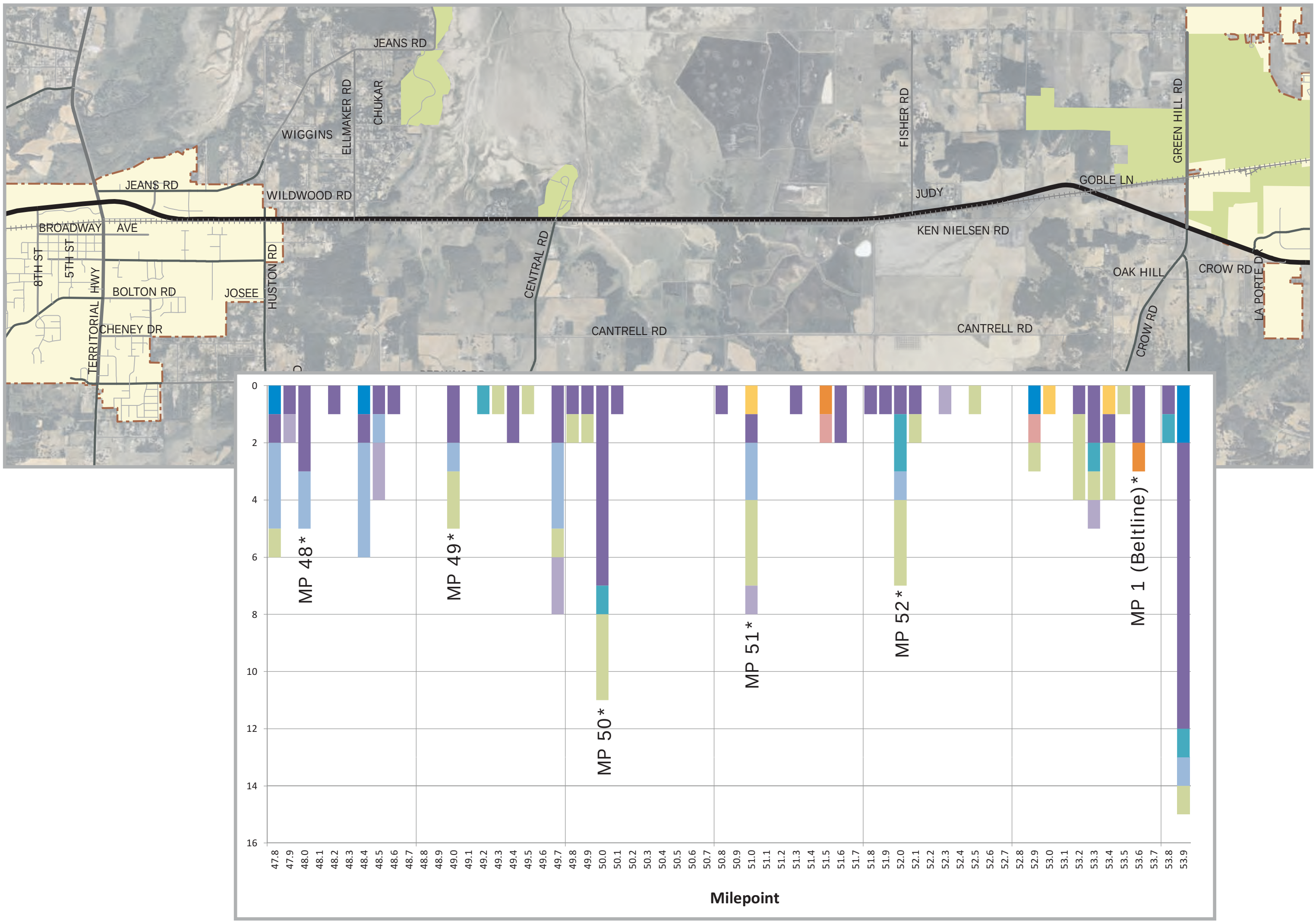
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.98	1.00
Satd. Flow (prot)	1805	1820		1770	1841			1883	1583		1835	1615
Flt Permitted	0.95	1.00		0.95	1.00			0.94	1.00		0.83	1.00
Satd. Flow (perm)	1805	1820		1770	1841			1790	1583		1558	1615
Volume (vph)	20	350	5	105	775	60	5	20	50	50	50	35
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	22	376	5	113	833	65	5	22	54	54	54	38
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	47	0	0	33
Lane Group Flow (vph)	22	381	0	113	896	0	0	27	7	0	108	5
Heavy Vehicles (%)	0%	4%	20%	2%	2%	3%	0%	0%	2%	0%	2%	0%
Turn Type	Prot			Prot			Perm		Perm	Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	1.6	38.1		8.6	45.1			8.8	8.8		8.8	8.8
Effective Green, g (s)	1.6	40.1		8.6	47.1			8.8	8.8		8.8	8.8
Actuated g/C Ratio	0.02	0.58		0.12	0.68			0.13	0.13		0.13	0.13
Clearance Time (s)	4.0	6.0		4.0	6.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	42	1050		219	1248			227	200		197	204
v/s Ratio Prot	0.01	0.21		c0.06	c0.49							
v/s Ratio Perm								0.02	0.00		c0.07	0.00
v/c Ratio	0.52	0.36		0.52	0.72			0.12	0.03		0.55	0.02
Uniform Delay, d1	33.6	7.9		28.5	7.0			26.9	26.6		28.5	26.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	11.3	0.2		2.0	2.0			0.2	0.1		3.1	0.0
Delay (s)	44.9	8.1		30.6	9.0			27.1	26.7		31.6	26.6
Level of Service	D	A		C	A			C	C		C	C
Approach Delay (s)		10.1			11.4			26.8			30.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

DKS Associates
TRANSPORTATION SOLUTIONS

ODOT Collision Data

COLLISION TYPES (2005 to 2009)



*Note: Some ODOT collision records only specify the general milepoint.

Legend

Collision Types

- Angle (T-Bone, No Turns)
- Side-Swipe (Meeting Opp. Direction)
- Non-Collision (e.g., Roll-Over)
- Pedestrian
- Head-On
- Side-Swipe (Overtaking/Same Direction)
- Fixed Object (e.g., Into Ditch)
- Rear-End
- Turning
- Other (e.g., Animal)

N

MP_NO	CRASH_ID	SER_NO	CRASH_DT	Day	Hr	Highway	Cross Street	Location	Weather	Surface	Light	Crash Type	Collision Type	Severity	Cause	Veh Type	Veh Mvmt	From	To	Inj Sev
0.28	1347034	3687	11/24/2009	3	7A	BELTLINE		UN	CLR	DRY	DAY	NON-COLL	NCOL	PDO	10	PSNGR CAR	STRGHT	E	W	NONE
0.29	1203043	2445	7/7/2006	6	5P	BELTLINE		UN	CLR	DRY	DAY	ANGL-OTH	ANGL	INJ	2	PSNGR CAR	STRGHT	E	W	INJB
0.3	1349285	94146	12/28/2009	2	2P	BELTLINE		W	CLD	DRY	DAY	FIX OBJ	FIX	PDO	10	PSNGR CAR	STRGHT	E	W	NONE
0.4	1154737	1053	4/10/2005	1	5P	BELTLINE		UN	CLD	WET	DAY	O-STRGHT	HEAD	FAT	5	PSNGR CAR	STRGHT	E	W	KILL
0.52	1250403	1805	5/17/2007	5	3P	BELTLINE		SE	CLR	DRY	DAY	S-STRGHT	REAR	INJ	7	TRUCK	STRGHT	E	W	NONE
0.52	1318528	611	3/2/2009	2	5P	BELTLINE		W	CLD	WET	DAY	FIX OBJ	FIX	INJ	1	PSNGR CAR	TURN-R	E	N	INJC
0.56	1261639	3969	10/21/2007	1	10A	BELTLINE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	26	PSNGR CAR	STRGHT	W	E	NONE
0.6	1349282	4146	12/28/2009	2	2P	BELTLINE		UN	CLD	DRY	DAY	FIX OBJ	FIX	PDO	10	PSNGR CAR	STRGHT	E	W	NONE
0.68	1226192	60001	11/27/2006	2	12A	BELTLINE		UN	RAIN	WET	DARK	O-STRGHT	SS-M	INJ	33	PSNGR CAR	STRGHT	W	E	INJA
0.68	1352841	4181	12/27/2009	1	2A	BELTLINE		UN	RAIN	ICE	DARK	FIX OBJ	FIX	INJ	1	PSNGR CAR	STRGHT	W	E	INJB
0.69	1209227	2402	7/9/2006	1	6P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	32	PSNGR CAR	STRGHT	W	E	NONE
0.69	1262726	4211	11/12/2007	2	11P	BELTLINE		UN	CLR	DRY	DARK	ANIMAL	OTH	PDO	12	PSNGR CAR	STRGHT	W	E	NONE
0.7	1264344	4582	12/6/2007	5	6A	BELTLINE		E	CLD	WET	DARK	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	E	W	INJC
0.71	1284320	1748	5/26/2008	2	4P	BELTLINE		UN	CLD	DRY	DAY	FIX OBJ	FIX	PDO	7	PSNGR CAR	STRGHT	E	W	NONE
0.71	1342068	3004	10/6/2009	3	8A	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	1	PSNGR CAR	STRGHT	W	E	INJB
0.73	1280775	1366	4/23/2008	4	8A	BELTLINE		E	CLR	DRY	DAY	O-STRGHT	HEAD	INJ	10	PSNGR CAR	STRGHT	E	W	NONE
0.8	1186075	463	2/5/2006	1	6A	BELTLINE		UN	CLR	ICE	DARK	FIX OBJ	FIX	INJ	1	PSNGR CAR	STRGHT	E	W	INJB
0.9	1191597	918	3/13/2006	2	5P	BELTLINE		UN	RAIN	WET	DAY	FIX OBJ	FIX	INJ	1	PSNGR CAR	STRGHT	E	W	INJC
1	1165819	3044	8/24/2005	4	6P	BELTLINE		UN	CLR	DRY	DAY	S-STRGHT	SS-O	PDO	6	PSNGR CAR	STRGHT	W	E	NONE
1	1212732	3064	8/22/2006	3	12P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	W	E	NONE
1	1212774	3373	9/15/2006	6	1P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
1.18	1255222	3364	10/2/2007	3	5P	BELTLINE		W	CLD	DRY	DAY	O-STRGHT	SS-M	FAT	10	PSNGR CAR	STRGHT	W	E	INJB
1.2	1296412	3761	11/12/2008	4	8A	BELTLINE		UN	RAIN	WET	DAWN	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	W	E	NONE
1.22	1256639	2121	6/13/2007	4	7P	BELTLINE		W	CLR	DRY	DAY	FIX OBJ	FIX	INJ	10	PSNGR CAR	STRGHT	E	W	NONE
1.25	1144441	451	2/7/2005	2	7A	BELTLINE		UN	FOG	ICE	DAY	O-STRGHT	SS-M	INJ	5	PSNGR CAR	STRGHT	E	W	INJB
1.25	1185763	259	1/20/2006	6	7A	BELTLINE		UN	RAIN	WET	DAWN	S-1STOP	REAR	INJ	1	PSNGR CAR	STRGHT	W	E	INJC
1.26	1247075	1452	4/28/2007	7	6P	BELTLINE		CN	CLR	DRY	DAY	O-1TURN	TURN	INJ	2	PSNGR CAR	TURN-L	N	E	INJB
1.26	1256251	2034	6/5/2007	3	4P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	27	PSNGR CAR	STRGHT	E	W	NONE
1.26	1257521	2693	7/22/2007	1	2P	BELTLINE		UN	CLR	DRY	DAY	S-STRGHT	REAR	INJ	7	PSNGR CAR	STRGHT	E	W	NONE
1.27	1275404	672	2/29/2008	6	6P	BELTLINE		W	RAIN	WET	DUSK	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	W	E	NONE
1.28	1165810	2992	8/18/2005	5	9A	BELTLINE	GREEN HILL RD	CN	CLR	DRY	DAY	S-1STOP	REAR	INJ	1	PSNGR CAR	STRGHT	E	W	NONE
1.28	1191610	1042	3/25/2006	7	3P	BELTLINE	GREEN HILL RD	CN	CLR	DRY	DAY	ANGL-OTH	ANGL	INJ	2	PSNGR CAR	STRGHT	E	W	INJC
1.28	1208605	2976	8/15/2006	3	2P	BELTLINE	GREEN HILL RD	E	CLR	DRY	DAY	S-STRGHT	REAR	PDO	7	PSNGR CAR	STRGHT	E	W	NONE
1.28	1225590	4077	11/3/2006	6	7P	BELTLINE		W	CLR	DRY	DLIT	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	W	E	NONE
1.28	1275875	807	3/11/2008	3	8A	BELTLINE	GREEN HILL RD	CN	CLD	DRY	DAWN	ANGL-OTH	ANGL	INJ	4	PSNGR CAR	STRGHT	W	E	NONE
1.28	1288901	2662	8/11/2008	2	1P	BELTLINE	GREEN HILL RD	W	CLR	DRY	DAY	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	W	E	NONE
1.28	1323286	1089	4/23/2009	5	1P	BELTLINE	GREEN HILL RD	S	CLR	DRY	DAY	S-STRGHT	REAR	PDO	7	PSNGR CAR	TURN-L	E	S	NONE
1.28	1332256	2099	7/12/2009	1	1P	BELTLINE	GREEN HILL RD	E	RAIN	WET	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	E	W	NONE
47.84	1199596	01754	5/23/2006	3	9P	FLORENCE-EUGENE	HUSTON RD	CN	RAIN	WET	DARK	O-1TURN	TURN	INJ	2	PSNGR CAR	STRGHT	E	W	INJB
47.84	1250246	01747	5/19/2007	7	12P	FLORENCE-EUGENE	HUSTON RD	S	CLR	DRY	DAY	S-1STOP	REAR	INJ	7	PSNGR CAR	TURN-R	S	E	NONE
47.84	1260426	03476	9/22/2007	7	1P	FLORENCE-EUGENE		CN	CLR	DRY	DAY	O-1TURN	TURN	INJ	2	PSNGR CAR	TURN-L	E	S	INJB
47.84	1289701	02829	8/26/2008	3	1A	FLORENCE-EUGENE	HUSTON RD	CN	CLR	DRY	DLIT	ANGL-OTH	ANGL	INJ	3	PSNGR CAR	STRGHT	S	N	INJC
47.85	1314753	00042	1/2/2009	6	10P	FLORENCE-EUGENE	HUSTON RD	E	FOG	ICE	DARK	FIX OBJ	FIX	INJ	1	PSNGR CAR	STRGHT	W	E	INJC
47.88	1151317	01535	5/9/2005	2	3P	FLORENCE-EUGENE	HUSTON RD	W	RAIN	WET	DAY	ANGL-OTH	TURN	PDO	2	PSNGR CAR	STRGHT	W	E	NONE
47.9	1202840	02338	7/4/2006	3	9P	FLORENCE-EUGENE	HUSTON RD	E	CLR	DRY	DARK	ANIMAL	OTH	PDO	12	PSNGR CAR	STRGHT	W	E	NONE
47.94	1346830	03591	11/20/2009	6	5P	FLORENCE-EUGENE	HUSTON RD	UN	RAIN	WET	DARK	S-1STOP	REAR	INJ	1	PSNGR CAR	STRGHT	W	E	NONE
48	1172421	04882	12/21/2005	4	12P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	W	E	NONE
48	1213032	03553	9/28/2006	5	8A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-1TURN	TURN	INJ	2	PSNGR CAR	STRGHT	E	W	INJB
48	1286976	02295	7/11/2008	6	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	E	W	NONE
48	1335289	02354	8/8/2009	7	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	E	W	NONE
48	1336579	02538	8/21/2009	6	8A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-1TURN	TURN	PDO	2	PSNGR CAR	STRGHT	E	W	NONE
48.23	1347553	03822	12/4/2009	6	5P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	N	S	NONE
48.4	1221788	03984	10/31/2006	3	10P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
48.43	1178795	03732	10/5/2005	4	7A	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	2	PSNGR CAR	STRGHT	E	W	INJC
48.43	1202841	02334	7/4/2006	3	1P	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	TURN	PDO	2	PSNGR CAR	STRGHT	E	W	NONE
48.43	1262208	04070	11/2/2007	6	7A	FLORENCE-EUGENE		CN	CLD	DRY	DAWN	ANGL-OTH	TURN	INJ	2	PSNGR CAR	STRGHT	E	W	INJC
48.43	1274356	00224	1/18/2008	6	5P	FLORENCE-EUGENE		CN	CLD	DRY	DUSK	O-1TURN	TURN	PDO	2	PSNGR CAR	STRGHT	E	W	NONE
48.43	1294318	03326	10/9/2008	5	7A	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	ANGL	INJ	2	PSNGR CAR	STRGHT	N	S	INJC
48.5	1339215	02716	9/8/2009	3	10A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	BIKE	TURN	INJ	2					INJB
48.5	1346127	03451	11/8/2009	1	10A	FLORENCE-EUGENE		UN	CLD	WET	DAY	ANIMAL	OTH	PDO	12	PSNGR CAR	STRGHT	W	E	NONE

MP_NO	CRASH_ID	SER_NO	CRASH_DT	Day	Hr	Highway	Cross Street	Location	Weather	Surface	Light	Crash Type	Collision Type	Severity	Cause	Veh Type	Veh Mvmt	From	To	Inj Sev
48.53	1229109	00867	3/8/2007	5	7P	FLORENCE-EUGENE		UN	CLD	WET	DARK	ANIMAL	OTH	INJ	12	PSNGR CAR	STRGHT	E	W	INJB
48.53	1230130	00857	3/8/2007	5	7P	FLORENCE-EUGENE		E	CLD	WET	DARK	PRKD MV	REAR	PDO	10	PSNGR CAR	STRGHT	W	E	NONE
48.63	1234041	00186	1/14/2007	1	UNK	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	E	W	INJC
49	1149580	01431	4/28/2005	5	7P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	BIKE	TURN	INJ	6	PSNGR CAR	STRGHT	W	E	NONE
49	1159820	02399	7/8/2005	6	1P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
49	1181196	02683	7/31/2005	1	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	1	PSNGR CAR	STRGHT	W	E	NONE
49	1298059	04165	12/14/2008	1	1A	FLORENCE-EUGENE		UN	SNOW	ICE	DARK	FIX OBJ	FIX	INJ	1	PSNGR CAR	STRGHT	W	E	INJB
49	1327397	01499	5/29/2009	6	7P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	7	PSNGR CAR	STRGHT	W	E	INJB
49.21	1205852	02558	7/16/2006	1	11P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	O-STRGHT	SS-M	INJ	16	PSNGR CAR	STRGHT	E	W	INJB
49.3	1332337	02109	7/12/2009	1	3P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	FIX OBJ	FIX	INJ	26	PSNGR CAR	STRGHT	W	E	INJB
49.42	1201600	02407	7/9/2006	1	7P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	W	E	NONE
49.44	1285862	02088	6/26/2008	5	5P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	E	W	NONE
49.58	1317371	80021	1/2/2009	6	11P	FLORENCE-EUGENE		W	CLD	ICE	DARK	FIX OBJ	FIX	INJ	1	PSNGR CAR	STRGHT	E	W	NONE
49.71	1181197	04072	11/3/2005	5	3P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	ANIMAL	OTH	PDO	12	PSNGR CAR	STRGHT	E	W	NONE
49.73	1287589	02413	7/19/2008	7	5P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	E	W	NONE
49.73	1353577	04072	11/22/2009	1	6A	FLORENCE-EUGENE		N	CLD	WET	DARK	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	S	N	NONE
49.75	1236136	00781	3/5/2007	2	11A	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	2	PSNGR CAR	STRGHT	W	E	INJB
49.75	1256530	02075	6/10/2007	1	10P	FLORENCE-EUGENE		S	CLR	DRY	DARK	FIX OBJ	FIX	INJ	10	MTRCYCLE	TURN-L	E	S	INJC
49.75	1262715	04242	11/15/2007	5	8P	FLORENCE-EUGENE		CN	RAIN	WET	DARK	S-1TURN	TURN	INJ	10	PSNGR CAR	STRGHT	E	W	NONE
49.75	1279385	01193	4/9/2008	4	7A	FLORENCE-EUGENE		CN	CLR	DRY	DAY	O-1TURN	TURN	PDO	2	PSNGR CAR	STRGHT	N	S	NONE
49.78	1278536	01067	3/31/2008	2	3P	FLORENCE-EUGENE		E	CLR	DRY	DAY	O-STRGHT	OTH	INJ	10	PSNGR CAR	STRGHT	E	W	NONE
49.81	1265788	04863	12/23/2007	1	8A	FLORENCE-EUGENE		E	RAIN	WET	DAY	FIX OBJ	FIX	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
49.85	1287747	02461	7/19/2008	7	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	E	W	NONE
49.94	1262692	04201	11/12/2007	2	3P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	S-STRGHT	REAR	PDO	7	PSNGR CAR	STRGHT	W	E	NONE
49.97	1286590	02217	7/6/2008	1	7A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	16	PSNGR CAR	STRGHT	W	E	INJC
50	1156413	02076	6/15/2005	4	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	1	PSNGR CAR	STRGHT	W	E	INJB
50	1173275	04774	12/18/2005	1	9A	FLORENCE-EUGENE		UN	CLR	ICE	DAY	FIX OBJ	FIX	PDO	1	PSNGR CAR	STRGHT	W	E	NONE
50	1186088	00183	1/18/2006	4	8P	FLORENCE-EUGENE		UN	CLD	WET	DARK	O-STRGHT	SS-M	INJ	5	PSNGR CAR	STRGHT	W	E	INJC
50	1185787	00338	1/26/2006	5	2P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
50	1191599	01074	3/27/2006	2	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
50	1193338	01143	4/3/2006	2	6A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	1	PSNGR CAR	STRGHT	W	E	NONE
50	1193320	01154	4/4/2006	3	9P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
50	1195862	01492	4/27/2006	5	5P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	W	E	NONE
50	1202834	02277	6/29/2006	5	4P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
50	1287588	02412	7/19/2008	7	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	E	W	NONE
50	1349710	04180	12/27/2009	1	4A	FLORENCE-EUGENE		UN	RAIN	WET	DARK	FIX OBJ	FIX	PDO	1	PSNGR CAR	STRGHT	E	W	NONE
50.1	1330331	01814	6/19/2009	6	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-STRGHT	REAR	PDO	27	PSNGR CAR	STRGHT	E	W	NONE
50.8	1316109	00305	1/28/2009	4	10P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	W	E	INJB
51	1164733	03182	9/3/2005	7	1P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1TURN	TURN	INJ	8	PSNGR CAR	STRGHT	W	E	NONE
51	1167236	03548	9/29/2005	5	4P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	1	PSNGR CAR	STRGHT	W	E	NONE
51	1172422	04884	12/21/2005	4	2P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	O-1TURN	TURN	INJ	2	PSNGR CAR	STRGHT	E	W	INJB
51	1199593	01733	5/18/2006	5	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	1	PSNGR CAR	STRGHT	W	E	INJB
51	1324635	01236	5/1/2009	6	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	ANIMAL	OTH	PDO	12	PSNGR CAR	STRGHT	W	E	NONE
51	1332083	02059	7/15/2009	4	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	10	PSNGR CAR	STRGHT	E	W	NONE
51	1333617	02235	7/27/2009	2	5P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	W	E	NONE
51.01	1315934	00260	1/24/2009	7	6A	FLORENCE-EUGENE		UN	CLR	DRY	DARK	O-STRGHT	HEAD	PDO	16	PSNGR CAR	STRGHT	W	E	NONE
51.3	1201044	02130	6/20/2006	3	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	1	PSNGR CAR	STRGHT	W	E	NONE
51.55	1300268	04403	12/26/2008	6	8A	FLORENCE-EUGENE		UN	CLD	ICE	DAY	PRKD MV	SS-O	PDO	1	PSNGR CAR	STRGHT	W	E	NONE
51.55	1318446	00608	3/2/2009	2	4P	FLORENCE-EUGENE		UN	CLD	DRY	DAY	OVERTURN	NCOL	INJ	27	PSNGR CAR	STRGHT	W	E	INJC
51.6	1260959	03576	9/28/2007	6	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	W	E	NONE
51.6	1264368	04590	12/6/2007	5	5A	FLORENCE-EUGENE		W	RAIN	WET	DARK	S-STRGHT	REAR	PDO	7	PSNGR CAR	STRGHT	W	E	NONE
51.8	1189310	00741	3/1/2006	4	7P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	S-1STOP	REAR	INJ	1	PSNGR CAR	STRGHT	W	E	INJC
51.92	1258003	02759	7/29/2007	1	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	E	W	NONE
52	1185783	00248	1/15/2006	1	1P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	1	MTRCYCLE	STRGHT	W	E	INJB
52	1188260	00681	2/21/2006	3	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1TURN	TURN	INJ	32	PSNGR CAR	STRGHT	E	W	INJC
52	1191598	00761	3/2/2006	5	9P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	FIX OBJ	FIX	INJ	1	PSNGR CAR	STRGHT	W	E	INJA
52	1202835	02202	6/22/2006	5	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-STRGHT	SS-M	PDO	5	PSNGR CAR	STRGHT	W	E	NONE
52	1330563	01852	6/24/2009	4	2A	FLORENCE-EUGENE		UN	CLR	DRY	DARK	FIX OBJ	FIX	PDO	10	PSNGR CAR	STRGHT	W	E	NONE
52.02	1284752	01884	6/8/2008	1	2A	FLORENCE-EUGENE		UN	CLR	DRY	DARK	O-STRGHT	SS-M	PDO	5	PSNGR CAR	STRGHT	W	E	NONE

MP_NO	CRASH_ID	SER_NO	CRASH_DT	Day	Hr	Highway	Cross Street	Location	Weather	Surface	Light	Crash Type	Collision Type	Severity	Cause	Veh Type	Veh Mvmt	From	To	Inj Sev
52.09	1287818	02477	7/26/2008	7	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	7	PSNGR CAR	STRGHT	E	W	NONE
52.1	1284337	01755	5/31/2008	7	4P	FLORENCE-EUGENE		N	CLR	DRY	DAY	S-1STOP	REAR	INJ	7	PSNGR CAR	STRGHT	N	S	NONE
52.12	1329315	01715	6/11/2009	5	9P	FLORENCE-EUGENE		UN	CLD	DRY	DUSK	FIX OBJ	FIX	INJ	10	PSNGR CAR	STRGHT	E	W	INJC
52.36	1256244	02026	6/5/2007	3	10P	FLORENCE-EUGENE		W	CLR	DRY	DARK	ANIMAL	OTH	PDO	12	PSNGR CAR	STRGHT	E	W	NONE
52.5	1194663	01432	4/28/2006	6	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	1	PSNGR CAR	STRGHT	W	E	NONE

Crash Causes:

01 Speed too fast for conditions (not exceeding limit)
02 Did not yield right-of-way
03 Passed stop sign or red flasher
04 Disregarded R-A-G traffic signal
05 Drove left of center on two-way road
06 Improper overtaking
07 Followed too closely
08 Made improper turn
10 Other improper driving
11 Mechanical defect
12 Other (not improper driving)
13 Improper change of traffic lanes (2004)
14 Disregarded other traffic control device (2006)
15 Wrong way on one-way roadway (2006)
16 Driver drowsy / fatigued / sleepy (2006)
18 Non-Motorist illegally in roadway (2006)
19 Non-Motorist clothing not visible (2006)
20 Vehicle improperly parked
21 Defective steering mechanism
22 Inadequate or no brakes
24 Vehicle lost load or load shifted
25 Tire failure
26 Phantom / non-contact vehicle
27 Inattention
30 Driving in excess of posted speed (2006)
31 Speed Racing (Per PAR) (2006)
32 Careless Driving (Per PAR) (2006)
33 Reckless Driving (Per PAR) (2006)
34* Aggressive Driving (Per PAR) (2006)
35* Road Rage (Per PAR) (2006)

MP_NO	CRASH_ID	SER_NO	CRASH_DT	Day	Hr	Highway	Cross Street	Locatio	Weather	Surface	Light	Crash Type	Collision Type	Severity	Veh Type	Veh Mvmt	From	To	Inj
0.2	262185	02162	4/19/1996	6	6P	BELTLINE		UN	RAIN	WET	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
0.2	1100895	640	2/28/2004	7	1P	BELTLINE		UN	CLR	DRY	DAY	O-1TURN	TURN	PDO	PSNGR CAR	STRGHT	W	E	NONE
0.2	1112406	1932	6/7/2004	2	6A	BELTLINE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
0.25	363023	2834	6/19/1994	1	7P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
0.28	361085	13	1/3/1994	2	10A	BELTLINE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
0.28	265205	07812	12/30/1996	2	2P	BELTLINE		UN	RAIN	WET	DAY	FIX OBJ	FIX	PDO	SEMI TOW	STRGHT	E	W	NONE
0.36	361656	824	2/24/1994	5	11P	BELTLINE	BELTLINE RD	N	CLD	WET	DARK	O-STRGHT	HEAD	PDO	PSNGR CAR	STRGHT	N	S	NONE
0.38	1129690	3640	10/11/2004	2	6P	BELTLINE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
0.5	63697	2157	4/26/2000	4	4P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
0.5	1074694	3819	8/1/2003	6	1P	BELTLINE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	E	W	NONE
0.5	1119912	2879	8/16/2004	2	6P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
0.5	1129691	3573	10/6/2004	4	8A	BELTLINE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
0.5	1129692	3540	10/14/2004	5	10A	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
0.5	1132624	4106	11/9/2004	3	5P	BELTLINE		UN	CLR	DRY	DARK	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	S	N	NONE
0.53	314101	2826	5/26/1995	6	7A	BELTLINE	GREEN HILL RD	W	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
0.53	315156	04829	9/8/1995	6	7A	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
0.53	315845	6317	11/11/1995	7	12A	BELTLINE	GREEN HILL RD	W	RAIN	WET	DARK	O-STRGHT	NCOL	PDO	PSNGR CAR	STRGHT	W	E	NONE
0.53	261458	01099	2/22/1996	5	6A	BELTLINE		UN	CLR	ICE	DLIT	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	W	E	INJC
0.53	261483	01125	2/24/1996	7	8A	BELTLINE		UN	SNOW	ICE	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	E	W	NONE
0.67	364320	5608	11/7/1994	2	6A	BELTLINE		UN	CLD	ICE	DARK	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	E	W	INJB
0.69	261445	01086	2/22/1996	5	6A	BELTLINE		UN	CLD	ICE	DARK	S-STRGHT	REAR	INJ	PSNGR CAR	STRGHT	W	E	INJB
0.7	265066	07544	12/16/1996	2	10A	BELTLINE		CN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	INJC
0.78	263532	04469	8/8/1996	5	7P	BELTLINE		UN	CLR	DRY	DAY	S-1TURN	TURN	PDO	PSNGR CAR	STRGHT	E	W	NONE
0.88	263609	04648	8/14/1996	4	3P	BELTLINE	GREEN HILL RD	W	CLR	DRY	DAY	ANGL-OTH	TURN	PDO	PSNGR CAR	TURN-R	S	E	NONE
0.95	265227	07837	12/31/1996	3	1P	BELTLINE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
1	111793	03864	7/13/1999	3	9A	BELTLINE		W	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	INJB
1	1040131	3442	6/13/2002	5	5P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
1	1040923	4892	9/23/2002	2	4P	BELTLINE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
1.01	209936	00076	1/3/1997	6	4P	BELTLINE		UN	CLD	WET	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	E	W	NONE
1.03	314326	03284	6/13/1995	3	3P	BELTLINE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
1.03	263382	04224	7/26/1996	6	4P	BELTLINE	GREEN HILL RD	W	CLR	DRY	DAY	O-1TURN	TURN	PDO	PSNGR CAR	STRGHT	W	E	NONE
1.03	213081	05623	9/27/1997	7	5P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
1.03	159351	00742	2/9/1998	2	7P	BELTLINE		UN	RAIN	WET	DARK	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	E	W	NONE
1.06	63745	2234	4/27/2000	5	4P	BELTLINE	BELTLINE RD	W	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
1.06	65126	4842	9/1/2000	6	11A	BELTLINE	BELTLINE RD	W	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
1.07	64835	4258	8/13/2000	1	5P	BELTLINE	BELTLINE RD	W	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	INJC
1.08	211579	02773	5/18/1997	1	7P	BELTLINE		UN	CLR	DRY	DAY	O-STRGHT	OTH	INJ	PSNGR CAR	STRGHT	W	E	NONE
1.13	16629	1999	4/18/2001	4	12A	BELTLINE	BELTLINE RD	W	CLR	DRY	DLIT	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
1.18	261001	00437	1/23/1996	3	5P	BELTLINE	GREEN HILL RD	W	RAIN	WET	DLIT	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
1.18	160956	03098	6/11/1998	5	5P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
1.24	212653	04689	8/15/1997	6	5P	BELTLINE	GREEN HILL RD	W	CLR	DRY	DAY	S-1TURN	TURN	INJ	PSNGR CAR	STRGHT	E	W	NONE
1.25	363752	4398	9/8/1994	5	7A	BELTLINE	GREEN HILL RD	W	RAIN	WET	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	INJB
1.27	361791	1087	3/26/1994	7	7P	BELTLINE	GREEN HILL RD	W	CLR	DRY	DLIT	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
1.27	364024	4995	10/11/1994	3	8P	BELTLINE	GREEN HILL RD	W	CLR	DRY	DARK	ANIMAL	OTH	INJ	PSNGR CAR	STRGHT	W	E	INJC
1.27	315170	04843	9/9/1995	7	6P	BELTLINE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
1.28	361741	948	3/2/1994	4	9A	BELTLINE	GREEN HILL RD	E	RAIN	WET	DAY	ANGL-STP	TURN	INJ	PSNGR CAR	TURN-L	W	N	NONE
1.28	313259	1422	3/22/1995	4	7A	BELTLINE		W	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
1.28	261686	01393	3/9/1996	7	10A	BELTLINE	GREEN HILL RD	CN	CLR	DRY	DAY	ANGL-OTH	ANGL	INJ	PSNGR CAR	STRGHT	S	N	INJB
1.28	210848	01483	3/15/1997	7	1P	BELTLINE		W	CLR	DRY	DAY	S-STRGHT	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
1.28	211540	02667	5/14/1997	4	6A	BELTLINE	GREEN HILL RD	W	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
1.28	62922	984	4/30/2000	1	11P	BELTLINE	GREEN HILL RD	UN	CLR	DRY	DLIT	FIX OBJ	FIX	FAT	PSNGR CAR	STRGHT	E	W	KILL
1.28	1040209	3586	7/21/2002	1	7P	BELTLINE		CN	CLR	DRY	DAY	ANGL-OTH	ANGL	INJ	PSNGR CAR	STRGHT	S	N	INJB
1.28	1040625	4335	8/27/2002	3	6P	BELTLINE	GREEN HILL RD	E	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
47.84	364141	5229	10/23/1994	1	8A	FLORENCE-EUGENE	HUSTON RD	CN	CLR	DRY	DAY	O-1TURN	TURN	PDO	PSNGR CAR	STRGHT	W	E	NONE
47.84	210019	00185	1/8/1997	4	8A	FLORENCE-EUGENE	HUSTON RD	CN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	W	E	INJB
47.84	159492	00932	2/19/1998	5	7A	FLORENCE-EUGENE	HUSTON RD	E	RAIN	WET	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
47.84	159809	01399	3/17/1998	3	5P	FLORENCE-EUGENE	HUSTON RD	CN	CLR	DRY	DAY	ANGL-OTH	TURN	PDO	PSNGR CAR	TURN-L	S	W	NONE
47.84	160643	02591	5/25/1998	2	2P	FLORENCE-EUGENE	HUSTON RD	CN	CLR	DRY	DAY	ANGL-OTH	ANGL	INJ	PSNGR CAR	STRGHT	E	W	NONE
47.84	161239	03515	7/10/1998	6	1P	FLORENCE-EUGENE	HUSTON RD	N	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	N	S	NONE
47.84	62533	00416	1/23/2000	1	12A	FLORENCE-EUGENE	HUSTON RD	CN	FOG	SNO	DLIT	ANGL-OTH	ANGL	PDO	PSNGR CAR	STRGHT	S	N	NONE
47.85	111802	03889	7/15/1999	5	11A	FLORENCE-EUGENE	HUSTON RD	E	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
47.86	65604	05946	10/28/2000	7	11A	FLORENCE-EUGENE	HUSTON RD	E	CLR	DRY	DAY	O-1TURN	TURN	INJ	PSNGR CAR	STRGHT	E	W	INJB

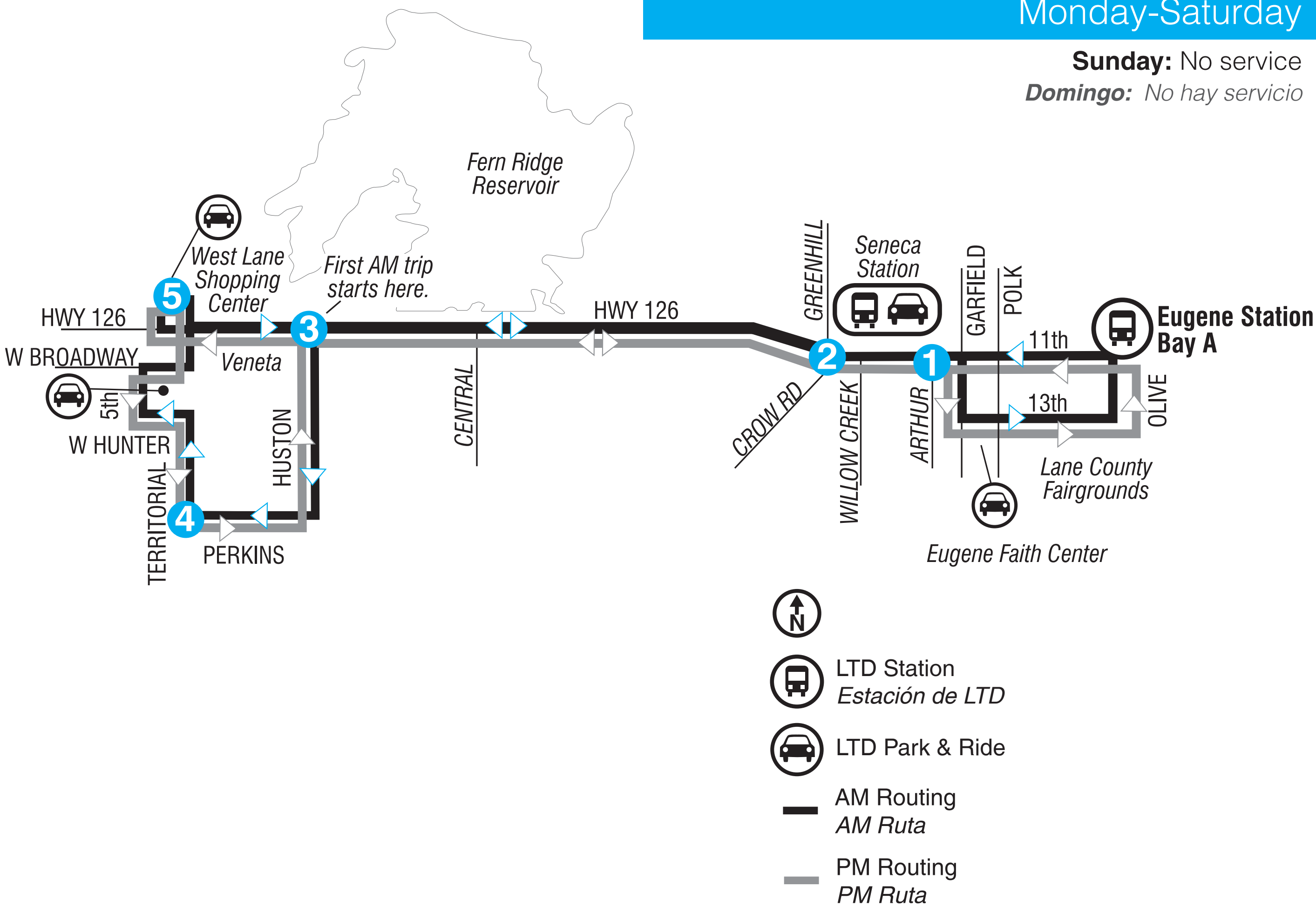
MP_NO	CRASH_ID	SER_NO	CRASH_DT	Day	Hr	Highway	Cross Street	Locatio	Weather	Surface	Light	Crash Type	Collision Type	Severity	Veh Type	Veh Mvmt	From	To	Inj
47.89	1039548	02323	5/17/2002	6	2P	FLORENCE-EUGENE	HUSTON RD	CN	CLR	DRY	DAY	O-1TURN	TURN	INJ	PSNGR CAR	STRGHT	W	E	INJB
47.89	1079391	03389	7/11/2003	6	11A	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	ANGL	PDO	PSNGR CAR	STRGHT	W	E	NONE
47.89	1074521	03920	8/12/2003	3	12P	FLORENCE-EUGENE	HUSTON RD	CN	CLR	DRY	DAY	O-1TURN	TURN	PDO	PSNGR CAR	STRGHT	N	S	NONE
47.89	1089818	05726	11/20/2003	5	5P	FLORENCE-EUGENE	UNKNOWN NAME	CN	RAIN	WET	DARK	ANGL-OTH	ANGL	PDO	PSNGR CAR	STRGHT	E	W	NONE
47.89	1106085	00932	3/25/2004	5	7A	FLORENCE-EUGENE	HUSTON RD	CN	CLR	DRY	DAY	O-1TURN	TURN	PDO	PSNGR CAR	STRGHT	S	N	NONE
47.9	956558	01446	3/25/2003	3	2P	FLORENCE-EUGENE	HUSTON RD	E	RAIN	WET	DAY	ANGL-OTH	TURN	PDO	PSNGR CAR	STRGHT	W	E	NONE
47.91	954870	01166	3/8/2003	7	10A	FLORENCE-EUGENE	HUSTON RD	E	CLD	WET	DAY	O-STRGHT	SS-M	INJ	PSNGR CAR	STRGHT	W	E	INJB
47.94	265030	07442	12/13/1996	6	4P	FLORENCE-EUGENE	HUSTON RD	W	CLR	DRY	DUSK	ANGL-OTH	TURN	INJ	SEMI TOW	STRGHT	W	E	NONE
48	263043	03602	6/26/1996	4	11A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
48	1039002	01477	3/23/2002	7	7P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	FIX OBJ	FIX	INJ	MTRCYCLE	STRGHT	E	W	INJC
48	1041700	06046	11/18/2002	2	3P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
48	1074925	03722	7/27/2003	1	5P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
48	1088128	05617	11/9/2003	1	11A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	W	E	NONE
48	1106046	01325	4/22/2004	5	7P	FLORENCE-EUGENE		UN	CLR	DRY	DUSK	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	E	W	INJC
48.09	261913	01726	3/25/1996	2	5P	FLORENCE-EUGENE	HUSTON RD	E	CLR	DRY	DAY	S-1TURN	TURN	PDO	PSNGR CAR	STRGHT	E	W	NONE
48.34	159518	00974	2/24/1998	3	8A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	E	W	INJB
48.46	213297	05966	10/15/1997	4	3P	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	TURN	PDO	PSNGR CAR	TURN-L	N	E	NONE
48.46	110320	01026	2/23/1999	3	2P	FLORENCE-EUGENE		CN	CLD	WET	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	E	W	INJC
48.47	315202	04876	9/13/1995	4	3P	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	E	W	INJB
48.49	161465	03854	7/23/1998	5	4P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
48.5	113272	06758	11/22/1999	2	6P	FLORENCE-EUGENE		UN	RAIN	WET	DARK	PED	PED	INJ					INJA
48.6	1106044	01313	4/21/2004	4	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	E	W	INJC
48.69	161422	03786	7/20/1998	2	7P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
48.78	261679	01385	3/8/1996	6	2P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
48.84	313976	02634	5/17/1995	4	2P	FLORENCE-EUGENE	HUSTON RD	E	CLR	DRY	DAY	O-1TURN	TURN	PDO	PSNGR CAR	TURN-L	W	N	NONE
48.89	364207	5297	10/29/1994	7	2A	FLORENCE-EUGENE		UN	FOG	WET	DARK	O-STRGHT	SS-M	INJ	PSNGR CAR	STRGHT	E	W	NONE
48.97	159279	00647	2/3/1998	3	10A	FLORENCE-EUGENE		UN	RAIN	WET	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	E	W	INJC
49	265048	07461	12/14/1996	7	5A	FLORENCE-EUGENE		UN	CLR	ICE	DLIT	PRKD MV	SS-O	PDO	PSNGR CAR	STRGHT	W	E	NONE
49	64534	03686	8/16/2000	4	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	FAT	PSNGR CAR	STRGHT	W	E	INJC
49	65472	05637	10/20/2000	6	4P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
49	1039091	01607	4/8/2002	2	4P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1TURN	TURN	INJ	PSNGR CAR	STRGHT	W	E	INJA
49	970519	03177	6/26/2003	5	7A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	PED	PED	INJ	PSNGR CAR	STRGHT	W	E	NONE
49	1106051	01355	4/23/2004	6	4P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
49.31	18692	06283	11/19/2001	2	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
49.42	361636	780	2/19/1994	7	3P	FLORENCE-EUGENE		UN	CLD	UNK	DAY	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	E	W	INJB
49.5	316328	07341	12/28/1995	5	1P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
49.5	264266	05826	10/9/1996	4	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	MOTRHOME	STRGHT	W	E	NONE
49.75	361858	1208	3/6/1994	1	9P	FLORENCE-EUGENE		CN	CLR	DRY	DARK	O-1TURN	TURN	INJ	MTRCYCLE	STRGHT	W	E	INJB
49.75	312777	00703	2/2/1995	5	9P	FLORENCE-EUGENE		CN	FOG	DRY	DARK	ANGL-OTH	ANGL	INJ	PSNGR CAR	STRGHT	S	N	INJB
49.75	314496	03489	7/4/1995	3	1P	FLORENCE-EUGENE		N	CLR	DRY	DAY	ANGL-OTH	TURN	PDO	PSNGR CAR	TURN-R	E	N	NONE
49.75	314658	03725	8/10/1995	5	1P	FLORENCE-EUGENE		CN	RAIN	WET	DAY	ANGL-OTH	ANGL	FAT	PSNGR CAR	STRGHT	W	E	INJB
49.75	262438	02586	5/9/1996	5	7P	FLORENCE-EUGENE		CN	CLR	DRY	DUSK	ANGL-OTH	ANGL	PDO	PSNGR CAR	STRGHT	W	E	NONE
49.75	262983	03532	6/20/1996	5	4P	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	ANGL	PDO	PSNGR CAR	STRGHT	N	S	NONE
49.75	212346	04122	7/20/1997	1	7P	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	E	W	NONE
49.75	213196	05793	10/4/1997	7	5P	FLORENCE-EUGENE		S	RAIN	WET	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	S	N	NONE
49.8	16329	01619	4/2/2001	2	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-STRGHT	SS-M	INJ	PSNGR CAR	STRGHT	E	W	INJA
49.82	263956	05364	9/17/1996	3	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
49.97	62489	00355	1/17/2000	2	8A	FLORENCE-EUGENE		UN	FOG	ICE	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	E	W	NONE
50	260778	00138	1/4/1996	5	4P	FLORENCE-EUGENE		UN	CLR	DRY	DUSK	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
50	110126	00639	2/2/1999	3	9A	FLORENCE-EUGENE		UN	RAIN	WET	DAY	O-STRGHT	SS-M	PDO	PSNGR CAR	STRGHT	E	W	NONE
50	17243	3439	7/5/2001	5	4P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
50	18697	06288	11/19/2001	2	3P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
50	1038915	01266	5/16/2002	5	8P	FLORENCE-EUGENE		UN	RAIN	WET	DUSK	O-STRGHT	SS-M	INJ	PSNGR CAR	STRGHT	E	W	INJC
50	1040127	03432	7/13/2002	7	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-STRGHT	SS-O	PDO	PSNGR CAR	STRGHT	N	S	NONE
50	969698	02977	6/20/2003	6	10P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	W	E	NONE
50	969807	03044	6/21/2003	7	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
50	1074922	03629	7/25/2003	6	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-STRGHT	SS-O	PDO	MTRCYCLE	STRGHT	W	E	NONE
50	1074678	03757	8/3/2003	1	10P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	O-1TURN	TURN	INJ	MTRCYCLE	STRGHT	E	W	INJA
50	1104828	00863	3/20/2004	7	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
50	1106025	01101	4/4/2004	1	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	MTRCYCLE	STRGHT	E	W	INJA
50	1112703	02015	6/12/2004	7	9P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	S-STRGHT	SS-O	PDO	MTRCYCLE	STRGHT	W	E	NONE

MP_NO	CRASH_ID	SER_NO	CRASH_DT	Day	Hr	Highway	Cross Street	Locatio	Weather	Surface	Light	Crash Type	Collision Type	Severity	Veh Type	Veh Mvmt	From	To	Inj
50.1	212594	04565	8/18/1997	2	11P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
50.32	361459	539	2/4/1994	6	11P	FLORENCE-EUGENE		UN	CLD	WET	DARK	O-STRGHT	SS-M	PDO	PSNGR CAR	STRGHT	E	W	NONE
50.41	212073	03703	6/29/1997	1	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
50.5	18751	6394	11/26/2001	2	12P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	W	E	INJC
50.56	110292	00981	2/19/1999	6	7A	FLORENCE-EUGENE		UN	CLD	WET	DAWN	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
50.6	362578	2225	5/14/1994	7	7P	FLORENCE-EUGENE		UN	CLR	DRY	DUSK	OVERTURN	NCOL	PDO	PSNGR CAR	STRGHT	W	E	NONE
50.69	161995	04784	9/3/1998	5	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
50.69	18046	4900	9/14/2001	6	1A	FLORENCE-EUGENE		UN	CLR	DRY	DARK	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
50.7	64994	4541	8/18/2000	6	10P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	O-STRGHT	HEAD	FAT	PSNGR CAR	STRGHT	E	W	KILL
50.75	212275	03998	7/12/1997	7	7A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-STRGHT	SS-M	INJ	PSNGR CAR	STRGHT	E	W	NONE
50.88	261930	01746	3/28/1996	5	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
50.95	313956	2602	5/20/1995	7	4P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
50.97	111060	02199	4/23/1999	6	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	ANIMAL	OTH	PDO	PSNGR CAR	STRGHT	W	E	NONE
51	364455	5822	11/20/1994	1	7A	FLORENCE-EUGENE		UN	CLR	ICE	DAWN	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
51	364453	5820	11/20/1994	1	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
51	159970	01620	3/31/1998	3	6P	FLORENCE-EUGENE		UN	CLR	DRY	DUSK	O-STRGHT	SS-M	INJ	PSNGR CAR	STRGHT	E	W	NONE
51	17398	3668	7/11/2001	4	7P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
51	19076	7068	12/21/2001	6	3P	FLORENCE-EUGENE		UN	CLR	ICE	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
51	1038950	1361	3/23/2002	7	2P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	O-STRGHT	SS-M	PDO	PSNGR CAR	STRGHT	W	E	NONE
51	970522	3199	7/4/2003	6	11P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	E	W	NONE
51	1076392	4237	8/29/2003	6	5P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
51	1110851	1780	5/29/2004	7	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
51.1	162503	05796	10/25/1998	1	UNK	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
51.4	1038155	00124	1/10/2002	5	3P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-STRGHT	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
51.5	18982	6886	12/16/2001	1	6A	FLORENCE-EUGENE		UN	RAIN	WET	DARK	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
51.5	1079644	4613	9/18/2003	5	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-STRGHT	SS-M	PDO	PSNGR CAR	STRGHT	E	W	NONE
51.5	1079642	4811	9/26/2003	6	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
51.6	362555	2199	5/10/1994	3	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	BIKE	SS-O	INJ					INJA
51.6	263244	03980	7/13/1996	7	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	INJB
51.6	210672	01215	4/2/1997	4	8A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	SE	INJC
51.6	212382	04201	7/23/1997	4	6P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	W	E	INJC
51.69	18051	4905	9/14/2001	6	5P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
51.85	159761	01318	3/12/1998	5	8A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	W	E	NONE
51.94	314885	04265	8/9/1995	4	4P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	INJC
51.97	315761	6228	11/4/1995	7	9P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
52	314179	02991	6/2/1995	6	12A	FLORENCE-EUGENE		UN	CLR	DRY	DARK	PRKD MV	ANGL	PDO	PSNGR CAR	STRGHT	E	W	NONE
52	17378	3641	7/5/2001	5	5P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-STRGHT	TURN	PDO	PSNGR CAR	STRGHT	W	E	NONE
52	17279	3502	7/6/2001	6	10P	FLORENCE-EUGENE		UN	CLR	DRY	DARK	ANIMAL	OTH	PDO	PSNGR CAR	STRGHT	E	W	NONE
52	17586	3983	7/30/2001	2	10A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	E	W	NONE
52	1038074	00005	1/1/2002	3	2P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	E	W	INJB
52	954890	1084	3/5/2003	4	3P	FLORENCE-EUGENE		UN	CLD	DRY	DAY	S-1TURN	TURN	INJ	PSNGR CAR	STRGHT	E	W	INJC
52	966127	2133	5/3/2003	7	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	E	W	NONE
52	966360	2415	5/18/2003	1	7P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
52	967708	2848	6/12/2003	5	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	S-STRGHT	SS-O	PDO	PSNGR CAR	STRGHT	W	E	NONE
52	970523	3185	7/1/2003	3	9P	FLORENCE-EUGENE		UN	CLR	DRY	DUSK	S-1STOP	REAR	PDO	PSNGR CAR	STRGHT	E	W	NONE
52	1076380	4133	8/24/2003	1	7P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	E	W	NONE
52	1080824	5061	10/14/2003	3	9A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-STRGHT	SS-M	PDO	PSNGR CAR	STRGHT	W	E	NONE
52	1098902	80309	1/28/2004	4	2P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	O-STRGHT	SS-M	INJ	PSNGR CAR	STRGHT	W	E	INJC
52	1097821	301	1/31/2004	7	3P	FLORENCE-EUGENE		UN	RAIN	WET	DAY	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	W	E	INJC
52.04	313820	02406	5/5/1995	6	1P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-STRGHT	OTH	INJ	PSNGR CAR	STRGHT	E	W	NONE
52.1	264124	05625	11/4/1996	2	5P	FLORENCE-EUGENE		W	RAIN	WET	DLIT	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	W	E	NONE
52.1	162366	05555	10/9/1998	6	7P	FLORENCE-EUGENE		CN	RAIN	WET	DLIT	O-1TURN	TURN	INJ	PSNGR CAR	STRGHT	E	W	NONE
52.1	110316	01022	2/23/1999	3	1P	FLORENCE-EUGENE		CN	RAIN	WET	DAY	O-1TURN	TURN	INJ	PSNGR CAR	STRGHT	E	W	INJC
52.1	16902	2750	5/30/2001	4	3P	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	E	W	NONE
52.1	1079861	6127	12/19/2003	6	6A	FLORENCE-EUGENE		CN	FOG	WET	DAWN	ANGL-OTH	TURN	FAT	PSNGR CAR	TURN-L	N	E	INJC
52.12	363126	2990	6/28/1994	3	11A	FLORENCE-EUGENE		UN	CLR	DRY	DAY	OVERTURN	NCOL	INJ	PSNGR CAR	STRGHT	E	W	INJB
52.14	264969	07317	12/7/1996	7	5P	FLORENCE-EUGENE		UN	RAIN	WET	DARK	OTH OBJ	FIX	INJ	PSNGR CAR	STRGHT	E	W	NONE
52.2	112916	05998	10/21/1999	5	1P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	INJ	PSNGR CAR	STRGHT	E	W	INJC
52.3	15510	331	1/19/2001	6	12P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	FIX OBJ	FIX	PDO	PSNGR CAR	STRGHT	W	E	NONE
52.38	159397	00813	2/15/1998	1	3P	FLORENCE-EUGENE		CN	CLR	DRY	DAY	ANGL-OTH	TURN	INJ	PSNGR CAR	STRGHT	E	W	INJC
52.68	62353	00173	1/10/2000	2	5P	FLORENCE-EUGENE		UN	RAIN	WET	DUSK	S-1STOP	REAR	INJ	PSNGR CAR	STRGHT	E	W	NONE
52.69	264996	07352	12/14/1996	7	1P	FLORENCE-EUGENE		UN	CLR	DRY	DAY	O-STRGHT	HEAD	FAT	PSNGR CAR	STRGHT	W	E	INJC

LTD Route 93 Information

93 Veneta
Monday-Saturday

Sunday: No service
Domingo: *No hay servicio*



From: Eugene Downtown
To: Veneta
Name: 93 Veneta

From: Veneta
To: Eugene Downtown
Name: 93 Eugene Station

	LEAVE Eugene Station A	11th at Arthur 1	11th at Greenhill 2	Hwy 126 at Huston 3	Territorial at Perkins 4	ARRIVE West Lane Shopping Center 5	LEAVE West Lane Shopping Center 5	Territorial at Perkins 4	Hwy 126 at Huston 3	11th at Greenhill 2	11th at Arthur 1	ARRIVE Eugene Station
MONDAY–FRIDAY / Lunes a Viernes												
AM	- -	- -	- -	6:42	6:47	6:56	6:56	- -	- -	7:06	7:13	7:25
	6:40	6:44	6:53	7:02	7:07	7:16	7:23	- -	- -	7:33	7:42	7:55
	7:40	7:44	7:55	8:04	8:08	8:19	8:25	- -	- -	8:34	8:43	8:55
	9:40	9:44	9:55	10:04	10:08	10:19	10:25	- -	- -	10:34	10:43	10:55
PM	**1:40**	**1:45**	**1:57**	**- -**	**- -**	**2:11**	**2:11**	**2:18**	**2:23**	**2:31**	**2:41**	**2:55**
	3:40	**3:45**	**3:57**	**- -**	**- -**	**4:12**	**4:12**	**4:19**	**4:23**	**4:31**	**4:41**	**4:55**
	5:30	**5:36**	**5:48**	**- -**	**- -**	**6:00**	**6:04**	**6:11**	**6:16**	**6:24**	**6:33**	**6:45**
	6:30	**6:35**	**6:44**	**- -**	**- -**	**6:55**	**6:58**	**7:05**	**7:10**	**7:17**	**7:24**	**7:35**
SATURDAY / Sábado												
AM	9:30	9:34	9:45	9:54	9:58	10:06	10:11	- -	- -	10:20	10:29	10:40
PM	**4:50**	**4:55**	**5:04**	**- -**	**- -**	**5:14**	**5:19**	**5:24**	**5:29**	**5:37**	**5:44**	**5:55**

Route 93 Bus Ridership West of Green Hill Road

Average Daily Ridership (Collected throughout May 2011)

Stop ID	average_ons	average_offs	average_counts	latitude	longitude
9090	0	1	2	44.0517774	-123.2080752
9003	0	0	0	44.0518852	-123.3514645
9004	0	0	0	44.0512119	-123.3546419
9012	42	42	85	44.055224	-123.3529212
9017	0	0	0	44.052628	-123.3306146
9019	4	0	4	44.043189	-123.3517239
9091	1	0	2	44.0519671	-123.2093679
9092	0	1	1	44.0532398	-123.2446693
9093	1	0	1	44.0530786	-123.2447338
9096	0	1	1	44.0527698	-123.2916291
9097	0	0	0	44.0525651	-123.2921831
9098	0	9	9	44.0527891	-123.3181665
9099	7	0	8	44.0526283	-123.3179971
9100	0	0	0	44.0519041	-123.3302391
9101	0	0	0	44.048325	-123.3302868
9102	0	0	1	44.0450484	-123.3303304
9103	0	0	0	44.0408613	-123.3302639
9104	0	0	0	44.0372617	-123.3302581
9105	1	0	2	44.0371465	-123.3418873
9106	4	0	5	44.0371225	-123.3482331
9107	3	0	3	44.0375141	-123.352275
9108	5	0	6	44.041819	-123.3519051
9109	3	1	4	44.0454782	-123.3515482
9110	0	0	0	44.04774	-123.3514884
9113	6	0	6	44.0502624	-123.3560639
9155	1	0	1	44.0393123	-123.3521634
9217	1	2	3	44.0485557	-123.3516069
9219	3	10	14	44.0432223	-123.3519598
9220	2	5	8	44.0414283	-123.3521199
9222	1	2	3	44.0377135	-123.352433
9225	0	0	1	44.037629	-123.3300086
9227	0	0	0	44.0451084	-123.3302326
9228	0	0	0	44.0482118	-123.3302823
9229	0	0	1	44.0518683	-123.330223
9231	1	4	5	44.0370583	-123.3477721
9232	0	1	1	44.0370919	-123.3419288
9193	1	3	4	44.0488117	-123.3540573
9194	4	0	4	44.0489112	-123.3542374
9195	0	0	1	44.051284	-123.3542087
9198	2	11	13	44.0492308	-123.356177
9199	0	0	0	44.0518915	-123.3516315
9196	9	0	9	44.0512342	-123.3520435
9197	3	10	14	44.051283	-123.3522525
total: average daily counts	105	103	222		

Route 93 Route Profile for Fall '09 and Fall '10

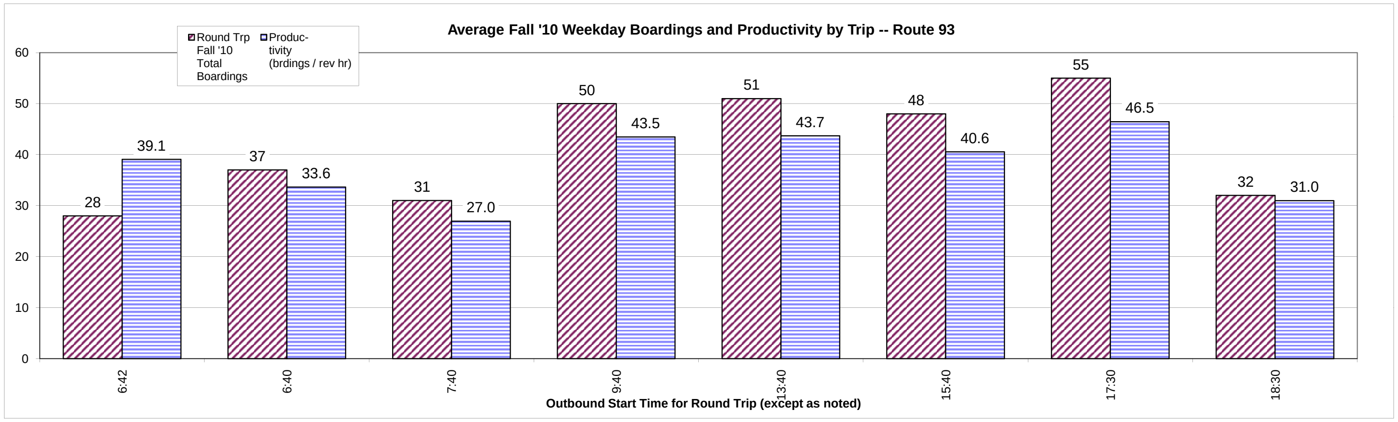
WEEKDAY

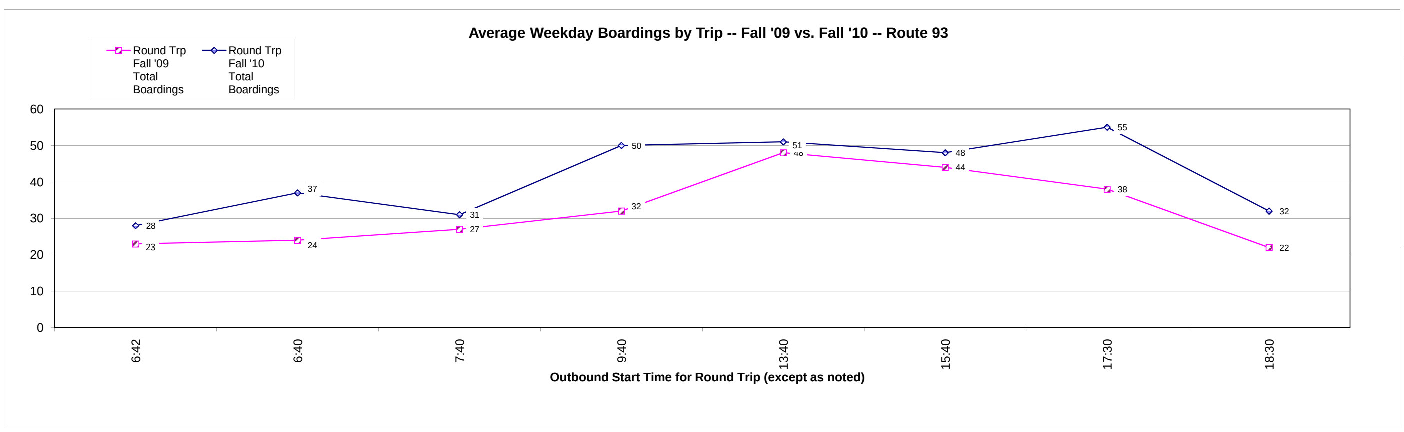
peak hour factor	platform hour per revenue hour ratio	direct operator cost per hour	
			$ 73.00
0.3333	1.34	Avg. fare (FY 09-10)	$ 0.64

Survey date range: 10/3/09 - 11/1/09 and 10/2/10 - 10/31/10

Trip Descr for Graph	OUTBOUND Trip Start	Trip End	Fall 2009 Average Daily Boardings	Fall 2010 Average Daily Boardings	Fall 2010 Trip Revenue Hours	INBOUND Trip Start	Trip End	Fall 2009 Average Daily Boardings	Fall 2010 Average Daily Boardings	Fall 2010 Trip Revenue Hours	Round Trp Fall '09 Total Boardings	Round Trp Fall '10 Total Boardings	Total Fall '09 Revenue Hours	Total Fall '10 Revenue Hours	2009 Produc-tivity (brdings / rev hr)	2010 Produc-tivity (brdings / rev hr)	2010 Add Schd Hrs for Peak or Xtra L.O.	Total Sched Hrs	Trip Cost (schd hrs x operator cost /hr)	Net Cost per Brding
6:42	6:42	6:56	12	13	0.23	6:56	7:25	11	15	0.48	23	28	0.75	0.72	30.7	39.1		0.96	$ 70.10	$ 1.86
6:40	6:40	7:16	14	21	0.60	7:25	7:55	10	16	0.50	24	37	1.12	1.10	21.4	33.6		1.47	$107.60	$ 2.27
7:40	7:40	8:19	16	17	0.65	8:25	8:55	11	14	0.50	27	31	1.15	1.15	23.5	27.0		1.54	$112.49	$ 2.99
9:40	9:40	10:19	18	25	0.65	10:25	10:55	14	25	0.50	32	50	1.18	1.15	27.1	43.5		1.54	$112.49	$ 1.61
13:40	13:40	14:08	27	31	0.47	14:13	14:55	21	20	0.70	48	51	1.18	1.17	40.7	43.7		1.56	$114.12	$ 1.60
15:40	15:40	16:09	28	27	0.48	16:13	16:55	16	21	0.70	44	48	1.18	1.18	37.3	40.6		1.59	$115.75	$ 1.77
17:30	17:30	18:00	32	45	0.50	18:04	18:45	6	10	0.68	38	55	1.18	1.18	32.2	46.5		1.59	$115.75	$ 1.46
18:30	18:30	18:55	15	24	0.42	18:58	19:35	7	8	0.62	22	32	1.03	1.03	21.4	31.0		1.38	$101.08	$ 2.52
			162	203	4.00			96	129	4.68	258	332	8.78	8.68	29.4	38.2		11.64	$ 849	$ 1.92

# of current round trips	% chg from previous year	% chg from previous year	% chg from previous year	% chg from previous year	avg. productiv. rural category:	rev hr / schd hr
8.0	25.3%	34.4%	28.7%	-1.1%	27.4	74.6%





Appendix C. Technical Memorandum #7, Highway 126 Fern Ridge Corridor Plan– Purpose, Needs, Goal, and Objectives

DKS Associates
TRANSPORTATION SOLUTIONS

DRAFT

TECHNICAL MEMORANDUM #7

TO: Project Management Team

FROM: Scott Mansur, P.E., P.T.O.E., DKS Associates
Peter Coffey, P.E., DKS Associates
Brad Coy, E.I.T., DKS Associates

DATE: January 11, 2012

SUBJECT: **Highway 126 Fern Ridge Corridor Plan: Purpose, Needs, Goals, and Objectives** P09042-019

This memorandum documents the draft Problem Statement as well as the Purpose, Needs, Goals, and Objectives (PNGO) for the Highway 126 Fern Ridge Corridor Plan, which will identify improvement needs and develop improvement alternatives on the OR 126W corridor between the cities of Eugene and Veneta. PNGO is a requirement for future National Environmental Policy Act (NEPA) documentation and compliance. The PNGO documentation is necessary to apply for future permits that may be required. Although the current corridor plan is not intended to provide the full NEPA document that will be required in the future, all work has been coordinated with the NEPA process in order to utilize this work to the greatest extent possible for future environmental requirements.

The draft PNGO was developed through a collaborative process with the Project Management Team (PMT). Preliminary PNGO were created by the project team and modified after discussion with the PMT. The draft PNGO will also be reviewed and modified based on feedback from the public. The desired outcome of this PNGO process will be, after evaluation of a range of potential actions and alternatives, a set of preferred improvements to address the operational and safety issues in the study area.

Problem Statement

Highway 126 West between Eugene and Veneta is a two-lane highway that has existing multi-modal, safety, and operational needs that are expected to worsen over time. The highway provides an important regional connection for commuters, freight, residents and tourists traveling between the two cities and to the Oregon Coast. However, the highway travels through an environmentally sensitive area and has limited connectivity and available right-of-way due to the adjacent railroad tracks and the Fern Ridge Reservoir. The Oregon Department of Transportation is conducting the *Highway 126: Fern Ridge*

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Corridor Plan to identify and evaluate a range of alternatives that would improve the highway's safety and function in order to meet safety and mobility needs for all transportation system users.

Purpose

The purpose of the OR 126W Fern Ridge Corridor Plan is to:

- Develop a transportation facility plan
- Address multi-modal safety and operational problems
- Identify potential facility improvement options

Need

The need for the OR 126W Fern Ridge Corridor Plan is to more thoroughly identify and evaluate the existing safety and operational functions that must be addressed on OR 126W corridor between the cities of Eugene and Veneta. These functions include:

Safety

- Overall crash rate higher than other similar facilities throughout the state
- On average 2 fatalities or debilitating injuries per year
- Emergency response times impacted during incidents
- Increased number of collisions in areas where there is a higher density of access points to properties, businesses and public lands
- Travel speeds exceed posted speeds by more than 5 mph.

Operations

- Serves 14,450 average annual daily vehicle trips
- Summer usage increases to approximately 18,000 daily vehicle trips
- Mix of roadway users: local, commuter, freight and tourist
- Accommodate all modes
- Provides limited opportunities for passing

Draft Goals and Objectives

Specific transportation goals were developed for the OR 126W study corridor and address the areas of transportation, environmental, social and economic, and community values. These goals are identified below along with associated objectives.

Goal 1: Transportation

Provide a multi-modal transportation system from Veneta to Eugene to meet existing and future safety and mobility needs for all transportation system users

Objective A. Improve safety for pedestrians, bicyclists, motor vehicles, freight and transit
Objective B. Encourage use of alternative transportation modes
Objective C. Maintain/enhance motor vehicle/freight mobility and traffic flow
Objective D. Support freight mobility along the corridor

Objective E. Improve safety and efficiency at railroad crossings
Objective F. Avoid or minimize impacts to the railroad
Objective G. Improve reliability for emergency vehicles
Objective H. Provide a facility that meets future growth in the corridor
Objective I. Where appropriate support opportunities in the corridor for future rail transit service

Goal 2: Environmental

Avoid or minimize the impacts to local environmental and community resources while incorporating opportunities to enhance those resources

Objective A. Avoid or minimize adverse impacts to local environmental, visual and community resources
Objective B. Support/seek opportunities for enhancements to local environmental and community resources

Goal 3: Social and Economic

Support the economic viability of the region including industrial, commercial, recreational and tourist activities; protect the livability and integrity of the residential areas; provide a financially viable project

Objective A. Support and enhance multi-modal access for the residential, commercial, recreational and tourist areas
Objective B. Improve freight movement throughout the corridor
Objective C. Enhance transportation facilities which are accessible to all members of the community
Objective D. Support adopted economic plans
Objective E. Minimize capital cost while meeting project objectives
Objective F. Minimize disruption to the community resulting from highway construction and operation
Objective G. Maximize the cost effectiveness of transportation system investments
Objective H. Minimize impacts to private properties and farmland
Objective I. Support rail related freight opportunities for Veneta's industrial areas

Goal 4: Community Values

Be consistent with the adopted long term goals and policies of the community and the region

Objective A. Support community/regional facilities
Objective B. Consistent with adopted state, county, regional and local Transportation System Plans and policies

Draft Criteria

Draft criteria were prepared for use in evaluating and comparing improvement alternatives. These criteria will help ensure the greatest consistency between the PNGO and the recommended improvement alternative(s) for the OR 126W study corridor.

Transportation

- Reduce potential conflict points such as intersections and driveways
- Improve pedestrian safety and accessibility
- Improve bicycle safety and accessibility
- Improve overall traffic safety
- Improve east/west vehicle capacity
- Improve mobility along corridor, including freight
- Support public transit service
- Improve emergency vehicle response time
- Minimize impacts to the railroad for freight movements
- Strive to meet ODOT mobility standards
- Minimize impacts to the railroad that limit opportunities for future rail transit

Environmental

- Avoid or minimize adverse permanent and temporaryimpacts to Fern Ridge Lake
- Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas
- Avoid or minimize adverse permanent and temporary impacts to identified historical resources.
- Avoid or minimize adverse permanent and temporary impacts to cultural resources
- Avoid or minimize adverse permanent and temporary impacts to visual resources
- Provide, maintain, and improve access to existing parkland and recreational facilities, where practicable
- Be consistent with ODFW Fern Ridge Wildlife Area Plan

Social and Economic

- Support community livability by improving multi-modal access to residential areas
- Support community livability and economics by improving multi-modal access to commercial areas
- Support community livability and economics by improving multi-modal access to recreational/tourist areas
- Support area economic vitality by improving roadway geometrics for freight movements
- Provide transportation facilities which are accessible to all community members and users
- Consistent with City of Veneta Economic Development Strategic Plan
- Consistent with Lane County Regional Economic Development Strategies
- Minimize impacts to properties along the corridor
- Support rail opportunities for Veneta's industrial areas

Community Values

- Improve access opportunities to Fern Ridge Lake along the corridor
- Improve access to Perkins Peninsula County Park
- Be consistent with Oregon Highway Plan
- Be consistent with Oregon Bicycle and Pedestrian Plan
- Be consistent with Lane County Transportation System Plan
- Be consistent with Fern Ridge Trail System: Visions and Strategies
- Be consistent with City of Veneta Comprehensive Plan
- Compliant with Lane County Land Use Code
- Support regional bicycle/pedestrian plans
- Support planned parkland and recreational facilities, where practicable
- Be consistent with USACE Fern Ridge Operational Management Plan

Appendix D. Technical Memorandum #8, Highway 126 Fern Ridge Corridor Plan– Future Travel Forecasts and Needs Analysis (DKS, 2011)

DKS *Associates*

TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM #8

TO: Project Management Team

FROM: Scott Mansur, P.E., P.T.O.E., DKS Associates
Peter Coffey, P.E., DKS Associates
Brad Coy, E.I.T., DKS Associates

DATE: December 7, 2011

SUBJECT: **OR 126W Fern Ridge Corridor Plan – Future Travel Forecasts and Needs Analysis** P09042-019-007

This memorandum documents future travel forecasts and needs (including major transportation constraints and issues) for the OR 126W corridor between Veneta and Eugene, Oregon, and is part of the OR 126W Fern Ridge Corridor Plan. Figure 1 shows the project study area, which includes OR 126W and nearby parallel facilities (including Cantrell Road and Perkins Road to the south). The sections of this memorandum document roadway network deficiencies, environmental constraints, future 2035 traffic operations, access management, transit needs, and pedestrian and bicycle deficiencies.

Roadway Network Deficiencies

OR 126W is managed by the Oregon Department of Transportation (ODOT) and is an important corridor for two main reasons. First, it connects Veneta and Eugene, and second, it is part of the larger OR 126W corridor that connects Eugene to the Oregon coast. The most significant constraints to the roadway network are the Fern Ridge Reservoir and the Coos Bay Rail Line (CBRL). Needs and deficiencies along the corridor were addressed, including parallel facilities and connectivity, livability, access spacing, traffic signal spacing, freight needs, and at-grade railroad crossings.

Parallel Facilities and Connectivity

The corridor lacks good parallel facilities (i.e., east-west connection) between Eugene and Veneta. Having an optional parallel route to OR 126W would provide relief to the area. The current roadway to the north of the reservoir (Clear Lake Road) is out of direction and does not allow for intermediate connectivity due to the location of the reservoir. The roadway network to the south can provide some connection but requires multiple turns and includes sections that are not paved and that experience flooding during certain times of the year (therefore, this southern network is currently unreliable). Some key benefits of the roadways to the south are their proximity to OR 126W and the City of Veneta, and connectivity at Central Road and Huston Road.

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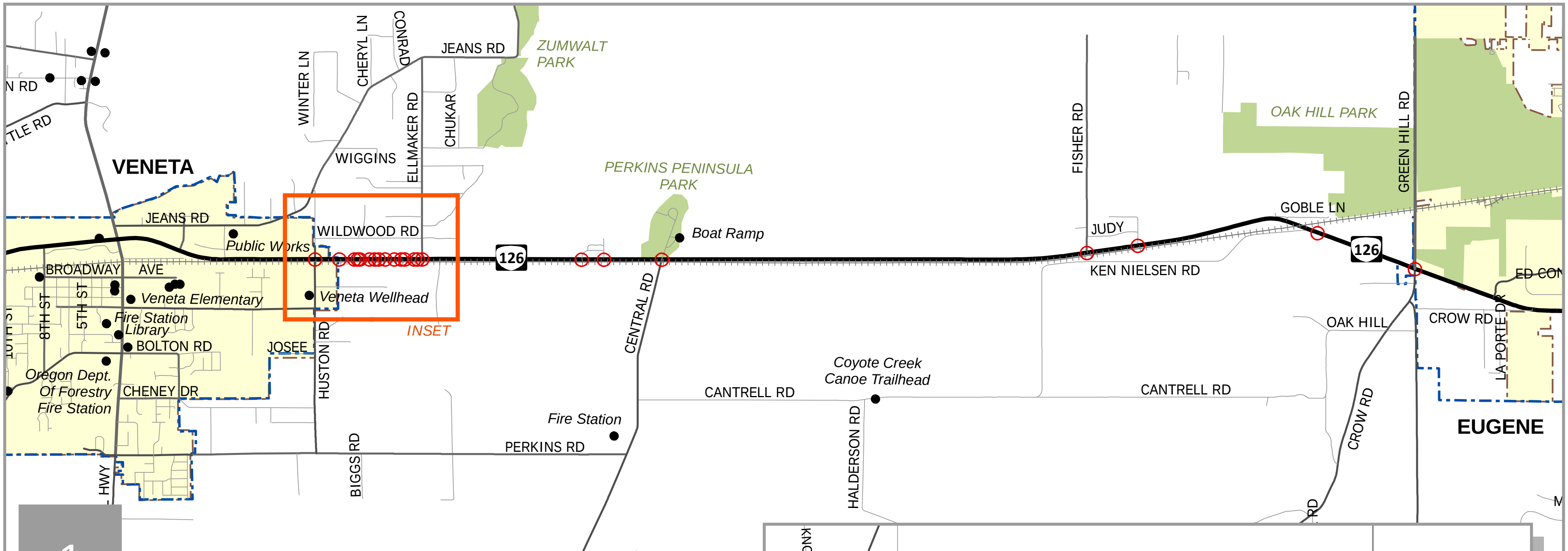
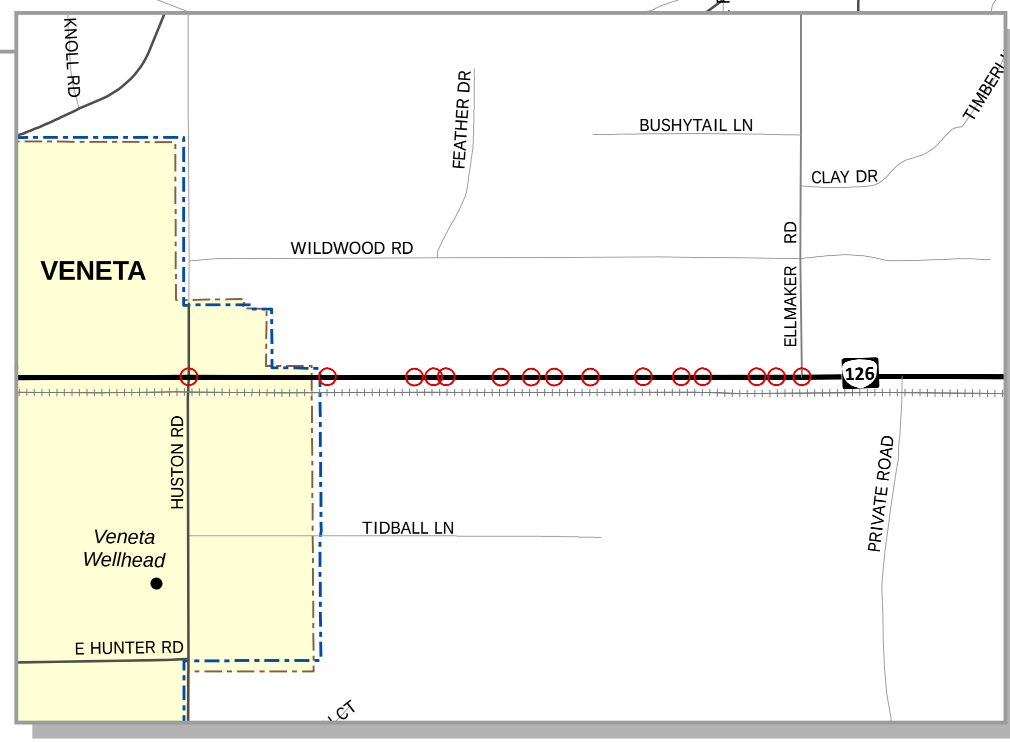
STUDY AREA





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OR 126W Fern Ridge Corridor Plan

Legend

○	Study Intersection	Railroad	
●	Place of Interest	Urban Growth Boundary	
	Major Arterial	City Limit	
	Minor Arterial	Park	
	Collector		
	Local		

The lack of good parallel routes and connectivity of those routes to OR 126W also impacts emergency response and incident management. If there is a significant incident (e.g., collision that blocks one or both travel lanes), then it is difficult to get first responders to the site. In addition, using the roadways to the south would require roadway classification changes by the County because Perkins Road is a Rural Minor Collector and Cantrell Road is only a Rural Local Road.

Access Spacing

ODOT's access spacing standards are identified in the *1999 Oregon Highway Plan.*[1] For OR 126W, which is classified as a Statewide Highway, the applicable spacing standard is 1,320 feet (from center of access to center of access on the same side of the roadway) due to the 55 miles per hour (mph) posted speed limit.

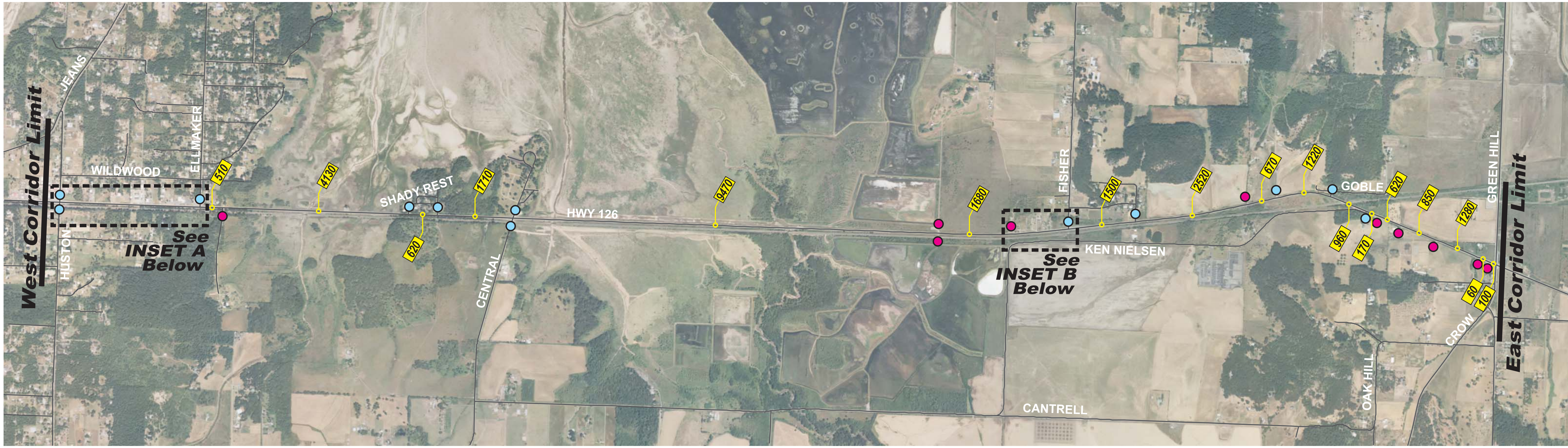
Figure 2 shows the access locations along the OR 126W study corridor. In addition, Table 1 lists the access conditions for the OR 126W study corridor for various segments of the study corridor. For the westernmost section of the study corridor (i.e., the 0.59 miles between Huston Road and Ellmaker Road), there are multiple, closely spaced driveways. The majority of these driveways provide access to businesses, with some having modest p.m. peak hour volumes. All of these driveways were included in the intersection operations analysis documented previously. The remaining section of corridor (i.e., the 5.33 miles between Ellmaker Road and Green Hill Road) is more rural and has fewer accesses, with most driveways providing access to residences.

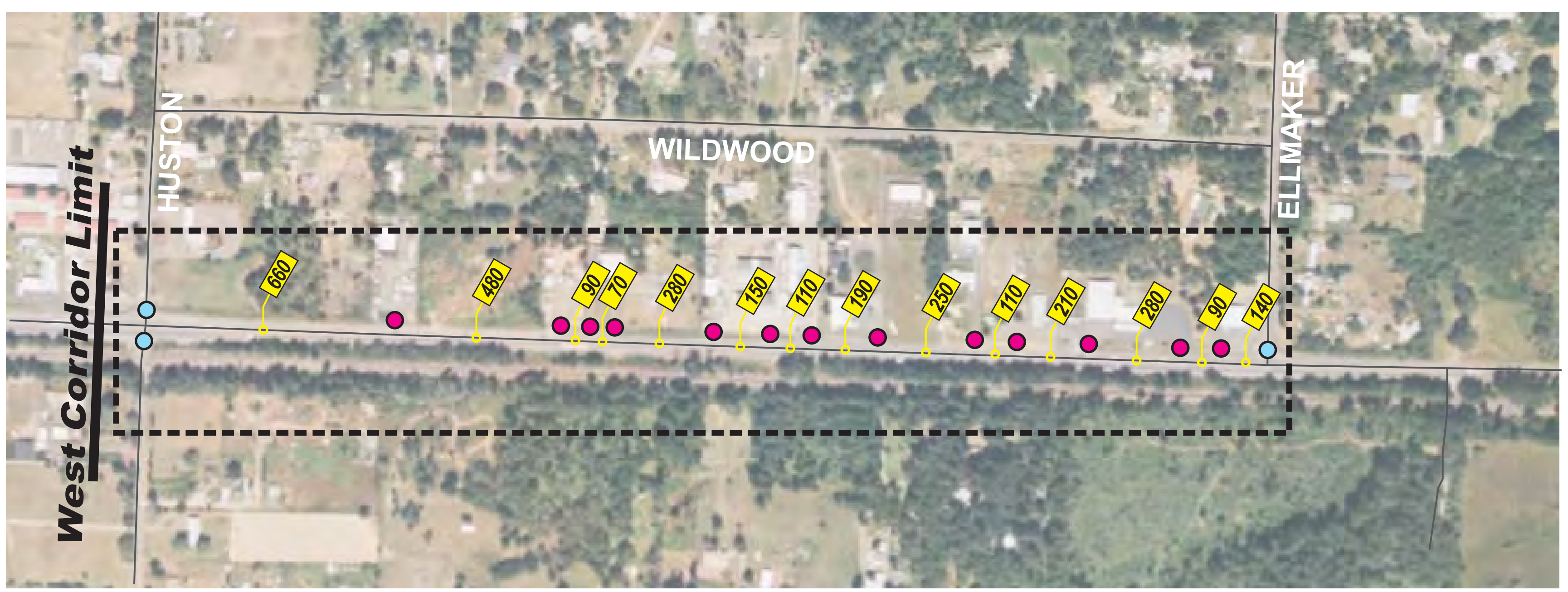
Table 1: OR 126W Accesses

Segment	Side of Road	Accesses[a]			
		Streets	*Driveways*	*Total*	*Average Spacing*
Huston Rd to Ellmaker Rd (0.59 mi.)	North	0	13	13	220
	South	0	0	0	-
Ellmaker Rd to Central Rd (1.32 mi.)	North	2	0	2	2,320
	South	0	1	1	3,480
Central Rd to Fisher Rd (2.35 mi.)	North	0	8	8	1,380
	South	0	1	1	6,200
Fisher Rd to Green Hill Rd (1.87 mi.)	North	3	1	4	1,970
	South	1	5	6	1,410
Entire Study Corridor (6.13 mi.)	**North**	**8**[b]	**22**	**30**[b]	**1,040**
	South	**2**[b]	**7**	**9**[b]	**3,240**

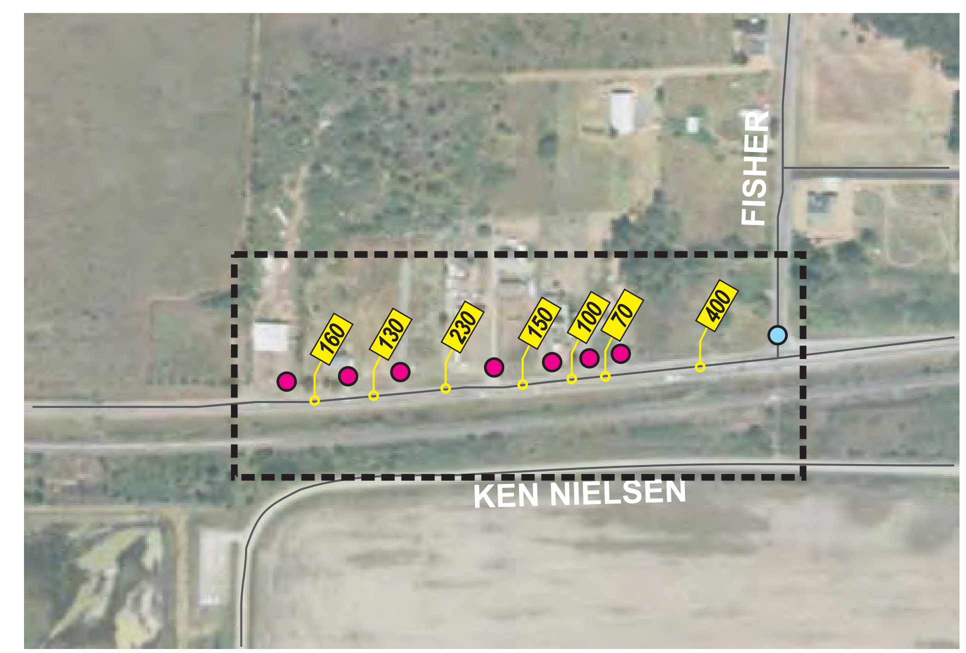
[a] Accesses (both public and private) counted separately for north and south sides of OR 126W.
[b] The four intermediate streets (i.e., Ellmaker Road, the Perkins Peninsula County Park access, and Fisher Road on the north and Central Road on the south) were added to these totals because they were not otherwise accounted for.

[1] *1999 Oregon Highway Plan*, Appendix C, Table 14; or Table 1 in OAR 734-051-0115





INSET A



INSET B

LEGEND

- Driveway Access Location
- Roadway Access Location
- 000 - Distance (feet) Between Access Locations

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TRANSPORTATION SOLUTIONS

NO SCALE

Figure 2

ACCESS LOCATIONS

Traffic Signal Spacing

The recommended traffic signal spacing is one-quarter mile or greater between adjacent signals. The study corridor is approximately six miles long, and the only signalized intersection is at Green Hill Road, which is on the eastern end of the study corridor. The closest signal to the east of the study corridor is at Terry Street, which is located approximately one mile east of Green Hill Road. On the west end of the study area, the closest traffic signal is just over one mile west of Huston Road at the Territorial Road intersection. If traffic signals are identified as the future improvement alternatives for any of the study intersections, then any adjacent signals should meet the recommended one-quarter-mile spacing.

Freight Needs

OR 126W is an important Freight Route connecting the Springfield-Eugene area to the Oregon coast. As traffic volumes increase, congestion will increase, which will negatively impact freight travel time reliability through the corridor. Any improvements along OR 126W should also take into account trucking needs. One way that ODOT accommodates improved trucking conditions is through the use of a more stringent mobility standard. If OR 126W was not a Freight Route, then the applicable mobility standard for the highway would be a v/c ratio of 0.75. However, because it is a freight route, the applicable standard is a v/c ratio of 0.70 (additional discussion of mobility standards is provided later in this memorandum).

At-Grade Railroad Crossings

The Coos Bay Rail Line (CBRL) runs parallel to OR 126W for the majority of the study area. East of Richmond Street, the railroad slight shifts course to the northeast and OR 126W diverges from and then passes over the railroad. There has not been any rail activity in the recent past, but rail activity will be resumed the near future. Another future railroad-related consideration is that it is ODOT Rail's practice to not allow any new at-grade railroad crossings.

For the study area segment between Huston Road and Richmond Street (approximately 4.5 miles), the railroad is less than 75 feet south of the highway. Along this stretch, there are five at-grade railroad crossings on the side streets that intersect OR 126W. Due to the proximity between OR 126W and the railroad tracks, there is little room for vehicle queuing. In addition, because the railroad tracks are along a raised earthwork berm, they have higher elevation than OR 126W. To prevent drivers of low clearance vehicles becoming caught on the tracks, the roadway crossing surface should be at the same plane as the top of the railroad rails for a distance of 2 feet outside the rails. In addition, the roadway surface should not be more than 3 inches higher or lower than the top of the nearest rail at a point 30 feet from the rail.[2] All five of the crossings have a change in vertical elevation that exceeds the current standards. Therefore, improvements will be needed to bring the roadway sections adjacent to the at-grade railroad crossings into compliance with recommended standards.

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[2] *Geometric Design of Highways and Streets*, 2004, American Association of State Highway and Transportation Officials (AASHTO), page 732.

Environmental Constraints

The primary environmental constraints for the OR 126W corridor include Fern Ridge Lake and the nearby sensitive wetland areas and related habitat. Figure 3 shows the environmental constraints along the study corridor. The Oregon Department of Fish and Wildlife manages the Fern Ridge Wildlife Area, and OR 126 crosses through wildlife management units between Fisher and Huston Roads. Fern Ridge is a destination for migratory birds. Potential jurisdictional wetlands and water resources are adjacent to OR 126W, Perkins Road, and Cantrell Road throughout the study corridor. Designated rare plant critical habitat for the Willamette daisy is located at the eastern terminus of the project area and along OR 126W near the Fisher Road intersection. In addition, OR 126W is within the 100-year flood zone for Fern Ridge Lake, and the zone extends south and crosses portions of Cantrell and Perkins Roads.

Perkins Peninsula Park is located on the north side of the highway at its intersection with Central Road. Section 4(f) of the USDOT Act of 1966 includes provisions for protecting public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Potential historic properties (structures 45 years or older) were identified at various locations in the study corridor. The greatest concentration of these is along Perkins and Central Roads.

In terms of known hazardous materials, a potential leaking underground storage tank (LUST) is present at an old service station location at the southwest corner of OR 126W and Green Hill Road. At the intersection of OR 126W and Ellmaker Road, there is suspected soil contamination from activities at a former transmission shop. Other known hazmat sites in the general area are located outside the study corridor. A Bonneville Power Administration (BPA) substation is located south of the highway adjacent to Ken Nielsen Road. Consequently, BPA transmission lines cross the highway near this location and, to the south, cross Cantrell Road at two locations.

Right-of-way acquisition and expansion of transportation facilities on adjacent rural lands are subject to the provisions of Lane County Code Chapter 16. Proposed transportation facilities must comply with state land use law, the County Rural Comprehensive Plan, and the applicable zoning classification. To ensure compliance with Lane County Code requirements, Lane County planning must be consulted to verify if proposed improvements are permitted or will require a more extensive regulatory process.

Existing OR 126W right-of-way width varies along the corridor, ranging from approximately 75 feet to over 100 feet in some locations. The highway right-of-way is narrowest between Central Road and Huston Road, where it maintains a more consistent width of approximately 75 feet.

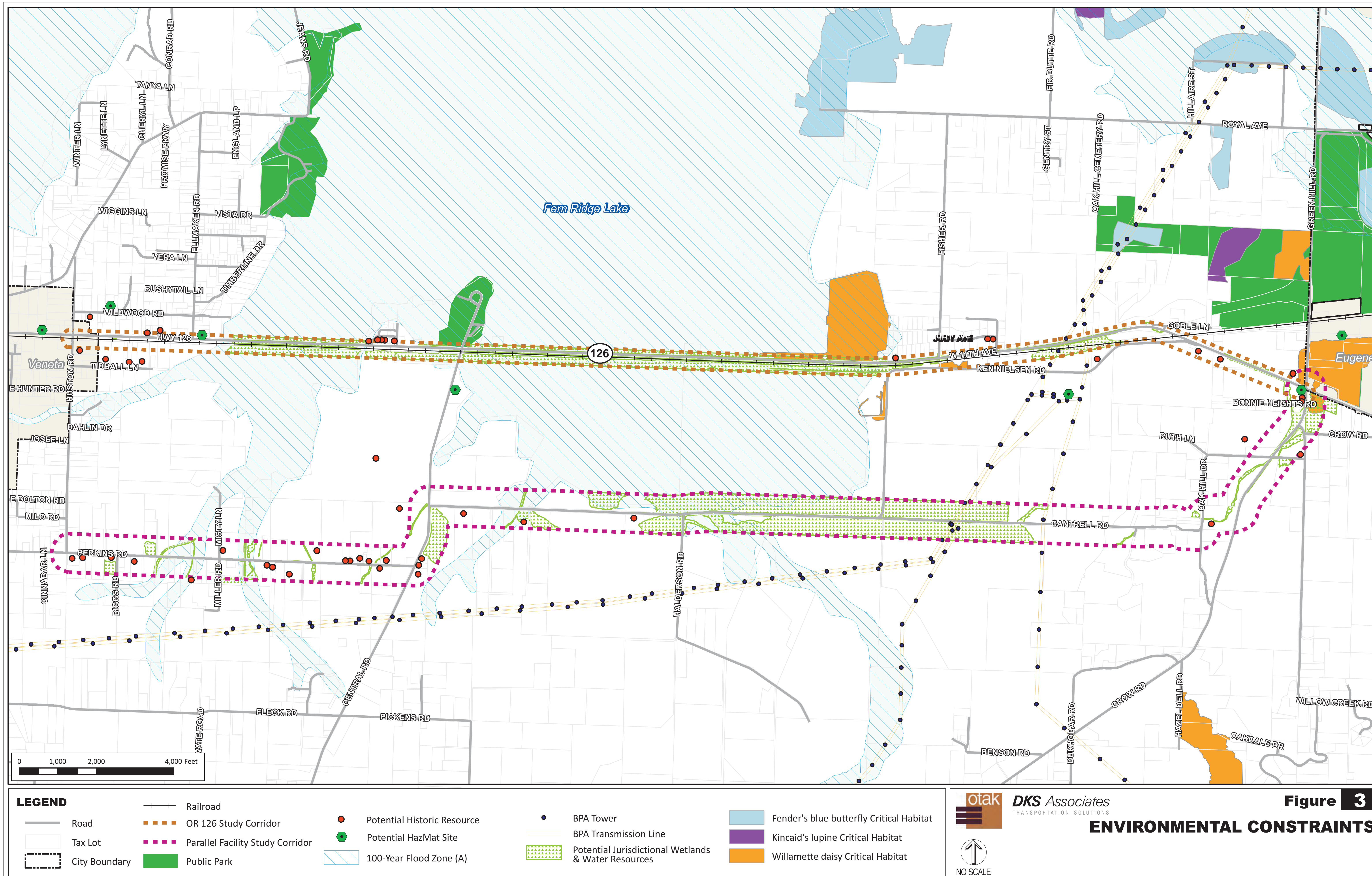

Figure 3
ENVIRONMENTAL CONSTRAINTS

Future 2035 Traffic Operations

Future 2035 traffic operations were evaluated for the OR 126W study corridor. The evaluation included future traffic volume forecasts, intersection operations, turn lane criteria, and two-lane highway segment analysis.

Future Traffic Volume Forecasts

Future traffic volumes were estimated for the OR 126W study corridor intersections by applying yearly growth rates to the 2011 existing 30th highest hourly volumes. The primary growth rate applied to the overall study corridor was 1.5 percent traffic growth per year; however, a 2.3 percent yearly growth rate was applied to non-corridor movements at the Green Hill Road intersection due to the higher growth estimates in the West Eugene area. Additional details related to the growth rate calculations are provided in the appendix. Figure 4 provides the resulting 2035 30th highest hour volume estimates assumed for the future traffic operations analysis.

Intersection Operations

Future 2035 traffic operations were evaluated for the OR 126W study intersections to identify potential future capacity-related intersection deficiencies along the corridor. The analysis was performed for 30th highest hour conditions using Synchro™ software, which employs methodology from the *2000 Highway Capacity Manual*.[3] This analysis was performed in a similar manner as was done for existing conditions, which are documented previously in Technical Memorandum #2 (Existing Transportation Conditions).[4] The resulting 2035 future volume-to-capacity (v/c) ratios for the study intersections are listed in Table 2 along with the applicable mobility standards. As shown, the majority of the public street intersections do not meet mobility standards, including:

- OR 126W/Green Hill Road (signalized intersection does not meet standard)
- OR 126W/Huston Road (minor street does not meet standard)
- OR 126W/Shady Rest Drive (mainline does not meet standard)
- OR 126W/Lake Side Drive (mainline does not meet standard)
- OR 126W/Central Road (mainline and minor street do not meet standard)
- OR 126W/Fisher Road (mainline and minor street do not meet standard)
- OR 126W/Richmond Street (mainline does not meet standard)
- OR 126W/Ken Nielsen Road (mainline does not meet standard)

These intersections currently meet mobility standards (i.e., under existing 2011 30th highest hour conditions), though the signalized OR 126W/Green Hill Road intersection was just below the threshold. Due to the increase in volumes (particularly associated with the increased urbanization of West Eugene), this intersection is expected to exceed (i.e., not meet) standards. The primary reason why future operations at the majority of the other intersections are not expected to meet standards is due to the higher mainline traffic volumes, which reduce available acceptable gaps for both mainline traffic turning left onto the side streets and side street traffic entering the roadway.

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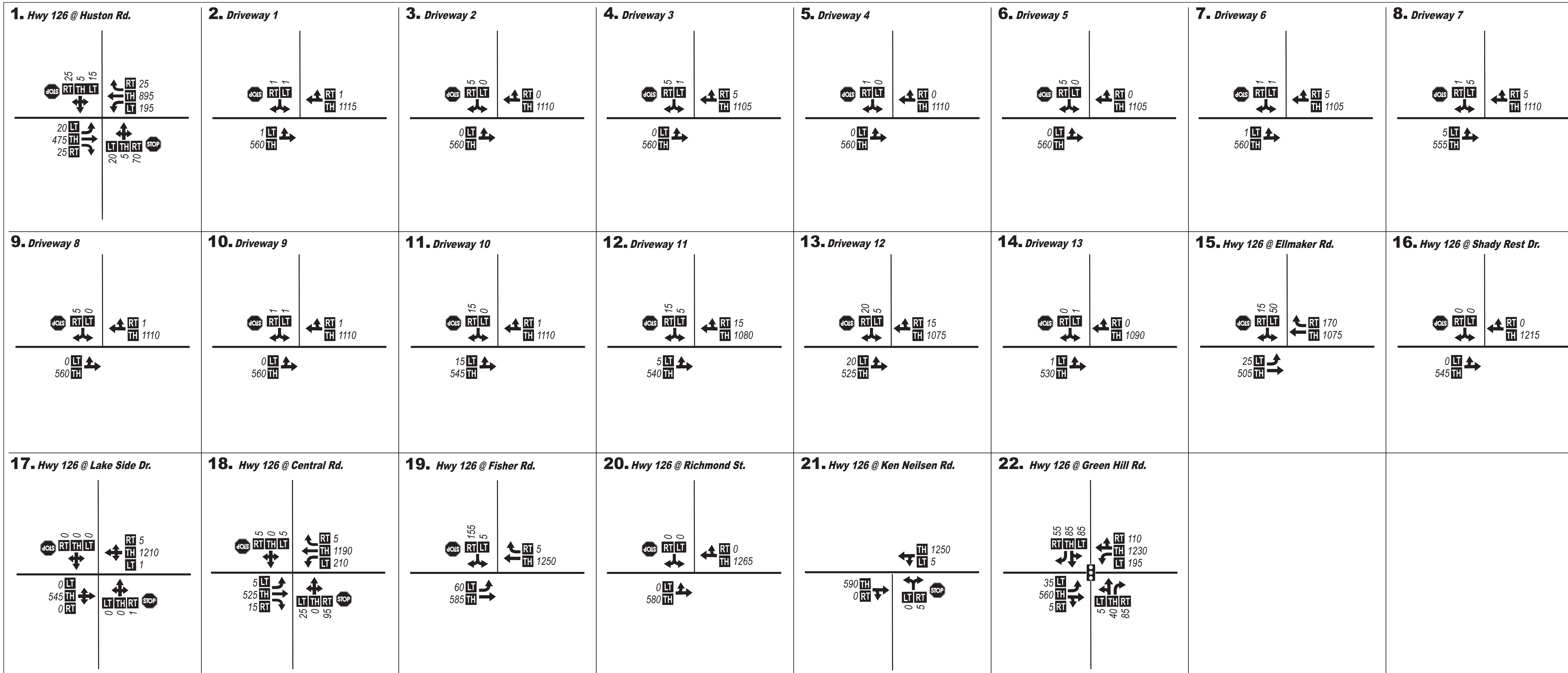
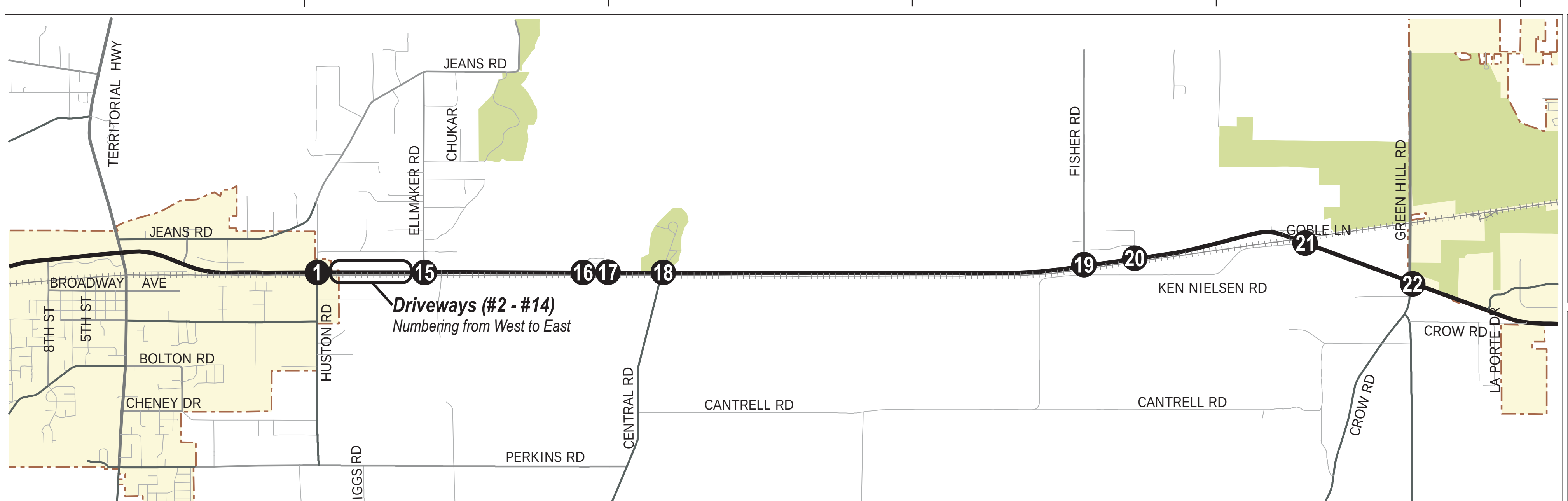
[3] *2000 Highway Capacity Manual*, Transportation Research Board, Washington, D.C. 2000.
[4] *ODOT OR 126W Fern Ridge Corridor Plan – Existing Transportation Conditions*, Draft Technical Memorandum #2 by DKS Associates, July 22, 2011.





LEGEND

- 00 - Study Intersection
- STOP - Stop Sign
- Traffic Signal
- Lane Configuration
- 00 - 30th Highest Hour Traffic Volume
- LT TH RT (Left-Thru-Right) - Volume Turn Movement

NO SCALE

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Figure 4

FUTURE 2035 30TH HIGHEST HOUR TRAFFIC VOLUMES, LANE GEOMETRY, AND TRAFFIC CONTROL

Table 2: Study Intersection Peak Hour Performance

Intersection[a]	Mobility Standard[b]		30th Highest Hour (v/c Ratio)[c,d]	
	Mainline	*Side Street*	*Mainline*	*Side Street*
Signalized				
(22) OR 126W/Green Hill Rd	0.80 v/c		**1.04**	
Unsignalized				
(1) OR 126W/Huston Rd	0.70 v/c	0.80 v/c	0.55 (WB-T)	**0.83 (NB-LTR)**
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.80 v/c	0.67 (WB-T)	0.62 (SB-LR)
(16) OR 126W/Shady Rest Dr	0.70 v/c	0.80 v/c	**0.75 (WB-TR)**	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.80 v/c	**0.74 (WB-LTR)**	0.00 (NB-LTR)
(18) OR 126W/Central Rd	0.70 v/c	0.80 v/c	**0.74 (WB-TR)**	**1.30 (NB-LTR)**
(19) OR 126W/Fisher Rd	0.70 v/c	0.80 v/c	**0.78 (WB-TR)**	**0.98 (SB-LR)**
(20) OR 126W/Richmond St	0.70 v/c	0.80 v/c	**0.78 (WB-TR)**	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen Rd	0.70 v/c	0.80 v/c	**0.78 (WB-LT)**	0.01 (NB-LTR)
Driveways				
(2) OR 126W/Driveway 1	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.03 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.02 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.06 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.07 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.12 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.80 v/c	0.67 (WB-TR)	0.14 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.80 v/c	0.67 (WB-TR)	0.01 (SB-LR)

[a] Numbers correspond with Figure 4.
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Turn Lane Criteria

For most of its length through the study corridor, OR 126W is a two-lane roadway with no turn lanes; however, there are multiple intersections where OR 126W has turn lanes. At the remaining locations, turn lane criteria were considered to determine whether additional turn lanes are recommended. Both left-turn lane and right-turn lane criteria were evaluated using the applicable ODOT methodologies identified in the Analysis Procedures Manual (APM).[5]

Due to the high peak hour traffic volumes and travel speeds (55 mph) on OR 126W, the ODOT criteria indicate that left-turn lanes are needed at movements where volumes exceed 10 left-turning vehicles during the 30th highest hour. Table 3 lists the left-turn lane analysis results for the study intersections that do not currently have left-turn lanes. While the 10-vehicle threshold is not met for any of the study intersections, the ODOT criteria do also indicate that left-turn lanes would be beneficial and may be considered at these locations due to the higher travel speeds and traffic volumes.

Table 3: 2035 Left-Turn Lane Criteria (Intersections without Left-Turn Lanes)

Intersection	Movement	Left-Turn Vehicles		Criteria Met?	Recommended Storage Length
		ODOT Threshold	*Turn Volume*		
OR 126W/Shady Rest Dr	EB Left	10	0	Consider[a]	-
OR 126W/Lake Side Dr	EB Left	10	0	Consider[a]	-
OR 126W/Richmond St	EB Left	10	0	Consider[a]	-
OR 126W/Ken Nielson Rd	WB Left	10	5	Consider[a]	-

[a] Through volumes and speeds are sufficiently high that even though there are less than 10 turning vehicles, careful consideration be given to installing a left-turn lane due to the increased potential for accidents in the through lanes.

Left-turn lane analysis was also performed for the 13 driveways between Huston Road and Ellmaker Road and is provided in the appendix. Because two of the driveways (i.e., Driveways 10 and 12, which are approximately 230 feet and 720 feet, respectively, west of Ellmaker Road) have more than 10 vehicles making left-turn movements, they both meet the turn-lane criteria. Both of these driveways are along the section of OR 126W where it widens to accommodate the eastbound left-turn lane onto Ellmaker Road. Therefore, OR 126W is sufficiently wide to accommodate left-turn lanes at both driveways; however, current striping does not support the use of the center median/lane for vehicle storage at these driveways. Specifically, the eastbound left-turn lane for Ellmaker Road extends beyond Driveway 12, and there is a striped center median (i.e., two double-yellow lines) that extends farther west beyond Driveway 10. In addition, it is not desirable to provide a continuous left-turn lane (e.g., two-way left-turn lane) for closely spaced driveways on a high speed facility (such as where speeds are 55 mph).

Right-turn lane analysis was performed for the study intersections that do not currently have standard right-turn lanes. Due to the high traffic volumes and travel speeds (55 mph) on OR 126W,

[5] Analysis Procedures Manual, Oregon Department of Transportation, January 2011.

the ODOT criteria indicate that right-turn lanes are needed at movements where volumes exceed 20 right-turning vehicles during the 30th highest hour. Table 4 lists right-turn lane analysis results. The only location where the right-turn lane criteria are met is at the westbound right-turn movement at Ellmaker Road. This location currently has a flared approach and large turn radius that may partially serve as a right-turn lane, but it is recommended that a standard right-turn lane be provided. The eastbound right-turn movement at Central Road is nearing the threshold but is not forecasted to meet it. Another important consideration related to right-turn lanes is the resulting conflict with bicycle flow, particularly when there is limited right-of-way.

Table 4: 2035 Right-Turn Lane Criteria (Intersections without Right-Turn Lanes)

Intersection	Movement	Right-Turn Vehicles		Criteria Met?
		ODOT Threshold	*Turn Volume*	
OR 126W/Ellmaker Rd	WB Right	20	170	Yes
OR 126W/Shady Rest Dr	WB Right	20	0	No
OR 126W/Lake Side Dr	WB Right	20	5	No
OR 126W/Central Rd	EB Right	20	15	No
	WB Right	20	5	No
OR 126W/Fisher Rd	WB Right	20	5	No
OR 126W/Richmond St	WB Right	20	0	No
OR 126W/Ken Nielson Rd	EB Right	20	0	No

Two-Lane Highway Segment Analysis

Because the study corridor has uninterrupted flow along its entire length (except at the Green Hill Road traffic signal at the eastern edge of the corridor), two-lane highway segment analysis was performed to further evaluate operations on the OR 126W study corridor. This analysis was performed based on *2000 Highway Capacity Manual* methodology,[6] which uses geometric and traffic volume data to determine the volume-to-capacity (v/c) ratio for one travel direction on a given corridor segment.

Table 5 lists the segment operations analysis results under 30th highest hour traffic conditions for both the 2011 existing and 2035 future horizon years.[7] The results are listed by travel direction for four corridor segments. Due to the higher westbound volumes during the 30th highest hour, the westbound v/c ratios are greatest for each segment, and three of the segments exceed the 0.70 v/c mobility standard that is applicable for the corridor.[8] In addition, the segment v/c ratios are comparable with the mainline v/c ratios at the principal unsignalized intersections along the corridor (see mainline OR 126W operations listed in Table 2 at the Shady Rest Drive, Central Road, Fisher Road, Richmond Street intersections).

[6] *2000 Highway Capacity Manual*, Transportation Research Board, Washington, D.C. 2000.
[7] Detailed data and analysis output sheets are provided in the appendix.
[8]

Table 5: OR 126W Segment Operations Analysis Results

Segment (Distance)	Travel Direction	Mobility Standard[a]	30th Highest Hour (v/c Ratio)[b]		Percent Time Spent Following[c]	
			2011	*2035*	*2011*	*2035*
Huston Rd to Ellmaker Rd (0.59 mi.)	Eastbound	0.70 v/c	0.26	0.35	-	-
	Westbound	0.70 v/c	0.52	0.69	78%	85%
Ellmaker Rd to Central Rd (1.11 mi.)	Eastbound	0.70 v/c	0.25	0.34	-	-
	Westbound	0.70 v/c	0.55	**0.76**	77%	86%
Central Rd to Fisher Rd (2.35 mi.)	Eastbound	0.70 v/c	0.27	0.36	-	-
	Westbound	0.70 v/c	0.57	**0.78**	77%	86%
Fisher Rd to Green Hill Rd (1.87 mi.)	Eastbound	0.70 v/c	0.27	0.37	-	-
	Westbound	0.70 v/c	0.58	**0.79**	79%	86%

[a] The same ODOT mobility standard applies as
[b] **Bold Shaded** values do not meet mobility standards.
[c] Percent time spent following (PTSF) during 30th Highest Hour only provided for highest direction of travel (i.e., westbound).

Transit Needs

Lane Transit District (LTD) provides public transit service between the Eugene-Springfield area and Veneta via Route 93. This route focuses on peak weekday commute periods, with limited service during other hours of the day and on Saturday. None of the transit stops along the project study corridor have additional facilities (e.g., landing pads, shelters, park-and-rides). In addition, LTD's RideSource service for those with disabling conditions that prevent them from being able to ride the LTD fixed-route bus system does not extend to the study corridor and is unlikely to in the future due to cost constraints.

Pedestrian and Bicycle Deficiencies

The segment of OR 126W between Huston Road and Green Hill Road is a rural corridor with no sidewalks or designated bicycle lanes. Instead, there are narrow paved shoulders that require non-motorized users to travel immediately adjacent to, and often on the edge of, the vehicular travel lane. These shoulders are primarily four feet wide, but in some locations widen to ten feet. Some expected multi-modal destinations along OR 126W include the county park (Perkins Peninsula County Park) located approximately two miles east of the Veneta city limits, the Fern Ridge Reservoir, and transit stops along the corridor. OR 126W is also used as a bike route to the coast.

OR 126W currently has very low bike and pedestrian usage. Even if improved facilities are provided (e.g., sidewalks, wide shoulders, or striped bike lanes), users would be adjacent to high-speed highway traffic. Therefore, another option is to provide an alternate parallel pedestrian/bicycle route to the north or south of OR 126W to separate vehicular and non-vehicular users. Some limitations to providing an alternative route are that the existing roads to the south (i.e., Cantrell Road and Perkins Road) include segments of gravel and experience flooding. In addition, there is a moderately steep hill on the east end near Green Hill Road. The route to the north is significantly out of direction and requires use of Territorial Road, which also does not have designated bike or pedestrian facilities.

On the east end of the study corridor, there is limited connectivity between OR 126W and the existing Fern Ridge Path. Any bicycle route along the OR 126W corridor (or an alternate route) should provide a connection to the Fern Ridge Path in order to tie in to the Eugene bicycle/pedestrian network. Another important pedestrian/bicycle improvement includes a north-south connection between the Fern Ridge Path and Clear Lake Road to the north.

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Appendix

Growth Rate Calculations

Level of Service Descriptions

HCM Intersection Analysis – 2035 Future 30th Highest Hour

Turn Lane Criteria

Two-Lane Highway Segment Analysis

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Growth Rate Calculations

Yearly Growth Rate Estimate for OR 126W

Section of OR 126W			2011 Counts (June 2nd)				Future Volumes Table (AADT)					Noti ATR Historical ADT			P.M. Peak Bi-Directional Model Link Volumes (LCOG)		
Description	**Western Road**	**Eastern Road**	*P.M.*	*A.M.*	*30th HV*	*ADT*	*2008*	*2009*	*2029*	*Yearly Growth Rate*	*2035*	*2000*	*2009*	*Growth Rate*	*2007*	*2031*	*Yearly Growth Rate*
Noti ATR								6,200	7,900	1.4%	8,495	5,914	6,199	0.5%			
0.13 mi. east of Huston Rd	Huston Rd	Ellmaker Rd	1,110	965	1,230	13,390		12,500	15,600	1.2%	16,685						
0.02 mi. west of Central Rd	Ellmaker Rd	Central Rd	1,150	985	1,190	14,040		13,600	17,200	1.3%	18,460						
0.02 mi. east of Central Rd	Central Rd	Fisher Rd	1,303	1,120	1,294	15,850		14,400	17,000	0.9%	17,910						
0.10 mi. east of Fisher Rd	Fisher Rd	Ken Neilsen Rd	1,307	1,112	1,510	15,040		13,600	16,500	1.1%	17,515						
	Ken Neilsen Rd	Green Hill Rd	1,167	1,011	1,355	14,710									1,489	1,947	1.5%
0.01 mi. east of Green Hill Rd	Green Hill Rd	East of . . .	1,525	1,317	1,775		14,500		21,100	2.2%	22,671				1,710	2,486	2.3%

=> Use 1.5% yearly linear growth for OR 126W corridor (also on the conservative end of the Future Volume Tables)

=> Use 2.3% yearly linear growth for Eugene area

Level of Service Descriptions

TRAFFIC LEVELS OF SERVICE

Analysis of traffic volumes is useful in understanding the general nature of traffic in an area, but by itself indicates neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of *level of service* has been developed to subjectively describe traffic performance. Level of service can be measured at intersections and along key roadway segments.

Level of service categories are similar to report card ratings for traffic performance. Intersections are typically the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is generally diminished in their vicinities. Levels of Service A, B and C indicate conditions where traffic moves without significant delays over periods of peak travel demand. Level of service D and E are progressively worse peak hour operating conditions and F conditions represent where demand exceeds the capacity of an intersection. Most urban communities set level of service D as the minimum acceptable level of service for peak hour operation and plan for level of service C or better for all other times of the day. The *Highway Capacity Manual* provides level of service calculation methodology for both intersections and arterials.[1] The following two sections provide interpretations of the analysis approaches.

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1 *2000 Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2000, Chapters 16 and 17.

UNSIGNALIZED INTERSECTIONS (Two-Way Stop Controlled)

Unsignalized intersection level of service is reported for the major street and minor street (generally, left turn movements). The method assesses available and critical gaps in the traffic stream which make it possible for side street traffic to enter the main street flow. The *2000 Highway Capacity Manual* describes the detailed methodology. It is not unusual for an intersection to experience level of service E or F conditions for the minor street left turn movement. It should be understood that, often, a poor level of service is experienced by only a few vehicles and the intersection as a whole operates acceptably.

Unsignalized intersection levels of service are described in the following table.

Level of Service	Expected Delay	(Sec/Veh)
A	Little or no delay	0-10.0
B	Short traffic delay	>10.1-15.0
C	Average traffic delays	>15.1-25.0
D	Long traffic delays	>25.1-35.0
E	Very long traffic delays	>35.1-50.0
F	Extreme delays potentially affecting other traffic movements in the intersection	> 50

Source: 2000 *Highway Capacity Manual*, Transportation Research Board Washington, D.C.

SIGNALIZED INTERSECTIONS

For signalized intersections, level of service is evaluated based upon average vehicle delay experienced by vehicles entering an intersection. Control delay (or signal delay) includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In previous versions of this chapter of the HCM (1994 and earlier), delay included only stopped delay. As delay increases, the level of service decreases. Calculations for signalized and unsignalized intersections are different due to the variation in traffic control. The *2000 Highway Capacity Manual* provides the basis for these calculations.

Level of Service	Delay (secs.)	Description
A	$\leq$10.00	**Free Flow/Insignificant Delays:** No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Most vehicles do not stop at all. Progression is extremely favorable and most vehicles arrive during the green phase.
B	10.1-20.0	**Stable Operation/Minimal Delays:** An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles. This level generally occurs with good progression, short cycle lengths, or both.
C	20.1-35.0	**Stable Operation/Acceptable Delays:** Major approach phases fully utilized. Most drivers feel somewhat restricted. Higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, and the number of vehicles stopping is significant.
D	35.1-55.0	**Approaching Unstable/Tolerable Delays:** The influence of congestion becomes more noticeable. Drivers may have to wait through more than one red signal indication. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. The proportion of vehicles not stopping declines, and individual cycle failures are noticeable.
E	55.1-80.0	**Unstable Operation/Significant Delays:** Volumes at or near capacity. Vehicles may wait though several signal cycles. Long queues form upstream from intersection. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are a frequent occurrence.
F	$\geq$80.0	**Forced Flow/Excessive Delays:** Represents jammed conditions. Queues may block upstream intersections. This level occurs when arrival flow rates exceed intersection capacity, and is considered to be unacceptable to most drivers. Poor progression, long cycle lengths, and v/c ratios approaching 1.0 may contribute to these high delay levels.

Source: *2000 Highway Capacity Manual*, Transportation Research Board, Washington D.C.

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HCM Intersection Analysis – 2035 Future 30th Highest Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	475	25	195	895	25	20	5	70	15	5	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	21	500	26	205	942	26	21	5	74	16	5	26
Pedestrians		2						3			1	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	969			529			1929	1925	503	1972	1925	945
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	969			529			1929	1925	503	1972	1925	945
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	97			80			40	90	87	45	90	91
cM capacity (veh/h)	718			1035			35	52	561	29	52	303

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	21	500	26	205	942	26	100	47
Volume Left	21	0	0	205	0	0	21	16
Volume Right	0	0	26	0	0	26	74	26
cSH	718	1700	1700	1035	1700	1700	121	64
Volume to Capacity	0.03	0.29	0.02	0.20	0.55	0.02	0.83	0.74
Queue Length 95th (ft)	2	0	0	18	0	0	124	82
Control Delay (s)	10.2	0.0	0.0	9.3	0.0	0.0	108.1	149.9
Lane LOS	B			A			F	F
Approach Delay (s)	0.4			1.6			108.1	149.9
Approach LOS							F	F

Intersection Summary			
Average Delay	10.7		
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	560	1115	1	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	589	1174	1	1	1
Pedestrians		2			4	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1179				1770	1180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1179				1770	1180
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	598				92	233

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	591	1175	2
Volume Left	1	0	1
Volume Right	0	1	1
cSH	598	1700	132
Volume to Capacity	0.00	0.69	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	32.7
Lane LOS	A		D
Approach Delay (s)	0.0	0.0	32.7
Approach LOS			D

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	560	1110	0	0	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	589	1168	0	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1168				1758	1168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1168				1758	1168
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	605				94	238

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	1168	5
Volume Left	0	0	0
Volume Right	0	0	5
cSH	605	1700	238
Volume to Capacity	0.00	0.69	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	20.5
Lane LOS			C
Approach Delay (s)	0.0	0.0	20.5
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	560	1105	5	1	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	589	1163	5	1	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1168				1755	1166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1168				1755	1166
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	98
cM capacity (veh/h)	605				95	238

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	1168	6
Volume Left	0	0	1
Volume Right	0	5	5
cSH	605	1700	190
Volume to Capacity	0.00	0.69	0.03
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	24.6
Lane LOS			C
Approach Delay (s)	0.0	0.0	24.6
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	560	1110	0	0	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	589	1168	0	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1168				1758	1168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1168				1758	1168
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	605				94	238

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	1168	1
Volume Left	0	0	0
Volume Right	0	0	1
cSH	605	1700	238
Volume to Capacity	0.00	0.69	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	20.2
Lane LOS			C
Approach Delay (s)	0.0	0.0	20.2
Approach LOS			C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	560	1105	0	0	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	589	1163	0	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1163				1753	1163
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1163				1753	1163
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	608				95	239

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	1163	5
Volume Left	0	0	0
Volume Right	0	0	5
cSH	608	1700	239
Volume to Capacity	0.00	0.68	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	20.4
Lane LOS			C
Approach Delay (s)	0.0	0.0	20.4
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	560	1105	5	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	589	1163	5	1	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1168				1757	1166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1168				1757	1166
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	605				94	238

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	591	1168	2
Volume Left	1	0	1
Volume Right	0	5	1
cSH	605	1700	135
Volume to Capacity	0.00	0.69	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	32.1
Lane LOS	A		D
Approach Delay (s)	0.0	0.0	32.1
Approach LOS			D

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	555	1110	5	5	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	584	1168	5	5	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1174				1766	1171
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1174				1766	1171
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	100
cM capacity (veh/h)	602				92	237

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	1174	6
Volume Left	5	0	5
Volume Right	0	5	1
cSH	602	1700	103
Volume to Capacity	0.01	0.69	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	0.2	0.0	42.3
Lane LOS	A		E
Approach Delay (s)	0.2	0.0	42.3
Approach LOS			E

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	560	1110	1	0	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	589	1168	1	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1169				1758	1169
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1169				1758	1169
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	605				94	237

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	1169	5
Volume Left	0	0	0
Volume Right	0	1	5
cSH	605	1700	237
Volume to Capacity	0.00	0.69	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	20.5
Lane LOS			C
Approach Delay (s)	0.0	0.0	20.5
Approach LOS			C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	560	1110	1	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	589	1168	1	1	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1169				1758	1169
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1169				1758	1169
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	605				94	237

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	1169	2
Volume Left	0	0	1
Volume Right	0	1	1
cSH	605	1700	135
Volume to Capacity	0.00	0.69	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	32.1
Lane LOS			D
Approach Delay (s)	0.0	0.0	32.1
Approach LOS			D

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	15	545	1095	1	0	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	574	1153	1	0	16
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1156				1760	1155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1156				1760	1155
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	93
cM capacity (veh/h)	611				91	241

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	1154	16
Volume Left	16	0	0
Volume Right	0	1	16
cSH	611	1700	241
Volume to Capacity	0.03	0.68	0.07
Queue Length 95th (ft)	2	0	5
Control Delay (s)	0.7	0.0	20.9
Lane LOS	A		C
Approach Delay (s)	0.7	0.0	20.9
Approach LOS			C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	540	1080	15	5	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	568	1137	16	5	16
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1155				1726	1147
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1155				1726	1147
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	94
cM capacity (veh/h)	611				98	244

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	574	1153	21
Volume Left	5	0	5
Volume Right	0	16	16
cSH	611	1700	178
Volume to Capacity	0.01	0.68	0.12
Queue Length 95th (ft)	1	0	10
Control Delay (s)	0.2	0.0	28.0
Lane LOS	A		D
Approach Delay (s)	0.2	0.0	28.0
Approach LOS			D

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	525	1075	15	5	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	553	1132	16	5	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1147				1734	1139
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1147				1734	1139
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				94	91
cM capacity (veh/h)	588				94	247

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	574	1147	26
Volume Left	21	0	5
Volume Right	0	16	21
cSH	588	1700	186
Volume to Capacity	0.04	0.67	0.14
Queue Length 95th (ft)	3	0	12
Control Delay (s)	1.0	0.0	27.5
Lane LOS	A		D
Approach Delay (s)	1.0	0.0	27.5
Approach LOS			D

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	530	1090	0	1	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	558	1147	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1147				1707	1147
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1147				1707	1147
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	616				101	244

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	559	1147	1
Volume Left	1	0	1
Volume Right	0	0	0
cSH	616	1700	101
Volume to Capacity	0.00	0.67	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	41.0
Lane LOS	A		E
Approach Delay (s)	0.0	0.0	41.0
Approach LOS			E

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	25	505	1075	170	50	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	26	532	1132	179	53	16
Pedestrians		1				
Lane Width (ft)		12.0				
Walking Speed (ft/s)		4.0				
Percent Blockage		0				
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1311				1716	1133
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1311				1716	1133
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				45	94
cM capacity (veh/h)	535				95	249

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	26	532	1132	179	68
Volume Left	26	0	0	0	53
Volume Right	0	0	0	179	16
cSH	535	1700	1700	1700	111
Volume to Capacity	0.05	0.31	0.67	0.11	0.62
Queue Length 95th (ft)	4	0	0	0	77
Control Delay (s)	12.1	0.0	0.0	0.0	79.3
Lane LOS	B				F
Approach Delay (s)	0.6		0.0		79.3
Approach LOS					F

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	545	1215	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	574	1279	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1279				1853	1279
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1279				1853	1279
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	550				82	205

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	574	1279	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	550	1700	1700
Volume to Capacity	0.00	0.75	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (veh/h)	0	545	0	1	1210	5	0	0	1	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	0	562	0	1	1247	5	0	0	1	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1253			562			1814	1816	562	1815	1814	1250
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1253			562			1814	1816	562	1815	1814	1250
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	562			1009			60	78	527	61	78	213

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	562	1254	1	0
Volume Left	0	1	0	0
Volume Right	0	5	1	0
cSH	562	1009	527	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.0	11.9	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.0	11.9	0.0
Approach LOS			B	A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	74.8%	ICU Level of Service		D
Analysis Period (min)	15			

$\frac{1254}{1700} = 0.74$ approximate WB-LTR v/c

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱			✣			✣	
Volume (veh/h)	5	525	15	210	1190	5	25	0	95	5	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	5	553	16	221	1253	5	26	0	100	5	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1258			568			2263	2263	553	2361	2276	1255
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1258			568			2263	2263	553	2361	2276	1255
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			78			0	100	81	69	100	98
cM capacity (veh/h)	560			1009			24	32	537	17	31	211

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	5	553	16	221	1258	126	11
Volume Left	5	0	0	221	0	26	5
Volume Right	0	0	16	0	5	100	5
cSH	560	1700	1700	1009	1700	97	31
Volume to Capacity	0.01	0.33	0.01	0.22	0.74	1.30	0.34
Queue Length 95th (ft)	1	0	0	21	0	224	27
Control Delay (s)	11.5	0.0	0.0	9.6	0.0	272.0	171.6
Lane LOS	B			A		F	F
Approach Delay (s)	0.1			1.4		272.0	171.6
Approach LOS						F	F

Intersection Summary				
Average Delay	17.5			
Intersection Capacity Utilization	83.8%	ICU Level of Service		E
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	60	585	1250	5	5	155
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	63	616	1316	5	5	163
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1321				2061	1318
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1321				2061	1318
tC, single (s)	4.1				6.9	6.2
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.3
p0 queue free %	88				86	16
cM capacity (veh/h)	513				39	193

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	63	616	1321	168
Volume Left	63	0	0	5
Volume Right	0	0	5	163
cSH	513	1700	1700	172
Volume to Capacity	0.12	0.36	0.78	0.98
Queue Length 95th (ft)	10	0	0	193
Control Delay (s)	13.0	0.0	0.0	117.8
Lane LOS	B			F
Approach Delay (s)	1.2		0.0	117.8
Approach LOS				F

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	580	1265	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	611	1332	0	0	0
Pedestrians			1			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			4.0			
Percent Blockage			0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1332				1943	1332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1332				1943	1332
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	525				72	191

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	611	1332	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	525	1700	1700
Volume to Capacity	0.00	0.78	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

21: OR 126W & Ken Neilsen Rd

2035 30th Highest Hour (No-Build)

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	590	0	5	1250	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	621	0	5	1316	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			621		1947	621
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			621		1947	621
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			969		72	491

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	621	1321	5
Volume Left	0	5	0
Volume Right	0	0	5
cSH	1700	969	491
Volume to Capacity	0.37	0.01	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.2	12.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.2	12.4
Approach LOS			B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

$\frac{1321}{1700} = 0.78$ approximate WB-TL v/c

22: OR 126W & Green Hill Rd

2035 30th Highest Hour (No-Build)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	560	5	195	1230	110	5	40	85	85	85	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.98	1.00
Satd. Flow (prot)	1805	1822		1770	1838			1890	1583		1835	1615
Flt Permitted	0.95	1.00		0.95	1.00			0.97	1.00		0.82	1.00
Satd. Flow (perm)	1805	1822		1770	1838			1843	1583		1538	1615
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
Growth Factor (vph)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Adj. Flow (vph)	37	589	5	205	1295	116	5	42	89	89	89	58
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	75	0	0	49
Lane Group Flow (vph)	37	594	0	205	1409	0	0	47	14	0	178	9
Heavy Vehicles (%)	0%	4%	20%	2%	2%	3%	0%	0%	2%	0%	2%	0%
Turn Type	Prot			Prot			Perm		Perm	Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	4.4	59.3		16.9	71.8			17.3	17.3		17.3	17.3
Effective Green, g (s)	4.4	61.3		16.9	73.8			17.3	17.3		17.3	17.3
Actuated g/C Ratio	0.04	0.57		0.16	0.69			0.16	0.16		0.16	0.16
Clearance Time (s)	4.0	6.0		4.0	6.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	1039		278	1262			297	255		248	260
v/s Ratio Prot	0.02	0.33		c0.12	c0.77							
v/s Ratio Perm								0.03	0.01		c0.12	0.01
v/c Ratio	0.50	0.57		0.74	1.12			0.16	0.06		0.72	0.04
Uniform Delay, d1	50.5	14.7		43.2	16.9			38.8	38.2		42.8	38.1
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		9.8	63.6			0.3	0.1		9.5	0.1
Delay (s)	55.7	15.5		53.0	80.5			39.1	38.3		52.3	38.1
Level of Service	E	B		D	F			D	D		D	D
Approach Delay (s)		17.9			77.0			38.6			48.8	
Approach LOS		B			E			D			D	

Intersection Summary			
HCM Average Control Delay	58.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	107.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Turn Lane Criteria

Left Turn Lane Analysis

Project: **OR 126W Fern Ridge Corridor Plan** Average Vehicle Length in Queue = 25 ft

Scenario(s): **No-Build** Rough estimate because we do not expect trucks to be making these turn movements

2011 Existing 30th HV

Intersection	Approach (NB,SB, EB,WB)	Number of Advancing Lanes	Number of Opposing Lanes	Volume Opposing (Vo)	Volume Advancing (Va)	Combined Volume (÷ Lane)	LT %	LT Vol	ODOT LT Threshold	ODOT Criteria Met?	Max. Est. Queue	Storage Length (ft)
Driveway 1 & Hwy 126	EB	1	1	826	406	1232	0%	1	10	Consider		
Driveway 2 & Hwy 126	EB	1	1	825	405	1230	0%	0	10	No		
Driveway 3 & Hwy 126	EB	1	1	822	405	1227	0%	0	10	No		
Driveway 4 & Hwy 126	EB	1	1	820	405	1225	0%	0	10	No		
Driveway 5 & Hwy 126	EB	1	1	815	405	1220	0%	0	10	No		
Driveway 6 & Hwy 126	EB	1	1	817	406	1223	0%	1	10	Consider		
Driveway 7 & Hwy 126	EB	1	1	820	407	1227	0%	2	10	Consider		
Driveway 8 & Hwy 126	EB	1	1	816	410	1226	0%	0	10	No		
Driveway 9 & Hwy 126	EB	1	1	816	410	1226	0%	0	10	No		
Driveway 10 & Hwy 126	EB	1	1	806	410	1216	2%	10	10	Yes	1	75
Driveway 11 & Hwy 126	EB	1	1	805	400	1205	1%	5	10	Consider		
Driveway 12 & Hwy 126	EB	1	1	800	400	1200	4%	15	10	Yes	1	75
Driveway 13 & Hwy 126	EB	1	1	800	391	1191	0%	1	10	Consider		
Shady Rest Dr & Hwy 126	EB	1	1	895	400	1295	0%	0	10	No		
Lake Side Dr & Hwy 126	EB	1	1	895	400	1295	0%	0	10	No		
Richmond St & Hwy 126	EB	1	1	930	425	1355	0%	0	10	No		
Ken Neilsen Rd & Hwy 126	WB	1	1	435	925	1360	1%	5	10	Consider		

2035 Future 30th HV (No-Build)

Intersection	Approach (NB,SB, EB,WB)	Number of Advancing Lanes	Number of Opposing Lanes	Volume Opposing (Vo)	Volume Advancing (Va)	Combined Volume (÷ Lane)	LT %	LT Vol	ODOT LT Threshold	ODOT Criteria Met?	Max. Est. Queue	Storage Length (ft)
Driveway 1 & Hwy 126	EB	1	1	1116	561	1677	0%	1	10	Consider		
Driveway 2 & Hwy 126	EB	1	1	1110	560	1670	0%	0	10	No		
Driveway 3 & Hwy 126	EB	1	1	1110	560	1670	0%	0	10	No		
Driveway 4 & Hwy 126	EB	1	1	1110	560	1670	0%	0	10	No		
Driveway 5 & Hwy 126	EB	1	1	1105	560	1665	0%	0	10	No		
Driveway 6 & Hwy 126	EB	1	1	1110	561	1671	0%	1	10	Consider		
Driveway 7 & Hwy 126	EB	1	1	1115	560	1675	1%	5	10	Consider		
Driveway 8 & Hwy 126	EB	1	1	1111	560	1671	0%	0	10	No		
Driveway 9 & Hwy 126	EB	1	1	1111	560	1671	0%	0	10	No		
Driveway 10 & Hwy 126	EB	1	1	1096	560	1656	3%	15	10	Yes	1	75
Driveway 11 & Hwy 126	EB	1	1	1095	545	1640	1%	5	10	Consider		
Driveway 12 & Hwy 126	EB	1	1	1090	545	1635	4%	20	10	Yes	2	75
Driveway 13 & Hwy 126	EB	1	1	1090	531	1621	0%	1	10	Consider		
Shady Rest Dr & Hwy 126	EB	1	1	1215	545	1760	0%	0	10	No		
Lake Side Dr & Hwy 126	EB	1	1	1215	545	1760	0%	0	10	No		
Richmond St & Hwy 126	EB	1	1	1265	580	1845	0%	0	10	No		
Ken Neilsen Rd & Hwy 126	WB	1	1	590	1255	1845	0%	5	10	Consider		

*The "Consider" note applies when there are high through volumes but less than 10 left turning vehicles.

ODOT LEFT TURN CRITERIA IS BASED ON THE **8-13-03** LEFT TURN CRITERIA
MAX QUEUE AND STORAGE ESTIMATES BASED ON GARD METHOD

Right-Turn Lane Analysis

Project: OR 126W Fern Ridge Corridor Plan
Scenario(s): No-Build

2011 Existing 30th HV

Intersection	Approach (NB,SB, EB,WB)	2-lane or Multi-lane Highway	Volume Advancing (Va)	RT Vol	ODOT RT Lane Criteria	ODOT RT Lane?	NCHRP RT Volume	Taper Criteria	RT Lane Criteria	NCHRP Taper?	NCHRP RT Lane?
Driveway 1 & Hwy 126	WB	2-lane	826	1	20	Shoulder	1	20	40	No	No
Driveway 2 & Hwy 126	WB	2-lane	825	0	20	Shoulder	0	20	40	No	No
Driveway 3 & Hwy 126	WB	2-lane	822	2	20	Shoulder	2	20	40	No	No
Driveway 4 & Hwy 126	WB	2-lane	820	0	20	Shoulder	0	20	40	No	No
Driveway 5 & Hwy 126	WB	2-lane	815	0	20	Shoulder	0	20	40	No	No
Driveway 6 & Hwy 126	WB	2-lane	817	2	20	Shoulder	2	20	40	No	No
Driveway 7 & Hwy 126	WB	2-lane	820	5	20	Shoulder	5	20	40	No	No
Driveway 8 & Hwy 126	WB	2-lane	816	1	20	Shoulder	1	20	40	No	No
Driveway 9 & Hwy 126	WB	2-lane	816	1	20	Shoulder	1	20	40	No	No
Driveway 10 & Hwy 126	WB	2-lane	806	1	20	Shoulder	1	20	40	No	No
Driveway 11 & Hwy 126	WB	2-lane	805	10	20	Shoulder	10	20	40	No	No
Driveway 12 & Hwy 126	WB	2-lane	800	10	20	Shoulder	10	20	40	No	No
Driveway 13 & Hwy 126	WB	2-lane	800	0	20	Shoulder	0	20	40	No	No
Ellmaker Rd & Hwy 126	WB	2-lane	915	125	20	Yes	125	20	40	Yes	Yes
Shady Rest Dr & Hwy 126	WB	2-lane	895	0	20	Shoulder	0	20	40	No	No
Lake Side Dr & Hwy 126	WB	2-lane	896	5	20	Shoulder	5	20	40	No	No
Central Rd & Hwy 126	EB	2-lane	397	10	28	No	10	31	68	No	No
Central Rd & Hwy 126	WB	2-lane	1032	2	20	Shoulder	2	20	40	No	No
Fisher Rd & Hwy 126	WB	2-lane	925	5	20	Shoulder	5	20	40	No	No
Richmond St & Hwy 126	WB	2-lane	930	0	20	Shoulder	0	20	40	No	No
Ken Neilsen Rd & Hwy 126	EB	2-lane	435	0	25	No	0	27	63	No	No

2035 Future 30th HV (No-Build)

Intersection	Approach (NB,SB, EB,WB)	2-lane or Multi-lane Highway	Volume Advancing (Va)	RT Vol	ODOT RT Lane Criteria	ODOT RT Lane?	NCHRP RT Volume	Taper Criteria	RT Lane Criteria	NCHRP Taper?	NCHRP RT Lane?
Driveway 1 & Hwy 126	WB	2-lane	1116	1	20	Shoulder	1	20	40	No	No
Driveway 2 & Hwy 126	WB	2-lane	1110	0	20	Shoulder	0	20	40	No	No
Driveway 3 & Hwy 126	WB	2-lane	1110	5	20	Shoulder	5	20	40	No	No
Driveway 4 & Hwy 126	WB	2-lane	1110	0	20	Shoulder	0	20	40	No	No
Driveway 5 & Hwy 126	WB	2-lane	1105	0	20	Shoulder	0	20	40	No	No
Driveway 6 & Hwy 126	WB	2-lane	1110	5	20	Shoulder	5	20	40	No	No
Driveway 7 & Hwy 126	WB	2-lane	1115	5	20	Shoulder	5	20	40	No	No
Driveway 8 & Hwy 126	WB	2-lane	1111	1	20	Shoulder	1	20	40	No	No
Driveway 9 & Hwy 126	WB	2-lane	1111	1	20	Shoulder	1	20	40	No	No
Driveway 10 & Hwy 126	WB	2-lane	1096	1	20	Shoulder	1	20	40	No	No
Driveway 11 & Hwy 126	WB	2-lane	1095	15	20	Shoulder	15	20	40	No	No
Driveway 12 & Hwy 126	WB	2-lane	1090	15	20	Shoulder	15	20	40	No	No
Driveway 13 & Hwy 126	WB	2-lane	1090	0	20	Shoulder	0	20	40	No	No
Ellmaker Rd & Hwy 126	WB	2-lane	1245	170	20	Yes	170	20	40	Yes	Yes
Shady Rest Dr & Hwy 126	WB	2-lane	1215	0	20	Shoulder	0	20	40	No	No
Lake Side Dr & Hwy 126	WB	2-lane	1216	5	20	Shoulder	5	20	40	No	No
Central Rd & Hwy 126	EB	2-lane	545	15	20	No	15	20	48	No	No
Central Rd & Hwy 126	WB	2-lane	1405	5	20	Shoulder	5	20	40	No	No
Fisher Rd & Hwy 126	WB	2-lane	1255	5	20	Shoulder	5	20	40	No	No
Richmond St & Hwy 126	WB	2-lane	1265	0	20	Shoulder	0	20	40	No	No
Ken Neilsen Rd & Hwy 126	EB	2-lane	590	0	20	No	0	20	41	No	No

Two-Lane Highway Segment Analysis

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                        HCS+: Two-Lane Highways Release 4.1f

_________________Directional Two-Lane Highway Segment Analysis_______________

Analyst                 BBC
Agency/Co.              DKS Associates
Date Performed          9/1/2011
Analysis Time Period    30th HV
Highway                 OR 126W (EB)
From/To                 Huston Rd to Ellmaker Rd
Jurisdiction            ODOT
Analysis Year           2011 Existing
Description  OR 126W Fern Ridge Corridor Plan

__________________________________Input Data__________________________________

Highway class  Class 1              Peak-hour factor, PHF    0.94
Shoulder width       8.0     ft     % Trucks and buses       5       %
Lane width           12.0    ft     % Trucks crawling        0.0     %
Segment length       0.6     mi     Truck crawl speed        0.0     mi/hr
Terrain type         Level          % Recreational vehicles  0       %
Grade:  Length               mi     % No-passing zones       100     %
        Up/down              %      Access points/mi         22      /mi

Analysis direction volume, Vd  410     veh/h
Opposing direction volume, Vo  825     veh/h

____________________________Average Travel Speed______________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.2                 1.1
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adj. factor,(note-5) fHV    0.990               0.995
Grade adj. factor,(note-1) fG             1.00                1.00
Directional flow rate,(note-2) vi         441     pc/h        882     pc/h

Free-Flow Speed from Field Measurement:
Field measured speed,(note-3) S FM              -      mi/h
Observed volume,(note-3) Vf                     -      veh/h
Estimated Free-Flow Speed:
Base free-flow speed,(note-3) BFFS             62.0    mi/h
Adj. for lane and shoulder width,(note-3) fLS  0.0     mi/h
Adj. for access points,(note-3) fA             5.5     mi/h

Free-flow speed, FFSd                          56.5    mi/h

Adjustment for no-passing zones, fnp           1.3     mi/h
Average travel speed, ATSd                     44.9    mi/h

_________________________Percent Time-Spent-Following__________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.1                 1.0
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adjustment factor, fHV      0.995               1.000
Grade adjustment factor,(note-1) fG       1.00                1.00
Directional flow rate,(note-2) vi         438    pc/h         878     pc/h
Base percent time-spent-following,(note-4) BPTSFd  51.9   %
Adjustment for no-passing zones, fnp
Percent time-spent-following, PTSFd                       %
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________________Level of Service and Other Performance Measures_______________

Level of service, LOS
Volume to capacity ratio, v/c                       0.26
Peak 15-min vehicle-miles of travel, VMT15          64      veh-mi
Peak-hour vehicle-miles of travel, VMT60            242     veh-mi
Peak 15-min total travel time, TT15                 1.4     veh-h
______________________________________________________________________________

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds
   on a specific downgrade.

_____________________________Passing Lane Analysis____________________________

Total length of analysis segment, Lt                          0.6     mi
Length of two-lane highway upstream of the passing lane, Lu   0.0     mi
Length of passing lane including tapers, Lpl                  0.0     mi
Average travel speed, ATSd (from above)                       44.9    mi/h
Percent time-spent-following, PTSFd (from above)
Level of service,(note-1) LOSd (from above)

_____________________________Average Travel Speed_____________________________

Downstream length of two-lane highway within effective
    length of passing lane for average travel speed, Lde      1.70    mi
Length of two-lane highway downstream of effective
    length of the passing lane for average travel speed, Ld   -1.11   mi
Adj. factor for the effect of passing lane
    on average speed, fpl                                     1.10
Average travel speed including passing lane,(note-2) ATSpl   48.7

_________________________Percent Time-Spent-Following_________________________

Downstream length of two-lane highway within effective length
    of passing lane for percent time-spent-following, Lde    7.80    mi
Length of two-lane highway downstream of effective length of
    the passing lane for percent time-spent-following, Ld    -7.21   mi
Adj. factor for the effect of passing lane
    on percent time-spent-following, fpl                     0.61
Percent time-spent-following
    including passing lane,(note-3) PTSFpl                           %

___________Level of Service and Other Performance Measures (note-4)___________

Level of service including passing lane, LOSpl
Peak 15-min total travel time, TT15               1.3     veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway
   Segment Worksheet.
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Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (WB)
From/To	Huston Rd to Ellmaker Rd
Jurisdiction	ODOT
Analysis Year	2011 Existing

Description OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF	0.94	
Shoulder width	8.0	ft	% Trucks and buses	4	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	100	%
Up/down		%	Access points/mi	22	/mi

Analysis direction volume, Vd	825	veh/h
Opposing direction volume, Vo	410	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.996		0.992	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	881	pc/h	440	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access points,(note-3) fA	5.5	mi/h
Free-flow speed, FFSd	54.5	mi/h
Adjustment for no-passing zones, fnp	2.6	mi/h
Average travel speed, ATSd	41.6	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		0.996	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	878	pc/h	438	pc/h
Base percent time-spent-following,(note-4) BPTSFd	69.0	%		
Adjustment for no-passing zones, fnp	26.2			
Percent time-spent-following, PTSFd	77.8	%		

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.52	
Peak 15-min vehicle-miles of travel, VMT15	129	veh-mi
Peak-hour vehicle-miles of travel, VMT60	487	veh-mi
Peak 15-min total travel time, TT15	3.1	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	41.6	mi/h
Percent time-spent-following, PTSFd (from above)	77.8	
Level of service,(note-1) LOSd (from above)	D	

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.11	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane,(note-2) ATSpl	45.4	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.45	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.86	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane,(note-3) PTSFpl	50.2	%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	2.8	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

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_________________Directional Two-Lane Highway Segment Analysis_______________

Analyst                 BBC
Agency/Co.              DKS Associates
Date Performed          9/1/2011
Analysis Time Period    30th HV
Highway                 OR 126W (EB)
From/To                 Ellmaker Rd to Central Rd
Jurisdiction            ODOT
Analysis Year           2011 Existing
Description  OR 126W Fern Ridge Corridor Plan

__________________________________Input Data__________________________________

Highway class  Class 1              Peak-hour factor, PHF    0.95
Shoulder width       4.0     ft     % Trucks and buses       4       %
Lane width           12.0    ft     % Trucks crawling        0.0     %
Segment length       1.1     mi     Truck crawl speed        0.0     mi/hr
Terrain type         Level          % Recreational vehicles  0       %
Grade:  Length               mi     % No-passing zones       40      %
        Up/down              %      Access points/mi         3       /mi

Analysis direction volume, Vd  400     veh/h
Opposing direction volume, Vo  890     veh/h

____________________________Average Travel Speed______________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.2                 1.1
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adj. factor,(note-5) fHV    0.992               0.996
Grade adj. factor,(note-1) fG             1.00                1.00
Directional flow rate,(note-2) vi         424     pc/h        941     pc/h

Free-Flow Speed from Field Measurement:
Field measured speed,(note-3) S FM             -      mi/h
Observed volume,(note-3) Vf                    -      veh/h
Estimated Free-Flow Speed:
Base free-flow speed,(note-3) BFFS            61.0    mi/h
Adj. for lane and shoulder width,(note-3) fLS  1.3    mi/h
Adj. for access points,(note-3) fA            0.8     mi/h

Free-flow speed, FFSd                         59.0    mi/h

Adjustment for no-passing zones, fnp          0.7     mi/h
Average travel speed, ATSd                    47.6    mi/h

_________________________Percent Time-Spent-Following_________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.1                 1.0
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adjustment factor, fHV      0.996               1.000
Grade adjustment factor,(note-1) fG       1.00                1.00
Directional flow rate,(note-2) vi         423    pc/h         937     pc/h
Base percent time-spent-following,(note-4) BPTSFd  51.5   %
Adjustment for no-passing zones, fnp
Percent time-spent-following, PTSFd                       %
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________________Level of Service and Other Performance Measures______________

Level of service, LOS
Volume to capacity ratio, v/c                       0.25
Peak 15-min vehicle-miles of travel, VMT15          116     veh-mi
Peak-hour vehicle-miles of travel, VMT60            440     veh-mi
Peak 15-min total travel time, TT15                 2.4     veh-h
______________________________________________________________________________

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds
   on a specific downgrade.

_____________________________Passing Lane Analysis____________________________

Total length of analysis segment, Lt                            1.1     mi
Length of two-lane highway upstream of the passing lane, Lu    0.0     mi
Length of passing lane including tapers, Lpl                   0.0     mi
Average travel speed, ATSd (from above)                        47.6    mi/h
Percent time-spent-following, PTSFd (from above)
Level of service,(note-1) LOSd (from above)

_____________________________Average Travel Speed_____________________________

Downstream length of two-lane highway within effective
    length of passing lane for average travel speed, Lde     1.70    mi
Length of two-lane highway downstream of effective
    length of the passing lane for average travel speed, Ld  -0.60   mi
Adj. factor for the effect of passing lane
    on average speed, fpl                                   1.10
Average travel speed including passing lane,(note-2) ATSpl   50.8

_________________________Percent Time-Spent-Following_________________________

Downstream length of two-lane highway within effective length
    of passing lane for percent time-spent-following, Lde    7.92    mi
Length of two-lane highway downstream of effective length of
    the passing lane for percent time-spent-following, Ld    -6.82   mi
Adj. factor for the effect of passing lane
    on percent time-spent-following, fpl                    0.61
Percent time-spent-following
    including passing lane,(note-3) PTSFpl                          %

___________Level of Service and Other Performance Measures (note-4)___________

Level of service including passing lane, LOSpl
Peak 15-min total travel time, TT15                 2.3     veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway
   Segment Worksheet.
```

HCS+: Two-Lane Highways Release 4.1f

Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (WB)
From/To	Ellmaker Rd to Central Rd
Jurisdiction	ODOT
Analysis Year	2011 Existing

Description OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF	0.95	
Shoulder width	4.0	ft	% Trucks and buses	4	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.1	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	40	%
Up/down		%	Access points/mi	3	/mi

Analysis direction volume, Vd	890	veh/h
Opposing direction volume, Vo	400	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.996		0.992	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	941	pc/h	424	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	63.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	1.3	mi/h
Adj. for access points,(note-3) fA	0.8	mi/h
Free-flow speed, FFSd	61.0	mi/h
Adjustment for no-passing zones, fnp	2.0	mi/h
Average travel speed, ATSd	48.4	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		0.996	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	937	pc/h	423	pc/h

Base percent time-spent-following,(note-4) BPTSFd	70.9	%
Adjustment for no-passing zones, fnp	19.3	
Percent time-spent-following, PTSFd	76.9	%

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.55	
Peak 15-min vehicle-miles of travel, VMT15	260	veh-mi
Peak-hour vehicle-miles of travel, VMT60	988	veh-mi
Peak 15-min total travel time, TT15	5.4	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	1.1	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	48.4	mi/h
Percent time-spent-following, PTSFd (from above)	76.9	
Level of service,(note-1) LOSd (from above)	D	

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-0.59	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane,(note-2) ATSpl	52.0	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	4.04	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-2.93	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane,(note-3) PTSFpl	51.7	%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	5.0	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

HCS+: Two-Lane Highways Release 4.1f

Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (EB)
From/To	Central Rd to Fisher Rd
Jurisdiction	ODOT
Analysis Year	2011 Existing

Description OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF	0.95	
Shoulder width	4.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	2.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	20	%
Up/down		%	Access points/mi	4	/mi

Analysis direction volume, Vd	430	veh/h
Opposing direction volume, Vo	920	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.2		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.994		0.997	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	455	pc/h	971	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	63.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	1.3	mi/h
Adj. for access points,(note-3) fA	1.0	mi/h
Free-flow speed, FFSd	60.7	mi/h
Adjustment for no-passing zones, fnp	0.6	mi/h
Average travel speed, ATSd	49.0	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	0.997		1.000	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	454	pc/h	968	pc/h
Base percent time-spent-following,(note-4) BPTSFd	53.9	%		
Adjustment for no-passing zones, fnp				
Percent time-spent-following, PTSFd		%		

Level of Service and Other Performance Measures

Level of service, LOS		
Volume to capacity ratio, v/c	0.27	
Peak 15-min vehicle-miles of travel, VMT15	272	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1032	veh-mi
Peak 15-min total travel time, TT15	5.5	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	2.4	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	49.0	mi/h
Percent time-spent-following, PTSFd (from above)		
Level of service,(note-1) LOSd (from above)		

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	0.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.10	
Average travel speed including passing lane,(note-2) ATSpl	50.7	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	7.67	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.27	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.61	
Percent time-spent-following including passing lane,(note-3) PTSFpl		%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl		
Peak 15-min total travel time, TT15	5.4	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15, and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

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_________________Directional Two-Lane Highway Segment Analysis_______________

Analyst                 BBC
Agency/Co.              DKS Associates
Date Performed          9/1/2011
Analysis Time Period    30th HV
Highway                 OR 126W (WB)
From/To                 Central Rd to Fisher Rd
Jurisdiction            ODOT
Analysis Year           2011 Existing
Description  OR 126W Fern Ridge Corridor Plan

__________________________________Input Data_________________________________

Highway class  Class 1             Peak-hour factor, PHF    0.95
Shoulder width       4.0     ft     % Trucks and buses       3       %
Lane width           12.0    ft     % Trucks crawling        0.0     %
Segment length       2.4     mi     Truck crawl speed        0.0     mi/hr
Terrain type         Level          % Recreational vehicles  0       %
Grade:  Length               mi     % No-passing zones       20      %
        Up/down              %      Access points/mi         5       /mi

Analysis direction volume, Vd  920     veh/h
Opposing direction volume, Vo  430     veh/h

____________________________Average Travel Speed_____________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.1                 1.2
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adj. factor,(note-5) fHV    0.997               0.994
Grade adj. factor,(note-1) fG             1.00                1.00
Directional flow rate,(note-2) vi         971     pc/h        455     pc/h

Free-Flow Speed from Field Measurement:
Field measured speed,(note-3) S FM              -      mi/h
Observed volume,(note-3) Vf                     -      veh/h
Estimated Free-Flow Speed:
Base free-flow speed,(note-3) BFFS             61.0    mi/h
Adj. for lane and shoulder width,(note-3) fLS  1.3     mi/h
Adj. for access points,(note-3) fA             1.3     mi/h

Free-flow speed, FFSd                          58.5    mi/h

Adjustment for no-passing zones, fnp           1.3     mi/h
Average travel speed, ATSd                     46.1    mi/h

_________________________Percent Time-Spent-Following________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.0                 1.1
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adjustment factor, fHV      1.000               0.997
Grade adjustment factor,(note-1) fG       1.00                1.00
Directional flow rate,(note-2) vi         968    pc/h         454     pc/h
Base percent time-spent-following,(note-4) BPTSFd  72.5   %
Adjustment for no-passing zones, fnp               15.3
Percent time-spent-following, PTSFd                77.4   %

________________Level of Service and Other Performance Measures______________

Level of service, LOS                              D
Volume to capacity ratio, v/c                      0.57
Peak 15-min vehicle-miles of travel, VMT15         581     veh-mi
Peak-hour vehicle-miles of travel, VMT60           2208    veh-mi
Peak 15-min total travel time, TT15                12.6    veh-h
_____________________________________________________________________________

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds
   on a specific downgrade.

_____________________________Passing Lane Analysis___________________________

Total length of analysis segment, Lt                         2.4     mi
Length of two-lane highway upstream of the passing lane, Lu  0.0     mi
Length of passing lane including tapers, Lpl                 0.0     mi
Average travel speed, ATSd (from above)                      46.1    mi/h
Percent time-spent-following, PTSFd (from above)             77.4
Level of service,(note-1) LOSd (from above)                  D

_____________________________Average Travel Speed____________________________

Downstream length of two-lane highway within effective
    length of passing lane for average travel speed, Lde     1.70    mi
Length of two-lane highway downstream of effective
    length of the passing lane for average travel speed, Ld  0.70    mi
Adj. factor for the effect of passing lane
    on average speed, fpl                                    1.11
Average travel speed including passing lane,(note-2) ATSpl   47.9

_________________________Percent Time-Spent-Following________________________

Downstream length of two-lane highway within effective length
    of passing lane for percent time-spent-following, Lde    3.82    mi
Length of two-lane highway downstream of effective length of
    the passing lane for percent time-spent-following, Ld    -1.42   mi
Adj. factor for the effect of passing lane
    on percent time-spent-following, fpl                     0.62
Percent time-spent-following
    including passing lane,(note-3) PTSFpl                   57.2    %

___________Level of Service and Other Performance Measures (note-4)__________

Level of service including passing lane, LOSpl     C
Peak 15-min total travel time, TT15                12.1    veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway
   Segment Worksheet.
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_________________Directional Two-Lane Highway Segment Analysis_______________

Analyst                 BBC
Agency/Co.              DKS Associates
Date Performed          9/1/2011
Analysis Time Period    30th HV
Highway                 OR 126W (EB)
From/To                 Fisher Rd to Green Hill Rd
Jurisdiction            ODOT
Analysis Year           2011 Existing
Description  OR 126W Fern Ridge Corridor Plan

__________________________________Input Data__________________________________

Highway class  Class 1            Peak-hour factor, PHF    0.95
Shoulder width       4.0     ft     % Trucks and buses       5       %
Lane width           12.0    ft     % Trucks crawling        0.0     %
Segment length       1.9     mi     Truck crawl speed        0.0     mi/hr
Terrain type         Level          % Recreational vehicles  0       %
Grade:  Length               mi     % No-passing zones       50      %
        Up/down              %      Access points/mi         5       /mi

Analysis direction volume, Vd  435     veh/h
Opposing direction volume, Vo  920     veh/h

____________________________Average Travel Speed______________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.2                 1.1
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adj. factor,(note-5) fHV    0.990               0.995
Grade adj. factor,(note-1) fG             1.00                1.00
Directional flow rate,(note-2) vi         462     pc/h        973     pc/h

Free-Flow Speed from Field Measurement:
Field measured speed,(note-3) S FM              -      mi/h
Observed volume,(note-3) Vf                     -      veh/h
Estimated Free-Flow Speed:
Base free-flow speed,(note-3) BFFS             60.0    mi/h
Adj. for lane and shoulder width,(note-3) fLS  1.3     mi/h
Adj. for access points,(note-3) fA             1.3     mi/h

Free-flow speed, FFSd                          57.5    mi/h

Adjustment for no-passing zones, fnp           0.8     mi/h
Average travel speed, ATSd                     45.5    mi/h

_________________________Percent Time-Spent-Following__________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.1                 1.0
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adjustment factor, fHV      0.995               1.000
Grade adjustment factor,(note-1) fG       1.00                1.00
Directional flow rate,(note-2) vi         460    pc/h         968     pc/h
Base percent time-spent-following,(note-4) BPTSFd  54.3   %
Adjustment for no-passing zones, fnp
Percent time-spent-following, PTSFd                       %
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________________Level of Service and Other Performance Measures_______________

Level of service, LOS
Volume to capacity ratio, v/c                         0.27
Peak 15-min vehicle-miles of travel, VMT15            218      veh-mi
Peak-hour vehicle-miles of travel, VMT60              826      veh-mi
Peak 15-min total travel time, TT15                   4.8      veh-h
______________________________________________________________________________

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds
   on a specific downgrade.

_____________________________Passing Lane Analysis____________________________

Total length of analysis segment, Lt                            1.9     mi
Length of two-lane highway upstream of the passing lane, Lu     0.0     mi
Length of passing lane including tapers, Lpl                    0.0     mi
Average travel speed, ATSd (from above)                         45.5    mi/h
Percent time-spent-following, PTSFd (from above)
Level of service,(note-1) LOSd (from above)

_____________________________Average Travel Speed_____________________________

Downstream length of two-lane highway within effective
    length of passing lane for average travel speed, Lde        1.70    mi
Length of two-lane highway downstream of effective
    length of the passing lane for average travel speed, Ld     0.20    mi
Adj. factor for the effect of passing lane
    on average speed, fpl                                       1.10
Average travel speed including passing lane,(note-2) ATSpl      47.6

_________________________Percent Time-Spent-Following_________________________

Downstream length of two-lane highway within effective length
    of passing lane for percent time-spent-following, Lde       7.62    mi
Length of two-lane highway downstream of effective length of
    the passing lane for percent time-spent-following, Ld       -5.72   mi
Adj. factor for the effect of passing lane
    on percent time-spent-following, fpl                        0.61
Percent time-spent-following
    including passing lane,(note-3) PTSFpl                              %

___________Level of Service and Other Performance Measures (note-4)___________

Level of service including passing lane, LOSpl
Peak 15-min total travel time, TT15                   4.6      veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway
   Segment Worksheet.
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Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (WB)
From/To	Fisher Rd To Green Hill Rd
Jurisdiction	ODOT
Analysis Year	2011 Existing

Description OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF	0.95	
Shoulder width	4.0	ft	% Trucks and buses	4	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	50	%
Up/down		%	Access points/mi	5	/mi

Analysis direction volume, Vd	930	veh/h
Opposing direction volume, Vo	435	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.996		0.992	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	983	pc/h	462	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	65.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	1.3	mi/h
Adj. for access points,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	62.5	mi/h
Adjustment for no-passing zones, fnp	2.1	mi/h
Average travel speed, ATSd	49.1	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		0.996	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	979	pc/h	460	pc/h
Base percent time-spent-following,(note-4) BPTSFd	72.9	%		
Adjustment for no-passing zones, fnp	19.8			
Percent time-spent-following, PTSFd	79.2	%		

Level of Service and Other Performance Measures

Level of service, LOS	D	
Volume to capacity ratio, v/c	0.58	
Peak 15-min vehicle-miles of travel, VMT15	465	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1767	veh-mi
Peak 15-min total travel time, TT15	9.5	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	49.1	mi/h
Percent time-spent-following, PTSFd (from above)	79.2	
Level of service,(note-1) LOSd (from above)	D	

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	0.20	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane,(note-2) ATSpl	51.5	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.75	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-1.85	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane,(note-3) PTSFpl	56.8	%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	9.0	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

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Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (EB)
From/To	Huston Rd to Ellmaker Rd
Jurisdiction	ODOT
Analysis Year	2035 Future Forecast

Description OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF	0.95	
Shoulder width	8.0	ft	% Trucks and buses	5	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	100	%
Up/down		%	Access points/mi	22	/mi

Analysis direction volume, Vd 560 veh/h
Opposing direction volume, Vo 1110 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.2		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.990		0.995	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	595	pc/h	1174	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	62.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access points,(note-3) fA	5.5	mi/h
Free-flow speed, FFSd	56.5	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	41.7	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	0.995		1.000	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	592	pc/h	1168	pc/h

Base percent time-spent-following,(note-4) BPTSFd 64.5 %
Adjustment for no-passing zones, fnp
Percent time-spent-following, PTSFd %

Level of Service and Other Performance Measures

Level of service, LOS		
Volume to capacity ratio, v/c	0.35	
Peak 15-min vehicle-miles of travel, VMT15	87	veh-mi
Peak-hour vehicle-miles of travel, VMT60	330	veh-mi
Peak 15-min total travel time, TT15	2.1	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	41.7	mi/h
Percent time-spent-following, PTSFd (from above)		
Level of service,(note-1) LOSd (from above)		

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.11	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.10	
Average travel speed including passing lane,(note-2) ATSpl	45.2	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	6.56	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-5.97	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.61	
Percent time-spent-following including passing lane,(note-3) PTSFpl		%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl		
Peak 15-min total travel time, TT15	1.9	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

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Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (WB)
From/To	Huston Rd to Ellmaker Rd
Jurisdiction	ODOT
Analysis Year	2035 Future Forecast
Description	OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF		
Shoulder width	8.0	ft	% Trucks and buses	4	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	0.6	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	100	%
Up/down		%	Access points/mi	22	/mi

Analysis direction volume, Vd 1100 veh/h
Opposing direction volume, Vo 560 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.996		0.996	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	1175	pc/h	598	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	0.0	mi/h
Adj. for access points,(note-3) fA	5.5	mi/h
Free-flow speed, FFSd	54.5	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATSd	38.8	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		0.996	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	1170	pc/h	598	pc/h
Base percent time-spent-following,(note-4) BPTSFd	78.6	%		
Adjustment for no-passing zones, fnp	19.0			
Percent time-spent-following, PTSFd	85.0	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.69	
Peak 15-min vehicle-miles of travel, VMT15	173	veh-mi
Peak-hour vehicle-miles of travel, VMT60	649	veh-mi
Peak 15-min total travel time, TT15	4.5	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	0.6	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	38.8	mi/h
Percent time-spent-following, PTSFd (from above)	85.0	
Level of service,(note-1) LOSd (from above)	E	

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-1.11	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane,(note-2) ATSpl	42.4	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-3.01	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane,(note-3) PTSFpl	55.4	%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	4.1	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

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_________________Directional Two-Lane Highway Segment Analysis_______________

Analyst                 BBC
Agency/Co.              DKS Associates
Date Performed          9/1/2011
Analysis Time Period    30th HV
Highway                 OR 126W (EB)
From/To                 Ellmaker Rd to Central Rd
Jurisdiction            ODOT
Analysis Year           2035
Description  OR 126W Fern Ridge Corridor Plan

__________________________________Input Data_________________________________

Highway class  Class 1              Peak-hour factor, PHF     0.95
Shoulder width      4.0     ft      % Trucks and buses        4       %
Lane width          12.0    ft      % Trucks crawling         0.0     %
Segment length      1.1     mi      Truck crawl speed         0.0     mi/hr
Terrain type        Level           % Recreational vehicles   0       %
Grade:  Length              mi      % No-passing zones        40      %
        Up/down             %       Access points/mi          3       /mi

Analysis direction volume, Vd  545     veh/h
Opposing direction volume, Vo  1215    veh/h

____________________________Average Travel Speed_____________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.2                 1.1
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adj. factor,(note-5) fHV    0.992               0.996
Grade adj. factor,(note-1) fG             1.00                1.00
Directional flow rate,(note-2) vi         578     pc/h        1284    pc/h

Free-Flow Speed from Field Measurement:
Field measured speed,(note-3) S FM              -      mi/h
Observed volume,(note-3) Vf                     -      veh/h
Estimated Free-Flow Speed:
Base free-flow speed,(note-3) BFFS             61.0    mi/h
Adj. for lane and shoulder width,(note-3) fLS  1.3     mi/h
Adj. for access points,(note-3) fA             0.8     mi/h

Free-flow speed, FFSd                          59.0    mi/h

Adjustment for no-passing zones, fnp           0.6     mi/h
Average travel speed, ATSd                     43.9    mi/h

_________________________Percent Time-Spent-Following________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.1                 1.0
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adjustment factor, fHV      0.996               1.000
Grade adjustment factor,(note-1) fG       1.00                1.00
Directional flow rate,(note-2) vi         576    pc/h         1279    pc/h
Base percent time-spent-following,(note-4) BPTSFd  64.7   %
Adjustment for no-passing zones, fnp
Percent time-spent-following, PTSFd                       %
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________________Level of Service and Other Performance Measures______________

Level of service, LOS
Volume to capacity ratio, v/c                       0.34
Peak 15-min vehicle-miles of travel, VMT15          159     veh-mi
Peak-hour vehicle-miles of travel, VMT60            605     veh-mi
Peak 15-min total travel time, TT15                 3.6     veh-h
_____________________________________________________________________________

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds
   on a specific downgrade.

_____________________________Passing Lane Analysis___________________________

Total length of analysis segment, Lt                          1.1     mi
Length of two-lane highway upstream of the passing lane, Lu  0.0     mi
Length of passing lane including tapers, Lpl                  0.0     mi
Average travel speed, ATSd (from above)                       43.9    mi/h
Percent time-spent-following, PTSFd (from above)
Level of service,(note-1) LOSd (from above)

_____________________________Average Travel Speed____________________________

Downstream length of two-lane highway within effective
    length of passing lane for average travel speed, Lde     1.70    mi
Length of two-lane highway downstream of effective
    length of the passing lane for average travel speed, Ld  -0.59   mi
Adj. factor for the effect of passing lane
    on average speed, fpl                                     1.10
Average travel speed including passing lane,(note-2) ATSpl   46.8

_________________________Percent Time-Spent-Following_______________________

Downstream length of two-lane highway within effective length
    of passing lane for percent time-spent-following, Lde    6.69    mi
Length of two-lane highway downstream of effective length of
    the passing lane for percent time-spent-following, Ld    -5.58   mi
Adj. factor for the effect of passing lane
    on percent time-spent-following, fpl                      0.61
Percent time-spent-following
    including passing lane,(note-3) PTSFpl                            %

___________Level of Service and Other Performance Measures (note-4)__________

Level of service including passing lane, LOSpl
Peak 15-min total travel time, TT15                 3.4     veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway
   Segment Worksheet.
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Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (WB)
From/To	Ellmaker Rd to Central
Jurisdiction	ODOT
Analysis Year	2035 Future Forecast
Description	OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF	0.95	
Shoulder width	4.0	ft	% Trucks and buses	4	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.1	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	40	%
Up/down		%	Access points/mi	3	/mi

Analysis direction volume, Vd	1215	veh/h
Opposing direction volume, Vo	545	veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.2	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.996		0.992	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	1284	pc/h	578	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	63.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	1.3	mi/h
Adj. for access points,(note-3) fA	0.8	mi/h
Free-flow speed, FFSd	61.0	mi/h
Adjustment for no-passing zones, fnp	1.4	mi/h
Average travel speed, ATSd	45.1	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		0.996	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	1279	pc/h	576	pc/h
Base percent time-spent-following,(note-4) BPTSFd	81.2	%		
Adjustment for no-passing zones, fnp	16.4			
Percent time-spent-following, PTSFd	86.3	%		

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.76	
Peak 15-min vehicle-miles of travel, VMT15	352	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1337	veh-mi
Peak 15-min total travel time, TT15	7.8	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	1.1	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	45.1	mi/h
Percent time-spent-following, PTSFd (from above)	86.3	
Level of service,(note-1) LOSd (from above)	E	

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-0.60	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane,(note-2) ATSpl	48.4	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-2.50	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane,(note-3) PTSFpl	58.5	%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl	C	
Peak 15-min total travel time, TT15	7.3	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

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_________________Directional Two-Lane Highway Segment Analysis_______________

Analyst                 BBC
Agency/Co.              DKS Associates
Date Performed          9/1/2011
Analysis Time Period    30th HV
Highway                 OR 126W (EB)
From/To                 Central Rd to Fisher Rd
Jurisdiction            ODOT
Analysis Year           2035
Description  OR 126W Fern Ridge Corridor Plan

__________________________________Input Data__________________________________

Highway class  Class 1             Peak-hour factor, PHF    0.95
Shoulder width      4.0     ft     % Trucks and buses       3       %
Lane width          12.0    ft     % Trucks crawling        0.0     %
Segment length      2.4     mi     Truck crawl speed        0.0     mi/hr
Terrain type        Level          % Recreational vehicles  0       %
Grade:  Length              mi     % No-passing zones       20      %
        Up/down             %      Access points/mi         5       /mi

Analysis direction volume, Vd  585     veh/h
Opposing direction volume, Vo  1250    veh/h

____________________________Average Travel Speed______________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.1                 1.1
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adj. factor,(note-5) fHV    0.997               0.997
Grade adj. factor,(note-1) fG             1.00                1.00
Directional flow rate,(note-2) vi         618     pc/h        1320    pc/h

Free-Flow Speed from Field Measurement:
Field measured speed,(note-3) S FM              -      mi/h
Observed volume,(note-3) Vf                     -      veh/h
Estimated Free-Flow Speed:
Base free-flow speed,(note-3) BFFS             63.0    mi/h
Adj. for lane and shoulder width,(note-3) fLS  1.3     mi/h
Adj. for access points,(note-3) fA             1.3     mi/h

Free-flow speed, FFSd                          60.5    mi/h

Adjustment for no-passing zones, fnp           0.5     mi/h
Average travel speed, ATSd                     44.9    mi/h

_________________________Percent Time-Spent-Following_________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.0                 1.0
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adjustment factor, fHV      1.000               1.000
Grade adjustment factor,(note-1) fG       1.00                1.00
Directional flow rate,(note-2) vi         616    pc/h         1316    pc/h
Base percent time-spent-following,(note-4) BPTSFd  67.1   %
Adjustment for no-passing zones, fnp
Percent time-spent-following, PTSFd                       %
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________________Level of Service and Other Performance Measures_______________

Level of service, LOS
Volume to capacity ratio, v/c                       0.36
Peak 15-min vehicle-miles of travel, VMT15          369     veh-mi
Peak-hour vehicle-miles of travel, VMT60            1404    veh-mi
Peak 15-min total travel time, TT15                 8.2     veh-h
______________________________________________________________________________

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds
   on a specific downgrade.

_____________________________Passing Lane Analysis____________________________

Total length of analysis segment, Lt                          2.4     mi
Length of two-lane highway upstream of the passing lane, Lu  0.0     mi
Length of passing lane including tapers, Lpl                  0.0     mi
Average travel speed, ATSd (from above)                       44.9    mi/h
Percent time-spent-following, PTSFd (from above)
Level of service,(note-1) LOSd (from above)

_____________________________Average Travel Speed_____________________________

Downstream length of two-lane highway within effective
    length of passing lane for average travel speed, Lde     1.70    mi
Length of two-lane highway downstream of effective
    length of the passing lane for average travel speed, Ld  0.70    mi
Adj. factor for the effect of passing lane
    on average speed, fpl                                     1.11
Average travel speed including passing lane,(note-2) ATSpl   46.6

_________________________Percent Time-Spent-Following_________________________

Downstream length of two-lane highway within effective length
    of passing lane for percent time-spent-following, Lde    6.37    mi
Length of two-lane highway downstream of effective length of
    the passing lane for percent time-spent-following, Ld    -3.97   mi
Adj. factor for the effect of passing lane
    on percent time-spent-following, fpl                      0.62
Percent time-spent-following
    including passing lane,(note-3) PTSFpl                            %

___________Level of Service and Other Performance Measures (note-4)___________

Level of service including passing lane, LOSpl
Peak 15-min total travel time, TT15                7.9     veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway
   Segment Worksheet.
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Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (WB)
From/To	Central Rd to Fisher Rd
Jurisdiction	ODOT
Analysis Year	2035 Future Forecast
Description	OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF	0.95	
Shoulder width	4.0	ft	% Trucks and buses	3	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	2.4	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	20	%
Up/down		%	Access points/mi	5	/mi

Analysis direction volume, Vd 1250 veh/h
Opposing direction volume, Vo 585 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.997		0.997	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	1320	pc/h	618	pc/h

Free-Flow Speed from Field Measurement:		
Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed,(note-3) BFFS	61.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	1.3	mi/h
Adj. for access points,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	58.5	mi/h
Adjustment for no-passing zones, fnp	1.0	mi/h
Average travel speed, ATSd	42.4	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	1316	pc/h	616	pc/h

Base percent time-spent-following,(note-4) BPTSFd	82.1	%
Adjustment for no-passing zones, fnp	11.0	
Percent time-spent-following, PTSFd	85.6	%

Level of Service and Other Performance Measures

Level of service, LOS	E	
Volume to capacity ratio, v/c	0.78	
Peak 15-min vehicle-miles of travel, VMT15	789	veh-mi
Peak-hour vehicle-miles of travel, VMT60	3000	veh-mi
Peak 15-min total travel time, TT15	18.6	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	2.4	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	42.4	mi/h
Percent time-spent-following, PTSFd (from above)	85.6	
Level of service,(note-1) LOSd (from above)	E	

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	0.70	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane,(note-2) ATSpl	44.0	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	3.60	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-1.20	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane,(note-3) PTSFpl	63.9	%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl	D	
Peak 15-min total travel time, TT15	17.9	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

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Directional Two-Lane Highway Segment Analysis

Analyst	BBC
Agency/Co.	DKS Associates
Date Performed	9/1/2011
Analysis Time Period	30th HV
Highway	OR 126W (EB)
From/To	Fisher Rd to Green Hill Rd
Jurisdiction	ODOT
Analysis Year	2035
Description	OR 126W Fern Ridge Corridor Plan

Input Data

Highway class	Class 1		Peak-hour factor, PHF	0.95	
Shoulder width	4.0	ft	% Trucks and buses	5	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	1.9	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	0	%
Grade: Length		mi	% No-passing zones	50	%
Up/down		%	Access points/mi	5	/mi

Analysis direction volume, Vd 590 veh/h
Opposing direction volume, Vo 1265 veh/h

Average Travel Speed

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.1		1.1	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adj. factor,(note-5) fHV	0.995		0.995	
Grade adj. factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	624	pc/h	1338	pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM	-	mi/h
Observed volume,(note-3) Vf	-	veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS	60.0	mi/h
Adj. for lane and shoulder width,(note-3) fLS	1.3	mi/h
Adj. for access points,(note-3) fA	1.3	mi/h
Free-flow speed, FFSd	57.5	mi/h
Adjustment for no-passing zones, fnp	0.7	mi/h
Average travel speed, ATSd	41.5	mi/h

Percent Time-Spent-Following

Direction	Analysis(d)		Opposing (o)	
PCE for trucks, ET	1.0		1.0	
PCE for RVs, ER	1.0		1.0	
Heavy-vehicle adjustment factor, fHV	1.000		1.000	
Grade adjustment factor,(note-1) fG	1.00		1.00	
Directional flow rate,(note-2) vi	621	pc/h	1332	pc/h

Base percent time-spent-following,(note-4) BPTSFd 67.4 %
Adjustment for no-passing zones, fnp
Percent time-spent-following, PTSFd %

Level of Service and Other Performance Measures

Level of service, LOS		
Volume to capacity ratio, v/c	0.37	
Peak 15-min vehicle-miles of travel, VMT15	295	veh-mi
Peak-hour vehicle-miles of travel, VMT60	1121	veh-mi
Peak 15-min total travel time, TT15	7.1	veh-h

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds on a specific downgrade.

Passing Lane Analysis

Total length of analysis segment, Lt	1.9	mi
Length of two-lane highway upstream of the passing lane, Lu	0.0	mi
Length of passing lane including tapers, Lpl	0.0	mi
Average travel speed, ATSd (from above)	41.5	mi/h
Percent time-spent-following, PTSFd (from above)		
Level of service,(note-1) LOSd (from above)		

Average Travel Speed

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	1.70	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	0.20	mi
Adj. factor for the effect of passing lane on average speed, fpl	1.11	
Average travel speed including passing lane,(note-2) ATSpl	43.6	

Percent Time-Spent-Following

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	6.33	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-4.43	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	0.62	
Percent time-spent-following including passing lane,(note-3) PTSFpl		%

Level of Service and Other Performance Measures (note-4)

Level of service including passing lane, LOSpl		
Peak 15-min total travel time, TT15	6.8	veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway Segment Worksheet.

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_________________Directional Two-Lane Highway Segment Analysis_______________

Analyst                 BBC
Agency/Co.              DKS Associates
Date Performed          9/1/2011
Analysis Time Period    30th HV
Highway                 OR 126W (WB)
From/To                 Fisher Rd to Green Hill Rd
Jurisdiction            ODOT
Analysis Year           2035 Future Forecast
Description  OR 126W Fern Ridge Corridor Plan

__________________________________Input Data__________________________________

Highway class  Class 1              Peak-hour factor, PHF    0.95
Shoulder width       4.0     ft     % Trucks and buses       4       %
Lane width           12.0    ft     % Trucks crawling        0.0     %
Segment length       1.9     mi     Truck crawl speed        0.0     mi/hr
Terrain type         Level          % Recreational vehicles  0       %
Grade:  Length               mi     % No-passing zones       20      %
        Up/down              %      Access points/mi         5       /mi

Analysis direction volume, Vd  1265    veh/h
Opposing direction volume, Vo  590     veh/h

____________________________Average Travel Speed______________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.1                 1.1
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adj. factor,(note-5) fHV    0.996               0.996
Grade adj. factor,(note-1) fG             1.00                1.00
Directional flow rate,(note-2) vi         1337    pc/h        624     pc/h

Free-Flow Speed from Field Measurement:
Field measured speed,(note-3) S FM              -      mi/h
Observed volume,(note-3) Vf                     -      veh/h
Estimated Free-Flow Speed:
Base free-flow speed,(note-3) BFFS             65.0    mi/h
Adj. for lane and shoulder width,(note-3) fLS  1.3     mi/h
Adj. for access points,(note-3) fA             1.3     mi/h

Free-flow speed, FFSd                          62.5    mi/h

Adjustment for no-passing zones, fnp           1.2     mi/h
Average travel speed, ATSd                     46.1    mi/h

_________________________Percent Time-Spent-Following_________________________

Direction                             Analysis(d)         Opposing (o)
PCE for trucks, ET                        1.0                 1.0
PCE for RVs, ER                           1.0                 1.0
Heavy-vehicle adjustment factor, fHV      1.000               1.000
Grade adjustment factor,(note-1) fG       1.00                1.00
Directional flow rate,(note-2) vi         1332   pc/h         621     pc/h
Base percent time-spent-following,(note-4) BPTSFd  82.5   %
Adjustment for no-passing zones, fnp               10.9
Percent time-spent-following, PTSFd                85.9   %
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________________Level of Service and Other Performance Measures_______________

Level of service, LOS                            E
Volume to capacity ratio, v/c                    0.79
Peak 15-min vehicle-miles of travel, VMT15       633     veh-mi
Peak-hour vehicle-miles of travel, VMT60         2403    veh-mi
Peak 15-min total travel time, TT15              13.7    veh-h
______________________________________________________________________________

Notes:
1. If the highway is extended segment (level) or rolling terrain, fG = 1.0
2. If vi (vd or vo ) >= 1,700 pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only.
4. Exhibit 20-21 provides factors a and b.
5. Use alternative Equation 20-14 if some trucks operate at crawl speeds
   on a specific downgrade.

_____________________________Passing Lane Analysis____________________________

Total length of analysis segment, Lt                           1.9     mi
Length of two-lane highway upstream of the passing lane, Lu    0.0     mi
Length of passing lane including tapers, Lpl                   0.0     mi
Average travel speed, ATSd (from above)                        46.1    mi/h
Percent time-spent-following, PTSFd (from above)               85.9
Level of service,(note-1) LOSd (from above)                    E

_____________________________Average Travel Speed_____________________________

Downstream length of two-lane highway within effective
    length of passing lane for average travel speed, Lde       1.70    mi
Length of two-lane highway downstream of effective
    length of the passing lane for average travel speed, Ld    0.20    mi
Adj. factor for the effect of passing lane
    on average speed, fpl                                      1.11
Average travel speed including passing lane,(note-2) ATSpl     48.3

_________________________Percent Time-Spent-Following_________________________

Downstream length of two-lane highway within effective length
    of passing lane for percent time-spent-following, Lde      3.60    mi
Length of two-lane highway downstream of effective length of
    the passing lane for percent time-spent-following, Ld      -1.70   mi
Adj. factor for the effect of passing lane
    on percent time-spent-following, fpl                       0.62
Percent time-spent-following
    including passing lane,(note-3) PTSFpl                     61.9    %

___________Level of Service and Other Performance Measures (note-4)___________

Level of service including passing lane, LOSpl     C
Peak 15-min total travel time, TT15                13.1    veh-h

Notes:
1. If LOSd = F, passing lane analysis cannot be performed.
2. If Ld < 0, use alternative Equation 20-22.
3. If Ld < 0, use alternative Equation 20-20.
4. v/c, VMT15 , and VMT60 are calculated on Directional Two-Lane Highway
   Segment Worksheet.
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Appendix E. Technical Memorandum #9, Highway 126 Fern Ridge Corridor Plan – Develop and Evaluate Alternatives (DKS, 2011)

DKS Associates
TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM #9

TO: Project Management Team

FROM: Scott Mansur, P.E., P.T.O.E., DKS Associates
Peter Coffey, P.E., DKS Associates
Brad Coy, E.I.T., DKS Associates

DATE: December 7, 2011

SUBJECT: **OR 126W Fern Ridge Corridor Plan – Develop and Evaluate Alternatives** P09042-019-008

This memorandum identifies transportation alternatives for the OR 126W corridor to meet the needs of all travel modes. OR 126W is an important corridor that connects Veneta and Eugene, Oregon, and is also part of the larger OR 126 corridor that connects Eugene to the Oregon coast. OR 126W is managed by the Oregon Department of Transportation (ODOT) and is being studied as part of the OR 126W Fern Ridge Corridor Plan. The following prior memorandums have been prepared as part of this plan and were used as the basis for the development of the various transportation system alternatives identified in this memorandum:

- Technical Memorandum #1 provides a transportation review of plans, policies, regulations, and standards that are applicable to OR 126W. Past efforts and outstanding issues that were identified in the review were used as the background in identifying the improvement needs for the study corridor. All of the improvement ideas were considered in the preparation of this memorandum.
- Technical Memorandum #2 examines the existing transportation conditions by identifying existing facilities as well as operational and safety deficiencies on OR 126W. It looks at the roadway network, daily motor vehicle traffic characteristics, origin-destination survey, intersection traffic volumes and operations, collision analysis, pedestrian and bicycle facilities and activity, transit service, and rail facilities and activity.
- Technical Memorandum #7 documents the Purpose, Needs, Goals, and Objectives (PNGO) for the Highway 126 Fern Corridor Plan. This document identifies the purpose of the corridor plan, which is to develop a system-level transportation corridor plan, address multi-modal safety and operational problems, and identify potential facility improvement options. All of the alternatives presented in this memorandum take these criteria into account in order to develop a multi-modal transportation system to meet existing and future safety and mobility needs for all transportation system users.
- Technical Memorandum #8 forecasts the future travel demand on OR 126W and analyzes the necessary improvement needs. It looks at roadway network deficiencies, environmental

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constraints, future 2035 traffic operations, access management, transit needs, and pedestrian and bicycle deficiencies. These needs for improvements are discussed in this memorandum and are used in the development of the various alternatives for improvements.

The sections of this memorandum discuss specific improvements by transportation mode and overall transportation alternatives to address capacity needs, connectivity, and safety within the study area for year 2035 conditions.

Specific Modal Improvements

Transportation improvement concepts were identified to address the needs of each of the transportation modes on the OR 126W study corridor. The modes that were considered include motor vehicles, bicycles, pedestrians, and transit and carpooling.

Motor Vehicle Improvements

Motor vehicle improvements are needed to address safety, access, freight, railroad crossings, emergency services, and capacity.

Safety

OR 126W is a two-lane rural facility with a posted speed limit of 55 miles per hour and with shoulders ranging from four to ten feet. The curved geometry of the roadway at the eastern end in conjunction with rainy or dark conditions poses a hazard to users of the roadway. This is especially applicable in locations with more congestion, narrower lanes, and pavement ruts. There have also been problems with vehicles traveling at speeds greater than 60 miles per hour along the corridor.

The only signalized intersection on the study corridor is located on the eastern end at Green Hill Road (within the City of Eugene Urban Growth Boundary). Therefore, vehicles making left or right turns at most other locations along the highway are stopped in travel lanes, causing queuing and congestion problems. In addition, 25% of the accidents between 2005 and 2009 occurred during dark conditions, but there is no clear indication that light levels significantly influenced overall collision trends.

To address the safety concerns of OR 126W, improved signage, striping, and lighting would be beneficial for users. Given the signalized intersection at Green Hill Road and the curve before the intersection for eastbound travelers, advanced intersection signs would provide more warning for drivers. Variable speed signs may also help to reduce speeds to levels that are appropriate and safe for congested conditions. Given that the highway has a speed limit of 55 miles per hours, speed limits between 35 to 45 miles per hour may be recommended during congested conditions. Speed feedback signs would also help drivers to be more aware of their driving habits and the need to reduce their speeds. Moreover, clearer delineation of the roadways could be provided through shoulder rumble strips, edge and centerline striping, raised pavement markers, and roadway restriping to reduce cross-over collision and to provide better delineation and visibility. More street lighting could prove beneficial, particularly at locations such as transit stops and public street intersections.

Spot improvements could be made throughout the corridor to improve specific safety issues that were identified by stakeholders or the collision analysis. A westbound right turn lane is identified as a need at Ellmaker Road due to the high number of right turning vehicles. This turn lane also meets ODOT's applicable turn lane criteria. A westbound left turn lane at Ken Nielsen Road is also recommended due to the potential conflicts between stopped vehicles on the highway conflicting with through traffic. Turn lanes are beneficial on OR 126W since it is a two-lane roadway and these new turn lanes would provide a storage area for turning vehicles. If the roadway allows, left-turn lanes could also be installed at lower priority locations, such as Shady Rest Drive, Lake Side Road, and Richmond Street, given that there are high speeds on the highway.

Access

Along the stretch of OR 126W in the study corridor, the greatest concentration of access points is located at the westernmost section between Huston Road and Ellmaker Road. On this segment, there are 22 total access points, all of which are located on the north side of the roadway. This results in an average spacing of 220 feet between access points, but the access spacing standard is 1,320 feet. Over the past five years, the average collision rate for this segment is higher than other corridor segments; therefore, there appears to be a correlation between access density and the rate of collision. A more detailed analysis of access spacing and collision rates are provided in the draft Access Management Plan provided in the appendix.

The ultimate goal of access management is to improve traffic flow and safety by reducing conflict points at intersections and driveways while providing reasonable access for all users. This focus on access management is implemented through Oregon Access Management Rule (OAR 734-051). Senate Bill 264 was recently passed by the 2011 Oregon Legislature and will result in some modification in access management by ODOT, though it does not appear that there will be access spacing standard changes to the OR 126W study corridor. These changes will be effective January 2012 and will also be reflected in OAR 734-051.

Potential mitigation tools and measures to address these access issues include frontage and backage roads, shared or consolidated access points, inter-parcel circulation, turning restriction, turn lane installations, and public street connectivity. An Access Management Plan is being prepared in conjunction with the OR 126W Fern Ridge Corridor Plan and is provided in the appendix in draft form. This document provides more detailed descriptions of the mitigation tools listed previously as well as short, medium, and long-range strategies for access management along the corridor.

Freight

OR 126W is designated as Freight Route by ODOT; therefore, highway modifications to the roadway should not reduce the through capacity of the highway and should maintain its reliability and mobility. The mobility standard for the highway is a volume to capacity (v/c) ratio of 0.70, which is required by ODOT as the goal for future development projects. With upcoming revisions to ODOT mobility standards that are planned to take effect January 1, 2012, the v/c ratio will increase to 0.75. The cross-section and other freight-related roadway standards should also continue to be met. Spot improvements, including the installation of turn lanes and improved railroad crossings, could also be considered. The installation of a turn lane reduces the potential for accidents in the through lanes by providing a storage area for turning vehicles. These lanes are beneficial for accommodating trucks as well as passenger vehicles.

Railroad Crossings

For the majority of the study area corridor (i.e., Huston Road to Fisher Road), the Coos Bay Rail Line is located only fifty feet south of OR 126W. Given the study corridor's proximity to the railroad, the five at-grade railroad crossings south of OR 126W can be improved by adjusting grades, traffic control, and spacing between the tracks and the highway. One option for improving the grades on the approaches to the at-grade crossings is to raise the level of OR 126W and the adjacent roadways to be level with the railroad. Crossing gates and flashing lights are recommended for the side streets to provide adequate warning for vehicles approaching the at-grade railroad crossing.

Another option for improving the safety of the at-grade railroad crossings is to install a traffic signal at the OR 126W intersection and to move the northbound approach stop bar south of the crossing so that it requires vehicles to stop prior to the railroad tracks. This would eliminate the current safety issue where trucks stopped on this approach hang over the railroad tracks while they wait for a gap in through traffic. Warrant 9 in the Manual on Uniform Traffic Control Devices (2009 Edition) provides criteria for installing traffic signals near grade crossings, and it is expected that the Huston Road and Central Road intersections would meet this warrant under current conditions.

In addition to improvements that specifically address railroad crossing needs, all of the improvements made on OR 126W should duly consider impacts on the adjacent railroad crossings. Roadway widening, alignment, signalization, and other improvements, along with the potential location of a multi-use trail, will be affected by the proximity of the railroad.

Emergency Services

Since OR 126W is a two-lane facility with narrow shoulders, it is unable to efficiently accommodate emergency vehicles or other vehicles that need to pull off to the side of the road. Therefore, alternate routes and accesses, wider shoulders, and turn around locations are needed for emergency vehicles, particularly during incidents. These needs are particularly important on OR 126W due to the rural nature of the facility and the lack of existing parallel alternate routes.

Recommendations to improve access for emergency vehicles include providing an improved parallel roadway via Ken Nielsen Road, Cantrell Road, Perkins Road, and other roads that are south of OR 126W to serve as an alternate route. Turnarounds and emergency vehicle pull-offs could also be constructed on the highway for enforcement staff and emergency medical services. Modifications could also be made to the roadway geometry and cross section to allow for better access for emergency vehicles. By widening the shoulders, emergency vehicles would have better access and areas in which they could park. OR 126W could also be modified into a three or four lane facility to better accommodate both vehicles and emergency services, though it may require obtaining right-of-way.

Capacity

According to the 2035 traffic operations analysis completed in Technical Memorandum #8, multiple intersections along the corridor are not expected to meet volume to capacity (v/c) standards due to increased vehicular volumes. These higher mainline traffic volumes reduce available acceptable gaps for both mainline traffic turning left onto the side streets and side street traffic entering the roadway. Additional capacity is needed on OR 126W to accommodate higher traffic volumes and support the continued growth of Veneta and Eugene. Capacity improvements should provide satisfactory travel conditions between the two cities, to nearby recreational areas, and to the coast. Downtown Veneta contains a number of businesses and western Eugene has high development potential. Optional capacity improvements include transportation system management (TSM), expansion of the existing OR 126W alignment, alternate routes, and alternate mobility standards (AMS).

Transportation System Management (TSM)

Transportation system management (TSM) strategies include minor improvements such as speed feedback signs, raised pavement markers, and rumble strips. Speed feedback signs make drivers more aware of their travel speeds and the need to drive safely. Raised pavement markers and rumble strips are physical additions to the roadway to provide better delineation of the roadway and to warn drivers of the needs to reduce their speeds. Some of these improvements were discussed previously in the safety section of this memorandum. These measures both improve safety and increase capacity by reducing incidents and maintaining efficient traffic flow on OR 126W.

Other transportation system management strategies focus on transit ridership and carpooling to reduce the number of vehicles traveling on OR 126W. Lane Transit District (LTD) Route 93 travels along OR 126W. Improvements in the bus, pedestrian, and bicycle facilities will encourage higher ridership and reduce the number of vehicles on the roadway. Fewer vehicles on the roadway will reduce the congestion and improve the flow of vehicles on the highway. The introduction of additional park-and-ride lots in Veneta and improved ride-share programs would also help in reducing single occupancy vehicles. These transit and carpooling improvements are discussed in more detail later in this memorandum.

Expansion of Existing Alignment

Major improvements could be made to the existing alignment, such as expanding the roadway to three or four travel lanes. To the east of Green Hill Road at the end of the study corridor, West 11th Avenue has already been identified as project where it will be upgraded to a five lane urban arterial with bike lanes. This remains consistent with the addition of one or two more travel lanes on OR 126W.

If OR 126W was widened to three travel lanes, then the third travel lane could be used for alternating passing lanes or a reversible traffic lane. The alternating passing lanes would consist of various segments of OR 126W with two eastbound lanes and one westbound lane, followed by a section with one eastbound lane and two westbound lanes. This roadway geometry allows for increased capacity and safer passing maneuvers in both directions of travel. A reversible travel lane is another option and would accommodate vehicles traveling eastbound in the morning peak and westbound in the evening peak. However, a reversible traffic lane would be problematic given the rural nature of OR 126W and because the lane would have to be highly access controlled to avoid simultaneous use by eastbound and westbound vehicles.

Alternate Routes

Constraints within the study corridor include the Coos Bay Rail Line to the south of the highway and the Fern Ridge Reservoir to the north that may make it difficult to expand the existing OR 126W alignment. In order to increase the capacity while improving the safety and efficiency of the roadway, new parallel alternate routes may be desirable. An alternate route could include the improvement of existing roadways south of OR 126W, including Perkins Road, Cantrell Road, and Ken Nielsen Road. Improving the alignment and cross section of these two routes would provide an alternative route for drivers and emergency vehicles.

Alternate Mobility Standards (AMS)

The current mobility standard for the highway is a volume to capacity (v/c) ratio of 0.70 since OR 126W is a designated freight route on a Statewide highway. With upcoming revisions to ODOT mobility standards that are planned to take effect January 1, 2012, the v/c ratio will increase to 0.75. Given the constraints of OR 126W with the Coos Bay Rail Line and the Fern Ridge Reservoir, it might be cost prohibitive to make the necessary roadway improvements to attain the mobility standard of 0.75 for the 20-year planning horizon. Alternate mobility standards do not improve capacity, but could be considered to allow additional congestion from a policy level if supported by the community. Therefore, they may be a desired element of the overall corridor management and improvement package. For example, with small improvements of turn lanes for the side streets, all unsignalized intersections throughout the corridor may be expected to operate at or below a 0.80 v/c ratio; therefore, this may be a more desirable mobility standard if other improvements on the corridor are infeasible. It would also allow future development to be approved that operates at or below this new mobility standard.

Bicycles

Within the study area, OR 126W has shoulders ranging from four to ten feet, but there are no existing striped or signed bike facilities. Bicyclists need a safe and convenient route between Eugene and Veneta, connection to the Fern Ridge Trail, and access to other land uses and recreational areas along the corridor. The shoulders could be widened to accommodate bicyclists, but the shoulder widths vary throughout the corridor. Striping could also be used to provide a buffer bike lane on the shoulder. Another option may be to provide a parallel bike route south of OR 126W; however, roadway improvements would have to be made to Cantrell Road, Perkins Road, and Ken Nielsen Road since they are not paved in all locations and flooding also occurs. Both of these roadways are connected to OR 126W via Central Road and Huston Road.

All new bicycle facilities should extend eastward to connect to the Fern Ridge Path since this is an established bicycle route in West Eugene. This could be done via bike lanes on OR 126W or a multi-use path. Improved connections between Ed Cone Boulevard (which has bike lanes and connects to the Fern Ridge Path) and Crow Road (which is a major cycling route) may also be considered. The extension of the Fern Ridge Path from Royal Avenue to Fern Ridge Reservoir is a project that is listed with the Central Lane Metropolitan Planning Organization Long-Range Projects. A north-south connection between the Fern Ridge Path and Clear Lake Road to the north is also advisable.

Pedestrians

OR 126W has shoulders ranging from four to ten feet, but there are no existing sidewalks to accommodate pedestrians. Along the corridor, users need safe access to various pedestrian generators, such as transit stops and the number of businesses located on the westerly section of the network between Huston Road and Ellmaker Road. Lane Transit District (LTD) provides public transit service between the Eugene-Springfield area and Veneta on OR 126W via Route 93. Most of these trips occur during the a.m. and p.m. peak periods on the weekdays, with limited service during other hours of the day and on Saturdays. Stops within the study corridor include West 11th Avenue and Greenhill Road; OR 126W and Fisher Road; OR 126W and Ellmaker Road; and OR 126W and Huston Road.

Crossing improvements and sidewalks are desirable where there is pedestrian activity, specifically near the Ellmaker Road, Central Road, and Fisher Road transit stops and the westerly segment of roadway where there are businesses.

Transit and Carpooling

Lane Transit District (LTD) Route 93 travels along OR 126W and is primarily a commuter bus. Stops are located at West 11th Avenue and Greenhill Road; OR 126W and Fisher Road; OR 126W and Ellmaker Road; and OR 126W and Huston Road. Improvements to the bus service would help reduce the number of single occupancy vehicle (SOV) users between Veneta and Eugene.

The transit stops in the corridor do not have amenities, such as bus pullouts, landing pads, shelters, illumination, or park-and-rides, therefore more amenities should also be included for the buses and its users. Transit stops need a 100 foot long segment for buses to effectively and safely pull off of the high volume traffic roadway to stop. This segment must be also be 10 feet in width from the fog line of the roadway and should be constructed of a hard rock material to support the weight of a bus and avoid causing roadway deterioration. Moreover, a five by eight feet paved platform adjacent to the stop should be provided to allow for riders of all abilities to board. Future transit stops should be located on the far side of the intersection traffic signal so that the sight distances for right turn movements are not hindered. Also, sidewalks should be constructed for key routes between stops to allow for pedestrian access to the bus routes. Street lights would improve pedestrian visibility and safety. The installation of these amenities would create a sense of place for the bus stops and would make drivers more aware of the presence of pedestrians in the vicinity of the roadway.

Because of the number of business in downtown Eugene and the development potential of western Eugene, the introduction of additional or expanded park-and-ride lots in Veneta would further encourage transit usage since parking lots would be readily available. The City currently has a new, small park-and-ride lot in downtown Veneta. The enhancement of ride-share programs would further aid in reducing the number of vehicles traveling along OR 126W.

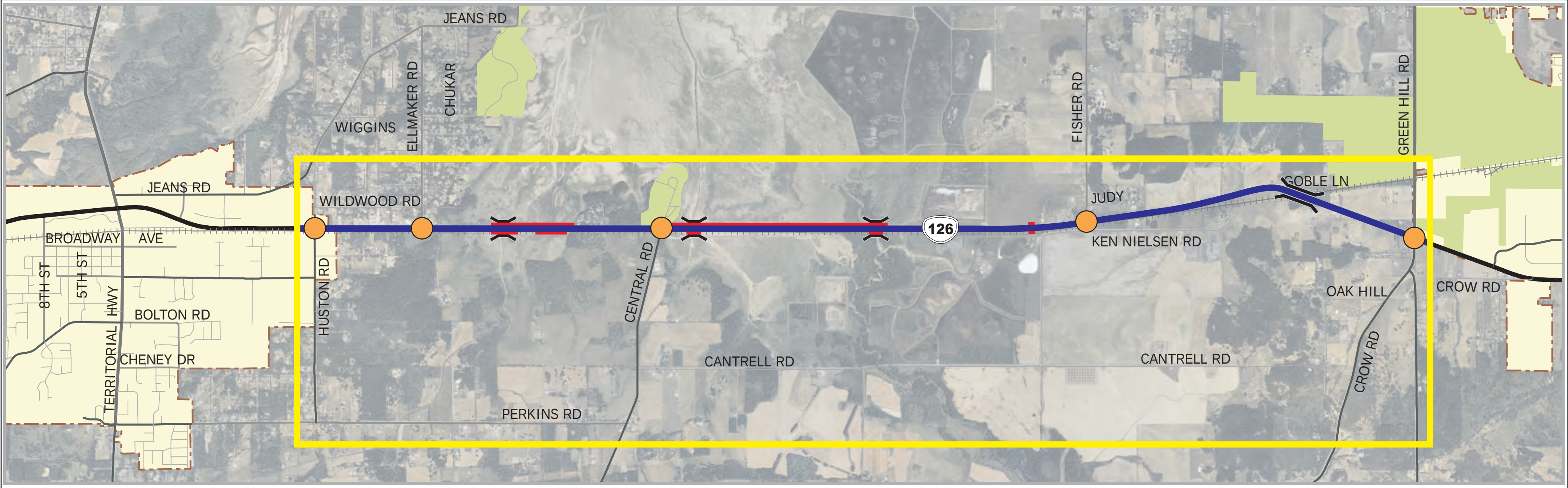
Overall Transportation Alternatives

Multiple transportation alternatives have been identified to address the capacity, connectivity, and safety needs within the study area for the future 2035 planning horizon. The general principles and approaches for each alternative are identified followed by the individual components, which consist of various combinations of the specific modal improvements identified previously in this memorandum. The alternatives being considered include:

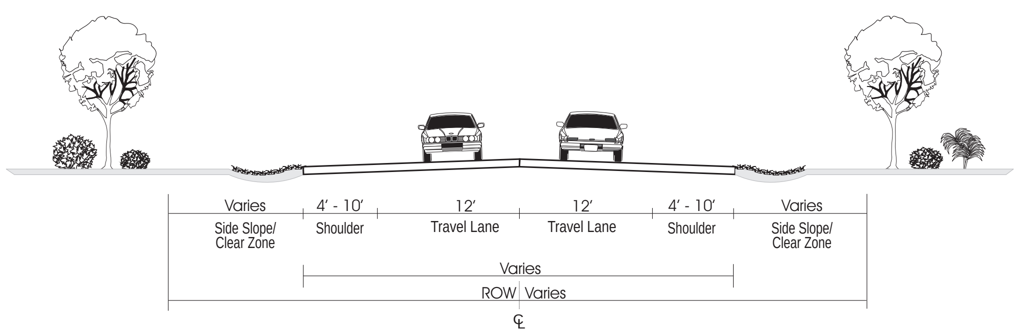
- No-Build
- Transportation System Management (TSM)
- Spot Improvements (with Optional Addition of Multi-Use Trail)
- Three-Lane Cross-Section (with Design Option: Causeway on Piers)
- Four-Lane Cross-Section (with Design Option: Causeway on Piers)
- Southern Alternate Route or Multi-Use Path (or a Combination of the Two)

No-Build Alternative

The No-Build Alternative does not introduce any improvements to the OR 126W study corridor. There is no additional effort required from ODOT, and projects along the highway are not considered a priority. This alternative is required for future National Environmental Policy Act (NEPA) documentation and compliance. It will also be used as a baseline to compare to other proposed alternatives. As shown in Figure 1, OR 126W currently has two travel lines with shoulders ranging from four to ten feet. The locations of existing guardrails, bridges, and left-turn lanes are also identified.



Existing Typical OR 126W Cross-Section



Additional Existing Cross-Section Elements

- Widens for Left-Turn Lanes
- Bridge
- Guardrail

LEGEND

- OR 126W Study Area
- Railroad
- City Limit
- Park

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TRANSPORTATION SOLUTIONS

NO SCALE

Figure 1

NO-BUILD ALTERNATIVE

Transportation System Management (TSM) Conceptual Alternative

The Transportation System Management (TSM) Conceptual Alternative optimizes the management of the current infrastructure. This alternative focuses exclusively on low-cost, easy to implement improvements or policies. It could also be considered as a short-term solution that results in immediate, visible improvements on the roadway. Many of its concepts could also be included in the other alternatives.

As shown in Figure 2, this alternative maintains the existing OR 126W cross-section but introduces TSM strategies, such as improved illumination and delineation, advance intersection sign, speed feedback signs, and alternate mobility standards to improve the safety and efficiency of the roadway. There is also a focus on increasing transit ridership through the introduction of park-and-ride lots and enhanced ride-share programs. The inclusion of access management strategies and alternative mobility standards will also aid in improving the functionality of the roadway.

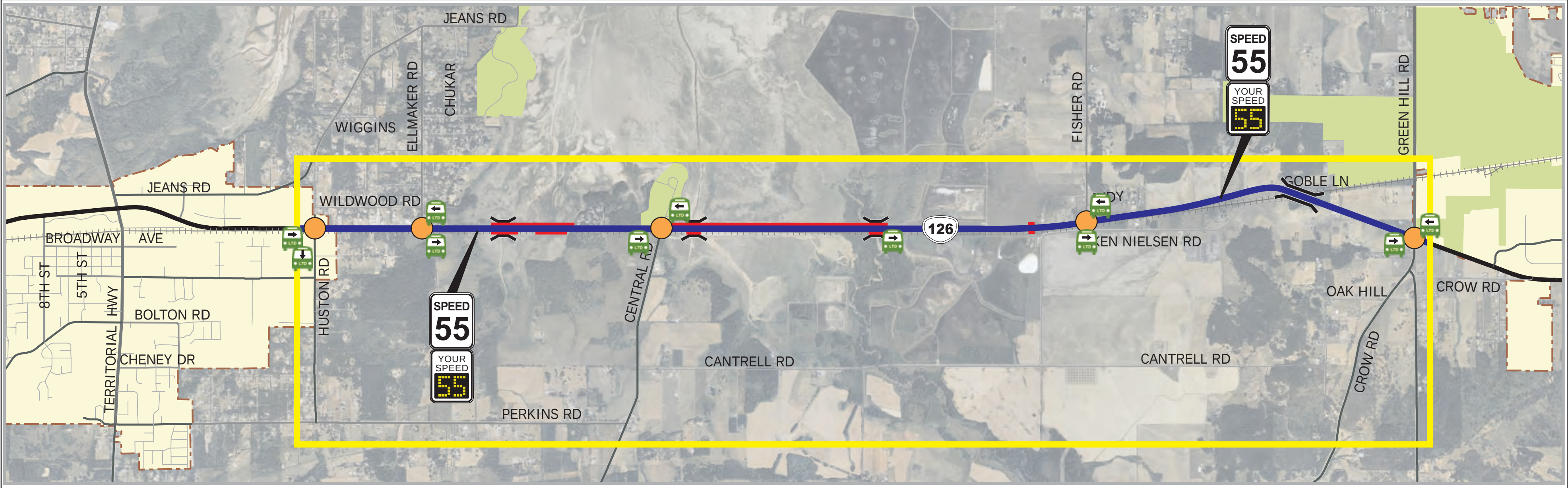
Spot Improvements Conceptual Alternative

The Spot Improvements Conceptual Alternative focuses on safety improvements for all users throughout the corridor. There are also mobility benefits associated with increased safety on the roadway. As presented in Figure 3, this alternative introduces left and right turn lanes and traffic signal installations at Huston Road, Ellmaker Road, Central Road, and Ken Nielsen Road. Other spot improvements would accommodate transit and emergency services. A multi-use path for other modes of transportation should also be considered a potential addition to this alternative to improve safety by separating vehicular and non-vehicular traffic. Many of these improvements may also be included in the other alternatives.

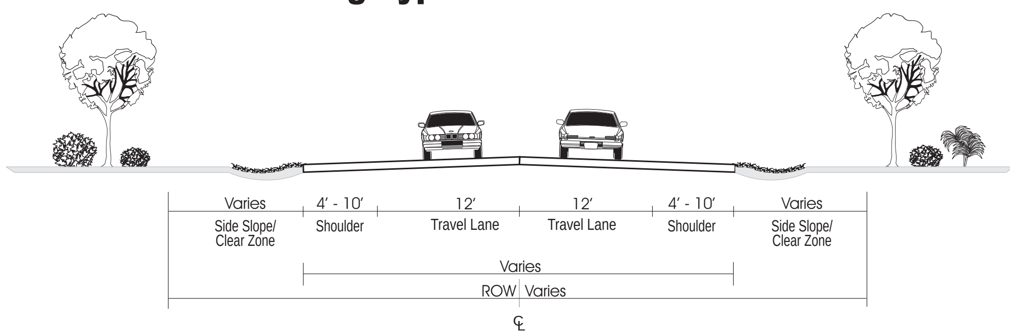
Three-Lane Cross-Section Conceptual Alternative

The Three-Lane Cross-Section Conceptual Alternative, shown in Figure 4, provides necessary mobility improvements by increasing the OR 126W footprint to accommodate an additional travel lane as well as wider shoulders or bike lanes. The introduction of a third lane provides more capacity on the roadway, and this lane could be used as a left turn lane, alternating passing lane, or reversible traffic lane. System management and spot improvements could also be implemented as applicable.

This alternative would likely require the acquisition of land to the north and/or south of OR 126W. A component of this alternative could be to construct a single-level elevated structure for the three-lane facility that travels over environmentally sensitive areas. Pedestrian and bicycle facilities could be provided on this roadway, or they could be separated from vehicular travel on a lower level of the structure.



Existing Typical OR 126W Cross-Section



Cross-Section Elements

- Existing Left-Turn Lanes
- Existing Bridge
- Existing Guardrail
- Existing Transit Stop

Optional TSM Improvements (At Various Locations or Along Full Length)

- Edge and Centerline Delineation
  - Raised Markers/Rumble Strips
  - Reflectors on Guardrails
- Advanced Intersection Guide Signage
- Speed Feedback Signs
- Variable Speed Limit Signs
  - 35 to 45 mph Congested Speed
  - 55 mph Non-Congested Speed
- Increased Transit Ridership and Carpools
  - Park-and-Ride Lot
  - Improved Pedestrian Access and Other Transit Stop Enhancements
  - Rideshare Program
- Alternate Mobility Standards
- Access Management Strategies

LEGEND

- OR 126W Study Area
- Railroad
- City Limit
- Park

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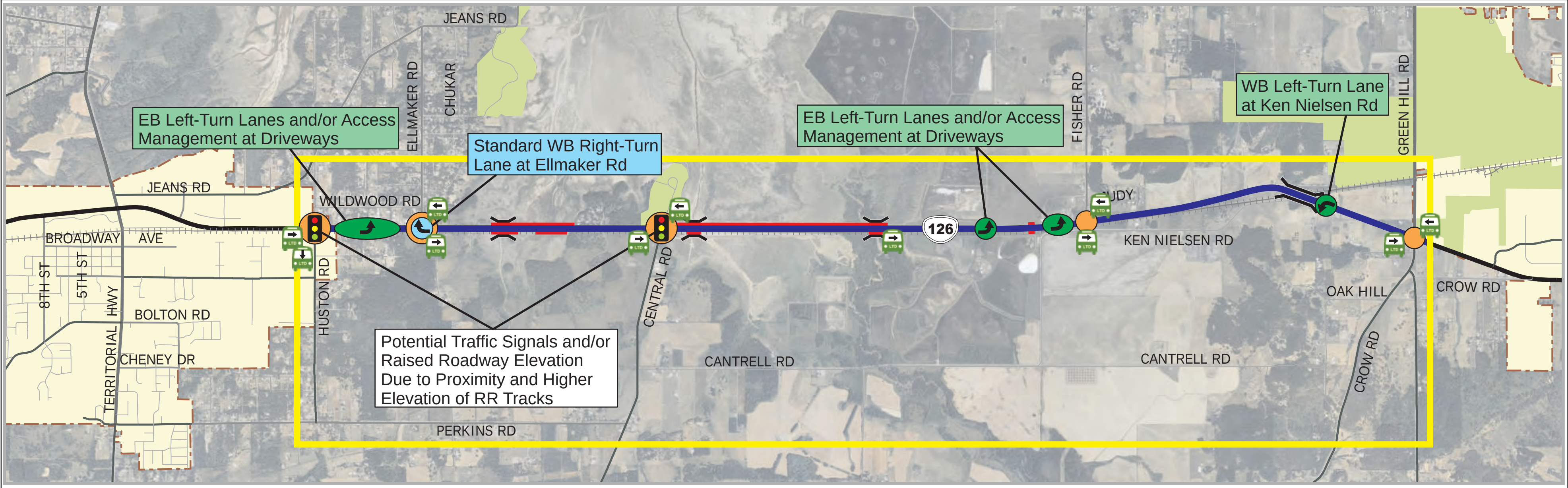
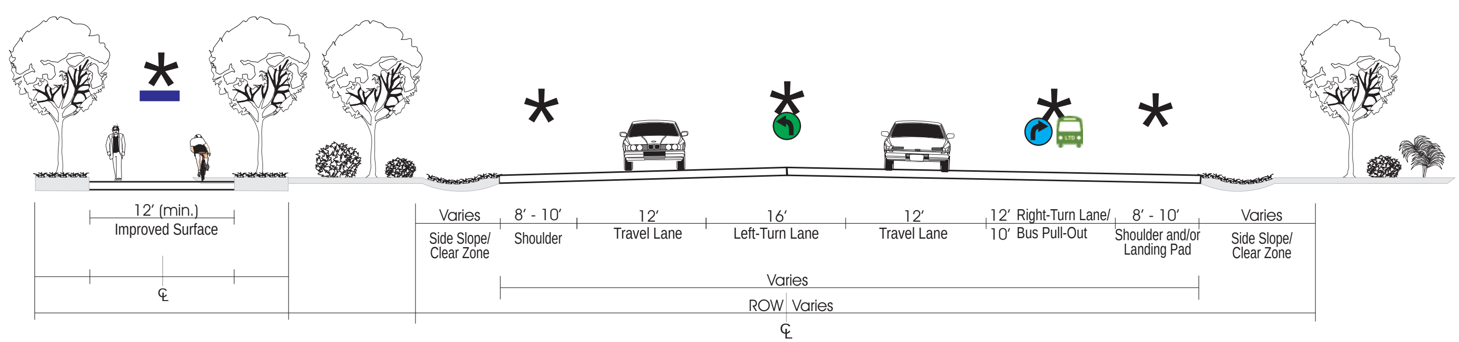
NO SCALE

Figure 2

TRANSPORTATION SYSTEM MANAGEMENT (TSM) CONCEPTUAL ALTERNATIVE



Spot Improvements Cross-Section with Optional Multi-Use Trail



*Spot improvements may include left-turn lanes ( ), right-turn lanes ( ), traffic signals ( ), limited passing lanes,and wider shoulders, especially where current shoulders are only 4 feet wide. A multi-use trail alongside the highway ( ) would also be a potential addition to the corridor. In addition, transit stop improvements ( ) may include far-side bus stop relocations, bus pullouts, landing pads, and pedestrian crossing treatments. Emergency turnarounds and police pull-offs may also be provided on the side of the road at select locations.

Cross-Section Elements

- Existing Left-Turn Lanes
- Existing Bridge
- Existing Guardrail
- Existing Transit Stop
- Existing Typical Two-Lane Cross-Section (with Potential Addition of Multi-Use Trail)
- Potential Traffic Signal and/or Raised Roadway Elevation (Due to Proximity of RR Tracks)

LEGEND

- OR 126W Study Area
- Railroad
- City Limit
- Park

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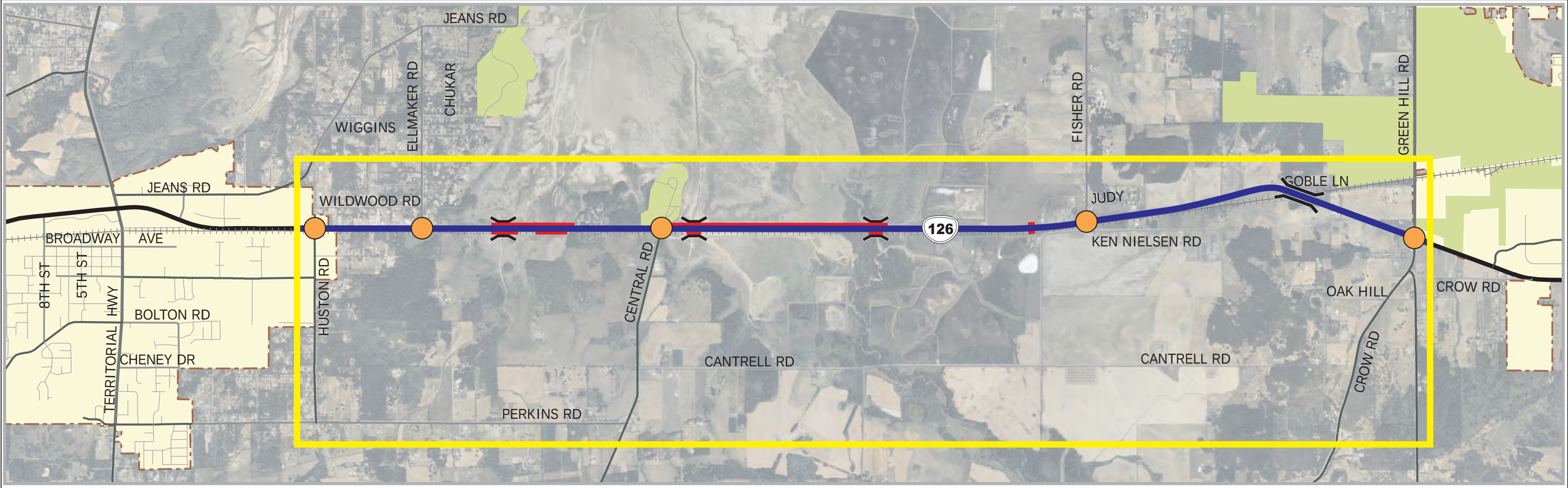
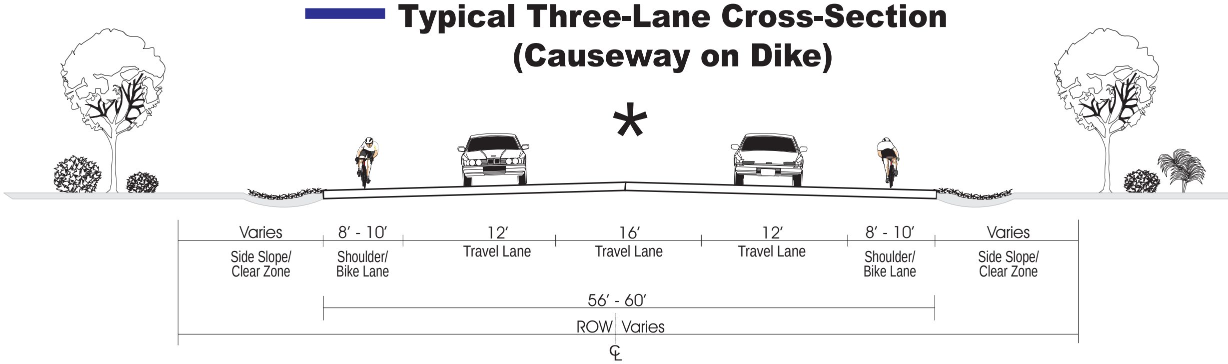
Figure 3

SPOT IMPROVEMENTS CONCEPTUAL ALTERNATIVE

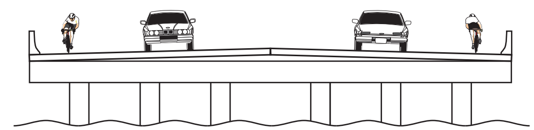


Typical Three-Lane Cross-Section (Causeway on Dike)



*The additional center travel lane may be used for passing lanes in alternating directions or a reversible travel lane that serves eastbound traffic in the morning and westbound traffic in the evening. Left-turn lanes at select intersections may be included in the three-lane cross-section or added as a fourth lane.

Design Option: Causeway on Piers†



†A causeway on piers is an optional design feature that may be used over environmentally sensitive areas. Pedestrian and bicycle facilities may be included on the structure or provided on a lower level on the side of the structure.

Cross-Section Elements

Existing Left-Turn Lanes | Existing Guardrail | Existing Bridge

LEGEND

- OR 126W Study Area
- Railroad
- City Limit
- Park

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NO SCALE

Figure 4

THREE-LANE CROSS-SECTION WITH OPTIONAL CAUSEWAY ON PIERS CONCEPTUAL ALTERNATIVE

Four-Lane Cross-Section Conceptual Alternative

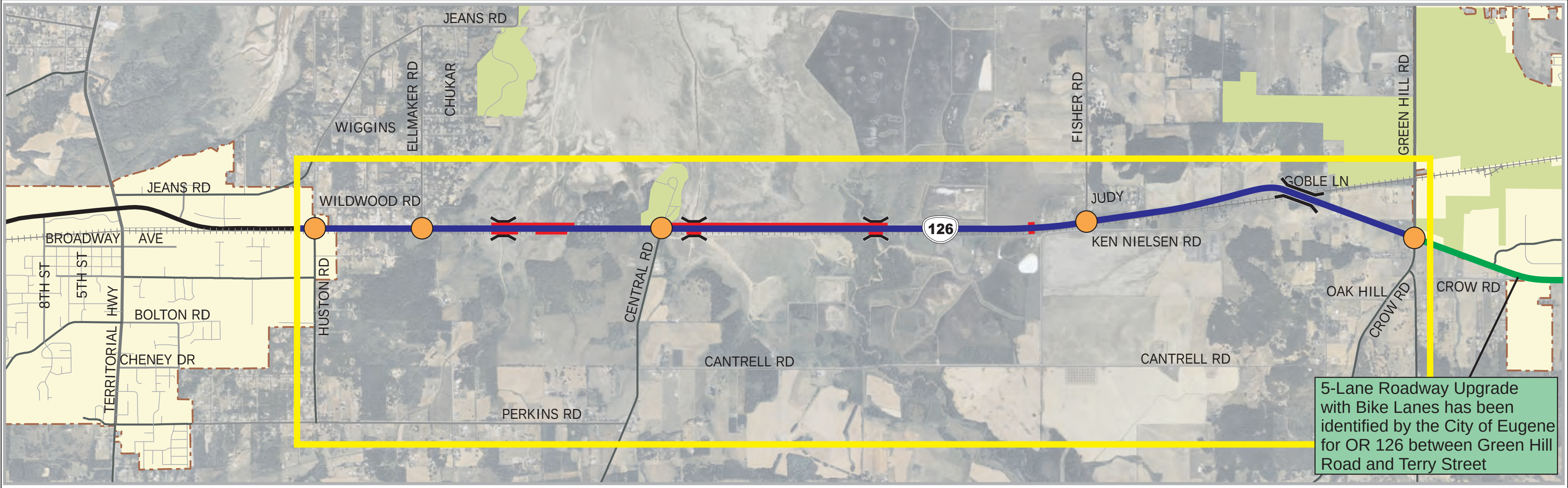
The Four-Lane Cross-Section Conceptual Alternative, presented in Figure 5, provides for significant mobility improvements with a large footprint for OR 126W. This alternative would also include the potential for a single-level elevated structure for the four-lane facility that travels over environmentally sensitive areas.

The four lane cross section would likely require additional right of way. The expanded roadway would include center left-turn lanes in place of the median at applicable intersections. To the east of the study corridor, the City of Eugene has identified a project for the upgrade of West 11th Avenue to a five lane urban arterial with bike lanes; therefore, expansion of OR 126W is consistent with other projects in the area. Transportation system management and spot improvements could also be implemented as applicable.

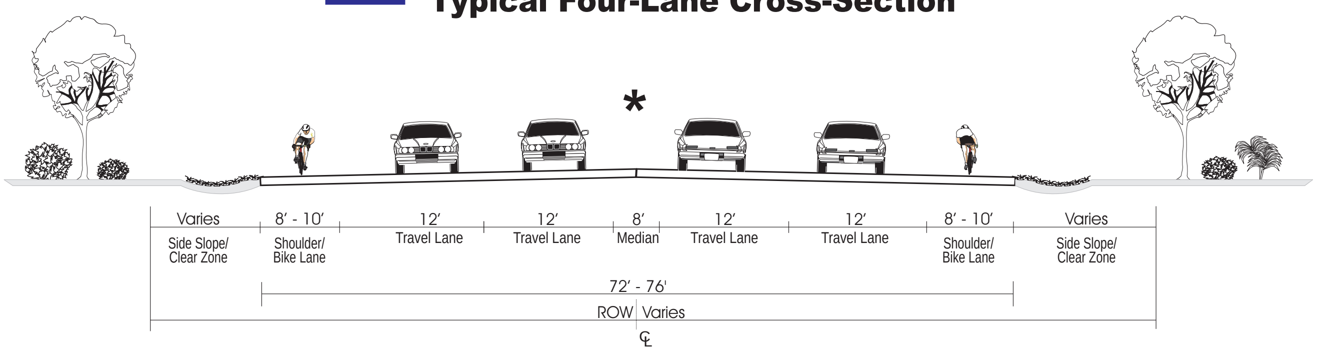
Southern Alternate Route or Multi-Use Path Conceptual Alternative

The Southern Alternate Route or Multi-Use Path Conceptual Alternative provides an alternate route for motor vehicles and/or multi-modal users to the south of OR 126W. OR 126W would retain its two-lane cross-section, and current alignment. The alternate route would have two to three lanes and would be along Perkins Road and Cantrell Road as shown in Figure 6. This alternate route would also include bike lanes. Feedback has also been provided by the public that diverting to Ken Nielsen Road on the east end of the alternate route corridor would be preferred to avoid the rolling hills on Cantrell Road.

An optional multi-use path for non-motorized modes of transportation could also be introduced either instead of or in addition to the improved roadways. This path could run alongside the proposed southern alternate route and extend east of the study corridor to connect to the Fern Ridge Path.

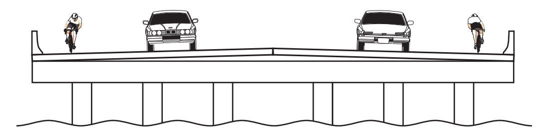


Typical Four-Lane Cross-Section*



*The four-lane cross-section would include a center left-turn lane (16 feet wide) in place of the median at applicable intersections.

Design Option: Causeway on Piers†



†A causeway on piers is an optional design feature that may be used over environmentally sensitive areas. Pedestrian and bicycle facilities may be included on the structure or provided on a lower level on the side of the structure.

Cross-Section Elements

Existing Left-Turn Lanes Existing Guardrail Existing Bridge

LEGEND

- OR 126W Study Area
- City Limit
- Railroad
- Park

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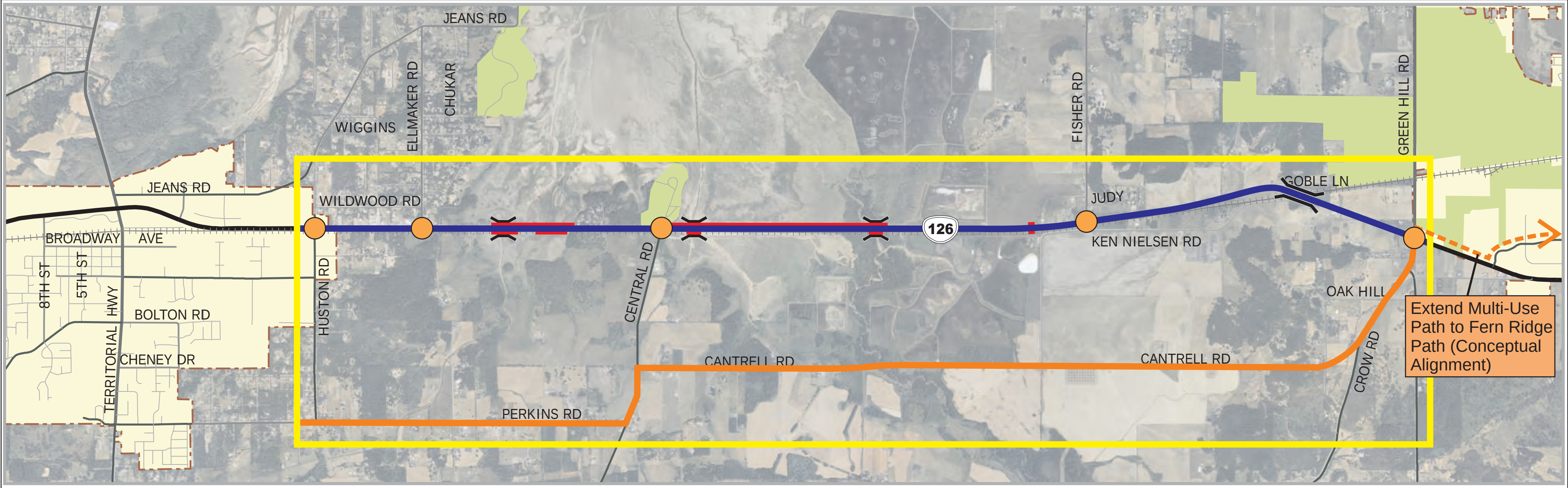
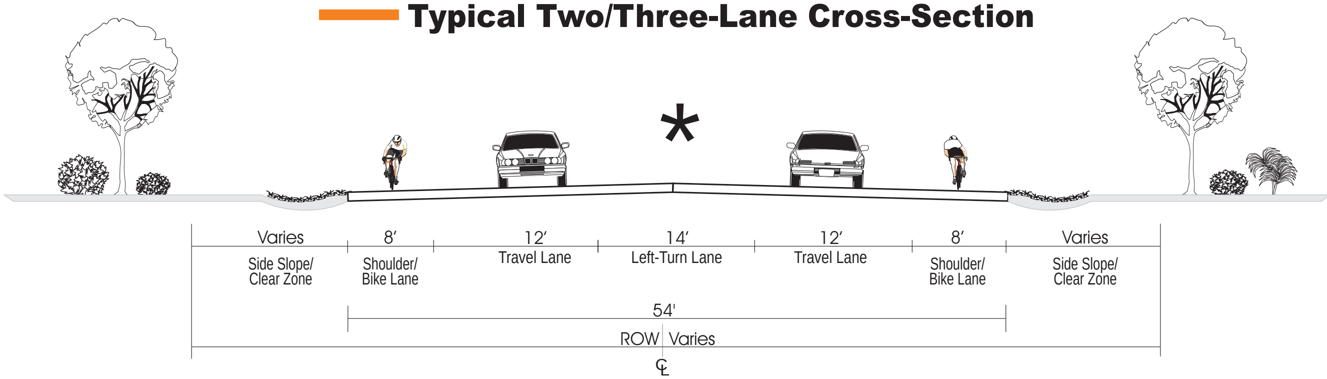
NO SCALE

Figure 5

FOUR-LANE CROSS-SECTION WITH OPTIONAL CAUSEWAY ON PIERS CONCEPTUAL ALTERNATIVE

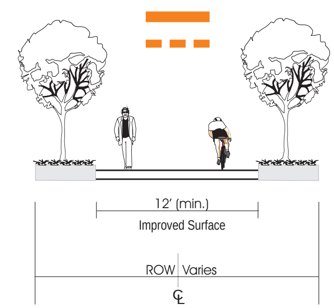


Typical Two/Three-Lane Cross-Section



*The cross-section may include left-turn lanes at select intersections.

Optional Multi-Use Path†



†The multi-use path would be for non-motorized use only and could be constructed in addition to or instead of the roadway improvements on Perkins and Cantrell Roads. Other options for the path's alignment would be to construct it parallel to the existing roadways or divert it to Ken Nielsen Road.

Cross-Section Elements

- Existing Bridge
- Existing Guardrail
- Existing Typical Two-Lane Cross-Section
- Existing Left-Turn Lanes

LEGEND

- OR 126W Study Area
- Railroad
- City Limit
- Park

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Figure 6

SOUTHERN ALTERNATE ROUTE OR MULTI-USE PATH CONCEPTUAL ALTERNATIVE

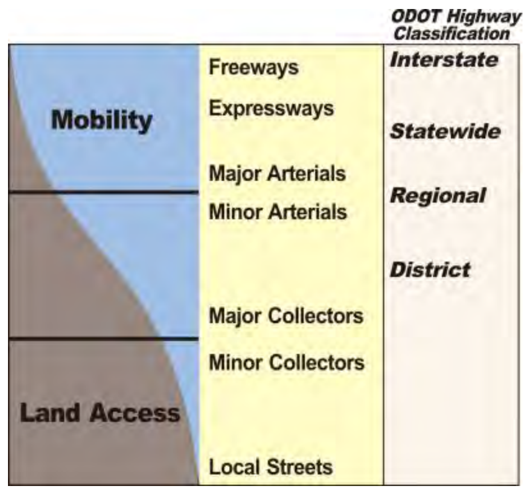
Appendix

ACCESS MANAGEMENT PLAN

The application of access management tools within the OR 126W study corridor can be a key element in providing for improved operational safety and efficiency. This section describes how the improved management of access could benefit users of OR 126W between Veneta and Eugene, which is part of the OR 126W Fern Ridge Corridor Plan, and also provides short, medium, and long range strategies to be used as a guide during future development plans and street improvement projects. The access management plan provided is intended to help implement existing rules and regulations pertaining to property access in the study corridor.

Access Management Overview

Access management is the term used to describe a broad set of techniques that balance the need to provide safe, efficient, and timely travel with the ability to allow access to individual properties. On facilities such as freeways and expressways, there is generally an emphasis on facilitating the through movement of traffic, with direct property access being a secondary objective. However, for streets of lower functional classification such as collectors and local streets, the emphasis shifts to prioritize direct property access.



For the entire length of the study corridor, OR 126W is designated as a Statewide Highway and Freight Route by ODOT. It is also part of the National Highway System. OR 126W is a two-lane roadway with left-turn lanes at key intersections throughout the network, and the highway has a posted speed limit of 55 miles per hour. For the westernmost section of the study corridor between Huston Road and Ellmaker Road, there are multiple, closely spaced driveways for commercial businesses. With new legislative direction for access management as presented in Senate Bill 264, there is now a shift towards balancing transportation needs while encouraging economic development by providing reasonable access to private properties. The remaining section of the corridor between Ellmaker Road and Green Hill Road is more rural and has fewer accesses, with most driveways providing access to local residences.

Benefits for OR 126W Businesses and Local Users

The benefits of access management for through traffic have been well documented and are generally well understood: fewer vehicles entering and exiting the traveled way translates to fewer slow-downs and opportunities for collisions as well as less queuing and congestion problems, leading to improvements in travel times and safety. While this is often thought to occur at the expense of access to properties, a corridor with well-planned access management can have many benefits to area businesses, local users, and through traffic.

Safety

An uncoordinated pattern of frequent property access along a highway introduces a number of potential conflicts for drivers where vehicle paths could cross and where collisions could occur. These turning movement conflicts are often the causes of slowing or stopping vehicles, and can significantly degrade the flow of traffic and reduce the efficiency of the transportation system. Drivers can be overwhelmed by conflict points in close proximity to one another, increasing the potential for collisions.

Implementing access management minimizes the number of vehicle conflict points by reducing the overall number of access points and providing greater separation between them. In the study area, this problem is most prevalent in the roadway segment between Huston Road and Ellmaker Road, where the average spacing between the 13 driveways is approximately 220 feet. Figure 1 illustrates this concept, where consolidation of two closely spaced driveways results in a reduction of conflict points of more than 50%.

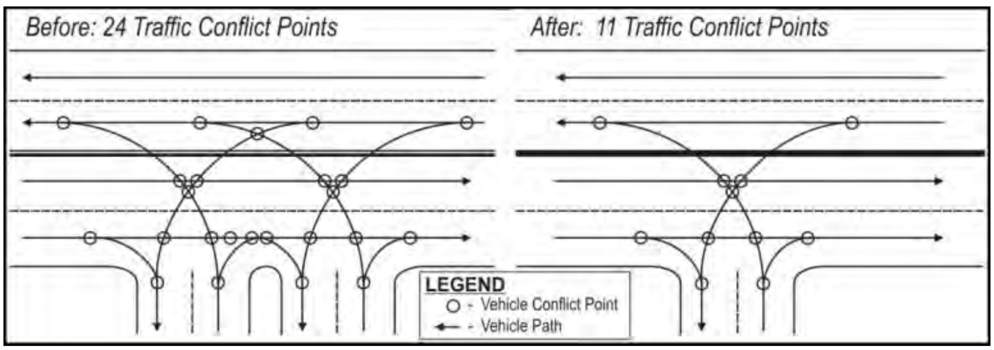


Figure 1 Conflict Point Reduction with Driveway Consolidation

Research throughout the country has shown that arterials with well managed access control are often 40 to 50 percent safer than poorly managed ones.[1] In a national transportation study that reviewed nearly 40,000 collisions, a clear relationship was found between the number of access points per mile and the rate of collisions that occur on a given roadway. The rate of collisions more than doubles when the access density is increased from 10 access points per mile to 40 (i.e., roughly equivalent to decreasing average access spacing from 1,000 feet to 250 feet). This shows that increasing the spacing between access points and providing greater separation between vehicle conflicts will reduce the number and variety of events to which drivers must respond, translating into fewer accidents and shorter delays.

To see how the OR 126W study corridor compares to the results of the national study, the existing access inventory was evaluated for four segments of OR 126W: 1) Huston Road to Ellmaker Road, 2) Ellmaker Road to Central Road, 3) Central Road to Fisher Road, and 4) Fisher Road to Green Hill Road. The number of access points compared to the collisions experienced in each segment is shown in Table 1.

[1] Preston, H., et al. *Statistical Relationship between Vehicular Crashes and Highway Access*, Minnesota Department of Transportation, Report MN-RC-1998-27, August 1998.

Table 1 OR 126W Access Density vs. Collisions

OR 126W Highway Segment (Highway and Milepoints)	Distance	Accesses Per Mile[a]	Collisions (2005-2009)	Collision Rate (per million Vehicle-Miles Traveled)[c]	Average Approach Spacing
Huston Rd to Ellmaker Rd (Florence-Eugene MP 47.84 to 48.43)	0.59 mi.	22	20	1.43	220 ft (N) -
Ellmaker Rd to Central Rd (Florence-Eugene MP 48.43 to 49.75)	1.32 mi.	2	22	0.77	2,320 ft (N) 3,480 ft (S)
Central Rd to Fisher Rd (Florence-Eugene MP 49.75 to 52.10)	2.35 mi.	4	41	0.65	1,380 ft (N) 6,200 ft (S)
Fisher Rd to Green Hill Rd (Florence-Eugene MP 52.10 to 52.69 and Beltline MP 0.00 to 1.28)	1.87 mi.	5	41	0.89	1,970 ft (N) 1,410 ft (S)
Entire Study Corridor (Florence-Eugene MP 47.84 to 52.69 and Beltline MP 0.00 to 1.28)	**6.13 mi.**	**7[b]**	**124**	**0.82**	**1,040 ft (N)** **3,240 ft (S)**

[a] Accesses (both public and private) counted separately for north and south sides of OR 126W.

[b] The four intermediate streets (i.e., Ellmaker Road, the Perkins Peninsula County Park access, and Fisher Road on the north and Central Road on the south) were added to these totals because they were not otherwise accounted for.

[c] Collision Rate = (collisions*1,000,000) / (years*365 days*segment length*AADT), where AADT = annual average daily traffic.

As shown in Table 1, the 0.59 segment of OR 126W between Huston Road and Ellmaker Road has about 22 access points per mile, including both Huston Road and Ellmaker Road. The collision rate for this section between 2005 and 2009 was 1.43 collisions per million vehicle-miles traveled (VMT), which is approximately double the rate of other sections along the OR 126W study corridor, which are more rural in nature and have less access density. Therefore, there appears to be a relationship between access density and the rate of collisions experienced in the study corridor, which suggests that improvements to corridor safety can be made through the reduction in access points to OR 126W.

Pedestrian and Bicycle

Roadways with well-managed access also provide a safer and more comfortable walking and cycling environment. With fewer access points along the highway, pedestrians and cyclists are exposed to traffic less frequently, resulting in fewer conflict points between motor vehicles, pedestrians, and cyclists. Also, even the limited use of medians can provide refuges to facilitate bicycle and pedestrian highway crossings between traffic signals. Within the study area, OR 126W has shoulders ranging from four to ten feet, but there are no existing sidewalks or striped or signed bike facilities. However, on high-speed facilities such as OR 126W, a separated pedestrian and bicycle pathway would provide greater safety for users.

Business

Streets that are viewed as being frequently congested or unsafe to travel can be a deterrent to potential customers and can create a negative image for a shopping center or business.[2] In contrast, the improved level of safety and traffic flow on streets with well-managed access to abutting businesses creates a better experience for customers and can even increase the potential market area.

"Before and After" studies of businesses in other states along highway corridors where access management projects were completed found that most businesses did as well or better after the projects. As examples:

> *More than 70% of the businesses impacted by a project in Florida involving several median opening closures reported no change in property value, while 13% reported some increase in value.* [3]
>
> *A study of Kansas properties impacted by access changes found that the majority were suitable for the same types of commercial uses after the project was completed. This was true even for businesses that had direct access before the project and access only via frontage roads after the project completion.*[4]
>
> *A study of property values on corridors in Texas with access management projects found that land values stayed the same or increased, with very few exceptions.* [5]

Fewer access points also provide for more property frontage, which could be used for merchandise displays, landscaping to improve the appearance of the corridor, or additional parking stalls. However, the implementation of access management might also have negative effects. If accesses to business are not readily available to drivers and force them to travel long distances out of direction, users will be less willing to frequent these sites. Without careful planning, access management can prove detrimental to businesses.

Access Management Plan

The purpose of a corridor level Access Management Plan is to provide short, medium, and long range strategies for accommodating access as property develops or as public improvement projects are constructed. Most improvements will occur incrementally over time. The goal of the plan is to provide clear direction and ensure progress is made toward improving the management of access in the corridor, while allowing sufficient flexibility to accommodate future development plans. Successful implementation will require continued collaboration between neighboring property owners and ODOT staff.

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[2] Urban Land Institute, *Shopping Center Development Handbook, Second Edition*, Washington D.C., 1985, p. 101.
[3] Vargas, F.A and Y. Guatam, *Problem: Roadway Safety vs. Commercial Development Access,* ITE, Compendium of Technical Papers, 1989.
[4] Rees, M., T. Orrick, and R. Marx, *Police Power Regulation of Highway Access and Traffic Flow in the State of Kansas,* presentation, 79th Annual Meeting of the Transportation Research Board, Washington D.C., January 10, 2000.
[5] Eisele, W. and W. Frawley, *A Methodology for Determining Economic Impacts of Raised Medians: Data Analysis on Additional Case Studies,* Research Report 3904-3, Texas Transportation Institute, College Station, Texas, October 1999.

Access Objectives

To provide a basis for decision-making during the development of the access management plan and to guide future policy decisions for the study area, a set of access management objectives was established by ODOT. These objectives were intended to reflect the 1999 Oregon Highway Plan (OHP), as well as current practices, policies, and regulations pertaining to the management of access to OR 126W. The following objectives are used as guidelines for Statewide Rural Highways and may not be applicable in all instances:

1. Create shared access points to reduce the overall number of accesses along the corridor.
2. Provide inter-parcel circulation through cross-over easements, frontage or backage roads, shared parking lots, or connecting driveways, where feasible.
3. Utilize easements, frontage/backage roads, and other streets to allow for secondary access to facilitate large truck and emergency service vehicle circulation.
4. Recognizing that OR 126W is designated as a State Freight Route and Federal Truck Route, highway modifications shall not reduce the through capacity of the highway. The mobility standard for the highway is a v/c ratio of 0.70.
5. Ensure that all properties are provided reasonable access to the public street network.
6. Per Policy 3B.3 of the *1999 Oregon Highway Plan* (as amended), consideration shall be given to installation of non-traversable medians. With the introduction of Senate Bill 264, non-traversable medians are only to be considered if all other mitigation measures were not effective or available.
7. Meet ODOT's access management spacing standards for Statewide Highways, as documented in Senate Bill 264 (to be adopted in January 2012). In the study area, OR 126W is a Statewide Highway that travels through a Rural Area with a speed limit of 55 miles per hour. Therefore, the access spacing standard is 1,320 feet measured from the center of an approach to the center of the nearest approach on the same side of the highway in both directions. When a non-traversable median is present with only a right-hand or left-hand turn into and from the approach, the standard is one-half of the 1,320 feet. The average spacing for the roadway segments in the study are presented in Table 2. In addition, the access locations along the study corridor are shown in Figure 2 of Technical Memorandum #8 (Future Travel Forecasts and Needs Analysis), which was previously prepared as part of the OR 126W Fern Ridge Corridor Plan.

Table 2 Study Area Access Management Spacing

Segment	Side of Road	Accesses[a]			
		Streets	*Driveways*	*Total*	*Average Spacing*
Huston Rd to Ellmaker Rd (0.59 mi.)	North	0	13	13	220
	South	0	0	0	-
Ellmaker Rd to Central Rd (1.32 mi.)	North	2	0	2	1,950
	South	0	1	1	2,930
Central Rd to Fisher Rd (2.35 mi.)	North	0	8	8	1,380
	South	0	1	1	6,200
Fisher Rd to Green Hill Rd (1.87 mi.)	North	3	1	4	1,970
	South	1	5	6	1,410
Entire Study Corridor (6.13 mi.)	**North**	**8**[b]	**22**	**30**[b]	**1,010**
	South	**2**[b]	**7**	**9**[b]	**3,130**

[a] Accesses (both public and private) counted separately for north and south sides of OR 126W.

[b] The four intermediate streets (i.e., Ellmaker Road, the Perkins Peninsula County Park access, and Fisher Road on the north and Central Road on the south) were added to these totals because they were not otherwise accounted for.

As seen in Table 2, the majority of driveways are located along the north side of OR 126W. The primary reason is because the Coos Bay Rail Line is located fifty feet south of the highway. The greatest access density is found along the western portion of the corridor, where the accesses have an average spacing of 220 feet. This value is significantly smaller than the access spacing standard of 1320 feet from the Oregon Highway Plan. The remainder of the corridor has appropriate spacing between accesses. Therefore, the greatest concerns for access-related safety occur between Huston Road and Ellmaker Road.

Policy 3 of the OHP focuses on access management with a specific emphasis on spacing standards and medians. This focus on access management is implemented through Oregon Access Management Rule (OAR 734-051), whose purpose is to maintain the efficiency of state highways while ensuring safety and preserving resource lands. Senate Bill 264 was passed by the 2011 Oregon Legislature and will result in some modification in access management by ODOT. These changes will be effective January 2012 and will also be reflected in OAR 734-051. The spacing standards recommended for OR 126 in Senate Bill 264 are consistent with the standards that are in the Oregon Highway Plan.

Access Management Tools

To address the access management objectives applicable to OR 126W, a collection of potential mitigation tools and measures are provided below. While not all applications will be appropriate for various portions of the study area, this list will provide a menu of options for consideration.

Frontage and Backage Roads

A frontage road or backage road is a type of service road that runs parallel to a major roadway and provides alternative access to properties. Where the service road runs between the major roadway and the abutting development, it is commonly referred to as a frontage road. However, when the service road runs behind the abutting development, it is referred to as a backage road.

Direct property access is provided along the frontage or backage road, rather than from the major roadway. This allows the major roadway to better serve through traffic with fewer disruptions, while the ingress and egress for abutting properties can occur from a lower-speed, lower-volume facility. A key element in frontage/backage road planning is the design and location of connections to and from the major roadway or side streets.

The westernmost section of the study corridor between Huston and Ellmaker Road has multiple, closely spaced driveways, which primarily serve local businesses. A backage road parallel to OR 126W may be a desirable solution for improving traffic flow and safety along this section of OR 126W. For example, Wildwood Road is an existing Lane County roadway 600 feet to the north. By connecting the properties along OR 126W to Wildwood Road, local connections would be provided to the properties. This additional access to these properties would reduce the need for local traffic to use OR 126W and allow more flexibility in implementing access management techniques along OR 126W.

Frontage and backage roads must be designed to accommodate emergency vehicles and large trucks. To satisfy these requirements without placing limitations on the development potential of adjacent properties, the typical right-of-way (ROW) or joint access easement width reserved for these roadways should be 36 feet, including a minimum of 26 feet from curb to curb and provision for a five-foot wide sidewalk, as shown in Figure 2. The location of the frontage or backage road with respect to other public roadways and individual site development features may impact whether or not sidewalks are needed on both sides of the roadway or just on one side and may alter the buffer requirements. Decisions regarding the final required cross section for frontage and backage roads will be made by ODOT through development review.

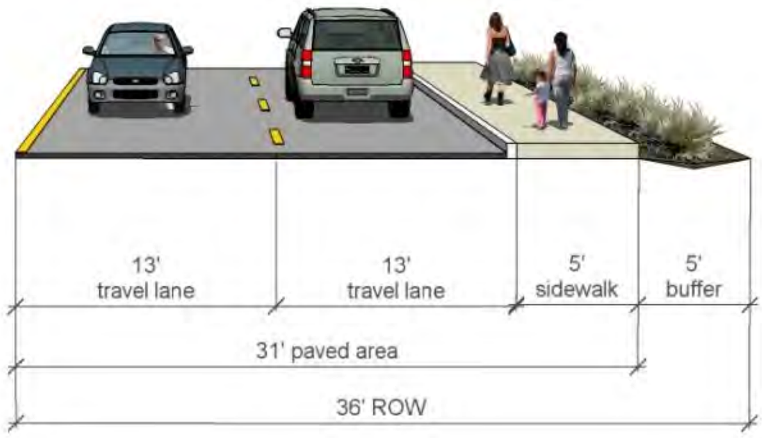


Figure 2 Frontage/Backage Road Typical Cross-Section

Shared/Consolidated Access Points

A common method of reducing approach density is to eliminate multiple approaches to a single property where feasible. This can be done where it has been determined that the property can adequately be served with fewer approaches than it currently maintains. However, where existing site circulation or building locations create a dependency for the pre-existing highway access, the ability to change site access may require total or partial site redevelopment.

Sharing an approach to the highway is a means of consolidating approaches while providing direct access to properties that might not otherwise have it. This tool is most advantageous when applied between two "landlocked" properties that have no other means of reasonable access than to the highway. Such properties would typically be provided their own approach. However, when a shared approach can be arranged, the end result is only one approach to the highway rather than two.

Because such arrangements require the establishment of access easements, which represent an encumbrance on the property, this can be a difficult tool to apply. Also, because easements can be voided later by the property owners, the long-term success of these arrangements is uncertain. Because of this, it is often easiest to establish shared approaches where the local development code enables that requirement and it can be made a condition of approval. However, care should be taken to ensure adjacent land uses are compatible and that safe vehicular circulation can be provided.

Inter-Parcel Circulation

When access is provided to allow vehicles to pass between adjacent properties without using the highway, unnecessary conflicts are removed. Vehicles using the highway for cross-circulation between adjacent properties can be particularly hazardous as such drivers often drive the wrong way in travel lanes and utilize very small gaps in traffic because they perceive that they will only be on the highway for a short time.

Similar to the establishment of shared approaches, the provision of cross-circulation requires the establishment of access easements between properties and can therefore be difficult to achieve. Because such arrangements affect site circulation, the requirement for cross-circulation is best applied during design review for new developments.

When locating and designing inter-parcel roadways, consistent treatments should be applied across adjacent properties to facilitate passage over multiple lots. This should include using a consistent roadway width and providing a common alignment where feasible (near the rear of the property away from the highway approaches is generally preferred).

Turning Restrictions

The number of conflict points on the highway introduced by a particular approach can be significantly reduced by restricting turn movements, such as allowing only right-in and right-out movements, allowing only right-in movements, or prohibiting only left-out movements, as shown in the graphic.

Such restrictions are commonly applied through the construction of non-traversable median barriers and “pork chop” islands in the approach throat. Due to high violation rates, “pork chop” treatments should only be used in conjunction with median barriers, as shown in the graphic. Also, the use of pork chop islands to compliment median barriers may allow for smaller median barrier designs – potentially avoiding blockage of nearby approaches.

Turn Lane Installations

OR 126W is a two-lane roadway with few turn lanes, therefore considerations should be made for the installation of left-turn, right-turn, or two-way-left-turn lanes due to the increased potential for accidents in the through lanes. However, it is potentially dangerous to provide a two-way-left-turn lane for closely spaced driveways on a high speed facility because of the increased turning movement conflicts. Turn lane installations could provide an area for vehicle storage, which improves the overall safety of the highways with its higher travel speeds and traffic volumes. This could be implemented through restriping in areas where physical medians or barriers do not currently exist.

Public Street Connectivity

As a Statewide Highway, the intended function of OR 126W is primarily for safe and efficient passage for through traffic. Therefore, direct property access should be taken from facilities of a lower classification, such as minor arterials, collectors, or local streets. This, in turn, lessens the number of potential conflict points on the highway and moves them to a lower speed, lower volume roadway where they can be more easily accommodated.

This treatment is often a good option for properties that have frontage along an alternate roadway of a lower functional classification. However, where existing site circulation or building locations create a dependency for the pre-existing highway access, the ability to change site access may require total or partial site redevelopment. Also, before access is reestablished to a side street, it should be confirmed that there would be adequate separation between the new driveway and the intersection with the highway to avoid turning conflicts or frequent obstruction by vehicle queues. It should also be verified that the side street intersection with the highway has sufficient capacity to accommodate the added site traffic.

Access Management Strategies

Using the previously discussed mitigation tools, short, medium, and long-range strategies have been identified for a future access management on OR 126W. Short-range strategies include improvements that ODOT could implement on their roadways since these changes would take place in areas that are within their jurisdiction. Medium-range strategies encourage ODOT to prepare for the future redevelopment of private parcels and to anticipate the necessary measures needed to improve access. Long-range strategies are comprehensive plans that involve cooperation between both ODOT and private property owners. Both entities must work alongside one another in order to provide the safest and most efficient accesses along OR 126W. The following strategies provide a step-by-step process for ODOT to improve overall access on the OR 126W corridor, but as opportunities arise and present themselves in the form of roadway improvements or redevelopment projects, ODOT should take advantage of them to include multiple aspects of the access management plan.

Short-Range Strategies (ODOT Right of Way)

With the anticipated increases in vehicular traffic on OR 126W, turn lanes could be implemented to improve the efficiency and safety of the corridor and provide an area in which to accommodate the demand for turning vehicles. Through restriping, turn lanes could be installed immediately in areas where striped medians do not currently exist (e.g., between Huston Road and Ellmaker Road in the near term). Volumes and speeds are high on OR 126W, so even when the vehicular volumes do not require the installation of a turn lane, consideration should still be given because of the increased potential for accident in the through lanes. A turn lane is beneficial on OR 126W since it is a two-lane roadway and would therefore provide a storage area for turning vehicles and would remove conflicting vehicles from through traffic flow. At the same time, turning restrictions could also be implemented by installing non-traversable medians to avoid turning movement conflicts from the various accesses. This type of median could be installed by striping a solid double yellow line with yellow cross-hatching between the lines. In the future, the striped median could be converted into a physical median or barrier.

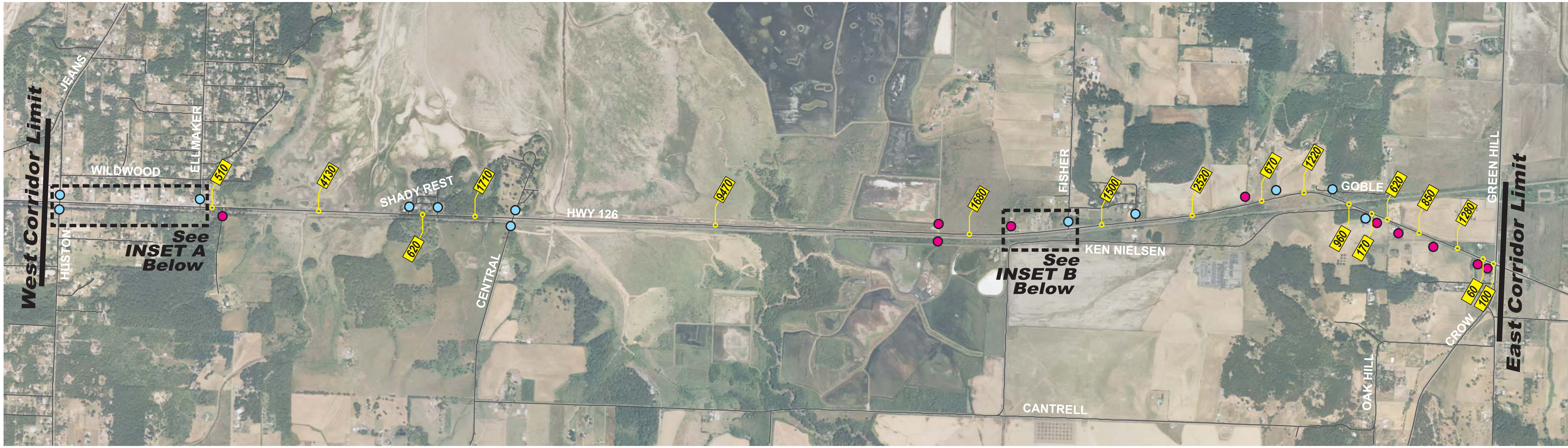
Medium-Range Strategies (Individual Private Parcels)

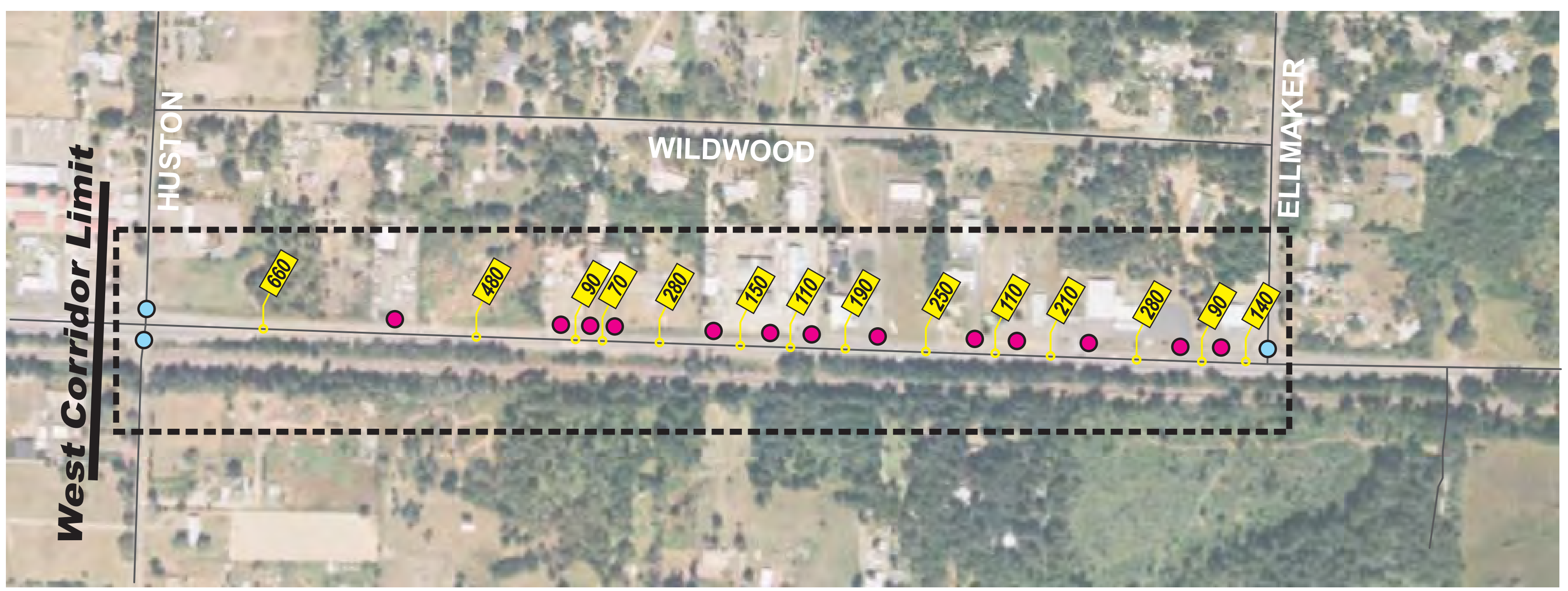
For properties that are currently dependent on direct highway access, consideration should be made for the sharing or consolidation of access points if they are to be redeveloped in the future. This would require the establishment of easements between property owners to allow for access and for efficient, inter-parcel circulation. These new properties should look for ways to divert traffic from OR 126W onto lower volume, lower speed side streets to improve the overall safety of the roadway network. Modifications to the network may also require some of the short-range strategies previously discussed, such as restriping of roadways to include turn lanes or the installation of non-traversable medians. Ultimately, the redevelopment of properties should take into account the long-range goal of the addition of a frontage or backage road. Therefore, easements and right of ways for the construction of these roads should be considered as land is redeveloped.

Long-Range Strategies (Comprehensive Approach)

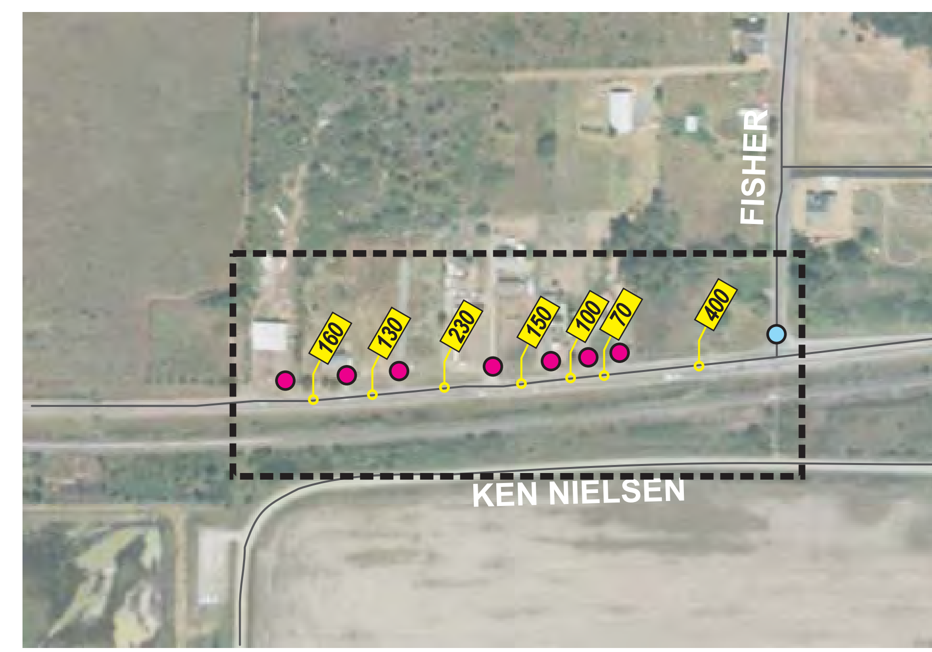
The westernmost section of the study corridor between Huston and Ellmaker Road has multiple, closely spaced driveways, which primarily serve local businesses. A backage road parallel to OR 126W may be a desirable solution for improving traffic flow and safety along this section of OR 126W. For example, Wildwood Road is an existing Lane County roadway 600 feet to the north. By connecting the properties along OR 126W to Wildwood Road, local connections would be provided to the properties. This additional access to these properties would reduce the need for local traffic to use OR 126W and allow more flexibility in implementing access management techniques along OR 126W.

Due to potential property impacts of a backage road between Huston Road and Ellmaker Road, this strategy would be best pursued as a long-range solution with incremental progress made in the medium-range (see prior discussion) as redevelopment occurs or other opportunities arise. A new backage roadway might also require the installation of turn lanes on Huston Road or Ellmaker Road to serve as a storage area for vehicles that are accessing the backage. The access to the backage road should also be spaced sufficiently far from OR 126 to avoid obstructions by vehicle queues. The additional turning movements that result for diversion to the backage road may trigger the need for traffic signals at the OR 126W/Huston Road and OR 126W/Ellmaker Road intersections.





INSET A



INSET B

LEGEND

- Driveway Access Location
- Roadway Access Location
- 000 - Distance (feet) Between Access Locations

DKS Associates
TRANSPORTATION SOLUTIONS

NO SCALE

Figure 2

ACCESS LOCATIONS

Appendix F. Technical Memorandum #10, Highway 126 Fern Ridge Corridor Plan – Preliminary Evaluation of Alternatives (Tier 1 Screening)

DKS Associates
TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM #10

TO: Project Management Team

FROM: Scott Mansur, P.E., P.T.O.E., DKS Associates
Peter Coffey, P.E., DKS Associates
Kevin Chewuk, DKS Associates

DATE: January 16, 2012

SUBJECT: **OR 126W Fern Ridge Corridor Plan – Preliminary Evaluation of Alternatives (Tier 1 Screening)** P09042-019-008

The purpose of this memorandum is to evaluate and compare proposed alternatives for the OR 126W Fern Ridge Corridor. A range of criteria was developed from the purpose, needs, goals and objectives (PNGO) for the project. The PNGO was created by the project management team (comprised of ODOT, City of Veneta, Lane County and Lane Transit District) and further revised based on feedback from the public. The criteria were used to compare and evaluate the multiple alternatives to help distinguish a set of preferred alternatives to be taken through the more rigorous Tier 2 screening process. This memorandum outlines the methodology and criteria utilized to compare the alternatives, in addition to summarizing the outcome of the evaluation by alternative and recommending those to advance to the Tier 2 screening process. For more detailed information regarding the preliminary evaluation of alternatives, see the Draft OR 126W Environmental Background and Screening Evaluation Report.

Alternatives Overview

Eight alternatives were evaluated within the OR 126W Fern Ridge Corridor along three potential routes. These alternatives follow one of three routes as shown in Figure 1 and summarized below.

- **OR 126W Route:** Five alternatives were evaluated along the OR 126W route from Huston Road to Green Hill Road. Alternatives considered included doing nothing, transportation system management improvements, spot improvements, and roadway widening to three and four lanes.
- **Southern Route:** Two alternatives were considered along the Perkins Road, Central Road, Cantrell Road and Crow Road route between Huston Road and Green Hill Road. Alternatives considered included widening various segments of this route to three lanes and widening portions of the shoulder as appropriate, or adding a multi-use trail for pedestrian and bicycle travel.
- **Northern Route:** One alternative was evaluated along the Territorial Highway, Clear Lake Road and Green Hill Road route around Fern Ridge Lake. The alternative would widen various segments of this route to three lanes and widen portions of the shoulder as appropriate.

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Table 1 summarizes the alternatives considered and their major elements. Overall, the alternatives vary based on the number of lanes on the roadway, shoulder width, modes accommodated and route.

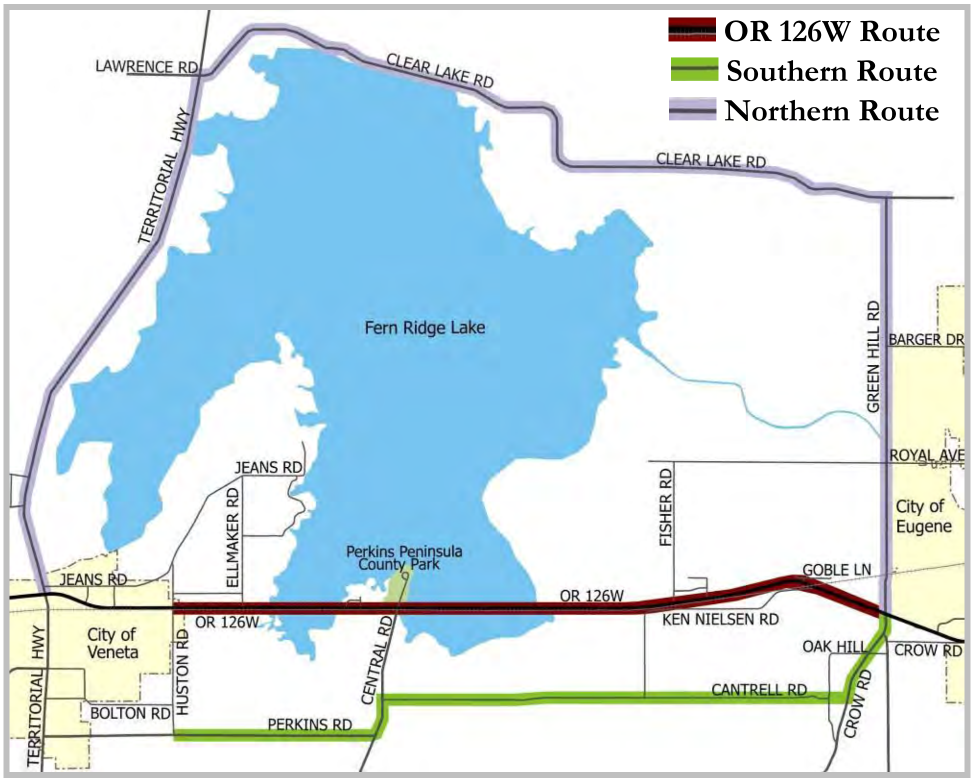


Figure 1: Routes Considered for Alternative Concepts

Widening OR 126W under the three or four lane alternative would require modification to the existing dike across Fern Ridge Lake. Two potential causeway options were evaluated: widening the existing dike to support the expanded roadway or replacing the dike with support piers allowing improved water flow under the roadway. Since subtle differences would be expected between the two causeway options for most of the evaluation criteria, they were evaluated as separate design options. Therefore, the three and four lane alternatives for OR 126W were each evaluated with a causeway on a dike and a causeway on piers.

Example of causeway built on a dike

Example of causeway built on piers

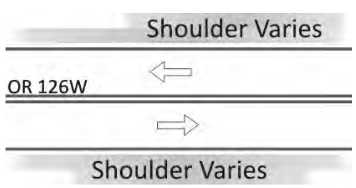
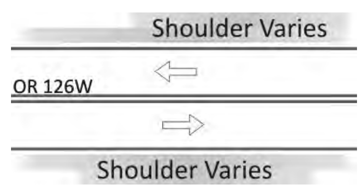
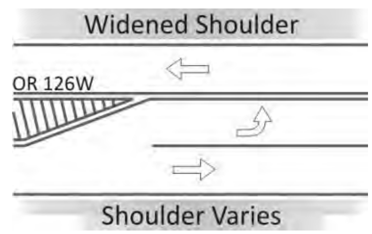
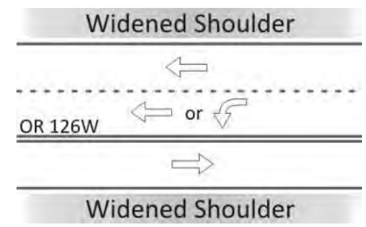
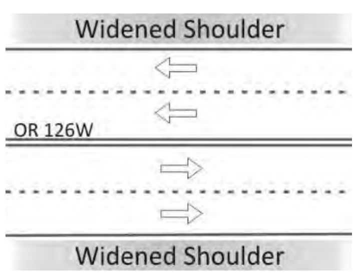
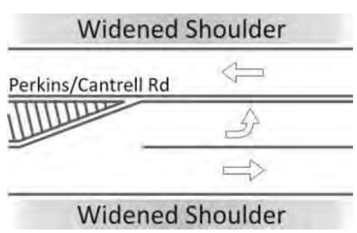
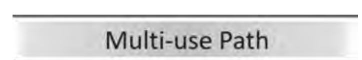
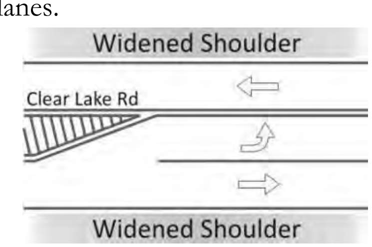
OR 126W- No Build Alternative	OR 126W- Transportation System Management Alternative	OR 126W- Spot Improvements Alternative	OR 126W- 3 Lane Alternative (Built on Dike or Piers)
No improvements are constructed. OR 126W would maintain one travel lane in each direction, with left turn lanes where they currently exist. The shoulders would continue to vary in size.  	No roadway widening (OR 126W would maintain the existing cross-section). Lower cost improvements would be implemented such as improved signing and roadway striping, alternate mobility standards or transit and access management enhancements.  	OR 126W would be modified where practical to include additional turn lanes, intersection improvements and shoulder widening. The shoulders would continue to vary in size and the roadway would transition between two and three lanes.  	OR 126W would be widened to include one travel lane in each direction and a center lane for either turning or passing as appropriate. The shoulders would be widened to eight feet. 
OR 126W- 4 Lane Alternative (Built on Dike or Piers)	**Southern Route- Perkins and Cantrell Alternative**	**Southern Route- Multi-use Path Only Alternative**	**Northern Route Alternative**
OR 126W would be widened to include two travel lanes in each direction. The shoulders would be widened to eight feet.  	Perkins and Cantrell Roads would be modified where needed to include additional turn lanes and widened shoulders. The roadways would transition between two and three lanes.  	A multi-use path for pedestrian and bicycle travel would be constructed between Huston Road and Green Hill Road generally near the Perkins and Cantrell Road alignments. No additional roadway improvements would be constructed (OR 126W would maintain the existing cross-section).  	Territorial Highway, and Clear Lake and Green Hill Roads would be modified where needed to include additional turn lanes and widened shoulders. The roadways would transition between two and three lanes. 

Table 1: Alternatives Considered and Major Elements

Evaluation Criteria

A variety of criteria were used to evaluate the alternatives proposed for the OR 126W Fern Ridge Corridor. The individual evaluation measures for each criteria were derived from the PNGO for the project. They were applied to each alternative to evaluate and compare them to one another. More information on the evaluation criteria can be found in the Draft OR 126W Environmental Background and Screening Evaluation Report[1].

The criteria used for evaluation focus on transportation, environmental, social and economic, and community planning goals. Each goal has multiple criteria and associated measures within it to allow for a multi-dimensional evaluation of each alternative. The following outlines the overarching goals developed with project management team and public input, and summarize the measures utilized for evaluation.

Transportation Goal: **Provide a multi-modal transportation system from Veneta to Eugene to meet existing and future safety and mobility needs for all transportation system users.** The 11 measures utilized in this goal focus on minimizing conflict points, increasing motor vehicle, freight and emergency vehicle mobility, minimizing impacts to railroad service, and providing safe and accessible pedestrian, bicycle, transit and motor vehicle facilities.

Alternatives providing for additional roadway capacity would generally be expected to more completely achieve these measures. The main difference to be expected with the scoring of the alternatives would be related to how effectively they address the safety and flow of the various travel modes along the corridor.

Environmental Goal: **Minimize the impacts to local environmental and community resources while incorporating opportunities to enhance those resources.** Seven measures were evaluated within this goal. These measures focus on the ability to minimize adverse impacts to natural, historical, cultural and visual resources, improving access to recreational areas, and supporting regional modal alternatives to the motor vehicle.

Alternatives that would not involve much roadway widening would generally be expected to have the lowest impact on resources, but would fare the worst in regards to increasing accessibility to recreational areas and improving pedestrian and bicycle facilities. On the other hand, alternatives that involve roadway widening would generally be expected to have the opposite impact, with the additional roadway capacity providing for enhanced access to recreational areas and widened shoulders providing for improved pedestrian and bicycle facilities. However, the larger roadway would have a greater impact on resources.

Social and Economic Goal: **Enhance the economic viability of the region including industrial, commercial, recreational, and tourist activities; protect the livability and integrity of the residential areas; provide a financially viable project.** Nine measures were evaluated within this goal. The measures are focused on improving access to residential, commercial and recreational areas, providing accessible transportation facilities, limiting project costs and property related impacts, supporting freight and rail travel, and maintaining consistency with local economic development plans.

Alternatives that involve roadway widening would be expected to improve multi-modal accessibility and would be most consistent with local economic development plans. However, they would have the most property related impacts and higher costs. Alternatives that would not involve much roadway widening would generally be expected to have the least property related impacts and lower costs, however, multi-modal accessibility would be the least improved among the alternatives.

Community Planning Goal: **Be consistent with the adopted long term goals and policies of the community and the region.** The ten measures utilized in this goal focus on consistency with state and local plans.

Alternatives providing for additional roadway capacity would generally be expected to more completely achieve these measures. The additional roadway capacity and widened shoulders would be most consistent with state and local plans.

Multi-Use Path Design "Option"

Within the Draft OR 126W Environmental Background and Screening Evaluation Report, a separated multi-use path design option was evaluated with the spot improvements alternative. Based on the ratings among these two alternatives, it was clear that providing a separated multi-use path for pedestrian and bicycle travel would be beneficial in comparison to the same alternative without that option. It was also evident based on public input that a separated multi-use path would be preferred to on-street bicycle facilities. For the purposes of this analysis a separated multi-use path design option was viewed as an option that could be added to any alternative. This allows for the potential to more comfortably and safely accommodate pedestrian and bicycle modes where there would be minimal impacts.

Evaluation Findings

Utilizing the outlined methodology and criteria, an evaluation was conducted for each of the eight alternatives. Three of the eight alternatives had additional design options that would affect the results of the screening evaluation and were therefore added. These three design options were related to the causeway on piers and causeway on a dike that was previously discussed as well as the separated multi-use path that would be considered as part of the spot improvements. The three additional alternatives with design options include:

- OR 126W Spot Improvements- Design Option: with separated Multi-use Path
- OR 126 Four Lane- Design Option with Causeway on Piers
- OR 126 Four Lane- Design Option with Causeway on Dike

Each alternative was evaluated based on the extent to which it achieved the measures of the criteria and scored on a scale from one (Poor) to three (Good). The evaluation criteria and measures are intended to help distinguish among the alternatives and determine which alternative best meets the

[1] Draft OR 126W Environmental Background and Screening Evaluation Report, December 2011

criteria. A lower score generally represents less of an opportunity to meet the criteria and a higher score represents a greater likelihood of meeting the criteria. More information on the evaluation findings can be found in the Draft OR 126W Environmental Background and Screening Evaluation Report.

Two scoring methods were applied to the evaluation criteria. The first method treats each evaluation criterion equally and results in a raw score for each alternative. As previously discussed, each of the four goals has a different number of criteria so this method could result in one of the goals having a greater number of criteria, which may skew the ranking of the alternatives. Therefore, a second method was applied that equalizes each of the project goals. As shown in Tables 2a and 2b, there was no change in the ranking of alternatives between the two different scoring methods.

Significant differences occurred within the "Transportation" scoring between the alternatives. Three lane and four lane roadways were favorable compared to smaller cross-sections, yet that came at the expense of a greater impact to properties and higher resource costs. A smaller cross-section would have fewer resource impacts. However, this was countered by minimal beneficial impact to multi-modal safety, mobility and accessibility through the corridor. It was clear from an evaluation standpoint that providing a separated multi-use path for pedestrian and bicycle travel would be beneficial in comparison to the same alternative without that option. But that would come at the detriment of potential additional property and environmental impacts as well as cost to implement.

Overall, the alternatives that were determined to have the greatest likelihood to meet the PNGO for the project included the four lane, three lane and spot improvements with multi-use path alternatives along the OR 126W route. These alternatives generally scored higher than the others within the "Transportation" and "Community Planning" goal and criteria. The No-Build alternative ranked lowest of the alternatives. Overall the primary differences in scoring of the alternatives were related to the impacts on multi-modal safety, mobility and accessibility through the corridor and overall consistency with state and local plans.

Fatal Flaw

Two of the alternatives (Multi-Use Path Only and Northern Route via Clear Lake Road) were determined to have fatal flaws under the "Transportation" goal and criteria. The Multi-Use Path Only Alternative would not address motor vehicle operational and safety factors on OR 126W. Traffic conditions on OR 126W would remain the same which would not meet the "Transportation" goal and criteria. Due to this fundamental flaw, the Multi-Use Path Alternative would not be recommended for further evaluation.

In addition, the Northern Route Alternative would require too much out-of-direction travel to serve as a viable parallel facility to OR 126W. This route would considerably increase the travel distance between Veneta and Eugene. Consequently, operational conditions on OR 126W would not significantly change which would not satisfy the intent of the "Transportation" goal and criteria. For this reason, the Northern Route Alternative would not be recommended for further evaluation.

Table 2a: Alternative Evaluation Rankings by Goal (Raw Score)

Goals	OR 126W- No Build	OR 126W- Transportation System Management	OR 126W- Spot Improvements	Design Option: Spot Improvements with Multi-Use Path	OR 126W- 3 lanes w/ Causeway on Dike	Design Option: 3 lanes w/ Causeway on Piers	OR 126W- 4 lanes w/ Causeway on Dike	Design Option: 4 lanes w/ Causeway on Piers	Southern Route- Perkins and Cantrell Roads	Southern Route- Multi-Use Path Only	Northern Route (Clear Lake Road)
Transportation	15	16	17	21	26	27	29	30	21	FF	FF
Environmental	18	18	19	15	12	15	11	15	13	-	-
Social and Economic	11	11	13	18	18	18	20	20	15	-	-
Community Planning	14	14	15	21	18	19	20	21	16	-	-
Total Raw Score	58	59	64	75	74	79	80	86	65	FF	FF
Ranking of Alternative	6	5	-	**3**	-	**2**	-	**1**	4	FF	FF

Table 2b: Alternative Evaluation Rankings by Goal (Equalized by Project Goals)

Goals	OR 126W- No Build	OR 126W- Transportation System Management	OR 126W- Spot Improvements	Design Option: Spot Improvements with Multi-Use Path	OR 126W- 3 lanes w/ Causeway on Dike	Design Option: 3 lanes w/ Causeway on Piers	OR 126W- 4 lanes w/ Causeway on Dike	Design Option: 4 lanes w/ Causeway on Piers	Southern Route- Perkins and Cantrell Roads	Southern Route- Multi-Use Path Only	Northern Route (Clear Lake Road)
Transportation	13.6	14.5	15.5	19.1	23.6	24.5	26.4	27.3	19.1	FF	FF
Environmental	25.7	25.7	27.1	21.4	17.1	21.4	15.7	21.4	18.6	-	-
Social and Economic	12.2	12.2	14.4	20	20	20	22.2	22.2	16.7	-	-
Community Planning	14	14	15	21	18	19	20	21	16	-	-
Total Equalized Score	65.5	66.4	72	81.5	78.7	84.9	84.3	91.9	70.4	FF	FF
Ranking of Alternative	6	5	-	**3**	-	**2**	-	**1**	4	FF	FF

Source: Draft OR 126W Environmental Background and Screening Evaluation Report, Table 7.1, December 2011

OR 126W Route	Southern Route	Northern Route

1 2 3
Poor·········Average·········Best

FF = Fatal Flaw

Next Steps

The three improvement alternatives with the greatest likelihood of meeting the project's PNGO will be forwarded to the next study phase, which will include a more rigorous screening evaluation (Tier 2 Screening). In addition, the No-Build alternative is required to be advanced to the Tier 2 Screening for the purpose of comparison with the other alternatives even though it ranked the lowest in meeting the project's PNGO.[2]

Since it was clear that providing a separated multi-use path for pedestrian and bicycle travel would be beneficial in comparison to the same alternative without that option (and also evident based on public input that a separated multi-use path would be preferred to on-street facilities), the separated multi-use path in the vicinity of the OR 126 alignment is recommended to be evaluated with the alternatives advancing to the Tier 2 screening process. A separated multi-use path that utilizes Ken Nielsen Road and Cantrell Road will be considered as a design option. In addition, the causeway on piers (which was previously a design option) improved the likelihood of meeting the PNGO of the project for the OR 126W three and four lane alternatives, and is recommended to be evaluated as part of the main alternative in the Tier 2 screening process. The causeway on dike will also be evaluated as a design option.

The southern route alternative along Perkins and Cantrell Roads would have a moderate effect on mobility and safety through the OR 126W corridor, however, this alternative would not effectively supplement a long-term solution if needed along the OR 126W corridor. Therefore, this alternative is not recommended to advance to Tier 2 Screening process.

Based on the criteria evaluation and rankings documented in the prior section of this memorandum, the following alternatives were recommended for advancement:

- **OR 126W 4 lane Alternative with Causeway on Piers and Adjacent Multi-Use Path**
  Design Options to consider:
    - Causeway on Dike
    - Separated Multi-Use Path (Southern Alignment)

- **OR 126W 3 lane Alternative with Causeway on Piers and Adjacent Multi-Use Path**
  Design Options to consider:
    - Causeway on Dike
    - Separated Multi-Use Path (Southern Alignment)

- **OR 126W Spot Improvements with the Separated Multi-Use Path Design Option**

- **No-Build Alternative**

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[2] The National Environmental Policy Act (NEPA) requires the No Build Alternative to be advanced and analyzed throughout the project development process.

While "OR 126W Spot Improvements" are listed above as a stand-alone alternative, a mixture of the spot improvements consistent with the final improvement recommendation may also be considered as short term modifications to OR 126W (i.e., as an earlier phase), while the multi-use path and the three lane or four lane widening could be implemented over time as funding allows. In addition, it is recommended that TSM elements be considered to supplement capital improvements because they can help ensure more efficient use of transportation investments in the long term. The likelihood that any one of these individual strategies or a combination thereof are able to address corridor transportation issues will be analyzed and further detailed during the Tier 2 screening process.

Appendix G. Technical Memorandum #11, Highway 126 Fern Ridge Corridor Plan – Refined Evaluation of Alternatives (Tier 2 Screening)

DKS Associates
TRANSPORTATION SOLUTIONS

TECHNICAL MEMORANDUM #11

TO: Project Management Team

FROM: Scott Mansur, P.E., P.T.O.E., DKS Associates
Peter Coffey, P.E., DKS Associates

DATE: April 27, 2012

SUBJECT: **OR 126W Fern Ridge Corridor Plan – Refined Evaluation of Alternatives (Tier 2 Screening)** P09042-019-008

The purpose of this memorandum is to further refine the proposed alternatives for the OR 126W Fern Ridge Corridor. A Tier 2 screening was applied to evaluate the alternatives and provide recommendations for alternatives to move forward in the corridor selection process. This memorandum provides an updated description of the remaining alternatives, outlines the Tier 2 screening methodology and criteria, in addition to summarizing the findings and recommendations for the next steps in the evaluation process.

Background

A Tier 1 screening was previously conducted on eight corridor alternatives as part of the process to identify a set of final alternatives. Based on the Tier 1 screening evaluation, three alternatives were identified to be carried forward to the Tier 2 screening evaluation. These alternatives were further refined with details beyond the concepts considered in Tier 1. All of the alternatives carried forward from the Tier 1 screening were for the OR 126W route from Huston Road to Green Hill Road (shown in Figure 1). The northern route and southern route alternatives were eliminated after the Tier 1 screening evaluation.

Final Alternatives Overview

The No-Build alternative and three route improvement alternatives were evaluated within the OR 126W Fern Ridge Corridor under the Tier 2 screening process. Although the Tier 1 screening found that the No-Build alternative ranked the lowest in meeting the project's objectives, it is required to be advanced to the Tier 2 Screening for the purpose of comparison with the other alternatives.[1] The alternatives considered in the Tier 2 screening are listed below.

- **No-Build Alternative**
- **OR 126W Spot Improvements**
- **OR 126W 3 Lane Alternative**
- **OR 126W 4 Lane Alternative**

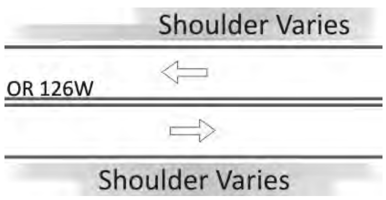
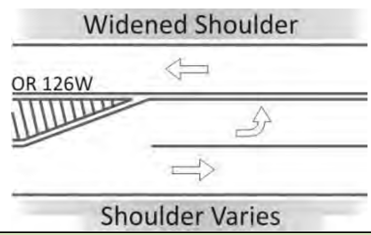
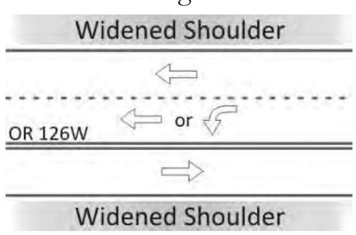
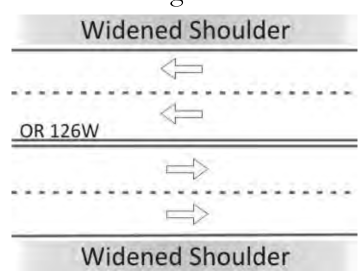
[1] The National Environmental Policy Act (NEPA) requires the No-Build Alternative to be advanced and analyzed throughout the project development process.

Figure 1: Final Alternative and Southern Path Design Option

Table 1 provides a description and sketch of the alternatives considered and their major elements. All of the alternatives follow the OR 126W alignment. The alternatives vary based on the number of lanes on the roadway, shoulder width, and intersection improvements. For consistency in the screening of alternatives, the build alternatives assume a separate multi-use path and the 3 Lane and 4 Lane alternatives assumed the existing dike would be widened[2]. There are design options for the widened roadway to be constructed on piers and location of the multi-use path that are presented later in this memorandum.

[2] The Tier 1 screening analysis considered two options for widening OR 126W in the areas where it is directly adjacent to Fern Ridge Lake. One option was to widen the dike, and the other option was to construct the entire widened roadway on piers.

Table 1: Summary of Tier 2 Alternatives

OR 126W No Build	OR 126W Spot Improvements
No improvements are constructed. OR 126W would maintain one travel lane in each direction, with left turn lanes where they currently exist. The shoulders would continue to vary in size. 	OR 126W would be modified where practical or necessary to address a safety or operational issue to include additional turn lanes, intersection improvements and shoulder widening. The shoulders would vary in size and the roadway would transition between two and three lanes. 
OR 126W 3 Lane with Multi Use Path	**OR 126W 4 Lane with Multi Use Path**
OR 126W would be widened to include one travel lane in each direction and a center lane for either turning or passing as appropriate. The shoulders would be widened to eight feet. The causeway would be on the existing dike. 	OR 126W would be widened to include two travel lanes in each direction. Dedicated left turn and right turn lanes would be provided at intersections and driveways where warranted. The shoulders would be widened to eight feet. The causeway would be on the existing dike. 

Evaluation Criteria

The Tier 1 screening criteria were carried forward and applied in the Tier 2 evaluation. The Tier 1 screening criteria was developed from the purpose, needs, goals and objectives for the project. The criteria focused on transportation, environmental, social and economic, and community planning goals. The details of the Tier 1 criteria are documented in the Preliminary Evaluation memorandum[3] and the Draft OR 126W Environmental Background and Screening Evaluation Report[4]. The Tier 1 and Tier 2 screening criteria descriptions are also provided in the appendix to this memorandum. In the Tier 1 screening process the concept alternatives were rated on a scale of 1 to 3 while in the Tier

[3] OR 126W Fern Ridge Corridor Plan – Preliminary Evaluation of Alternatives (Tier 1 Screening), DKS Associates, January 16, 2012.
[4] Draft OR 126W Environmental Background and Screening Evaluation Report, December 2011.

2 process the more refined alternatives provided more differentiation and were rated on a scale of 1 to 5. The Tier 2 process also considered additional factors such as construction cost, constructability and permitting.

Mobility Analysis

A traffic operations analysis of future conditions was conducted for each alternative. The findings of the analysis were used in the Tier 2 screening for the Transportation criteria. The operations analysis was conducted for future year 2035 conditions at study intersections. The future 2035 volume forecasts and methodology are provided in the Future Travel Forecast and Needs Analysis memorandum[5].

Based on the analysis, the 4 Lane alternative performed the best with all study intersections meeting Oregon Highway Plan (OHP) mobility targets for the future 2035 scenario. The No Build, 3 Lane and Spot Improvement alternatives each had several study intersections that would not meet OHP mobility targets. The details of the operations analysis is provided in the appendix to this memorandum.

Evaluation Findings

In the Tier 2 screening evaluation, each alternative was evaluated and rated based on how well it achieved the measures set for each of the criteria; scoring was on a scale from one (poor achievement) to five (best achievement). The evaluation was intended to help distinguish differences between the alternatives and aid decision makers in determining which alternative best met the various project criteria. A lower score generally represents less of an opportunity to meet the criteria and a higher score represents a greater likelihood of meeting the criteria.

As in the Tier 1 screening, two scoring methods were applied to the evaluation criteria. The first method treats each evaluation criterion equally and results in a raw score for each alternative. Because each of the four goals is comprised of a different number of criteria this method could result in the goals having a greater number of criteria skewing the ranking of the alternatives. Therefore, a second method was applied that equalized each of the project goals. The Tier 2 screening evaluation scoring is summarized in Tables 2a and 2b.

[5] OR 126W Fern Ridge Corridor Plan – Future Travel Forecast and Needs Analysis, DKS Associates, December 7, 2011.

Table 2a: Tier 2 Screening Evaluation by Goal (Raw Score)

Goals	OR 126W No Build	OR 126W Spot Improvements	OR 126W 3 Lanes	OR 126W 4 Lanes
Transportation	19	39	42	48
Environmental	30	28	24	19
Social and Economic	13	21	33	37
Community Planning	17	39	40	41
Total Raw Score	**79**	**127**	**139**	**145**
Ranking of Alternative	**4**	**3**	**2**	**1**

Build alternatives assume causeway on dike and separated multi-use path.

Tier 2 scoring range:	1	2	3	4	5
	Poor	Fair	Average	Good	Best

Table 2b: Tier 2 Screening Evaluation by Goal (Equalized Score)

Goals	OR 126W No Build	OR 126W Spot Improvements	OR 126W 3 Lanes	OR 126W 4 Lanes
Transportation	17	35	38	44
Environmental	43	40	34	27
Social and Economic	14	23	37	41
Community Planning	15	35	36	37
Total Equalized Score	**90**	**134**	**145**	**149**
Ranking of Alternative	**4**	**3**	**2**	**1**

Build alternatives assume causeway on dike and separated multi-use path.

Tier 2 scoring range:	1	2	3	4	5
	Poor	Fair	Average	Good	Best

There was no change in the ranking of alternatives between the two different scoring methods. Overall, the alternative that was determined to have the greatest likelihood of meeting the project goals was the 4 Lane alternative. The 3 Lane alternative ranked a close second based on the scoring. The spot improvement alternative and the No Build alternative were ranked a distance third and fourth, respectively.

Design Options

For consistency in the Tier 2 screening, the build alternatives assume the multi-use path would be separate from the corridor and the 3 Lane and 4 Lane alternatives assumed the existing dike would be widened. There are design options for the multi-use path and the causeway that could be applied to the build alternatives to modify the corridor project. The design options are described below.

Causeway Design Option

Widening OR 126W under the 3 or 4 Lane alternative would require modification to the existing dike across Fern Ridge Lake. Two potential causeway options are widening the existing dike to support the expanded roadway or replacing the dike with support piers allowing improved hydraulic flow under the roadway. Overall, the causeway design options were found to have negligible differences in regards to meeting project objectives in the Tier 2 screening process. The main difference between the causeway design options would be the environmental impact, which would be expected to be slightly higher with the dike, since the support pier option would allow improved water flow under the roadway. The pier option would also contribute to greater traffic impacts during construction than the dike as the existing OR 126 segment would have to be removed and replaced with pier structure requiring a detour traffic route that would add substantial out of direction travel. The cost for support pier design option is expected to be significantly higher than the widened dike option as discussed later in this memorandum.

Multi-Use Path Design Option

Results of the previously conducted Tier 1 screening evaluation indicated that providing a multi-use path for pedestrian and bicycle travel was a priority. Two potential multi-use path location options were considered: (1) locating the facility adjacent to OR 126W and (2) providing a separated multi-use path located to the south along Perkins Road, Cantrell Road and Ken Nielsen Road with a connection to the Fern Ridge Path at Greenhill Road (shown in Figure 1).

The multi-use path options were screened with the Tier 2 criteria to assess how well they would each meet the project goals. Overall, the multi-use path design options were found to have negligible differences in regards to meeting project objectives. The separated multi-use path located south of OR 126W met the project objectives best for the transportation and environmental goals, while the multi-use path adjacent to OR 126 best met the social and economic and community planning goals. The separate multi-use path option would be expected to improve pedestrian and bicycle safety and minimize several potential environmental impacts when compared to the adjacent path design option. However, the separate path would require its own construction project with separate funding which may be a challenge and delay the improvements. The adjacent multi-use path would be expected to enhance pedestrian and bicycle access to residential, commercial and natural areas and promote transit service more so than the separated path design option. While only subtle differences would be expected between the two multi-use path design options in regards to meeting the project objectives, it is recommended that the separated path design option along Perkins Road, Cantrell Road and Ken Nielsen Road be advanced as the recommended option since it is the preferred alignment from the public's perspective. However, due to the subtle differences between the two options, we recommend that both options be moved forward for further evaluation. It should be noted that the adjacent multi-use path is the preferred option by Lane County

Engineering. However, they are in agreement that both alternatives should move forward as was previously recommended.

Table 3: Multi-Use Path Design Options Tier 2 Screening Evaluation by Goal

Goals	Adjacent Design Option: OR 126W Multi-Use Path	Separated Design Option: Perkins-Cantrell-Ken Nielsen Road
Transportation	33	35
Environmental	18	22
Social and Economic	33	30
Community Planning	38	36
Total Raw Score	**122**	**123**

Notes: Scores are equalized by Project Goals

Construction Costs, Constructability and Permitting

Planning level cost estimates were prepared for each alternative to help assess their potential to move forward in the corridor selection process. The cost estimates assumed the causeway would be located on the existing dike and the multi-use path would be separated from and located south of the highway. The estimates include preliminary costs for construction, permitting, right-of-way acquisitions as well as future environmental,(EA/EIS) efforts. These cost estimates do not include cost associated with off-site environmental mitigations that would likely be required. The cost estimates for each build alternative are summarized in Table 4, and the cost estimate details are provided in the appendix to this memorandum.

Table 4: Alternative Preliminary Cost Estimates

Alternative	OR 126W Spot Improvements	OR 126W 3 Lanes	OR 126W 4 Lanes
Cost Estimate	$15 M	$95 M	$130 M

Build alternatives assume causeway on dike and separated multi-use path.

As shown in Table 4, the Spot Improvements alternative has a significantly lower cost than the other alternatives. However, as indicated in Tables 2a and 2b, the Spot Improvements alternative scored poorly in meeting all of the project goals, which would suggest that the spot improvements alternative could serve as an interim solution to achieve some of the project goals in the short term. The significant costs of the 3 Lane and 4 Lane alternatives would likely require a long term schedule for funding and construction. As previously mentioned, the cost estimates provided in Table 4 for the 3 Lane and 4 Lane alternatives are based on the assumption that the existing dike would be widened and the three existing bridge structures would be replaced with wider structures. If the design option to construct OR 126 on piers over environmentally sensitive areas is implemented instead of the dike widening, it would add approximately $47 million and $65 million to the cost estimates for the 3 Lane and 4 Lane alternatives shown in Table 4 respectively.

Constructability considerations for the three roadway improvement alternatives reflect the cost estimates. The spot improvements would be the easiest to construct since they do not include significant widening throughout the corridor and are contained within several specific locations (see Spot Improvement Figure attached in the appendix). Both the 3 Lane and 4 Lane alternatives will be significantly more difficult to construct with the fill that would be required in the adjacent reservoir and the traffic staging and detours that would be necessary. The widening of the dike along Fern Ridge Reservoir would extend the roadway northward approximately 25' to 37' beyond the existing roadway, catching at a 3:1 slope. The widening to the south will not be as wide, but require the same level of construction effort. This work must occur when the reservoir is drawn down and will likely require soil consolidation and/or a combination of rock embankment. Additional right-of-way will likely be necessary for both the 4 Lane and 3 Lane cross-sections..

Environmental considerations also differ between the spot improvements alternative and the 3 Lane and 4 Lane alternatives. Based on coordination with several of the permitting agencies and environmental reconnaissance[6], there are no issues expected with any of the alternatives as they relate to the necessary permits that would be required. However, it is likely that the 3 Lane and 4 Lane alternatives would require mitigation measures to address environmental impacts from the larger roadway footprint. The range of possible mitigation measures would not be known until the next stage of environmental review; however, because of the extent of protected resources, it is reasonable to assume that the wider 4 Lane alternative and the structure on piers design option would require a greater degree and cost for mitigation. The cost estimates previously discussed include a contingency for on-site water quality mitigation; typical options include storm structures, ponds, and swales. Off-site mitigation was not considered in any alternative cost estimate.

Next Steps

Based on the Tier 2 criteria evaluation, rankings, and cost estimates, we recommend that the 4 Lane alternative be considered as the preferred alternative for the OR 126 corridor. We also recommend that the Spot Improvements alternative be moved forward since this will likely be implemented as the short-term improvement scenario due to the high construction cost of the 4 Lane alternative.

The key findings of the Tier 2 evaluation are summarized below.

- The 4 lane alternative was determined to have the greatest likelihood to meet the project goals and is recommended as the preferred alternative. This alternative could be accomplished either by widening the dike or putting the highway on a causeway on piers.

[6] Several coordination meetings have occurred between ODFW, ODOT and USACE.

- The Spot Improvements could serve as an interim solution to achieve some of the project goals in the short term and therefore should be moved forward along with the 4 Lane alternative.
- The 4 Lane alternative would come with a high construction cost ($125 million to widen the dike and $190 million for a causeway) and could create significant impacts to the traveling public during construction.
- It is recommended that the separated path design option along Perkins Road, Cantrell Road and Ken Nielsen Road be advanced as the recommended option. However, since there were negligible differences between the two pathway options, the multi use path adjacent to OR 126 should also be moved forward for further evaluation.
- The selection of the multi-use pathway and causeway design options will likely be determined through the NEPA and Project Development process.

Appendix

	Tier 2 Evaluation Criteria	OR 126W No-Build	OR 126 Spot Improvements with Separated Multi-Use Path	OR 126W 3 Lanes with Causeway on Dike	OR 126W 3 Lanes with Causeway on Piers	OR 126W 4 Lanes with Causeway on Dike	OR 126W 4 Lanes with Causeway on Piers	Adjacent Design Option: OR 126W Multi-Use Path	Seperated Design Option: Perkins-Cantrell-Ken Neilsen Road
	Transportation								
1	Reduce potential conflict points such as intersections and driveways	1	4	4	5	4	5	0	0
2	Improve pedestrian safety and accessibility	1	5	5	5	5	5	4	5
3	Improve bicycle safety and accessibility	1	5	5	5	5	5	4	5
4	Improve overall traffic safety	1	3	4	4	5	5	4	4
5	Improve east/west vehicle capacity	1	2	3	3	5	5	3	3
6	Promote public transit service	1	3	3	3	3	3	5	3
7	Improve mobility along corridor, including freight	1	3	4	4	5	5	4	4
8	Improve emergency vehicle response time	1	2	3	3	5	5	3	3
9	Strive to meet ODOT mobility standards	1	2	3	3	5	5	3	3
10	Minimize impacts to the railroad for freight movements	5	5	4	4	3	3	3	4
11	Minimize impacts to the railroad that limit opportunities for future rail transit	5	5	4	4	3	3	3	4
	Transportation Raw Score	19	39	42	43	48	49	36	38
	Transportation Equalized Score	17	35	38	39	44	45	33	35
	Environmental								
12	Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake	5	5	3	4	2	3	2	3
13	Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas	5	4	4	4	2	2	3	4
14	Avoid or minimize adverse permanent and temporary impacts to identified historical resources.	5	4	4	4	4	4	4	4
15	Avoid or minimize adverse permanent and temporary impacts to cultural resources	5	4	2	2	2	2	2	2
16	Avoid or minimize adverse permanent and temporary impacts to visual resources	5	4	3	3	2	2	3	3
17	Provide, maintain, and improve access to existing parkland and recreational facilities, where practicable	1	3	5	5	5	5	4	5
18	Be consistent with ODFW Fern Ridge Wildlife Area Plan	4	4	3	5	2	4	2	3
	Environmental Raw Score	30	28	24	27	19	22	20	24
	Environmental Equalized Score	43	40	34	39	27	31	29	34
	Social and Economic								
19	Support community livability by improving multi-modal access to residential areas	1	2	3	3	3	3	5	3
20	Support community livability and economics by improving multi-modal access to commercial areas	1	2	3	3	4	4	4	3
21	Support community livability and economics by improving multi-modal access to recreational / tourist areas	1	3	5	5	5	5	4	5
22	Support area economic vitality by improving roadway geometrics for freight movements	1	2	4	4	5	5	4	4
23	Be consistent with City of Veneta Economic Development Strategic Plan	1	2	4	4	5	5	4	4
24	Be consistent with Lane County Regional Economic Development Strategies	1	2	4	4	5	5	4	4
25	Provide transportation facilities which are accessible to all community members and users	1	3	4	4	4	4	5	4
26	Minimize impacts to properties along the corridor	5	3	2	2	1	1	2	2
27	Support rail opportunities for Veneta's industrial areas	1	2	4	4	5	5	4	4
	Social and Economic Raw Score	13	21	33	33	37	37	36	33
	Social and Economic Equalized Score	14	23	37	37	41	41	40	37
	Community Planning								
28	Improve access opportunities to Fern Ridge Lake along the corridor	1	3	3	3	3	3	5	3
29	Improve access to Perkins Peninsula County Park	1	3	3	3	3	3	5	3
30	Be consistent with Oregon Highway Plan	1	3	4	4	5	5	4	4
31	Be consistent with Oregon Bicycle and Pedestrian Plan	1	5	4	4	4	4	4	4
32	Be consistent with Lane County Transportation System Plan	1	3	4	4	5	5	4	4
33	Be consistent with Fern Ridge Path System: Visions and Strategies	1	5	5	5	5	5	4	5
34	Be consistent with City of Veneta Comprehensive Plan	1	2	4	4	5	5	4	4
35	Be consistent with Lane County Land Use Code	5	4	3	3	2	2	3	3
36	Support regional bicycle/pedestrian plans	1	5	5	5	5	5	4	5
37	Support planned parkland and recreational facilities, where practicable	1	3	3	3	3	3	3	3
38	Be consistent with USACE Fern Ridge Operational Management Plan	3	3	2	2	1	1	2	2
	Community Planning Raw Score	17	39	40	40	41	41	42	40
	Community Planning Equalized Score	15	35	36	36	37	37	38	36
	Total Raw Score	79	127	139	143	145	149	134	135
	Total Equalized Score	90	134	145	151	149	154	139	142

Point Scale

1 - Poor
2 - Fair
3 - Average
4 - Good
5 - Best

Future 2035 Study Intersection Peak Hour Performance (No Build Alternative)

Intersection[a]	Mobility Standard[b]		30th Highest Hour (v/c Ratio)[c,d]	
	Mainline	*Side Street*	*Mainline*	*Side Street*
Signalized				
(22) OR 126W/Green Hill Rd	0.80 v/c		**1.04**	
Unsignalized				
(1) OR 126W/Huston Rd	0.70 v/c	0.80 v/c	0.55 (WB-T)	**0.83 (NB-LTR)**
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.80 v/c	0.67 (WB-T)	0.62 (SB-LR)
(16) OR 126W/Shady Rest Dr	0.70 v/c	0.80 v/c	**0.75 (WB-TR)**	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.80 v/c	**0.74 (WB-LTR)**	0.00 (NB-LTR)
(18) OR 126W/Central Rd	0.70 v/c	0.80 v/c	**0.74 (WB-TR)**	**1.30 (NB-LTR)**
(19) OR 126W/Fisher Rd	0.70 v/c	0.80 v/c	**0.78 (WB-TR)**	**0.98 (SB-LR)**
(20) OR 126W/Richmond St	0.70 v/c	0.80 v/c	**0.78 (WB-TR)**	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen Rd	0.70 v/c	0.80 v/c	**0.78 (WB-LT)**	0.01 (NB-LTR)
Driveways				
(2) OR 126W/Driveway 1	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.03 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.02 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.06 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.07 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.12 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.80 v/c	0.67 (WB-TR)	0.14 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.80 v/c	0.67 (WB-TR)	0.01 (SB-LR)

[a] Numbers correspond with Technical Memorandums #2 (Existing Conditions) and #8 (Future Needs).
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Future 2035 Study Intersection Peak Hour Performance (3-Lane Alternative)

Intersection[a]	Mobility Standard[b]		30th Highest Hour (v/c Ratio)[c,d]	
	Mainline	*Side Street*	*Mainline*	*Side Street*
Signalized				
(22) OR 126W/Green Hill Rd	0.85 v/c		**1.04**	
Unsignalized				
(1) OR 126W/Huston Rd	0.80 v/c	0.90 v/c	0.55 (WB-T)	0.83 (NB-LTR)
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.75 v/c	0.67 (WB-T)	0.62 (SB-LR)
(16) OR 126W/Shady Rest Dr	0.70 v/c	0.75 v/c	**0.75 (WB-TR)**	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.75 v/c	**0.74 (WB-TR)**	0.00 (NB-LTR)
(18) OR 126W/Central Rd	0.70 v/c	0.75 v/c	**0.74 (WB-TR)**	**1.32 (NB-LTR)**
(19) OR 126W/Fisher Rd	0.70 v/c	0.75 v/c	**0.78 (WB-TR)**	**0.98 (SB-LR)**
(20) OR 126W/Richmond St	0.70 v/c	0.75 v/c	**0.78 (WB-TR)**	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen Rd	0.70 v/c	0.75 v/c	**0.78 (WB-T)**	0.01 (NB-LTR)
Driveways				
(2) OR 126W/Driveway 1	0.80 v/c	0.90 v/c	0.69 (WB-TR)	0.01 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.03 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.75 v/c	0.68 (WB-TR)	0.02 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.01 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.01 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.75 v/c	0.68 (WB-TR)	0.07 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.75 v/c	0.68 (WB-TR)	0.08 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.75 v/c	0.67 (WB-TR)	0.10 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.75 v/c	0.67 (WB-TR)	0.00 (SB-LR)

[a] Numbers correspond with Technical Memorandums #2 (Existing Conditions) and #8 (Future Needs).
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Future 2035 Study Intersection Peak Hour Performance (4-Lane Alternative)

Intersection[a]	Mobility Standard[b]		30th Highest Hour (v/c Ratio)[c,d]	
	Mainline	*Side Street*	*Mainline*	*Side Street*
Signalized				
(22) OR 126W/Green Hill Rd	0.85 v/c		0.67	
Unsignalized				
(1) OR 126W/Huston Rd	0.80 v/c	0.90 v/c	0.37 (WB-T)	0.62 (SB-LTR)
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.75 v/c	0.44 (WB-T)	0.55 (SB-LR)
(16) OR 126W/Shady Rest Dr	0.70 v/c	0.75 v/c	0.50 (WB-T)	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.75 v/c	0.49 (WB-T)	0.00 (NB-LTR)
(18) OR 126W/Central Rd	0.70 v/c	0.75 v/c	0.49 (WB-T)	0.62 (NB-LTR)
(19) OR 126W/Fisher Rd	0.70 v/c	0.75 v/c	0.52 (WB-T)	0.53 (SB-LR)
(20) OR 126W/Richmond St	0.70 v/c	0.75 v/c	0.52 (WB-T)	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen Rd	0.70 v/c	0.75 v/c	0.39 (WB-T)	0.01 (NB-LTR)
Driveways				
(2) OR 126W/Driveway 1	0.80 v/c	0.90 v/c	0.46 (WB-T)	0.01 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.75 v/c	0.46 (WB-T)	0.01 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.75 v/c	0.46 (WB-T)	0.02 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.75 v/c	0.46 (WB-T)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.75 v/c	0.46 (WB-T)	0.01 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.75 v/c	0.46 (WB-T)	0.01 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.75 v/c	0.46 (WB-T)	0.02 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.75 v/c	0.46 (WB-T)	0.01 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.75 v/c	0.46 (WB-T)	0.01 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.75 v/c	0.45 (WB-T)	0.03 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.75 v/c	0.45 (WB-T)	0.05 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.75 v/c	0.44 (WB-T)	0.07 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.75 v/c	0.45 (WB-T)	0.00 (SB-LR)

[a] Numbers correspond with Technical Memorandums #2 (Existing Conditions) and #8 (Future Needs).
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Future 2035 Study Intersection Peak Hour Performance (Spot Improvements Alt)

Intersection[a]	Mobility Standard[b]		30th Highest Hour (v/c Ratio)[c,d]	
	Mainline	*Side Street*	*Mainline*	*Side Street*
Signalized				
(1) OR 126W/Huston Rd	0.80 v/c		0.72	
(18) OR 126W/Central Rd	0.70 v/c		**0.84**	
(22) OR 126W/Green Hill Rd	0.85 v/c		**1.04**	
Unsignalized				
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.75 v/c	0.67 (WB-T)	0.62 (SB-LR)
(16) OR 126W/Shady Rest Dr	0.70 v/c	0.75 v/c	**0.75 (WB-TR)**	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.75 v/c	**0.74 (WB-TR)**	0.00 (NB-LTR)
(19) OR 126W/Fisher Rd	0.70 v/c	0.75 v/c	**0.78 (WB-TR)**	**0.98 (SB-LR)**
(20) OR 126W/Richmond St	0.70 v/c	0.75 v/c	**0.78 (WB-TR)**	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen Rd	0.70 v/c	0.75 v/c	**0.78 (WB-T)**	0.01 (NB-LTR)
Driveways				
(2) OR 126W/Driveway 1	0.80 v/c	0.90 v/c	0.69 (WB-TR)	0.01 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.03 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.75 v/c	0.68 (WB-TR)	0.02 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.01 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.75 v/c	0.69 (WB-TR)	0.01 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.75 v/c	0.68 (WB-TR)	0.07 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.75 v/c	0.68 (WB-TR)	0.08 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.75 v/c	0.67 (WB-TR)	0.10 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.75 v/c	0.67 (WB-TR)	0.00 (SB-LR)

[a] Numbers correspond with Technical Memorandums #2 (Existing Conditions) and #8 (Future Needs).

[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.

[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.

[d] **Bold Shaded** values do not meet mobility standards.

Appendix H. Highway 126 Fern Ridge Corridor Environmental Background and Screening Evaluation Report

OR 126W: Huston Road – Green Hill Road

Submitted to:
ODOT – Region 2
455 Airport Road, Building B
Salem, Oregon 97301-5395

ENVIRONMENTAL BACKGROUND AND SCREENING EVALUATION REPORT – DRAFT

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February 2012

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1. Summary

1.1. Study Purpose

The OR 126W: Fern Ridge Corridor Plan study is a component of a larger multi-phase effort to develop solutions for improving the portion of OR 126W between the cities of Veneta and Eugene. The six-mile OR 126W corridor is referred to as the Florence-Eugene Highway (Highway 62) between Huston Road (Milepoint 47.84) and Richmond Street (Milepoint 52.69) and referred to as the Beltline Highway (Highway 69) between Richmond Street (Milepoint 0) and Green Hill Road (Milepoint 1.28).This first phase of the project includes developing a preliminary understanding and inventory of the transportation and environmental conditions in the Corridor, identifying facility deficiencies and opportunities, creating and evaluating conceptual alternative solutions, and preparing a Corridor Plan, which includes recommendations for the most viable solutions that can be implemented within the foreseeable future (+/- 20 year planning horizon).

It is anticipated that Oregon Department of Transportation (ODOT) will utilize federal funds for the implementation of a proposed solution (an improvements project). Because ODOT will use federal funds, the project will be required to comply with the National Environmental Policy Act (NEPA) and other relevant federal, state and local laws and regulations. Subsequent project phases would develop and select one or more preferred alternatives to advance to detailed design, analyze the environmental impacts of the action, complete the appropriate NEPA environmental documentation for decision making purposes, and prepare preliminary and final design and construction documents for the preferred alternative.

1.2. Report Purpose and Organization

The purpose of this report is to summarize (1) transportation and environmental background information and (2) the findings and recommendations of a screening level review of concept alternatives for the Fern Ridge Corridor. This report will be used by decision makers to determine which conceptual alternatives should be advanced for further evaluation and eventual implementation. This report is organized as follows:

- **Chapter 2. Introduction**: This chapter describes the purpose of the study, the project and its study area, the problem statement for the project, the secondary goals and objective to be achieved by the project, and the criteria used to evaluate conceptual alternatives.
- **Chapter 3. Study Process**: This chapter provides a description of the study process.
- **Chapter 4. Alternatives Overview**: This chapter describes the conceptual alternatives considered in this screening level evaluation.

- **Chapter 5. Problem Statement**: This chapter describes the findings from screening conceptual alternatives for their ability to meet the Corridor's purpose statement and establishes the foundation for the draft Purpose and Need and identifies the alternatives advanced for further evaluation.
- **Chapter 6. Environmental Considerations**: This chapter presents the transportation and environmental conditions in the Corridor. For each environmental discipline, there is a discussion of the data sources and collection methods; relevant regulations, policies and plans; transportation and environmental conditions; and, conclusions relevant to the project. This chapter also includes a discussion of the resulting opportunities and constraints to alternative solutions in the Corridor.
- **Chapter 7. Alternatives Screening and Evaluation**: This chapter presents the findings from screening the conceptual alternatives advanced from the Purpose and Need screening and recommendations for eliminating alternatives from further consideration and advancing alternatives to the next level of evaluation.
- **Chapter 8. Outreach Program**: This chapter summarizes the stakeholder input process and input received about the action at various phases in the project.
- **Chapter 9. Recommended Alternatives and Next Steps**: This chapter presents recommended alternatives to move forward to the next phase of evaluation.
- **Chapter 10. Permits and Approvals**: This chapter presents a listing of potential permits and approvals that may be required for implementation of corridor improvements.
- **Chapter 11. Glossary of Acronyms, Abbreviations, and Terms**: This chapter includes definitions for acronyms, abbreviations and terms used in this report.
- **Chapter 12. References**: This chapter lists the references and sources consulted in preparing this report.

1.3. Problem Statement

OR 126 West (OR 126W) between Eugene and Veneta is a two-lane highway that has existing multi-modal, safety, and operational needs that are expected to worsen over time. The highway provides an important regional connection for commuters, freight, residents and tourists traveling between the two cities and to the Oregon Coast. However, the highway travels through an environmentally sensitive area and has limited connectivity and available right-of-way due to the adjacent railroad tracks and the Fern Ridge Reservoir. The Oregon Department of Transportation is conducting the *OR 126W: Fern Ridge Corridor Plan* to identify and evaluate a range of alternatives that would improve the highway's safety and function in order to meet safety and mobility needs for all transportation system users.

1.4. Alternatives Considered

There are eight alternatives under consideration within three general transportation alignments: existing OR 126W, southern route along Perkins and Cantrell Roads, and a northern alternate route around Fern Ridge Lake.

The existing OR 126W alignment is bound on the west by Huston Road and on the east by Green Hill Road. Five preliminary alternatives (with one design option for each build alternative) within the corridor study alignment are proposed for consideration including the No-Build, or no action, Alternative:

- No-Build Alternative
- Transportation System Management Alternative
- Spot Improvements Alternative
  - Design Option: With Adjacent Multi-Use Path
- Three-Lane Cross Section Alternative – Causeway on Dike (Earth/Rock)
  - Design Option: Causeway on Piers
- Four-Lane Cross Section Alternative – Causeway on Dike (Earth/Rock)
  - Design Option: Causeway on Piers

The alignment for the southern route along Perkins and Cantrell Roads is bound on the west by Huston Road and connects to OR 126W at Green Hill Road. The study alignment would follow Perkins Road and Cantrell Road. Two potential alternatives along this alignment include:

- Two-Lane Cross Section with Intersection Turning Lanes Alternative
- Multi-Use Path Alternative

Under the northern route, there is one alternative to connect and improve existing facilities wherever possible. The route would utilize Green Hill, Clear Lake, and Territorial Roads to circumnavigate the north side of the lake from Eugene to Veneta. This alternative would modernize these existing facilities to a two-lane cross section with intersection turning lanes.

A No-Build Alternative, often called a "no action" alternative, was also considered. No improvements would be made under this alternative, except for improvements already planned for in state and regional transportation planning programs (i.e., Lane County Transportation System Plan (TSP), City of Veneta TSP, Metropolitan Transportation Improvement Program (MTIP), State Transportation Improvement Program (STIP)). This alternative provides a basis for comparing the potential benefits and impacts of the other alternatives under consideration.

1.5. Environmental Background Review and Conclusions

An assessment of existing conditions occurred for the various disciplines under consideration. Particularly sensitive resources in the corridor include wetlands and water resources, Section 4(f) resources (public parkland and wildlife refuge area), and rare plant critical habitat. Other regulatory and constraining features in the project study area include the railroad line paralleling the south side of OR 126W and Lane County-zoned farmland. As alternatives are refined, consideration must be given to avoiding and minimizing impacts to these resources. More detail regarding resource lands and possible regulatory requirements is provided in Section 6.

1.6. Screening Level Evaluation and Findings

The purpose of the screening effort is to determine which alternatives hold the most promise in terms of meeting the project's draft Purpose and Need statement and its goals and objectives and, therefore, should be carried forward to future phases of the project for further consideration. A two-step process was used to narrow the broader range of alternatives to a smaller range of alternatives for further study. The screening process evaluates each alternative in terms of its potential adverse or beneficial effect to the project area environment. This included consideration of a number of issues including traffic conditions, access, pedestrian and bicycle circulation, economic development, effects to parks and natural resources, and compliance with local plans, among others. The two steps used in this study were:

- **Screening for Purpose and Need.** The first level of screening gauges whether an alternative addresses the project's draft Purpose and Need (described in Section 2.4). For the range of alternatives listed in Section 1.3 and further described in Chapter 4, six of the alternatives (plus three design options) have the potential to address the project's Purpose and Need and were recommended for advancement to the next level of evaluation (the criteria evaluation). The two alternatives not recommended for advancement were the Northern Route around Fern Ridge Lake and the Multi-Use Path along the OR 126Wsouthern route.
- **Evaluation of Criteria.** In the criteria evaluation, the advanced alternatives were scored based on the project criteria—the higher the point total the better the alternative is in meeting the project's draft goals and objectives. The scoring totals show the OR 126W Four-Lane Cross Section Alternative as the highest ranked, with the Causeway - Piers Design Option scoring slightly better than the Causeway - Dike Design Option. This alternative scored well by providing the greatest level of operational and safety improvements to the highway. Spot Improvements Alternative with the Multi-Use Path Design Option was the third highest ranked alternative. The OR 126W Three-Lane Cross Section Alternative followed next in the ratings, with the Causeway on Piers Design Option in the fourth position and the primary alternative

(Causeway on Dike) as the fifth highest scoring alternative. At the lower end of the scoring range were the No-Build and TSM Alternatives, which failed to meet the essential transportation objectives for the project.

1.7. Stakeholder Input

Stakeholder interviews and focus groups were conducted May through September 2011. Input from these efforts was used to develop transportation solutions and better understand the Corridor's transportation and environmental conditions.

Throughout the planning process for the Fern Ridge Corridor Plan the public and key stakeholders have had many opportunities to provide comment on the project area, draft problem statement, Purpose and Need, goals and objectives, and transportation solutions. On October 6, 2011, ODOT held the first community forum for participants to hear about the project and its progress, learn about alternatives under consideration, and to brainstorm additional alternatives. Input from the first community forum was used to refine the project's draft Purpose and Need, develop its goals and objectives, criteria, and provided information for consideration in the screening and evaluation of alternatives.

In early 2012, ODOT plans to hold two additional community forums for stakeholders to review the findings and recommendations of this report (January 2012) and the findings and recommendations of more detailed transportation evaluation of the advanced alternatives (April 2012).

Members of the community may also stay up to date on the project's progress by checking the project website at www.highway126.org.

1.8. Conclusions and Next Steps

Based on the outcome of the screening process as well as public and agency input, the technical team recommends the following alternatives advance for further evaluation:

- OR 126W Four-Lane Cross Section Causeway on Dike (Earth/Rock)
- OR 126W Four-Lane Cross Section Causeway on Piers Design Option
- OR 126W Three-Lane Cross Section Causeway on Dike (Earth/Rock)
- OR 126W Three-Lane Cross Section Causeway on Piers Design Option
- OR 126W Spot Improvements with Multi-Use Path Design Option
- No-Build

The technical team also recommends:

- TSM strategies be considered to supplement the possible capital improvements. Implementation of TSM strategies can help ensure more efficient use of transportation investments in the long term and should be considered along with the package of capital improvements.
- A phased approach be considered where the near term solution would include spot improvements on OR 126W and, as funding allows, the multi-use path and complete two/three-lane or four-lane highway improvements could be implemented over time.

2. Introduction

This section outlines the study purpose and key components of the decision-making process, including the identified problems in the Corridor and the project's draft Purpose and Need and its goals and objectives which were used as the basis for the alternatives screening evaluation.

2.1. Study Purpose

The OR 126W: Fern Ridge Corridor Plan study is a component of a larger multi-phase effort to develop solutions towards addressing the deficiencies and improving OR 126W between the cities of Veneta and Eugene. This first phase of the project includes developing an understanding of the transportation and environmental conditions in the Corridor, identifying transportation deficiencies and opportunities, creating and evaluating conceptual alternative solutions, and preparing a Corridor Plan, which includes recommendations for the most viable solutions.

It is anticipated, if needed, ODOT will utilize federal funds for the implementation of a proposed improvements project. If ODOT uses federal funds, the project would be required to comply with the National Environmental Policy Act (NEPA) and other relevant federal, state, and local laws and regulations. Subsequent project phases would develop environmental documentation, select one or more preferred alternatives to advance for further or detailed analysis, and prepare preliminary and final design and construction documents for the preferred alternative.

2.2. Project Description and Study Area

ODOT, Region 2, is developing a facility-level transportation Corridor Plan to identify issues and develop solution concepts to address operational and safety problems for a segment of highway on OR 126W (Florence Eugene Highway and Beltline Highway) between the cities of Veneta and Eugene (Figure 2.1). The study area includes the rural area between the cities of Veneta and Eugene. This area represents a manageable section of the highway that, unlike within the two cities, where transportation system plans have been prepared, has received little detailed analysis. ODOT also did not want to interfere with ongoing planning activities in Eugene aimed at identifying and evaluating potential long-term multimodal options for the west Eugene area. The outcome of this process will be, after screening evaluation of a range of potential alternatives, a set of preferred improvements to address the operational and safety issues in the project study area.

This facility-level corridor planning project is the first phase in what could be a three phase documentation process that eventually culminates in construction of one or more projects along this portion of OR 126W. As currently envisioned, these three planning phases are described as follows:

- Phase 1: Transportation Corridor Plan to identify system-level facility needs and recommend a range of improvements to be advanced into Phase 2.
- Phase 2: Project environmental documentation, to meet NEPA requirements, necessary to select and advance the preferred alternative to preliminary and final design and construction.
- Phase 3: Preliminary and final design and preparation of construction plans for the preferred alternative.

Figure 2.1. Project Study Area

This segment of highway serves many users, including access to local residences and businesses, and for through commuter, freight and tourist travel. This section of OR 126W is designated as a Statewide Highway and freight route and has a posted speed of 55 mph in the project study area. OR 126W has many private driveways connecting directly to the highway as well as numerous intersections with county roads and limited turn lanes on the highway, and is lacking in passing or slow moving vehicle turnout opportunities. There are no convenient parallel roads to help collect traffic and relieve pressure from the highway. Highway improvement options are also limited by a parallel rail facility and the Fern Ridge Lake.

2.3. Project Problem Statement

OR 126W between Eugene and Veneta is a two-lane highway that has existing multi-modal, safety, and operational needs that are expected to worsen over time (see section 6.14. for transportation safety and operational findings that support the needs identified below). The highway provides an important regional connection for commuters, freight haulers, residents, and tourists traveling between the two cities and to the Oregon Coast. The highway travels through an environmentally sensitive area and has limited connectivity and available right-of-way due to a parallel rail facility and the Fern Ridge Lake. The ODOT is conducting the OR 126W: Fern Ridge Corridor Plan to identify and evaluate a range of alternatives that would improve the highway's safety and function in order to meet safety and mobility needs for all transportation system users.

2.4. Project Purpose and Need

The project's preliminary Purpose and Need Statement was approved by the Project Management Team (PMT) on September 27, 2011. The Purpose states the intent of the project; the Need identifies why the project is important.

2.4.1. Statement of Purpose

The purpose of the OR 126W Fern Ridge Corridor Plan is to:

- Develop a transportation facility plan
- Address multi-modal safety and operational problems
- Identify potential facility improvement options

2.4.2. Statement of Need

The need for the OR 126W Fern Ridge Corridor Plan is to more thoroughly identify and evaluate the existing safety and operational functions that must be addressed on the OR 126W corridor between the cities of Eugene and Veneta (see section 6.14. for transportation safety and operational findings that support the needs identified below). These functions include:

Safety

- Higher crash rate than other similar facilities throughout the state
- High amount of fatalities or debilitating injuries per year
- Impeded emergency response times during incidents
- High number of collisions in areas where there is a higher density of access points to properties, businesses and public lands
- Drivers traveling at speeds higher than the posted speeds

Operations

- Limited capacity to accommodate traffic volumes during the summer
- Variety of roadway users with varying travel patterns and driving characteristics including local, commuter, freight and tourist trips
- Lack of accommodations for all modes
- Limited opportunities for passing

2.5. Project Goals and Objectives

Specific goals were developed for the OR 126W study corridor and address the areas of transportation, environmental, social and economic, and community values. These goals are identified below along with associated objectives.

2.5.1. Goal 1: Transportation

Provide a multi-modal transportation system from Veneta to Eugene to meet existing and future safety and mobility needs for all transportation system users.

Objective A.	Improve safety for pedestrians, bicyclists, motor vehicles, freight, and transit
Objective B.	Encourage use of alternative transportation modes
Objective C.	Maintain/enhance motor vehicle/freight mobility and traffic flow
Objective D.	Support freight mobility along the corridor
Objective E.	Improve safety and efficiency at railroad crossings
Objective F.	Avoid or minimize impacts to the railroad
Objective G.	Improve reliability for emergency vehicles
Objective H.	Provide a facility that meets future growth in the corridor
Objective I.	Where appropriate support opportunities in the corridor for future rail transit service

2.5.2. Goal 2: Environmental

Minimize the impacts to local environmental and community resources while incorporating opportunities to enhance those resources.

Objective A.	Avoid or minimize adverse impacts to local environmental, visual, and community resources
Objective B.	Support/seek opportunities for enhancements to local environmental and community resources

2.5.3. Goal 3: Social and Economic

Support the economic viability of the region including industrial, commercial, recreational, and tourist activities; protect the livability and integrity of the residential areas; provide a financially viable project.

Objective A.	Support and enhance multi-modal access for the residential, commercial, recreational, and tourist areas
Objective B.	Improve freight movement throughout the corridor
Objective C.	Enhance transportation facilities which are accessible to all members of the community
Objective D.	Support adopted economic plans

Objective E. Minimize capital costs while meeting project objectives
Objective F. Minimize disruption to the community resulting from highway construction and operation
Objective G. Maximize the cost effectiveness of transportation system investments
Objective H. Minimize impacts to private properties and farmland
Objective I. Support rail related freight opportunities for Veneta's industrial areas

2.5.4. Goal 4: Community Values

Be consistent with the adopted long term goals and policies of the community and the region.

Objective A. Support community/regional facilities
Objective B. Consistent with adopted state, county, regional, and local Transportation System Plans and policies

2.6. Criteria

Draft criteria were prepared for use in evaluating and comparing improvement alternatives. These criteria will help ensure the greatest consistency between the draft Purpose and Need and Goals and Objectives and the recommended improvement alternative(s) for the OR 126W study corridor.

Transportation

- Reduce potential conflict points such as intersections and driveways
- Improve pedestrian safety and accessibility
- Improve bicycle safety and accessibility
- Improve overall traffic safety
- Improve east/west vehicle capacity
- Improve mobility along corridor, including freight
- Support public transit service
- Improve emergency vehicle response time
- Minimize impacts to the railroad for freight movements
- Strive to meet ODOT mobility standards
- Minimize impacts to the railroad that limit opportunities for future rail transit

Environmental

- Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake
- Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas
- Avoid or minimize adverse permanent and temporary impacts to identified historical resources.
- Avoid or minimize adverse permanent and temporary impacts to cultural resources
- Avoid or minimize adverse permanent and temporary impacts to visual resources

- Provide, maintain, and improve access to existing parkland and recreational facilities, where practicable
- Be consistent with Oregon Department of Fish and Wildlife (ODFW) Fern Ridge Wildlife Area Plan

Social and Economic

- Support community livability by improving multi-modal access to residential areas
- Support community livability and economics by improving multi-modal access to commercial areas
- Support community livability and economics by improving multi-modal access to recreational/tourist areas
- Support area economic vitality by improving roadway geometrics for freight movements
- Provide transportation facilities which are accessible to all community members and users[1]
- Consistent with City of Veneta Economic Development Strategic Plan
- Consistent with Lane County Regional Economic Development Strategies
- Minimize impacts to properties along the corridor
- Support rail opportunities for Veneta's industrial areas

Community Values

- Improve access opportunities to Fern Ridge Lake along the corridor
- Improve access to Perkins Peninsula County Park
- Be consistent with Oregon Highway Plan
- Be consistent with Oregon Bicycle and Pedestrian Plan
- Be consistent with Lane County Transportation System Plan
- Be consistent with Fern Ridge Path System: Visions and Strategies
- Be consistent with City of Veneta Comprehensive Plan
- Compliant with Lane County Land Use Code
- Support regional bicycle/pedestrian plans
- Support planned parkland and recreational facilities, where practicable
- Be consistent with U.S. Army Corps of Engineers (USACE) Fern Ridge Operational Management Plan

3. Study Process

The study purpose is to assess existing and future traffic and safety conditions within the segment of OR 126W between the cities of Veneta and Eugene and to identify facility needs and deficiencies and potential solutions . The process began with community conversations, stakeholder interviews, review of existing data, and analysis of existing and future traffic conditions to develop an

[1] All pedestrian facilities will be designed to comply with Americans with Disabilities Act (ADA) requirements.

understanding of the transportation problems and issues in the Corridor and how those problems might be solved. Next, a range of potential solutions that could potentially resolve the problems (also called transportation improvement alternatives) were developed. These solutions were further refined using criteria based on community input and research on natural resource, land use, transportation, and regulatory opportunities and constraints in the Corridor

3.1. Community Conversations and Stakeholder Input

Working with key stakeholders and the community, a Problem Statement, the project's draft Purpose and Need, a set of goals and objectives, and evaluation criteria were developed. The goals and objectives used in this study are consistent with the Transportation Planning Rule (TPR), the Lane County Comprehensive Plan, ODOT's transportation policies, and community values. Project goals and objectives are also consistent with NEPA and informed the recommended range of possible transportation solutions. Additional input on the drafts of the project's Purpose and Need, its goals and objectives and preliminary range of alternatives were gathered at a Community Forum on October 6, 2011. This input was used in the evaluation process.

The community will have the opportunity to review and provide input on the recommendations in this report at a Community Forum in January 2012 and on the Facilities Plan at a Forum in May 2012.

A more detailed description of the community involvement process is described in Chapter 8 of this report.

3.2. Background Research

State and local planning documents were reviewed for relationships, conflicts, and discrepancies within and between documents. Based upon the findings, review memos were developed derived from existing plans, policies, rules, regulations, and standards for the following disciplines:

- Acquisitions and Displacements
- Air Quality
- Energy
- Environmental Justice
- Geology / Geotechnical
- Hazardous Materials
- Land Use and Prime Agricultural Lands
- Noise
- Parklands and Section 4(f) and 6(f) Resources
- Socioeconomics
- Utilities

- Hydrology and Hydraulics including Floodplains and Stormwater Management
- Wetlands and Jurisdictional Waters of State and U.S.
- Visual and Aesthetic Resources
- Archaeological Resources
- Cultural/Historic Resources
- Biological Resources

3.3. Field Surveys and Analysis

Due to their sensitive nature, field surveys were conducted for the following disciplines::

- Archaeological Resources
- Cultural/Historic Resources
- Biological Resources
- Wetlands and Jurisdictional Waters of State and U.S.

Technical memoranda were prepared documenting the findings of the baseline conditions information from readily available existing studies and data and the field surveys.

Concurrent to the field surveys, an analysis was conducted for existing and future transportation conditions, including:

- Existing transportation and freight system inventories
- Existing intersection/segment operating conditions
- Collision history
- Public transportation conditions

This analysis was documented in several technical memoranda and used during the screening process.

3.4. Opportunities and Constraints

Using information from the background research and field surveys, an opportunities and constraints exercise was conducted to identify known environmental resources that may either constrain or provide project development opportunities. These findings were used to inform the range of alternatives, as discussed in Chapter 4.

3.5. Screening and Evaluation of Alternatives

Using a two-step process, the broader range of alternatives was narrowed to a smaller range of alternatives for further study. The first step in the process considered whether or not alternatives met the project's draft Purpose and Need. The second step in the process used the project's criteria in Section 2.6 to evaluate each alternative in terms of its potential adverse or beneficial effect to the project area environment. This included consideration of a number of issues including existing and future traffic conditions, access, pedestrian and bicycle circulation, economic development, effects to parks and natural resources, and compliance with local plans, among others. Through screening and evaluation against the project's draft Purpose and Need and criteria based on the project's goals and objectives, the most viable alternatives were identified.

The project study also considered regulatory issues from interested agencies. This includes, but is not limited to, the USACE, ODFW, Oregon Department of State Lands (DSL), and Lane County. By considering the range of disciplines that would typically appear in a NEPA analysis, environmental issues and potential regulatory requirements were identified.

The shorter list of most viable alternatives is a recommendation for project decision-makers to consider for advancement for further study. This report documents the screening and evaluation and alternatives selection process.

4. Alternatives Overview

This section describes each of the study alignments and transportation improvement alternatives within each alignment that were considered in this screening and evaluation.

4.1. Overview

Through interviews, focus groups, and a community forum, project stakeholders and the general public were consulted regarding study alignments and improvement alternatives. For this project, three study alignments were proposed for improving safety and congestion in the OR 126W Corridor (Figure 4.1):

- Existing OR 126W Alignment
- Southern Route Along Perkins and Cantrell Roads
- Northern Route around Fern Ridge Lake

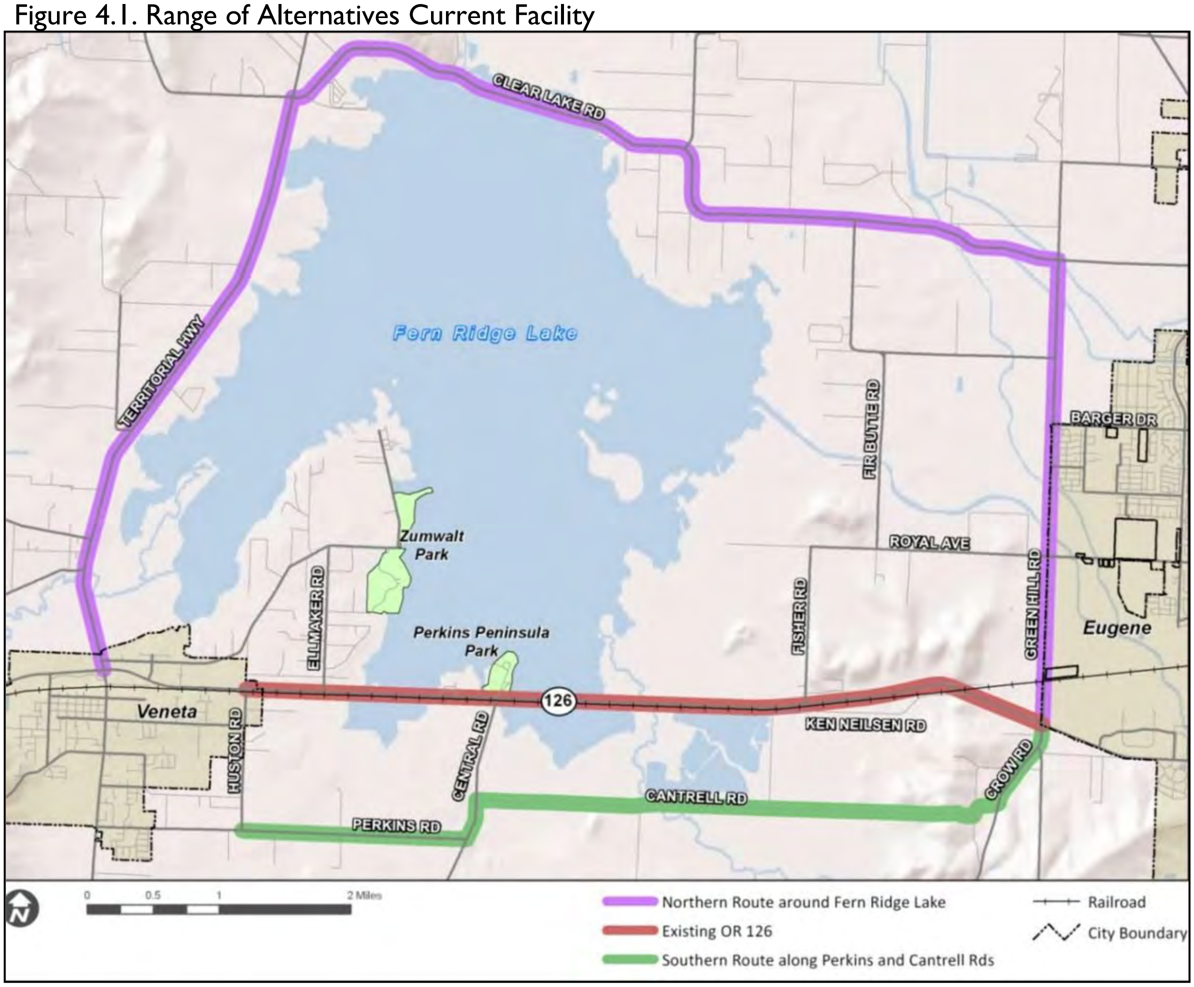
Within each study alignment, transportation improvement alternatives were proposed. Some transportation improvement alternatives also included design options to allow for flexibility. Each of the study alignments and the associated transportation improvement alternatives are described below. Chapter 5 describes the screening of alternatives to determine which alternatives meet the project's Purpose and Need. Alternatives meeting the project's Purpose and Need were advanced for further evaluation based on the project's goals and objectives; this evaluation is described in Chapter 7.

4.2. Existing OR 126W Alignment

The existing OR 126W alignment is bound to the west by Huston Road and to the east by Green Hill Road (Figure 4.1). Five preliminary alternatives within this study alignment are proposed for consideration. The No-Build, or no action, Alternative and Transportation System Management Alternative (TSM) will be addressed in this evaluation as a baseline comparison to the build alternatives.

- No-Build Alternative
- TSM Alternative
- Spot Improvements Alternative
  - Design Option: With Adjacent Multi-Use Path
- Three-Lane Cross Section Alternative – Causeway on Dike (Earth/Rock)
  - Design Option: Causeway on Piers
- Four-Lane Cross Section Alternative – Causeway on Dike (Earth/Rock)
  - Design Option: Causeway on Piers

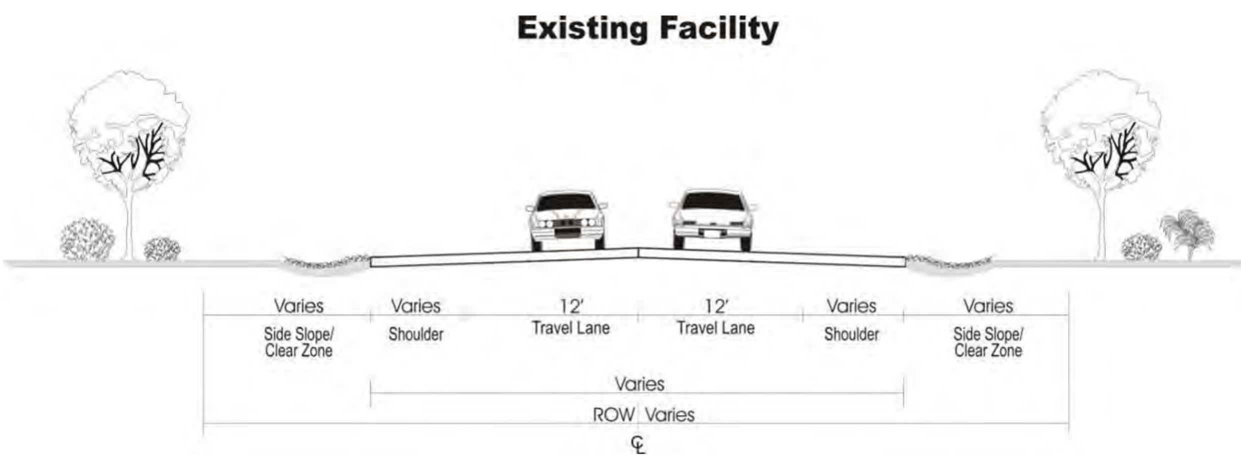
Figure 4.1. Range of Alternatives Current Facility



4.2.1. No-Build Alternative

Under the No-Build Alternative the road would remain as it is today (Figure 4.2). Current maintenance levels would be maintained, however, no major capital improvement projects would be undertaken.

Figure 4.2. Existing OR 126W Alignment: No-Build Alternative



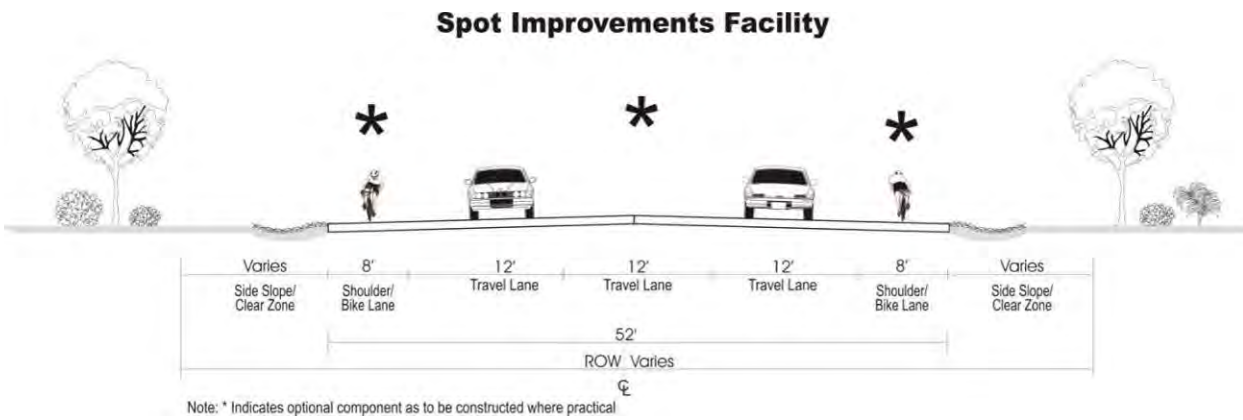
4.2.2. Transportation System Management Alternative

Under the TSM Alternative the existing roadway cross section would be maintained. The purpose of a TSM Alternative is to provide a lower cost alternative that would increase the number of person-trips accommodated along the corridor by improving the existing facility without major capital construction. These measures and strategies could include, but are not limited to, improved signing, improved roadway delineation, access management techniques, additional park-and-ride lots, an enhanced rideshare program, and improved pedestrian and bicycle access to transit stations. Further options may be investigated throughout the planning process.

4.2.3. Spot Improvements Alternative

Under the Spot Improvements Alternative the existing roadway cross section would be maintained or modified where practical (Figure 4.3). Examples of spot improvements include the construction of an additional turn lane along portions of the highway (passing lanes are not considered to be spot improvements), improvements at specific intersections (such as right or left turn lanes), shoulder widening along portions of the highway, or bike lanes in shoulder areas.

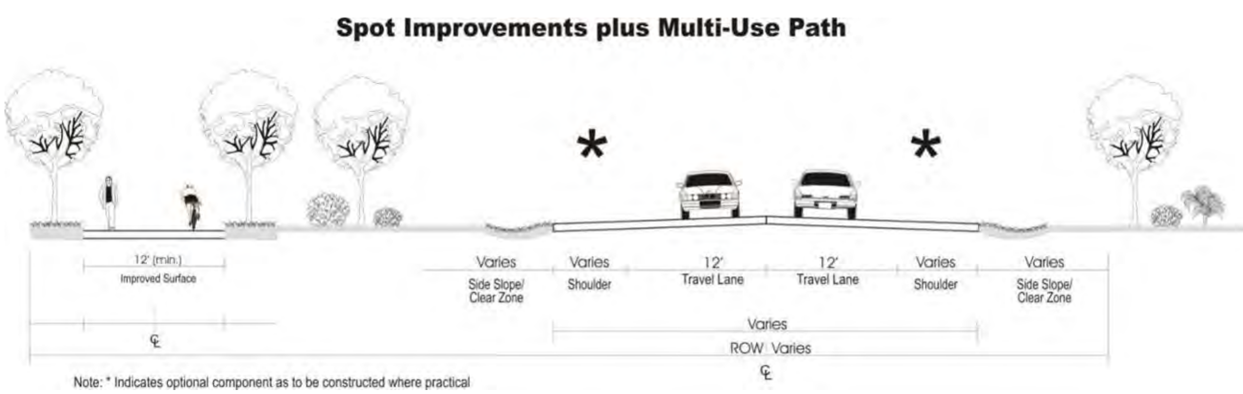
Figure 4.3. Existing OR 126W Alignment: Spot Improvements Alternative



Multi-Use Path Design Option

Under the Spot Improvements Alternative, a Multi-Use Path Design Option could be added to the range of improvements along OR 126W (Figure 4.4). The separated multi-use path would be constructed to the south of OR 126W (and north of Cantrell and Perkins Roads).

Figure 4.4. Existing OR 126W Alignment: Spot Improvements Alternative with Multi-Use Path Design Option



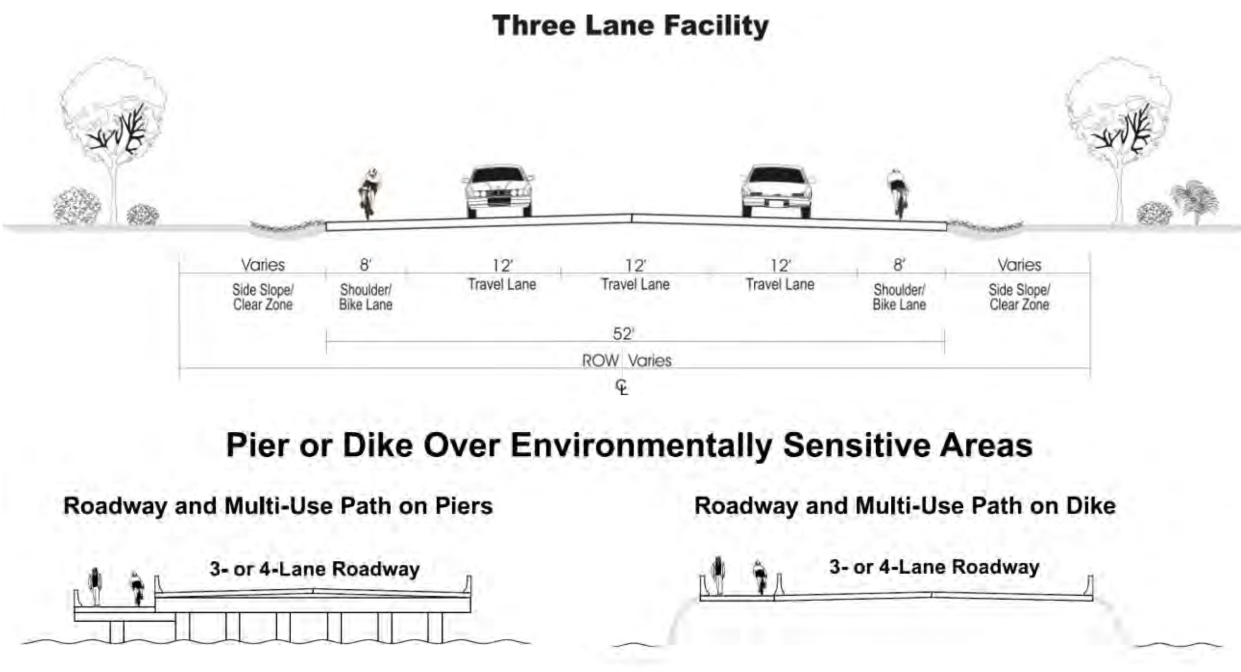
4.2.4. Three-Lane Cross Section Alternative

Under the Three-Lane Cross Section Alternative the existing OR 126W roadway cross section would be expanded to a three-lane cross section plus widened shoulders (or bike lanes) (Figure 4.5). Additional intersection improvements and driveway access modifications may also be included as necessary. The third travel lane could be a center turn lane or a passing lane as appropriate. The proposed improvements would be constructed on the existing earthen/rock dike along the OR 126W alignment as it traverses the Fern Ridge Lake area (see the inset below for an example). The existing dike could need to be expanded to accommodate the wider roadway. There is one design option for this alternative:

Design Option – Causeway on Piers

The proposed improvements for this Design Option are the same as the primary alternative except for the replacement of the existing earthen/rock dike system with pier supports for the highway as it traverses the Fern Ridge Lake area (see the inset below for an example). Where supported on piers, the roadway surface would maintain its current approximate elevation but allow improved water flow under the highway.

Figure 4.5. Existing OR 126W Alignment: Three-Lane Cross Section Alternative



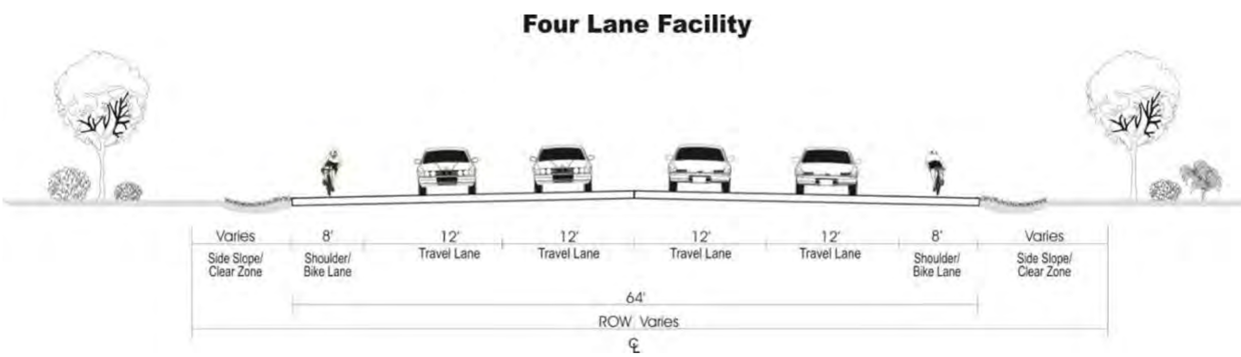
4.2.5. Four-Lane Cross Section Alternative

Under the Four-Lane Cross Section Alternative the existing OR 126W roadway cross section would be expanded to a four-lane cross section plus widened shoulders (or bike lanes)(Figure 4.6). Additional intersection improvements and driveway access modifications may also be included as necessary. The proposed improvements would be constructed on the existing earthen/rock dike along the OR 126W alignment as it traverses the Fern Ridge Lake area (see the inset above for an example). The existing dike would need to be expanded to accommodate the wider roadway. There is one design option for this alternative:

Design Option – Causeway on Piers

The proposed improvements for this Design Option are the same as the primary alternative except for the replacement of the existing earthen/rock dike system with pier supports for the highway as it traverses the Fern Ridge Lake area (see the inset above for an example). Where supported on piers, the roadway surface would maintain its current approximate elevation but allow improved water flow under the highway.

Figure 4.6. Existing OR 126W Alignment: Four-Lane Cross Section Alternative



4.3. Southern Route Along Perkins and Cantrell Roads

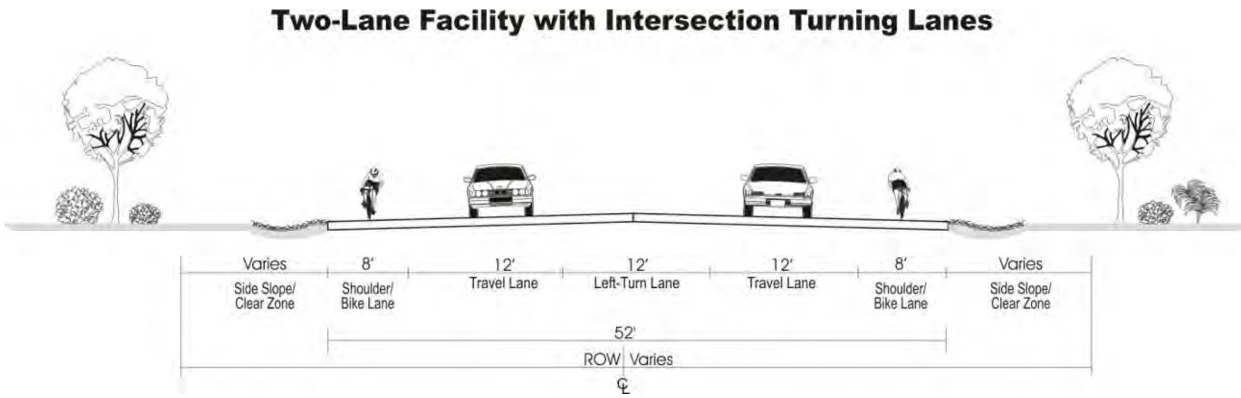
The alignment for the southern route along Perkins and Cantrell Roads is bound to the west by Huston Road and to the east by Green Hill Road (Figure 4.1). The study alignment would follow Perkins Road and Cantrell Road before connecting to OR 126W. Two potential alternatives along this alignment include:

- Two-Lane Cross Section with Intersection Turning Lanes Alternative
- Multi-Use Path Alternative

4.3.1. Two-Lane Cross Section with Intersection Turning Lanes Alternative

Under the Two-Lane Cross Section with Intersection Turning Lanes Alternative, the existing facilities of Perkins Road and Cantrell Road would be connected and improved wherever possible. The cross section could be constructed as a two-lane roadway with intersection turning lanes plus widened shoulders (or bike lanes) as needed (Figure 4.7).

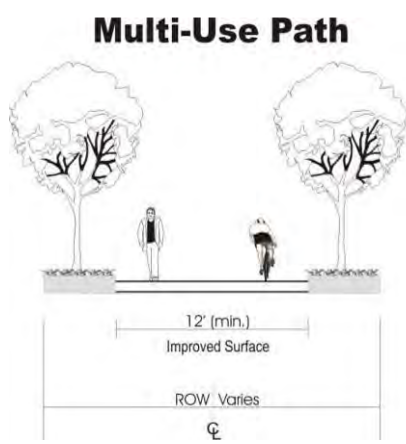
Figure 4.7. Southern Route: Two-Lane Cross Section with Intersection Turning Lanes Alternative



4.3.2. Multi-Use Path Alternative

Under the Multi-Use Path Alternative, a multi-use path would be constructed parallel to the existing facilities of Perkins Road and Cantrell Road; no other roadway improvements would be constructed (Figure 4.8). The purpose of this alternative is to provide improved connectivity and safety for non-motorized transportation. A separated path would provide continuous facilities for pedestrians and bicyclists to travel between Veneta and Eugene and would allow a buffer between roadway traffic and users of the multi-use path.

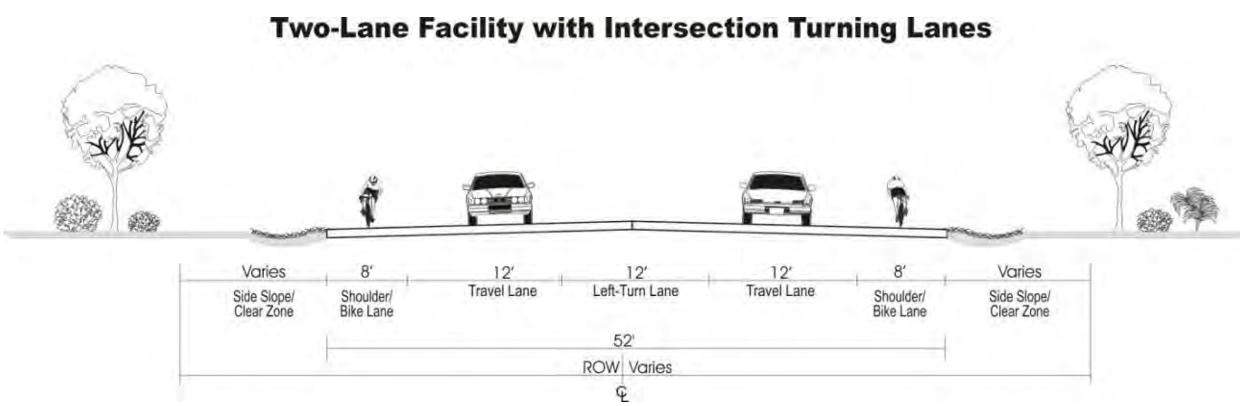
Figure 4.8. Southern Route: Multi-Use Path Alternative



4.4. Northern Route around Fern Ridge Lake

Under this alternative, existing facilities north of OR 126W would be connected and improved wherever possible. The route would utilize Green Hill Road, Clear Lake Road, and Territorial Road to circumnavigate the lake from Eugene to Veneta. These existing roads are two-lane facilities. The cross section would be constructed as a two-lane roadway with intersection turning lanes plus widened shoulders (or bike lanes) as needed (Figure 4.9).

Figure 4.9. Northern Route around Fern Ridge Lake Alignment: Two-Lane Cross Section with Intersection Turning Lanes Alternative



5. Draft Purpose and Need Screening

The first level of screening gauges whether each alternative is consistent with the project's draft Purpose and Need. The project's draft Purpose and Need Statement describes the issues the project is intending to solve and explains the desired outcome (described in Section 2.4). In this case, the project's purpose is to develop a facility-level transportation corridor plan that addresses multi-modal safety and operational problems in the OR 126W corridor. A component of this process is identification of potential facility improvement options. The need for the OR 126W Fern Ridge Corridor Plan is based on existing safety and operational functions that must be addressed in the corridor including high crash rate and fatalities or debilitating injuries, impeded emergency response times, vehicles traveling higher than posted speeds, conflicts between roadway users and travel modes, and limited capacity to accommodate increased traffic volumes during summer (see section 6.14. for more detail).

As described in Chapter 4, a range of transportation improvement alternatives within three study alignments has been proposed: improvements to OR 126W or improvements to an alternate facility to the north or to the south of OR 126W to ease the traffic burden on OR 126W. At this stage of the project, the range of alternatives under consideration is the broadest and includes all options proposed by project stakeholders and the community.

All of the alternatives described in Chapter 4 were screened to determine if they would potentially meet the project's draft Purpose and Need. If an alternative did not adequately meet the project's draft Purpose and Need, then it was eliminated from further consideration. Alternatives that could adequately meet the project's draft Purpose and Need were advanced for further evaluation. The exception is that the No-Build Alternative, regardless of whether it can adequately meet the project's draft Purpose and Need, is advanced because it provides a basis of comparison for all of the alternatives.

5.1. Alternatives Eliminated from Further Evaluation

Based on the screening of the broad range of alternatives, two alternatives are not recommended for further evaluation:

- Northern Route around Fern Ridge Lake
- Southern Route Along Perkins and Cantrell Roads Multi-Use Path Alternative.

Although the Northern Route Alternative would improve facilities on the north end of the lake with the intent of offering travelers an alternate route to OR 126W. This alternative would require too much out-of-direction travel to serve as a viable parallel facility to the highway, approximately doubling the travel distance for all modes between Veneta and Eugene from about 7 miles to over 14 miles. Consequently, operational conditions on OR 126W would not significantly change and the essential purpose of the project would not be met. In addition, further widening of the roadway to accommodate pedestrian travel would be limited due to the alignment being adjacent to Fern Ridge Lake. This also fails to meet the intent of a multi-modal transportation system from Veneta to Eugene. For these reasons, the Northern Route Alternative was not advanced for further evaluation.

The Multi-Use Path Alternative on the southern route does not address operational and safety problems on OR 126W because it is solely focused on non-motorized transportation away from the highway alignment. Traffic deficiencies on OR 126W would not be addressed, which is not consistent with the project's draft Purpose and Need. By failing to address the fundamental need for this project, the Multi-Use Path Alternative was not advanced for further evaluation.

5.2. Alternatives Advanced for Further Evaluation

Four alternatives (and three design options) have the potential to address the project's draft Purpose and Need and were advanced for further evaluation:

Existing OR 126W Alignment
- Spot Improvements Alternative
  - Design Option: With Adjacent Multi-Use Path
- Three-Lane Cross Section Alternative – Causeway on Dike (Earth/Rock)
  - Design Option: Causeway on Piers
- Four-Lane Cross Section Alternative – Causeway on Dike (Earth/Rock)
  - Design Option: Causeway on Piers

OR 126W Southern Route along Perkins and Cantrell Roads
- Two-Lane Cross Section with Intersection Turning Lanes Alternative

The listed alternatives have the potential to meet existing and future safety and mobility needs for all transportation system users, and therefore were considered in the criteria evaluation (described in Chapter 7). In addition, the No-Build Alternative was also considered in the evaluation and, as noted above, will be carried through to future NEPA-level analysis. While the TSM Alternative was not advanced as a stand-alone alternative, some of the TSM measures may be considered to supplement the three OR 126W alignment alternatives because they can help ensure more efficient use of transportation investments in the long term.

6. Environmental Considerations

This section pertains to previously inventoried or known information regarding environmental resources, concerns, and issues within the project study area, and which may be affected by a proposed action or have an influence during the alternatives screening and evaluation process.

6.1. Introduction

The study of environmental resource concerns within the project area utilized existing database information and records and identified applicable laws and regulations (Figure 6.1). As a result, potential environmental constraints may be appropriately considered and addressed when project alternatives and options are recommended. Due to their sensitive nature the following disciplines completed field surveys and screening level technical memoranda using baseline conditions information from readily available studies and data:
- Archaeological Resources
- Cultural/Historic Resources
- Biological Resources
- Wetlands and Waters of State and U.S.

The discipline background summary in Section 6.2 identifies the known environmental features that will be considered during development of the Corridor Plan. Additional study will be required for all the discipline areas as alternatives are advanced for further consideration in future phases of the project (Table 6.1).

Figure 6.1. Project Study Area

Table 6.1. Table of Human and Natural Resource Issues and Considerations

Environmental Discipline	Requires Further Study	Comments
Acquisitions and Displacements	Yes	See appropriate section.
Air Quality	Yes	See appropriate section.
Energy	Possibly	See appropriate section.
Geology / Geotechnical	Yes	See appropriate section.
Hazardous Materials	Yes	See appropriate section.
Land Use and Prime Agricultural Lands	Yes	See appropriate section.
Noise	Yes	See appropriate section.
Parks and Recreation Resources and Section 4f and 6f Resources	Yes	See appropriate section.
Socioeconomics and Environmental Justice	Yes	See appropriate section.
Utilities	Yes	See appropriate section.
Water Resources including Floodplains and Stormwater Management	Yes	See appropriate section.
Wetlands and Waters of State and U.S.	Yes	See appropriate section.
Visual and Aesthetic Resources	Yes	See appropriate section.
Archaeological Resources	Yes	See appropriate section.
Cultural/Historic Resources	Yes	See appropriate section.
Biological Resources	Yes	See appropriate section.

6.2. Air Quality

This section summarizes potential air quality requirements for the study corridor consistent with federal, state, and local standards.

6.2.1. Data Sources and Collection

An internet search was conducted and local transportation plans were consulted to determine air quality requirements. The Oregon Department of Environmental Quality (DEQ) website was a source for air quality regulations consistent with the Federal Clean Air Act.

6.2.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

Clean Air Act (CAA)

This comprehensive public law forms the basis for a broad range of regulations that control allowable emissions and concentrations of air pollutants in the environment. The Clean Air Act Amendments of 1990 set the National Ambient Air Quality Standards (NAAQS) for key pollutants, including ozone (O_3), carbon monoxide (CO), and particulate matter (PM_{10}). Areas that do not meet the NAAQS are designated in varying degrees of nonattainment, from marginal to extreme (depending on the pollutant). Nonattainment areas must submit air quality implementation plans and must integrate transportation and air quality planning in order to meet the standards. Maintenance areas are geographic areas that had a history of nonattainment, but are now consistently meeting the NAAQS. Maintenance areas must submit air quality implementation plans and must integrate transportation and air quality planning in order to stay in attainment of the standards. The Eugene-Springfield region is designated as a maintenance area for CO and designated as a nonattainment area for PM_{10}. Vehicles are not a significant source of PM_{10} in the region.

40 CFR 50. EPA. "National Primary and Secondary Air Quality Standards." U.S. Code of Federal Regulations.

The federal government has established NAAQS to protect the public from air pollution. Geographic areas where concentrations of a pollutant exceed the ambient air quality standards are classified as nonattainment areas (i.e., do not attain standards). Previously designated nonattainment areas now in compliance with air quality standards are classified as maintenance areas. Areas that meet the standards are classified as attainment areas (attain standards). Federal regulations require states to prepare State Implementation Plans (SIPs) that identify emission reduction strategies for nonattainment and maintenance areas.

FHWA Interim Guidance on Mobile Source Air Toxic Analysis in NEPA

This provides guidance on mobile source air toxics (MSAT) analysis in NEPA documents. The Federal Highway Administration (FHWA) developed a tiered approach for analyzing MSAT in NEPA documents, depending on specific project circumstances. The FHWA has identified three levels of analysis based on the type of project and location. As the science progresses FHWA will continue to revise and update this guidance.

State

OAR 340 Division 252. DEQ. "Transportation Conformity."

The transportation conformity regulations establish criteria and procedures for determining conformity with SIPs. This rule covers transportation plans, programs, and projects in Oregon that are developed, funded, or approved by the United States Department of Transportation (DOT) and by metropolitan planning organizations (MPOs) or other recipients of funds under Title 23 of the U.S.C. or the Federal Transit Laws.

Oregon Administrative Rule (OAR) 340 Division 202. DEQ. "Ambient Air Quality Standards and PSD Increments."

In addition to the NAAQS, DEQ has established State Ambient Air Quality Standards (SAAQS) that are almost the same as the NAAQS. The state has slightly stricter standards for sulfur dioxide emissions. This air pollutant comes from industrial sources such as power plants and smelters, not from motor vehicle traffic.

Regional and Local

Lane County Comprehensive Plan

The general purpose of the comprehensive plan is the guiding of the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity, and general welfare.

The comprehensive plan contains a series of air quality policies, mainly regarding cooperation with State and Federal Agencies in programs that reduce air pollution. The Lane Regional Air Protection Agency (LRAPA) governs air quality issues in Lane County.

Central Lane MPO Regional Transportation Plan

The Central Lane Metropolitan Planning Organization (CLMPO) Regional Transportation Plan (RTP) guides regional transportation system planning and development in the CLMPO metropolitan area. The RTP includes provisions for meeting the transportation demand of residents over a 20-year planning horizon while addressing transportation issues and making changes that can contribute to improvements in the region's quality of life and economic vitality. The MPO boundary extends beyond Eugene and Springfield to include Coburg. Its western boundary is located a short distance west of Green Hill Road, extending into the eastern portion of the Corridor Plan study area.

In terms of air quality, the plan states that projects using federal funds or are regionally significant for air quality purposes must be included in the Metropolitan Transportation Improvement Program (MTIP) and the Statewide Transportation Improvement Program (STIP). If the RTP is updated and amended, the state rule on air quality requires that the MTIP be updated within 6 months (with the exception of minor amendments). The RTP must demonstrate compliance with federal and state air quality requirements.

The plan acknowledges that the Eugene-Springfield region is designated as a maintenance area for CO and a nonattainment area for PM_{10}. The region had petitioned the EPA that vehicles are not a significant emission source for PM_{10}; therefore transportation is exempt from demonstrating area-wide regional conformity for PM_{10}. Regional emissions analysis for CO is required for all transportation plans, programs, and projects located within the Central Area Transportation Study boundary. This boundary encompasses the greater downtown Eugene area and does not apply to the OR 126W study area.

Lane Regional Air Protection Agency (LRAPA)

LRAPA was created in 1968 to achieve and maintain clean air in Lane County. The agency works collectively with other local governments and community groups to help achieve federal Clean Air Act goals and objectives. Its member entities include Lane County and the cities of Eugene, Springfield, Cottage Grove, and Oakridge. LRAPA has stationary source regulations that could apply to hot asphalt and concrete mix plants as well as general particulate matter (PM) regulations that could apply to construction activities in or within five miles of the municipal boundaries of the City of Eugene or the City of Springfield. For those projects within five miles, LRAPA Indirect Source Regulations (Title 20) require that construction of new or modified parking areas greater than 249 spaces or highway construction/modification that meets certain Average Daily Traffic (ADT) thresholds obtain an Indirect Source Construction Permit.

6.2.3. Findings

The Corridor Plan study area is adjacent to a nonattainment area for PM_{10} and a maintenance area for CO. Motor vehicles are not considered a significant source of PM_{10} in the region. Expansion of highway capacity does not conflict with air quality regulations per se, but the selected project alternative may need to be incorporated into the MTIP and STIP and examined with metropolitan area transportation projects to ensure continued conformity with federal and state CO standards (the eastern terminus of the project study area is within the Central Lane MPO). The OR 126W Corridor Plan is listed in both the MTIP and STIP as a corridor planning exercise. Mobile source air toxics will be addressed, including consideration of the type of analysis needed, during the future NEPA phase of the project. It is possible that alternatives that decrease congestion can serve as a benefit to air quality.

During construction, attention should be paid to managing particulate matter through use of commonly applied best management practices for dust abatement, etc. Consultation with LRAPA may be required to determine preferred construction practices. In the NEPA phase of the project, air quality analysis would verify if an Indirect Source Construction Permit would be required from LRAPA.

6.2.4. Conclusions

The proposed project improvements are adjacent to a non-attainment area (Eugene-Springfield) but the proposed project improvements would be located in an attainment area. Therefore it is not likely that Clean Air Act requirements would apply. Air quality would be a technical discipline analyzed in the NEPA phase of the project if modernization alternative(s) were advanced for further study.

6.3. Archaeology

The archaeology screening considers the potential effects of the conceptual alternatives on potential subsurface and cultural resources.

6.3.1. Data Sources and Collection

This section describes data sources and the methods used to collect and evaluate data to determine archaeological considerations for the project.

Area of Potential Effect

The area of potential effect (APE) for archaeological resources is confined to locations that will be directly impacted by the project, including locations where historical structures would be removed by the proposed project. The proposed APE requires review and approval by the Oregon State Historic Preservation Office (SHPO). SHPO will review the APE once the extent of direct landscape alterations and the indirect impacts to traffic patterns of the project are known. Further, the APE may be modified as a result of the project's analysis of potential impacts.

Data Sources

Heritage Research Associates, Inc. (Heritage) conducted documentary research using primary and secondary source materials on file at Oregon SHPO (to identify properties designated as National Register listed or eligible, or Statewide Planning Goal 5-protected historic resources), Lane County, and other appropriate archives, and included the following sources:

- Oregon SHPO National Register and State Inventory files
- Historical maps and records

Records Review

The archaeological site records maintained by the SHPO in Salem, Oregon were reviewed to locate previously reported archaeological sites in or near the project area, as well as previous cultural resources surveys and other archaeological investigations that have been conducted in the area. The review of the SHPO site and project files indicate that five archaeological sites have been recorded in the project area and 20 cultural resources investigations have been conducted either within or in close proximity to the project area boundaries.

6.3.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

The purpose of the archaeological resource evaluation is to ensure that the proposed project complies with laws, regulations, and policies set forth at the federal, state, and local levels. The extent to which these historic resource laws and regulations might apply to this project will depend upon the resources encountered within the project area. The analysis will comply with the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), applicable state environmental policy legislation, and local and state planning policies. The following federal, state, and local environmental laws and regulations addressing archaeological, historic, and cultural resources may apply to the Corridor Plan.

Federal

National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347.

The National Environmental Policy Act (NEPA) requires that federal agencies consider environmental impacts before taking actions that could significantly affect the human environment. As interpreted by the Council on Environmental Quality (CEQ), NEPA requires that "reasonably foreseeable" direct, indirect, and cumulative effects of a proposed action be considered in the decision making process. The term "effects" includes "aesthetic, historic, cultural, economic, social, or health" effects.

National Historic Preservation Act of 1966, 16 U.S.C. 470, (http://www.law.cornell.edu/uscode/html/uscode16/usc_sec_16_00000470----000-.html).

This act is the primary authority used in complying with the nation's cultural resources protection objectives.

Antiquities Act of 1906, 16 U.S.C. 431-433, (http://www.cr.nps.gov/local-law/anti1906.htm).

This act protects historic, prehistoric ruins, monuments, or objects of antiquity located on lands owned or controlled by the U.S. Government.

Historic Sites Act of 1935, 16 U.S.C. 461-467, (http://www.cr.nps.gov/local-law/FHPL_HistSites.pdf).

This act is a basic authority for the Secretary of the Interior to adopt rules and regulations concerning historic properties.

Section 4(f), Department of Transportation Act of 1966, 49 U.S.C. 303, 23 U.S.C. 138, (http://www.environment.fhwa.dot.gov/projdev/pd5sec4f.asp).

This act requires that there be no constructive use for a highway project of historic sites, in addition to publicly owned parks, recreation areas, and wildlife and waterfowl refuges, unless there is no prudent and feasible alternative to the use of such land.

Archaeological and Historic Preservation Act of 1974, 16 U.S.C. 469 (http://www.cr.nps.gov/local-law/FHPL_ArchHistPres.pdf).
This statute requires that federal agencies preserve historical and archaeological data (including relics and specimens) that might otherwise be irreparably lost or destroyed as the result of any alteration of the terrain resulting from any federal construction project or federally licensed activity or program. The Act greatly expanded the number and range of federal agencies that must take archeological resources into account when executing, funding, or licensing projects.

Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.)
This act applies in situations where certain Native American cultural items, including human remains, funerary objects, sacred objects, and objects of cultural patrimony, are encountered. It provides a process to museums and federal agencies for return of such items to lineal descendants, culturally affiliated Native American tribes, and Native Hawaiian organizations. It is implemented through 43 CFR 10 regulations.

36 CFR Part 800, Protection of Historic Properties (http://www.achp.gov/regs-rev04.pdf).
This regulation sets forth the process by which federal agencies account for the effects of their undertakings on historic properties eligible for the National Register of Historic Places. It outlines the procedures for how federal agencies meet these statutory responsibilities.

36 CFR Part 63 (http://archnet.asu.edu/Topical/CRM/usdocs/36cfr63.html).
These regulations explain how federal agencies can identify and evaluate the eligibility of properties for inclusion in the National Register of Historic Places.

40 CFR 1508.27 (http://www.nepa.gov/nepa/regs/ceq/1508.htm#1508.27).
This regulation provides guidance on defining significance thresholds for various environmental disciplines, specifically pertaining to project impacts.

Executive Order 11593 (http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=12094).
This order directs federal agencies to protect and enhance cultural sites, including those non-federally owned, through inventory and evaluation.

State

Oregon Revised Statutes (ORS) 97.740-97.760 (Indian Graves and Protected Objects) (http://www.leg.state.or.us/ors/097.html), 358.905-358.955 (Archaeological Objects and Sites) (http://www.leg.state.or.us/ors/358.html), and 390.235 (Permit and Conditions for Excavation or Removal of Archaeological or Historical Materials) (http://www.leg.state.or.us/ors/390.html).
These statutes protect Native American artifacts and human remains, including prohibiting the destruction or alteration of archaeological sites and objects on private or public lands in Oregon without a state permit.

ORS 358.653 (http://www.leg.state.or.us/ors/358.html).

This statute requires that any state agency or political subdivision responsible for real property of historic significance must, in consultation with the State Historic Preservation Officer (SHPO), institute a program to conserve the property and assure that such property will not be inadvertently transferred, sold, demolished, substantially altered or allowed to deteriorate.

Oregon Statewide Planning Goal 5 (OAR 660-023-0000) Natural Resources, Scenic and Historic Areas, and Open Spaces (http://www.lcd.state.or.us/LCD/docs/goals/goal5.pdf).

Under Goal 5, local governments throughout Oregon have adopted programs that will protect natural resources and conserve scenic, historic, and open spaces resources. Cultural areas, including historic and archaeological resources, are among the resources recommended for inventory by local governments and state agencies.

Local

Historic Structures of Sites Combine Zone (/H-RCP).

The Lane County Code 16.233, Historic Structures of Sites Combine Zone (/H-RCP), is an ordinance providing for review of building permits or demolition permits for historic structures or sites to ensure preservation. Permits are required for the alteration or demolition of a historic structure or site. Only minimum alteration of historic structures or sites or their environment shall be allowed in order to achieve the intended use, and the distinguishing original qualities or character of a historic building, structure, or site and its environment should not be destroyed.

6.3.3. Findings

Reported Sites

The archaeological site records maintained by the State Historic Preservation Office (SHPO) in Salem, Oregon were reviewed to locate previously reported archaeological sites in or near the project area, as well as previous cultural resources surveys and other archaeological investigations that have been conducted in the area. The review of the SHPO site and project files indicate that five archaeological sites have been recorded in the project area and 20 cultural resources investigations have been conducted either within or in close proximity to the project area boundaries.

In addition to the sites located within the project area, over a hundred prehistoric and historic archaeological sites have been recorded just north of the project area on the floor of Fern Ridge Reservoir (Cheatham 1988; Musil 2005, 2006). Most of these sites line the banks of the Long Tom River and Coyote Creek and their tributaries, and were exposed by erosion caused by the seasonal draining and filling of the reservoir. The exposure of large numbers of sites on the floor of the reservoir due to erosional processes suggests that large numbers of buried sites are also located along portions of those same stream channels that lay outside of the reservoir pool.

Although the specific locations of archaeological sites are exempted from public disclosure in order to protect them, areas in which sites are likely to be located must be identified

and assessed in order to minimize potential impacts. For the OR 126W corridor, those likely site areas occur on terraces above waterways, above wetlands, and along drainages.

Project Reports

A total of 20 cultural resources reports on file at SHPO present the results of archaeological investigations that have been conducted within or directly adjacent to the project area. Eleven of the previously reported projects include or abut portions of the project area, and nine are located just outside of the project boundaries. Seven of projects have been conducted along OR 126W and the railroad tracks south and east of Oak Hill in the northeast corner of the project area. These projects included either pedestrian surveys or subsurface probing in areas slated for bridge replacement, road improvements, and substation construction (Baxter and Bottman 2005; Cabebe and Tasa 2008; Connolly 1987; Finley 2002; Oetting 1999; O'Neill and Connolly 2006; Pettigrew 1983). These projects resulted in the discovery of historic sites 35LA1458 and 35LA1459 (Cabebe and Tasa 2008) and an isolated flake uniface (O'Neill and Connolly 2006).

A cultural resources survey was conducted in 2010 along the proposed Veneta Water Delivery System corridor that traverses the southern portion of the project area. No cultural resources were reported during that survey (Palmer 2010).

The three remaining projects were all located within the boundaries of the Fern Ridge Lake Project. The first project undertaken was a cultural resources survey of selected portions of Fern Ridge Lake for the State of Oregon, Department of Fish and Wildlife in 1981 (Minor 1978). This survey covered a relatively large area in the east-central portion of the present project area, and resulted in the discovery of site 35LA281 along Coyote Creek.

The next project consisted of the archaeological investigations conducted at the Perkins Peninsula Site (35LA282) in 1983-84. Cultural deposits at this site were encountered both on higher ground above the Lake pool in the park and along the banks of the Middle Fork of Coyote Creek on the lake floor (Cheatham 1988).

In 2005 a resurvey of the Fern Ridge Lake drawn-down zone was conducted that included a portion of the project area. This survey recorded 95 previously reported sites, as well as recording 22 new sites (Musil 2006), although none of these sites were located in the present project area.

In addition to the projects conducted within the project area, nine cultural resources surveys have been completed in close proximity to the project boundaries. Most of these projects were associated with various agency and privately funded development and improvement projects (Baxter 1981; Bryson 1995; Connolly 1998; Musil 2004a, 2004b; Southard 1996; Toepel 1985; Tveskov 1994; Wernz 2007). These projects resulted in the recording of four isolated artifacts (Tveskov 1994), a prehistoric site and an historic barn (Baxter 1981), and a 1950s historic trash dump (Musil 2004a), all located within a quarter mile of the project area.

Tribal Consultation

Tribes that may be interested in the proposed project have been identified but no Tribes have been contacted. Tribes that may be interested in the project are the Confederated Tribes of the Grand Ronde Community of Oregon and the Confederated Tribes of the Siletz Indians. This screening report will be sent to the Tribes to initiate a dialogue regarding this planning project and identify any potential issues or concerns.

6.3.4. Conclusions

A review of previous archaeological research in or near the project area, especially the surveys conducted in Fern Ridge Reservoir, shows that prehistoric sites tend to be located along rivers and streams, and at slightly higher elevations at the ecotone between forest areas and the floodplain. In fact, the data suggest that the site distribution pattern observed within the lake most likely extends into the project area, but dense vegetation and the lack of erosion in areas outside of the lake means that the sites are buried, and are very difficult to locate. Therefore, in order to find these sites it would be necessary to use subsurface discovery techniques along any proposed project alignments to enhance site discovery.

Once a project alignment has been chosen and advanced to the next phase of study (NEPA phase), the following actions are recommended:

- An intensive survey supplemented with subsurface discovery probes to identify archaeological sites that may be affected by the proposed project.
- If an archaeological site is eligible for listing in the National Register of Historic Places (NRHP) and cannot be avoided, subsurface exploration and/or testing and evaluation of the site would be required. Additionally, if an NHRP eligible archaeological site cannot be avoided, efforts should be made to minimize impacts and data recovery may be needed.
- Prepare ODOT Determinations of Eligibility for all archaeological sites and Traditional Cultural Properties identified.
- Document background research and fieldwork in a technical report meeting SHPO guidelines.
- ODOT archaeologist continue and complete Tribal consultation with the Confederated Tribes of the Grand Ronde Community of Oregon and the Confederated Tribes of the Siletz Indians, including drafting a Finding of Effect and submitting final reports to SHPO.
- Identify water quality facilities, staging areas, disposal areas, and material sources as early as practicable and clear for archaeological resources early in the Preliminary Design process. If ODOT does not provide the contractor with these locations prior to bid let, the contractor would be responsible for hiring an archaeological consultant to examine these areas after bid let.
- A qualified archeological monitor and / or Tribal monitor may be retained to monitor ground disturbing activities.

6.4. In the unlikely event that buried cultural materials or human remains are exposed during construction, Oregon State laws (ORS 97.740 to 97.760, 358.905 to 358.955, and 390.235), as

well as various federal laws and regulations that may be applicable to this project, require that work in the vicinity of any such finds immediately be suspended. The FHWA, SHPO, ODOT, and Lane County should be notified, and a professional archaeologist engaged to evaluate the significance of the find and recommend a subsequent course of action in consultation with the SHPO, HAP, City, and appropriate Indian tribes. Biology

The biological screening considers the potential effects of the conceptual alternatives on potential habitat for sensitive plant and animal species.

6.4.1. Data Sources and Collection

The section describes data sources and the methods used to collect and evaluate data to determine biological considerations for the project.

Environmental Science & Assessment, LLC (ES&A) reviewed existing data and prepared a Biological Resources Plans, Policies, Regulations and Standards Review Memorandum dated June 8, 2011 (ES&A 2011). ES&A conducted a reconnaissance-level field survey of the project alternatives on July 14 and July 15, 2011. The reconnaissance-level field survey identified potential habitat for sensitive plant and animal species. Observed wildlife species were noted during the field reconnaissance (Table 6.2).

Table 6.2. Observed Species List from July 14, 2011 Field Reconnaissance

Common Name	Scientific Name	Location observed by Alternative		Federal/State Status
		OR 126W	Parallel South	
		Birds		
Scrub/grassland				
Cedar wax wing	*Bombycilla cedrorum*	x	x	
Violet-green swallow	*Tachycineta thalassina*	x	x	
Barn swallow	*Hirundo rustica*	x	x	
Turkey vulture	*Cathartes aura*	x	x	
American crow	*Corvus brachyrhynchos*	x	x	
American robin	*Turdus migratorius*	x	x	
Song sparrow	*Melospiza melodia*	x	x	
Rock dove	*Columba livia*	x		
European starling	*Sturnus vulgaris*	x	x	
Spotted towhee	*Pipilo maculatus*	x	x	
Western scrub-jay	*Aphelocoma californica*	x	x	
Red-tailed hawk	*Buteo jamaicensis*	x	x	
Canada goose	*Branta canadensis*	x	x	
American White pelican	*Pelecanus erythrorhynchos*	x		SV*
Northern harrier	*Circus cyaneus*	x	x	
Swainson's thrush	*Catharus ustulatus*	x	x	

Table 6.2. Observed Species List from July 14, 2011 Field Reconnaissance (Cont.)

Common Name	Scientific Name	Location observed by Alternative		Federal/State Status
		OR 126W	Parallel South	

Common Name	Scientific Name	Location observed by Alternative		Federal/State Status
		OR 126W	Parallel South	
White-crowned Sparrow	*Zonotrichia leucophrys*	x		
Open water				
Western grebe	*Aechmophorus occidentalis*	x		
Clark's grebe	*Aechmophoru clarkii*	x		
American coot	*Fulica americana*	x		
Red-winged black bird	*Agelaius phoeniceus*	x	x	
Pied-billed grebe	*Podilymbus podiceps*	x		
Black tern	*Chlidonias niger*	x		FSOC*
Cliff swallow	*Petrochelidon pyrrhonota*	x	x	
Marsh wren	*Cistothorus palustris*	x		
Common egret	*Ardea alba*	x		
Great blue heron	*Ardea herodias*	x	x	
Riparian/Forested Wetland				
House finch	*Carpodacus mexicanus*		x	
Black-capped chickadee	*Parus atricapillus*		x	
Western bluebird	*Sialia mexicana*		x	SV*
Red-breasted nuthatch	*Sitta canadensis*		x	
Northern flicker	*Colaptes auratus*		x	
Bank swallow	*Riparia riparia*		x	
Belted kingfisher	*Ceryle alcyon*		x	
Ring necked pheasant	*Phasianus colchicus*		x	
Western kingbird	*Tyrannus verticalis*		x	
Cassin's finch	*Carpodacus cassinii*		x	
American kestrel	*Falco sparverius*		x	
Yellow warbler	*Dendroica petechia*		x	
Western wood-pewee	*Contopus sordidulus*		x	
Bush tit	*Psaltriparus minimus*		x	
American gold finch	*Carduelis tristis*		x	
Hermit thrush	*Catharus guttatus*		x	
Mammals				
Common raccoon	*Procyon lotor*	x		
Virginia opossum	*Didelphis virginiana*	x		
Black-tailed deer	*Odocoileus hemionus*	x	x	
Amphibians				
Bullfrog	*Rana catesbeiana*		x	

Source: OR 126W: Fern Ridge Corridor Plan Biological Resources Technical Report. Environmental Science & Assessment. August 2011.
SV = Sensitive-Vulnerable　　*FSOC = Federal Species of Concern*

6.4.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

U.S. Fish and Wildlife (USFWS) Species List for Lane County (USFWS, 2011)

Table 6.3 includes federally listed species identified by the U.S. Fish and Wildlife Service (USFWS) as potentially occurring within Lane County, Oregon. Based on a preliminary review by Environmental Science & Assessment, LLC (ES&A), the last column in Table 6.3 identifies whether the proposed project area is located within the range of the listed species.

Table 6.3. USFWS Species List for Lane County, Oregon and Potential Occurrence within Project Area

Common Name	Scientific Name	Status	Critical Habitat	Project within Species Range
Birds				
Marbled murrelet	*Brachyramphus marmoratus*	LT	CH	No
Western snowy plover	*Charadrius alexandrinus nivosus*	LT	CH	Yes
Short-tailed albatross	*Phoebastria albatrus*	LE	No	No
Northern spotted owl	*Strix occientalis caurina*	LT	CH	No
Reptiles and Amphibians				
Loggerhead sea turtle	*Caretta caretta*	LE	No	No
Green sea turtle	*Chelonia mydas*	LT	No	No
Leatherback sea turtle	*Dermochelys coriacea*	LE	No	No
Olive ridley sea turtle	*Lepidochelys olivacea*	LT	No	No
Fish				
Oregon chub	*Oregonichtys crameri*	LT	CH	Potential
Bull trout	*Salvelinus confuentus*	LT	CH	No
Invertebrates				
Fender's blue butterfly	*Icaricia icarioides fenderi*	LE	CH	Yes
Oregon silverspot butterfly	*Speyeria zerene hippolyta*	LT	CH	No
Plants				
Willamette daisy	*Erigeron decumbens var. decumbens*	LE	CH	Yes
Bradshaw's desert parsley	*Lomatium bradshawii*	LE	No	Yes
Kincaid's lupine	*Lupinus sulphureus ssp. kincaidii*	LT	CH	Yes

Source: OR 126W: Fern Ridge Corridor Plan Biological Resources Technical Report. Environmental Science & Assessment. August 2011.
LT = Listed Threatened; LE = Listed Endangered; CH = Critical Habitat has been designated

Several of the federally listed species potentially occurring in Lane County clearly do not inhabit the proposed project area due to lack of suitable habitat. Sea turtles, short-tailed albatross, and the Oregon silverspot butterfly inhabit coastal areas. Marbled murrelet and northern spotted owl require old growth forest habitat. Based on USFWS and StreamNet data, the nearest bull trout habitat is located in the McKenzie River and Middle Fork Willamette River (70 FR 56212; StreamNet, 2011). Based on the Oregon Chub Investigations 2010 Annual Progress Report, the nearest locations inhabited by Oregon chub are located near the confluence of the McKenzie and Willamette Rivers (ODFW, 2010). However, habitat conditions may exist for Oregon chub within the project area, therefore confirmation with ODFW regarding Oregon chub presence (or lack of presence) will need to occur.

The federally listed coastal population of western snowy plover is documented as occurring at Fern Ridge Wildlife Area during April and May and August through October (ODFW, 2009). However, there are no inland nesting sites for the coastal population in Oregon (UFSWS, 2007).

All of the remaining federally listed species are all documented as occurring in the project vicinity (ODFW, 2009). These include Fender's blue butterfly, Willamette daisy, Bradshaw's desert parsley, and Kincaid's lupine.

There are no species proposed for listing in Lane County. Candidate species include North American wolverine (*Gulo gulo luscus*) and streaked horned lark (*Eremophila alpestris strigata*). The proposed project is not located within North American wolverine habitat. The proposed project is located within the species range for streaked horned lark, which has been documented at Fern Ridge Wildlife Area (ODFW, 2009).

In addition to federally listed and candidate species, the USFWS species list for Lane County includes numerous species of concern, several of which could potentially occur within the proposed project area.

National Marine Fisheries Service (NMFS) Species Data (70 FR 52630)

Federally listed anadromous fish species under the jurisdiction of the National Marine Fisheries Service (NMFS) that could potentially occur in the Willamette Valley include Upper Willamette Distinct Population Segment (DPS) steelhead and Upper Willamette Evolutionarily Significant Unit (ESU) Chinook salmon. Based on NMFS mapping, Upper Willamette DPS steelhead does not extend south of the Calapooia River basin. Also based on NMFS mapping, the proposed project area is located within the Upper Willamette River ESU Chinook salmon. However, Chinook salmon are not documented as occurring within the project area. Based on StreamNet data (StreamNet, 2011) and NMFS data (70 FR 52630), the nearest occurrence of Chinook salmon to the project area is within the Willamette River.

Fern Ridge Operational Management Plan Section 2.9 – Shoreline Management (USACE, 1997)

The Shoreline Management Plan notes that the shoreline-related transition from upland forest to open lowland prairie to marshland and open water provides valuable wildlife habitat along undeveloped portions of the Fern Ridge Lake shoreline. The shoreline has been divided into categories standardized by the U.S. Army Corps of Engineers (USACE) nationwide. These include Limited Development, Public Recreation, Protected Shoreline, and Prohibited Access. The plan also establishes a permit procedure for shoreline use, including vegetation modification.

State

Oregon Biodiversity Information Center (ORBIC) Data

ES&A submitted a request to the Oregon Biodiversity Information Center (ORBIC) for data pertaining to documented occurrences of rare, threatened, and endangered species within a two-mile radius of the proposed project area. The data has not yet been received.

The ORBIC data will include documented occurrences of both federal and state listed species within the project area, which will need to be addressed.

Draft Fern Ridge Wildlife Area Management Plan (ODFW, 2009)

The Oregon Department of Fish and Wildlife (ODFW) Draft Fern Ridge Wildlife Area Management Plan is a ten-year plan to guide management of the Fern Ridge Wildlife Area. It includes broad goals and specific objectives and management strategies.

The document notes that the following federally listed species occur at the wildlife area: Western snowy plover, Fender's blue butterfly, Willamette daisy, Bradshaw's desert parsley, and Kincaid's lupine. Streaked-horned lark, which is a candidate for federal and state listing, is documented as occurring at the wildlife area. The management plan also notes that white topped aster (*Sericocarpus rigidus*), which is state listed as a threatened species, occurs at the wildlife area. It also notes numerous federal species of concern and state sensitive species.

In addition to extensive information pertaining to biological resources, the plan also notes that access to the Fern Ridge Wildlife Area is provided by OR 126W and secondary county roads included in the current range of alternatives for the proposed project.

Long Tom Subbasin Fish Management Plan (ODFW, 1992)

The Long Tom Subbasin Fish Management Plan provides policies and objectives for the management of fishery resources within the subbasin. It provides data pertaining to habitat, water quality, and fish presence.

The plan notes that no fish passage facilities were provided when the Fern Ridge Dam was constructed in 1941 because anadromous salmonids were considered absent; however, it also notes that cutthroat trout migration was blocked by construction of the dam.

The identified highest priorities of the plan are:

- "Protect fish populations from impacts caused by land use activities.
- Protect and enhance the productivity of wild cutthroat trout.
- Provide additional angling opportunities for warm water game fish while protecting native species.

- Maintain public access and provide additional sites."

Regional and Local

Lane County Rural Comprehensive Plan (Lane County, 2009)

ES&A reviewed applicable sections of the Lane County Rural Comprehensive Plan (Lane County, 2009). The Flora and Fauna section of Goal 5 are of particular relevance to Biological Resources. That section addresses wildlife habitat including sensitive fish and waterfowl areas. It recognizes federal and state programs for protecting threatened and endangered species and categorizes rare plants as significant resources.

Lane County Code Chapter 16 (2010) and Chapter 12 (Comprehensive Plan) (2002)

ES&A reviewed Chapters 16 and 12 of the Lane County Code pertaining to Zoning and the Comprehensive Plan. The zoning information in Chapter 10 may be relevant to Biological Resources, particularly within the Natural Resource District areas that are mapped within the project corridor. Certain transportation related activities such as operations, maintenance, and repair are permitted uses within the Natural Resource District. Chapter 12 provides details on how the County will implement the Comprehensive Plan and how amendments may be adopted.

City of Veneta Comprehensive Plan (2009) and Land Development Ordinance 493 (2010)

The proposed project corridor extends a short distance into the Urban Growth Boundary and City Limits of the City of Veneta. The Comprehensive Plan Map identifies an Open Space – Greenway Overlay in that area that may be applicable to the proposed project as it pertains to Biological Resources.

Eugene-Springfield Metropolitan Area General Plan 2004 Update (Metro Plan 2004)

The proposed project corridor extends a short distance into the Metro Plan boundary. The Metro Plan map identifies areas of encroachment as Agricultural, Forest Land and Rural Residential areas that may be applicable to the proposed project as it pertains to Biological Resources.

6.4.3. Findings

This Biological Resources review identified useful sources of existing information pertaining to known Biological Resources that need to be addressed as the proposed project moves forward. Field surveys and required documentation will be necessary for the project to comply with the federal Endangered Species Act and the Oregon Endangered Species Act. Potential impacts to other sensitive species and habitats may also need to be addressed in order to comply with state and local requirements.

Biological Resources of particular significance to the proposed project include the documented occurrence of state and federally listed species near the project corridor. These include Fender's blue butterfly, Willamette daisy, Bradshaw's desert parsley, and Kincaid's lupine.

Recommendations for Phase 1 of the project include reconnaissance-level field studies of habitat conditions along the proposed alignment alternatives. In addition to general habitat conditions, this effort will include an assessment of potential habitats for state and federally listed species. Based on the results of the potential habitat assessment, it is likely that rare plant surveys will be required for subsequent phases of the project. Because rare plant surveys need to be conducted during specific seasonal periods, planning ahead for these surveys would be prudent.

Coordination with agency personnel is recommended during Phase 1 to further identify potential issues that may or may not need to be addressed. This includes obtaining official confirmation of the lack of presence of certain state and federally listed species. Recommended agency coordination includes USFWS, NMFS, and ODFW. If the project potentially results in modifications to the Fern Ridge Lake shoreline, coordination with USACE may also be necessary.

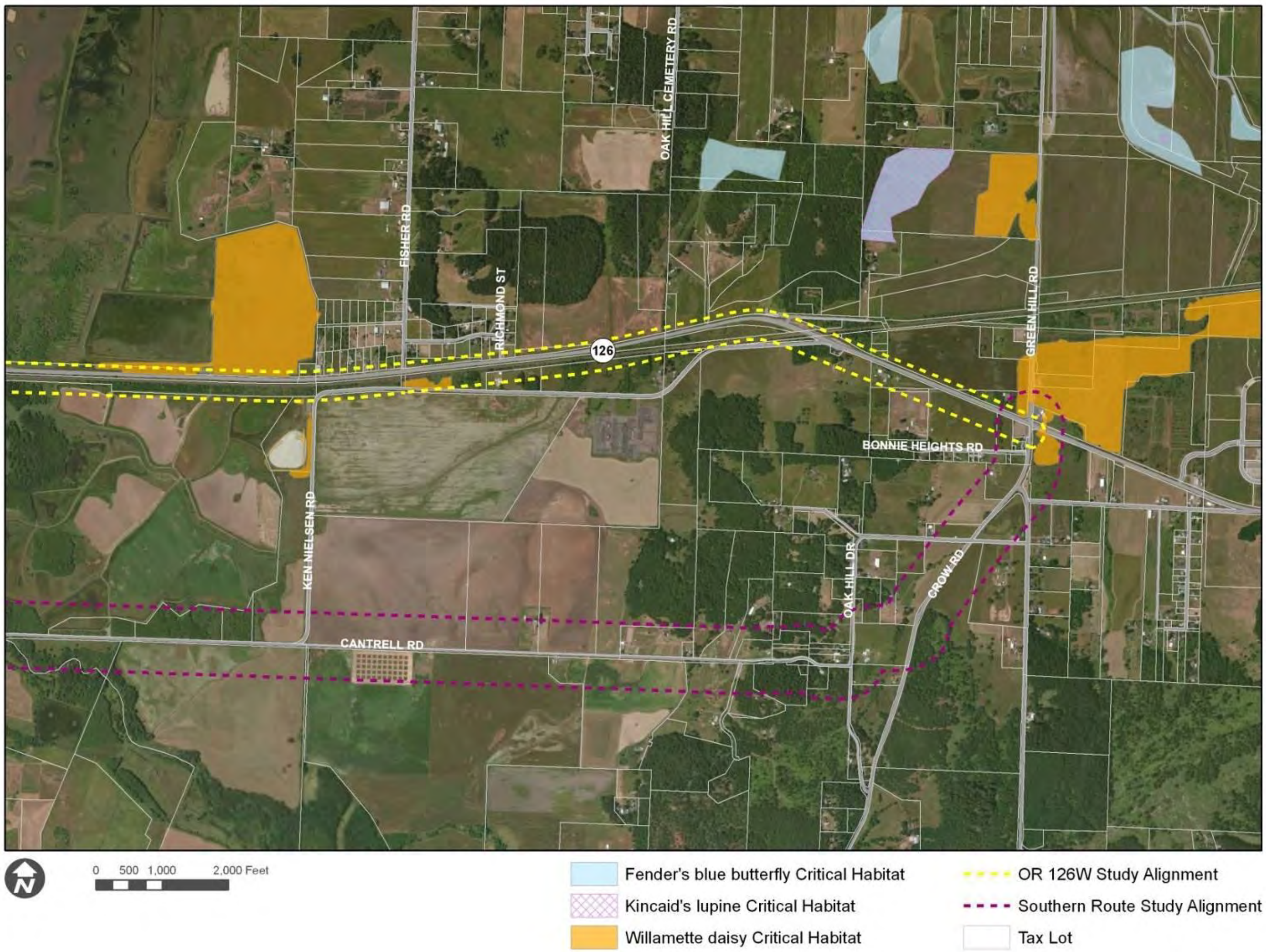
Existing OR 126W Alignment

Fern Ridge Lake habitats include open water, seasonal mudflats, emergent wetland, shrub-scrub wetland, and forested wetland. Wetland and upland prairie habitat is present with pockets of scrub-shrub wetland and upland shrub habitat east of the Lake. Mixed riparian habitat is located along the waterways flowing into Fern Ridge Lake. Oak woodlands and mixed oak/fir woodland is present on the eastern end of this alignment south of Oak Hill and just east of Veneta. Portions of the alignment pass through the ODFW Fern Ridge Wildlife Area (South Marsh Unit, Fisher Butte Unit, West Coyote Unit, and East Coyote Unit). The eastern end of this alignment is primarily mixed woodland surrounded by cultivated agricultural fields and pasture on residential properties. Designated critical habitat for Willamette daisy is located immediately adjacent to OR 126W (Figure 6.2).

Southern Route along Perkins and Cantrell Roads

Existing habitats along this alignment include emergent, shrub-scrub, and forested wetlands. Wetland prairie habitat is present in the extreme eastern end of this alignment just south of OR 126W. Upland prairie and potential wetland prairie is present along Cantrell Road east of Coyote Creek. Extensive riparian and forested wetland habitats are present east and west of Coyote Creek in the East Coyote Unit and West Coyote Unit of the ODFW Fern Ridge Wildlife Area. Oak woodlands and mixed oak/fir woodland are present on the eastern end of this alignment south of OR 126W. The western end of this alignment is primarily mixed woodland surrounded by cultivated agricultural fields and pasture on residential properties. Designated critical habitat for Willamette daisy is located immediately adjacent to the eastern end of the alignment at the OR 126W/Greenhill – Crow Rd. intersection (Figure 6.2).

Figure 6.2. Designated Critical Habitat



Federal and State Listed Species

Table 6.4 includes federal and state listed species identified by the Oregon Biodiversity Information Center (ORBIC) as occurring within the proposed project area. ORBIC data was reviewed pertaining to documented occurrences of rare, threatened, and endangered species within a two-mile radius of the proposed project area.

Table 6.4. Federally and State Listed Species Documented in Project Area

Common Name	Scientific Name	Federal Status	State Status
Birds			
Bald Eagle	*Haliaeetus leucocephalus*	Delisted 2007	LT
Invertebrates			
Fender's blue butterfly	*Icaricia icarioides fenderi*	LE, CH	NA
Plants			
Willamette daisy	*Erigeron decumbens var. decumbens*	LE, CH	LE
Bradshaw's desert parsley	*Lomatium bradshawii*	LE	LE
Kincaid's lupine	*Lupinus sulphureus ssp. kincaidii*	LT, CH	LT
Wayside aster	*Eucephalus vialis*	SOC	LT
White topped aster	*Sericocarpus rigidus*	SOC	LT

Source: OR 126W: Fern Ridge Corridor Plan Biological Resources Technical Report. Environmental Science & Assessment. August 2011.
LT = Listed Threatened; LE = Listed Endangered; SOC = Species of Concern; CH = Critical Habitat has been designated; NA = Not Applicable

There are no species proposed for federal listing in Lane County. Federal candidate species include North American wolverine (*Gulo gulo luscus*) and streaked horned lark (*Eremophila alpestris strigata*). The proposed project is not located within North American wolverine habitat. The proposed project is located within the species range for horned lark and streaked horned lark may be present at Fern Ridge Wildlife Area according to ODFW (ODFW, 2009).

Species documented in the project corridor that are candidates for state listing include shaggy horkelia (*Horkelia congesta ssp. congesta*), tall bugbane (*Cimicifuga elata var. elata*), and Willamette Valley larkspur (*Delphinium oreganum*). Other state sensitive species and federal species of concern are documented in the area.

Birds

Bald Eagle (*Haliaeetus leucocephalus*) – The best available scientific and commercial data indicates that the bald eagle recovered in the lower 48 States of the United States. The bald eagle was removed (delisted from the federal list of endangered and threatened wildlife, which took effect on August 8, 2007 (72 Federal Register (FR) 37346). The protections provided to the bald eagle under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA) will continue to remain in place (72 FR 37346).

Bald eagles have been documented at nesting sites near Fern Ridge Lake since 1987. The last documented occurrence was a nest near Fern Ridge Lake north of the project area. The nest site was abandoned in 2006 (Isaacs and Anthony, 2007). Wintering bald eagle forage within the Willamette River basin and would likely use the habitat surrounding Fern Ridge Lake for foraging and migrating. Potential bald eagle perch and roost trees are located along the lake north of the project area.

Streaked Horned Lark (*Eremophila alpestris strigata*) – The streaked horned lark is a ground-dwelling, sparrow-sized bird, which breeds west of the Cascade Range from southwest British Columbia to southwest Oregon. It winters in the breeding range and south to northern California.

The habitat of this species consists of open fields, particularly those having bare ground or sparse vegetation. The nest cavity is dug in dry ground in sparse vegetation (Marshall *et al.*, 1996). ODFW has prepared the Oregon Conservation Strategy which articulates goals and identifies actions that conserve and restore Oregon's species, habitats and ecosystems (ODFW, 2006). The limiting factors for this species include loss and degradation of grassland habitat and nesting failure due to timing of land management practices (i.e., mowing, haying, spraying)(ODFW, 2006).

According to ORBIC, there are no known records of the species within two miles of the project site (ORBIC, 2011). The known nesting and foraging habitat for this species is present in the project vicinity, however most of the suitable habitat is managed (i.e., agricultural).

Invertebrates

Fender's Blue Butterfly (*Icaricia icarioides fenderi*) – Fender's blue butterfly is endemic to the native upland prairies of the Willamette Valley in Oregon. A few small populations of the species can also be found in southern Washington. Only one-tenth of one percent of the original habitat once available to the Fender's blue butterfly and Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*) (the butterflies primary food source), or approximately 400 hectares of prairie, exists today. Fender's blue butterflies live primarily in the upland prairies of Oregon's Willamette Valley. For general information on the habitat requirements and life history of the Fender's blue butterfly, see the FR notice published on January 25, 2000 (65 FR 3875).

Critical habitat was designated for Fender's blue butterfly on October 31, 2006 (71 FR 63862). The primary constituent elements essential for the conservation of Fender's blue butterfly include having enough high-quality habitat to maintain viable populations across the range of the species. This would require habitat restoration to create new sites, expanding the size of existing sites, and creating habitat networks that connect isolated populations (71 FR 63862). The criteria considered in determining selection of specific areas as critical habitat can be found in the FR published on October 31, 2006 (71 FR 63862). Critical habitat is designated within 2,500 feet of OR 126W.

Observed occurrences have been documented along OR 126W in the eastern portion of the project area and east of Fern Ridge Lake. Several other sites have been documented near Veneta west of the

Lake (ORBIC, 2011). Based on the results of the potential habitat assessment, it is likely that surveys for host plants will be required for subsequent phases of the project.

Plants

Willamette Daisy (*Erigeron decumbens* var. *decumbens*) - Willamette daisy is listed under both the Endangered Species Act (ESA) (65 FR 3875) and Oregon Endangered Species Act (OESA) (ORNHIC, 2007) as an endangered species. Critical habitat was designated October 31, 2006 (71 FR 63862).

Willamette daisy is endemic to the Willamette Valley, where it historically was likely widespread (USFWS, 2008b). Willamette daisy occurs in native prairie grasslands (ORNHIC, 2009), typically on alluvial soils such as Wapato, Bashaw, and Mcalpin Series (USFWS, 2008b). Habitat for the species includes wet tufted hairgrass (*Deschampsia cespitosa*) bottomlands and more well-drained red fescue grasslands (ORNHIC, 2009). Sites often occur on relatively undisturbed sites with a diversity of native forb and grass species. A few populations exist on more degraded sites, but the populations at disturbed sites are generally small. For additional information on the habitat requirements and life history of the Willamette daisy, see the Federal Register notice published on January 25, 2000 (65 FR 3875).

Willamette daisy has been documented at several sites within the project area (ORBIC, 2011). Designated critical habitat for the species is located immediately adjacent to OR 126W. Surveys for Willamette daisy will be required for subsequent phases of the project.

Bradshaw's Desert Parsley (*Lomatium bradshawii*) - Bradshaw's desert parsley is listed under both the ESA (53 FR 38448) and OESA (ORNHIC, 2007) as an endangered species. No critical habitat has been designated for the species (USFWS, 2008a). Bradshaw's desert parsley is endemic to the native wet prairies of central and southern Willamette Valley of Oregon (USFWS, 1993). The species occurs in two distinct habitats. The majority of populations occur on seasonally saturated or flooded prairies with dense, heavy clay soils (USFWS, 1993). The tufted hairgrass wet meadow community is the most common habitat for the species (USFWS, 1993). For additional information on the habitat requirements and life history of the Bradshaw's desert parsley, see the Federal Register notice published on September 30, 1988 (53 FR 38448).

Bradshaw's desert parsley has been documented at several sites within the project area (ORBIC, 2011). Surveys for the species will be required for subsequent phases of the project.

Kincaid's Lupine (*Lupinus sulphureus* ssp. *kincaidii*) - Kincaid's lupine is federally listed as a threatened species (65 FR 3875) and is also listed by the State of Oregon as a threatened species (ORNHIC, 2007). Critical habitat was designated for the species on October 31, 2006 (71 FR 63862). Kincaid's lupine typically occurs in native upland prairie habitats with heavy soils (65 FR 3875). For additional information on the habitat requirements and life history of the Kincaid's lupine, see the Federal Register notice published on January 25, 2000 (65 FR 3875).

Kincaid's lupine has been documented at several sites within the project area (ORBIC, 2011). Designated critical habitat for the species is located within 2,500 feet of OR 126W. Surveys for Kincaid's lupine will be required for subsequent phases of the project.

White-Topped Aster (*Sericocarpus rigidus*) - White-topped aster is a federal species of concern and is listed by the State of Oregon as threatened (ORNHIC, 2007). White-topped aster occupies low elevation moist native prairies and well-drained soils in oak savanna habitats (Oregon Flora Project, 2010). It occurs on glacial outwash soils and shallow bedrock habitats, but at the southern portion of its range, where the project site is located, it occurs on clayey soils (NatureServe, 2008).

White-topped aster has been documented at several sites within the project area (ORBIC, 2011). Surveys for the species will be required for subsequent phases of the project.

Wayside Aster (*Eucephalus vialis*) - Wayside aster is a federal species of concern and is listed by the State of Oregon as threatened (ORNHIC, 2007). Wayside aster occupies woodland and forest openings and edges, which can be either natural or man-made (ORNHIC, 2009). It can also occur along shaded roadsides (ORNHIC, 2009). It generally occurs between 250 and 2200 feet in elevation, but occurs up to 3700 feet in southern Oregon (Oregon Flora Project, 2010).

Wayside aster has been documented at several sites within the project area (ORBIC, 2011). Surveys for the species will be required for subsequent phases of the project.

Fish

There are no state or federally listed fish species within the project corridor. Fern Ridge Lake supports native fish species including cutthroat trout (*Oncorhynchyus clarki*), largescale sucker (*Castostomus macrosheilus*), sculpin (*Cottus* spp.), northern pikeminnow (*Ptychocheilus oregonensis*), and redside shiner (*Richardsonius baltaetus*). Coyote Creek likely supports the same native fish species. Fern Ridge Lake also supports several species of non-native warm water fish, many of which also likely inhabit portions of Coyote Creek.

6.4.4. Conclusions

This Biological Resources review identified useful sources of existing information pertaining to known Biological Resources that need to be addressed as the proposed project moves forward. Field surveys and required documentation will be necessary for the project to comply with the federal Endangered Species Act and the Oregon Endangered Species Act. Potential impacts to other sensitive species and habitats may also need to be addressed in order to comply with state and local requirements.

Biological Resources of particular significance to the proposed project include the documented occurrence of state and federally listed species near the project corridor. These include Fender's blue butterfly, Willamette daisy, Bradshaw's desert parsley, Kincaid's lupine, White-topped aster and Wayside aster.

Recommendations for Phase 1 of the project include reconnaissance-level field studies of habitat conditions along the proposed alignment alternatives. In addition to general habitat conditions, this effort will include an assessment of potential habitats for state and federally listed species. Based on the results of the potential habitat assessment, it is likely that rare plant surveys will be required for subsequent phases of the project. Because rare plant surveys need to be conducted during specific seasonal periods, planning ahead for these surveys would be prudent.

Coordination with agency personnel is recommended during Phase 1 to further identify potential issues that may or may not need to be addressed. This includes obtaining official confirmation of the lack of presence of certain state and federally listed species. Recommended agency coordination includes USFWS, NMFS, and ODFW. If the project potentially results in modifications to the Fern Ridge Lake shoreline, coordination with USACE may also be necessary.

6.5. Energy

This section considers energy analysis and how it relates to the project.

6.5.1. Data Sources and Collection

Regulations and plans pertaining to energy use were reviewed online at the federal, state, and local level.

6.5.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

Title 42 of the United States Code (USC). 42 USC 6201, 13401, and 13431

Title 42 of the USC focuses on energy conservation, reduced reliance on foreign energy sources (mainly petroleum), use of alternative fuels, and increased efficiency in energy use. Policies related to energy include:

- Providing for improved energy efficiency in motor vehicles (42 USC 6201).
- Increasing economic efficiency by meeting future needs for energy services at the lowest cost considering technologies that improve the efficiency of energy end use, while conserving energy supplies such as oil (42 USC 13401).

- Reducing air, water, and other environmental impacts (including emissions of greenhouse gases) related to energy production, distribution, transportation, and use by development of an environmentally sustainable energy system (42 USC 13401).
- Reducing demand for oil in the transportation sector for all motor vehicles (42 USC 13431).

Energy Policy Act of 2005. Public Law (PL) 109-58. August 8, 2005

The Energy Policy Act of 2005 amended and now supersedes several previous energy policy acts, including the National Energy Act of 1978 (PL 95-619), the Energy Policy and Conservation Act Amendments of 1985 (PL 99-58), and the Energy Policy Act of 1992 (PL 102-486). The Energy Policy Act of 2005 includes transportation-related provisions which:

- Reduce reliance on foreign energy sources (mainly petroleum).
- Increase efficiency in motor vehicles.
- Increase use of recovered mineral content in federally funded projects involving procurement of cement or concrete.

State

State of Oregon Energy Plan 2005-2007. 2005

The Oregon Energy Plan includes an energy action plan with recommendations and goals to help ensure that Oregon has an adequate supply of affordable and reliable energy. Goals related to transportation energy include the following:

- Reduce single-occupancy vehicle commuting.
- Implement Oregon's Renewable Energy Action Plan (this plan includes long- and short-term goals for electricity generation and transportation fuels).
- Implement strategy for reducing greenhouse gases (this includes emissions from transportation sources).

Oregon Transportation Plan 2006

The Oregon Transportation Plan (OTP) is the state's long range multimodal transportation plan and overarching policy document for the statewide transportation system. Goal 4 in the OTP is dedicated to sustainability—the concept that future generations should equitably enjoy the same or better quality of life common to Oregonians today.

Policy 4.1 directs the state to provide an environmentally responsible transportation system that encourages conservation and protection of natural resources. To achieve this policy, strategies are listed such as stewardship of natural resources and use of renewable materials in construction. Policy 4.2 is directed at energy supply. This policy supports efforts to create a diversified, cleaner energy supply and encourages development of alternative fuel vehicles.

Oregon Statewide Planning Goals. Oregon Administrative Rules (OAR) Division 660

Oregon has developed and maintained a statewide program of land use planning since the early 1970s. The core of this program consists of 19 statewide planning goals. Two of these goals, 12 and 13, relate to energy.

Goal 12: Transportation, is to provide and encourage a safe, convenient, and economic transportation system. It states that transportation plans must encourage the conservation of energy. In addition, transportation systems shall, to the fullest extent possible, be planned to utilize existing facilities and rights-of-way within the state, provided that such use is not inconsistent with the environmental, energy, land use, economic, or social policies of the state.

Goal 13: Energy Conservation, states that land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based on sound economic principles (OAR 660-015-0000 (13)).

Regional and Local

Lane County Comprehensive Plan

The general purpose of the comprehensive plan is to guide the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity, and general welfare.

Under Goal 12: Transportation, the comprehensive plan has energy-related policies including consideration of impacts to energy resources from proposed transportation projects. Transportation Policy 1g encourages energy-efficient modes of transportation. Goal 13 in the plan addresses Energy Conservation. In support of this goal, Policy 2 encourages energy conservation in the development and use of public facilities.

Central Lane MPO Regional Transportation Plan

The Central Lane Metropolitan Planning Organization (CLMPO) Regional Transportation Plan (RTP) guides regional transportation system planning and development in the CLMPO metropolitan area. The RTP includes provisions for meeting the transportation demand of residents over a 20-year planning horizon while addressing transportation issues and making changes that can contribute to improvements in the region's quality of life and economic vitality. The MPO boundary extends beyond Eugene and Springfield to include Coburg. Its western boundary is located a short distance west of Green Hill Road, extending into the eastern portion of the Corridor Plan study area.

The RTP strives to provide a transportation system that is environmentally responsible. This is defined as a transportation system that reduces environmental impact and energy consumption. Actions identified to reduce energy consumption include increased use of transit, telecommuting, zero-emissions vehicles, ridesharing, bicycles and walking, and through increased efficiency in the existing transportation network to minimize delay.

6.5.3. Findings

At this time there are no findings for energy consumption. Energy use may be quantified in future phases of the project as traffic projections are developed and the design of potential alternatives is refined.

6.5.4. Conclusions

No local, state, or federal laws constrain energy use or regulate carbon output or sustainability practices. As described above, some federal, state, and local policies generally address energy use and sustainability, mainly in terms of conserving energy or providing means to improve the efficiency of energy use in transportation.

Project alternatives that demonstrate energy conscious choices will comply with these general policies. This may include alternatives that improve multi-modal connectivity and reduce energy consumption related to delay while minimizing the construction footprint to conserve the use of materials. Energy conservation goals related to encouragement of alternative fuel vehicles are generally outside the purview of the Corridor Plan.

6.6. Geology / Geotechnical

This section addresses geology and seismic activity in the study corridor.

6.6.1. Data Sources and Collection

Relevant federal, state, and local documents were reviewed and the Web Soil Survey was consulted through the Natural Resources Conservation Service (NRCS) website.

6.6.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan. Two geotechnical studies have been conducted in the project area. One related to slide repair at the OR 126W crossing of Coyote Creek and an earlier report prepared for the Coyote Creek Bridge.

Federal

American Association of State Highway and Transportation Officials Load and Resistance Factor Design Bridge Design Specifications (4th edition, 2007)

These specifications are intended for the design, evaluation, and rehabilitation of both fixed and movable highway bridges. If structures are constructed as part of the project alternatives, this publication will provide guidance for seismic standards.

State

ODOT 2004 Bridge Design and Drafting Manual (revised April 2010)

The purpose of the manual is to provide guidance in design criteria, analysis methods and detailing practices for the preparation of plans, specifications, and cost estimates for bridges and other structures. It provides seismic guidance if bridge structures are included in the Corridor Plan.

Foundation Report. Middle Fork Coyote Creek Bridge, Florence-Eugene Highway (May 1983)

Information contained in this report was for structural design of the Coyote Creek Bridge. Test holes were drilled at the site to analyze soil composition.

Engineering Geology Report. OR126 Coyote Creek Slide Repair (December 2008)

Included in the report is a background of the project, description of the site conditions, and conclusions from a subsurface investigation. Additional detailed information, such as drill hole logs, was provided in the appendix.

Oregon Transportation Plan 2006

The Oregon Transportation Plan (OTP) is the state's long range multimodal transportation plan and overarching policy document for the statewide transportation system. Goal 4 in the OTP is dedicated to sustainability, and to pursue this goal, Action 4.1.3 stresses that the state must evaluate geological hazards when considering the location and design of transportation facilities.

Regional and Local

Lane County Comprehensive Plan

The general purpose of the comprehensive plan is the guiding of the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity, and general welfare.

Goal 7 in the comprehensive plan considers area subject to natural hazards. This primarily applies to new development and mitigation of hazards associated with flooding, landslides, and erosion, but the same can apply to new or modified transportation facilities.

6.6.3. Findings

The highway section is within the Willamette Valley physiographic province of Oregon, which is enclosed by the Coast Range to the west, the Cascade Mountains to the east, and the Columbia River to the north (Orr and Orr, 2000). According to the geologic maps reviewed, the site sits on recent fill, and Quaternary aged (1.8 million years to present) fine grained alluvium. The highway embankment fill is derived from local Quaternary aged fine grained alluvial deposits.

In a subsurface exploration at the Coyote Creek Bridge (OR 126W), two holes were drilled in November 2007. The investigation reported: "Fill was encountered below the roadway material in both drill holes to a depth between 11 and 14 feet. The fill consists of high plasticity clay with rootlets. Alluvium was encountered in both borings below the fill. The alluvium consists of medium to high plasticity silty clay and clayey silt, medium plasticity clayey sand, and non-plastic silty sand with some gravel." (ODOT, 2008)

There are no known geological hazards in the project study area identified in local plans. The project area is generally flat along OR 126W and likely void of conditions that would lead to unstable soils/landslides. Steeper slopes (greater than 10%) are found on the eastern portion of the parallel facility route (on Cantrell Road). Soils in the project area are mapped by the Natural Resource Conservation Service as mostly silty clay loams and silty loam. Generally, these soils are mapped as slightly to highly plastic with very high fines contents. Such soils are somewhat susceptible to erosion. Stream bank materials along Coyote Creek have been highly erodible, probably due to wave action caused by boats and wind. Because of their plasticity, they typically function poorly as structural fill or trench backfill in areas where post-construction trench backfill settlements may be of concern. This would include road subgrade areas or areas that will need to function as bearing strata such as foundation areas for retaining walls, bridges, buildings, etc.

The regional sources of seismicity affecting the Eugene, Oregon area, and hence the potential for ground shaking, are principally controlled by two separate mechanisms. These are large subduction zone interface earthquakes (moment magnitude [Mw] 8 to 9) and relatively shallow crustal zone earthquakes (Mw 5.0 to 7.0). Deeper subduction zone intraplate events occur in the Pacific Northwest but have not been documented in Oregon, and their contribution to the overall hazard is likely small.

6.6.4. Conclusions

If project alternatives would be constructed on or would result in grades of greater than 10 percent, then additional analysis must be prepared to assess whether the project would be at risk from and/or create a geologic hazard. This would be evaluated by a geotechnical specialist as the project advances through the future NEPA stage, assuming modernization alternatives are advanced for further consideration. The type of project and geological conditions will drive the complexity and detail needed for the geotechnical report.

Development of structures will need to comply with applicable seismic standards. State design codes for highways and related facilities will apply to the construction of OR 126W improvements, including addressing geologic hazards that could result from or affect the project facilities. All applicable standards must be met in order to receive ODOT construction permits.

6.7. Hazardous Materials

This section addresses hazardous material sites within the project study area. A hazardous material site is a location or facility which has reportedly contained a hazardous substance or has released a hazardous substance into the environment.

6.7.1. Data Sources and Collection

For this assessment, the Oregon DEQ Environmental Cleanup Site Information (ECSI) database was consulted to locate any known or potential sites contaminated with hazardous substances.

6.7.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

The Resource Conservation and Recovery Act of 1976 (RCRA)

The RCRA was established for the regulation of hazardous waste and related activities that include hazardous waste generators, transporters, and storage and disposal facilities. The RCRA was designed to regulate materials that can be defined as both a solid and a hazardous waste and is related to activities that are currently taking place.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)

This act was established to identify and provide for the cleanup of sites contaminated with hazardous substances from past uncontrolled releases into the environment. It also provides for emergency response actions and gives the federal government the authority to assign responsibilities for contamination and subsequent cleanup via a superfund liability.

State

Oregon Revised Statutes Chapters 465 and 466

In the interest of public health and safety, the state legislature enacted ORS to protect Oregon citizens from the potential harmful effects of the transportation and treatment or disposal of hazardous waste. The Oregon Department of Environmental Quality (DEQ) is charged with administration, enforcement, and implementation of the laws.

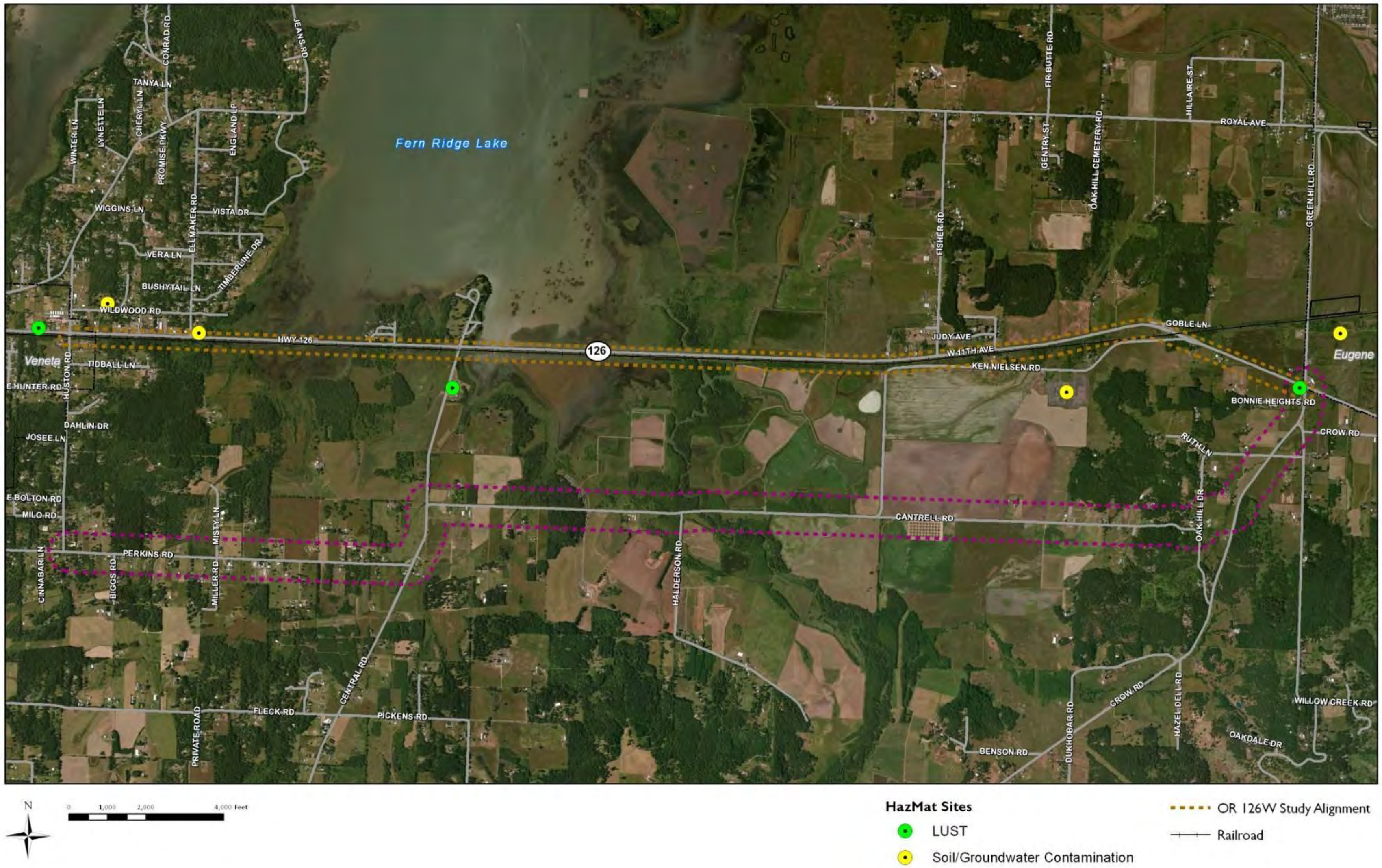
Regional and Local

Local provisions regarding on-site hazardous materials were not found.

6.7.3. Findings

Through a search of the DEQ ECSI database, seven potentially contaminated sites were found in the general project area. This includes three Leaking Underground Storage Tank (LUST) sites, three sites with suspected soil contamination, and one site with potential groundwater contamination at the Lane Substation (owned by Bonneville Power Administration). The location of these properties is shown on Figure 6.3.

Figure 6.3. Potential Hazardous Material Sites



6.7.4. Conclusions

The significance of potential hazardous materials impacts will need to be analyzed in terms of the project's affect on the public or the environment through the routine transport, use or disposal of such materials, and the extent to which project alternatives may disturb hazardous material sites.

Project alternatives, if constructed, may require earthwork and excavation adjacent to existing transportation facilities. Three of the hazardous material sites (one soil contamination and two LUST sites) are located on properties adjacent to OR 126W; the remaining four are located away from the highway corridor. A Hazardous Materials Report is anticipated for the future NEPA documentation phase to further investigate potential project effects. Alternatives with the largest construction footprint would have a greater potential to disturb hazardous material sites.

6.8. Historic Resources

The historic resources screening considers the potential effects of the conceptual alternatives on potential above ground historic resources.

6.8.1. Data Sources and Collection

This section describes data sources and the methods used to collect and evaluate data to determine archaeological considerations for the project.

Area of Potential Effect

The area of potential effect (APE) for historical resources includes locations that will be directly impacted by the project such as removal of structures or impacts to tax lots, as well as resources that may be affected by indirect impacts such as visual or noise effects. The proposed APE requires review and approval by the Oregon SHPO. SHPO will review the APE once the extent of direct landscape alterations and the indirect impacts to traffic patterns of the project are known. Further, the APE may be modified as a result of the project's analysis of potential impacts.

Data Sources

Documentary research was conducted using primary and secondary source materials on file at Oregon SHPO (to identify properties designated as National Register listed or eligible, or Statewide Planning Goal 5-protected historic resources), Lane County, and other appropriate archives, and included the following sources:

- Oregon SHPO National Register and State Inventory files
- Lane County Inventory and Goal 5 Historic Resources
- Tax records from Lane County
- Sanborn Fire Insurance maps and other historical maps

Records Review

Heritage conducted a review of historic maps and records to identify previously documented historic resources in the Project Survey Area was. This review included a search of the Oregon SHPO database, the City of Eugene, Lane County, and the National Register database for listed properties. Historic maps were also consulted: General Land Office (GLO) for 1853-1854 (Figure 6.4), GLO for 1857-1860, USGS 1910-1922 (Figure 6.5), and USGS Eugene 1946 and Elmira 1957 quadrangles (Figure 6.6).

Figure 6.4. 1853-54 General Land Office Survey plat showing the boundaries of the Project Study Area and current roadways.

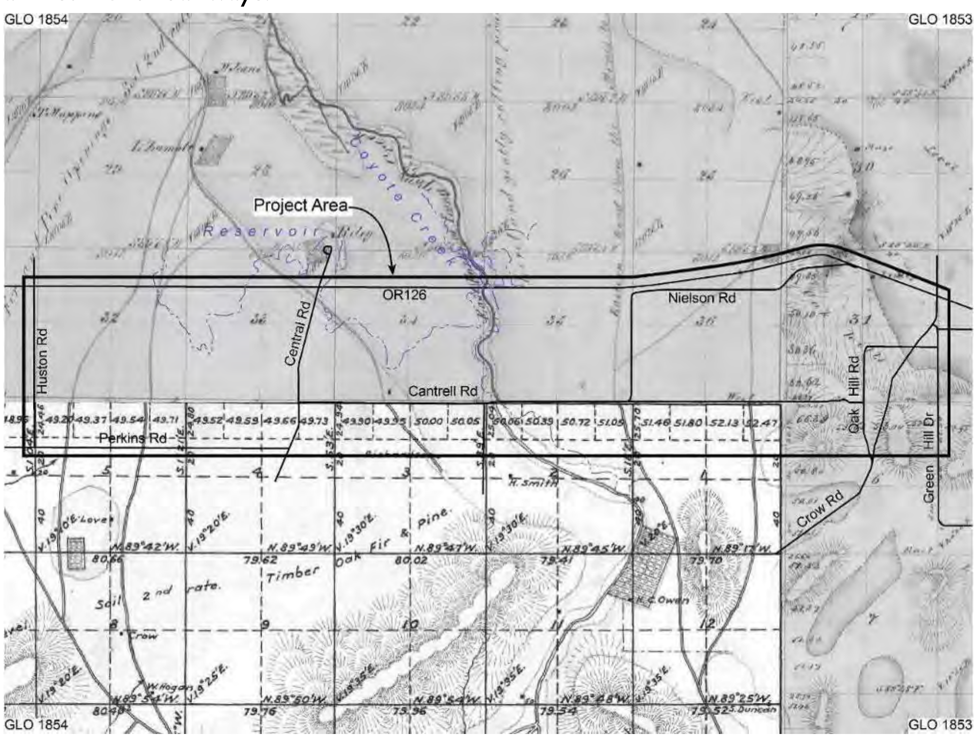


Figure 6.5. USGS Elmira and Eugene 15' quadrangles showing the boundaries of the Project Study Area (1910, 1922).

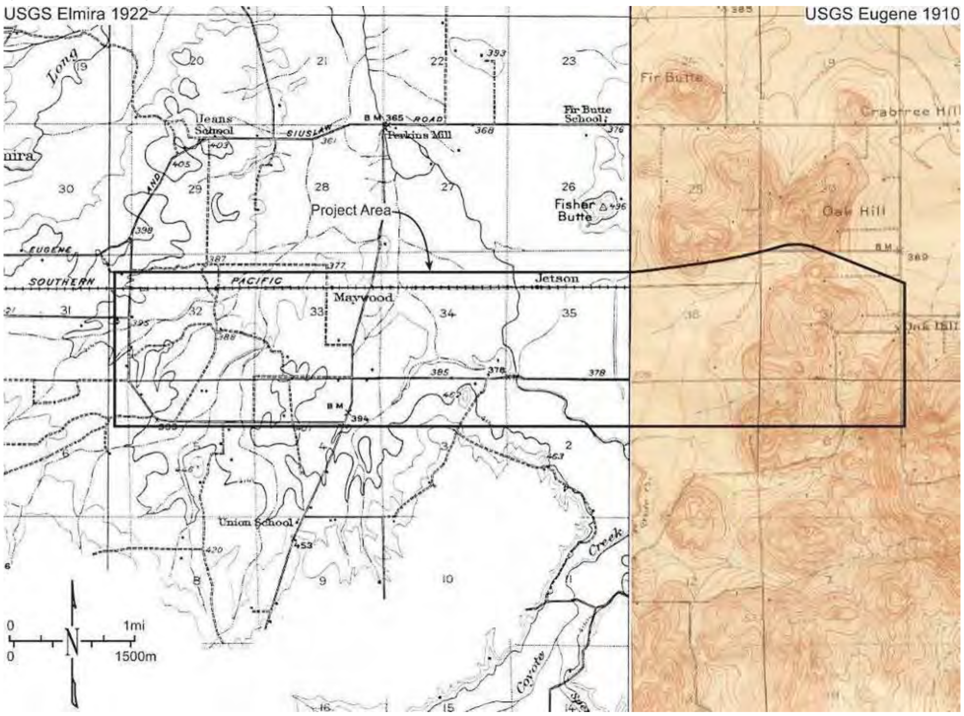
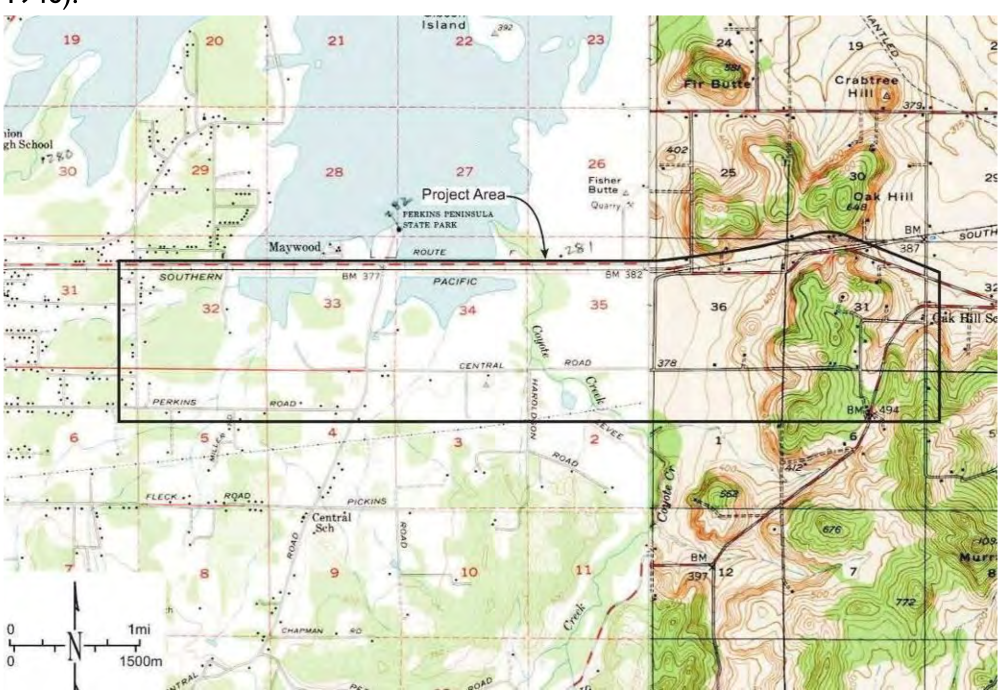


Figure 6.6. Boundaries of the Project Study Area on the USGS Elmira-Eugene 15' quadrangles (1957, 1946).



6.8.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

The purpose of the historic resource evaluation is to ensure that the proposed project complies with laws, regulations, and policies set forth at the federal, state, and local levels. The extent to which these historic resource laws and regulations might apply to this project will depend upon the resources encountered within the project area. The analysis will comply with the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), applicable state environmental policy legislation, and local and state planning policies. The following federal, state, and local environmental laws and regulations addressing historic and cultural resources may apply to the Corridor Plan.

Federal

National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347.

The National Environmental Policy Act (NEPA) requires that federal agencies consider environmental impacts before taking actions that could significantly affect the human environment. As interpreted by the Council on Environmental Quality (CEQ), NEPA requires that "reasonably foreseeable" direct, indirect, and cumulative effects of a proposed action be considered in the decision making process. The term "effects" includes "aesthetic, historic, cultural, economic, social, or health" effects.

National Historic Preservation Act of 1966, 16 U.S.C. 470. (http://www.law.cornell.edu/uscode/html/uscode16/usc_sec_16_00000470----000-.html).

This act is the primary authority used in complying with the nation's cultural resources protection objectives.

Antiquities Act of 1906, 16 U.S.C. 431-433, (http://www.cr.nps.gov/local-law/anti1906.htm).

This act protects historic, prehistoric ruins, monuments, or objects of antiquity located on lands owned or controlled by the U.S. Government.

Historic Sites Act of 1935, 16 U.S.C. 461-467 (http://www.cr.nps.gov/local-law/FHPL_HistSites.pdf).

This act is a basic authority for the Secretary of the Interior to adopt rules and regulations concerning historic properties.

Section 4(f), Department of Transportation Act of 1966, 49 U.S.C. 303, 23 U.S.C. 138 (http://www.environment.fhwa.dot.gov/projdev/pd5sec4f.asp).

This act requires that there be no constructive use for a highway project of historic sites, in addition to publicly owned parks, recreation areas, and wildlife and waterfowl refuges, unless there is no prudent and feasible alternative to the use of such land.

Archaeological and Historic Preservation Act of 1974, 16 U.S.C. 469 (http://www.cr.nps.gov/local-law/FHPL_ArchHistPres.pdf).

This statute requires that federal agencies preserve historical and archaeological data (including relics and specimens) that might otherwise be irreparably lost or destroyed as the result of any alteration of the terrain resulting from any federal construction project or federally licensed activity or program. The Act greatly expanded the number and range of federal agencies that must take archeological resources into account when executing, funding, or licensing projects.

36 CFR Part 800, Protection of Historic Properties (http://www.achp.gov/regs-rev04.pdf).

This regulation sets forth the process by which federal agencies account for the effects of their undertakings on historic properties eligible for the National Register of Historic Places. It outlines the procedures for how federal agencies meet these statutory responsibilities.

36 CFR Part 63 (http://archnet.asu.edu/Topical/CRM/usdocs/36cfr63.html).

These regulations explain how federal agencies can identify and evaluate the eligibility of properties for inclusion in the National Register of Historic Places.

40 CFR 1508.27 (http://www.nepa.gov/nepa/regs/ceq/1508.htm#1508.27).

This regulation provides guidance on defining significance thresholds for various environmental disciplines, specifically pertaining to project impacts.

Executive Order 11593 (http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=12094).

This order directs federal agencies to protect and enhance cultural sites, including those non-federally owned, through inventory and evaluation.

State

ORS 358.653 (http://www.leg.state.or.us/ors/358.html).

This statute requires that any state agency or political subdivision responsible for real property of historic significance must, in consultation with the State Historic Preservation Officer, institute a program to conserve the property and assure that such property will not be inadvertently transferred, sold, demolished, substantially altered or allowed to deteriorate.

Oregon Statewide Planning Goal 5 (OAR 660-023-0000) Natural Resources, Scenic and Historic Areas, and Open Spaces (http://www.lcd.state.or.us/LCD/docs/goals/goal5.pdf).

Under Goal 5, local governments throughout Oregon have adopted programs that will protect natural resources and conserve scenic, historic, and open spaces resources. Cultural areas, including historic and archaeological resources, are among the resources recommended for inventory by local governments and state agencies.

Local

Historic Structures of Sites Combine Zone (/H-RCP).

The Lane County Code 16.233, Historic Structures of Sites Combine Zone (/H-RCP), is an ordinance providing for review of building permits or demolition permits for historic structures or sites to ensure preservation. Permits are required for the alteration or demolition of a historic structure or site. Only minimum alteration of historic structures or sites or their environment shall be allowed in order to achieve the intended use, and the distinguishing original qualities or character of a historic building, structure, or site and its environment should not be destroyed.

6.8.3. Findings

Review of the Oregon SHPO database and the National Register database for listed properties has at present resulted in the identification of only one previously recorded historic resource in the APE. The Southern Pacific Railroad Corridor, built circa 1913, is listed as an eligible contributing resource. There are no properties listed on the National Register of Historic Places within the project area. A review of an uncompleted survey and inventory for Lane County is still pending.

6.8.4. Conclusions

On the basis of historical map information (Figures 6.4 through 6.8), it is estimated that there are approximately 120 historic resources in the project study area that are 45 years of age and older that will require survey and inventory. Most of the resources do not appear to be eligible for the National Register due to alterations to the resource and a lack of distinctive architectural features. However there are a few remaining historic farm and agricultural building complexes that may be potentially eligible.

Once a project alignment has been chosen, project design should seek to avoid or minimize potential effects on eligible resources in accordance with federal and state law. If right-of-way is purchased from any of these resources, further research and documentation will be required to complete a definitive Determination of Eligibility. If the project APE encroaches on these historic resource tax lots, project effects to these resources will be evaluated according to the criteria set forth in the National Historic Preservation Act (36 CFR 800) and Section 4(f) of the Department of Transportation Act.

For projects classified as a Class 1 (Environmental Impact Statement) or Class 3 (Environmental Assessment) under NEPA, a Cultural Resources Technical Report will be required. This report is a more in-depth analysis of cultural resources within a project area. The Technical Report contains a summary of the development of the project areas, a summary of research on previously identified resources in the project area, the results of the Section 106 consultation process, and a description of different project alternative's effects to cultural resources. The Technical Report must be prepared according to the approved ODOT format. This Technical Report must be reviewed and approved by ODOT. The Technical Report, along with the full NEPA document, may be transmitted to SHPO and other interested parties.

Figure 6.7. Boundaries of the Western Portion of the Project Study Area (USGS Veneta 7.5' quadrangle, 1975).

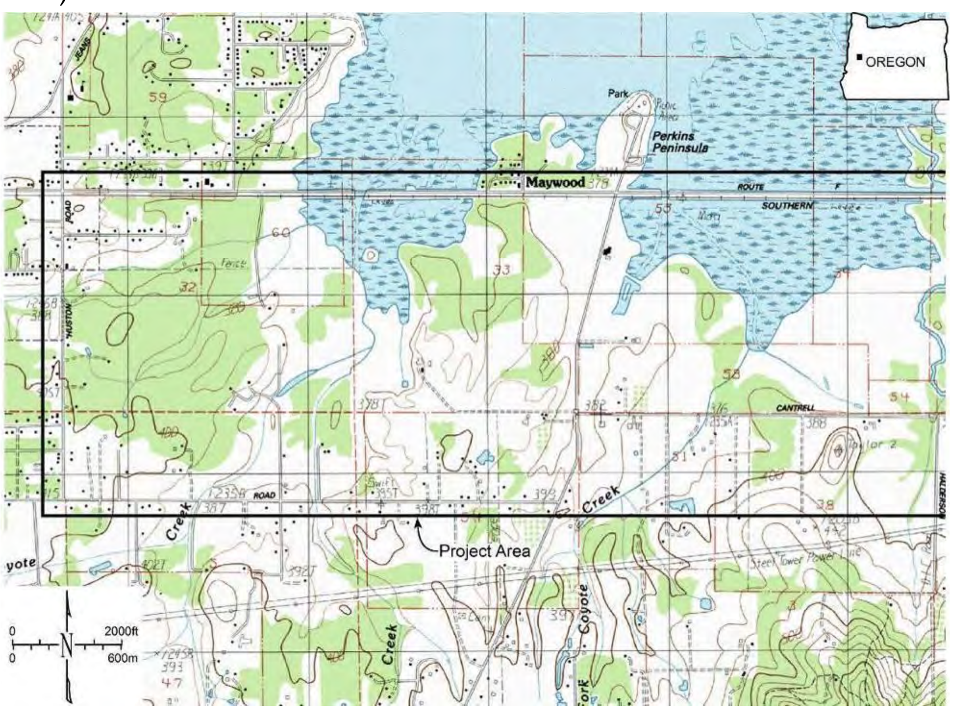
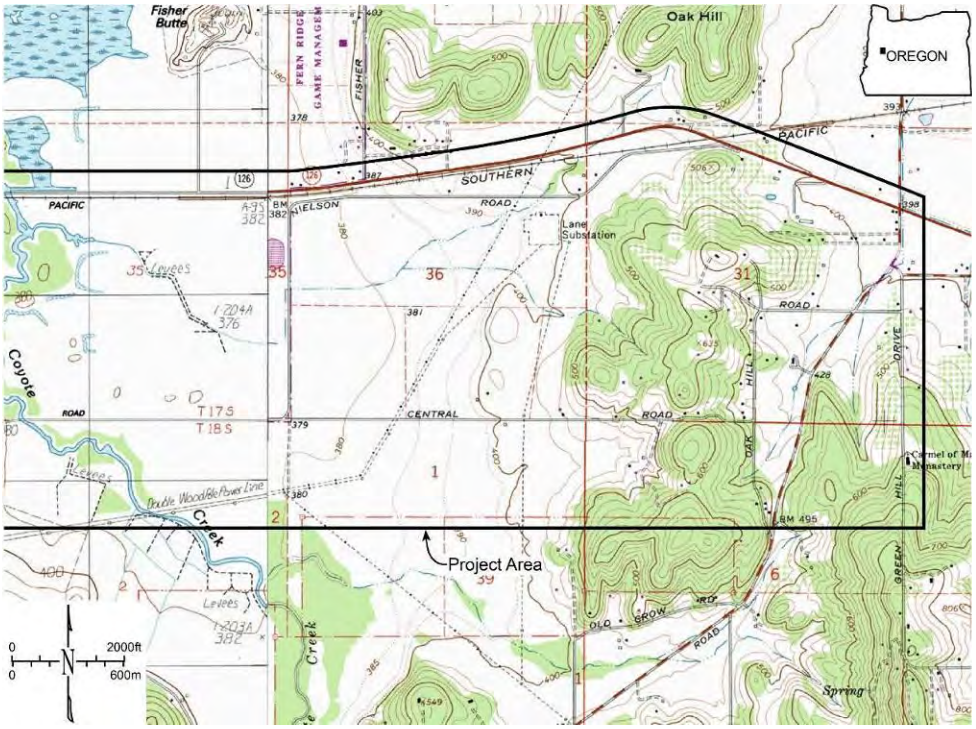


Figure 6.8. Boundaries of the Eastern Portion of the Project Study Area (USGS Veneta and Eugene West 7.5' quadrangles, 1975 and 1984).



6.9. Land Use and Prime Agricultural Lands

This section discusses land use conditions in the project study area and possible regulatory requirements.

6.9.1. Data Sources and Collection

Lane Code was consulted to evaluate regulatory standards for transportation projects in the resource zones. The Lane County zoning and comprehensive plan maps were reviewed to identify land use classifications in the project corridor.

6.9.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

United States Army Corps of Engineers (USACE) Fern Ridge Shoreline Management Plan (1988, updated November 1997)

The Shoreline Management Plan provides a framework for managing shoreline resources at Fern Ridge Lake. Its primary objective is to "achieve a balance between public use, enjoyment of project benefits and long-term resource protection." The plan was prepared by the Army Corps of Engineers, which has management jurisdiction over the lake.

Facilities constructed within the purview of the Shoreline Management Plan require a shoreline use permit. There is no mention of transportation facilities or acquisition of public right-of-way for roads. The Plan primarily addresses provision of recreational facilities such as boat moorages and duck blinds. Any encroachment on Fern Ridge Lake would require coordination with the USACE and determination of processes that may apply to Shoreline Management Plan/land use changes.

State

Oregon Transportation Plan 2006

The Oregon Transportation Plan (OTP) is the state's long range multimodal transportation plan and overarching policy document for the statewide transportation system. It includes several mentions of land use in terms of integrating land use and transportation and supporting local land use planning.

Fern Ridge Wildlife Area Management Plan – Final Draft (June 2009)

Fern Ridge Wildlife Area was created in 1957 under a license agreement between the Corps of Engineers and Oregon Game Commission (now ODFW). The agreement provides authority for the state to "develop, conserve, and manage all wildlife resources on a 5,010 acre portion of the 12,716 acres owned by the USACE around the reservoir. The Wildlife Area consists of nine distinct management units; four units are adjacent to and extend across OR 126W. The ODFW conducts wildlife management activities (water management, wildlife food crops) and maintains public viewing locations in the area.

Oregon Statewide Planning Goals. Oregon Administrative Rules (OAR) Division 660

The foundation of Oregon's land use planning program is a set of 19 Statewide Planning Goals. The goals express the state's policies on land use and related topics, such as citizen involvement, housing, and natural resources and are achieved through local comprehensive planning. State law requires each city and county to adopt a comprehensive plan and the zoning and land-division ordinances needed to put the plan into effect. Of note for this assessment are Goal 2 Land Use Planning, Goal 3 Agricultural Lands, and Goal 5 Open Spaces.

The project area is mostly under Lane County jurisdiction between the cities of Eugene and Veneta, and rural land use designations predominate. The areas adjacent to the east and west termini are under the jurisdiction of Eugene and Veneta (respectively).

Regional and Local

Lane County Comprehensive Plan (2009)

The general purpose of the comprehensive plan is the guiding of the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity, and general welfare.

Comprehensive Plan designations in the OR 126W project corridor include Agricultural (Statewide Planning Goal 3), Parks and Natural Resources (Statewide Goal 5), and Forest Lands (Statewide Planning Goal 4). The goal is to preserve and maintain these resources.

Lane County Code Chapter 16

Chapter 16 contains the Lane County zoning code for the various rural zoning classifications. The most common zoning in the project area is Exclusive Farm Use (E). Allowable transportation uses in the E zone are defined in Lane Code 16.212 (3). Depending on which preferred alternative is chosen, approval of a special use permit or exception to state land use law may be necessary. For example, construction of additional passing and travel lanes requiring the acquisition of right-of-way is not a permitted use in the E zone. Rather, it is considered a special use and subject to review and approval by the Lane County Planning director (LC 16.212 (4)(o)(ii)). Construction of a new separated bikeway may also require a special use permit. The same general rules apply to the other potentially affected resource zones in the project corridor: Parks and Recreation (PR), Forest Land (F-2), and Natural Resource (NR). To ensure compliance with state land use law and corresponding Rural Comprehensive Plan and Lane Code requirements, Lane County planning must be consulted to verify if proposed improvements are permitted or will require a more extensive land use process.

City of Veneta Comprehensive Plan (2000)

The Veneta Comprehensive Plan serves as Veneta's long-range land use plan and as a policy guide to physical development decisions. The Plan is designed to include a sufficient amount of land to accommodate anticipated growth during the next twenty years, and addresses the major public facilities needed to support the land uses designated within the urban growth boundary (UGB). OR 126W at Huston Road is within the Veneta UBG. There are no conflicts with the Veneta Comprehensive Plan regarding construction of road improvements on OR 126W. If a new road alignment is created entering Veneta, this will need to be evaluated in terms of potential impact to land use.

Lane County Parks and Open Space Master Plan (1980)

The purpose of the plan is to identify deficiencies and plan for the parks and open space facility needs of Lane County. This includes maintenance and expansion of existing facilities as well as new facilities. Peninsula County Park abuts the north side of OR 126W at the intersection with Central Road. There are no identified conflicts regarding expansion of public road facilities and policies in the Master Plan. The Parks and Open Space Master Plan is in the process of being updated by Lane County, but with no concrete completion date.

6.9.3. Findings

Rural resource zones are the predominate zoning classifications in the project corridor--Exclusive Farm Use (EFU), Parks and Recreation (PR), Forest Land (F-2), and Natural Resource (NR). Lane County has land use jurisdiction. There is also sparse residential development, a County park, and the Fern Ridge Wildlife Area. Along the approach to Veneta, commercial uses are present on the north side of OR 126W. A meat packing facility is located to the south of OR 126W off of Central Road.

Project alternatives may include right-of-way expansion on to adjacent properties. Lane County Code specifies permitted transportation uses by zoning classification. The applicable requirements are discussed above under the Lane Code Chapter 16 heading. It is not anticipated that transportation improvements would inhibit farm or forest practices consistent with the zoning classifications in the project area. However, the project would need to demonstrate this through submittal of a special use application for those alternatives that would add travel lanes or climbing and passing lanes if additional road right-of-way is needed, or if the project would otherwise require a special use permit. Lane County Planning must be consulted to make a specific determination.

6.9.4. Conclusions

The assessment of project alternatives is primarily related to direct impacts from property acquisition, facility widening, and construction and the potential affect to resource land productivity. Transportation alternatives must not force a significant change in or increase the cost of accepted farm or forest practices on surrounding lands devoted to farm and forest use. This would run counter to state land use law and Lane County Code requirements (LC 16.212 (10)(f) through (g)). There is no concern that expansion of the existing OR 126W facility will trigger changes in or intensification of land use—current County zoning regulations would preclude this. If considerable changes to traffic flow were proposed on parallel facilities, potential conflicts with adjacent land uses would need to be assessed.

Because possible project improvements would largely occur on County-controlled rural lands, it is necessary to consult with the County's Land Management Division to determine the appropriate land use actions and approvals that may be required. This will vary depending upon the transportation alternative chosen, but acquisition of right-of-way and expansion of travel lanes is not a permitted use in the rural resource zones. Such alternatives would be reviewed as a special use by the County and in terms of compliance with state land use law and corresponding Rural Comprehensive Plan and Lane Code requirements. It is also necessary to ensure that setback requirements for buildings are still met with the introduction or expansion of transportation facilities.

In addition, further coordination will be needed with the USACE to ensure that any encroachment on Fern Ridge Lake is consistent with their operational plan and any necessary permits are honored. Coordination with Oregon Department of Fish and Wildlife will be needed to discuss any expansion of transportation facilities in the Fern Ridge Wildlife Area. The acquisition of wildlife refuge and parklands (County-owned Perkins Peninsula Park abuts the north side of OR 126W) for transportation use would be subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966 (see Section 6.12).

6.10. Noise

This section discusses potential noise study requirements.

6.10.1. Data Sources and Collection

Current aerial imagery was reviewed to locate the proximity of potential sensitive receptors (e.g. residences) to the proposed transportation alternatives. FHWA requirements for a noise study were also reviewed.

6.10.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

23 CFR Part 772. FHWA Procedures for Abatement of Highway Traffic Noise and Construction Noise – Final Rule

The FHWA developed this noise regulation as required by section 136 of the Federal-Aid Highway Act of 1970 (codified at 23 U.S.C. 109(i)). The regulation applies to highway construction projects where a State department of transportation has requested Federal funding for participation in the project. The FHWA noise regulation, found at 23 CFR 772, requires a highway agency to investigate traffic noise impacts in areas adjacent to federally funded highways for the proposed construction of a highway on a new location or the reconstruction of an existing highway that either significantly changes the horizontal or vertical alignment or increases the number of through-traffic lanes.

The noise standard in 23CFR 772[2] has been revised and became effective on July 13, 2011. The new standard defines which projects require a noise study. Noise studies are required whenever one or more of the following conditions occur:

[2] http://edocket.access.gpo.gov/2010/pdf/2010-15848.pdf

- The construction will involve creation of an additional lane of through traffic. This also applies to the construction of a passing lane, high occupancy vehicle (HOV) lane, high-occupancy toll (HOT), bus lane, truck climbing lane and auxiliary lanes except turn lanes.
- The construction results in an acoustically significant increase in noise due to a shift in the horizontal or vertical alignment of the roadway.
- The construction will create a new roadway on a new alignment. This also applies to on or off ramps and completion of existing partial interchange.
- The construction will remove acoustic shielding (i.e. embankments, dense stands of trees and vegetation, buildings etc.) that currently significantly reduce noise to a receptor.
- Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane.
- The construction of a new or substantial alteration of a weigh station, rest area, ride-share lot or toll plaza.

If none of the above occur a traffic noise study is not required. If any of the above occur a noise study is required.

State

ODOT Noise Manual (updated July 2011)

The purpose of this manual is to give guidance in the analysis of highway traffic noise and the design of noise mitigation measures. This manual does not supersede the laws and regulations governing highway construction practices and procedures.

Regional and Local

Lane Code Chapter 5.600 Prohibited Noise

The Lane County noise ordinance regulates excessive sound wherever it is deemed to be harmful to the health, safety, welfare and quality of life of its citizens. A general exception to these regulations applies to sounds caused by motor vehicles operated on any highway.

6.10.3. Findings

The project study area currently has dispersed rural residential properties and two smaller, older residential subdivisions on the north side of OR 126W. Commercial properties are present on the north side of OR 126W as the highway approaches Veneta. Recreational sites are present at Perkins Peninsula Park and within the Fern Ridge Wildlife Area. Construction noise is relevant to the presence of threatened or endangered bird species. If protected species are present in the project study area, construction noise monitoring may be required. No sound walls are present in the corridor.

FHWA guidance indicates that a noise study is required when an additional lane of through traffic would be constructed. This also applies to passing lanes and auxiliary lanes. The effect of project improvements would need to be assessed in a noise study for those alternatives that add travel lanes to the existing roadway configuration.

6.10.4. Conclusions

The federal and state guidance listed above shall be used to determine potential noise impacts to identified receptors based on anticipated traffic volumes and speeds provided through the technical transportation analysis for this project. Land use and zoning of vacant land will also be taken into consideration.

If traffic related noise impacts are warranted, mitigation will need to be considered. Potential noise impacts to sensitive resources such as park and wildlife areas and historic resources will also need to be assessed. This will require coordination with historic specialists on the project team as well as possible coordination with agencies that have jurisdiction over other adjacent resources: parks (Lane County), Fern Ridge Lake (USACE), Fern Ridge Wildlife Area (ODFW).

During construction, it is necessary to honor noise ordinances that may limit construction to certain daytime hours. A variance may be required to allow nighttime construction. In addition, construction noise is relevant to the presence of threatened or endangered bird species. If present in the project study area, construction noise monitoring may be required.

6.11. Right-of-Way Acquisitions and Displacements

This section discusses the potential of property acquisition for additional right-of-way and related requirements.

6.11.1. Data Sources and Collection

Lane Code requirements were reviewed by zoning classification for transportation improvements. In addition, GIS tax lot data was used to estimate approximate right-of-way widths for the existing transportation facilities.

6.11.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, 42 U.S.C. 4601 et seq.

The Uniform Act establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms. The Act's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally-funded projects.

United States Army Corps of Engineers (USACE) Fern Ridge Shoreline Management Plan (1988, updated November 1997)

The Shoreline Management Plan provides a framework for managing shoreline resources at Fern Ridge Lake. Its primary objective is to "achieve a balance between public use, enjoyment of project benefits, and long-term resource protection." The plan was prepared by the USACE, which has management jurisdiction over the lake.

Facilities constructed within the purview of the Shoreline Management Plan require a shoreline use permit. There is no mention of transportation facilities or acquisition of public right-of-way for roads. The Plan primarily addresses provision of recreational facilities such as boat moorages and duck blinds. Any encroachment on Fern Ridge Lake would require coordination with the USACE and determination of processes that may apply to land acquisition. A project objective is to avoid or minimize impacts to Fern Ridge Lake.

State

ODOT Right-of-Way Manual (updated January 2011)

The ODOT ROW Manual is regularly updated to reflect federal and state policy regarding land acquisitions, appraisals, access rights, utilities, displacements, and relocation procedures.

Fern Ridge Wildlife Area Management Plan – Final Draft (June 2009)

Fern Ridge Wildlife Area was created in 1957 under a license agreement between the USACE and Oregon Game Commission (now ODFW). The agreement provides authority for the state to "develop, conserve, and manage all wildlife resources on a 5,010 acre portion of the 12,716 acres owned by the USACE around the reservoir. The Wildlife Area consists of nine distinct management units and extends across OR 126W. The ODFW conducts wildlife management activities (water management, wildlife food crops) and maintains public viewing locations in the area. Land acquisition would need to avoid or minimize disruption to such activities and wildlife habitat. Potentially affected wildlife management units include Fisher Butte, East Coyote, West Coyote, and South Marsh.

Regional and Local

Lane County Code Chapter 16

Chapter 16 contains the Lane County zoning code for the various rural zoning classifications. The most common zoning in the project area is Exclusive Farm Use (EFU). Allowable transportation uses in the EFU zone are defined in Lane Code 16.212 (3). Depending on which preferred alternative is chosen, approval of a special use permit or exception to state land use law may be necessary. For example, construction of additional passing and travel lanes requiring the acquisition of right-of-way is not a permitted use in the EFU zone. Rather, it is considered a special use and subject to review and approval by the Lane County Planning director (LC 16.212 (4)(o)(ii)). Construction of a new separated bikeway may also require a special use permit. The same rules apply to the other potentially affected resource zones in the project corridor: Parks and Recreation (PR), Forest Land (F-2), and Natural Resource (NR). To ensure compliance with state land use law and corresponding Rural Comprehensive Plan and Lane Code requirements, Lane County planning must be consulted to verify if proposed improvements are permitted or will require a more extensive land use process.

6.11.3. Findings

OR 126W is the primary transportation route between Veneta and Eugene. The highway continues west of Veneta and connects to the City of Florence at the coast. In the project study area, ROW width is variable along the OR 126W corridor—the following are estimates based on GIS parcel line data:

- Eastern portion of highway – Railroad overcrossing to Green Hill Road: 80 to 100 feet
- West of the railroad overcrossing: 90 to 100 feet
- Approximately 3,300 feet west of Fisher Road to Central Road: 188 feet
- West of Central Road to western project terminus: 76 feet

OR 126W consists of two travel lanes and shoulders of variable width. The parallel facility roadways (namely Perkins and Cantrell Roads) are two lane roads with minimal shoulders. The Perkins Road ROW typically maintains a width of 60 feet. Cantrell Road ROW fluctuates in the 50 to 60 foot range but narrows down to 40 feet and widens up to 80 feet at select locations.

It is anticipated that possible road improvements, with improved shoulders, additional travel lanes, and side slopes, would require additional ROW along portions of the corridor. Depending on the location, it is also possible for spot improvements to be accommodated within existing ROW. The extent of ROW needs is to be determined. ROW expansion on to adjacent resource lands would require review by Land County's Land Management Division as a special use (see Section 6.9 for further explanation of land use requirements). Due to the dispersed nature of development in the project area, it is likely that building displacements can be avoided. The potential for displacements will need to be assessed as transportation alternatives are developed and refined.

6.11.4. Conclusions

Property acquisitions may be required to accommodate expansion of OR 126W or other parallel facilities. Acquisition of right-of-way to expand highway capacity is not a permitted use in the rural resource zones. From a land use perspective, such transportation improvements would require processing as a special use through Lane County before right-of-way acquisition could proceed.

Any encroachment on Fern Ridge Lake or the Fern Ridge Wildlife Area would require coordination with the USACE and ODFW to determine processes that may apply to land acquisition and easements. In addition, the acquisition of wildlife refuge and park lands (County-owned Perkins

Peninsula Park abuts the north side of OR 126W) would be subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966 (see Section 6.12).

At a preliminary level, it does not appear that project alternatives would result in displacements. If businesses or residences were displaced, the project would be subject to provisions of the Uniform Act under federal law. A ROW report shall be prepared as part of the NEPA documentation process. Any ROW report shall be prepared in accordance with the ODOT Right-of-Way Manual standards and prepared by a qualified ROW specialist.

6.12. Parklands and Sections 4(f) and 6(f) Resources

This section addresses park and recreation areas, in particular, resources subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966. The presence of resources subject to Section 6(f) of the Land and Water Conservation Fund Act is also evaluated along with the presence of resources receiving monies from State-administered grant programs.

6.12.1. Data Sources and Collection

Area maps, GIS data, and Lane County Parks Master Plan were reviewed to determine presence of possible Section 4(f) resources. The project's technical memoranda for historic and archaeological resources were also reviewed. The ODFW website was consulted for information on the Fern Ridge Wildlife Area. The Land and Water Conservation Fund (LWCF) database was searched to verify presence of any Section 6(f) resources. The Oregon Parks and Recreation Department's website was also searched to find possible County Opportunity and Local Government grant awards in the project area.

6.12.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

Department of Transportation Act of 1966, Section 4(f), 49 U.S.C. 303

Section 4(f) resources include "publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by Federal, State, or local officials having jurisdiction over the park, area, refuge, or site)." 49 U.S.C. 303(c). The law prohibits the Secretary of Transportation from approving a transportation project requiring the use of such land unless there is no prudent and feasible alternative to using that land, and the project includes "all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Land and Water Conservation Fund Act of 1965, Section 6(f), 16 USC 460l-8(f)(3)

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act, 16 U.S.C. 460, applies to outdoor public recreation resources that were acquired or developed by State or local agencies with LWCF monies. It prohibits the conversion of such property to a non-recreational purpose without the approval of the Department of the Interior's National Park Service (NPS). The NPS must ensure that replacement lands of equal value, location, and usefulness are provided as conditions to approval of land conversions.

Land and Water Conservation Fund Database

The National Park Service maintains a searchable database of projects that have received LWCF monies in each state. It is a resource to find LWCF projects in the Corridor Plan study area and determine the presence of sites subject to Section 6(f) provisions, cited above.

United States Army Corps of Engineers (USACE) Fern Ridge Shoreline Management Plan (1988, updated November 1997)

The plan was prepared by the USACE, which has management jurisdiction over the lake. Facilities constructed within the purview of the Shoreline Management Plan require a shoreline use permit. There is no mention of transportation facilities or acquisition of public right-of-way for roads. The Plan primarily addresses provision of recreational facilities such as boat moorages and duck blinds. Any encroachment on Fern Ridge Lake would require coordination with the USACE and determination of processes that may apply to expansion of transportation facilities.

State

Oregon Administrative Rules (OAR) Chapter 736, Division 6

This regulation provides for Oregon Parks and Recreation Department's (OPRD) allocation of state lottery funds to local governments for financing the protection, repair, operation and creation of state parks and public recreation areas through the Local Government Grant Program (LGGP). Protection measures mimic Section 6(f) requirements, except they do not include U.S. National Park Service involvement.

OAR Chapter 736, Division 7

This regulation provides for OPRD allocation of recreational vehicle registration fees to counties for park and recreation sites and programs through the County Opportunity Grant Program (COGP). Protection measures mimic Section 6(f) requirements, except they do not include U.S. National Park Service involvement.

Oregon Statewide Planning Goal 5, OAR 660-023-0000(5), Natural Resources, Scenic and Historic Areas, and Open Spaces

Under Goal 5, local governments throughout Oregon have adopted programs that will protect natural resources and conserve scenic, historic, and open spaces resources. Cultural areas, including historic and archaeological resources, are among the resources recommended for inventory by local governments and state agencies.

Oregon Statewide Planning Goal 8, OAR 660-015-0000(8), Recreational Needs

Goal 8 addresses the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

Fern Ridge Wildlife Area Management Plan – Final Draft (June 2009)

Fern Ridge Wildlife Area was created in 1957 under a license agreement between the Corps of Engineers and Oregon Game Commission (now Oregon Department of Fish and Wildlife-ODFW). The agreement provides authority for the state to "develop, conserve, and manage all wildlife resources on a 5,010 acre portion of the 12,716 acres owned by the USACE around the reservoir. The Wildlife Area consists of nine distinct management units and extends across OR 126W. The ODFW conducts wildlife management activities (water management, wildlife food crops) and maintains public viewing locations in the area.

Regional and Local

Lane County Comprehensive Plan (2009)

The general purpose of the comprehensive plan is the guiding of the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity and general welfare. Land at the southwest corner of Ken Neilsen Road and OR 126W has a comprehensive plan designation of "Parks."

Lane County Code Chapter 16

Chapter 16 contains the Lane County zoning code for the various rural zoning classifications outside urban growth boundaries. The property at the southwest corner of Ken Neilsen Road and OR 126W has a zoning designation of Parks and Recreation (PR). Allowable transportation uses in the PR zone are defined in Lane Code 16.215 and16.265based upon state land use requirements for rural lands. Depending on which preferred alternative is chosen, approval of a special use permit or exception to state land use law may be necessary. To ensure compliance with state land use law and corresponding Rural Comprehensive Plan and Lane Code requirements, Lane County planning must be consulted to verify if proposed improvements are permitted or will require a more extensive land use process.

Lane County Parks Master Plan (1980)

The purpose of the plan is to identify deficiencies and plan for the parks and open space facility needs of Lane County. This includes maintenance and expansion of existing facilities as well as new facilities. Peninsula County Park abuts the north side of OR 126W at the intersection with Central Road. The park includes a picnic area, boat ramp, fishing pier, and nature trail. The Parks and Open Space Master Plan is in the process of being updated by Lane County, but with no concrete completion date.

6.12.3. Findings

Publically-owned park and recreation resources are present in the project area. This includes Perkins Peninsula Park, Zumwalt Park, and Fern Ridge Lake. The lake is managed by the USACE and adjacent lands are managed by the ODFW as a Wildlife Area. The park lands for Perkins Peninsula Park and Zumwalt Park are leased by Lane County from the USACE. The Fern Ridge Wildlife Area is managed primarily for waterfowl wintering and nesting and extends across the highway to its southern terminus at Cantrell Road. A nature trail in the Wildlife Area is accessible from a pullout off of Cantrell Road.

Perkins Peninsula Park is operated by Lane County—the park entrance is on the north side of OR 126W at its intersection with Central Road. The park consists of parking, a boat ramp, picnic tables and bathroom facilities with access to Fern Ridge Lake. Zumwalt Park, also a County-operated facility, is located north of the project area away from the zone of potential transportation improvements.

These park and recreation resources will be subject to the provisions of Section 4(f). "Use" of these resources, whether permanent, temporary or constructive, would be restricted unless it can be determined that there are no prudent and feasible alternatives which avoid such use and that the project includes all possible planning to minimize harm to such resources. Findings of historic or archaeological resources are also subject to Section 4(f) eligibility. Coordination with project team specialists will be necessary to verify presence of and possible effects to these resources. Sections 6.3 and 6.8 discuss archaeological and historic resource findings, respectively.

The LWCF project list was reviewed to determine if park and recreation resources in the area have received LWCF monies. No LWCF investments were found in the project area. If present, the properties would be subject to Section 6(f) protections, meaning conversion to other uses is prohibited unless equivalent replacement land can be provided. Similar protection is afforded to lands funded by state programs through the Oregon Parks and Recreation Department (LGGP and COGP). No LGGP or COGP funded projects were found in the project area.

6.12.4. Conclusions

During planning and preliminary design, if use of any Section 4(f) resources cannot be avoided, then measures to minimize impacts to those resources must be considered and must be determined in consultation with the manager of the resources. For any action that identifies a direct or indirect use of such resources, a detailed Section 4(f) evaluation document must be completed during the NEPA documentation phase. Additional analysis will be required to verify presence of historic and archaeological resources in the project study area. The lead federal agency cannot approve the use of Section 4(f) resources unless there is no other feasible alternative and the action includes all possible planning to minimize harm. No Section 6(f) resources were discovered in the project area, nor were projects funded by LGGP or COGP grants.

6.13. Socioeconomics and Environmental Justice

This section discusses socioeconomic conditions in the project study area and discusses environmental justice populations.

6.13.1. Data Sources and Collection

Basic demographic information from the 2010 US Census was collected (as available) by Census Tract in the project area.

6.13.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

National Environmental Policy Act (NEPA), 42 U.S.C. 4321-4347

This act requires that federal agencies consider disproportionate effects to social groups and possible mitigation measures that would help avoid or minimize adverse effects. It requires public involvement throughout the environmental review process, including appropriate levels of outreach to minority or low-income populations or communities.

Title VI of the Civil Rights Act of 1964 (Title VI), 42 U.S.C 2000d, 49 CFR Part 21, 23 CFR Part 200

Title VI prohibits discrimination on the basis of race, color, or national origin. It requires that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." U.S. DOT's regulations provide guidelines for: (a) Implementing the FHWA Title VI compliance program under Title VI of the Civil Rights Act of 1964 and related civil rights laws and regulations, and (b) Conducting Title VI program compliance reviews relative to the Federal-aid highway program. The Civil Rights Restoration Act of 1987 specified that recipients of federal funds must comply with civil rights laws in all areas, not just in a particular program or activity that receives federal funding.

Title VIII of the Civil Rights Act of 1968 (Fair Housing Act), 42 U.S.C. 601 et seq.

This act prohibits housing discrimination and designates protected populations, taking into account "race, color, religion, sex, handicap, familial status, or national origin" in relocation decisions.

Federal-Aid Highway Act of 1970 (FAHA 1970), 23 U.S.C. 109(h)

This provision ensures that "possible adverse economic, social, and environmental effects relating to any proposed project on any Federal-aid system have been fully considered in developing such project, and that the final decisions on the project are made in the best overall public interest, taking into consideration the need for fast, safe and efficient transportation, public services, and the costs of elimination or minimizing such adverse effects [as]: air, noise, and water pollution; destruction of disruption of human-made and natural resources, aesthetic values, community cohesion and the availability of public facilities and services; adverse employment effects, and tax and property values losses; injurious displacement of people, businesses and farms; and disruption of desirable community and regional growth."

The Age Discrimination Act of 1975, 42 U.S.C. 6101-6107
This act prohibits age discrimination in federally assisted programs and activities.

The Americans with Disabilities Act (ADA), 42 U.S.C. 12101 et seq.
This act protects persons with disabilities. The ADA gives civil rights protections to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications. Persons with disabilities must be accommodated at public meetings and in terms of information provided. Final design of transportation alternatives must meet appropriate ADA standards for sidewalks, street crossings, and other similar infrastructure improvements.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, 42 U.S.C. 4601 et seq.
The Uniform Act establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms. The Act's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally- funded projects.

Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Federal Register 7629 (Feb. 11, 1994)
This order requires that federal agencies identify and address disproportionately high and adverse human health or environmental effects of programs, policies, and/or activities on minority populations and low-income populations. It addresses both the requirements for equal justice embodied in Title VI of the Civil Rights Act, and the requirements for environmental protection embodied in NEPA.

Executive Order 13166 – Improving Access to Services for Persons with Limited English Proficiency, 65 Federal Register 50121 (Aug. 16, 2000)
This order requires that federal agencies improve access to their federally conducted programs and activities by eligible persons with limited English proficiency. This order has particular relevance to

the NEPA mandate to foster public involvement in the environmental review process. It stipulates that accommodations must be made for persons with limited English proficiency who wish to participate in public environmental reviews.

U.S. DOT Environmental Justice Order 6510.2, 62 Federal Register 18377 (April 15, 1997)

The Department of Transportation issued this order to comply with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The Order generally describes the process that the Office of the Secretary and each Operation Administration will use to incorporate environmental justice principles (as embodied in the Executive Order) into existing programs, policies, and activities.

State

Oregon Senate Bill 420

Effective on January 1, 2008, this new law established an environmental justice task force and requires the natural resources agencies (fourteen in all, including ODOT) to follow prescribed steps to provide greater public participation and to ensure the involvement of persons who may be affected by agency actions. Passing of this law places greater emphasis on inclusive public outreach for transportation projects.

Oregon Transportation Plan 2006

The Oregon Transportation Plan (OTP) is the state's long range multimodal transportation plan and overarching policy document for the statewide transportation system. Policy 7.4 in the OTP is addresses environmental justice. The policy advocates equal access to transportation decision-making for all Oregonians, regardless of race, culture, or income. The policy is intended to avoid disproportionate impacts to environmental justice communities, in compliance with federal guidelines.

Regional and Local

Lane County Comprehensive Plan

The general purpose of the comprehensive plan is to guide the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity and general welfare. The General Plan Policies address planning goals applicable to the socioeconomics discipline: Goal 1 Citizen Involvement, Goal 10 Housing, Goal 11 Public Facilities and Services, Goal 12 Transportation.

6.13.3. Findings

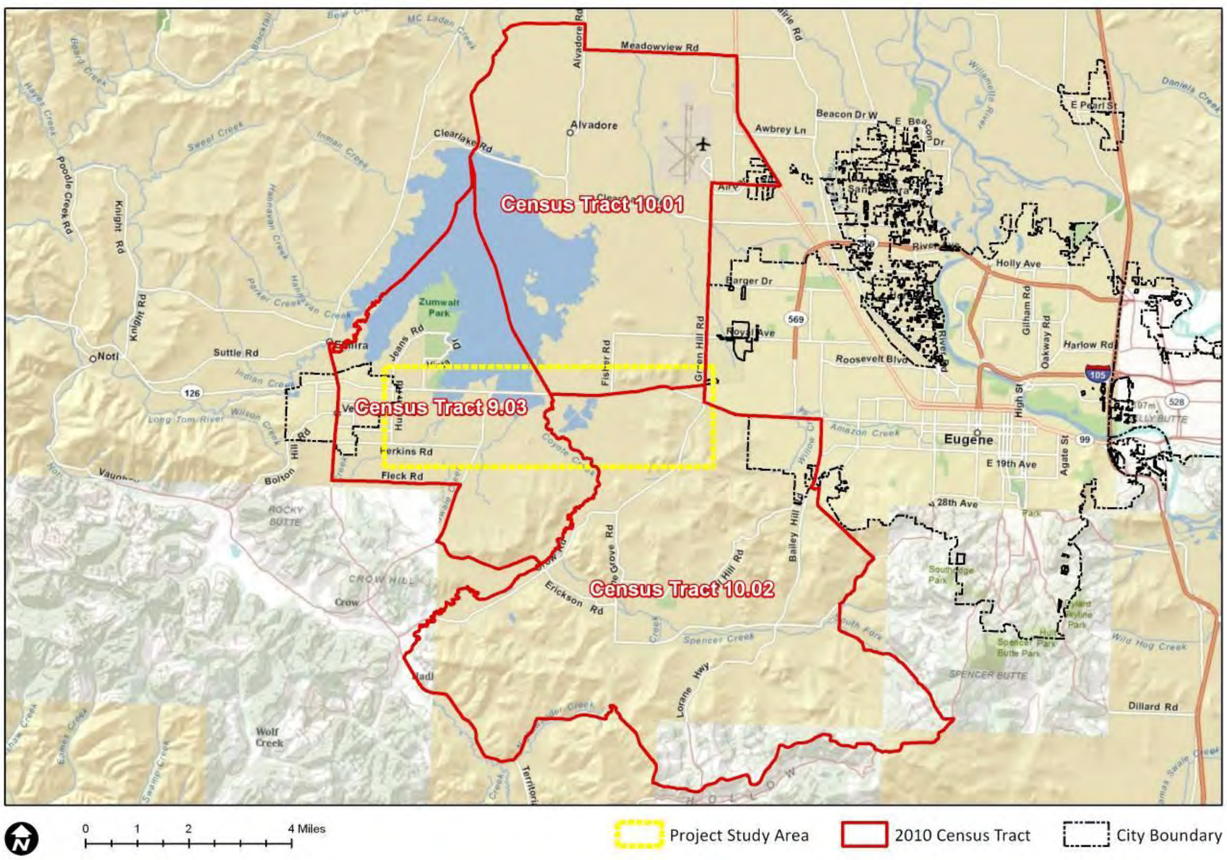
Demographic information was collected for Lane County Census Tracts 9.03, 10.01, and 10.02. The project area is encompassed by these Census Tracts with a total population of 11,937 in 2010. Racial composition is aggregated for the three Census Tracts in Table 6.5. The Census geography is shown in Figure 6.9.

Table 6.5. Racial Composition within Census Tracts

Race	Percent
White	92.64%
Black or African American	0.44%
American Indian and Alaska Native	1.08%
Asian	0.85%
Native Hawaiian and other Pacific Islander	0.22%
Some Other Race and Two or More Races	4.77%

Source: US Census Bureau, 2010

Figure 6.9. Census Tracts in Project Study Area



Within the Census Tract area, persons who reported themselves as Hispanic or Latino consisted of 4.36% of the total population of 11,937 in 2010. Persons age 65 and older comprised 16.1% of the population in 2010.

The project study area is characterized by rural lands and wildlife habitat with dispersed residences in the travel corridor between Eugene and Veneta. At the western project terminus, on the approach to

Veneta, commercial properties are present on the north side of OR 126W. At the eastern project terminus, there is a service station in the NE quadrant of the OR 126W and Green Hill Road intersection. A meat packing plant is located south of OR 126W adjacent to the east side of Central Road. Community facilities in the project area are recreational in nature with two public parks and a designated Wildlife Area around Fern Ridge Lake.

6.13.4. Conclusions

The minority population in the project vicinity is quite small. It will need to be determined if Title VI or EJ populations within the project study area have the potential to be adversely impacted by project actions. Participation in project decisions is essential to ensure public concerns are known, particularly those that might affect Title VI or EJ populations. Documentation of EJ considerations must be evaluated in a Socioeconomics report if alternatives are advanced to NEPA-level analysis for further study. Any potential displacement of businesses or residences and effects to community facilities would also be assessed at that time.

6.14. Traffic and Transportation

This section describes the screening level potential effects of the conceptual alternatives on traffic and transportation.

6.14.1. Data Sources and Collection

The section describes data sources and the methods used to collect and evaluate data to determine traffic and transportation considerations for the project.

6.14.2. Relevant Regulations, Policies and Plans

Project staff conducted a review of state, regional, and local level plans and policies that directly influenced the OR 126W Fern Ridge Corridor Plan. The alternatives reviewed in the plan were found to be in accordance with the regulations, goals, and objectives of all applicable plans. For more detailed information regarding the transportation related regulations, polices and plans reviewed for this project, please refer to Technical Memorandum #1, OR 126W Fern Ridge Corridor Plan – Transportation Review of Plans, Policies, Regulations, and Standards (DKS, 2011) in Appendix A.

State

Interim Corridor Strategy: Highway 126 West (April 1998, Oregon Department of Transportation, Region 2)

This long-range plan for managing and improving transportation facilities and services to meet the needs for moving people and goods covers the section of OR 126W from Highway 101 in Florence to Interstate 5 in Eugene. The OR 126W corridor has statewide significance because it is:

- An important route for national, state, regional, and local users and is a significant route for commuters, tourists, and truck traffic.

- The primary route connecting the central Oregon Coast to the Eugene-Springfield metropolitan area in the southern Willamette Valley.
- Critical to regional connectivity in southwest Oregon.

The Interim Strategy was endorsed by the Oregon Transportation Commission (OTC), Lane County, LTD, and the cities of Eugene, Veneta, and Florence to inform the agencies' transportation plans and comprehensive land use plans as appropriate. Specific public comments, analysis findings, and strategy recommendations from the strategy for the section of OR 126 from Veneta to Eugene include the following:

Safety and Crash Profile
- Two of the four fatalities on the corridor between 1994 and 1996 occurred between Veneta and the Beltline Highway in Eugene. This is a proportionately high number of fatalities (relative to total collisions) compared to the other corridor segments.
- Safety was one of the most frequently cited public concerns for the corridor. Curves, rain, and darkness were three of the main contributors to unsafe conditions, especially in locations where there are higher traffic volumes, the road is narrower, and there are ruts in the pavement. In addition, the lack of shoulders creates difficulties for service vehicle and emergency situations.

Public Transit
- Working with existing providers to improve transit service and inter-modal links along the corridor; specifically, proposes that Lane Transit District (LTD) improve bus service within the City of Veneta and from Eugene to Veneta, including a Park-and-Ride in Veneta with convenient express service to Eugene.

Bicycles
- Widening shoulders as needed; particular concern for the section between Veneta and Eugene. Constraints include varying shoulder widths, limited alternative routes, geographic constraints, and environmental issues.
- Designating a bike route from Territorial Road to Eugene, including repaving gravel on Cantrell and Nielson Roads and signing the route.

Pedestrians
- Although there are no sidewalks along the corridor, the need for pedestrian facilities along the corridor was not a large concern for corridor users due to reliance on the automobile. However, facilities should be considered within Veneta and at other locations with pedestrian activity.

Environmental
- Although there are multiple potential conflicts with natural resources near the highway due to the proximity of the Fern Ridge Lake, by balancing the needs of people versus the environment the lake and other scenic and natural resources could be made into destinations for recreation,

with improvements such as a bike path connection and turning wetland mitigation areas into recreational education areas.

Freight Rail

- Supporting appropriate land use designations to provide increased freight rail access opportunities.

Motor Vehicle Capacity

- Prepare a refinement plan addressing safety and congestion for the segment from Veneta to Eugene, which is currently the most heavily congested on the corridor and may increase with employment growth in west Eugene and residential development in Veneta.

Refinement Planning

- Prepare a refinement plan addressing safety and congestion for the segment from Veneta to Eugene to explore alternatives through a community consensus-building process.
- Consider identified congestion and capacity improvements: (1) widening the shoulders for bike lanes and emergency parking, (2) expanding the highway to four lanes, (3) paving K.R. Nielsen Road for use as an alternative route, (4) rerouting OR 126 around Fern Ridge Lake, and (5) adding a reversible HOV lane between Veneta and Eugene.

Florence-Eugene Highway Conditions Report (2001, Oregon Department of Transportation)

This report provides information about the OR 126 corridor in an electronic format primarily using interactive maps. It contains a comprehensive data set that describes the current physical and operating conditions on OR 126. It also provides a general forecast of future travel demand and an assessment of the ability of the existing highway to handle expected growth through 2025 under no-build conditions (i.e., if no improvements are made between now and then). Therefore, its intent is to pinpoint the geometric, operational, and safety deficiencies that are likely to occur if there is no investment in OR 126, beyond those currently planned and programmed. Using the information in this report, ODOT and local partners will be able to define critical problems, analyze alternative improvement concepts, and develop recommended long-term solutions to the problems created by the deficiencies in the OR 126 corridor.

This report is intended to help ODOT focus its planning efforts on the most significant problems and to act as a catalyst for further discussion about how best to invest in OR 126.

TPAU Review of Florence-Eugene Highway Conditions Report (December 7, 2001, ODOT Transportation Planning Analysis Unit)

The ODOT Transportation Planning Analysis Unit (TPAU) performed a traffic analysis that was used in the preparation of the *2001 Florence-Eugene Highway Conditions Report*. The analysis was for 30^{th} highest hour traffic volumes under the 2001 Existing and 2025 Future No-Build scenarios. The memorandum indicates that traffic characteristics for the section of OR 126 from Florence to

Veneta was characterized as daily commuter traffic with a peak hour from 5:00 to 6:00 p.m. This finding was supported by the higher volume-to-capacity ratio at the OR 126/Territorial Highway intersection during the weekday p.m. peak hour versus the weekend recreational peak hour (both peak hours were analyzed for this intersection).

The future analysis indicated that in the 2025 No-Build scenario, both unsignalized intersections and the entire mainline between Veneta and Eugene fail to meet the 1999 OHP mobility standards. One potential improvement that would address congestion (though may have other undesirable impacts), would be to widen this section of the highway to four lanes. In addition, the Fisher Street and Central Road intersections with OR 126 are locations that may need turn lanes in the future due to safety and operational concerns. If turn lanes on OR 126 are provided in the future, then they should be sufficiently long to accommodate potential queues caused by gate down time at the adjacent railroad track. The Fisher Street intersection was also identified as a location that is expected to meet traffic signal warrants under the 2025 Future scenario.

Oregon 126 Safety Study (April 8, 2005)

This study provides an analysis of highway safety on OR 126 between the western edge of the Eugene metro area and US 101 in Florence. The study identifies the types, causes, and severity of crashes given the current highway condition and daily traffic. One purpose of the study was to assess the impacts of future projected traffic as well as previously unanticipated casino traffic growth on the existing safety condition in the corridor. Study recommendations include safety mitigation priorities that encompass the range of alternatives including education, enforcement, and engineering options.

Some of the specific findings and recommendations for the corridor segment between Veneta and Eugene include the following:

- Enforcement staff and Emergency Medical Service (EMS) first responders would benefit from:
  - Turnarounds and launch pads
  - Roadway and/or shoulder widening
- Safety could be improved by installing:
  - Shoulder rumble strips where 4' shoulders are available
  - Edge and centerline raised pavement markers when permitted by ODOT (or other centerline demarcation to help reduce cross-over collisions)
- The segment between mile points 49.00 to 49.49 (near Fern Ridge Lake) is a two lane roadway with guardrail that protects drivers from water (wetlands) on each side of the roadway. This segment was examined in greater detail due to higher occurrence of crash severity and frequency. The analysis indicated that this segment:
  - Has a long straight section with intersection at MP 49 not clearly defined with decreased sight visibility due to location and placement of guardrail.
  - Needs improved visibility or audible for improved recognition of intersection

- A major contributing factor to crash potential appears to be the diverse mix of corridor users that includes everything from log trucks to recreational travelers heading to and from the coast. Accordingly, raising the awareness of all drivers to the need to drive safely is expected to produce the most beneficial and observable results.

Oregon Transportation Plan (Adopted September 20, 2006)
The OTP is a comprehensive plan that addresses the future transportation needs of the State of Oregon through the year 2030. It considers all modes of transportation, including airports, bicycle and pedestrian facilities, highways and roadways, pipelines, ports and waterway facilities, public transportation, and railroads.

Seven goals with associated policies and strategies are provided in the plan to address the core challenges and opportunities facing transportation in Oregon. The seven goals are:

- **Goal 1 – Mobility and Accessibility:** To enhance Oregon's quality of life and economic vitality by providing a balanced, efficient, cost-effective and integrated multimodal transportation system that ensures appropriate access to all areas of the state, the nation and the world, with connectivity among modes and places.
- **Goal 2 – Management of the System:** To improve the efficiency of the transportation system by optimizing the existing transportation infrastructure capacity with improved operations and management.
- **Goal 3 – Economic Vitality:** To promote the expansion and diversification of Oregon's economy through the efficient and effective movement of people, goods, services and information in a safe, energy efficient and environmentally sound manner.
- **Goal 4 – Sustainability:** To provide a transportation system that meets present needs without compromising the ability of future generations to meet their needs from the joint perspective of environmental, economic and community objectives. This system is consistent with, yet recognizes differences in, local and regional land use and economic development plans. It is efficient and offers choices among transportation modes. It distributes benefits and burdens fairly and is operated, maintained and improved to be sensitive to both the natural and built environments.
- **Goal 5 – Safety and Security:** To plan, build, operate and maintain the transportation system so that it is safe and secure.
- **Goal 6 – Funding the Transportation System:** To create a transportation funding structure that will support a viable transportation system to achieve state and local goals today and in the future.
- **Goal 7 – Coordination, Communication and Cooperation:** To pursue coordination, communication and cooperation among transportation users, providers and those most affected by transportation activities to align interests, remove barriers and bring innovative solutions so the transportation system functions as one system.

There are also six key initiatives identified to reflect the desired direction of the plan and to frame the plan implementation. These initiatives are:

- Maintain the existing transportation system to maximize the value of the assets. If funds are not available to maintain the system, develop a triage method for investing available funds.
- Optimize system capacity and safety through information technology and other methods.
- Integrate transportation, land use, economic development, and the environment.
- Integrate the transportation system across jurisdictions, ownerships, and modes.
- Create a sustainable funding plan for Oregon transportation.
- Invest strategically in capacity enhancements.

The Implementation Framework section of the OTP also describes the implementation process and how state multimodal, modal/topic plans, regional and local transportation system plans, and facility plans will refine the OTP's broad policies and investment levels. The Corridor Plan is a facility plan. The State Agency Coordination Program defines a facility plan as: "a plan for individual transportation facilities that includes identification of needs for using the facility, an overall plan for improving the system and policies for operating the facility." Facility plans must be adopted by the OTC, and must be developed with public involvement and implement the OTP and the applicable modal/topic plan goals, policies, implementation strategies, and broad investment scenarios.

Oregon Bicycle and Pedestrian Plan (Adopted 1995, Included in September 2006 Oregon Transportation Plan)

The Oregon Bicycle and Pedestrian Plan is an element of the OTP, which was most recently adopted in September 2006. The goal of the plan is to provide safe and accessible bicycling and walking facilities in an effort to encourage increased levels of bicycling and walking. The plan provides actions that will assist local jurisdictions in understanding the principals and policies that ODOT follows in providing bike and walkways along state highways. In order to reach the plan's objectives, the strategies for system design are outlined, including:

- Providing bikeway and walkway systems and integrating with other transportation systems.
- Providing a safe and accessible biking and walking environment.
- Developing educational programs that improve bicycle and pedestrian safety.

Also included is specific information pertaining to walkway design, street crossings, intersection pedestrian crossings and bicycle facility design.

1999 Oregon Highway Plan (OHP) (August 2006 Version, includes Amendments Nov. 1999 through Jan. 2006)

The basic framework for the *1999 Oregon Highway Plan (OHP)* is a refinement and application of the goals and policies stated in the Oregon Transportation Plan to the state highway system. The OHP gives policy and investment direction to large scale plans (such as the Corridor Plan), but is not intended to direct specific projects and modal alternatives.

One of the key goals of the OHP is to maintain and improve safe and efficient movement of people and goods, while supporting statewide, regional, and local economic growth and community livability. The implementation of this goal occurs through a number of policies and actions that guide management and investment decisions by defining a classification system for state highways, setting standards for mobility, employing access management techniques, supporting intermodal connections, encouraging public and private partnerships, addressing the relationship between the highway and land development patterns, and recognizing the responsibility to maintain and enhance environmental and scenic resources.

Specific OHP policies with bearing on the Corridor Plan include the following:

Policy 1A – State Highway Classification System

- The OR 126 project study area corridor is classified as a Statewide Highway. It is also part of the National Highway System (NHS), is a State Freight Route (FR), and is a Federally Designated Truck Route (TR). The eastern section of the corridor is part of the Beltline Highway (Highway 69), and the western section is part of the Florence-Eugene Highway (Highway 62).

Policy 1B: Land Use and Transportation

- Land use and transportation planning and development should be coordinated between state, regional, county, and city agencies. Key elements of this policy indicate that the State of Oregon and local agencies should:
  - Work together to provide safe and efficient roads for livability and economic viability for all citizens
  - Work collaboratively in planning and decision-making related to transportation system management
  - Maintain the mobility and safety of the highway system
  - Encourage the availability and use of transportation alternatives

Policy 1C: State Highway Freight System

- OR 126 has been designated a Freight Route by ODOT, which places added emphasis on efficient operation to ensure the timely and dependable movement of goods. To support this function, special management objectives for freight routes were developed as outlined in Policy 1C of the OHP. Key objectives relating to this plan include:
  - Application of higher highway mobility standards than other Statewide Highways;
  - Examine options to treat designated freight routes as expressways where the routes are outside of urban growth boundaries and unincorporated communities and continue to treat freight routes as expressways within urban growth boundaries where existing facilities are limited access or where corridor or transportation system plans indicate limited access
  - Consider the importance of timeliness in freight movements in developing and implementing plans and projects.

Policy 1F: Highway Mobility Standards

- ODOT has adopted standards for mobility for state facilities through the OHP and the *Highway Design Manual* (HDM). Standards contained in the OHP are used for planning purposes to identify deficiencies, while facilities and improvements are designed to HDM standards.
- The OHP Highway mobility standards are based on various factors, including highway classification and designations, whether it is within a metropolitan planning organization (MPO) or UGB, and the posted speed. The section of OR 126 being studied is a Statewide Highway designated as both a truck route and freight route. The Green Hill Road intersection is within the Central Lane MPO, and the Huston Road intersection is within the Veneta UGB. The speed limit along the entire study corridor is posted at 55 mph. Table 6 from the OHP indicates the applicable mobility standards based on the location and posted speed of a given highway segment. The entries of OHP Table 6 that are applicable to the study corridor are provided in Table 6.6.

Table 6.6. ODOT Mobility Standards[a] Applicable for OR 126 (from OHP Table 6)

Highway Category	Inside Eugene UGB	Inside Veneta UGB	Outside UGB
	Inside Central Lane MPO	*≥45 mph posted speed*	*Rural Lands*
Freight Route on a Statewide Highway[b]	0.85 (Green Hill Road intersection)	0.80 (Huston Road intersection)	0.70 (Rest of Corridor)
Stop-controlled side streets[c]	0.95	0.90	0.75

[a] ODOT operating standards obtained from December 2011 version of Table 6 in OHP.
[b] At signalized intersections, these standards are to be applied to the intersection as a whole. At unsignalized intersections, these standards are applicable only to movements that are not required to stop.
[c] For movements at unsignalized intersections that are required to stop or otherwise yield the right of way, the standards for District/Local Interest Roads shall be applied.

Policy 1G: Major Improvements

- According to this policy, the highest priority should be placed on protection of the existing system, followed by improvements in efficiency and capacity of existing facilities. Once these options have been investigated, the third and fourth priorities would be to add capacity to the existing system and then to add new facilities.

Policy 2A: Partnerships

- The limited resources available for transportation planning and development should be efficiently and effectively used by coordinating the efforts of all agencies. For the project corridor, the applicable agencies include the City of Veneta, the City of Eugene, Lane County, and ODOT.

Policy 2B: Off-System Improvements

- The State is to provide financial assistance for local road projects when the projects are cost-effective in improving state facility conditions.

Policy 2D: Public Involvement

- The governmental bodies should offer opportunities for effective public involvement in transportation planning and project development.

Policy 2F: Traffic Safety

- Increase the safety of the state transportation system through engineering, education, enforcement, and emergency medical services. Key elements from this policy include:
  - In identifying solutions to traffic safety problems, consider solutions including but not limited to: Increasing traffic enforcement; involving business and community groups and the media in educational efforts; using educational materials and special signing to change driving practices; making engineering improvements such as geometrics, signing, lighting, striping, signals, improving sight distance, and assessing conditions to establish appropriate speed; constructing appropriate bicycle and pedestrian facilities including safe and convenient crossings; managing access to the highway; developing incident response and motorist assistance programs; ensuring the uniformity of traffic control devices; and developing driver information systems.
  - Continue to develop and implement the State's Safety Management System to target resources to sites and routes with the most significant safety problems. Encourage local governments to adopt a safety management system.
  - Work with citizens and local jurisdictions to address safety concerns on the state highway system.

Policy 3A: Classification and Spacing Standards

- Access to state highways should be managed to assure safe and efficient operations consistent with the classification system outlined in Policy 1A. Access considerations include the location, spacing, and type of access (i.e., public versus private). Access spacing standards and management objectives for OR 126 are based on its designation as a Statewide Highway (NHS) and Non-Expressway (i.e., Rural Other):
  - Statewide Rural Highways provide for high speed, continuous flow and through traffic movement.
  - Direct access to the abutting property is a minor objective.
  - The function of the highway is consistent with purchasing access rights. As the opportunity arises, access rights should be purchased. Preference is to purchase access rights in full.
  - The primary function of these highways is to provide connections to larger urban areas, ports and major recreation areas of the state not served by Freeways or Expressways.

Policy 3B: Medians

- Policy 3B in the OHP addresses the installation of non-traversable medians in state highways. According to this policy, the installation of non-traversable medians shall be considered for (only potentially applicable conditions for OR 126 are listed):
  - Highways not undergoing modernization where a median could improve safety;
  - Highways where forecasted average daily traffic is anticipated to be 28,000 vehicles per day during the 20-year planning period
  - The annual accident rate is greater than the statewide average accident rate for similar roadways
  - Pedestrians are unable to safely cross the highway, as demonstrated by an accident rate that is greater than the statewide annual average accident rate for similar roadways
  - Topography and horizontal or vertical alignment result in inadequate left-turn intersection sight distance and it is impractical to relocate or reconstruct the connecting approach road or highway to improve the situation

Goal 3 (Access Management) is critical in transportation planning efforts that involve state transportation facilities. This goal is implemented through OAR 734-051, which is reviewed later in this Background Document Review Memorandum. Goal 4 (Travel Alternatives) and Goal 5 (Environmental and Scenic Resources) also apply, if in limited ways. Goal 5, with an aim to go beyond what is required by other state and federal regulations, calls for natural resources to be maintained and even improved by transportation planning and projects involving state facilities.

Oregon Public Transportation Plan (Adopted 1997)

The transit modal plan, called the Oregon Public Transportation Plan (OPTP), develops the OTP goals and objectives related to the public transportation system, including public transit, special needs transportation, transportation options and intercity bus. Public Transit Division's programs are designed to implement the OPTP. The OPTP was adopted in 1997, and is scheduled to be updated beginning in 2011-2013.

ODOT Rail Plan (Adopted 2001, Included in September 2006 Oregon Transportation Plan)

The Oregon Rail Plan is a comprehensive assessment of the state's rail planning, freight rail, and passenger rail systems (not including light rail or other rail transit type services). It documents and describes various federal and state rail planning requirements and highlights specific goals and policies. It also reviews the development of the state freight and passenger rail systems and identifies needed improvements. Particular emphasis is placed on safety, public and private coordination, efficiency, and multi-modal integration. Segments of the plan that are expected to be the most relevant to the Corridor Plan are referenced below (and should be referred to as needed throughout the planning process):

- **Rail Division Involvement:** Whenever any road work (including construction of a sidewalk) is proposed within 500 feet of a railroad track, the party responsible for the project should consult ODOT Rail Division.
- New Crossing Construction.
- Alteration of Existing Public Crossings.
- **Improving Safety:** Safety is the most important conflict to mitigate in most urban areas. There are a variety of ways to improve safety at grade crossings that may be applied individually or in combination.
- **Minimizing Conflict and Increasing Access:** Careful planning can mitigate conflict and improve access. Recommendations for local jurisdictions are provided.

Oregon Freight Plan

The *Oregon Freight Plan (OFP)* is currently in draft form and has not yet been adopted. Its purpose will be to improve freight connections to local, state, regional, national and global markets in order to increase trade-related jobs and income for Oregon workers and businesses. It will provide a roadmap for the ODOT, other state and local agencies, and the private sector to work together to preserve and enhance the State's freight system.

Oregon State Rail System Maps

The railroad that runs parallel to OR 126 is identified on the Oregon State Rail System maps as an Oregon Short Line. There is no passenger rail that uses this track, but OR 126 is identified as an Intercity Bus Route as well as an Interline Thruway Bus Route.

2009 ODOT Traffic Manual

The ODOT Traffic Manual is a comprehensive reference for traffic engineering practices published by the Traffic Engineering and Operations Section. This manual covers recommended practices for use on state facilities in the areas of access management, bicycle treatments, capacity analysis, crash analysis, crosswalks, illumination, signing, pavement markings, parking, sight distance, speed zones, traffic calming, turn lanes, u-turns, and other topics.

Oregon Statewide Transportation Improvement Program (STIP) (2010 – 2013 STIP and 2012 – 2015 Draft STIP)

The current adopted (2010-2013) Statewide Transportation Improvement Program (STIP) serves as ODOT's short term capital improvement program and provides funding and scheduling information for transportation projects for both ODOT and the metropolitan planning organizations in the state. Projects funded in the STIP reflect and advance the Oregon Transportation Plan for highways, public transportation, and for freight, passenger rail, bicycle, and pedestrian facilities. No projects on the OR 126 project study area roadway were identified within the adopted 2010-2013 STIP or the draft 2012-2015 STIP.

ODOT Safety Priority Index System (SPIS) (Prepared in 2010 using data from 2007 to 2009)

The Safety Priority Index System (SPIS) is a method developed by ODOT for identifying potential safety problems on state highways. SPIS scores are developed based upon crash frequency, severity, and rate. A prioritized list is created for each region (the top 10 percent of statewide SPIS sites) and the top five percent are investigated by the five Region Traffic manager's offices. There are not locations on the OR 126 study corridor within either the top five or top 10 percent, but the Green Hill Road intersection is in the top 15 percent of statewide SPIS sites.

In addition to the SPIS, the Safety Investment Program (SIP) is a tool used to identify accident history in 0.10 mile or variable length segments on state highways. The OR 126 study corridor has a Category 3 SIP rating because from 2007 to 2009 it had three to five fatal or serious injury crashes per 5 mile segment.

Oregon Access Management Rule (OAR 734-051 Temporary Rules)

The purpose of Oregon's Access Management Rule is to control the issuing of permits for access to state highways, state highway rights of way, and other properties under the State's jurisdiction. In addition, the ability to close existing approaches, set spacing standards, and establish a formal appeals process in relation to access issues is also identified.

These rules enable the State to set policy and direct location and spacing of intersections and approaches on state highways, ensuring the relevance of the functional classification system and preserving the efficient operation of state routes. Regulating access can:

- Protect resource lands
- Preserve highway capacity
- Ensure safety for segments of state routes with sharp curves, steep grades, or obstructed sight distance.

The access management standards adopted by ODOT and applicable to the OR 126 project study corridor are summarized in Table 6.7 below.

Table 6.7. Applicable ODOT Access Management Standards

Highway Category[a]	Spacing Standards[b] (by Posted Speed)				
	≥55 mph	*50 mph*	*40,45 mph*	*30,35 mph*	*≤25 mph*
Statewide Highway (urban)	1,320 feet	1,100 feet	800 feet	500 feet	350 feet
Statewide Highway (rural)	1,320 feet	1,100 feet	990 feet	770 feet	550 feet

[a] *OR 126 is classified by ODOT as a Statewide Highway.*
[b] *Measurement of the approach road spacing is from center to center on the same side of the roadway.*
Source: OAR 734-51 Temporary Rules- Effective January 1, 2012

ODOT applies the urban access standards for OR 126 within the Eugene and Veneta UGBs and the rural standards elsewhere. Any new street or driveway connections, as well as any changes to existing street or driveway connections, on OR 126 must be found to be in compliance with these rules by ODOT.

2003 ODOT Highway Design Manual and Amendments (2003, with revisions in 2004 and 2005-2006)

The *ODOT Highway Design Manual* (HDM) contains standards for the design of state highways and various highway elements. Included in the manual are elements to be considered for evaluating the feasibility of construction and determination of right of way needs such as the general alignments, roadway widths, and criteria for installation of turn lanes. In addition, the HDM should be used to identify areas where design exceptions may be required.

The HDM displays the maximum allowable volume to capacity ratios for the 30th highest annual hour of traffic for use in the design of highway projects. These standards are to be applied to conditions forecasted to exist 20 years after completion of the proposed improvement. If the applicable mobility standard cannot be met, a design exception would be required.

ODOT Practical Design Strategy (March 1, 2010, ODOT Highway Division)

Practical Design is a relatively new term used to define and improve current best practices for developing cost-effective transportation solutions that are the right projects, at the right time, at the right cost, and in the right way. It is a strategy that delivers focused benefits for the State's transportation system while working with the realities of a fiscally constrained funding environment. It focuses more on meeting the specific purposes, needs, and context of transportation projects and on identifying solutions that are considered sufficient to improve the transportation system without being excessive. Therefore, there is more flexibility in design, which will typically result in greater analysis and planning costs. However, the intended result is a more cost effective roadway solution.

ODOT has developed a strategy for Practical Design that provides a foundation for thought and processes to achieve more focused improvements at a lower cost, even if those improvements are not as long lived as traditional ODOT highway improvements.

ODOT has five key values associated with Practical Design. These values are represented by the acronym ***S.C.O.P.E.***:

- **S**afety
- **C**orridor Context
- **O**ptimize the System
- **P**ublic Support
- **E**fficient Cost

Regional and Local

West 11th Avenue Corridor Study (July 2010, DKS Associates for the City of Eugene)

A study of the West 11th Avenue corridor (which transitions into OR 126 as it heads west and leaves the Eugene UGB) was completed for the City of Eugene in 2010. The purpose of the study was to identify short-term strategies to improve bicycle and pedestrian facilities, corridor safety, access, signal timing, and traffic operations. The corridor study area spanned from Green Hill Road on the west to Chambers Street on the east.

The only overlap of the West 11th Avenue Corridor Study with the current Corridor Plan is near the Green Hill Road intersection (both studies include this as a study intersection). The West 11th Avenue Corridor Study identified the need to either upgrade West 11th Avenue to a five-lane urban arterial or construct a dual-lane roundabout at the West 11th Avenue (OR 126)/Green Hill Road intersection (though this improvement was not one of the four improvements identified as highest priority for ODOT and the City of Eugene).

The study also identified the need to provide an improved bicycle connection between Ed Cone Boulevard (which has bike lanes and connects to the Fern Ridge Path) and Crow Road (which is a major cycling route). Any bicycle facility improvements on OR 126 should consider how best to connect to the Fern Ridge Path in this vicinity.

A New Vision for West Eugene (March 2009, West Eugene Collaborative)

The West Eugene Collaborative (WEC) formed in early 2007 with the aid of the Oregon Consensus Program. It is an ad hoc group encompassing a broad variety of viewpoints, including political and governmental leaders, business leaders, leaders of neighborhood groups, leaders of nonprofit organizations, and leaders within the environmental community. The WEC's purpose is to "develop an integrated land use and transportation solution, supported by stakeholders, that will facilitate movement of people and commerce from/through/to west Eugene and west of Eugene while enhancing community, business, and the environment."

This report documents analysis and recommendations that cover a large area of interest that extends as far west as Veneta. It is intended to be viewed as a general course that seems to have potential for addressing concerns in the west Eugene area. One of the recommendations was to complete a safety and mobility study for OR 126. All recommendations are intended to promote further public input, discussion, and consideration. Therefore, the WEC recommends efficient and transparent public planning, local community outreach and relationship building, and continued collaboration among all agencies and stakeholders.

City of Veneta Comprehensive Plan (Ordinance 416) (Adopted September 25, 2000; most recently amended November 23, 2009)

The Comprehensive Plan serves as Veneta's long-range land use plan and as a policy guide to physical development decisions. The Transportation element of the Veneta Comprehensive Plan provides goals and policies to guide the development of the TSP and to monitor future transportation strategies and improvements. These goals and policies address quality of life, congestion, connectivity, access, multi-modal mobility, environmental impact, coordination, design standards, and other issues.

Veneta Transportation System Plan (Ordinances 401, 427, 432, and 464) (Adopted November 9, 1998; most recently amended April 24, 2006)

Veneta adopted their first TSP in 1998. This plan has been amended by ordinance three times (in 2001, 2002, and 2006). The TSP is the long-range policy document that guides transportation planning within the Veneta UGB for the next 20 years. The plan assumes that the city will grow from its population of approximately 2,850 residents in 1996 (and 480 jobs in 1994) to approximately 5,450 residents and 840 jobs by the year 2015 (between 4% and 5% yearly growth). The plan was written by Lane Council of Governments and funded by ODOT and the City of Veneta. The issues raised in the TSP that are applicable to the OR 126 study area corridor include:

Traffic Control and Access

- Traffic control (i.e. signing, striping, etc.) is not adequate to control flow of traffic
- Only one signal (Territorial Road intersection)
- Huston Road provides one additional access point which could be used to divert some of the traffic through connectivity with other streets; directing traffic to Huston Road may increase need for additional signal
- Ingress/egress standards need to be fair for all access/users
- Alternate access needed for emergency vehicles
- Recommendation: Additional Traffic Signal(s) on OR 126

Traffic Congestion

- Only route to the coast from Eugene
- Congestion of a wide variety of vehicle types on road; i.e. commercial, recreational, commuter
- Road capacity is not adequate, nor has it been for 25 years
- Future traffic on highway likely to increase
- Recommendation: Widen Highway to 4 lanes

Safety

- Frequent accidents at major intersections
- Difficult to access OR 126 from side streets during peak traffic hours

Speed

- Speed limits are too high between Ellmaker and West Lane Center
- More traffic enforcement is needed
- Conflict between speeds driven by highway travelers and business customers. Ingress and egress for businesses is hazardous
- Greater speed reduction zone near traffic signal is needed

The projects identified in the TSP for the OR 126 study area corridor include:

- **Project B6 (Safe Pedestrian and Bicycle Crossing of OR 126, shared responsibility between ODOT and City of Veneta):** The best location for a grade separated crossing improvement is most likely west of Huston Road (i.e., near Hope Lane). However, crossing improvements, such as median refuge islands and other treatments may be beneficial in the study corridor.
- Project B8 (Traffic Signal at OR 126/Huston Road Intersection, shared responsibility between ODOT and City of Veneta, Cost Estimate = $5 million): The TSP reported that Huston Road was not meeting signal warrants at the time of the TSP preparation. Once the intersection meets warrants (based on a future traffic study: Study D-4), then a signal should be constructed. The proximity of the railroad crossing south of the intersection will affect improvement design and costs.
- **Project B14 (Off-Street Paths, responsibility of City of Veneta, Cost Estimate = $500,000):** Construct paths for bicyclists and pedestrians along the drainage-ways within the area already designated open space/greenway in the Comprehensive Plan. The cost estimate does not include right-of-way or easement acquisition.

City of Veneta Land Development (Ordinance 493) (Adopted January 25, 2010)

Article 5 provides land development supplementary provisions, including the following transportation-related sections:

- SECTION 522: Pedestrian Access and Circulation (page 115)
- SECTION 523: Transit Facilities (page 116)
- SECTION 524: Access Management (page 117)
- SECTION 527: Traffic Impact Analysis and Mitigation (page 122)
- SECTION 528: Street Trees (page 123)

Fern Ridge Trail System: Visions and Strategies (July 2007)

The Fern Ridge Trail System visioning document is a long range vision and conceptual tool that provides general insight in the following areas:

- Establishing the need for the proposed trail system
- Potential trail location and opportunities identification (descriptions, table, and map)
- Factors that influenced mapping and project prioritization
- Funding strategies (includes trial project grant schedule)
- Community input (group meetings, open house, and questionnaires)

This preliminary planning process was intended to raise awareness about the vision, to create a conceptual framework that helps facilitate the development of partnerships, and to place the City of Veneta in a better position to obtain grant funding and other forms of assistance as opportunities arise. It is a starting point to explore the feasibility of the individual projects and trail segments identified in the vision. The map of proposed routes is intended to be refined and adjusted based on additional planning and implementation efforts. Some additional efforts that are needed prior to implementing individual trail projects include a more detailed analysis of such issues as engineering, cost, funding, and environmental, social, and economic impacts.

Eugene-Springfield Metropolitan Area General Plan (Metro Plan) (2004 Update)

The Eugene-Springfield Metropolitan Area General Plan, also known as the Metro Plan is an overarching guidance document and functions as a framework for supplemental documents to provide more detailed programs, plans, and policies for the metropolitan area of Lane County and the cities of Eugene and Springfield. The Metro Plan is a long-range planning document that establishes and the goals and policies to guide land use. Land use encompasses growth, development, redevelopment and conservation of resources. The Metro plan includes a transportation element; however it does not provide location-specific recommendations.

Eugene-Springfield Transportation System Plan (TransPlan) (July 2002)

The Eugene-Springfield Transportation System Plan (TSP), also known as TransPlan, contains transportation goals, policies, and strategies to address transportation needs for the Eugene-Springfield metropolitan area through the year 2021. The TransPlan theme was "Improving Our Transportation Choices" which reflects the plan's focus to provide a variety of transportation modes and smooth connections between those modes.

TransPlan has developed a Capital Investment Action Project List. The list includes both Financially Constrained 20-year Capital Investment Actions and Future (Beyond 20 Years) 20-Year Capital Investment Actions. The constrained projects are then subdivided into Programmed projects which are expected to have a 0-5 year implementation horizon that have funding sources identified and un-programmed projects that do not have specific funding identified but are expected to be funded within the 20-year planning future. The TransPlan Financially Constrained 20-Year Capital Investment Action project lists were adopted and incorporated by amendment into the Metro Plan. They are also the same projects identified in the Central Lane MPO Regional Transportation Plan. There are some differences, but the Central Lane MPO Regional Transportation Plan is more up-to-date.

Central Lane MPO Regional Transportation Plan (November 2007, Lane Council of Governments)

The Central Lane MPO Regional Transportation Plan (RTP) guides regional transportation system planning and development in the CLMPO metropolitan area. The RTP includes provisions for meeting the transportation demand of residents over a 20-year planning horizon (2031) while addressing transportation issues and making changes that can contribute to improvements in the region's quality of life and economic vitality represents a required update to the federal RTP.

The RTP is adopted by the Metropolitan Policy Committee (MPC) and is required to be updated every four years (i.e., the next update is anticipated for 2011). The ongoing nature of regional transportation planning allows the RTP to be a dynamic plan of action for the future transportation system, rather than a static snapshot in time. The RTP is particularly important for guiding transportation public policy and investment decision making over the three- to five-year period following plan adoption, until the next plan update.

The RTP establishes the framework upon which the region's public agencies can make consistent and coordinated planning decisions regarding inter- and intra-jurisdictional transportation. The regional planning process ensures that the planning activities and investments of the local jurisdictions are coordinated in terms of intent, timing, and effect. The RTP sets forth the long-range policy framework for decision making for the following elements of the region's multi-modal transportation system:

- Regional roadways
- Regional transit system
- Regional bikeways and pedestrian circulation
- Regional goods movement (multiple modes)
- Regional aspects of other modes, including air, rail, and inter-city bus service

Implementation actions also accompany the policy element as a core component of the RTP. The RTP Policy Framework (Chapter Two) and Implementation Actions (Chapter Three) are structured around three fundamental components of transportation planning:

- Land use
- Transportation demand management
- Transportation system improvements

Projects Applicable to OR 126 Project Study Area

The Central Lane MPO boundary covers Eugene, Springfield, Coburg, and some adjacent surrounding areas. On the west, its boundary extends just west of Green Hill Road. Therefore, only a small portion of the project study area is within the MPO boundary (in the MPO's Geographic District 4). The following projects were identified in the plan:

- RTP Table 1a-Financially Constrained – Capital Investment Actions: Roadway Projects
    - **Project 333. West 11th Avenue (Green Hill Road to Terry Street):** Upgrade to 5-lane urban facility; ODOT and Eugene; $20,000,000; 1.51 miles; includes striped bike lane
    - **Project 485. Green Hill Road (Airport Road to Barger Drive):** Rural widening and intersection modifications; Lane County; $2,800,000; 1.98 miles; includes striped bike lane
- RTP Table 3a-Financially Constrained – Capital Investment Actions: Bicycle Projects
    - **Project 453. Green Hill Road (West 11th Avenue to Crow Road)**: Striped bike lane/shoulder; Lane County; $250,000; 0.26 miles
- RTP Table 3b-Illustrative – Capital Investment Actions: Bicycle Projects
    - Project 426. Fern Ridge Path #3 (Royal Avenue to Fern Ridge Lake): Multi-use path; Eugene and Lane County; $6,891,000; 0.91 miles;

Central Lane MPO Unified Planning Work Program (FY 2012 and 2013) (May 2011 (Covering July 1, 2011 to June 30, 2013))

The Unified Planning Work Program (UPWP) is a federally required certification document describing the transportation planning activities to be undertaken in the Central Lane metropolitan area for a specific fiscal year or years. Development of the UPWP provides local agencies with an opportunity to identify transportation needs, objectives, and products.

This document identifies the Oregon 126: Veneta-Eugene Facility Plan as one of the Major Facility Studies (LCOG Action Item #5). This study will be conducted in partnership with ODOT, the City of Eugene, and Lane County. The document states the following about the plan:

- The OR 126 corridor, from Veneta to Eugene, is primarily a two-lane highway with capacity and environmental constraints. Since 1998, three reports discuss existing conditions and interim safety improvements to the highway. No long-term improvement plan to address capacity, safety, or operations issues exists. This project is a planning-level analysis for the OR 126 corridor, specifically from Veneta to Eugene. The analysis will precede a future NEPA process and will reduce the costs during that process by completing a high-level alternatives analysis for the facility. This planning-level analysis will examine existing reports, existing highway conditions, future 'no-build' conditions, and opportunities and constraints. A variety of long-term solutions, including identification of alternate routes, highway capacity improvements, and/or a combination of solutions to address safety and operations will also be analyzed. The analysis will identify any fatal flaws of alternatives considered and recommend solutions to forward for more detailed examination during the future NEPA process.

2010 Federal Priorities: United Front Partners of Lane County, Oregon

This document was presented to the Oregon Congressional Delegation and identified the federal priorities of the United Front partners in Lane County for fiscal year 2011. One of the priorities was obtaining funding for the OR 126W/Green Hill Rd to Veneta Corridor Study (Lane County). The specified intent of the project was to perform initial planning and NEPA Study work to begin the process to identify problems and potential solutions for the OR 126 corridor extending from Green Hill Road on the western boundary of the Eugene-Springfield urban growth area to the City of Veneta. Detailed background information and a project description are provided for the project.

Lane County Rural Comprehensive Plan (Updated January 2009)

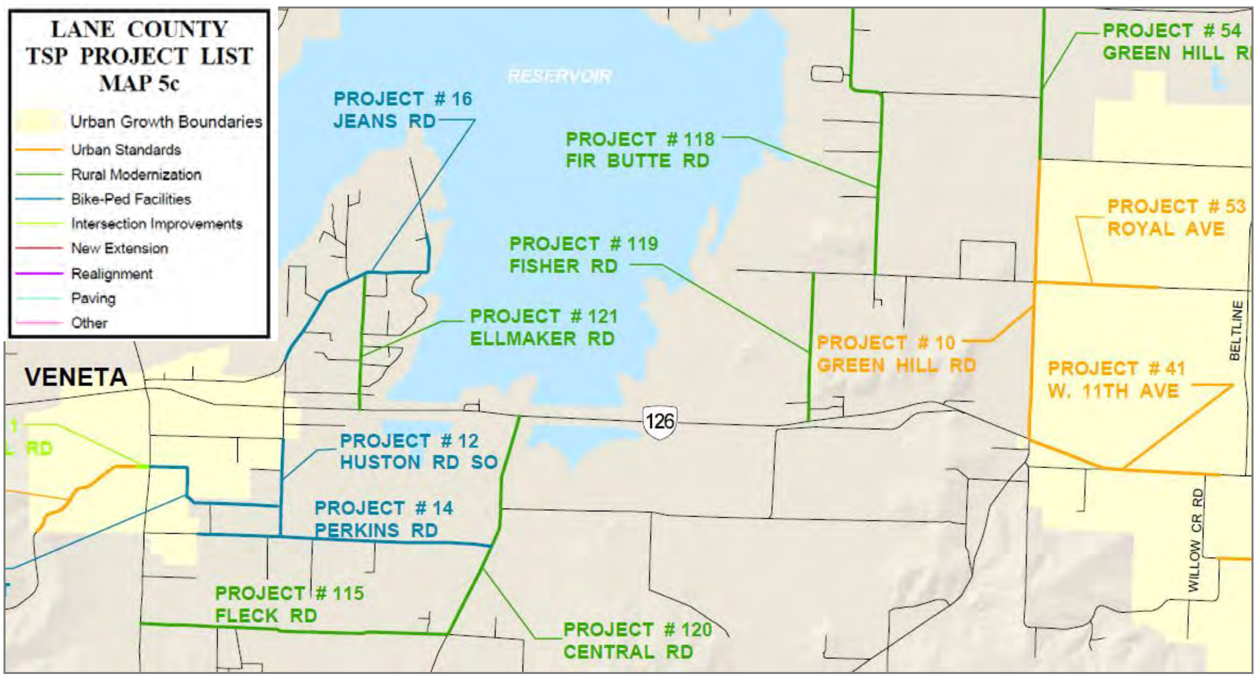
The Lane County Rural Comprehensive Plan applies to all unincorporated lands within the County beyond the Urban Growth Boundaries of incorporated cities in the County and beyond the boundary of the Eugene-Springfield Metropolitan Area Plan. It includes general County planning policies that provide broad direction and interpretation of approaches for county planning needs and complying with State of Oregon planning law.

Goal 12 of the plan addresses transportation. It includes policies directed at providing a coordinated, balanced, efficient, safe, and attractive transportation system.

Lane County Transportation System Plan (May 5, 2004)

The Lane County TSP is a 20-year planning document that provides greater clarity for planning and managing the County transportation system in terms of coordination with new development, targeted transportation improvements, fiscal management, and cooperation with local and state agencies on transportation issues. The TSP fulfills state requirements in accordance with OAR 660-012. The applicable area of Figure 5c from the TSP is provided below and shows the proposed projects in the vicinity of the OR 126 Project Study Area (Figure 6.10). Most projects are rural modernization or upgrading to urban standards. There are also some bicycle and pedestrian projects near Veneta.

Figure 6.10. Proposed Projects within Study Area



Lane Code: Ch. 16 (Rural Comprehensive Plan and Rural Zoning) and Ch. 10 (Zoning)

The Lane Code includes transportation-related code information in Chapter 16 (Rural Comprehensive Plan and Rural Zoning) and Chapter 10 (Zoning). Chapter 16 provides for allowable rural transportation uses and development outside of urban growth boundaries, while Chapter 10 provides for transportation uses and development inside urban growth boundaries and outside of city limits. Lane County delegated authority to Eugene (and Springfield) to regulate zoning inside Eugene's (and Springfield's) UGBs.

6.14.3. Findings

Transportation Issues and Recommendations from Prior Studies and Plans

The key issues and recommendations identified in prior studies and plans that have findings or guidelines relevant to OR 126W between Veneta and Eugene are summarized below. For more detailed information, please refer to Technical Memorandum #1, OR 126W Fern Ridge Corridor Plan– Transportation Review of Plans, Policies, Regulations, and Standards (DKS, 2011).

- The Interim Corridor Strategy: OR 126W provides corridor planning framework and was intended to be used as the starting point for the development of a Corridor Plan for OR 126W from Florence to Eugene. It also recommended a refinement plan (and identified a few potential improvement ideas) addressing safety and congestion for the segment from Veneta to Eugene to explore alternatives through a community consensus-building process.
- The other corridor-related studies further identify corridor concerns and provide potential improvement ideas that should be considered.
- The City of Veneta studies outline goals and objectives of the City. They also identify various improvements, particularly on the west end of the study corridor.
- The City of Eugene (and overall Central Lane MPO) studies outline goals and objectives of the Eugene-Springfield area. They also identify various improvements, particularly on the east end of the study corridor.
- The Lane County studies outline goals and policies for the County. They also identify various improvements, particularly on the side streets that intersect OR 126W in the rural area between Veneta and Eugene.
- The ODOT plans provide information and standards that are applicable to OR 126W, including:
  - The OR 126W project study area corridor is classified as a Statewide Highway. It is also part of the National Highway System (NHS), is a State Freight Route (FR), and is a Federally Designated Truck Route (TR). The eastern section of the corridor is part of the Beltline Highway (Highway 69), and the western section is part of the Florence-Eugene Highway (Highway 62).
  - Goals, policies, and standards are provided for each transportation mode to be serviced on the corridor.
  - Access spacing standards (1,320 feet given 55 mile per hour speed limit)
  - Oregon Highway Plan (OHP) mobility standards (vary between 0.70 and 0.80 for intersections and free movements and between 0.80 and 0.90 for side street stopped approaches depending on corridor segment)
  - Highway Design Manual (HDM) mobility standards (vary between 0.60 and 0.75 depending on corridor segment)
  - Implementation resources are provided that guide the preparation and adoption of facility plans.

Existing Conditions

This section summarizes existing transportation conditions for OR 126W between Veneta and Eugene, Oregon (see Figure 6.11), and is part of the Corridor Plan. It identifies existing facilities as well as operational and safety deficiencies. Included in this section is information about the roadway network, daily motor vehicle traffic characteristics, origin-destination survey, intersection traffic volumes and operations, collision analysis, pedestrian and bicycle facilities and activity, transit service, and rail facilities and activity. For more detailed information, please refer to Appendix B: Technical Memorandum #2, OR 126W Fern Ridge Corridor Plan– Existing Transportation Conditions (DKS, 2011).

Roadway Network

OR 126W is the primary east-west roadway in the project study area and is a rural route between the cities of Eugene and Veneta. It traverses farmland, runs parallel to the Coos Bay rail line (CBRL), and skirts the southern edge of the Fern Ridge Lake, which is a popular recreational area. It is primarily used by commuters traveling between Eugene and Veneta, but it is also the primary route connecting the Eugene-Springfield area with the Oregon coast.

OR 126W is under ODOT jurisdiction and is classified as a Statewide Highway. It is also part of the National Highway System (NHS), is a State Freight Route (FR), and is a Federally Designated Truck Route (TR). Table 6.8 lists the existing project study area roadway characteristics of OR 126W as well as the primary cross streets in the project study area that provide access to OR 126W. All project study area roadways (including OR 126W) are two-lane facilities, though OR 126W widens on occasion to accommodate a left-turn lane at key intersections. In addition, none of the roadways have designated bike lanes or sidewalks, though OR 126W through the project study area has paved shoulders that range from four to ten feet wide.

FIGURE 6.11. STUDY AREA

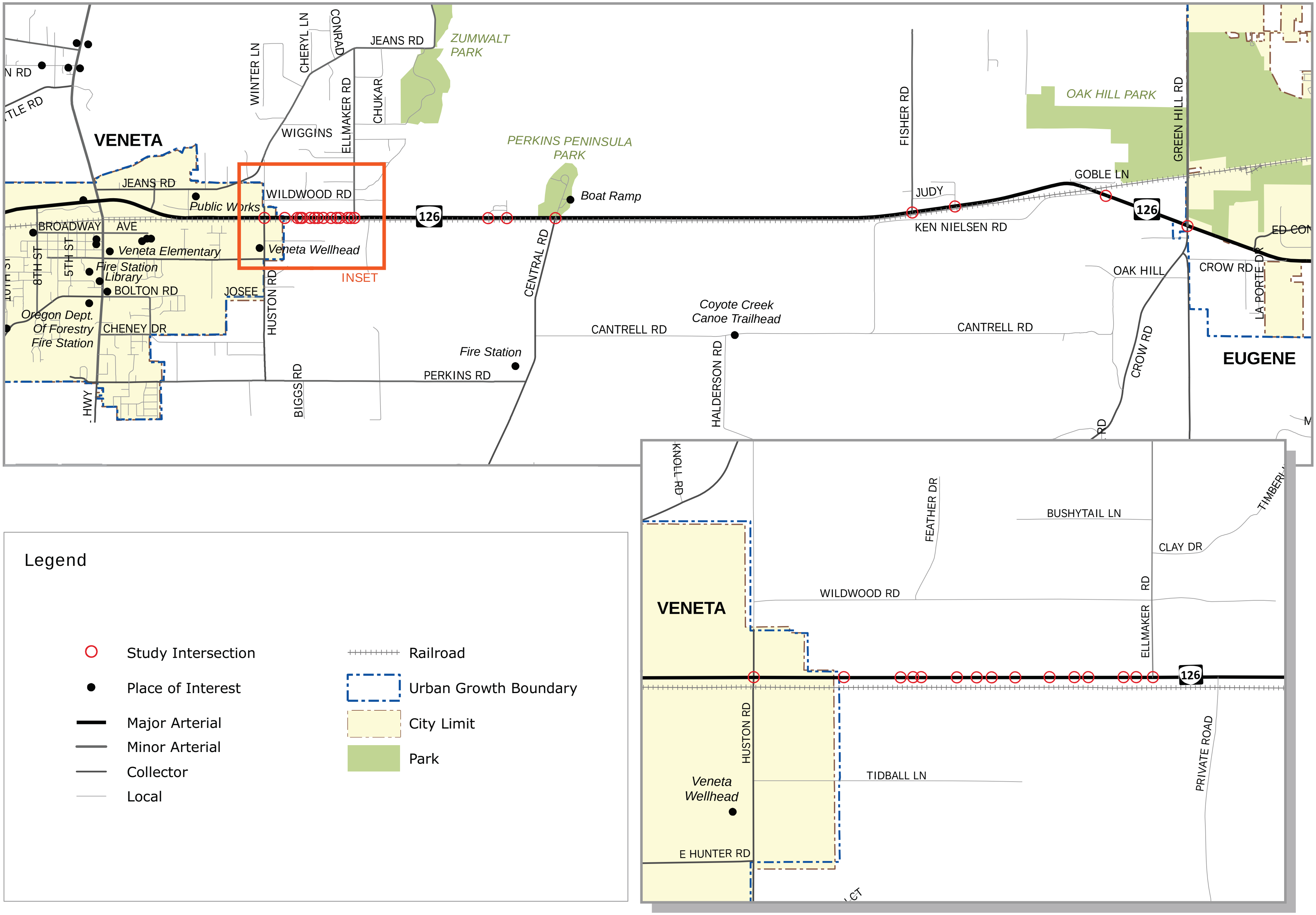


Table 6.8. Existing Roadway Characteristics (Study Area)

Roadway	Jurisdiction	Functional Classification	Travel Lanes	Posted Speed	Side-walk	Bike Lanes
OR 126W	ODOT	Statewide Highway[a]	2	55	No	No
Huston Rd	City of Veneta	Major Collector[b]	2	55	No	No
Ellmaker Rd	Lane County	Rural Minor Collector[c]	2	NP[d]	No	No
Shady Rest Dr	Private	N/A	2	NP[d]	No	No
Lake Side Dr	Lane County	Rural Local[c]	2	NP[d]	No	No
Central Rd	Lane County	Rural Major Collector[c]	2	NP[d]	No	No
Fisher Rd	Lane County	Rural Minor Collector[c]	2	NP[d]	No	No
Richmond St	Lane County	Rural Local[c]	2	NP[d]	No	No
Kenneth Nielson Rd	Lane County	Rural Local[c]	2	NP[d]	No	No
Green Hill Rd	Lane County	Rural Major Collector[c]	2	NP[d]	No	No
Crow Rd	Lane County	Rural Major Collector[a]	2	NP[d]	No	No
Perkins Rd	Lane County	Rural Minor Collector[c]	2	NP[d]	No	No
Cantrell Rd	Lane County	Rural Local[c]	2	NP[d]	No	No

[a] Source: 1999 Oregon Highway Plan (August 2006 Version).
[b] Source: Veneta Transportation System Plan (Adopted Nov. 9, 1998, Amended Apr. 24, 2006).
[c] Source: Lane County Transportation System Plan (Adopted May 5, 2004).
[d] NP = Not Posted ("basic rule" or safe speed for the conditions applies).

Daily Motor Vehicle Traffic Characteristics

Daily motor vehicle traffic characteristics were evaluated along OR 126W using bi-directional traffic volumes, speeds, and vehicle classification data. The data was collected using roadway tubes on a summer weekday at the following five locations:

- OR 126W east of Huston Road
- OR 126W west of Central Road
- OR 126W west of Fisher Road
- OR 126W west of Ken Nielsen Road
- OR 126W west of Green Hill Road

Figure 6.12 shows the bi-directional average daily traffic (ADT) volumes, 85th percentile speeds and heavy vehicle percentages recorded at these five locations. The ADTs along the corridor range between 13,390 and 15,850 vehicles per day, with the greatest volumes occurring in the center of the corridor near Fisher Road. Heavy vehicle activity ranges from three to five percent along the corridor. The 85th percentile speed exceeds the 55-mph speed limit by more than 5 mph at the four westernmost locations.

Figure 6.13 provides additional insight regarding traffic trends by comparing the bi-directional traffic volumes by the hour of the day. As shown, there is a significant eastbound morning peak of approximately 800 vehicles per hour (vph) between 7:00 a.m. and 8:00 a.m., which drops off but then maintains a fairly consistent 400 vph until approximately 5 p.m. In the westbound direction, hourly traffic volumes gradually build throughout the day, with peak volumes of approximately 800 vph between 4:00 p.m. and 6:00 p.m. Therefore, this graph shows a distinct commuter trend during the weekday as Veneta residents drive to work in Eugene for the morning and then return home in the evening.

Figure 6.12. Daily Motor Vehicle Traffic Characteristics

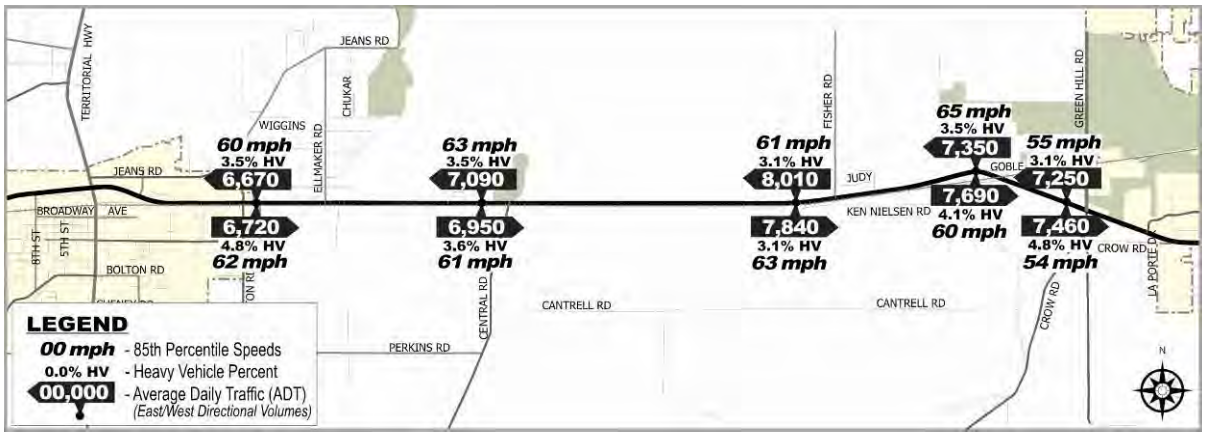
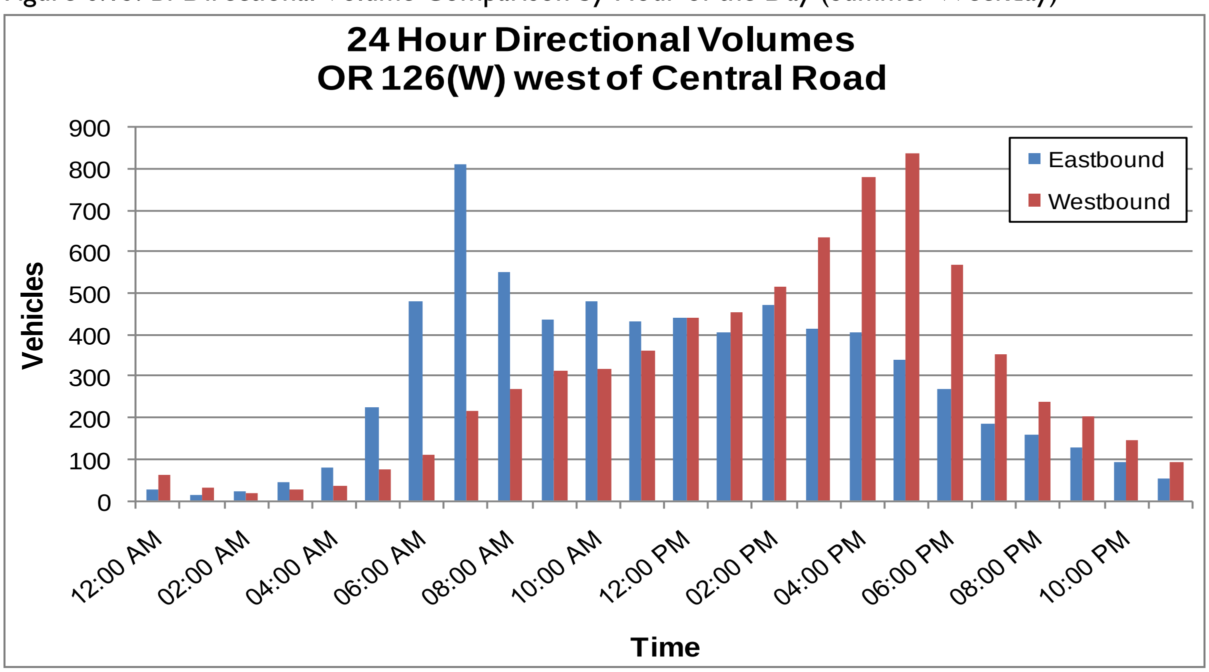


Figure 6.13. Bi-Directional Volume Comparison by Hour of the Day (Summer Weekday)



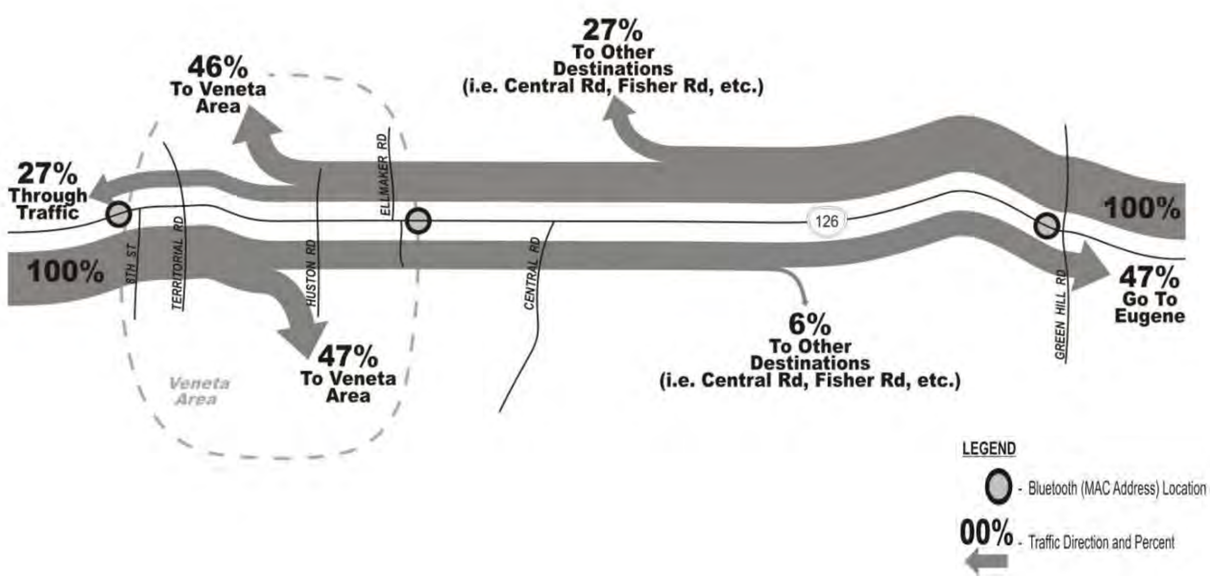
Origin-Destination Survey

To understand the use of OR 126W to travel to, from, or through Veneta, an origin-destination (O-D) survey utilizing MAC address (i.e., Bluetooth) sampling was conducted over three weekdays in June 2011. Three data collection points were used to estimate the percentage of vehicles originating in or destined for Veneta or the surrounding areas versus the percentage of vehicles remaining on OR 126W and traveling through Veneta. The O-D survey collection points included the following (which are shown in Figure 6.14):

- West of 8th Avenue on OR 126W (west of Veneta)
- East of Ellmaker on OR 126W (near western study corridor extent)
- West of Green Hill Road on OR 126W (near eastern study corridor extent)

MAC addresses recorded at all three collection points indicate a through trip that remains on OR 126W, while those only recorded at one or two points indicate a trip either beginning or ending in Veneta or somewhere within the study corridor. Figure 6.14 shows the origin-destination survey results as percentages of vehicles entering the study corridor at the two ends of OR 126W. Of the recorded westbound vehicles entering the project study area, the O-D surveys indicate that approximately 25 percent turn off of OR 126W prior to reaching Veneta, 50 percent turn off within Veneta, and 25 percent pass through Veneta and continue westbound on OR 126W. Of the recorded eastbound vehicles entering Veneta, the O-D surveys indicate that approximately 50 percent are destined for Veneta while the remaining 50 percent stay on OR 126W and continue eastbound towards Eugene.

Figure 6.14. Bluetooth Origin-Destination Survey Directional Split and Percentages



Intersection Traffic Volumes and Operations

Traffic volumes were collected and operating conditions were analyzed at each of the following study intersections and driveways along the OR 126W study corridor.

- OR 126W/Huston Road
- OR 126W/13 existing private driveways between Huston Road and Ellmaker Road
- OR 126W/Ellmaker Road
- OR 126W/Shady Rest Drive
- OR 126W/Lake Side Drive
- OR 126W/Central Road
- OR 126W/Fisher Road
- OR 126W/Richmond Street
- OR 126W/Ken Nielsen Road
- OR 126W/Green Hill Road

ODOT's Analysis Procedures Manual (APM) indicates that existing conditions operations analysis is to be performed using the 30th highest hour volume (30th HV). The 30th HV for the OR 126W study corridor intersections were determined by following three steps discussed below.

Step 1 – Collect Peak Hour Traffic Counts

Motor vehicle turn movement counts were collected at the study intersections and driveways for the a.m. and p.m. peak periods. Based on the raw data, which are provided in the appendix to Technical Memorandum #2 (DKS, 2011)(Appendix B), the system peak hours for the corridor were determined to be 7:15 to 8:15 a.m. and 4:45 to 5:45 p.m.

Step 2 – Apply Seasonal Factor

A seasonal factor was applied to each study intersection to calculate the 30th HV. Three optional methods for calculating a seasonal factor are outlined in ODOT's Analysis Procedures Manual (APM). Based on specific requirements, the ATR Seasonal Trend method was used to determine the seasonal adjustment factor. Because OR 126W serves a mix of commuter traffic and coastal destination traffic, the average of these two traffic trend characteristics was used. The result for the June 2, 2011, intersection turn movement count date is a seasonal adjustment factor of 1.11. The raw system p.m. peak hour turn movement volumes were multiplied by this factor to determine the 30th HV. The raw system a.m. peak hour volumes were also multiplied by this factor to determine the corresponding a.m. peak hour design volumes to use for existing conditions analysis.

Step 3 – Round and Balance Volumes

The 30th highest hourly volumes were rounded and balanced as appropriate based on direction provided in the APM. Rounding helps clarify that absolute precision is not expected for the traffic volumes, and balancing ensures that reasonable progression on a corridor is being considered. However, for very low volume turn movements (i.e., less than three vehicles) rounding was not performed. Instead, the actual volumes are shown for clarity in reporting where turn movements actually occurred. Figure 6.15 provides the 30th HV (and the associated a.m. peak hour volumes) for the OR 126W study intersection that results from rounding and balancing. This figure also identifies the existing intersection traffic control and turn lane geometries.

Average Annual Weekday Volumes

The average annual weekday traffic volumes for the OR 126W study corridor intersections were determined in a similar manner as the 30th HV. The only difference was that because June volumes are higher than average, the raw system p.m. peak hour turn movement volumes were multiplied by 0.95 factor (i.e., reduced by five percent). The raw system a.m. peak hour volumes were also multiplied by this factor to determine the corresponding a.m. peak hour design volumes. The volumes were then rounded and balanced as previously discussed. Figure 6.16 shows the resulting annual average weekday turn movement counts for each of the study intersections.

Intersection Performance

The performance of each OR 126W study corridor intersection under 30th HV and average annual conditions was evaluated and compared to the applicable volume-to-capacity (v/c) mobility standard(s), as required by ODOT and Lane County. Table 6.9 shows the applicable mobility standards for the OR 126W study corridor intersections. The ODOT mobility standards are controlling because they require the intersection to operate at a lower v/c ratio.

Table 6.9. ODOT and Lane County Mobility Standards[a]

Roadway Category	Inside Veneta UGB, Non-MPO with 55 mph speed limit *(i.e. Huston Road intersection)*	Outside UGBs *(i.e., all intersections between Huston Road and Green Hill Road)*	Inside Eugene UGB and Central Lane MPO *(i.e. Green Hill Road intersection)*
ODOT			
Freight Route on a Statewide Highway[b]	0.70	0.70	0.80
Stop-controlled side streets[c]	0.80	0.80	N/A
Lane County			
County Roads (worst movement)	N/A	0.80	N/A

[a] ODOT operating standards obtained from August 2005 version of Table 6 in OHP, Lane County operating standards obtained from Table 6 of 2004 Lane County TSP.
[b] At signalized intersections, these standards are to be applied to the intersection as a whole. At unsignalized intersections, these standards are applicable only to movements that are not required to stop.
[c] For movements at unsignalized intersections that are required to stop or otherwise yield the right of way, the standards for District/Local Interest Roads shall be applied for areas within urban growth boundaries and a maximum v/c ratio of 0.80 shall be applied for areas outside of urban growth boundaries.

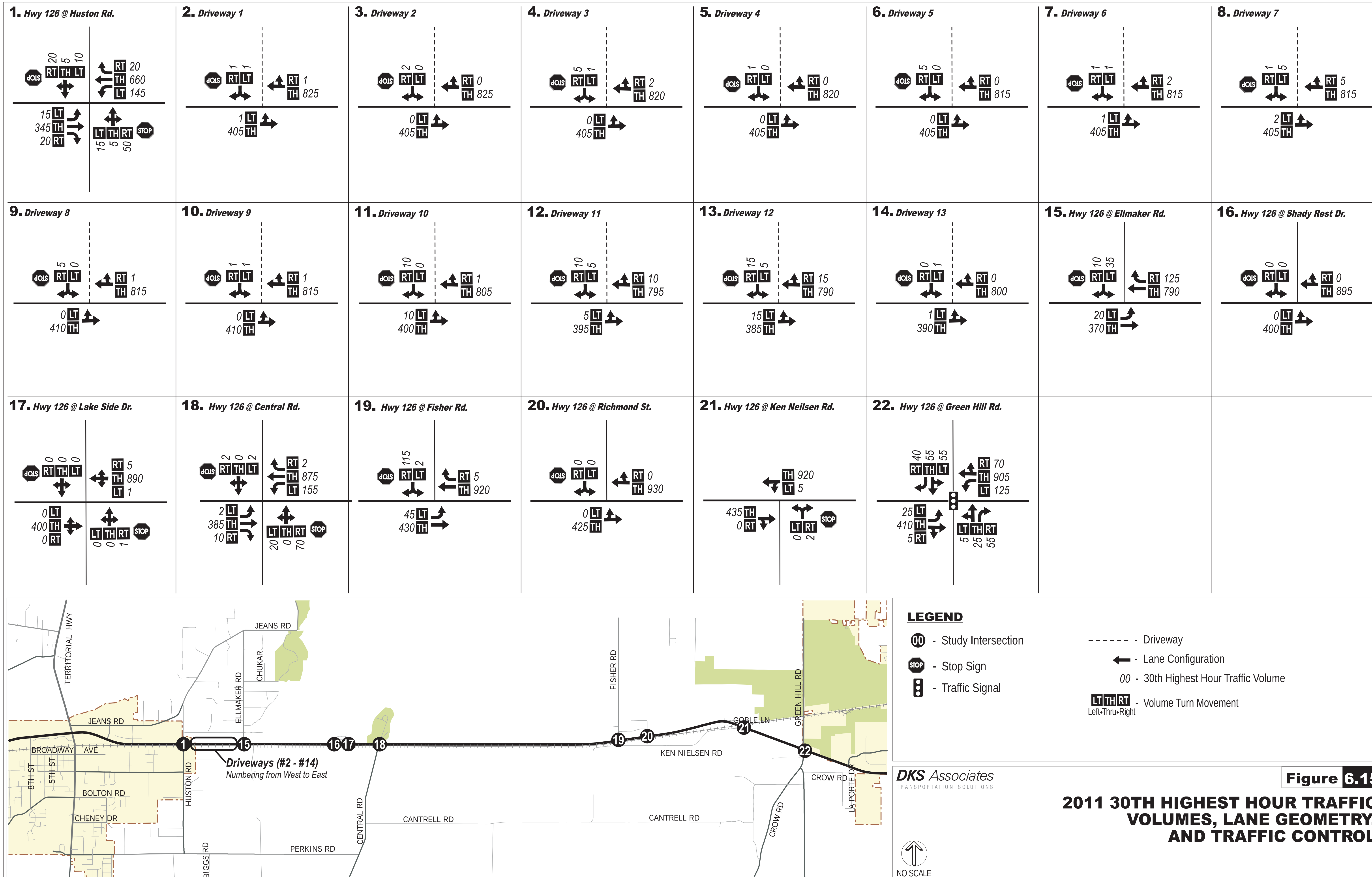


Figure 6.15

2011 30TH HIGHEST HOUR TRAFFIC VOLUMES, LANE GEOMETRY, AND TRAFFIC CONTROL

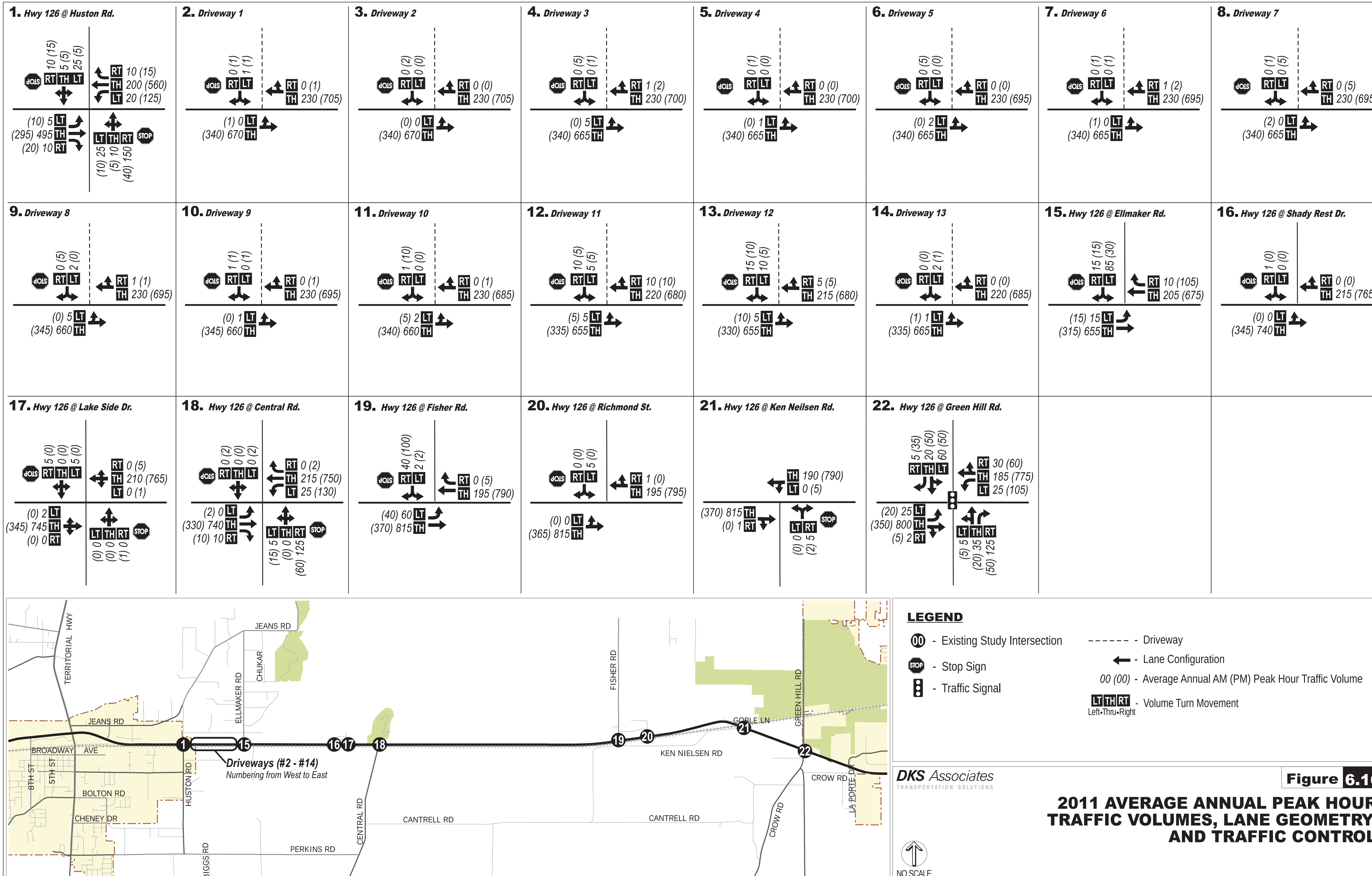


Figure 6.16

2011 AVERAGE ANNUAL PEAK HOUR TRAFFIC VOLUMES, LANE GEOMETRY, AND TRAFFIC CONTROL

The operating performance of the study intersections were evaluated using Synchro™ software, which employs methodology from the 2000 Highway Capacity Manual. The traffic volumes, traffic control, and lane configurations shown in Figure 6.15 and Figure 6.16 were used in the analysis. Table 6.10 (30th highest hour) and Table 6.11 (average annual weekday peak hours) provide the volume-to-capacity ratios for the public intersections (both signalized and unsignalized) as well as the private driveways located between Huston Road and Ellmaker Road. As shown, all intersections and driveways meet applicable mobility standards for both peak periods and under 30th HV and average annual peak hour traffic conditions. The only intersection approaching the mobility standard is OR 126W/Green Hill Road, which the eastern most intersection, is the only signalized intersection, and is the only intersection inside the Eugene UGB.

Turn Lane Needs

For most of its length through the study corridor, OR 126W is a two-lane roadway; however, there are multiple intersections where OR 126W has turn lanes. At intersections where turn lanes do not currently exist, applicable criteria from ODOT's APM were considered to determine whether additional left- and right- turn lanes are recommended.

Due to the high peak hour traffic volumes and travel speeds (55 mph) on OR 126W, the ODOT criteria indicate that left-turn lanes are needed at movements where volumes exceed ten left-turning vehicles during the 30th highest hour. Table 6.12 lists the left-turn lane analysis results for the study intersections that do not currently have left-turn lanes. While the ten-vehicle threshold is not met for any of the study intersections, the ODOT criteria do also indicate that left-turn lanes would be beneficial and may be considered at these locations due to the higher travel speeds and traffic volumes.

Table 6.10 Study Intersection Peak Hour Performance 30th highest hour

Intersection[a]	Mobility Standard[b]		30th Highest Hour (v/c Ratio)[c,d]	
	Mainline	*Side Street*	*Mainline*	*Side Street*
Signalized				
(22) OR 126W/Green Hill Rd	0.80 v/c		0.79	
Unsignalized				
(1) OR 126W/Huston Rd	0.70 v/c	0.80 v/c	0.42 (WB-T)	0.31 (NB-LTR)
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.80 v/c	0.49 (WB-T)	0.23 (SB-LR)
(16) OR 126W/Shady Rest Dr	0.70 v/c	0.80 v/c	0.56 (WB-TR)	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.80 v/c	0.00 (WB-LTR)	0.00 (NB-LTR)
(18) OR 126W/Central Rd	0.70 v/c	0.80 v/c	0.56 (WB-TR)	0.48 (NB-LTR)
(19) OR 126W/Fisher Rd	0.70 v/c	0.80 v/c	0.57 (WB-TR)	0.42 (SB-LR)
(20) OR 126W/Richmond St	0.70 v/c	0.80 v/c	0.59 (WB-TR)	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen Rd	0.70 v/c	0.80 v/c	0.28 (EB-TR)	0.00 (NB-LR)
Driveways				
(2) OR 126W/Driveway 1	0.70 v/c	0.80 v/c	0.52 (WB-TR)	0.01 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.80 v/c	0.52 (WB-TR)	0.01 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.02 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.01 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.01 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.03 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.01 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.80 v/c	0.51 (WB-TR)	0.01 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.80 v/c	0.50 (WB-TR)	0.03 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.80 v/c	0.50 (WB-TR)	0.06 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.80 v/c	0.50 (WB-TR)	0.07 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.80 v/c	0.50 (WB-TR)	0.01 (SB-LR)

[a] Numbers correspond with Figure 6.15.
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Table 6.11. Study Intersection Peak Hour Performance Average Annual Weekday Peak

Intersection[a]	Mobility Standard[b]		A.M. Peak Hour		P.M. Peak Hour	
	Mainline	*Side Street*	*Mainline*	*Side Street*	*Mainline*	*Side Street*
Signalized						
(22) OR 126W/Green Hill Rd	0.80 v/c		0.70		0.67	
Unsignalized						
(1) OR 126W/Huston Rd	0.70 v/c	0.80 v/c	0.36 (EB-T)	0.56 (NB-LTR)	0.35 (WB-T)	0.22 (NB-LTR)
(15) OR 126W/Ellmaker Rd	0.70 v/c	0.80 v/c	0.48 (EB-T)	0.49 (SB-LR)	0.42 (WB-T)	0.16 (SB-LR)
(16) OR 126W/Shady Rest	0.70 v/c	0.80 v/c	0.16 (WB-TR)	0.00 (SB-LR)	0.48 (WB-TR)	0.00 (SB-LR)
(17) OR 126W/Lake Side Dr	0.70 v/c	0.80 v/c	0.00 (WB-TR)	0.04 (SB-LTR)	0.00 (WB-LTR)	0.00 (NB-LTR)
(18) OR 126W/Central Rd	0.70 v/c	0.80 v/c	0.54 (EB-T)	0.51 (NB-LTR)	0.48 (WB-TR)	0.26 (NB-LTR)
(19) OR 126W/Fisher Rd	0.70 v/c	0.80 v/c	0.59 (EB-T)	0.08 (SB-LR)	0.49 (WB-TR)	0.30 (SB-LR)
(20) OR 126W/Richmond St	0.70 v/c	0.80 v/c	0.14 (WB-TR)	0.03 (SB-LR)	0.50 (WB-TR)	0.00 (SB-LR)
(21) OR 126W/Ken Nielsen	0.70 v/c	0.80 v/c	0.56 (EB-TR)	0.02 (NB-LR)	0.24 (EB-TR)	0.00 (NB-LR)
Driveways						
(2) OR 126W/Driveway 1	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(3) OR 126W/Driveway 2	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(4) OR 126W/Driveway 3	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.00 (SB-LR)	0.44 (WB-TR)	0.02 (SB-LR)
(5) OR 126W/Driveway 4	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.00 (SB-LR)	0.44 (WB-TR)	0.00 (SB-LR)
(6) OR 126W/Driveway 5	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.43 (WB-TR)	0.01 (SB-LR)
(7) OR 126W/Driveway 6	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(8) OR 126W/Driveway 7	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.03 (SB-LR)	0.44 (WB-TR)	0.03 (SB-LR)
(9) OR 126W/Driveway 8	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.01 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(10) OR 126W/Driveway 9	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.00 (SB-LR)	0.44 (WB-TR)	0.01 (SB-LR)
(11) OR 126W/Driveway 10	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.00 (SB-LR)	0.43 (WB-TR)	0.03 (SB-LR)
(12) OR 126W/Driveway 11	0.70 v/c	0.80 v/c	0.17 (WB-TR)	0.04 (SB-LR)	0.43 (WB-TR)	0.04 (SB-LR)
(13) OR 126W/Driveway 12	0.70 v/c	0.80 v/c	0.16 (WB-TR)	0.08 (SB-LR)	0.43 (WB-TR)	0.05 (SB-LR)
(14) OR 126W/Driveway 13	0.70 v/c	0.80 v/c	0.16 (WB-TR)	0.01 (SB-LR)	0.43 (WB-TR)	0.00 (SB-LR)

[a] Numbers correspond with Figure 6.14.
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Table 6.12. Existing Left-Turn Lane Criteria (Intersections without Left-Turn Lanes)

Intersection	Movement	Left-Turn Vehicles		Criteria Met?	Recommended Storage Length
		ODOT Threshold	*Turn Volume*		
OR 126W/Shady Rest Dr	EB Left	10	0	Consider[a]	-
OR 126W/Lake Side Dr	EB Left	10	0	Consider[a]	-
OR 126W/Richmond St	EB Left	10	0	Consider[a]	-
OR 126W/Ken Nielson Rd	WB Left	10	5	Consider[a]	-

[a] Through volumes and speeds are sufficiently high that even though there are less than ten turning vehicles, careful consideration be given to installing a left-turn lane due to the increased potential for accidents in the through lanes.

Left-turn lane analysis was also performed for the 13 driveways between Huston and Ellmaker Roads and is provided in the appendix to Technical Memorandum #2 (DKS, 2011). Because two of the driveways (i.e., Driveways 10 and 12, which are approximately 230 feet and 720 feet, respectively, west of Ellmaker Road) have more than ten vehicles making left-turn movements, they both meet the turn-lane criteria. Both of these driveways are along the section of OR 126W where it widens to accommodate the eastbound left-turn lane onto Ellmaker Road. Therefore, OR 126W is sufficiently wide to accommodate left-turn lanes at both driveways; however, current striping does not support the use of the center median/lane for vehicle storage at these driveways. Specifically, the eastbound left-turn lane for Ellmaker Road extends beyond Driveway 12, and there is a striped center median (i.e., two double-yellow lines) that extends farther west beyond Driveway 10.

Right-turn lane analysis was performed for the study intersections that do not currently have standard right-turn lanes. Due to the high traffic volumes and travel speeds (55 mph) on OR 126W, the ODOT criteria indicate that right-turn lanes are needed at movements where volumes exceed approximately 20 right-turning vehicles during the 30th highest hour. Table 6.13 lists right-turn lane analysis results. The only location where the right-turn lane criteria are met is at the westbound right-turn movement at Ellmaker Road. This location currently has a flared approach and large turn radius that may partially serve as a right-turn lane, but it is recommended that a standard right-turn lane be provided.

Table 6.13 Existing Right-Turn Lane Criteria (Intersections without Right-Turn Lanes)

Intersection	Movement	Right-Turn Vehicles		Criteria Met?
		ODOT Threshold	*Turn Volume*	
OR 126W/Ellmaker Rd	WB Right	20	125	Yes
OR 126W/Shady Rest Dr	WB Right	20	0	No
OR 126W/Lake Side Dr	WB Right	20	5	No
OR 126W/Central Rd	EB Right	28	10	No
	WB Right	20	2	No
OR 126W/Fisher Rd	WB Right	20	5	No
OR 126W/Richmond St	WB Right	20	0	No
OR 126W/Ken Nielson Rd	EB Right	25	0	No

Collision Analysis

Collision analysis was performed for the OR 126W study corridor using collision records provided by the ODOT Crash Analysis and Reporting Unit. The past 16 years of data (i.e., 1994 to 2009) were first reviewed to identify long-term trends as well as fatalities and pedestrian/bicycle collisions. Then, collision rates were analyzed for the most recent five years of available data (i.e., 2005 through 2009), consistent with ODOT standard methodology.

Between January 1, 1994, and December 31, 2009, 310 collisions were recorded on OR 126W between Huston and Green Hill Roads. Therefore, over the last 16 years this six mile section of highway has averaged approximately 20 collisions per year. Eight of these collisions resulted in fatalities and 22 resulted in debilitating injuries (i.e., an average of two fatalities or debilitating injuries per year). Nearly half of the recorded collisions resulted in injuries, with two of these collisions involving pedestrians and three of them involving bicyclists; the bicycle and pedestrian collisions occurred near Ellmaker Road, Central Road, the scenic viewpoint between these two roads, and between Central and Fisher Roads.

Another helpful measure for identifying collision trends is the five-year rolling average. Figure 6.17 shows the five-year rolling average for total collisions and fatalities/disabling injuries per year relative to the vehicle-miles traveled along the 6-mile corridor. While vehicle-miles traveled has been relatively unchanged at approximately 80,000 vehicle-miles per day, the average number of collisions has been increasing since 2002 from a low of 13.2 collisions per year to a current high of 24.8 collisions per year. The average number of fatalities or debilitating injuries has been fairly steady between 1.8 and 3.0 fatalities or debilitating injuries per year.

Figure 6.17. OR 126W Collisions Relative to Vehicle-Miles Traveled (Five Year Rolling Average)

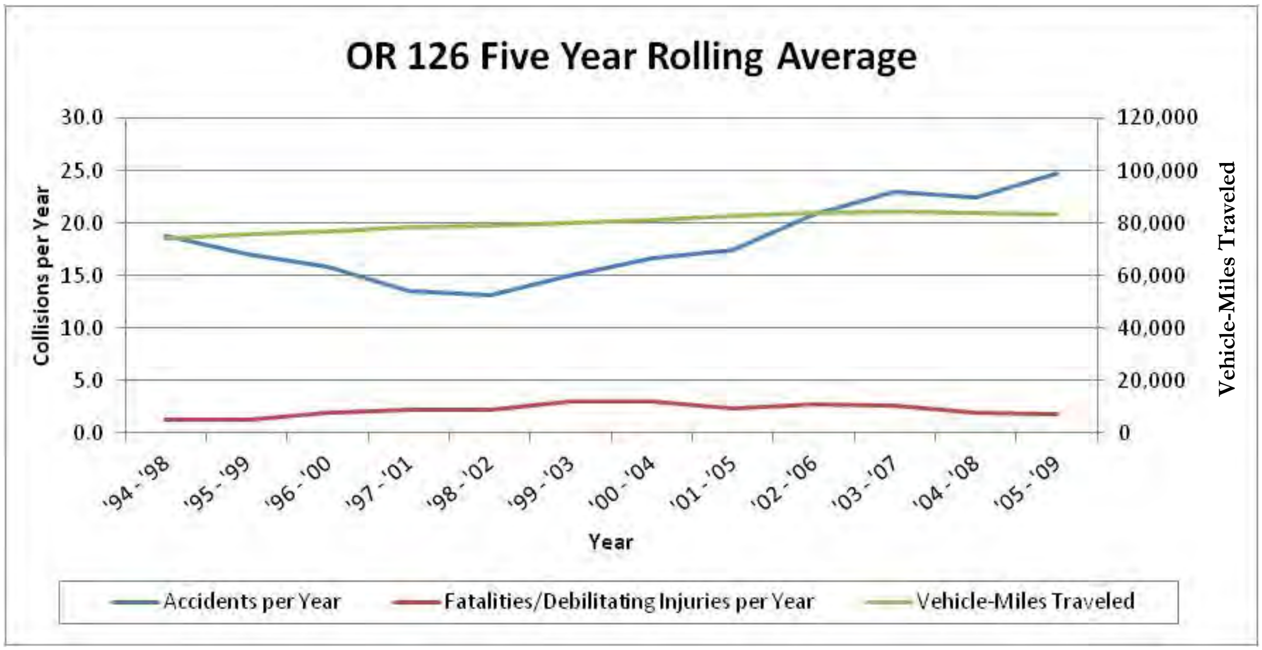
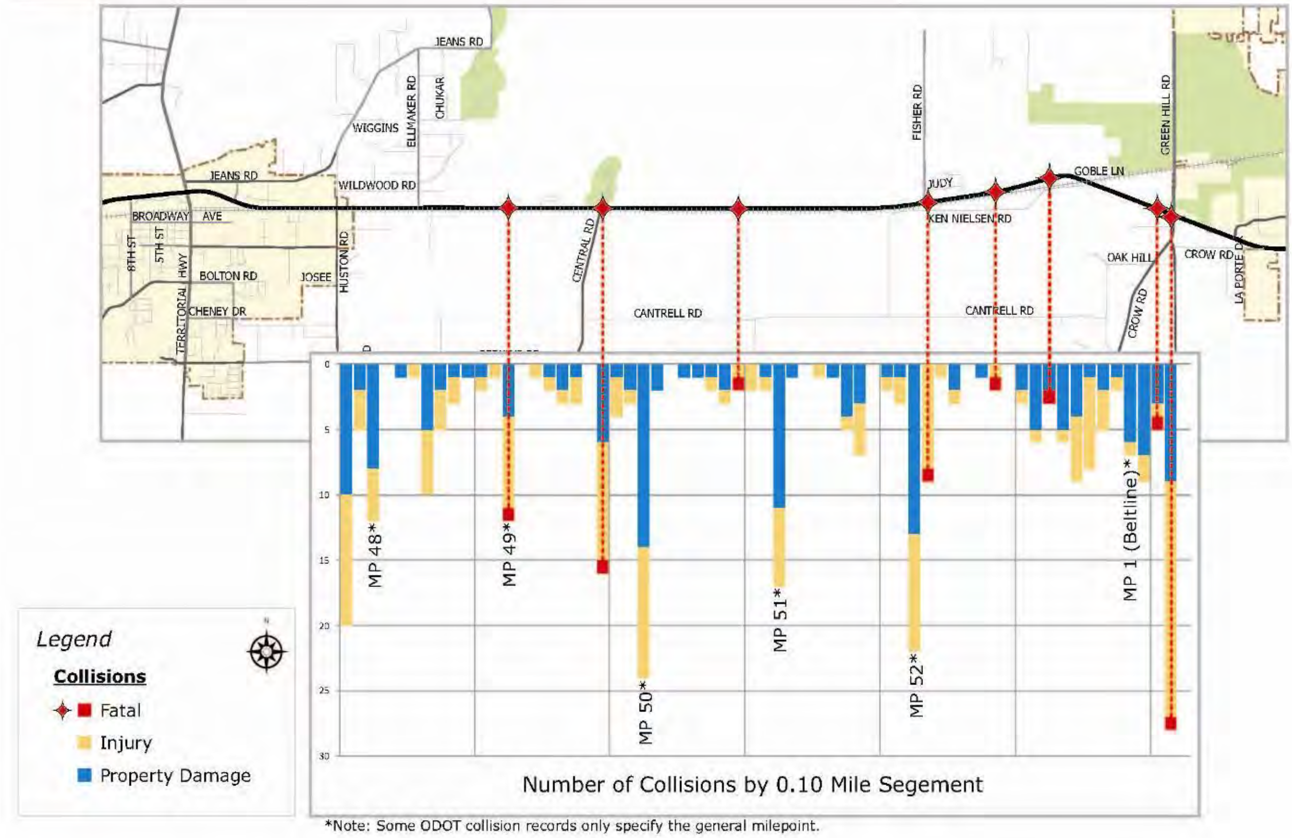


Figure 6.18 shows how the 310 collisions are distributed along the study corridor and also identifies the collision severity. As shown, five of the eight fatal collisions occurred in the eastern third of the study corridor. This same segment (i.e., from Green Hill to Fisher Roads) also has a higher proportion of all collisions on the study corridor, with a particular spike in injury collisions near Green Hill and Fisher Roads. There are also spikes in collisions at Central, Ellmaker, and Huston Roads. These are expected locations due to the additional turning movements that occur at these locations. In addition, because of citizen-reported collision information in Oregon, some ODOT collision records only specify the general milepoint; therefore, there appear to be spikes at these locations, but it is likely that these collisions should be more evenly distributed throughout the milepoint.

Figure 6.18. Collision Locations (1994 to 2009)



Collision rates were also estimated for OR 126W, but only the past five years of collision data were evaluated due to changing traffic characteristics over time and to allow a comparison of collision rates on similar facilities throughout the State of Oregon. Table 6.14 lists the average collision rate for OR 126W between Veneta and Eugene, which is slightly higher than that of other similar highways in Oregon. The table also indicates that the average fatality and debilitating injury rate is lower than other similar highways in Oregon. However, as shown previously in Figure 6.19, the total number of collisions on OR 126W have been increasing since 2002. This is the opposite trend of the average collision rate for the state, which has been steadily dropping during the same time period. Another important item of note is that this segment of OR 126W does not currently have any top five or ten percent ODOT Safety Priority Index System (SPIS) locations identified (for the 2009 SPIS, which is based on collisions from 2007 to 2009). However, the intersection of OR 126W/Green Hill Road has been identified as a top 15% SPIS site.

Table 6.14. OR 126W Collision Rates Compared with Statewide Averages (2005 to 2009)

Facility	Total Collision Rate[a,b]	Fatal/Debilitating Injury Rate[a,b]
OR 126W between Veneta and Eugene	0.82 per million VMT	5.93 per 100 million VMT
Oregon Principal Arterials (Statewide Average)	0.67 per million VMT	8.44 per 100 million VMT

[a] Collision Rate = (collisions*1,000,000)/(years*365*segment length*AADT)
[b] VMT = Vehicle Miles Traveled

Additional breakdowns of collisions were performed to evaluate the severity and type of collisions that occurred on the study corridor. Table 6.15 provides a breakdown by severity of the 124 collisions reported between 2005 and 2009. Two of the collisions were fatalities, and over half resulted in injuries.

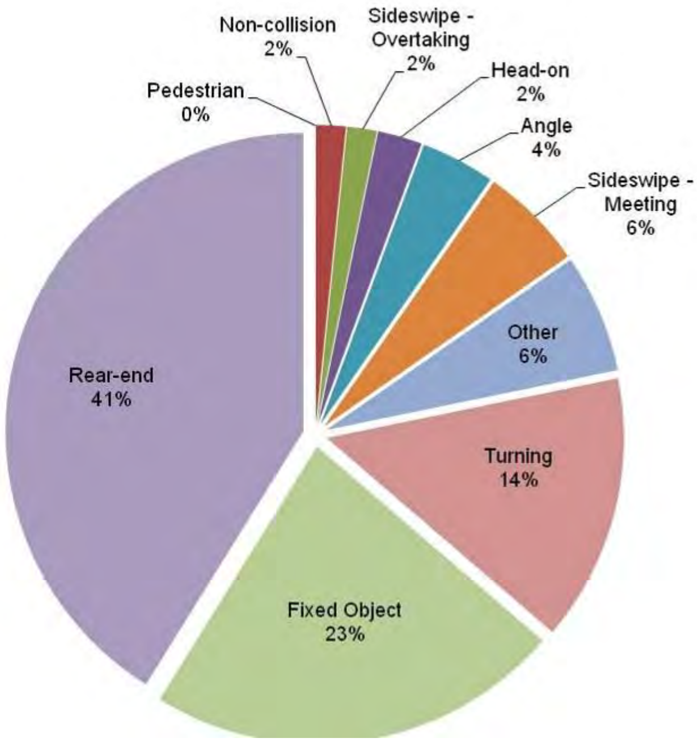
Table 6.15. Collision Severity on OR 126W (2005 to 2009)

Roadway	Collisions (by Severity)				Collisions Per year
	Fatal	*Injury*	*Property Damage Only*	*Total*	
OR 126W	2	63	59	**124**	24.8

The study corridor collisions were also broken down by collision type for further evaluation. Figure 6.19 is a pie chart showing the percent of each type of collision. On the study corridor, more than 60% of the collisions were intersection related and were classified as rear-end, angle, or turning-movement collisions. The locations of the collisions (broken down by collision type) are provided in the appendix to Technical Memorandum #2 (DKS, 2011)(Appendix B).

Another important consideration for the OR 126W study corridor is the effect that passing maneuvers have on corridor safety. While this information is not directly identified in the collision data, the collision records do indicate whether the driver drove left of the centerline (five collisions between 2005 and 2009) or performed improper overtaking (two collisions); these seven collisions comprise six percent of the total 124 collisions and include a fatality.

Figure 6.19. OR 126W Collision Types (2005 to 2009)



Pedestrian and Bicycle Facilities and Activity

As previously discussed, the segment of OR 126W between Huston Road and Green Hill Road is a rural corridor with no sidewalks or designated bicycle lanes and with paved shoulders that range from four to ten feet wide. These narrow shoulders force cyclists to travel immediately adjacent to and often on the edge of the vehicular travel lane.

Some expected multi-modal destinations include the county park (Perkins Peninsula County Park) located approximately two miles east of the Veneta city limits, the Fern Ridge Lake, and transit stops long the corridor. Pedestrian and bicycle traffic recorded during the weekday a.m. and p.m. peak motor vehicular periods are shown in Figure 6.20. As shown, few pedestrians and no bicyclists were observed during these periods.

Figure 6.20. Pedestrian and Bicycle Facilities and Activity on OR 126W

Transit Service

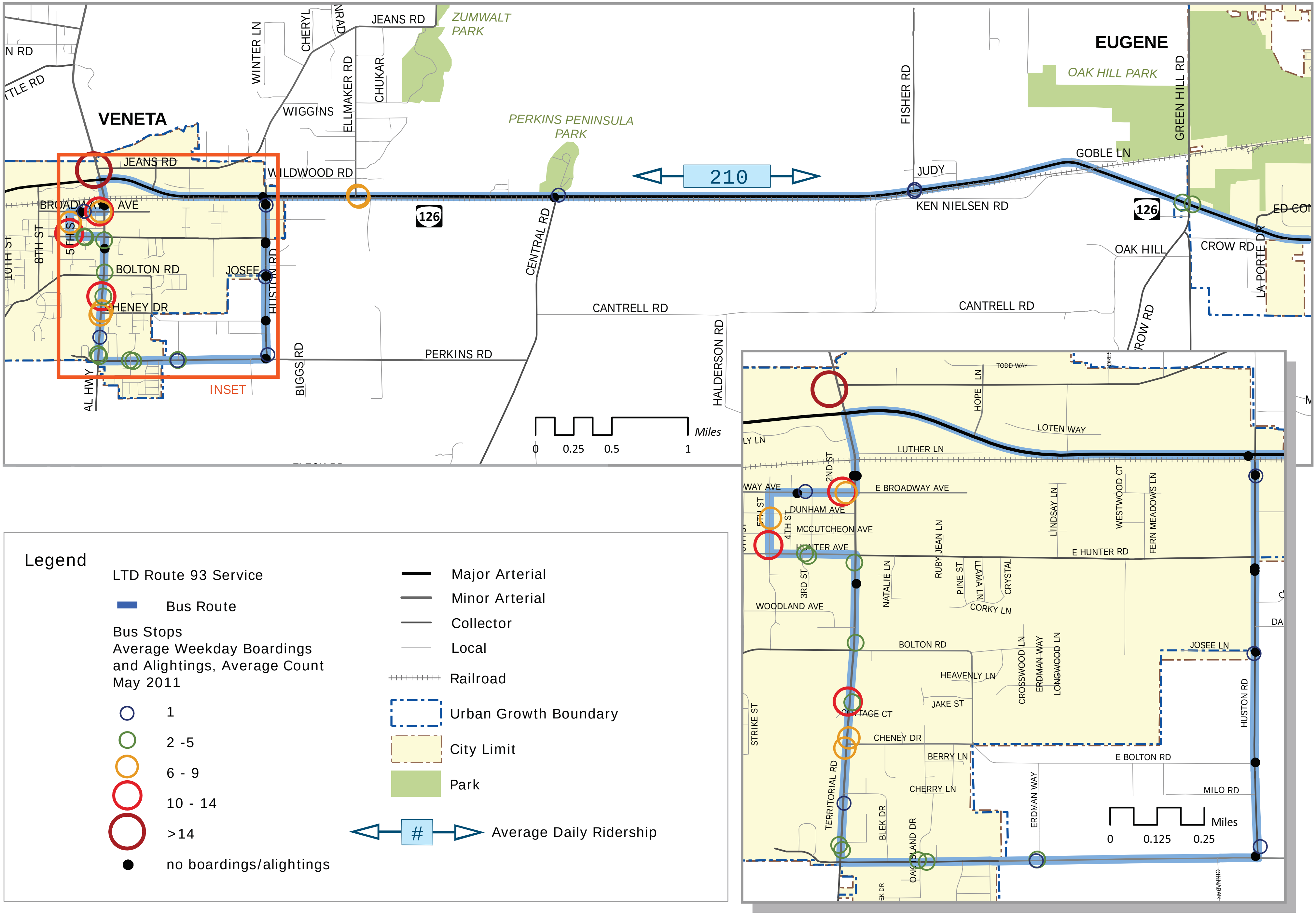
Lane Transit District (LTD) provides public transit service between the Eugene-Springfield area and Veneta. LTD Route 93 route extends from Eugene Station on the east to West Lane Shopping Center in Veneta on the west, and Eugene Station has connections to downtown Eugene. Figure 6.21 shows Route 93, the locations of the bus stops, and the average weekday ons and offs that were collected during the month of May 2011.

Table 6.16 lists the current Route 93 transit service. There are eight regularly scheduled weekday trips beginning at approximately 7:00 am and ending at 6:00 pm. There are two regularly scheduled Saturday trips. Productivity on rural routes is measured in terms of the number of customer boardings per round trip. LTD's current standard is 30 boardings per trip. Route 93 averages 42 boardings per trip within the project study area. The greatest activity occurs in the vicinity of the OR 126W/Elmaker Road intersection, though most bus stop locations have an average of one or two daily boardings and alightings (i.e., ons and offs).

Table 6.16. Route 93 (Veneta) Transit Service

Service Period	Hours of Operation	Headway
Monday-Friday		
A.M. Peak Period	6:40 to 11:00 a.m.	30, 60, or 120 min. (4 buses)
P.M. Peak Period	1:40 to 7:00 p.m.	60 or 120 min. (4 buses)
Saturday		
A.M. Peak Period	9:30 to 10:40 a.m.	1 bus
P.M. Peak Period	4:50 to 6:00 p.m.	1 bus

FIGURE 6.21. TRANSIT ROUTES



Legend

LTD Route 93 Service

Bus Route

Bus Stops
Average Weekday Boardings and Alightings, Average Count
May 2011

1
2 -5
6 - 9
10 - 14
>14
no boardings/alightings

Major Arterial
Minor Arterial
Collector
Local
Railroad
Urban Growth Boundary
City Limit
Park
Average Daily Ridership

Rail Facilities and Activity

The Coos Bay Rail Line (CBRL) runs parallel and in close proximity to OR 126W (less than 75 feet south of highway) for the segment between Huston Road and Richmond Street (approximately 4.5 miles). The rail line has not experienced any activity since 2007 but is scheduled to resume operation by October 2011. There are presently two gated and four stop controlled railroad crossings along the OR 126W study corridor. Three of the crossings are along public streets and the remaining three are along private roads. Figure 6.22 shows the location and a picture of each of the six railroad crossings.

All of the crossing locations, with the exception of Green Hill Road are within approximately 50 feet of the edge of the traveled way on OR 126W. At most, this allows for the storage of one or two vehicles between OR 126W and the railroad crossing. The Green Hill Road crossing is approximately one-third mile north of OR 126W; however, it is along a higher volume roadway. Lane County has received approval from the ODOT Rail Division to install a signalized crossing at the Green Hill Road at-grade railroad crossing.

Future 2035 Conditions

This section summarizes future travel forecasts and needs (including major transportation constraints and issues) for the OR 126 corridor between Veneta and Eugene, Oregon, and is part of the Facility Plan. The project study area includes OR 126 and nearby parallel facilities (including Cantrell and Perkins Roads to the south). This section discusses roadway network deficiencies, future 2035 traffic operations, access management, transit needs, and pedestrian and bicycle deficiencies. For more detailed information, please refer to Appendix C: Technical Memorandum #8, OR 126W Fern Ridge Corridor Plan– Future Travel Forecasts and Needs Analysis (DKS, 2011).

Roadway Network Deficiencies

The most significant constraints to the roadway network are the Fern Ridge Lake and the Coos Bay Rail Line (CBRL). Needs and deficiencies along the corridor were addressed, including parallel facilities and connectivity, livability, access spacing, traffic signal spacing, freight needs, and at-grade railroad crossings.

Figure 6.22. Railroad Crossings

Parallel Facilities and Connectivity
The corridor lacks good parallel facilities (i.e., east-west connection) between Eugene and Veneta. Having an optional parallel route to OR 126 would provide relief to the area. The current roadway to the north of the reservoir (Clear Lake Road) is out of direction and does not allow for intermediate connectivity due to the location of the reservoir. The roadway network to the south can provide some connection but requires multiple turns and includes sections that are not paved and that experience flooding during certain times of the year (therefore, this southern network is currently unreliable). Some key benefits of the roadways to the south are their proximity to OR 126 and the City of Veneta, and connectivity at Central and Huston Roads.

The lack of good parallel routes and connectivity of those routes to OR 126 also impacts emergency response and incident management. If there is a significant incident (e.g., collision that blocks one or both travel lanes), then it is difficult to get first responders to the site. In addition, using the roadways to the south would require roadway classification changes by the County because Perkins Road is a Rural Minor Collector and Cantrell Road is only a Rural Local Road.

Access Spacing
ODOT's access spacing standards are identified in the 1999 Oregon Highway Plan. For OR 126, which is classified as a Statewide Highway, the applicable spacing standard is 1,320 feet (from center of access to center of access on the same side of the roadway) due to the 55 miles per hour (mph) posted speed limit.

Figure 6.23 shows the access locations along the OR 126 study corridor. In addition, Table 6.17 lists the access conditions for the OR 126 study corridor for various segments of the study corridor. For the westernmost section of the study corridor (i.e., the 0.59 miles between Huston and Ellmaker Roads), there are multiple, closely spaced driveways. The majority of these driveways provide access to businesses, with some having modest p.m. peak hour volumes. All of these driveways were included in the intersection operations analysis documented previously. The remaining section of corridor (i.e., the 5.33 miles between Ellmaker and Green Hill Roads) is more rural and has fewer accesses, with most driveways providing access to residences.

Figure 6.23. Access Locations

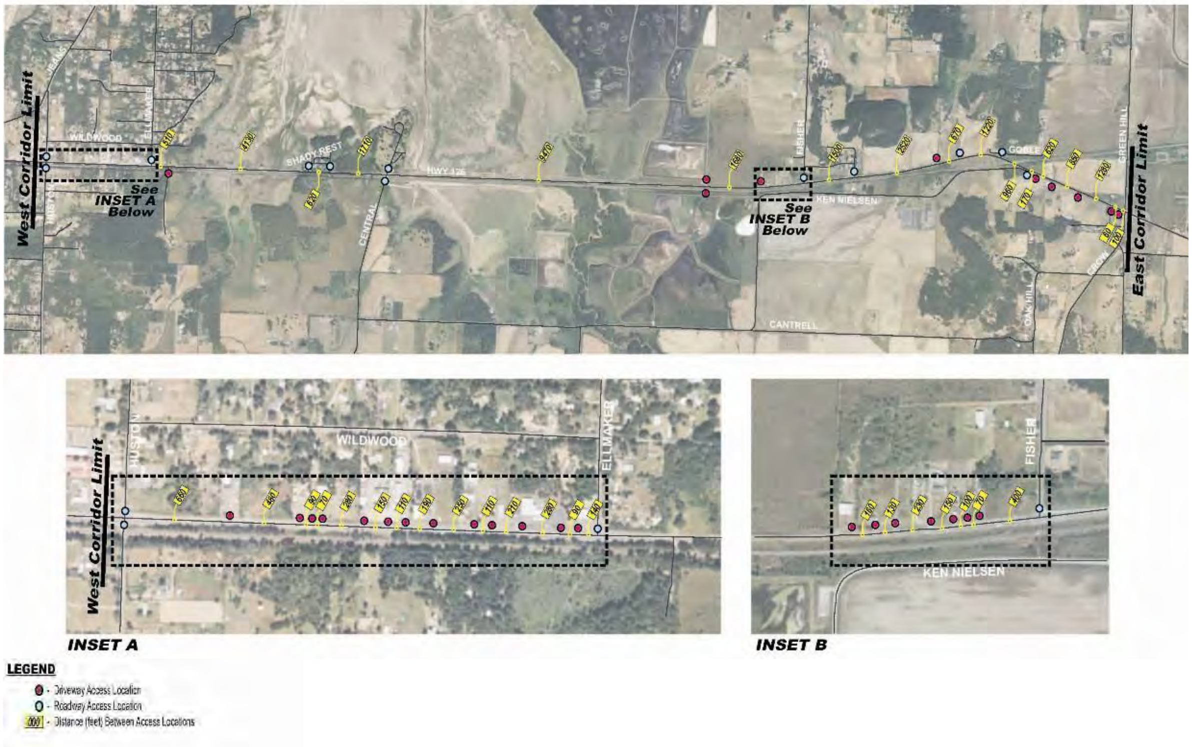


Table 6.17. OR 126 Accesses

Segment	Side of Road	Accesses[a]			
		Streets	*Driveways*	*Total*	*Average Spacing*
Huston Rd to Ellmaker Rd (0.59 mi.)	North	0	13	13	220
	South	0	0	0	-
Ellmaker Rd to Central Rd (1.11 mi.)	North	2	0	2	1,950
	South	0	1	1	2,930
Central Rd to Fisher Rd (2.35 mi.)	North	0	8	8	1,380
	South	0	1	1	6,200
Fisher Rd to Green Hill Rd (1.87 mi.)	North	3	1	4	1,970
	South	1	5	6	1,410
Entire Study Corridor (5.92 mi.)	North	8[b]	22	30[b]	1,010
	South	2[b]	7	9[b]	3,130

[a] Accesses (both public and private) counted separately for north and south sides of OR 126.
[b] The four intermediate streets (i.e., Ellmaker Road, the Perkins Peninsula County Park access, and Fisher Road on the north and Central Road on the south) were added to these totals because they were not otherwise accounted for.

Traffic Signal Spacing

The recommended traffic signal spacing is one-quarter mile or greater between adjacent signals. The study corridor is approximately six miles long, and the only signalized intersection is at Green Hill Road, which is on the eastern end of the study corridor. The closest signal to the east of the study corridor is at Terry Street, which is located approximately one mile east of Green Hill Road. On the west end of the project study area, the closest traffic signal is just over one mile west of Huston Road at the Territorial Road intersection. If traffic signals are identified as the future improvement alternatives for any of the study intersections, then any adjacent signals should meet the recommended one-quarter-mile spacing.

Freight Needs

OR 126 is an important Freight Route connecting the Springfield-Eugene area to the Oregon coast. As traffic volumes increase, congestion will increase, which will negatively impact freight travel time reliability through the corridor. Any improvements along OR 126 should also take into account trucking needs. One way that ODOT accommodates improved trucking conditions is through the use of a more stringent mobility standard. If OR 126 was not a Freight Route, then the applicable mobility standard for the highway would be a v/c ratio of 0.75. However, because it is a freight route, the applicable standard is a v/c ratio of 0.70 (additional discussion of mobility standards is provided later in this memorandum).

At-Grade Railroad Crossings

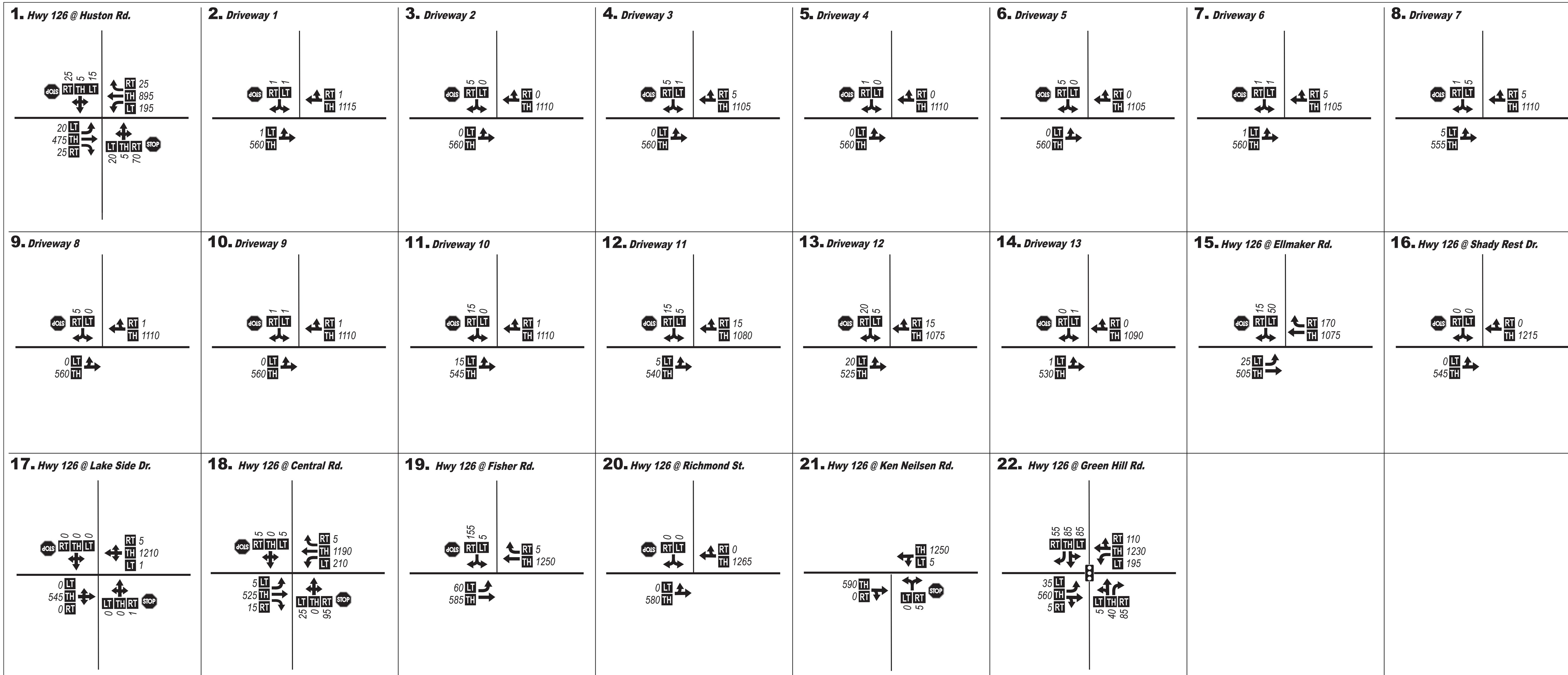
The Coos Bay Rail Line (CBRL) is located just south of OR 126 and runs parallel to the highway. Currently, there are one to two trains using the track each week; however, the number of daily train trips is likely to increase. This will increase the safety concerns at the non-signalized at-grade railroad crossings along the key side-streets (i.e., at Huston Road and Central Road). At these roads, the CBRL is located less than 50 feet from OR 126. This spacing leaves little room for vehicle queuing to occur at the stopped approaches to the highway.

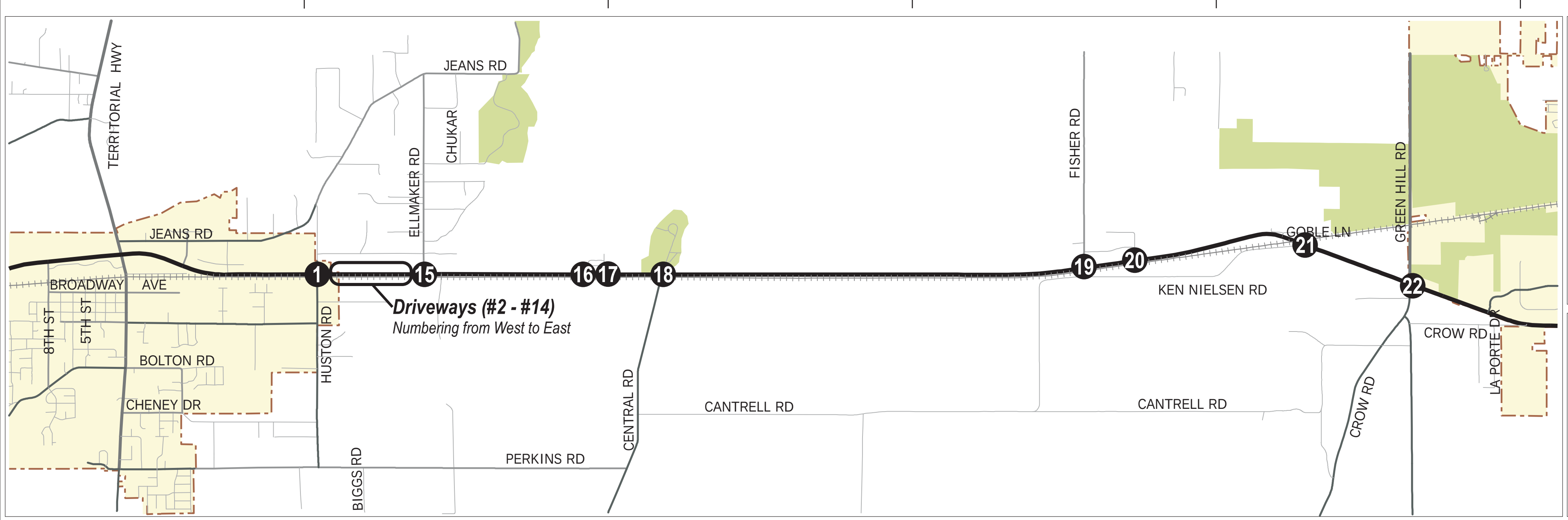
Future 2035 Traffic Operations

Future 2035 traffic operations were evaluated for the OR 126 study corridor. The evaluation included future traffic volume forecasts, intersection operations, turn lane criteria, and two-lane highway segment analysis.

Future Traffic Volume Forecasts

Future traffic volumes were estimated for the OR 126 study corridor intersections by applying yearly growth rates to the 2011 existing 30th highest hourly volumes. The primary growth rate applied to the overall study corridor was 1.5 percent traffic growth per year; however, a 2.3 percent yearly growth rate was applied to non-corridor movements at the Green Hill Road intersection due to the higher growth estimates in the West Eugene area. Additional details related to the growth rate calculations are provided in the appendix to Tech Memo #8 (DKS, 2011)(Appendix C). Figure 6.24 provides the resulting 2035 30th highest hour volume estimates assumed for the future traffic operations analysis.





LEGEND

- 00 - Study Intersection
- STOP - Stop Sign
- Traffic Signal
- Lane Configuration
- 00 - 30th Highest Hour Traffic Volume
- LT TH RT (Left-Thru-Right) - Volume Turn Movement

DKS Associates
TRANSPORTATION SOLUTIONS

NO SCALE

Figure 6.24

FUTURE 2035 30TH HIGHEST HOUR TRAFFIC VOLUMES, LANE GEOMETRY, AND TRAFFIC CONTROL

Intersection Operations

Future 2035 traffic operations were evaluated for the OR 126 study intersections to identify potential future capacity-related intersection deficiencies along the corridor. The analysis was performed for 30th highest hour conditions using Synchro™ software, which employs methodology from the 2000 Highway Capacity Manual. This analysis was performed in a similar manner as was done for existing conditions, which are documented previously in Appendix B: Technical Memorandum #2 (Existing Transportation Conditions). The resulting 2035 future volume-to-capacity (v/c) ratios for the study intersections are listed in Table 6.18 along with the applicable mobility standards. As shown, the majority of the public street intersections do not meet mobility standards, including:

- OR 126/Green Hill Road (signalized intersection does not meet standard)
- OR 126/Huston Road (minor street does not meet standard)
- OR 126/Shady Rest Drive (mainline does not meet standard)
- OR 126/Lake Side Drive (mainline does not meet standard)
- OR 126/Central Road (mainline and minor street do not meet standard)
- OR 126/Fisher Road (mainline and minor street do not meet standard)
- OR 126/Richmond Street (mainline does not meet standard)
- OR 126/Ken Nielsen Road (mainline does not meet standard)

These intersections currently meet mobility standards (i.e., under existing 2011 30th highest hour conditions), though the signalized OR 126/Green Hill Road intersection was just below the threshold. Due to the increase in volumes (particularly associated with the increased urbanization of West Eugene), this intersection is expected to exceed (i.e., not meet) standards. The primary reason why future operations at the majority of the other intersections are not expected to meet standards is due to the higher mainline traffic volumes, which reduce available acceptable gaps for both mainline traffic turning left onto the side streets and side street traffic entering the roadway.

Turn Lane Criteria

For most of its length through the study corridor, OR 126 is a two-lane roadway with no turn lanes; however, there are multiple intersections where OR 126 has turn lanes. At the remaining locations, turn lane criteria were considered to determine whether additional turn lanes are recommended. Both left-turn lane and right-turn lane criteria were evaluated using the applicable ODOT methodologies identified in the Analysis Procedures Manual (APM).

Table 6.18. Study Intersection Peak Hour Performance

Intersection[a]	Mobility Standard[b]		30th Highest Hour (v/c Ratio)[c,d]	
	Mainline	*Side Street*	*Mainline*	*Side Street*
Signalized				
(22) OR 126/Green Hill Rd	0.80 v/c		**1.04**	
Unsignalized				
(1) OR 126/Huston Rd	0.70 v/c	0.80 v/c	0.55 (WB-T)	**0.83 (NB-LTR)**
(15) OR 126/Ellmaker Rd	0.70 v/c	0.80 v/c	0.67 (WB-T)	0.62 (SB-LR)
(16) OR 126/Shady Rest Dr	0.70 v/c	0.80 v/c	**0.75 (WB-TR)**	0.00 (SB-LR)
(17) OR 126/Lake Side Dr	0.70 v/c	0.80 v/c	**0.74 (WB-LTR)**	0.00 (NB-LTR)
(18) OR 126/Central Rd	0.70 v/c	0.80 v/c	**0.74 (WB-TR)**	**1.30 (NB-LTR)**
(19) OR 126/Fisher Rd	0.70 v/c	0.80 v/c	**0.78 (WB-TR)**	**0.98 (SB-LR)**
(20) OR 126/Richmond St	0.70 v/c	0.80 v/c	**0.78 (WB-TR)**	0.00 (SB-LR)
(21) OR 126/Ken Nielsen Rd	0.70 v/c	0.80 v/c	**0.78 (WB-LT)**	0.01 (NB-LTR)
Driveways				
(2) OR 126/Driveway 1	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(3) OR 126/Driveway 2	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(4) OR 126/Driveway 3	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.03 (SB-LR)
(5) OR 126/Driveway 4	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.00 (SB-LR)
(6) OR 126/Driveway 5	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.02 (SB-LR)
(7) OR 126/Driveway 6	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(8) OR 126/Driveway 7	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.06 (SB-LR)
(9) OR 126/Driveway 8	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(10) OR 126/Driveway 9	0.70 v/c	0.80 v/c	0.69 (WB-TR)	0.02 (SB-LR)
(11) OR 126/Driveway 10	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.07 (SB-LR)
(12) OR 126/Driveway 11	0.70 v/c	0.80 v/c	0.68 (WB-TR)	0.12 (SB-LR)
(13) OR 126/Driveway 12	0.70 v/c	0.80 v/c	0.67 (WB-TR)	0.14 (SB-LR)
(14) OR 126/Driveway 13	0.70 v/c	0.80 v/c	0.67 (WB-TR)	0.01 (SB-LR)

[a] Numbers correspond with Figure 6.24.
[b] Mobility standards apply to full signalized intersections or to worst mainline and side street movements of unsignalized intersections and driveways.
[c] The specific movements are identified in parenthesis. There are four approaches (NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound) and three movements (L = Left, T = Through, R = Right). When approach lanes serve more than one movement (i.e., shared lanes), both movements are listed.
[d] **Bold Shaded** values do not meet mobility standards.

Due to the high peak hour traffic volumes and travel speeds (55 mph) on OR 126, the ODOT criteria indicate that left-turn lanes are needed at movements where volumes exceed 10 left-turning vehicles during the 30th highest hour. Table 6.19 lists the left-turn lane analysis results for the study intersections that do not currently have left-turn lanes. While the 10-vehicle threshold is not met for any of the study intersections, the ODOT criteria do also indicate that left-turn lanes would be beneficial and may be considered at these locations due to the higher travel speeds and traffic volumes.

Table 6.19 2035 Left-Turn Lane Criteria (Intersections without Left-Turn Lanes)

Intersection	Movement	Left-Turn Vehicles		Criteria Met?	Recommended Storage Length
		ODOT Threshold	*Turn Volume*		
OR 126W/Shady Rest Dr	EB Left	10	0	Consider[a]	-
OR 126W/Lake Side Dr	EB Left	10	0	Consider[a]	-
OR 126W/Richmond St	EB Left	10	0	Consider[a]	-
OR 126W/Ken Nielson Rd	WB Left	10	5	Consider[a]	-

[a] Through volumes and speeds are sufficiently high that even though there are less than 10 turning vehicles, careful consideration be given to installing a left-turn lane due to the increased potential for accidents in the through lanes.

Left-turn lane analysis was also performed for the 13 driveways between Huston and Ellmaker Roads and is provided in the appendix. Because two of the driveways (i.e., Driveways 10 and 12, which are approximately 230 feet and 720 feet, respectively, west of Ellmaker Road) have more than 10 vehicles making left-turn movements, they both meet the turn-lane criteria. Both of these driveways are along the section of OR 126 where it widens to accommodate the eastbound left-turn lane onto Ellmaker Road. Therefore, OR 126 is sufficiently wide to accommodate left-turn lanes at both driveways; however, current striping does not support the use of the center median/lane for vehicle storage at these driveways. Specifically, the eastbound left-turn lane for Ellmaker Road extends beyond Driveway 12, and there is a striped center median (i.e., two double-yellow lines) that extends farther west beyond Driveway 10. In addition, it is not desirable to provide a continuous left-turn lane (e.g., two-way left-turn lane) for closely spaced driveways on a high speed facility (such as where speeds are 55 mph).

Right-turn lane analysis was performed for the study intersections that do not currently have standard right-turn lanes. Due to the high traffic volumes and travel speeds (55 mph) on OR 126, the ODOT criteria indicate that right-turn lanes are needed at movements where volumes exceed 20 right-turning vehicles during the 30th highest hour. Table 6.20 lists right-turn lane analysis results. The only location where the right-turn lane criteria are met is at the westbound right-turn movement at Ellmaker Road. This location currently has a flared approach and large turn radius that may partially serve as a right-turn lane, but it is recommended that a standard right-turn lane be provided. The eastbound right-turn movement at Central Road is nearing the threshold but is not forecasted to meet it. Another important consideration related to right-turn lanes is the resulting conflict with bicycle flow, particularly when there is limited right-of-way.

Table 6.20. 2035 Right-Turn Lane Criteria (Intersections without Right-Turn Lanes)

Intersection	Movement	Right-Turn Vehicles		Criteria Met?
		ODOT Threshold	*Turn Volume*	
OR 126/Ellmaker Rd	WB Right	20	170	Yes
OR 126/Shady Rest Dr	WB Right	20	0	No
OR 126/Lake Side Dr	WB Right	20	5	No
OR 126/Central Rd	EB Right	20	15	No
	WB Right	20	5	No
OR 126/Fisher Rd	WB Right	20	5	No
OR 126/Richmond St	WB Right	20	0	No
OR 126/Ken Nielson Rd	EB Right	20	0	No

Two-Lane Highway Segment Analysis

Because the study corridor has uninterrupted flow along its entire length (except at the Green Hill Road traffic signal at the eastern edge of the corridor), two-lane highway segment analysis was performed to further evaluate operations on the OR 126W study corridor. This analysis was performed based on 2000 Highway Capacity Manual methodology, which uses geometric and traffic volume data to determine the volume-to-capacity (v/c) ratio for one travel direction on a given corridor segment.

Table 6.21 lists the segment operations analysis results under 30th highest hour traffic conditions for both the 2011 existing and 2035 future horizon years. The results are listed by travel direction for four corridor segments. Due to the higher westbound volumes during the 30th highest hour, the westbound v/c ratios are greatest for each segment, and three of the segments exceed the 0.70 v/c mobility standard that is applicable for the corridor. In addition, the segment v/c ratios are comparable with the mainline v/c ratios at the principal unsignalized intersections along the corridor (see mainline OR 126W operations listed in Table 6.18 at the Shady Rest Drive, Central Road, Fisher Road, Richmond Street intersections).

Table 6.21 OR 126 Segment Operations Analysis Results

Segment (Distance)	Travel Direction	Mobility Standard[a]	30th Highest Hour (v/c Ratio)[b]		Percent Time Spent Following[c]	
			2011	*2035*	*2011*	*2035*
Huston Rd to Ellmaker Rd (0.59 mi.)	Eastbound	0.70 v/c	0.26	0.35	-	-
	Westbound	0.70 v/c	0.52	0.69	78%	85%
Ellmaker Rd to Central Rd (1.11 mi.)	Eastbound	0.70 v/c	0.25	0.34	-	-
	Westbound	0.70 v/c	0.55	**0.76**	77%	86%
Central Rd to Fisher Rd (2.35 mi.)	Eastbound	0.70 v/c	0.27	0.36	-	-
	Westbound	0.70 v/c	0.57	**0.78**	77%	86%
Fisher Rd to Green Hill Rd (1.87 mi.)	Eastbound	0.70 v/c	0.27	0.37	-	-
	Westbound	0.70 v/c	0.58	**0.79**	79%	86%

[a] The same ODOT mobility standard applies as

[b] **Bold Shaded** values do not meet mobility standards.

[c] Percent time spent following (PTSF) during 30th Highest Hour only provided for highest direction of travel (i.e., westbound).

Transit Needs

LTD provides public transit service between the Eugene-Springfield area and Veneta via Route 93. This route focuses on peak weekday commute periods, with limited service during other hours of the day and on Saturday. None of the transit stops along the project study corridor have additional facilities (e.g., landing pads, shelters, park-and-rides). In addition, LTD's RideSource service for those with disabling conditions that prevent them from being able to ride the LTD fixed-route bus system does not extend to the study corridor and is unlikely to in the future due to cost constraints.

Pedestrian and Bicycle Deficiencies

The segment of OR 126 between Huston Road and Green Hill Road is a rural corridor with no sidewalks or designated bicycle lanes. Instead, there are narrow paved shoulders that require non-motorized users to travel immediately adjacent to, and often on the edge of, the vehicular travel lane. These shoulders are primarily four feet wide, but in some locations widen to ten feet. Some expected multi-modal destinations along OR 126 include the county park (Perkins Peninsula County Park) located approximately two miles east of the Veneta city limits, the Fern Ridge Lake, and transit stops along the corridor. OR 126 is also used as a bike route to the coast.

OR 126 currently has very low bike and pedestrian usage. Even if improved facilities are provided (e.g., sidewalks, wide shoulders, or striped bike lanes), users would be adjacent to high-speed highway traffic. Therefore, another option is to provide an alternate parallel pedestrian/bicycle route to the north or south of OR 126 to separate vehicular and non-vehicular users. Some limitations to providing an alternative route are that the existing roads to the south (i.e., Cantrell and Perkins Roads) include segments of gravel and experience flooding. In addition, there is a moderately steep hill on the east end near Green Hill Road. The route to the north is significantly out of direction and requires use of Territorial Road, which also does not have designated bike or pedestrian facilities.

On the east end of the study corridor, there is limited connectivity between OR 126 and the existing Fern Ridge Path. Any bicycle route along the OR 126 corridor (or an alternate route) should provide a connection to the Fern Ridge Path in order to tie in to the Eugene bicycle/pedestrian network. Another important pedestrian/bicycle improvement includes a north-south connection between the Fern Ridge Path and Clear Lake Road to the north.

At-Grade Railroad Crossing Needs

The Coos Bay Rail Line (CBRL) runs parallel and in close proximity to OR 126 (less than 75 feet south of highway) for the project study area segment between Huston Road and Richmond Street (approximately 4.5 miles). Along this stretch of OR 126, there are five at-grade railroad crossings on the roadways that intersect OR 126. Because the railroad tracks are along a raised earthwork berm, they have higher elevation than OR 126. To prevent drivers of low clearance vehicles becoming caught on the tracks, the roadway crossing surface should be at the same plane as the top of the railroad rails for a distance of 2 feet outside the rails. In addition, the surface of the highway should not be more than 3 inches higher or lower than the top of the nearest rail at a point 30 feet from the rail.[3] All five of the crossings have a change in vertical elevation between OR 126 and the Coos Bay Railroad track that exceeds current standards. Therefore, roadway improvements will be needed to bring the roadway sections adjacent to the at-grade railroad crossings into compliance with recommended standards.

Other future railroad-related considerations include the potential for increased train activity and ODOT Rail practice to not allow any new at-grade railroad crossings.

6.14.4. Conclusions

The section discusses specific improvements by transportation mode and overall transportation alternatives to address capacity needs, connectivity, and safety within the project study area for year 2035 conditions. For more detailed information, please refer to Appendix D: Technical Memorandum #9, OR 126W Fern Ridge Facility Plan – Develop and Evaluate Alternatives (DKS, 2011).

Specific Modal Improvements
Transportation improvement concepts were identified to address the needs of each of the transportation modes on the OR 126W study corridor. The modes that were considered include motor vehicles, bicycles, pedestrians, and transit and carpooling.

Motor Vehicle Improvements
Motor vehicle improvements are needed to address safety, access, freight, railroad crossings, emergency services, and capacity.

Safety
OR 126W is a two-lane rural facility with a posted speed limit of 55 miles per hour and with shoulders ranging from four to ten feet. The curved geometry of the roadway at the eastern end in conjunction with rainy or dark conditions could pose a hazard to users of the roadway. This is especially applicable in locations with more congestion, narrower lanes, and pavement ruts. The roadway conditions could also be problematic given that existing data revealed vehicles are, at times, traveling over the posted speed limits (greater than 55 miles per hour) along the corridor.

The only signalized intersection on the study corridor is located on the eastern end at Green Hill Road (within the City of Eugene UGB). Therefore, vehicles making left or right turns at most other locations along the highway are stopped in travel lanes, causing queuing and congestion problems. In addition, 25% of the accidents between 2005 and 2009 occurred during dark conditions, but there is no clear indication that light levels significantly influenced overall collision trends.

To address the safety concerns of OR 126W, improved signage, striping, and lighting would be beneficial for users. Given the signalized intersection at Green Hill Road and the curve before the intersection for eastbound travelers, advanced intersection signs would provide more warning for drivers. Variable speed signs may also help to reduce speeds to levels that are appropriate and safe for congested conditions. Given that the highway has a speed limit of 55 miles per hours, speed limits between 35 to 45 miles per hour may be recommended during congested conditions. Speed feedback signs would also help drivers to be more aware of their driving habits and the need to reduce their speeds. Moreover, clearer delineation of the roadways could be provided through shoulder rumble strips, edge and centerline striping, raised pavement markers, and roadway restriping to reduce cross-over collision and to provide better delineation and visibility. More street lighting could prove beneficial, particularly at locations such as transit stops and public street intersections.

Spot improvements could be made throughout the corridor to improve specific safety issues that were identified by stakeholders or the collision analysis. A westbound right turn lane is identified as a need at Ellmaker Road due to the high number of right turning vehicles. This turn lane also meets

ODOT's applicable turn lane criteria. A westbound left turn lane at Ken Nielsen Road is also recommended due to the potential conflicts between stopped vehicles on the highway conflicting with through traffic. Turn lanes are beneficial on OR 126W since it is a two-lane roadway and these new turn lanes would provide a storage area for turning vehicles. If the roadway allows, left-turn lanes could also be installed at lower priority locations, such as Shady Rest Drive, Lake Side Road, and Richmond Street, given that there are high speeds on the highway.

Access

Along the stretch of OR 126W in the study corridor, the greatest concentration of access points is located at the westernmost section between Huston Road and Ellmaker Road. On this segment, there are 22 total access points, all of which are located on the north side of the roadway. This results in an average spacing of 220 feet between access points, but the access spacing standard is 1,320 feet. Over the past five years, the average collision rate for this segment is higher than other corridor segments; therefore, there appears to be a correlation between access density and the rate of collision. A more detailed analysis of access spacing and collision rates are provided in the draft Access Management Plan provided in the appendix to Technical Memorandum #9 (DKS, 2011). The ultimate goal of access management is to improve traffic flow and safety by reducing conflict points at intersections and driveways while providing reasonable access for all users. This focus on access management is implemented through Oregon Access Management Rule (OAR 734-051). Senate Bill 264 was recently passed by the 2011 Oregon Legislature and will result in some modification in access management by ODOT, though it does not appear that there will access spacing standard changes to the OR 126W study corridor. These changes will be effective January 2012 and will also be reflected in OAR 734-051.

Potential mitigation tools and measures to address these access issues include frontage and backage roads, shared or consolidated access points, inter-parcel circulation, turning restriction, turn lane installations, and public street connectivity. An Access Management Plan is being prepared in conjunction with the Facility Plan and a draft is provided in the appendix to Technical Memorandum #9 (DKS, 2011). This document provides more detailed descriptions of the mitigation tools listed previously as well as short, medium, and long-range strategies for access management along the corridor.

Freight

OR 126W is designated as Freight Route by ODOT; therefore, highway modifications to the roadway should not reduce the through capacity of the highway and should maintain its reliability and mobility. The mobility standard for the highway is a volume to capacity (v/c) ratio of 0.70, which is required by ODOT as the goal for future development projects. With upcoming revisions to ODOT mobility standards that are planned to take affect January 1, 2012, the v/c ratio will increase to 0.75. The cross-section and other freight-related roadway standards should also continue to be met. Spot improvements, including the installation of turn lanes and improved railroad crossings, could also be considered. The installation of a turn lane reduces the potential for accidents in the through lanes by providing a storage area for turning vehicles. These lanes are beneficial for accommodating trucks as well as passenger vehicles.

Railroad Crossings

For the majority of the project study area corridor (i.e., Huston to Fisher Roads), the Coos Bay Rail Line is located only fifty feet south of OR 126W. Given the study corridor's proximity to the railroad, the five at-grade railroad crossings south of OR 126W can be improved by adjusting grades, traffic control, and spacing between the tracks and the highway. One option for improving the grades on the approaches to the at-grade crossings is to raise the level of OR 126W and the adjacent roadways to be level with the railroad. Crossing gates and flashing lights are recommended for the side streets to provide adequate warning for vehicles approaching the at-grade railroad crossing.

Another option for improving the safety of the at-grade railroad crossings is to install a traffic signal at warranted intersections along OR 126W. The northbound approach stop bar would need to be moved south of the crossing so that it requires vehicles to stop prior to the railroad tracks. This would eliminate the current safety issue where trucks stopped on this approach hang over the railroad tracks while they wait for a gap in through traffic. Warrant 9 in the Manual on Uniform Traffic Control Devices (2009 Edition) provides criteria for installing traffic signals near grade crossings, and it is expected that the Huston Road and Central Road intersections would meet this warrant under current conditions.

In addition to improvements that specifically address railroad crossing needs, all of the improvements made on OR 126W should duly consider impacts on the adjacent railroad crossings. Roadway widening, alignment, signalization, and other improvements, along with the potential location of a multi-use trail, will be affected by the proximity of the railroad.

Emergency Services

Since OR 126W is a two-lane facility with narrow shoulders, it is unable to efficiently accommodate emergency vehicles or other vehicles that need to pull off to the side of the road. Therefore, alternate routes and accesses, wider shoulders, and turn around locations are needed for emergency vehicles, particularly during incidents. These needs are particularly important on OR 126W due to the rural nature of the facility and the lack of existing parallel alternate routes.

Recommendations to improve access for emergency vehicles include providing an improved parallel roadway via Ken Nielsen Road, Cantrell Road, Perkins Road, and other roads that are south of OR 126W to serve as an alternate route. Turnarounds and emergency vehicle pull-offs could also be constructed on the highway for enforcement staff and emergency medical services. Modifications could also be made to the roadway geometry and cross section to allow for better access for emergency vehicles. By widening the shoulders, emergency vehicles would have better access and areas in which they could park. OR 126W could also be modified into a three or four lane facility to better accommodate both vehicles and emergency services, though it may require obtaining right-of-way.

Capacity

According to the 2035 traffic operations analysis completed see section 6.14), multiple intersections along the corridor are not expected to meet volume to capacity (v/c) standards due to increased vehicular volumes. These higher mainline traffic volumes reduce available acceptable gaps for both mainline traffic turning left onto the side streets and side street traffic entering the roadway. Additional capacity is needed on OR 126W to accommodate higher traffic volumes and support the continued growth of Veneta and Eugene. Capacity improvements should provide satisfactory travel conditions between the two cities, to nearby recreational areas, and to the coast. Downtown Veneta contains a number of business and western Eugene has high development potential. Optional capacity improvements include TSM, expansion of the existing OR 126W alignment, alternate routes, and alternate mobility standards (AMS).

Transportation System Management (TSM)

TSM strategies include minor improvements such as speed feedback signs, raised pavement markers, and rumble strips. Speed feedback signs make drivers more aware of their travel speeds and the need to drive safely. Raised pavement markers and rumble strips are physical additions to the roadway to provide better delineation of the roadway and to warn drivers of the needs to reduce their speeds. Some of these improvements were discussed previously in the safety section of this memorandum. These measures both improve safety and increase capacity by reducing incidents and maintaining efficient traffic flow on OR 126W.

Other transportation system management strategies focus on transit ridership and carpooling to reduce the number of vehicles traveling on OR 126W. LTD Route 93 travels along OR 126W. Improvements in the bus, pedestrian, and bicycle facilities will encourage higher ridership and reduce the number of vehicles on the roadway. Fewer vehicles on the roadway will reduce the congestion and improve the flow of vehicles on the highway. The introduction of additional park-and-ride lots in Veneta and improved ride-share programs would also help in reducing single occupancy vehicles. These transit and carpooling improvements are discussed in more detail later in this memorandum.

Expansion of Existing Alignment

Major improvements could be made to the existing alignment, such as expanding the roadway to three or four travel lanes. To the east of Green Hill Road at the end of the study corridor, West 11th Avenue has already been identified as project where it will be upgraded to a five lane urban arterial with bike lanes. This remains consistent with the addition of one or two more travel lanes on OR 126W.

If OR 126W was widened to three travel lanes, then the third travel lane could be used for alternating passing lanes or a reversible traffic lane. The alternating passing lanes would consist of various segments of OR 126W with two eastbound lanes and one westbound lane, followed by a section with one eastbound lane and two westbound lanes. This roadway geometry allows for increased capacity and safer passing maneuvers in both directions of travel. A reversible travel lane is another option and would accommodate vehicles traveling eastbound in the morning peak and westbound in the evening peak. However, a reversible traffic lane would be problematic given the rural nature of OR 126W and because the lane would have to be highly access controlled to avoid simultaneous use by eastbound and westbound vehicles.

Alternate Routes

Constraints within the study corridor include the Coos Bay Rail Line to the south of the highway and the Fern Ridge Reservoir to the north that may make it difficult to expand the existing OR 126W alignment. In order to increase the capacity while improving the safety and efficiency of the roadway, new parallel alternate routes may be desirable. An alternate route could include the improvement of existing roadways south of OR 126W, including Perkins, Cantrell, and Ken Nielsen Roads. Improving the alignment and cross section of these two routes would provide an alternative route for drivers and emergency vehicles.

Alternate Mobility Standards (AMS)

The current mobility standard for the highway is a volume to capacity (v/c) ratio of 0.70 since OR 126W is a designated freight route on a Statewide highway. With upcoming revisions to ODOT mobility standards that are planned to take affect January 1, 2012, the v/c ratio will increase to 0.75. Given the constraints of OR 126W with the Coos Bay Rail Line and the Fern Ridge Lake, it might be cost prohibitive to make the necessary roadway improvements to attain the mobility standard of 0.75 for the 20-year planning horizon. Alternate mobility standards do not improve capacity, but could be considered to allow additional congestion from a policy level if supported by the community. Therefore, they may be a desired element of the overall corridor management and improvement package. For example, with small improvements of turn lanes for the side streets, all unsignalized intersections throughout the corridor may be expected to operate at or below a 0.80 v/c ratio; therefore, this may be a more desirable mobility standard if other improvements on the corridor are infeasible. It would also allow future development to be approved that operates at or below this new mobility standard.

Bicycles

Within the project study area, OR 126W has paved shoulders ranging from four to ten feet, but there are no existing striped or signed bike facilities. Bicyclists need a safe and convenient route between Eugene and Veneta, connection to the Fern Ridge Path, and access to other land uses and recreational areas along the corridor. The shoulders could be widened to accommodate bicyclists, but the shoulder widths vary throughout the corridor. Striping could also be used to provide a buffer bike lane on the shoulder. Another option may be to provide a parallel bike route south of OR 126W; however, roadway improvements would have to be made to Cantrell, Perkins, and Ken Nielsen Roads since they are not paved in all locations and flooding also occurs. Both of these roadways are connected to OR 126W via Central Road and Huston Road.

All new bicycle facilities should extend eastward to connect to the Fern Ridge Path since this is an established bicycle route in West Eugene. This could be done via bike lanes on OR 126W or a multi-use path. Improved connections between Ed Cone Boulevard (which has bike lanes and connects to the Fern Ridge Path) and Crow Road (which is a major cycling route) may also be considered. The extension of the Fern Ridge Path from Royal Avenue to Fern Ridge Reservoir is a project that is listed with the Central Lane MPO Long-Range Projects. A north-south connection between the Fern Ridge Path and Clear Lake Road to the north is also advisable.

Pedestrians

OR 126W has paved shoulders ranging from four to ten feet, but there are no existing sidewalks to accommodate pedestrians. Along the corridor, users need safe access to various pedestrian generators, such as transit stops and the number of businesses located on the westerly section of the network between Huston and Ellmaker Roads. LTD provides public transit service between the Eugene-Springfield area and Veneta on OR 126W via Route 93. Most of these trips occur during the a.m. and p.m. peak periods on the weekdays, with limited service during other hours of the day and on Saturdays. Stops within the study corridor include West 11th Avenue and Greenhill Road; OR 126W and Fisher Road; OR 126W and Ellmaker Road; and OR 126W and Huston Road.

Crossing improvements and sidewalks are desirable where there is pedestrian activity, specifically near the Ellmaker, Central, and Fisher Roads transit stops and the westerly segment of roadway where there are businesses.

Transit and Carpooling

LTD Route 93 travels along OR 126W and is primarily a commuter bus. Stops are located at West 11th Avenue and Greenhill Road; OR 126W and Fisher Road; OR 126W and Ellmaker Road; and OR 126W and Huston Road. Improvements to the bus service would help reduce the number of single occupancy vehicle (SOV) users between Veneta and Eugene.

The transit stops in the corridor do not have amenities, such as bus pullouts, landing pads, shelters, illumination, or park-and-rides, therefore more amenities should also be included for the buses and transit users. Bus pullouts along roadways with high posted speeds (greater than 45 miles per hour) need a 200 foot long segment for buses to effectively and safely pull off of the roadway to stop (including 60 feet for a bus bay and 140 feet of taper). The bus bay segment must be at least 14 feet in width, measured from the edge of the travel lane[4] and should be constructed of a hard rock material to support the weight of a bus and avoid causing roadway deterioration. Moreover, a five by eight feet paved platform adjacent to the stop should be provided to allow for riders of all abilities to board. Future transit stops should be located on the far side of the intersection traffic signal so that

[4] ODOT Highway Design Manual, Design Guidelines for Public Transportation

the sight distances for right turn movements are not hindered. Also, sidewalks should be constructed for key routes between stops to allow for pedestrian access to the bus routes. Street lights would improve pedestrian visibility and safety. The installation of these amenities would create a sense of place for the bus stops and would make drivers more aware of the presence of pedestrians in the vicinity of the roadway.

Because of the number of business in downtown Eugene and the development potential of western Eugene, the introduction of additional or expanded park-and-ride lots in Veneta would further encourage transit usage since parking lots would be readily available. The City currently has a new small park-and-ride lot in downtown Veneta. The enhancement of ride-share programs would further aid in reducing the number of vehicles traveling along OR 126W.

6.15. Utilities

This section discusses the general location of known utilities in the project study area as well as utility considerations for the project.

6.15.1. Data Sources and Collection

Aerial imagery and project photos were examined to view the visible presence of utility infrastructure. A driving field tour of the project area was also conducted. Geographic information system (GIS) data was obtained from Lane Council of Governments showing Bonneville Power Administration transmission lines and towers.

6.15.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

The Code of Federal Regulations contains rules related to utilities:

- 23 CFR 645A Utility Relocations, Adjustments and Reimbursement
- 23 CFR 645B Accommodation of Utilities
- 23 CFR 172 Administration of Engineering and Design Related Service Contracts
- 48 CFR 31 Contract Cost Principles and Procedures

Utility Relocation and Accommodation on Federal-Aid Highway Projects

This is utility program guidance created by FHWA for highway projects. ODOT refers to this guidance for Federal-Aid projects.

State

ODOT Right of Way Manual (updated January 2011)

The ODOT ROW Manual is regularly updated to reflect federal and state policy regarding land acquisitions, appraisals, access rights, utilities, displacements, and relocation procedures.

ODOT Utility Relocation Guide (revised 7/26/2011)

This guide is written for the Region Utility Specialists (RUS), Out-sourced Project Utility Coordinators (UC) and Local Agency Utility Coordinators (UC) to assist in their execution of the Oregon Department of Transportation Utility Relocation Program.

Oregon Administrative Rule (OAR) 734, Division 55

This rule applies to and governs the location, installation, construction, maintenance and use of pole lines, buried cables, pipe lines, signs, miscellaneous operations upon State Highway right-of-way and properties under the jurisdiction of the Department of Transportation.

Oregon Administrative Rule (OAR) 952, Division 1

This establishes the Oregon Utility Notification Center and procedures to follow for any projects that require excavation.

Regional and Local

Lane Code 15.205 Facility Permits

Lane County requires a facility permit for placement of facilities and development in the County road right-of-way. This applies to utility placements. Roads under County jurisdiction intersect OR 126W in the project area. If relocation of utilities is necessary within these rights-of-way, a facility permit would be required from Lane County Public Works.

6.15.3. Findings

Overhead utility lines run along the north side of Cantrell Road and on the south side of Perkins Road. Approximately 1,000 feet east of Huston Road, the overhead utility lines traverse Perkins Road and run along its north side to the western project terminus. Overhead utility lines are present on the north side of OR 126W, but only in the section of highway west of Central Road. Bonneville Power Administration operates the Lane Substation off of Ken Nielsen Road on the south side of OR 126W. At this location BPA transmission lines cross over OR 126W and, to the south, these high-voltage lines span over Cantrell Road. The transportation alternatives are not anticipated to affect the transmission lines, however, as the towers are set outside the likely prism of road improvements.

The presence and extent of underground utilities is unknown at this time. However, the large-lot rural residences characteristic of the land south of OR 126W likely have individual septic and water systems in lieu of being served by community sanitary sewer and water lines.

6.15.4. Conclusions

A Utilities technical report will need to be completed if a modernization alternative is advanced to the NEPA stage for further consideration and study. At that time, public and private utility records would be reviewed within the project footprint, including natural gas, electrical, sewer, water, telecommunications, stormwater, and oil. The presence and general location (vertically and horizontally) and ownership of the utility would be determined. Based upon the construction activities likely to occur within a given segment of the alternative, project staff would assess and document the likelihood that any utilities within the project footprint would need to be relocated.

Any utility relocations that take place in County road right-of-way would require a facility permit from Lane County Public Works before construction (the same facility permit requirement applies to any work in the County right-of-way – e.g. modification of approaches).

6.16. Visual and Aesthetic Resources

This section discusses possible visual and aesthetic impacts and requirements.

6.16.1. Data Sources and Collection

A driving field tour was conducted and the Lane County Comprehensive Plan was reviewed to determine if any special scenic designations apply to the project area.

6.16.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

23 Code of Federal Regulation (CFR) Parts 750-752, Federal Highway Administration (FHWA), "Highway Beautification"

These are the implementing regulations for the Highway Beautification Act of 1965, which was enacted to provide effective control of outdoor advertising and junkyards, protect public investment, promote the safety and recreational value of public travel, preserve natural beauty, and provide landscapes and roadside development reasonably necessary to accommodate the traveling public.

23 CFR 771, FHWA, "Environmental Impact and Related Procedures"
These are the implementing regulations for environmental impacts and related policies and procedures for NEPA to ensure that environmental considerations, such as impacts related to aesthetics and visual quality, are given due weight in project decision-making.

"Visual Impact Assessment for Highway Projects," FHWA Pub. No. FHWA-HI-88-054
This document provides guidelines and worksheets for assessing visual impacts for highway projects.

State
Oregon Statewide Planning Goal 5---"Natural Resources, Scenic and Historic Areas, and Open Spaces"
Oregon's statewide planning goals provide the framework for planning within the state. Goal 5 establishes specific procedures and criteria for protecting natural resources and conserving scenic and historic areas and open spaces.

ODOT Roadside Development Design Manual
This document provides guidance for assessing visual resource impacts and recommendations for landscaping and architectural treatments.

Oregon Transportation Plan 2006
The OTP is the state's long range multimodal transportation plan and overarching policy document for the statewide transportation system. Goal 4 in the OTP is dedicated to sustainability. Strategy 4.3.4 promotes transportation corridor design that "fits the physical setting, serves and responds to the scenic, aesthetic, historic and environmental resources, and maintains safety and mobility."

Regional and Local
Lane County Comprehensive Plan
The general purpose of the comprehensive plan is the guiding of the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity and general welfare. Goal 5 in the comprehensive plan has policies related to Open Space and Scenic Areas. Six major areas of outstanding scenic value are identified in Lane County. These areas are focused in the coastal region and Cascade Range region and do not include the OR 126W project area.

6.16.3. Findings

While the highway corridor does not have a formal scenic designation, the area is frequented by recreationalists for activities on Fern Ridge Lake, Perkins Peninsula Park, and the Fern Ridge Wildlife Area. The terrain is generally flat in the vicinity of the OR 126W alignment, making vertical changes to the transportation facilities visible to users of adjacent recreation lands. On the parallel facility, there are steeper slopes on the eastern portion of Cantrell Road. Fern Ridge Lake is largely not visible from the proposed parallel facility route. The project area has wetland and forested habitat associated with the Wildlife Area as well as agricultural lands. On the approaches to Veneta and Eugene, the highway begins to have a more urban feel.

6.16.4. Conclusions

A visual quality and aesthetics assessment would be needed if transportation improvement alternatives are advanced for further study in the NEPA phase of the project. To the degree that physical changes take place as a result of project alternatives, data collection and assessment methods for the visual quality and aesthetics evaluation will follow the FHWA visual quality and aesthetics assessment methodology. FHWA developed this assessment methodology on behalf of communities adjacent to proposed transportation projects as a way to adequately and objectively consider the potential visual impacts resulting from highway projects.

6.17. Hydrology and Hydraulics

Water quality, stormwater, and floodplain issues are discussed in this section.

6.17.1. Data Sources and Collection

Applicable regulatory requirements were reviewed and Federal Emergency Management Agency (FEMA's) Flood Insurance Rate Map (FIRM) data was imported into GIS for analysis.

6.17.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

Federal Emergency Management Act (FEMA) Regulations (CFR Title 44 Ch. 1)

The FEMA Floodway standards include the policies and procedures associated with the initial establishment of the regulatory floodway based on a maximum allowable one (1) foot rise in the Base Flood Elevation (BFE) and the procedures for permitting development within the regulatory floodway after it has been established. The flood fringe are lands outside the floodway that are at or below the BFE that store, but do not effectively convey floodwaters. Lands that compose the flood fringe will be inundated during a 1% chance flood event but, due to physical characteristics of the floodplain, convey shallow, slower moving waters.

Clean Water Act (CWA) (in Federal Water Pollution Control Act), 33 USC 1251-1387

The CWA requires states to set water quality standards for all contaminants in surface waters, based on the "beneficial" or "designated" uses for the water body, and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a permit was obtained under its provisions. It also recognizes the need to address the problems posed by nonpoint source pollution.

National Pollutant Discharge Elimination System (NPDES) Permits

Section 402 prescribes the process for obtaining a NPDES permit. The United States Environmental Protection Agency (EPA) requires NPDES permits for construction activities as well as for municipalities of a certain size that discharge stormwater into waterways. In Oregon, the Oregon Department of Environmental Quality (DEQ) administers these permits, as discussed in more detail below in the section on state regulations.

Safe Drinking Water Act (SDWA), 42 USC 300f to 300j-26

The SDWA requires many actions to protect drinking water and its sources, including rivers, lakes, reservoirs, springs, and groundwater wells. SDWA authorizes the Environmental Protection Agency (EPA) to set national health-based standards for drinking water to protect against both naturally-occurring and human-made contaminants. Oregon's drinking water program provides direct oversight of drinking water systems. This law would apply only if infiltration basins or Underground Injection Control (UIC) measures were incorporated into the preferred project design. Local codes encourage infiltration of treated stormwater where feasible.

Clean Water Act Section 303(d)

This section requires states to develop a list of water quality limited segments. These are waters that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires states to establish priority rankings for water on the lists and develop action plans, referred to as Total Maximum Daily Loads (TMDL), to improve water quality. TMDLs identify the pollutant load reductions that are necessary from point and nonpoint sources and guide implementation work by federal, state, tribal, territorial, and local water quality protection programs. In Oregon, DEQ develops Section 303(d) lists for approval by EPA.

Clean Water Act Section 401 Water Quality Certification

This section requires an applicant for a federal license or permit who conducts an activity that may result in a discharge to waters of the state or U.S. to also obtain a certification that the activity complies with state water quality requirements and standards. Applicants in Oregon submit a Joint Permit Application to the USACE, which then forwards the application to the certifying state agency, DEQ. DEQ then determines whether or not to certify that the project meets state water quality standards and does not endanger waters of the state, U.S., or wetlands.

United States Army Corps of Engineers (USACE) Fern Ridge Shoreline Management Plan (1988, updated November 1997)

The Shoreline Management Plan provides a framework for managing shoreline resources at Fern Ridge Lake. Its primary objective is to "achieve a balance between public use, enjoyment of project benefits and long-term resource protection." The plan was prepared by the Army Corps of Engineers, which has management jurisdiction over the lake.

Facilities constructed within the purview of the Shoreline Management Plan require a shoreline use permit. There is no mention of transportation facilities or acquisition of public right-of-way for roads. The Plan primarily addresses provision of recreational facilities such as boat moorages and duck blinds. Any encroachment on Fern Ridge Lake would require coordination with the USACE and determination of processes that may apply to expansion of transportation facilities.

State

Oregon Revised Statutes (ORS), 196.795 to 196.990, Oregon's Removal-Fill Law

Removal or fill within jurisdictional wetlands, waters of the state, or fish habitat requires a Removal-Fill permit from the Oregon DSL. DSL requires a wetland delineation, conceptual mitigation plan, and stormwater control plan as part of the permit application.

Oregon Administrative Rules (OAR) 340-045-0005 to 340-045-0080, Department of Environmental Quality, National Pollutant Discharge Elimination System (NPDES) and Water Pollution Control Facilities (WPCF) Permits

In Oregon, DEQ enforces NPDES permits and authorizes Section 401 Water Quality Certifications. An NPDES General Construction 1200-C Stormwater Permit is mandatory for construction activities on sites covering more than 1 acre. This permit requires a Temporary Erosion and Sediment Control Plan (TESCP). DEQ's web site provides guidance on selecting methods of erosion and sediment control.

As part of the Section 401 Water Quality Certification process, applicants may be required to incorporate protective measures into their construction and operational plans. These measures may include bank stabilization, treatment of stormwater runoff, spill protection, and fish and wildlife protection.

ORS Chapter 468B, Water Quality

This statute authorizes the Environmental Quality Commission to set water quality standards for waters of the state. DEQ and Department of Agriculture (USDA) have enforcement authority, including permitting responsibilities. The issuing authority also is responsible for reviewing proposed construction documents.

Regional and Local

Lane County Comprehensive Plan

The general purpose of the comprehensive plan is to guide the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity and general welfare. The Plan contains water related policies under Goal 5 Water Resources and under Goal 6 Water Quality. None of these policies specifically address conditions in the OR 126W project area.

6.17.3. Findings

Fern Ridge Lake is on the north side of OR 126W. The lake is managed by the USACE and was originally developed as a flood control project. The Fern Ridge Lake Project was authorized by Congress in the Flood Control Act adopted in June 1938. The authorized purpose of the project is for flood control, irrigation and navigation. Other purposes, encouraged and developed for collateral use, are public use, recreation and fish and wildlife management. The project was constructed in 1940 and 1941 and became operational in December of 1941.

Fern Ridge is a wide shallow lake situated on the Long Tom River 23.6 miles above its confluence with the Willamette River. The total shoreline distance around the lake at a normal full pool of 373.5 feet (mean sea level) is approximately 32 miles. Much of the land inundated by the lake is flat to gently sloping; thus small changes in pool level greatly alter the total pool area and shoreline location.

The shoreline around Fern Ridge is characterized by a transition from upland forest to open lowland prairie to marshland and open water. This transitional vegetation provides valuable wildlife habitat along most of the undeveloped portions of shoreline. Notable exceptions are where adjacent development for public and private recreation facilities and flood control structures has occurred within a few feet of the water edge.

Coyote Creek flows across OR 126W and into the SE portion of the lake. Wetland areas are present on the north and south sides of OR 126W and are part of the hydrologic regime of the lake. Potential jurisdictional wetlands are also present on both sides of Perkins and Cantrell Roads. The FIRM shows the 100-year flood zone (A) in a broad area that crosses the highway and extends to include drainages to the south across Cantrell and Perkins Roads.

6.17.4. Conclusions

Hydrological issues could vary greatly depending on the type of action proposed, placement of any recommended improvements, and site specific conditions. It is likely any proposed action recommending improvements outside of the existing ROW will require best management practices (BMPs) which minimize impacts to receiving waters (including wetlands) and require permits from DSL and USACE (see also Wetlands Section 6.18). In addition, ODOT is required to comply with floodplain management requirements (Executive Order 11988, Floodplain Management). Potential floodplain impacts would include construction of a structure within any part of the floodplain and/or release of runoff directly to the floodplain.

6.18. Wetlands and Jurisdictional Waters of State and U.S.

This section describes the screening level potential effects of the conceptual alternatives on wetlands and jurisdictional waters resources.

6.18.1. Data Sources and Collection

The section describes data sources and the methods used to collect and evaluate data to determine wetlands and jurisdictional water resources considerations for the project.

ES&A reviewed existing data and prepared a Biological Resources Plans, Policies, Regulations and Standards Review Memorandum dated June 8, 2011 (ES&A 2011). ES&A conducted a reconnaissance-level field survey of the project alternatives on July 14 and July 15, 2011. The reconnaissance-level field survey identified potential wetland areas and other potentially jurisdictional waters of the state and U.S. Wetland boundaries were not formally delineated.

6.18.2. Relevant Regulations, Policies and Plans

This section describes the results of reviewing relevant federal, state, and local documents for relationships, conflicts, and discrepancies within and between documents related to the Corridor Plan.

Federal

U.S. Fish and Wildlife Service National Wetland Inventory Data (UFSWS, 1982)

The National Wetlands Inventory (NWI) mapping is generated primarily on the basis of black and white or color infrared aerial photography at a scale of 1:58,000 with selected “ground truthing” only conducted to confirm interpretations. It is not uncommon to find areas of wetland not delineated on an NWI map, mainly due to the fact that NWI maps are generated from aerial photography with limited ground-truthing.

The NWI mapping identifies large areas of wetland throughout portions of the proposed project corridor, including southern portions of Fern Ridge Lake that extend across OR 126W.

The NWI map identifies two large wetland swaths that extend from north to south across the project area. The western swath is centrally located between Huston and Central Roads. The wetlands extend from an area north of Perkins Road to the north side of OR 126W. The widest portion is at the north end. The second wetland swath is located between Central and Ken Neilson Roads. The mapped wetland extends from south of Cantrell Road on both sides of Coyote Creek to the north side of OR 126W, widening as the wetlands extend north.

Wetlands are also mapped along the west side of West Fork Coyote Creek. A few isolated wetlands are identified east of Ken Neilson Road, located south of OR 126W east of Richmond Street and near the intersection of Green Hill Road and OR 126W. A significant portion of OR 126W, within the project area, has wetlands or waterways mapped on both sides of the highway.

U.S. Department of Agriculture Soil Survey of Lane County, Oregon (NRCS, 2011)
The Soil Survey for Lane County maps six types of hydric soils throughout the project area; Natroy silty clay loam being the most predominant type. Roughly half of the project corridor is mapped as having hydric soils.

Fern Ridge Operational Management Plan Section 2.9 – Shoreline Management (USACE, 1997)
The shoreline has been divided into categories standardized by the USACE nationwide. These include Limited Development, Public Recreation, Protected Shoreline, and Prohibited Access. The plan also establishes a permit procedure for shoreline use, including vegetation modification. Erosion control and bank stabilization objectives may justify the need for vegetation modification.

State

Draft Fern Ridge Wildlife Area Management Plan (ODFW, 2009)
The ODFW Draft Fern Ridge Wildlife Area Management Plan is primarily addressed in the Biological Resources Review of Plans, Policies, Regulations and Standards Memorandum. However, the document does address wetland and aquatic habitats along the project corridor, such as wet prairie, managed impoundments, emergent aquatic, freshwater aquatic, submerged and/or emergent plants, and seasonal mudflats.

Long Tom Subbasin Fish Management Plan (ODFW, 1992)
The Long Tom Subbasin Fish Management Plan provides policies and objectives for the management of fishery resources within the subbasin. It provides data pertaining to habitat, water quality, and fish presence.

Regional and Local

Eugene Local Wetlands Inventory (PHS, Inc., 2005)
Eugene Wetlands Local Wetlands Inventory (LWI) covers only a small portion of the project study area and does identify a wetland southwest of the intersection of OR 126W and Green Hill Road.

West Eugene Wetland Conservation Plan Inventory (SR, Inc., 1994)
The Eugene Wetland Conservation Plan (EWCP) Inventory covers only a small portion of the project area. The EWCP identifies a designated "protected" wetland on the east side of Green Hill Road between Crow Road and OR 126W/West 11th Avenue.

Veneta Local Wetlands Inventory (WS, Inc., 1998)
The Veneta LWI study area boundary covers only a small portion of the project area. The Veneta LWI does not indicate any wetlands but does identify two small ditches/drainages on the east side of Huston Road.

Lane County Zone and Plan Map Viewer (Lane County, 2009)

Lane County mapping shows wetlands identified on the NWI mapping. It also shows numerous streams and waterways within the project area. There are four named streams within the project area, which include Coyote Creek, West fork Coyote Creek, Middle Fork Coyote Creek, and Job Swale Creek.

Lane County Rural Comprehensive Plan (Lane County, 2009)

ES&A reviewed applicable sections of the Lane County Rural Comprehensive Plan (Lane County, 2005). The Flora and Fauna section of Goal 5 addresses riparian lands associated with Class 1 streams. It also addresses protected wetland resources.

Lane County Code Chapter 10 (Zoning) (2007) and Chapter 12 (Comprehensive Plan) (2002)

ES&A reviewed Chapters 10 and 12 of the Lane County Code pertaining to Zoning and the Comprehensive Plan. The zoning information in Chapter 10 may be relevant to Wetlands and Water Resources, particularly within the Natural Resource District areas that are mapped within the project corridor. Certain transportation related activities such as operations, maintenance, and repair are permitted uses within the Natural Resource District. Chapter 12 provides details on how the County will implement the Comprehensive Plan and how amendments may be adopted.

City of Veneta Comprehensive Plan (2009) and Land Development Ordinance 493 (2010)

The proposed project corridor extends a short distance into the Urban Growth Boundary and City Limits of the City of Veneta. The Comprehensive Plan Map identifies an Open Space – Greenway Overlay in that area that may be applicable to the proposed project as it pertains to Wetland and Water Resources. The Land Development Ordinance dictates that the Open Space – Greenway Overlay boundary extends 50 feet from the delineated boundary of all significant wetlands.

Eugene-Springfield Metropolitan Area General Plan 2004 Update (Metro Plan 2004)

The proposed project corridor extends a short distance into the Metro Plan boundary. The Metro Plan map identifies areas of encroachment as Agricultural, Forest Land and Rural Residential areas that may be applicable to the proposed project as it pertains to Wetland and Water Resources.

6.18.3. Findings

ES&A reviewed existing data and prepared a Biological Resources Plans, Policies, Regulations and Standards Review Memorandum dated June 8, 2011 (ES&A 2011). ES&A conducted a reconnaissance-level field survey of the project alternatives on July 14 and July 15, 2011. The reconnaissance-level field survey identified potential wetland areas and other potentially jurisdictional waters of the state and U.S. Wetland boundaries were not formally delineated. Identified potential wetlands and water resources are shown on Figure 6.25.

Figure 6.25. Potential Wetlands and Water Resources within Project Study Area

Existing Conditions

Existing OR 126W Alignment

Fern Ridge Lake and adjacent wetland areas are located immediately adjacent to OR 126W. These wetland and water resources are located on both sides of the highway in some places, making roadway widening very difficult without impacts. The highway also crosses Coyote Creek and numerous other wetland areas. Wetland and water resources along this alignment include open water, seasonal mudflats, emergent wetland, shrub-scrub wetland, forested wetland, farmed wetland, wet prairie, and forested riparian areas.

Southern Route along Perkins and Cantrell Roads extensive riparian and forested wetlands are located along this alignment where it crosses Coyote Creek. Other wetland and water resources located along this alignment include emergent wetland, scrub-shrub wetland, forested wetland, farmed wetland, wet prairie, and several unnamed drainages and their associated riparian areas.

6.18.4. Conclusions

Extensive wetlands and hydric soils are mapped within the project corridor. The available mapping for the majority of the corridor is NWI, with only small portions of the project corridor at each end included in LWIs. It is not uncommon to find areas of wetland not delineated on an NWI map, mainly due to the fact that NWI maps are generated from aerial photography with limited ground-truthing.

A reconnaissance-level field evaluation of wetlands is recommended as part of Phase 1 of the project. The reconnaissance-level field evaluation will identify potential jurisdictional wetland areas along the proposed project alternatives to assist in project planning and the evaluation of alternatives. More detailed wetland assessments will likely be useful as the project moves forward. More detailed wetland surveys would provide increased accuracy of wetland mapping to quantify potential impacts associated with project alternatives. Ultimately, formal wetland delineation will likely be required along the selected alternative to support state and federal permitting.

Existing OR 126W Alignment

The No-Build Alternative meets or exceeds both of the wetlands and water resources-related criteria. The criteria are met because there would be no new impacts as a result of the No-Build alternative.

The TSM Alternative may meet both of the wetlands and water resources-related criteria. The criteria may be met depending on the locations of new TSM.

The Spot Improvement (Multi-use Path DO) Alternative may meet both of the wetlands and water resources-related criteria. The criteria may be met depending on the locations of spot improvements and the new multi-use path. This assumes that the multi-use path would only be constructed where impacts are avoidable, and would not extend the full alignment length.

The Three-Lane Cross Section Alternative and its Design Option do not meet either of the wetlands and water resources-related criteria because of anticipated expansion of the road footprint. The widening of OR 126W would impact Fern Ridge Lake and would likely impact other wetlands and water resources.

The Four-Lane Cross Section Alternative and its Design Option do not meet either of the wetlands and water resources-related criteria because of anticipated expansion of the road footprint. The widening of OR 126W would impact Fern Ridge Lake and would likely impact other wetlands and water resources.

Southern Route along Perkins and Cantrell Roads the Two-Lane Cross Section with Intersection Turning Lanes Alternative meets the “Avoid and minimize adverse permanent and temporary impacts to Fern Ridge Lake” criterion because the OR 126Wsouthern route is located away from Fern Ridge Lake and no direct impacts would be anticipated. The “Avoid and minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas” criterion may be met depending on the locations of facility improvement segments and whether wetland/waters impacts can be avoided.

The Multi-Use Path Alternative meets the “Avoid and minimize adverse permanent and temporary impacts to Fern Ridge Lake” criterion because the southern route is located away from Fern Ridge

Lake and no direct impacts would be anticipated. The "Avoid and minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion would not be met because construction of a new multi-use path would likely impact wetlands and water resources adjacent to the southern route.

6.19. Cumulative Effects

Cumulative impact (40 CFR 1508.7) is the effect to the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. To evaluate cumulative impacts, a time frame helps to understand how human actions have either degraded or protected natural resources and how future actions might further change the environment.

Regarding the overall wetland regime of the Willamette Valley, agricultural activities and development have diminished wet prairie habitat by over 99% since pre-European settlement times. In terms of actions specific to the project area, the Fern Ridge Lake Project was authorized by Congress in the Flood Control Act adopted in June 1938. The authorized purpose of the project was for flood control, irrigation and navigation. The project was constructed in 1940 and 1941 and became operational in December of 1941. Buildings in the project area range from as old as 1900 to modern day structures. ODFW has also engaged in management activities on its lands associated with the Fern Ridge Wildlife Area (e.g. plantings).

In terms of possible future actions, the Lane County TSP contains a long-range project list for proposed improvements to County roads. Projects listed in the project study area include:

- Ellmaker Road – Rural Modernization
- Jeans Road – Bike-Ped Facilities
- Huston Road South – Bike-Ped Facilities
- Bolton Road East – Bike-Ped Facilities
- Perkins Road – Bike-Ped Facilities
- Central Road – Rural Modernization
- Fisher Road – Rural Modernization
- Green Hill Road – Urban Standards

Outside Eugene and Veneta, the land use and development code for Lane County applies and generally precludes intensification of land uses in the project area consistent with the rural land use designations. Consequently, private development is not anticipated to be a major contributor to future impacts.

6.20. Opportunities and Constraints

Using available GIS data as well as creation of new digitized data, resources and facilities were mapped in the project study area. This "opportunities and constraints" map, Figure 6.26, shows the resource lands and environmental features that may constrain project development in the transportation corridor. Included on the map are:

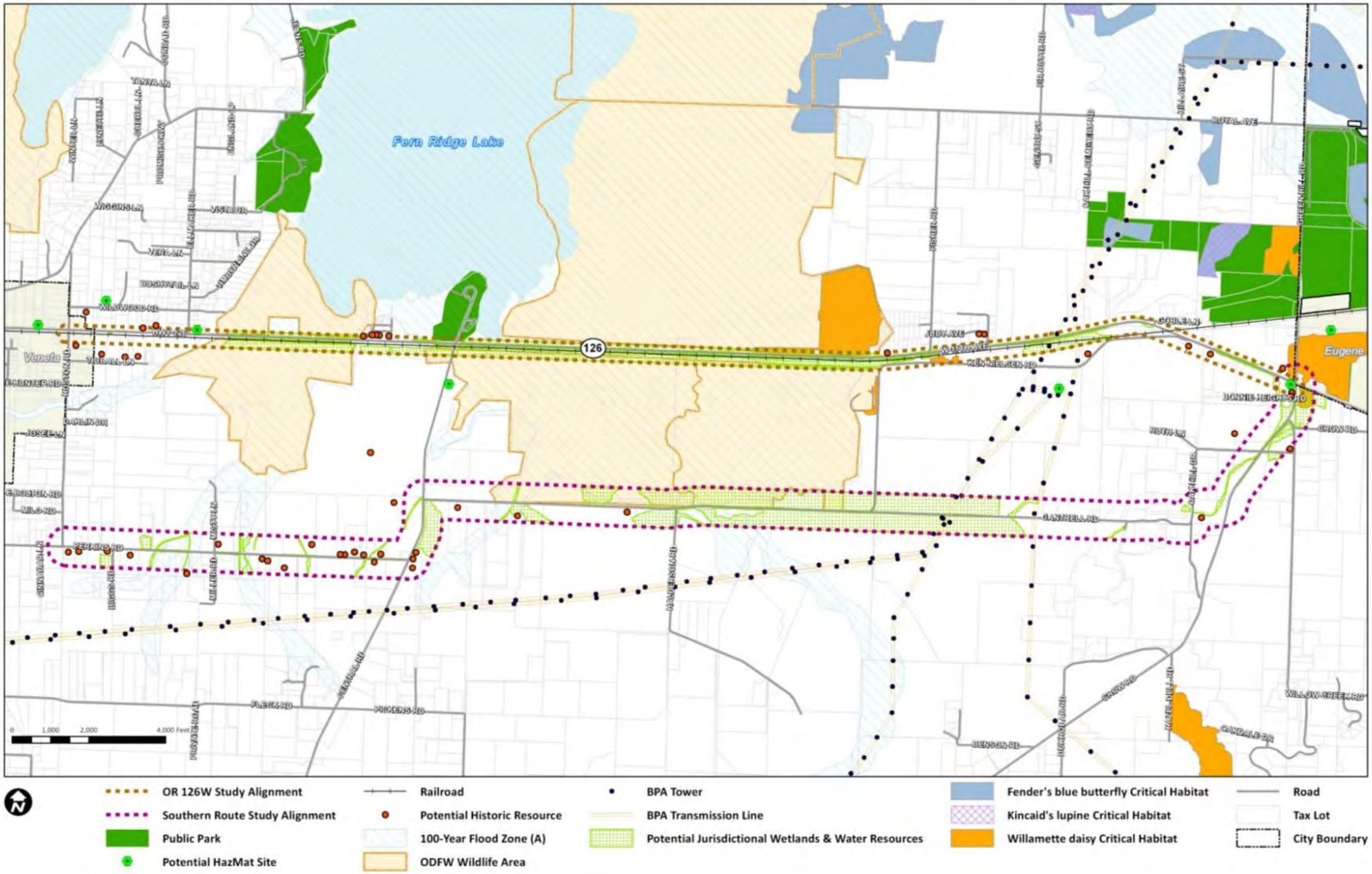
- Public parks
- Hazardous material sites
- Railroad
- Potential historic structures
- 100-year flood zone
- ODFW Fern Ridge Wildlife Area boundary
- Potential jurisdictional wetlands and water resources
- Designated Critical Habitat for Fender's blue butterfly, Kincaid's lupine, and Willamette daisy
- BPA transmission lines and towers

The items shown on the map represent known resources that may affect the design of the alternatives in terms of regulatory requirements, and as alternatives become more refined, avoiding and minimizing impacts. Map items were added in response to public comments from preliminary meetings with stakeholders and interested parties; moreover, additional items may be included on the map as new information is uncovered.

The wetland/water resources layer was digitized based on field observations from a water resource specialist. The historic structure points were created from an address database provided by a historic resource specialist. The hazardous material sites were created from addresses identified in Oregon DEQ's ECSI database. Archaeological areas of concern were also delineated by a specialist, but due to the confidential nature of these sensitive resources, are not shown on the map. All remaining data items bulleted above were provided through Lane Council of Governments GIS database or through the ODFW.

Key features that may affect the extent of transportation improvements are Fern Ridge Lake, Fern Ridge Wildlife Area, Perkins Peninsula Park, Willamette daisy critical habitat, wetland features along OR 126W, Cantrell Road, Central Road, and Perkins Road, and the railroad corridor paralleling the south side of OR 126W. As alternatives are refined, consideration must be given to avoiding and minimizing impacts to these resources. A possible opportunity for enhancement includes alternatives that may improve the hydrological flow across OR 126W.

Figure 6.26. Opportunities and Constraints



6.20.1. Archaeological Constraints

A total of 20 cultural resources reports on file at SHPO present the results of archaeological investigations that have been conducted within or directly adjacent to the project area. Eleven of the previously reported projects include or abut portions of the project area, and nine are located just outside of the project boundaries. Seven of projects have been conducted along OR 126W and the railroad tracks south and east of Oak Hill in the northeast corner of the project area.

In addition to the projects conducted within the project area, nine cultural resources surveys have been completed in close proximity to the project boundaries, which resulted in the recording of four isolated artifacts (Tveskov 1994), a prehistoric site and an historic barn (Baxter 1981), and a 1950s historic trash dump (Musil 2004a), all located within a quarter mile of the project area.

A review of previous archaeological research in or near the project area, especially the surveys conducted in Fern Ridge Lake, shows that prehistoric sites tend to be located along rivers and streams, and at slightly higher elevations at the ecotone between forest areas and the floodplain.

Areas of known or potential cultural resources have been mapped for use by ODOT and the project design team but, because of the highly sensitive nature of these resources, this mapped information is not available in this report which will be made available for public review.

Additionally, this report will be used to initiate a dialogue with Tribes and may result in the identification of other areas to be avoided during the project planning process.

6.20.2. Biological Constraints

Biological-related constraints common to all build alternatives include the need for rare plant surveys. Alternatives with larger construction areas would require larger rare plant survey areas. If spot improvements or TSM facilities are located outside of potential rare plant habitat, then the need for extensive rare plant surveys may be avoidable. However, construction areas located within potential rare plant habitat would need to be surveyed during the appropriate seasons for detecting target rare plant species. This would likely include multiple rare plant surveys in order to accurately survey for multiple target species that bloom at various times between April and September.

Existing OR 126W Alignment

Expanding the existing OR 126W alignment would significantly impact the existing aquatic and wetland habitats along Fern Ridge Lake and would require extensive federal and state permitting. Portions of the alignment pass through managed wildlife habitat areas within the ODFW Fern Ridge Wildlife Area. Providing mitigation for impacts to these habitats would be difficult given the numerous existing wetland types and floodway. This constraint would present the highest point of concern for the following alternatives:

- Three-Lane Cross Section and Design Option
- Four-Lane Cross Section and Design Option

Aquatic and wetland habitat impacts would present less of a constraint for the other build alternatives, since habitat impacts could more readily be avoided. These alternatives include:
- TSM
- Spot Improvements (assuming the Multi-Use Path Design Option would only be constructed where wetland/open water habitat impacts could be avoided)

Critical habitat is mapped within the project area for Willamette Daisy. This constraint would present the highest point of concern for the following alternatives:
- Three-Lane Cross Section and Design Option
- Four-Lane Cross Section and Design Option

Critical habitat impacts would present less of a constraint for the other build alternatives, since habitat impacts could more readily be avoided. These alternatives include:
- TSM
- Spot Improvements (assuming the Multi-Use Path Design Option would only be constructed where critical habitat impacts could be avoided)

Southern Route along Perkins and Cantrell Roads

Expanding Perkins Road and Cantrell Road would likely impact the existing aquatic and wetland habitats along the alignment and would require federal and state permitting. Of particular concern would be expanding the existing bridge crossing at Coyote Creek, which is located within a managed wildlife habitat area (ODFW Fern Ridge Wildlife Area). Constructing a new multi-use bridge would be of similar concern. This constraint would present the highest point of concern for the following alternative:
- Multi-Use Path

Aquatic and wetland habitat impacts would present less of a constraint for the other build alternative, since habitat impacts could more readily be avoided because improvements would only be constructed where feasible. This alternative includes:
- Two-Lane Cross Section with Intersection Turning Lanes Alternative

Critical habitat is mapped within the project area for Willamette Daisy. This constraint would present the highest point of concern for the following alternative:
- Multi-Use Path

Critical habitat impacts would present less of a constraint for the other build alternative, since habitat impacts could more readily be avoided because improvements would only be constructed where feasible. This alternatives includes:

- Two-Lane Cross Section with Intersection Turning Lanes Alternative

6.20.3. Historic Resources Constraints

On the basis of historical map information (Figures 6.8-3 through 6.8-5), it is estimated that there are approximately 120 historic resources in the PSA that are 45 years of age and older that will require survey and inventory. Most of the resources do not appear to be eligible for the National Register due to alterations to the resource and a lack of distinctive architectural features. However there are a few remaining historic farm and agricultural building complexes that may be potentially eligible. Project alternatives should seek to avoid or minimize potential effects on eligible resources in accordance with federal and state law.

6.20.4. Transportation Constraints

Based on the existing and future transportation conditions analysis, the following transportation constraints were identified:

- The corridor <u>lacks good parallel facilities and connectivity</u> (i.e., east-west connection) between Eugene and Veneta, which contributes to congestion in the area and impacts emergency response and incident management. Using the roadways to the south would require roadway classification changes by the County because Perkins Road is a Rural Minor Collector and Cantrell Road is only a Rural Local Road.
- The <u>curved geometry</u> of the roadway at the eastern end in conjunction with rainy or dark conditions could pose a hazard to users of the roadway.
- The <u>only signalized intersection</u> on the study corridor is located on the eastern end at Green Hill Road (within the City of Eugene UGB). Dedicated left turn lanes only exist at a few locations along the OR 126W study corridor. At intersections and driveways where no left turn lane exists, left turning vehicles often stop in the through travel lanes, causing queuing and congestion problems.
- Along the stretch of OR 126W in the study corridor, the greatest <u>concentration of access points</u> is located at the westernmost section between Huston and Ellmaker Roads. On this segment, there are 22 total access points, all of which are located on the north side of the roadway. This results in an average spacing of 220 feet between access points, but the access spacing standard is 1,320 feet.
- OR 126W is designated as a <u>Freight Route</u> by ODOT; therefore, highway modifications to the roadway should not reduce the through capacity of the highway and should maintain its reliability and mobility.
- For the majority of the project study area corridor (i.e., Huston Road to Fisher Road), the <u>Coos Bay Rail Line</u> is located only fifty feet south of OR 126W and there are five <u>at-grade railroad crossings</u> south of OR 126W.

6.20.5. Wetlands and Water Resources Constraints

Wetlands and waters in Oregon are regulated by federal and state law. Undisturbed buffers adjacent to wetlands and waterways may be regulated at the local level.

Federal

- Clean Water Act (CWA)
    - Section 404 Permit – Required for discharge of dredged and fill material into waters of the U.S., including wetlands. Requires minimization of impacts to jurisdictional wetlands and waters to the maximum extent practical. Mitigation to offset impacts to wetlands and waters of the U.S. is required for permanent fill activities. Restoration is required for temporary impact areas.
    - Section 401 Water Quality Certification – Requires an applicant for a federal permit to conduct an activity that may result in discharge to waters of the U.S. to also obtain certification that the activity complies with water quality requirements and standards.
- Fern Ridge Operational Management Plan Section 2.9 – Shoreline Management Plan (USACE, 1997) – Establishes a permit procedure for shoreline use, including vegetation modification. Erosion control and bank stabilization objectives may justify the need for vegetation modification.

State

- Oregon Removal-Fill Law
    - Removal-Fill Permit, ORS 196.795-990 – Required for removal or fill of material within jurisdictional wetlands or waters of the state.
    - Compensatory Mitigation, OAR 141-085-0680 to 141-085-0765 – Requires mitigation to offset impacts to wetlands and waters of the state. Restoration is required for temporary impact areas.
- National Pollution Discharge Elimination System (NPDES)
    - Stormwater Discharge Permit (1200-C), ORS 468b.050 and Section 402 of the CWA – Required for construction activities including clearing, grading, excavating, materials or equipment staging and stockpiling that will disturb one or more acres and may discharge into surface waters or conveyance systems leading to surface waters of the state. A Temporary Erosion Control Plan would likely be required.

Local

- City of Eugene Land Use Code. Wetland Buffer Overlay Zone (City of Eugene, 2010) – Applies an undisturbed buffer to the protected wetland at the east end of the project alignment on the east side of Green Hill Road between Crow Road and OR 126W.

Existing OR 126W Alignment

Expanding the roadway for vehicle and multi -use path would impact the existing wetland and water resources along Fern Ridge Lake and would require extensive federal and state permitting. Providing mitigation for impacts to these resources would be complex given the numerous existing wetland types and floodway. This constraint would present the highest point of concern for the following alternatives:

- Three-Lane Cross Section and Design Option
- Four-Lane Cross Section and Design Option

Wetland and water resource impacts would present less of a constraint for the other build alternatives, since resource impacts could more readily be avoided. These alternatives include:

- TSM
- Spot Improvements (it is likely the Multi-Use Path Design Option would not completely avoid wetland/water resource impacts)

Southern Route along Perkins and Cantrell Roads

Expanding the roadway for vehicle and multi-use path would likely impact the existing wetland and water resources along the alignment and would require federal and state permitting. Of particular concern would be expanding the existing bridge crossing at Coyote Creek. Constructing a new multi-use bridge would be of similar concern. This constraint would present the highest point of concern for the following alternative:

- Multi-Use Path

Wetland and water resource impacts would present less of a constraint for the other build alternative, since resource impacts could more readily be avoided because improvements would only be constructed where feasible. This alternative includes:

- Two-Lane Cross Section with Intersection Turning Lanes Alternative

7. Alternatives Evaluation

Criteria were developed consistent with the project's draft goals and objectives and used to evaluate the transportation improvement alternatives including the No-Build Alternative. Criteria were developed through key stakeholder input where they identified the issues and community values that are beyond the draft Purpose and Need, but can be addressed by the project. This section documents the criteria evaluation process.

7.1. Methods

The project's four goals and 22 objectives were translated into 38 criteria which were used to evaluate the likely effect of the transportation improvement alternatives on the transportation system, environmental resources, social and economic factors, and community planning. The alternatives were evaluated in terms of the probability that the proposed improvements would address each criterion. For each criterion, the alternatives were assigned a score based on a low, moderate, or high probability of effect based on context intensity and desired outcome. The best outcome received a score of 3 while the least desired outcome received a score of 1. Alternatives anticipated to have a moderate probability of effect received a score of 2. The assigned points for the 38 criteria were totaled to evaluate how the alternatives compared to one another in terms of best meeting the project's draft goals and objectives.

7.2. Evaluation Criteria and Measures

Draft criteria were prepared for use in evaluating and comparing between the improvement alternatives that have met the draft Purpose and Need. These criteria are intended to differentiate alternatives and will help ensure the greatest consistency between the project's draft goals and objectives and the recommended improvements for the OR 126W corridor. Evaluation criteria are listed below by the project's four draft goals.

7.2.1. Transportation

- Reduce potential conflict points such as intersections and driveways
- Improve pedestrian safety and accessibility
- Improve bicycle safety and accessibility
- Improve overall traffic safety
- Improve east/west vehicle capacity
- Promote public transit service
- Improve mobility along corridor, including freight
- Improve emergency vehicle response time
- Strive to meet ODOT mobility standards
- Minimize impacts to the railroad for freight movements
- Minimize impacts to the railroad that limit opportunities for future rail transit

7.2.2. Environmental

- Avoid or minimize adverse permanent and temporary[5] impacts to Fern Ridge Lake
- Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas
- Avoid or minimize adverse permanent and temporary impacts to identified historical resources.
- Avoid or minimize adverse permanent and temporary impacts to cultural resources
- Avoid or minimize adverse permanent and temporary impacts to visual resources
- Provide, maintain, and improve access to existing parkland and recreational facilities, where practicable
- Be consistent with ODFW Fern Ridge Wildlife Area Plan

[5] A permanent impact is a lasting effect on the built or natural environment. A temporary impact has a short-term effect resulting from construction activities.

7.2.3. Social and Economic

- Support community livability by improving multi-modal access to residential areas
- Support community livability and economics by improving multi-modal access to commercial areas
- Support community livability and economics by improving multi-modal access to recreational/tourist areas
- Support area economic vitality by improving roadway geometrics for freight movements
- Consistent with City of Veneta Economic Development Strategic Plan
- Consistent with Lane County Regional Economic Development Strategies
- Provide transportation facilities which are accessible to all community members and users
- Minimize impacts to properties along the corridor
- Support rail opportunities for Veneta's industrial areas

7.2.4. Community Values

- Improve access opportunities to Fern Ridge Lake along the corridor
- Improve access to Perkins Peninsula County Park
- Be consistent with Oregon Highway Plan
- Be consistent with Oregon Bicycle and Pedestrian Plan
- Be consistent with Lane County Transportation System Plan
- Be consistent with Fern Ridge Path System: Visions and Strategies
- Be consistent with City of Veneta Comprehensive Plan
- Be consistent with Lane County Land Use Code
- Support regional bicycle/pedestrian plans
- Support planned parkland and recreational facilities, where practicable
- Be consistent with USACE Fern Ridge Operational Management Plan

7.3. Rating and Ranking of Alternatives

Table 7.1 lists the 38 criteria and the points assigned for each alternative under evaluation. The best score is 3 and the low score is 1. Alternatives with higher point totals rate more favorably as per the project's draft goals and objectives. It is important to note that the rating of alternatives based on probability of effect is a tool to be used along with other tools and input to assist decision-makers in selecting which alternatives should be advanced for further evaluation in the Tier 2 screening.

Table 7.1. Tier 1 Criteria, Measures, and Evaluation Scores

			OR 126 Improvements								Southern Route-Two/ Three Lane Facility
							Three-Lane Facility		Four-Lane Facility		
	Criteria	Measures	No-Build	TSM	Spot Improvements	Spot Improvements w/ Multi-Use Path	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Two-Lane Cross Section with Intersection Turning Lanes Alternative
Goal 1: Transportation											
G1.1	Reduce potential conflict points such as intersections and driveways	Number of estimated conflict points reduced	1	1	1	1	2	3	2	3	1
G1.2	Improve pedestrian safety and accessibility	Probability that pedestrian safety and accessibility would be improved	1	1	1	3	2	2	2	2	2
G1.3	Improve bicycle safety and accessibility	Probability that bicycle safety and accessibility would be improved	1	1	1	3	2	2	2	2	2
G1.4	Improve overall traffic safety	Probability that overall traffic safety would be improved.	1	1	2	2	3	3	3	3	2
G1.5	Improve east/west vehicle capacity	Probability that east/west vehicle capacity would be improved	1	1	1	1	3	3	3	3	2
G1.6	Improve mobility along corridor, including freight	Probability that freight mobility would be improved	1	1	2	2	2	2	3	3	1

Table 7.1. Tier 1 Criteria, Measures, and Evaluation Scores (Cont.)

			OR 126 Improvements								Southern Route-Two/ Three Lane Facility
							Three-Lane Facility		Four-Lane Facility		
	Criteria	Measures	No-Build	TSM	Spot Improvements	Spot Improvements w/ Multi-Use Path	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Two-Lane Cross Section with Intersection Turning Lanes Alternative
G1.7	Support public transit service	Probability that public transit service would be promoted	1	2	1	1	2	2	2	2	1
G1.8	Improve emergency vehicle response time	Probability that emergency vehicle response time would be improved	1	1	1	1	2	2	3	3	2
G1.9	Minimize impacts to the railroad for freight movement	Impacts to the railroad for freight movement would be minimized	3	3	3	3	3	3	3	3	3
G1.10	Strive to meet ODOT mobility standards in the future	Probability that ODOT mobility standards would be met in the future	1	1	1	1	2	2	3	3	2
G1.11	Minimize impacts to the railroad that limit opportunities for future rail transit	Impacts to the railroad for future rail transit would be minimized	3	3	3	3	3	3	3	3	3
		Goal 2: Environmental									
G2.1	Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake	Probability that adverse permanent and temporary impacts to Fern Ridge Lake would be avoided or minimized	3	3	3	2	1	2	1	2	3

Table 7.1. Tier 1 Criteria, Measures, and Evaluation Scores (Cont.)

			OR 126 Improvements								Southern Route-Two/ Three Lane Facility
							Three-Lane Facility		Four-Lane Facility		
	Criteria	Measures	No-Build	TSM	Spot Improvements	Spot Improvements w/ Multi-Use Path	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Two-Lane Cross Section with Intersection Turning Lanes Alternative
G2.2	Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas	Probability that adverse permanent and temporary impacts to environmentally sensitive natural resource areas would be avoided or minimized.	3	3	3	2	2	2	1	2	1
G2.3	Avoid or minimize adverse permanent and temporary impacts to identified historical resources	Probability that adverse permanent and temporary impacts to identified historical resources would be avoided or minimized.	3	3	3	2	2	2	2	2	2
G2.4	Avoid or minimize adverse permanent and temporary impacts to cultural resources	Probability that adverse permanent and temporary impacts to cultural resources would be avoided or minimized.	3	3	3	2	2	2	2	2	2
G2.5	Avoid or minimize adverse permanent and temporary impacts to visual resources	Probability that adverse permanent and temporary impacts to visual resources would be avoided or minimized.	3	3	3	3	2	2	2	2	2

Table 7.1. Tier 1 Criteria, Measures, and Evaluation Scores (Cont.)

			OR 126 Improvements								Southern Route-Two/ Three Lane Facility
							Three-Lane Facility		Four-Lane Facility		
	Criteria	Measures	No-Build	TSM	Spot Improvements	Spot Improvements w/ Multi-Use Path	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Two-Lane Cross Section with Intersection Turning Lanes Alternative
G2.6	Provide, maintain, and improve access to parkland and recreational facilities, where practicable	Probability that access to existing parkland and recreational facilities would be provided, maintained and /or improved.	1	1	2	2	2	2	2	2	1
G2.7	Be consistent with ODFW Fern Ridge Wildlife Area Plan	Level of consistency with ODFW Fern Ridge Wildlife Area.	2	2	2	2	1	3	1	3	2
	Goal 3: Social and Economic										
G3.1	Support community livability by improving multi-modal access to residential areas	Probability that multi-modal access to residential areas would be improved.	1	1	1	2	1	1	1	1	2
G3.2	Support community livability and economics by improving multi-modal access to commercial areas	Probability that multi-modal access to commercial areas would be improved.	1	1	1	2	2	2	2	2	2
G3.3	Support community livability and economics by improving multi-modal access to recreational/tourist areas	Probability that multi-modal access to recreational/tourist areas would be improved.	1	1	1	3	2	2	2	2	2

Table 7.1. Tier 1 Criteria, Measures, and Evaluation Scores (Cont.)

			OR 126 Improvements								Southern Route-Two/ Three Lane Facility
							Three-Lane Facility		Four-Lane Facility		
	Criteria	Measures	No-Build	TSM	Spot Improvements	Spot Improvements w/ Multi-Use Path	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Two-Lane Cross Section with Intersection Turning Lanes Alternative
G3.4	Support area economic vitality by improving roadway geometrics for freight movements	Potential to support area economic vitality by improving roadway geometrics for freight movements	1	1	2	2	3	3	3	3	1
G3.5	Provide transportation facilities which are accessible to all community members and users	Likelihood that transportation facilities would be accessible to all community members.	1	1	1	3	2	2	2	2	2
G3.6	Consistent with City of Veneta Economic Development Strategic Plan	Level of consistency with City of Veneta Economic Development Strategic Plan.	1	1	1	1	2	2	3	3	2
G3.7	Consistent with Lane County Regional Economic Development Strategies	Level of consistency with Lane County Regional Economic Development Strategies.	1	1	1	1	2	2	3	3	2
G3.8	Minimize impacts to properties along the corridor	Probability that property related impacts would be minimized along the corridor	3	3	3	2	2	2	1	1	1

Table 7.1. Tier 1 Criteria, Measures, and Evaluation Scores (Cont.)

			OR 126 Improvements								Southern Route-Two/ Three Lane Facility
							Three-Lane Facility		Four-Lane Facility		
	Criteria	Measures	No-Build	TSM	Spot Improvements	Spot Improvements w/ Multi-Use Path	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Two-Lane Cross Section with Intersection Turning Lanes Alternative
G3.9	Support rail opportunities for Veneta's industrial areas	Probability that rail opportunities for Veneta's industrial areas would be supported.	1	1	2	2	2	2	3	3	1
		Goal 4: Community Values									
G4.1	Improve access opportunities to Fern Ridge Lake and Perkins Peninsula County Park along the corridor	Probability that access to Fern Ridge Land and Perkins Peninsula County Park would be improved.	1	1	2	2	3	3	3	3	1
G4.2	Be consistent with Oregon Highway Plan	Level of consistency with Oregon Highway Plan.	1	1	1	1	2	2	3	3	1
G4.3	Be consistent with Oregon Bicycle and Pedestrian Plan	Level of consistency with Oregon Bicycle and Pedestrian Plan.	1	1	1	3	2	2	2	2	2
G4.4	Be consistent with Lane County Transportation System Plan	Level of consistency with Lane County Transportation System Plan.	1	1	1	1	2	2	2	2	1
G4.5	Be consistent with Fern Ridge Path System: Visions and Strategies	Level of consistency with Fern Ridge Path System: Visions and Strategies.	1	1	1	3	1	1	1	1	1

Table 7.1. Tier 1 Criteria, Measures, and Evaluation Scores (Cont.)

			OR 126 Improvements								Southern Route-Two/ Three Lane Facility
							Three-Lane Facility		Four-Lane Facility		
	Criteria	Measures	No-Build	TSM	Spot Improvements	Spot Improvements w/ Multi-Use Path	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Two-Lane Cross Section with Intersection Turning Lanes Alternative
G4.6	Be consistent with City of Veneta Comprehensive Plan	Level of consistency with City of Veneta Comprehensive Plan.	1	1	1	2	2	2	3	3	2
G4.7	Compliant with Lane County Land Use Code	Level of compliance with Lane County Land Use Code.	3	3	3	2	1	1	1	1	1
G4.8	Support regional bicycle/pedestrian plans	Potential to support regional bicycle/pedestrian plans.	1	1	1	3	2	2	2	2	2
G4.9	Support planned parkland and recreational facilities, where practicable	Potential to support planned parkland and recreational facilities.	1	1	1	2	2	2	2	2	2
G4.10	Consistent with USACE Fern Ridge Operational Management Plan	Level of consistency with USACE – Fern Ridge Operational Management Plan.	3	3	3	2	1	2	1	2	3
		Total Raw Score	58	59	64	75	74	79	80	86	65

Table 7.2. Tier 1 Evaluation Scores Equalized by Project Goals*

		OR 126 Improvements								Southern Route-Two/ Three Lane Facility
						Three-Lane Facility		Four-Lane Facility		
Goal	Number of Criteria	No-Build	TSM	Spot Improvements	Spot Improvements w/ Multi-Use Path	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Causeway – Dike (Earth/Rock)	A. Causeway - Piers	Two-Lane Cross Section with Intersection Turning Lanes Alternative
Goal 1: Transportation	11	13.6	14.5	15.5	19.1	23.6	24.5	26.4	27.3	19.1
Goal 2: Environmental	7	25.7	25.7	27.1	21.4	17.1	21.4	15.7	21.4	18.6
Goal 3: Social and Economic	9	12.2	12.2	14.4	20	20	20	22.2	22.2	16.7
Goal 4: Community Values	10	14	14	15	21	18	19	20	21	16
Total Equalized Score		65.5	66.4	72	81.5	78.7	84.9	84.3	91.9	70.4

**Total criteria scores for each goal divided by the number of criteria.*

Based on the point system total, comparing all of the alternatives evaluated, the OR 126W Four-Lane Cross Section Causeway on Piers Design Option Alternative scored the highest, scoring slightly better than the primary Four-Lane Cross Section Alternative (Causeway on Dike (Earth/Rock)). In general, this alternative scored well by providing the greatest level of operational and safety improvements to the highway. It did not score well in the environmental criteria categories as it would require the greatest amount of right-of-way and potentially have a larger construction footprint relative to the other alternatives. However, replacing the existing dike causeway/highway with a pier-supported highway allows for potential enhancement to the natural water flow under the highway, which is reflected in improved scores related to Fern Ridge Lake/natural resource criteria compared to the primary alternative which constructs the widened roadway on the existing dike.

The Spot Improvements Alternative with the Multi-Use Path Design Option was the third highest ranked alternative. This alternative scored higher in the environmental categories yet not as well in the operational and safety criteria. The OR 126W Three-Lane Cross Section Alternative followed next in the scoring, with the Causeway on Piers Design Option in the fourth position and the primary alternative (Causeway on Dike (Earth/Rock)) as the fifth highest scoring alternative. Compared to the higher rated Four-Lane Cross Section Alternative, the Three-Lane Cross Section generally scored in the moderate range for traffic operations and capacity criteria. As discussed above, the Three-Lane Cross Section Alternative Design Option (Causeway on Piers) was rated higher than the primary alternative (Causeway on Dike (Earth/Rock)) due to potential hydrological and environmental benefits.

At the lower end of the scoring range were the No-Build and TSM Alternatives, which were scored as a baseline comparison for the project. The Two-Lane Cross Section with Intersection Turning Lanes Alternative would have a moderate affect on OR 126W mobility, but scores low in the safety conditions criteria for OR 126W. It is also not consistent with applicable transportation plans and therefore rated at the low end of the scoring. The Spot Improvements Alternative (without the Multi-Use Path Design Option) fared slightly better in terms of helping safety conditions on OR 126W, but scored poorly in the bicycle and pedestrian-related categories. This is reflected in the considerably better score for the Spot Improvement Alternative that includes the addition of the Multi-Use Path Design Option.

Additional criteria evaluation information is provided in the following sections by discipline.

7.3.1. Archaeological

One criterion was used to screen alternatives for potential effects to archaeological resources:

- Avoid and minimize adverse permanent and temporary impacts to identified cultural/archaeological resources?

Scoring was based on the following measures:

- 3 = Anticipated impacts to cultural/archaeological resources would be low (most desirable outcome)
- 2 = Anticipated impacts to cultural/archaeological resources would be moderate
- 1 = Anticipated impacts to cultural/archaeological resources would be high (least desirable outcome)

Existing OR 126W Alignment

The No-Build Alternative scored high on the archaeological resources-related criterion and is scored a 3, low risk. The criterion is met because there would be no new construction and therefore no impacts as a result of the No-Build Alternative. See Section 6.3 for a discussion of archaeological existing conditions.

The TSM Alternative scored high on the archaeological-related criterion. The criterion may be met depending on the locations of new TSM facilities such as park-and-ride lots, transit stations, and pedestrian facilities. This alternative is scored a 3, low risk, assuming that new TSM facilities could be constructed in a manner to avoid impacts to archaeological resources.

The Spot Improvement Alternative (without the Multi-use Path) scored high on the cultural/archaeological-related criterion. The criterion may be met depending on the locations of spot improvements. This alternative is scored a 3, low risk, assuming that spot improvements would be constructed in a manner to avoid impacts to archaeological resources.

The Spot Improvement Alternative with the Multi-use Path Design Option scored moderate on the archaeological-related criterion. The criterion may be met depending on the locations of spot improvements and the new multi-use path. This assumes that the multi-use path would only be constructed where impacts are avoidable, and would not extend the full alignment length. This alternative is scored a 2, moderate risk, assuming that improvements would be constructed in a manner to avoid and minimize impacts to cultural/archaeological resources but acknowledging that constructing a multi-modal path along the existing OR 126W alignment has some possibility of encountering previously unidentified archaeological resources.

The Three-Lane Cross Section Alternative (both the Primary Dike (Earth/Rock) Alternative and Piers Design Option) are scored a 2, moderate risk. The widening of OR 126W could impact subsurface resources. Theoretically, this alternative could have less impacts than the impacts associated with the Multi-use Path option.

The Four-Lane Cross Section Alternative (both the Primary Dike (Earth / Rock) Alternative and Piers Design Option) are scored a 2, moderate risk for the archaeological-related criteria. The widening of OR 126W to four lanes has a greater probability of disturbing subsurface resources than the Three-Lane Alternative and its Design Option. Theoretically, this alternative could have less impacts than those associated with the Multi-use Path option.

Southern Route Along Perkins and Cantrell Roads

The Two-Lane Cross Section with Intersection Turning Lanes Alternative is scored a 2, moderate risk, for the archaeological related-criterion because water resources currently and historically crossed the location of the southern route and there is some risk that widening could impact subsurface resources.

7.3.2. Biological

Identified criteria that are applicable to biological resources include the following:

- Avoid and minimize adverse permanent and temporary impacts to Fern Ridge Lake; and
- Avoid and minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas.

Measures for both criteria are identified as "fewest estimated likely adverse impacts." A low level of anticipated impacts was scored a 3, a moderate level was scored a 2, and a high level of anticipated impacts was scored a 1.

Fern Ridge Lake provides habitat for numerous wildlife species, including some sensitive species. Other environmentally sensitive natural resource areas include sensitive wildlife habitats, potential rare plant habitats, and portions of the Fern Ridge Wildlife Area. These include habitats such as riparian corridors, oak woodlands, and both wetland and upland native prairies (see OR 126W: Fern Ridge Corridor Plan Biological Resources Technical Report).

Existing OR 126W Alignment

The No-Build Alternative scored high on both of the biological resources-related criteria. The criteria are met because there would be no new impacts as a result of the No-Build Alternative.

The TSM Alternative scored high on both of the biological-related criteria. The criteria may be met depending on the locations of new TSM facilities such as park-and-ride lots, transit stations, and pedestrian facilities.

The Spot Improvement Alternative (with and without Multi-use Path Design Option) may meet both of the biological-related criteria. The criteria may be met depending on the locations of spot improvements and the new multi-use path. This assumes that the multi-use path would only be constructed where impacts are avoidable, and would not extend the full alignment length.

The Three-Lane Cross Section Alternative Causeway on Dike (Earth / Rock) does not meet either of the biological-related criteria. The widening of OR 126W would impact Fern Ridge Lake and would likely impact other environmentally sensitive habitats.

The Causeway on Piers Design Option for the Three-Lane Cross Section Alternative partially meets the "Avoid and minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion. It would result in short-term construction-related impacts to Fern Ridge Lake, but would minimize operational impacts. The Causeway on Piers Design Option would result in an overall long-term benefit to Fern Ridge Lake habitat, including improved passage for some wildlife and fish species. Construction-related impacts associated with this design option would be mitigated by the overall long-term benefits. The "Avoid and minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion would not be met since the remaining alignment would match the Three-Lane Cross Section Causeway on Dike (Earth / Rock) Alternative.

The Four-Lane Cross Section Causeway on Dike (Earth / Rock) Alternative does not meet either of the biological-related criteria. The widening of OR 126W would impact Fern Ridge Lake and would likely impact other environmentally sensitive habitats.

The Causeway on Piers Design Option for the Four-Lane Cross Section Alternative partially meets the "Avoid and minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion. It would result in short-term construction-related impacts to Fern Ridge Lake, but would minimize operational impacts. The Causeway on Piers Design Option would result in an overall long-term benefit to Fern Ridge Lake habitat, including improved passage for some wildlife and fish species. Construction-related impacts associated with this design option would be mitigated by the overall long-term benefits. The "Avoid and minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion would not be met since the remaining alignment would match the Four-Lane Cross Section Alternative.

Southern Route along Perkins and Cantrell Roads

The Two-Lane Cross Section with Intersection Turning Lanes meets the "Avoid and minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion because the southern route OR 126W is located away from Fern Ridge Lake and no direct impacts would be anticipated. The "Avoid and minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion may be met if facility improvement segments are limited to non-sensitive natural areas.

7.3.3. Historic Resources

One criterion was used to screen alternatives for potential effects to historic resources:

- Avoid and minimize adverse permanent and temporary impacts to identified historic resources?

Scoring was based on the following measures:
- 3 = Anticipated impacts to historic resources would be low (most desirable outcome)
- 2 = Anticipated impacts to historic resources would be moderate
- 1 = Anticipated impacts to historic resources would be high (least desirable outcome)

Existing OR 126W Alignment

The No-Build Alternative meets or exceeds the historic resources-related criterion and is scored a 3, low risk. The criterion is met because there would be no new construction and therefore no impacts as a result of the No-Build Alternative.

The TSM Alternative may meet the historic-related criterion. The criterion may be met depending on the locations of new TSM facilities such as park-and-ride lots, transit stations, and pedestrian facilities. This alternative is scored a 3, low risk, assuming that new TSM facilities would be constructed in a manner to avoid impacts to historic resources.

The Spot Improvement Alternative (without the Multi-use Path) may meet the historic resources-related criterion. The criterion may be met depending on the locations of spot improvements. This alternative is scored a 3, low risk, assuming that spot improvements would be constructed in a manner to avoid impacts to historic resources.

The Spot Improvement Alternative with the Multi-Use Path Design Option may meet the historic resources-related criterion. The criterion may be met depending on the locations of spot improvements and the new multi-use path. This assumes that the multi-use path would only be constructed where impacts are avoidable, and would not extend the full alignment length. This alternative is scored a 2, moderate risk, assuming that improvements would be constructed in a manner to avoid or minimize impacts to historic resources but acknowledging that constructing a multi-modal path along the existing OR 126W alignment has some possibility of affecting historic resources.

The Three-Lane Cross Section Alternative (both the Primary Dike (Earth / Rock) Alternative and Piers Design Option) are scored a 2, moderate risk. The widening of OR 126W could impact historic resources.

The Four-Lane Cross Section Alternative (both the Primary Dike (Earth / Rock) Alternative and Piers Design Option) are scored a 2, moderate risk for the historic resources-related criteria. The widening of OR 126W to four lanes has a greater probability of affecting historic resources than the Three-Lane Alternative.

Southern Route along Perkins and Cantrell Roads

The Two-Lane Cross Section with Intersection Turning Lanes Alternative is scored a 2, moderate risk, for the historic resources related-criterion because a number of potential historic resources are located adjacent to the southern route and there is some risk that widening could affect these historic resources. This assumes that efforts would be made to avoid and minimize impacts to historic resources.

7.3.4. Transportation

Alternatives were screened using the following transportation related criteria:

- Reduce potential conflict points such as intersections and driveways
- Improve pedestrian safety and accessibility
- Improve bicycle safety and accessibility
- Improve overall traffic safety
- Improve east/west vehicle capacity
- Improve mobility along corridor, including freight
- Support public transit service
- Improve emergency vehicle response time
- Minimize impacts to the railroad for freight movements
- Strive to meet ODOT mobility standards
- Minimize impacts to the railroad that limit opportunities for future rail transit

Using a 3-point scale, alternatives that better met the criteria or had a lower probability of impacts received a higher score. Alternatives receiving a lower score were not anticipated to meet the criteria or had a higher probability of impacts.

Existing OR 126W Alignment

The No-Build Alternative does not meet the transportation-related criteria because there would be no change in facilities or programs that would improve safety or relieve congestion in the corridor.

Although the TSM Alternative optimizes the management of the current infrastructure it would not meet the transportation-related criteria. This alternative focuses exclusively on low-cost, easy to implement improvements or policies. It could be considered as a short-term solution that results in immediate, visible improvements on the roadway. Many of its concepts could also be included in the other alternatives. TSM strategies include improved illumination and delineation, advance intersection sign, speed feedback signs, alternate mobility standards to improve the safety and efficiency of the roadway, increasing transit ridership through the introduction of park-and-ride lots and enhanced ride-share programs, and access management strategies and alternative mobility standards to aid in improving the functionality of the roadway.

The Spot Improvements Alternative (without the Multi-use Path) does not meet the transportation-related criteria. This alternative focuses on safety improvements for all users throughout the corridor. There are mobility benefits associated with increased safety on the roadway. This alternative could potentially provide left and right turn lanes and/or traffic signal installations at

Huston, Ellmaker, Central, and Ken Nielsen Roads. Other spot improvements would accommodate transit and emergency services. Many of these improvements may also be included in the other alternatives.

The Spot Improvements Alternative with the Multi-use Path Design Option meets the transportation-related criteria. This alternative is the same as the Spot Improvements Alternative described above except that it includes the multi-use path for other modes of transportation to improve safety by separating vehicular and non-vehicular traffic. This alternative could serve as an interim solution or a long-term solution.

The Three-Lane Cross Section Causeway on Dike (Earth / Rock) Alternative received the fifth highest score because it provides necessary mobility improvements by increasing the OR 126W footprint to accommodate an additional travel lane as well as wider shoulders or bike lanes. The introduction of a third lane provides more capacity on the roadway, and this lane could be used as a left turn lane, alternating passing lane, or reversible traffic lane. System management and spot improvements could also be implemented as applicable. This alternative would likely require the acquisition of land to the north and/or south of OR 126W.

This Design Option for the Three-Lane Cross Section Alternative would construct a single-level structure on piers over environmentally sensitive areas. Pedestrian and bicycle facilities could be provided on this roadway, or they could be separated from vehicular travel. This alternative scored high in meeting transportation-related criteria and scored better than the primary dike alternative by potentially having less impact on environmentally sensitive areas.

The Four-Lane Cross Section Causeway on Dike (Earth / Rock) Alternative received the second highest overall score because it provides for significant mobility improvements with a larger footprint for OR 126W. The Design Option for the Four-Lane Cross Section Alternative, which received the highest overall score of all of the alternatives considered, would construct a single-level structure on piers over environmentally sensitive areas and would likely have less impact on these areas.

Both the Four-Lane Cross Section Causeway on Dike (Earth / Rock) Alternative and its Design Option would likely require additional right-of-way. The expanded roadway would include center left-turn lanes in place of the median at applicable intersections. To the east of the study corridor, the City of Eugene has identified a project for the upgrade of West 11th Avenue to a five-lane urban arterial with bike lanes; therefore, expansion of OR 126W is consistent with other projects in the area. This alternative and its design option scored the highest in meeting transportation-related criteria.

Southern Route along Perkins and Cantrell Roads

The Two -Lane Cross Section with Intersection Turning Lanes Alternative provides an alternate route for motor vehicles and/or multi-modal users to the south of OR 126W. OR 126W would retain its two-lane cross-section, and current alignment. The alternate route would have two lanes with three lanes at intersections for turning movements and would improve Perkins Road and Cantrell Road. This alternate route would also include bike lanes. Because this alternative does not significantly improve safety and congestion on OR 126W, it generally received lower scores for the transportation-related criteria.

7.3.5. Wetlands and Water Resources

Each of the alternatives was evaluated for the wetlands and water resources-related criteria. Identified criteria applicable to wetlands and water resources:

- Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake; and
- Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas.

Measures for both criteria are identified as "fewest estimated likely adverse impacts". A low level of anticipated impacts was scored a 3, a moderate level was scored a 2, and a high level of anticipated impacts was scored a 1.

Fern Ridge Lake is a jurisdictional water of the state and water of the U.S. Other environmentally sensitive natural resource areas include additional potentially jurisdictional waters include wetlands, ditches, Coyote Creek, and other unnamed streams and drainages. Other wetland and water resource-related environmentally sensitive natural resource areas include the Coyote Prairie North Mitigation Bank along Cantrell Road.

Existing OR 126W Alignment

The No-Build Alternative meets or exceeds both of the wetlands and water resources-related criteria. The "Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion is met because there would be no new impacts to Fern Ridge Lake as a result of the No-Build Alternative. The "Avoid and minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion is also met because there would be no new impacts to other environmentally sensitive natural areas under the No-Build Alternative.

The TSM Alternative may meet both of the wetlands and water resources-related criteria. The "Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion may be met depending on the locations of new TSM facilities such as park-and-ride lots, transit stations, and pedestrian facilities. It is likely that such new facilities could be sited without impacts to Fern Ridge Lake. The "Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion may also be met depending on the locations of new TSM facilities.

The Spot Improvement (Multi-use Path Design Option) Alternative may meet both of the wetlands and water resource-related criteria. The "Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion may be met because it is assumed that improvements (including the multi-use path) would only be constructed where direct impact to Fern Ridge Lake could be avoided. The "Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion may be met if facility improvement segments are located where wetland and water resource impacts can be avoided. This assumes that the multi-use path would only be constructed where impacts are avoidable, and would not extend the full alignment length.

The Three-Lane Cross Section Causeway on Dike (Earth / Rock) Alternative does not meet either of the wetlands and water resources-related criteria. The "Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion is not met because widening OR 126W would impact Fern Ridge Lake. The "Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion would not be met because widening OR 126W would likely impact environmentally sensitive wetland and water resource areas such as remnant wet prairie habitat and other wetland and aquatic habitats.

The Causeway on Piers Design Option for the Three-Lane Cross Section Alternative partially meets the "Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion. It would result in short-term construction-related impacts to Fern Ridge Lake, but would minimize operational impacts. The Causeway on Piers Design Option would result in an overall long-term benefit to Fern Ridge Lake habitat, including net removal of fill material and providing improved hydrologic connectivity between the north and south sides of the roadway. Construction-related impacts associated with this design option would be mitigated by the net removal of fill material and overall long-term benefits. The "Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion would not be met since the remaining alignment would match the Three-Lane Cross Section Alternative.

The Four-Lane Cross Section Causeway on Dike (Earth / Rock) Alternative does not meet either of the wetlands and water resources-related criteria. The "Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion is not met because widening OR 126W would impact Fern Ridge Lake. The "Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion would not be met because widening OR 126W would likely impact environmentally sensitive wetland and water resource areas such as remnant wet prairie habitat, riparian forest habitat, and other wetland and aquatic habitats.

The Causeway on Piers Design Option for the Four-Lane Cross Section Alternative partially meets the "Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion. It would result in short-term construction-related impacts to Fern Ridge Lake, but would minimize operational impacts. The Causeway on Piers Design Option would result in an overall long-term benefit to Fern Ridge Lake habitat, including net removal of fill material and providing improved hydrologic connectivity between the north and south sides of the roadway. Construction-related impacts associated with this Design Option would be mitigated by the net removal of fill material and overall long-term benefits. The "Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion would not be met since the remaining alignment would match the Four-Lane Cross Section Alternative.

Southern Route along Perkins and Cantrell Roads

The Two-Lane Cross Section with Intersection Turning Lanes Alternative meets the "Avoid or minimize adverse permanent and temporary impacts to Fern Ridge Lake" criterion because the southern route is located away from Fern Ridge Lake and no direct impacts would be anticipated. Indirect impacts to Fern Ridge Lake would likely be avoided by the use of Best Management Practices. The "Avoid or minimize adverse permanent and temporary impacts to other environmentally sensitive natural resource areas" criterion would not be met because widening the existing roadways would likely impact environmentally sensitive wetland and water resource areas such as remnant wet prairie habitat, riparian forest habitat, and other wetland and aquatic habitats.

7.4. Summary

The criteria evaluation indicates the series of trade-offs occurring between transportation improvements and potential environmental effects. Facilities adding vehicular capacity score well in the traffic/operational categories but may have a higher probability of environmental impacts. The less extensive improvement proposals generally score in the moderate range—indicating a moderate probability of meeting traffic objectives as well as a moderate probability of environmental impacts. The extent of potential impacts would be analyzed in the future NEPA stage for those alternatives recommended for further consideration.

7.5. Alternatives Recommended for Further Consideration

Alternatives that have the best potential to meet the project's goals and objectives are recommended for further consideration in the study's next tier of screening:

- OR 126W Four-Lane Cross-Section (primary alternative plus design options)
- OR 126W Three-Lane Cross-Section (primary alternative plus design options)
- OR 126W Spot Improvements with the Multi-Use Path Design Option
- No-Build Alternative

Consideration should be given to phasing improvements to best meet the corridor transportation needs. It is also recommended that TSM strategies be considered to supplement the possible capital improvements. Implementation of TSM elements can help ensure more efficient use of transportation investments in the long term and should be considered along with a package of capital improvements. As part of a phased approach, the near term solution could involve spot improvements on OR 126W and, as funding allows, construct the multi-use path and complete three-lane or four-lane highway improvements over time. The likelihood that any one of these individual strategies or a combination thereof are able to address corridor transportation issues will be analyzed and further detailed in a recommendation at the conclusion of the Corridor Plan. The No-Build Alternative is recommended for advancement as it must be considered as a comparative metric to the build alternatives throughout the project development and NEPA documentation process.

7.6. Alternatives Recommended for Elimination from Further Consideration

Three alternatives are recommended for elimination from further consideration because they do not adequately address the project's draft goals and objectives, potentially causing environmental impacts that outweigh the potential transportation benefit. The three alternatives recommended for elimination scored at the low end of the criteria evaluation.

The TSM Alternative as a stand-alone alternative does not adequately address the safety and operational problems in the corridor. As discussed in Section 7.5, TSM strategies better serve as a supplement to other capital investments and should be considered in that capacity. Similarly, on its own the Spot Improvements to OR 126W Alternative does not meet the project's draft goals and objectives, primarily scoring poorly because it provides no continuous multi-modal improvements along the highway alignment. It too is recommended for elimination. Note that Spot Improvements in combination with the Multi-Use Path Design Option is recommended for further consideration and may be combined with other possible design improvements.

Lastly, the Two-Lane with Intersection Turning Lanes Southern Route Alternative would have a moderate affect on OR 126W mobility, but would fail to address safety conditions in the highway corridor. This is cause for elimination. The alternative is also not consistent with applicable transportation plans and therefore rated at the low end of the alternatives scoring.

8. Outreach Program

For this project, ODOT outlined a thorough public involvement outreach program to actively engage the public and key stakeholders (Appendix E: Public Involvement Plan). Through the course of this project, ODOT has taken the time to understand multiple points of view, obtain fresh ideas and resource materials, learn of others to include, and encourage participation from the community. The outreach for this project has been based on the following principles:

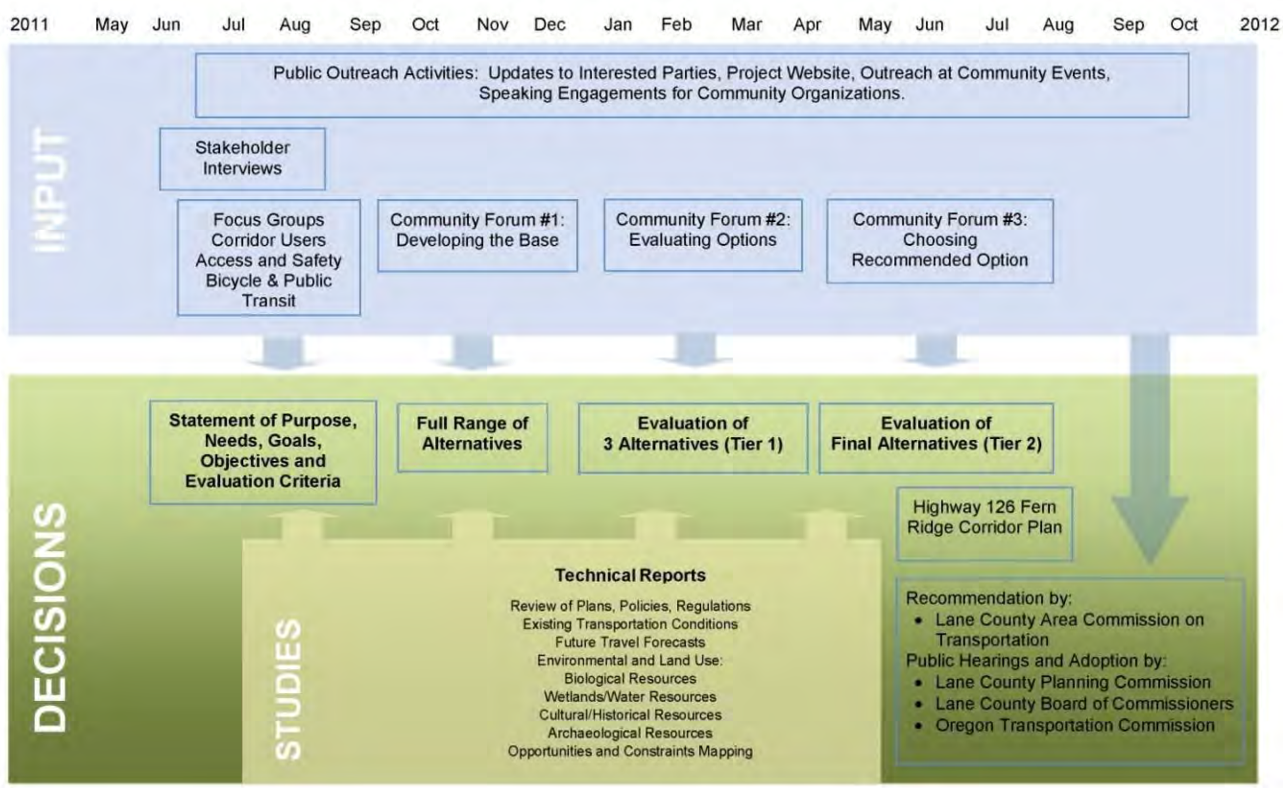
- Understand the needs and desires of project participants;
- Encourage open and honest communication;
- Be proactive by identifying stakeholder issues and concerns early and throughout the process;
- Actively engage stakeholders in decision-making at the appropriate times, where diverse opinions are expected and welcomed

- Tailor information appropriately for each audience;
- Provide sincere and continuous opportunities for input; and
- Deliver complete and accurate information in a timely manner.

8.1. Input Process

Success of this project depends on input from individuals and groups with a major stake in the outcome of the project. The input process has included individual interviews, small group meetings, large public meetings, regular meetings with decision makers, and informal conversations with the public which are described in the following sections. Figure 8.1 shows how the outreach efforts are coordinated with project decisions.

Figure 8.1. Public Involvement Process



8.2. Project Management Team

A PMT was assembled to guide the planning process and review project developments at key milestones. Key team members include:

- Dan Fricke, Oregon Department of Transportation, Project Manager
- Lisa Nell, Oregon Department of Transportation

- Savannah Crawford, Oregon Department of Transportation
- Ric Ingham, City of Veneta
- Lydia McKinney, Lane County Transportation
- Celia Barry, Lane County Transportation
- Tom Schwetz, Lane Transit District
- Scott Mansur, DKS Associates
- Peter Coffey, DKS Associates

Key milestones addressed by the PMT include:
- Project process and schedule
- Stakeholder identification
- Project Problem Statement
- Project Purpose and Need Statement
- Project Goals and Objectives
- Evaluation Criteria

8.3. Stakeholder

8.3.1. Stakeholders

Stakeholders were identified as individuals or organizations that are involved in the project, or whose interests may be affected as a result of project execution or completion. The project team brainstormed an initial list of potential stakeholders, and then shared that list with community leaders to make sure that all stakeholders were identified (see 1.3.2 for the initial list of stakeholders). The project team then interviewed individuals who represented stakeholder interests, and again asked if there were additional stakeholders that should be identified and contacted. The result was an extensive list of names, organizations, and contact information which was compiled into a spreadsheet that formed the basis of the interested parties list of 400.

Public agencies were considered in the stakeholder process, and all agencies contacted in relation to interviews or meeting invitations were helpful and interested in the project. All public agencies contacted chose to be included in the interested parties list.

8.3.2. Interviews

Between May and August 2011, 40 stakeholder interviews were conducted to help identify key project issues and provide focus for the specialized input groups. The goals for the interview phase were to:
- Introduce the project to key people with accurate information
- Identify initial opinions about the project
- Listen for alternative insights and ideas
- Receive input on lessons learned by others in previous work in this corridor

- Introduce the concept of a draft Purpose and Need, and Goals and Objectives, statement and draft screening criteria
- Identify ways to communicate with various constituencies (their newsletters, meeting times, events)
- Develop an Interested Parties List for future communication and invitations to meetings
- Honor the core values of the International Association for Public Participation (IAP2), particularly value #5: "Seek input from participants in designing how they participate"
- Build trust in our team through personal contact and conversation

A major task at the outset of the project was to identify the roles and relationships between the many stakeholders and agencies potentially affected by this project. The PMT used the following list as a preliminary guide for interviews.

- Residents of the area: property owners and renters
- Current and potential businesses
- Freight haulers
- Commuters
- Tourists
- Wineries
- Veneta Organizations
- Oregon Country Fair
- Bicyclists
- Lane Economic Development Commission
- West Eugene Collaborative
- Transportation advocates
- Land use advocates
- Willamette Resources and Education Network
- Native Plant Society
- Audubon Society, Local Chapter
- Long Tom Watershed Council
- Elected Officials: City, County and State
- Public Agencies (see below for list)

In addition, the project team contacted the following agencies to ask if they would like to be included on the interested parties list. Many representatives these agencies were also interviewed at the outset of the project:

- US Army Corps of Engineers
- Bureau of Land Management
- Confederated Tribes of the Grand Ronde
- Oregon Department of Fish and Wildlife
- Port of Coos Bay
- Lane Metro Partnership

- Fern Ridge School District
- Lane Transit District
- Eugene Water and Electric Board
- Lane County
- City of Eugene
- City of Veneta
- City of Florence

The vast majority of individuals contacted for interviews were positive and responsive. A few people said that the project was outside their area of focus, and only two non-profit organizations did not respond to numerous calls and emails.

The interview process helped to identify additional stakeholders. A list of individuals and organizations who were interviewed is included as in the Interview Summary, and a comprehensive spreadsheet of 400 stakeholders representing over 100 agencies, businesses, and organizations is available upon request (Appendix F: Stakeholder Database). Information in the spreadsheet includes name, organization, contact information, if they have submitted a public comment, and what meetings they were invited to or attended.

Key issues identified through the interviews include:
- Addressing the needs of all Corridor users
- Improving safety and accessibility
- Support enhancing economic viability
- Enhancing environmental conditions
- Minimizing impacts to property owners, residents and businesses along Corridor
- Improving multi-modal options and access

Based on the stakeholder interviews, four specialized input groups were identified. Because safety was identified as a key concern in the interviews, representatives from the Western Lane Ambulance District and the Siuslaw Valley Fire and Rescue were invited to a focus group (in addition, the Lane Fire District #1 staff have provided input at the Community Forums). Each of the specialized input groups would focus on one of the following topics:
- Corridor users that travel through the corridor, such as commuters, tourists, and freight truck drivers
- Multi-modal users and planners for the corridor, such as bicycle advocates and transit service providers
- Non-profit and agency organizations with environmental programs or regulatory authority in the corridor, such as conservation groups and federal and state natural resource agencies
- People who live and / or work along the corridor, such as residents and business owners

8.4. Stakeholder Focus Groups

Focus group discussions were held with the four specialized input groups:

- Input Group #1: Moving Through the Corridor (6/28/2011)
- Input Group #2: Multi-Modal Transportation & Connectivity (7/26/2011)
- Input Group #3: An Environmental Review of Project Elements (9/22/2011)
- Input Group #4: Residents and Businesses in the Study Area (9/14/2011)

At each of the focus group meetings, the project team shared project information. Focus group participants were asked to:

- Provide feedback on the project's draft Purpose and Need and its goals and objectives.
- Provide feedback on the project corridor's facility needs and deficiencies.
- Identify creative solutions to core challenges to addressing safety and congestion issues in the corridor.
- Discuss limitations and tradeoffs to addressing safety and congestion issues in the corridor.

Participation in the focus groups is summarized in Table 8.1.

Table 8.1. Focus Group Participation

Focus Group	Number of People Contacted to Participate in Focus Group	Actual Number of People Participating in Focus Group
Corridor users	55	14
Multi-modal transportation	27	15
Environment	32	12
Residents & businesses in study area	594	49

All of the individuals and representatives of public agencies who were invited but could not attend chose to continue tracking the project by receiving regular project e-updates. Key issues and solutions identified in the focus groups are summarized in Table 8.2.

Table 8.2. Input Summary from Focus Groups

Input Group	Key Issues
#1: Moving Through the Corridor (6/28/2011)	• Consider critical public safety issues first • Improve safety and accessibility for recreation users • Improve safety for bicyclists • Seek opportunities to improve habitat along Corridor improvements • Mitigation strategies are essential • Coordinate this project with other community plans and planned roadway improvement projects

Input Group	Key Issues
#2: Multi-Modal Transportation & Connectivity (7/26/2011)	• Coordinate this project planning with previous studies and plans • Address cost issues early in project process • Improve bicycle connectivity • Consider opportunities for improved bus service and high capacity transit • Improve safety and accessibility for recreation users • Improve safety for bicyclists
#3: An Environmental Review of Project Elements (9/22/2011)	• Improvement opportunities exist on Ken Neilsen Rd • Use a comprehensive sub-area approach to compensatory opportunities • Coordinate this project's improvements with improvements from other projects • Improve connectivity opportunities for commuters, including Bus Rapid Transit • Consider enhancements for avian habitat
#4: Residents and Businesses in the Study Area (9/14/2011)	• Widen to 4 lanes • Consider environmental impacts • Consider elevated structure • Concerns about tax implications and impacts to corridor businesses • Safety is a key community concern • Decision-making process • Process to keep community informed

8.5. Community Forums

The outreach program includes holding three community forums to present project progress information and ask for public feedback at key points in the project.

Community Forum #1: Brainstorm the Options

On October 6, 2011, the first of three community forums was held. At this first community forum, the project team presented an overview of the project, opportunities and constraints information and possible project options. Participants provided input on the project's Problem Statement, Purpose and Need Statement, goals and objectives, and broad range of alternatives and design options.

Invitations to the community forum were emailed to 171 interested parties. Additional recruitment included advertising in the Fern Ridge Review and the Register-Guard, notice on Fire Station #1's Reader Board, two separate inserts in Veneta utility bills, announcements in newsletters for 42 organizations, posting on local community calendars and phone calls to organizations and individuals. Sixty-seven people attended this first community forum. Comments from participants were generally positive. Most common topics that people mentioned (in order of most frequently mentioned) were:

- Safety
- Bike path
- Short term improvements
- Rail (passenger, freight)

A handout asking two specific questions was provided to meeting participants:

- What alternatives do you prefer?
- What alternatives do you prefer that are not on the list?

Responses were received from 49 participants who favored a mix of alternatives. Participants were able to choose more than one alternative, and the most common responses to the first question ("What alternatives do you prefer?") are summarized in Table 8.3.

Table 8.3. Response to Handout Question "What alternatives do you prefer?"

Alternative	No. of Responses
Multi-Use Path	32
4 Lanes	25
Spot Improvements	19
Transportation System Management	12
3 Lanes	4

In response to the second question ("What alternatives do you prefer that are not on the list?"), most participants noted specific improvements that were a component of the listed alternatives. New ideas that were not included in the alternatives were:

- Passenger rail from Eugene to Veneta
- Lower speed limit
- Stop lights/Traffic signals
- Couplet (Utilizing both OR 126W and Cantrell)

Community Forum #2: Evaluate the Options (January 2012)

At this forum, the results of the screening and evaluation process will be presented. The public will be asked for input on project alternatives and design options recommended for further study.

Community Forum #3: Choose and Option (May 2012)

At this final forum, the results of the second evaluation will be presented as well as the recommended transportation improvement solutions for the corridor. The public will be asked for their feedback including which options they prefer.

8.6. Display Outreach and Speaking Engagements

To generate interest in the community forums and educate residents about the project, the team developed display boards and conducted "street-corner" style outreach at the Veneta Harvest Festival, Ray's Market in Veneta, and Jerry's Home Improvement Center in West Eugene. The project team also responded to requests for presentations by six local organizations. These organizations and the number of people attending the presentations in summarized in Table 8.4.

Table 8.4. Summary of Speaking Engagements

Organization	Number of Attendees
Wetlands Education and Resource Center Bd.	8
Eugene Chamber of Commerce: Government Affairs	18
Fern Ridge Rotary	12
Kiwanis of Fern Ridge	19
Veneta Chamber of Commerce	30
Veneta City Council	10

8.7. Email Updates

Since the project's initiation, four project updates have been emailed to 379 interested parties(see Appendix F for a current list of contacts):

- 4/6/11 – Project Introduction
- 9/15/11 – Community Forum Invitation
- 10/19/11 – Thank you to focus group participants
- 11/14/11 – Community Forum Summary

8.8. Project Web Site

In addition to attending community events, members of the public can stay up to date on the project by following the project's website at www.highway126.org. This site provides the reader an overview of the project, published technical documents, public involvement meeting materials, summaries of comments heard, and ways to provide written feedback.

8.9. Decision-Makers

The Project Management Team will consider community input, data about transportation safety and needs, and technical studies in making their recommendations for transportation improvement solutions in the corridor. Four public bodies will weigh in on the final decision:

- Lane County Planning Commission
- Lane County Area Commission on Transportation

- Lane County Board of Commissioners
- Oregon Transportation Commission

8.10. Summary of Stakeholder Input

Between May and November 2011, the project has received input from over 270 stakeholders, including participants from the interviews, focus groups, meetings, and public comments received to date. This input is summarized below.

General Comments

- Project is on target with Purpose, Needs, Goals, and Objectives.
- Keep recreation and non-motor commuter needs as part of the forefront.
- Improve the road and improve the environment with this project.
- Know what else is going on and make logical connections with others:
  - Railroad
  - EWEB's water pipeline to Veneta
  - Eugene bike path
  - LTD plans & services
  - USACE, ODF&W, USFWS

Do the minimal things now to address safety.

The number of close calls, near misses, and clenched fists are not reflected in the data. The project team encounters someone personally related to the fatality statistics in almost every meeting. Examples of minimal ideas to consider include centerline reflectors, striping, lighting, rumble strips, and bus stop safety improvements.

In the mid-term, and as soon as possible, people would like to see:

- Passing and turn lanes
- A separated bike/ped path that connects to Eugene system
- More frequent, bike-friendly buses.

There is strong disagreement on both traffic lights and speed limits as remedies.

In the long term, people would like to see the previous improvements plus:

- Widening the highway to 3-4 lanes (more prefer 4 lanes so far).
- A southern alignment for bike/ped path and alternate route at slower speed limits.
- If a 4-lane option is preferred, project should be clear how it increases safety, as well as capacity.

9. Recommended Alternatives and Next Steps

As the Corridor Plan study moves forward, the recommended alternatives will be considered in a second tier of screening to enable better understanding of potential project solutions. This section restates the alternatives recommended for further consideration and outlines the next steps.

9.1. Recommended Alternatives

Alternatives recommended for advancement include consideration of hybrid strategies to best meet the corridor transportation needs. The following alternatives are recommended:

- OR 126W Four-Lane Cross Section (both the primary alternative and the design option)
- OR 126W Three-Lane Cross Section (both the primary alternative and the design option)
- OR 126W Spot Improvements with the Multi-Use Path Design Option
- No-Build Alternative

It is also recommended that TSM strategies be considered to supplement the possible capital improvements. Implementation of TSM elements can help ensure more efficient use of transportation investments in the long term and should be considered along with the package of capital improvements. As part of a phased approach, the near term solution could involve spot improvements on OR 126W and, as funding allows, the multi-use path with long term construction of the selected highway widening improvements. The likelihood that any one of these individual strategies or a combination thereof are able to address corridor transportation issues will be analyzed and further detailed in a recommendation at the conclusion of the Corridor Plan study. The No-Build Alternative is recommended for advancement as it must be considered as a comparative metric to the build alternatives throughout the project development and NEPA documentation process.

9.2. Next Steps

The remaining alternatives will be taken through a more rigorous Tier 2 screening process. Concept design drawings will be developed for these alternatives with sufficient detail to allow for an evaluation of each alternative against applicable ODOT and County design standards. These sketch level drawings will incorporate Practical Design[6] principles to address identified deficiencies and/or needs and will provide the basis for planning-level cost estimates for construction and right-of-way acquisition. This will include preliminary horizontal alignments so that constraints and key project issues can be identified.

[6] Practical Design is the philosophy that acknowledges funding limitations and tries to identify reasonably-sized projects that improve safety and operational conditions over the existing situation.

Based on the updated description of the alternatives advanced into the Tier 2 screening, the evaluation process, recommendations, and priorities, the team will use the evaluation criteria to narrow the remaining alternatives to a preferred alternative. A plan will be developed with priorities for implementing transportation improvements and determining short, medium, and long-range actions from a list of identified measures.

A Corridor Plan will be prepared. The Plan will document the findings of the work performed and will include a summary of the existing and future No-Build conditions, environmental background research, summary of the concepts considered (advanced and dismissed), and the public outreach program. Once the PMT concurs with the Corridor Plan, the Plan will be presented to decision-makers. Upon Plan approval, comprehensive plan amendment applications will be prepared, as necessary, for use by local agency staff.

The results of the Corridor Plan will also be used by ODOT to identify the type of NEPA Environmental Documentation (Class 1, 2 or 3) ultimately required to select a preferred alternative. The Corridor Plan will provide information that will support and facilitate development of NEPA documentation in the project's next phase. It is important to note that during the NEPA documentation phase of the project, modifications could be made to project limits. If project limits are extended, ODOT would need to consider agency coordination, regulations and environmental conditions not considered in this screening level evaluation.

10. PERMITS AND APPROVALS

The potential improvements and activities of any action will determine the need for specific permits. In Table 10.1, permits associated with specific, protected or regulated resources (e.g., endangered species, floodplains, or wetlands) are labeled as "No" if the resource is not present in the project study area and would not require a permit, and "Yes" or "Possible" if the resource is present and may or would likely require a permit. The project should be designed, to the extent practicable, to avoid and minimize impacts to natural and cultural resources.

Table 10.1. Possible Permits Required

Type of Permit/Approval	Permit Necessary
Access Permit or Temporary Easement (will not be known until Design stage)	Possible
Endangered Species Act Permits	Possible
Floodplain Permits	Yes
Corps of Engineers Permits (Section 10 and/ or 404)	Yes
DSL Fill and Removal Permits	Yes
Historical/Cultural Resources Approval	Yes
Air Quality (a permit will not be procured for this)	Possible
Land Use Action(s)	Possible
Magnuson-Stevens Act Clearance	Yes
Materials Source Permit (will not be known until design stage)	Yes
Migratory Bird Treaty Act and Bald Eagle Protection Act	Yes
Noise	Yes
NPDES 1200-CA and MS4 Permits – 401 Water Quality	Yes
ODFW Incidental Take Permit	Possible
Section 4(f) & 6(f) Clearance	Yes
Solid Waste Letter Authorization Permit	Possible
Stormwater Permit (covered under ODOT's program-wide NPDES stormwater permit)	Yes
UST decommissioning Notification	Possible
Utility Permits (will not be known until design stage)	Possible
Wastewater Permit (covered under ODOT's program-wide NPDES stormwater permit)	No

11. Glossary of Acronyms, Abbreviations, and Terms

ADT: Average Daily Traffic: The total traffic volume during a given period (1-365 days) divided by the number of days in that period

Area of potential effect (APE): The study area defined for identifying and assessing historical and archaeological resources. This area may not coincide precisely with the area used to assess project impacts on other resources.

Best management practice: A process or activity that is generally acknowledged to be most cost-effective at achieving a given outcome.

CO: Carbon monoxide

Cultural resources: A term that collectively refers to historical and archaeological resources. Cultural resources are broadly divided into the historic built environment (buildings, structures and objects), archaeological sites, and defined features or areas that are important to maintaining cultural identity.

Cumulative effect (impact): An impact from a project that is created when impacts from other past, present, and reasonably foreseeable future actions are added together. Cumulative effects can result from individually minor but collectively substantial actions that take place over a period of time.

dB: Decibel

Direct effects: Effects that are caused by a project action and that occur at the same time and place as the action.

FHWA: Federal Highway Administration

Floodplain: A flat or nearly flat area adjacent to a stream or river that is subject to periodic flooding during high stream/river flows.

Indirect effects: Effects that are caused by an action but that are later in time or farther removed in distance, but that are still reasonably foreseeable effects of the action. Indirect effects may include induced growth; changes in land use or population patterns; and effects on air, water, and ecosystems.

Multi-use path: A path that accommodates more than one mode of travel or type of use. In this study, a multi-use path is typically a path that accommodates both bicyclists and pedestrians.

National Register of Historic Places (National Register): This official list of historic places worthy of preservation is part of the National Park Service's program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archaeological resources as part of our national heritage. The National Register and the efforts of the National Park Service to develop and maintain the Register are authorized by the National Historic Preservation Act of 1966.

National Environmental Policy Act (NEPA): Enacted in 1970, the National Environmental Policy Act requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. To meet this requirement, federal agencies prepare a detailed statement known as an Environmental Impact Statement (EIS). The U.S. Environmental Protection Agency (EPA) reviews and comments on EISs prepared by other federal agencies, maintains a national filing system for all EISs, and assures that its own actions comply with NEPA.

No-Build Alternative: The alternative under which the proposed project will *not* be built. The No-Build Alternative is carried through the NEPA process and analyzed for effects as a way to formally compare the effects of the proposed project's build alternatives with what is likely to happen if none of these project alternatives is constructed. *Note* that "no-build" does *not* mean "do nothing." The No-Build Alternative analysis takes into account other projects that are already planned and that are reasonably certain to be constructed.

OAR: Oregon Administrative Rule - A rule written by an affected government agency, intended to clarify the intent of an ORS

ODFW: Oregon Department of Fish and Wildlife, jointly manages Fish Passage (Salmon) program with ODOT

ODOT: Oregon Department of Transportation.

OHP: Oregon Highway Plan

ORS: Oregon Revised Statute: The laws that govern the state of Oregon, passed by the legislature and signed by the Governor

Oregon Transportation Plan: The purpose of the Oregon Transportation Plan (OTP) is to guide the development of a safe, convenient and efficient transportation system which promotes economic prosperity and livability for all Oregonians. The OTP establishes four goals for Oregon's future transportation system - characteristics of the system, livability, economic development, and implementation.

Purpose and Need: A formal statement of the objective(s) of the proposed project (Purpose) and the problem(s) that construction of the project is intended to solve (Need). The Purpose and Need Statement is developed early in the project planning stage, and serves as a guideline for future project efforts. For example, in evaluating alternatives, any alternative that does not meet the project's purpose and need will be dropped from consideration.

Right of Way: A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

Section 106: Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies consider the effects of their undertakings on historic resources. This includes identifying any such resources—historic properties, buildings, structures, etc.—that could be affected by the project, assessing the possible adverse effects of the project on these resources, and finding ways to avoid, minimize, or mitigate these adverse effects.

Section 4(f): Section 4(f) of the U.S. Department of Transportation Act (49 USC 303) concerns transportation projects that would use or impact any significant public park, recreation area, wildlife or waterfowl refuge, or historic site. Section 4(f) applies to impacts caused by programs and policies undertaken by the USDOT.

Section 6(f): Section 6(f) of the Land and Water Conservation Fund Act is similar to Section 4(f) but concerns only those parks and recreational facilities that have received funding through this act. While Section 4(f) applies only to USDOT actions, Section 6(f) applies to impacts caused by programs and policies of any federal agency.

SHPO: Oregon State Historic Preservation Office

STA: Special Transportation Area

Threatened species: Any species that is vulnerable to extinction in the near future.

Total maximum daily load (TMDL): Under the U.S. Clean Water Act, the maximum amount of a given pollutant that a body of water can receive and still meet published water quality standards.

TSM: Transportation System Management; Action (e.g., ramp metering) or construction that controls or improves the movement of cars and trucks on the highway system or buses on the transit system. TSM also includes the coordination of the available transportation systems for more efficient operation.

UGB: Urban Growth Boundary; The area surrounding an incorporated city in which the city may legally expand its city limits

USACE: United States Army Corps of Engineers

USFWS: United States Fish and Wildlife Service

Visual quality: The subjective value of a viewer's visual experience of the landscape from a specific viewing point or area. Visual quality is composed of *vividness* – the memorability or distinctiveness of the landscape, *unity* - the degree to which the landscape is a harmonious mix of elements, and *intactness* – the degree to which the landscape is free of eyesores or elements that do not fit with the overall landscape.

VMT: Vehicle Miles of Travel: A unit to measure travel for private vehicles, such as automobiles, vans, pickup trucks, or motorcycles. Each mile traveled is counted as one vehicle mile regardless of the number of persons in the vehicle.

Waters of the State/U.S.: These are waters which are protected under the Clean Water Act and by state statute. They generally include all waters that are used or have been used for commerce, as well as associated waters such as adjacent wetlands or impounded waters. Any project activities that would impact such waters require permitting by the appropriate agency(ies).

Wetland: An area of land whose soil is either permanently or seasonally flooded or saturated with moisture. Wetlands include such areas a marshes, bogs, and swamps, and provide important ecological functions such as groundwater recharge.

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Appendix I. Highway 126 Fern Ridge Corridor Public Involvement

Public Involvement Plan for Highway 126 Facilities Project

Public Involvement Goals

Our outreach goals for this project are grounded in the principles identified by the International Association for Public Participation (IAP2). We will carefully evaluate how, when and why we ask for public input, and will be clear with all involved about the impact. We operate with respect for the intelligence of the public and take responsibility to make the information necessary for real involvement accessible to all. Thoughtful and active participation will result in stakeholders who provide input based on accurate information, understand the inherent trade-offs, and own the outcome.

This plan is being developed in close consultation with Agency staff and is based on the following guiding principles:

- Understand the needs and desires of project participants;
- Encourage open and honest communication;
- Be proactive by identifying issues and concerns early and throughout the process;
- Tailor information appropriately for each audience;
- Provide sincere and continuous opportunities for input; and
- Deliver complete and accurate information in a timely manner.

Basic Components of Public Involvement

1. **Develop and Implement Public Involvement Approach**
   - Interview key stakeholders: Collect input on approach, identified plans and key documents, and suggestions for problem statement, goals, and evaluation criteria.
   - Coordinate with agencies: Identify agencies with current and future regulatory authority, as well as agencies interested in an advisory role. Make sure public process follows NEPA guidelines.
   - Develop communications plan: Clarify roles and how information will be shared with stakeholders, agencies, and media.
   - Branding and identity development, including graphic images for public communications.
2. **Analyze Plans, Policies, Rules, Regulations and Standards**
   - Coordinate with relevant agencies to gather and highlight data and plans.
   - Facilitate communication between public input and Technical Advisory Committee throughout the project.

3. **Develop Statement of Problem, Needs, Goals, and Objectives (PNGO) & Evaluation Criteria**
   - Conduct comprehensive and focused outreach to stakeholders (property owners, businesses, advocacy groups, etc.) – filling any potential vacuum with accurate information and strong connections to project staff.
   - Collect feedback on draft documents from coordinating agencies and key stakeholders.
4. **Identify and Develop Transportation and Environmental Issues**
   - Address specific "hot button" issues identified in stakeholder interviews, collect and respond to public input.
5. **Develop and Screen Alternative Solutions**
   - Provide clear communication with relevant stakeholders for complete comprehension of issues, collect and respond to public input.
6. **Facility Plan Development**
   - Collect feedback on draft documents from coordinating agencies and stakeholders.

Level of Public Involvement for this Project

According to the ODOT Public Involvement Resource Guide, the Highway 126 project ranks "Tier 3": Complex repair, safety, replacement or modernization scope of work. Public involvement for this project will be comprehensive, on going, and target a variety of key stakeholders. The spectrum of public involvement will range from "inform" to "collaborate" according to the principles of IAP2 (see Appendix B).

The project will develop a comprehensive Interested Parties List that identifies individuals based on their connection to the project. All interested parties will receive education about the project and invitations to the public forums.

We will invite key stakeholders to participate in interviews and specialized input groups to help form the base goals and assumptions for the project. Individuals who represent key issues and communicate back to their constituencies on a regular basis will function as "advisors" and Cogito will consult with them in all phases of the project.

The NEPA process is based on developing a core "Purpose, Need, Goals, and Objectives Statement" (PNGO) and Criteria to evaluate alternatives. It is essential to gather significant and diverse input from key stakeholders on the PNGO, criteria, and draft alternatives. Allotted

Tools for Public Involvement

Step 1: Stakeholder Interviews help the Project team identify key issues and provide focus for the four specialized input groups. (Spring 2011)

Step 2: Specialized Input Groups identify creative solutions to core challenges and provide a venue for explaining limitations and tradeoffs, while connecting with key stakeholders in a small setting. (Summer 2011)

Step 3: Community Forums build on the knowledge gained from the interviews and input groups. They differ from the standard public meeting because they are advertised as "community events" with an engaging agenda, pleasant atmosphere, and amenities designed to maximize attendance and diversity, such as food, assisted listening devices, and Spanish translation. (Fall 2011/Winter 2011/Spring 2012)

Ongoing Activities

A timeline for the following activities will be detailed in the Communications Plan. Informed by the outcome of interviews, the Communications Plan describes an overall strategy and structure for interacting with the public.

- Public website: We will develop a public website for this project that is interesting, visually pleasing, and easy to navigate and understand. The website will include key project information, including a brief overview of the project, meeting dates, other public involvement opportunities, and links to other relevant sites, such as the County webpage. The website will provide the opportunity for public comments and questions and we will post responses to frequently asked questions on a monthly basis.
- "Intercepts" at community events: We will coordinate and staff a project display at community events, talking with the public about the project and encouraging them to attend the public forums.
- Media communications and tracking: Proactive communication with media will result in accurate coverage, wide distribution of information about the project, and increased participation at the community forums. We will develop a Communications Plan to guide the process.
- Newsletters and email updates: Our interested parties list will receive regular communications, include frequently asked questions and information about upcoming meetings.
- Responding to public comments: Calls and emails about the project from the public will be routed to the appropriate staff person to answer the question or respond to the comment. Timely responses to vocal advocates will increase trust and credibility.
- Social media: The public involvement staff will meet with the project team to determine the focus, value, and purpose of potentially utilizing facebook and/or twitter for this phase of the project.

Content of the Specialized Input Groups

The four specialized input groups provide key information at critical points in the project. Due to limited availability of key st+keholders in the summer, Cogito may need to gather together multiple small groups to meet the same goals as one Specialized Input Group. The specific issues explored in the groups shall be based on information gathered during the stakeholder interviews. The following subject topics to be addressed are:

- *Understanding the environment: wetlands, riparian areas, and aquatics*
- *Access, safety, right of way, and property owner issues*
- *Moving through the corridor: commuters, freight, and recreation*
- *Multiple modes of travel: public transit, pedestrians, and bicycles*

Content of the Community Forums

- COMMUNITY FORUM #1: DEVELOPING THE BASE - At this first event, we will present and gather input on the statement of problem, needs, goals, and objectives (PNGO) , evaluation criteria, initial findings, and the full range of potential options.
- COMMUNITY FORUM #2: EVALUATING ALL OPTIONS - We will present findings from 8 or fewer options, and gather input on preferred options.
- COMMUNITY FORUM #3: CHOOSING AN OPTION - We will present three or fewer preferred options, and ask the public which option they prefer.

How Public Outreach Relates to Specific Project Tasks

Following is a list of key project tasks and the associated public involvement for each task:

Task 1: Project Management – Results of public involvement will be shared with project team at regular meetings.

Task 2: Public Involvement Plan (PIP) – We will solicit input on the draft plan from key stakeholders through interviews.

Task 3: Analyze Plans, Policies, Rules – We will post key documents on the public website, and add additional items suggested by stakeholders that relate to project scope.

Task 4: Analyze Existing Transportation Conditions – In Specialized Input Group *Access, safety, right of way, and property owner issues*, the team will present draft information to property owners along corridor, gather input, share with the project team.

Task 5: Identify and Map Environmental and Land Use Issues – In Specialized Input Group *Understanding the environment*, the team will present draft information (including Opportunities and Constraints Mapping) to key stakeholders, gather input, and share with project team. (August 2011)

Task 6: Develop Problem, Needs, Goals, and Objectives Statement (PNGO) and Evaluation Criteria - The project team will share draft PNGO and criteria with Specialized Input Group *Moving through the corridor: commuters, freight, and recreation*. We will gather input, share with project team, and post additional information on the public website. (late June 2011)

COMMUNITY FORUM #1 will include a presentation of the Statement of Purpose, Needs, Goals and Objectives, Evaluation Criteria, and Opportunities and Constraints mapping. In addition, the project team will present draft alternatives. The public has the opportunity to provide input on the PNGO, criteria, and suggest additional alternatives. (9/14/11)

Task 7: Future Travel Forecasts and Needs Analysis – We will share draft information with stakeholders via newsletters, gather input, and share public comments with project team.

Task 8: Develop and Evaluate Alternatives:

COMMUNITY FORUM #2 – Preliminary Evaluation of Alternatives: At this event the project team will share findings on 8 alternatives and gather input from the public. The input from this meeting will help the project team to choose 3 alternatives to further refine. (12/7/11)

COMMUNITY FORUM #3 - Refined Evaluation of Alternatives – The project team will present findings from an evaluation of 3 or fewer alternatives and gather input on the preferred option. (4/18/12)

Task 9: Facility Plan Development – The draft plan will describe the costs and benefits of the three alternatives and suggest a preferred alternative. Elected officials will choose the final alternative based on this report.

Task 10: Plan Adoption – The public will be notified about public hearings and opportunity to comment.

Team Roles and Responsibilities

Cogito is responsible for leading and coordinating the public involvement for this project, including outreach to stakeholders, receiving and managing public inquiries, developing the content of public outreach, drafting agendas and organizing logistics for events, and reporting the results of public outreach to the project team.

DKS manages the project content and process, and is the main communicator with ODOT staff and the project team.

The ODOT project manager provides direction on project goals, objectives, and deliverables. In most cases, ODOT staff will be the public face of the project. The ODOT public information officer is responsible for connecting with the media.

Wannamaker Consulting provides environmental expertise to key stakeholders at key points in the process, in concert with public involvement staff.

The Communications Plan developed by Cogito will clarify methods for developing and reviewing public outreach materials, including website content, newsletters, email updates, and public announcements.

Outcomes of Public Involvement

- Citizen Engagement and Communications Plan
- Comprehensive **database** of stakeholders, including email, affiliations, phone number, meetings attended, and comments submitted.
- **Branding** and identity development, including graphic images for website, email communications, display boards, and public documents, to the extent allowed by ODOT.
- Regular synopsis of **media** articles in local press relating to the project and media reports on the project.
- **Website** development and maintenance. Website can receive questions and comments about the project, and includes notice of upcoming public events, current project description, background documents, public meeting reports, and contact information.
- Regular reports on **stakeholder** perspectives and outcome of stakeholder outreach.
- **Display boards** and talking points useful for ongoing education about the project.
- Regular updates **to interested parties** in electronic newsletter format, mailed to those who prefer printed correspondence.
- **Notice** for all public meetings, including website posting, email, and/or phone or hard copy mailing. Ensure that notice is detailed enough to meet NEPA requirements.
- Public meeting and interview **summaries** and analysis, detailed enough to meet NEPA requirements.
- Public comment summaries and analysis, detailed enough to meet NEPA requirements.

Appendix A: Preliminary Stakeholder List

A major task at the outset will be to refine the roles and relationships between the many stakeholders and agencies impacted by this project. Following is a list of potential stakeholders, and one of the first tasks in the public involvement plan is to develop and circulate a refined list of interested parties.

Potential stakeholders
Property owners, homeowner organizations
Current and potential businesses
Freight haulers
Commuters
Tourists
Wineries
Veneta organizations: civic groups, seniors, youth, communities of color,
Neighbors for Responsible Growth
Country Fair Board
Boaters: power, sail, paddle
Bicyclists
Disabled populations
Crow Grange
Lane Economic Development Commission
West Eugene Collaborative
Low-income residents
Transportation advocates
Land use advocates
Willamette Resources and Education Network
Native Plant Society
Audubon Society, Local Chapter

Potential involved agencies
US Environmental Protection Agency
US Army Corps of Engineers
Bureau of Land Management
Federal Emergency Management Administration
US Fish and Wildlife Service
National Marine Fisheries Service
Federal Highway Administration
Bonneville Power Administration
Natural Resource Conservation Service
Confederated Tribes of the Siletz Indians
Confederated Tribes of the Warm Springs
Confederated Tribes of the Grand Ronde

Oregon Department of Transportation
Oregon Division of State Lands
Oregon State Historic Preservation Office
Oregon Department of Fish and Wildlife
Oregon Parks and Recreation Department
Oregon Department of Land Conservation and Development
Oregon Department of Environmental Quality
Eugene School District – 4J
Fern Ridge School District
Lane Transit District
Lane Council of Governments
Housing and Community Services Agency of Lane County
Eugene Water and Electric Board
Lane Electrical Cooperative
Emerald People's Utility District
Lane County
City of Eugene
City of Veneta

MEETING SUMMARY

Community Forum #1: Brainstorm the Options
Thursday, October 6th, 6-8 pm, Elmira High School

Introduction

The *Highway 126: Fern Ridge Corridor Plan* will evaluate and identify a range of alternatives to enhance the safety and function of Highway 126 between the cities of Veneta and Eugene. The project goal is to develop a state system-level transportation corridor plan with a twenty-year horizon. The planning process is designed to incorporate a wide variety of perspectives and identify solutions that are realistic and have public support. Interviews, focus groups, connections with community groups, and public forums are all part of the process. This first community forum provided input into key documents that will be used to evaluate alternatives throughout the course of the project. A total of 67 community members attended the meeting.

Meeting Goals

- Feedback on Project Needs, Goals, Objectives, Criteria
- Make sure we have alternatives on the table people want studied
- Collect other ideas for function and safety improvements
- Educate about the project and related transportation issues

Meeting Agenda

6:00 Dinner

6:05 Welcome by Dan Fricke, Project Manager
Oregon Department of Transportation

6:20 Project process, decision-making, and future phases
Ellen Teninty, Cogito, Project Team

6:30 Presentation Part 1: Existing conditions and project purpose and goals
Scott Mansur and Peter Coffey, DKS Associates, Project Team
Discussion on project purpose and goals

6:45 Presentation Part 2: Alignments and options
Discussion on alignments and improvement options

8:00 Adjourn

Existing Conditions and Project Purpose and Goals

Scott described the project study area as well as the results of recent traffic and collision studies (view the presentation at http://highway126.org/2011/10/community-forum-brainstorm-the-options/). This stretch of highway serves approximately 14,500 average daily vehicle trips, and increases to 18,000 daily trips in the summer months. The overall crash rate is slightly higher than similar facilities throughout Oregon, and has an average of two fatalities of debilitating injuries per year.

Scott discussed the role of the project purpose, need, and goals statement in developing and refining alternatives for improving the highway. Participants read and wrote comments on a handout on project purpose and goals.

Handout Results: Comments were generally positive: out of 42 responses, only two were clearly negative. Most common topics that people mentioned (in order of most frequently mentioned):

- Safety
- Bike path
- Short term improvements
- Rail (passenger, freight)

For a copy of the handouts, and a complete summary of all responses, visit our website at highway126.org, Project Documents, Community Forum: Brainstorm the Options, Forum #1 Handout Results.

Alignments and Alternatives

Scott explained the three alignments (northern, existing, and southern), as well as options within each alignment. He stressed that the concepts can be mixed and matched, and that some are long term and other solutions are near term (view the presentation at http://highway126.org/2011/10/community-forum-brainstorm-the-options/).

Handout Results: The 49 responders favored a mix of alternatives. Participants were able to choose more than one alternative, and the most common responses to the first question: "What alternatives do you prefer?" were:

Answer to question: What Alternatives do you prefer?	Number of Responses
Multi-Use Path	32
4 Lanes	25
Spot Improvements	19
Transportation System Management	12
3 Lane	4

In response to the question, “What alternatives do you prefer that are not on the list?” most participants noted specific improvements that were a component of the listed alternatives. Ideas that were not included in the alternatives were:

- Passenger rail
- Lower speed limit
- Stop lights/Traffic Signals
- Couplet (Utilizing both OR 126 and Cantrell)

Table Discussions

Participants discussed the alternatives with other community members seated at their table. They then completed the second handout, which asked participants to identify which alternatives they preferred.

Meeting Conclusion

The project team thanked participants for attending, and asked them to turn in their comments. The next Community Forum: Evaluate the Options will be on Tuesday, January 24th, from 6-8 pm in the Elmira High School cafeteria.

Participant comments and questions during the meeting:

Q. What do elevated roadways look like? A: Like a causeway.

Q. Would it be cheaper to invest in just OR 126 and not improve Cantrell? A: Maybe – cost estimates will be part of the next phase of the project.

Q. Can we mix scenarios? A: Yes.

Q. How about a bike path on Cantrell? A: Yes, this is an alternative.

Q. Please explain Section 4F and how much this study is costing. A: Section 4F is a federal rule that requires avoidance or mitigation of recreational and historic resources. This study is costing about $500,000 and includes more in-depth environmental assessment and public involvement process than ODOT usually does.

Q. How did you define the study area? Eugene to Veneta – we are focusing on the rural areas, but also working closely with both cities.

Q. You mentioned it is a 20-year plan, can you speak to the projected traffic in 20 years, and the level of service of 126? A: Over the next 20 years, we are estimating 40% more traffic than today. As we look at alternatives, we will be looking at how to meet those needs. In terms of looking at the level of service, we are not at that point yet in screening.

Even with 4 lanes, traffic can still move slowly. I think that spot improvements are a good plan, and make a separate route for people walking and biking.

If the road were widened to three lanes, it would give people room to pull off for emergency vehicles. Also support the multi-use path: taking bicycles off of 126 entirely would make the road much safer.

Q. How would you handle traffic if you did a major project during construction – how would you move people around the traffic construction? A: Perhaps temporary road, but you would still have to accommodate one lane – it would be complicated.

In emergency situations, only 4 lanes works.

It is a terrible section of road. Safety concerns re. passing, especially near Shady Rest.

I would like to hear more about added bus routes, trains, some other way for people in Veneta to get to and from Eugene without automobiles. Concerned about environmental impact to a four-lane highway on 126.

It is time to do something. 4 lanes – at least.

Q. I love the idea of multiple lanes, and room for bikes, but there are so many organizations that have a say in this project. Is there any hope of moving something forward? A: That is part of our job, and something we are working on. We are meeting with land agencies – there are inter-jurisdictional hurdles to get over.

Stoplights would allow for left turns.

I love all these big and grandiose ideas, but I am more interested in the short-term improvements. I want lights.

I do believe in the 4-lane in the long-term, but we need short term solutions now – stop-lights, slowing traffic down, where the park is at Perkins Park and the business areas.

Huston Rd – southbound – there needs to be a rattle bar leading up to that stop sign.

Q. For motorcycles, it is difficult with all of the potholes – how do you address motorcyclists needed? A: This is a maintenance issue. Some of the short-term improvements may address those concerns.

Q. I'm very much in favor of a 4-lane improvement. I also ride bicycle, so a multi-purpose lane would be good. If you conclude that a 4-lane road was doable, what is the timeframe to have it built? A: With funding – 3-5 years to get through all of the design, right of way issues, etc.

Q. Is there room for a 4-lane road right now? A: It would require an elevated structure through some areas.

Q. I am concerned about head-on collisions. Can you have a Jersey barrier on a 2-lane road? A: There is not a wide enough segment today to put one in. If we did the 4-lane, we could put one in – but this can be problematic with turn lanes.

Short term – where Cantrell enters 126 heading east – have an acceleration merge lane.

We need jobs. Structural improvements need attention.

Q. Are there concerns that a 4-lane might be less safe? With traffic projections does 4-lane improve safety? A: I think we have to look at the inclusion of lane barriers, acceleration lanes, etc. Different elements of a 4-lane highway can make it safer. There are pros and cons of both. Speeds go up with a 4-lane highway. There are trade-offs. But it is possible to make a 4-lane safer.

It is time to build the 4-lanes now, and a separated bike/ped facility.

Q. I am in favor of the 4-lane, but how do you funnel it back to a 2-lane at Houston. How would that be handled? A: We would have de-acceleration lanes, and merge. We don't want to create a bottleneck; we want to make sure it fits in other comprehensive plans.

If you look on ODOT'S website, traffic levels peaked in 2003, by 2030 the Alaska pipeline will be dry. To claim that there will be an increase in traffic flies in the face of physics. You need to factor in Peak Oil into the long range traffic planning. There are many things you can do for short-term solutions, without creating more infrastructure that cannot be maintained.

As an avid cyclist, we have an excellent access on Clear Lake, but there is not good access parallel to 126. I would suggest that EWEB & ODOT build a facility where the pipeline will be built. A separated path would be ideal.

I agree with the multiuse path that is separated. The roads are not wide enough – and it is not fair to either user group.

There are many people that don't drive cars – I want to stay off of the main road. It is scary with the trucks.

I would love to see a bike lane that came from Veneta that connected with the Fern Ridge Bike Path in Eugene. It would be great to have that access, but I also believe we need more busses, and availability of busses to get more people off of the road.

The usage of the Coos railway - They are going to run their trains on a schedule – it could be used as a light rail into Eugene/West Eugene, when the train is not in use to reduce traffic.

A Passenger train coming from Veneta to Eugene would be great.

My ideal scenario would be light rail service; it would get cars off the road, reduce pollution, and be safer. It can be done!

On the bus service – it doesn't always work out for people given the times of service. The buses need to run more often. And run shuttle busses, more often, that would help take people off the road. I would take the bus if there was a shift that would work.

Use smaller buses, to go back and forth to Wal-Mart, Target, etc. If we had four small buses, that would be perfect.

There is already an alternate route, at Cantrell. Going through that gravel section is very scary. Just improve that road, and it would be a good alternate while working on 126.

For a project description, visit *www.highway126.org*

To contact the project, email Julie Fischer at julie@cogitopartners.com or call at 541-556-6654

MEETING SUMMARY

Community Forum #2: Evaluate the Options
Tuesday, January 24th, 6-8 pm, Elmira High School

Introduction

The *Highway 126: Fern Ridge Corridor Plan* will evaluate and identify a range of alternatives to enhance the safety and function of Highway 126 between the cities of Veneta and Eugene. The project goal is to develop a state system-level transportation corridor plan with a twenty-year horizon. The planning process is designed to incorporate a wide variety of perspectives and identify solutions that are realistic and have public support. Interviews, focus groups, connections with community groups, and public forums are all part of the process. This second community forum provided input on the recommended alternatives and design options. An estimated 110 people attended the forum, including 86 participants who signed in, 7 members of the project team, and 17 people who did not sign in.

Meeting Goals

- Bring new participants up to speed
- Share what has happened since the first public forum
- Review the first round of environmental screening results
- Present and collect input on recommended alternatives

Meeting Agenda

6:00 Dinner

6:05 Welcome by Dan Fricke, Project Manager
Oregon Department of Transportation

6:10 Project Team Introductions and Agenda Review
Ellen Teninty, Cogito

6:20 Presentation of Findings and Recommendations
Scott Mansur, DKS Associates, Project Team

6:50 Questions

7:00 Small Groups: Complete and Discuss Survey

7:20 Full Group Discussion of Options

7:50 Thank you, Next Steps, Adjourn

Presentation of Findings and Recommendations

Scott Mansur briefly reviewed the project needs, goals, study area, and process. He then shared what the project team learned was important to the public at the first Community Forum in October of 2011:

- Safety and Operational Improvements: signage and delineation, street lighting, turn lanes, and additional through lanes.
- Multi-Modal Improvements: improve existing bicycle, pedestrian, and transit facilities, separated multi-use (such as separate bike) path, increase transit frequency, additional transit options.
- Short Term Improvements: increased enforcement, driver feedback (speed feedback signs), clear signage and striping, turn lanes, signals, and street lighting.
- Top Three Alternatives preferred by the public at Forum #1 held October 6, 2011: 4-Lane, 3-Lane, and Spot Improvements with Separate Multi-Use Path.

Since the last forum, the project team conducted an environmental screening and scoring of the alternatives, ranking eleven different options and identifying the top 3 alternatives, plus the no-build alternative. The environmental screening produced the same three alternatives that were preferred by the public.

Small Groups

Ellen Teninty introduced the Forum #2 Survey to participants and encouraged people to read the survey and discuss the issues at their tables. A graphic and description of each alternative was provided. See page 5 for a summary of the 91 responses (79 received at the meeting and 12 returned after the meeting. An online survey option was offered to everyone on the interested parties list).

Table Discussions

Participants discussed the alternatives and survey questions with other community members seated at their table.

Meeting Conclusion

The project team thanked participants for attending, and asked them to turn in their comments. The next Community Forum in May of 2012 will present the final results of the plan.

Participant comments and questions during the meeting:

Q. Does anyone know when the section of 126 between Eugene and Veneta was built, and how often the opportunity to rebuild a road comes up in terms of planning purposes? 10 years, 15 years, etc. A: 5-10 years may be right. If it comes down to do the no-build or spot improvement that is what we will be living with for the next 10-20 years. I am not sure when this particular section of road was originally built.

Q. Do any of your alternatives not include Perkins Road? A: None of the preferred alternatives include Perkins Road for car travel, just the multi-use path.

Q. What about the part between Terry and Greenhill? A: The City of Eugene is updating their transportation plan, and that section of 126 will be evaluated during that process.

Q. How realistic is it to put 4-lanes in environmentally? A: That is some of the stuff we are working on with the agencies, looking at fatal flaws, and we all feel comfortable with what we are looking at to move forward. There are opportunities to improve the environment with many of these alternatives.

Q. None of the proposals mentioned having a median as a temporary fix – could we install a median now? A: A barrier of some sort will be part of the 4-lane improvement alternative. This could also be done through the spot treatments, but that would require extensive shoulder widening.

Q. I am the Fire Chief of District #1. I am opposed to the median because it is hard for emergency apparatus to travel safely. Medians can block emergency vehicles from reaching the crashes. Do the spot improvements include medians? A: At this time they do not. (The only recommended alternative that includes a median is the 4-lane).

Q. For your 3 and 4 lane options, is it being considered that one lane could be an HOV (High Occupancy Vehicle) lane? A: That is something that could be considered, but right now we are thinking of them as just travel lanes.

Q. I saw the scoring of the environmental factors, but what were the environmental factors? What are the considerations? A: We will be providing an environmental screening report on the website, and we can answer those questions for you at that time.

Q. There is a new bridge at Nielson, but it looks like a two lane bridge, how does that work if you widen the road? A: It was built so that the supports could hold a 4-lane road in the future.

Q. Each of these cross sections shows a bike path, which side would that be located on? A: That will be part of the Tier 2 screening. No decision on North or South side yet.

Q. What consideration has been given to the increase of truck traffic between Eugene & the Coast? A: Our Study has used a 2035 forecast for the roadway, so it has been considered.

Q. Have you given consideration to bypassing the wetlands by using Nielson? A: We did look at that alignment, but decided to not move forward with that option.

Q. What does it mean to consolidate driveways? A: For this phase of the project (corridor plan) we will not be closing driveways. We are not making specific recommendations to close driveways. It might be feasible to consider frontage roads.

Q. How much roadway do you have? A: About 90 feet, this could accommodate a 4-lane configuration.

Q. Have you given thought to how to connect a bike trail to Eugene? A: It would be desirable to connect that to the Fern Ridge Bike Path.

Q. Have you consulted with Department of State Lands about the wetland fill required for this project? A: I'm not sure if the environmental team has done so – but we will share that with Wannamaker Consultants. (For a complete report on the environmental analysis, please visit our website: http://highway126.org/2012/02/evaluation-of-alternatives-report/draft_or126_screening_baseline_report-2/).

Q. If the cost to build a bike trail on Cantrell is cheaper than having it as part of the road, could that be an option? A: We have an alternative that has the path next to the alignment, and an option to have it removed from the highway.

Q. What about the speed? Do you expect speed to be increased with these alternatives? A: Probably not.

Q. If the 4-lane option is chosen does it need to be built on piers? A: No.

Q. About spot improvements that could happen immediately – I would like to see reflectors down the middle of the road would be a huge benefit to safety. A: We will look into that option.

Q. Is their coordination with the State Department of Tourism to bring bicycles to the area – is that being considered as beneficial? A: We have been talking to the various chambers of commerce, and know of the potential benefits.

Q. Is anybody seriously talking about light rail? A: It is not part of the alternatives right now – when we start scoring the alternatives we need to make sure that we would not impact the railroad.

For a project description, visit *www.highway126.org*

To contact the project, email Julie Fischer at julie@cogitopartners.com or call at 541-556-6654

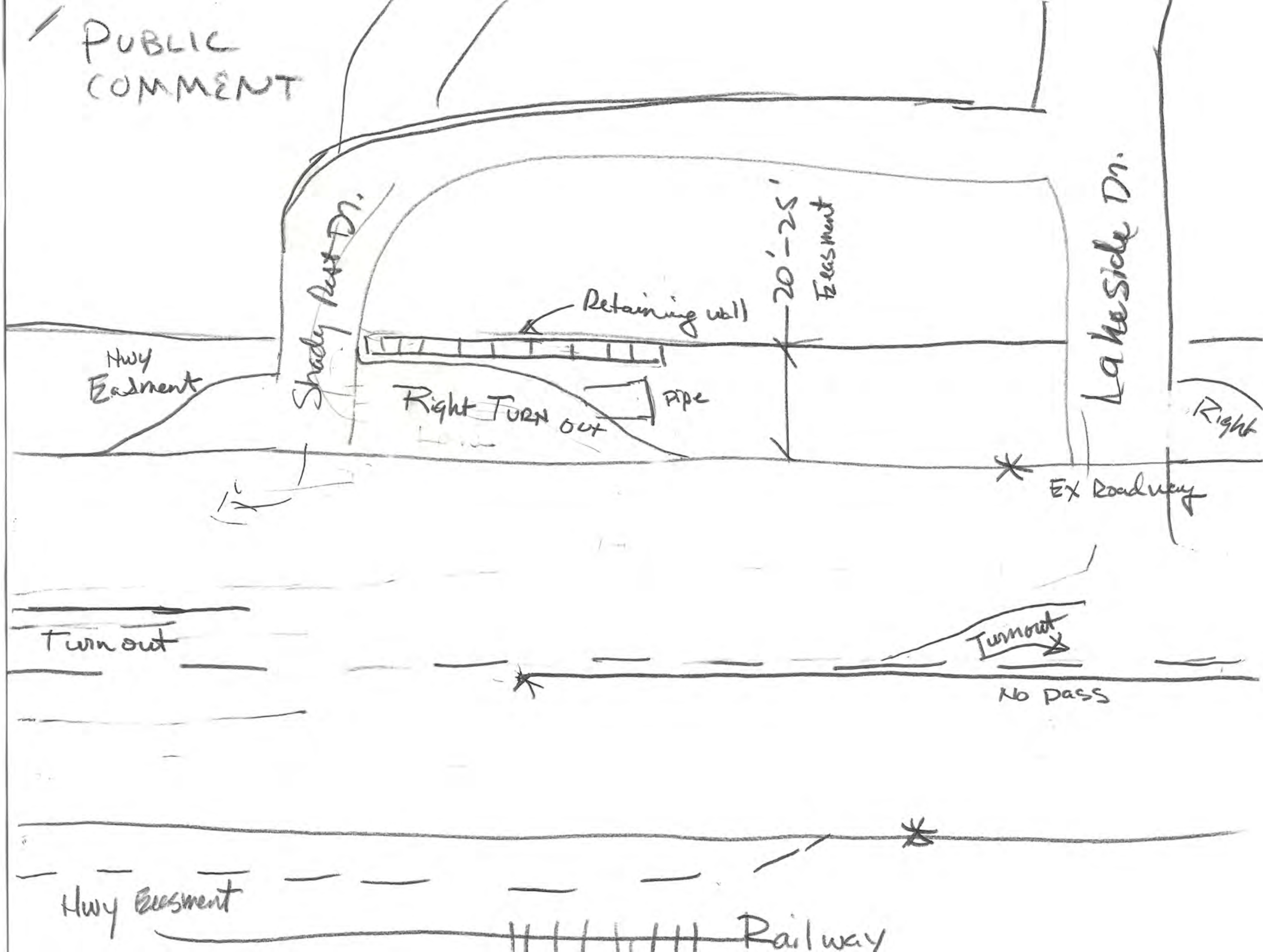
Survey Results

Survey Directions: *Read each statement below and circle the answer corresponding to your opinion. If you do not know or don't care, circle "Neutral". All questions relate to OR126W between Greenhill and Huston Road.*	Results of 91 surveys: Numbers reflect % of 100.					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	No survey answer
CAPACITY 1. Some traffic congestion (which may limit my travel speed and result in delays getting to my destination) is ok during peak travel periods (example 4 PM to 6 PM)	12	26	15	27	14	4
2. There is adequate capacity today in the 126 Fern Ridge corridor to accommodate future growth	3	8	9	22	55	3
3. Two travel lanes in each direction is necessary to provide adequate capacity	42	25	12	8	11	2
4. Widening to two travel lanes in each direction would lead to future economic development in Western Lane County	30	38	22	5	2	2
5. Freight movements (trucks) are currently hindered traveling through and within the project corridor	22	37	25	11	3	1
SAFETY 6. Safety improvements along the corridor should be implemented as quickly as possible	51	35	8	1	5	0
7. A raised median divider is necessary to improve safety along the highway	7	9	20	23	41	1
8. It is ok to consolidate/reduce driveways if it results in improved safety along the highway	10	33	40	5	9	3
9. Left and right turn lanes at intersections and driveways are necessary to improve safety along the highway	38	41	12	4	3	1
PEDESTRIANS, CYCLISTS, AND TRANSIT 10. A multi-use path for pedestrians and bicycle travel should be provided as part of this project	52	29	9	2	9	0
11. A multi-use path should be located on a different alignment from the highway	29	33	24	9	5	0
12. If it facilitates implementation of the multi-use path, it is ok to locate the multi-use path adjacent to the Highway if a physical barrier is provided	23	44	20	7	7	0

13. Widened shoulders along the highway will be adequate to serve pedestrian and bicycle travel along the corridor	3	9	13	33	42	0
14. Safer pedestrian crossing opportunities should be provided along the highway	26	34	24	8	8	0
15. Transit stop improvements such as street lighting, sidewalks and shelters would increase transit ridership	27	40	14	8	10	1
16. Additional police enforcement would improve safety	19	26	36	11	7	1
ENVIRONMENT 17. Highway improvements should not impact in any way Fern Ridge Lake or other environmentally sensitive natural resources	11	15	32	19	22	1
18. Highway improvements should strike a balance between transportation needs and impacting, to the minimum extent possible, Fern Ridge Lake or other environmentally sensitive natural resources	18	42	23	9	8	1
19. This project should seek opportunities to provide transportation improvements and improve environmentally sensitive natural resources (including Fern Ridge Lake and wildlife area)	23	36	24	7	8	2
IMPLEMENTATION 20. The preferred alternative should be developed so that it can be implemented in phases	26	42	21	2	5	3
21. The preferred alternative should consider options that have the best opportunity to receive funding	33	43	14	5	1	3
22. WHICH ALTERNATIVE DO YOU PREFER? (see Appendix for handout graphics)	4- Lane	3-Lane	Spot	No Build	No survey answer	
First Choice:	70	18	5	1		5
Second Choice:	8	49	21	1		21

SURVEY COMMENTS
Keep up with paint, center and side of the road. Reflectors.
Lengthen all turning lanes! Florescent lane separations on the highway. Also sides! Lighting on the highway a must - too dark.
Make this section of highway a "safety corridor" with lights on all vehicles – day and night. Better marking (reflective) for center and sides of road.
Please no light rail! Short term HELP is reflectors with the lines
Recommended spot improvements: immediately: put light reflectors down middle of road (when dark and raining you can't see the middle of the road. :(What about light rail to relieve traffic??
Please implement a raised median immediately for safety.
1. Don't really like more traffic signals. 2. Make small improvements for better kayak access on Hwy at Coyote Creek. 3. No passing allowed 4. Reduce speed limit to 45.
Better spot improvements are needed at Ellmaker. Entering 126 east bound is very dangerous.
Begin with spot improvements to incorporate into final 4 lane option.
No matter what, short-term spot improvements (improved shoulders, reflective striping, turn-outs, turn lanes, pedestrian crossings, etc) would make a HUGE improvement.
Sot improvements should be short term with the final project 4 lanes.
Please consider Veneta economy improvements. Please consider lengthening the deceleration turn lanes so traffic can move sooner out of the traffic speed lanes. Please consider paving Cantrell Road. Add permanent reflectors down center of roadway.
Looking at the short term improvement plan, there is not provision for safety improvements at Shady Rest Drive and Lakeside Drive. I recommend that right turn outs going west and center left lane going east. Also, in my neighborhood we have 28 homes using those two streets, could shady Rest Dr. be closed?
I would prefer 3 lanes only in the middle section that has the Fern Ridge Lake on one or both sides and a 4 lane elsewhere. A multiuse path on Cantrell/Perkins is preferred. For transit there should be accel/decel lanes at the bus stops. At certain times it is very difficult to get back into traffic.
Any raised center curbs or barriers should only be part of a four lane option. If part of a 3 lane or spot improvement option, it will impact emergency vehicle traffic.
If 4 lanes are implemented, speed should be increased. Reflectors on center line.
If we went with the 4 lane, stoplights at intersections would be necessary anyway, but just the center lane could be used with the 3 lane option.
Most of the time traffic flows fine on 126. It's more of a problem when there is an incident so a 3 lane would be sufficient. Lights would be helpful. A bike path off the highway would be best.
Do not impact southern rout, i.e. Cantrell Road Increase mass transit, more bus service that will deliver passengers at a time needed. Example: early morning.
Improving roadway as it currently is, with lighting, fog lines, road repair, necessity is alternative transportation, i.e. LTD – many would use this if available and reduce the number of daily vehicles driving this corridor.
Increased bus/police activity
Improve bus stops with pullouts and shelters to increase safety.
Connect bike path to Fern Ridge bike path along RR underpass on a section. Prefer bike path along Cantrell.
Either alignment of the multi-modal path would have pros and cons. A Perkins alignment would

serve local recreation very well in addition to Veneta-Eugene movement. A lake alignment would be a lakeside recreational asset.
I think this is such a needed improvement, I'd love to be able to commute via bicycle to Eugene, but currently it's too unsafe for a novice cyclist. I think it's important to look forward when planning this, which is why I chose option 2 BUT I'd rather have spot changes than nothing!
Net gain in environmental values (i.e. wet prairie quality, emergent wetland quality) by mitigation/restoration would move this closer to a win-win proposition.
Can you bank wetlands? Along 126 the wetlands are man made does that make the process easier? Spot improvements: reflectors on white and yellow lines – ASAP
1. It is a FATALLY FLAWED public process to repeatedly seek public input without discussing environmental considerations in detail. 2. I do not have faith in the technical validity of the scoring system used for rating alternatives 1-3. Esp as a black box! 3. What about coordinating with Metroplan and Envision Eugene?
This is a national highway and roads to the coast need to be improved.
Can we just lower MPH thru Veneta past Perkins Peninsula? People drive too fast for conditions. Survey question #7: a divider doesn't feel safe in emergencies (fire truck, etc.) Barrier only works with 4 lanes. I care most about safety, access for buses, and bus riders and bicycles. Thank you for this process. You all did a great job.
Fill in the ditch and build the SOB
1. User fees for bike riders 2. Chunnel – pay as you go. 3. Is there a "life" to the bridges already there? Would we have to replace them in 10 years anyway? They decompose quicker with all the added strain? 4. Light rail
People safety should take precedence over environment.
WHAT HAPPENED TO WEST EUGENE PARKWAY KITTY!
A main issue I encounter daily on my morning commute to Eugene is people pulling on to the hwy from stop signs (Ellmaker, etc). OK for 1 or 2 cars but the 4 or 5 after them cause brake slamming, accidents, etc. I suspect they would also run yellow and red lights too. Any way to address this?
First priority should be safety of pedestrians and bicycles. They are very hard to see on dark, rainy or foggy nights. Lighting would also help. Frontage road for businesses would be nice – access 2 or 3 businesses without re-entering 126, especially if highway speeds increase.
I appreciate the effort ODOT is taking to get public feedback, I only hope the public feedback is applied when the time comes. Thanks.
It is imperative that this improvement of highway 126 corridor be implemented as soon as possible.
Good to see some pro-active things instead of re-active.
Thank you for allowing our input.
Recommendation: Talk to driving high schoolers. Driving 126 is new for them and they notice everything, where experienced drivers are complacent. Young drivers input might be very revealing to issues needing to be resolved. Strong consideration needs to be thought of as to potential growth in Veneta. With gas nearing $4/gal, less people will live rurally because gas costs are just too high. Easier commuting does not equal better/smarter commuting. HOV lanes, buses biking avail.


PUBLIC COMMENT
Shady Rest Dr.
Lakeside Dr.
Retaining wall
20'-25'
Easement
Hwy Easment
Right TURN out
Pipe
Right
Ex Roadway
Turnout
No Pass
Turn out
Hwy Easement
Railway

Community Forum #2: Evaluate the Options Questions

Directions: Read each statement below and circle the number corresponding to your opinion. If you do not know or don't care, circle "Neutral". All questions relate to OR126W between Greenhill and Huston Road.

CAPACITY	
1. Some traffic congestion (which may limit my travel speed and result in delays getting to my destination) is ok during peak travel periods (example 4 PM to 6 PM)	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
2. There is adequate capacity today in the 126 Fern Ridge corridor to accommodate future growth	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
3. Two travel lanes in each direction is necessary to provide adequate capacity	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
4. Widening to two travel lanes in each direction would lead to future economic development in Western Lane County	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
5. Freight movements (trucks) are currently hindered traveling through and within the project corridor	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
SAFETY	
6. Safety improvements along the corridor should be implemented as quickly as possible	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
7. A raised median divider is necessary to improve safety along the highway	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
8. It is ok to consolidate/reduce driveways if it results in improved safety along the highway	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
9. Left and right turn lanes at intersections and driveways are necessary to improve safety along the highway	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
PEDESTRIANS, CYCLISTS AND TRANSIT	
10. A multi-use path for pedestrians and bicycle travel should be provided as part of this project	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
11. A multi-use path should be located on a different alignment from the highway	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
12. If it facilitates implementation of the multi-use path, it is ok to locate the multi-use path adjacent to the Highway if a physical barrier is provided	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree

13. Widened shoulders along the highway will be adequate to serve pedestrian and bicycle travel along the corridor	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
14. Safer pedestrian crossing opportunities should be provided along the highway	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
15. Transit stop improvements such as street lighting, sidewalks and shelters would increase transit ridership	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
16. Additional police enforcement would improve safety	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
ENVIRONMENT	
17. Highway improvements should not impact in any way Fern Ridge Lake or other environmentally sensitive natural resources	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
18. Highway improvements should strike a balance between transportation needs and impacting, to the minimum extent possible, Fern Ridge Lake or other environmentally sensitive natural resources	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
19. This project should seek opportunities to provide transportation improvements and improve environmentally sensitive natural resources (including Fern Ridge Lake and wildlife area)	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
IMPLEMENTATION	
20. The preferred alternative should be developed so that it can be implemented in phases	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree
21. The preferred alternative should consider options that have the best opportunity to receive funding	1 2 3 4 5 Strongly agree/ Agree/Neutral/Disagree/Strongly Disagree

22. WHICH ALTERNATIVE DO YOU PREFER?

First Choice: ___________________________

Second Choice: ________________________

List of Alternatives:

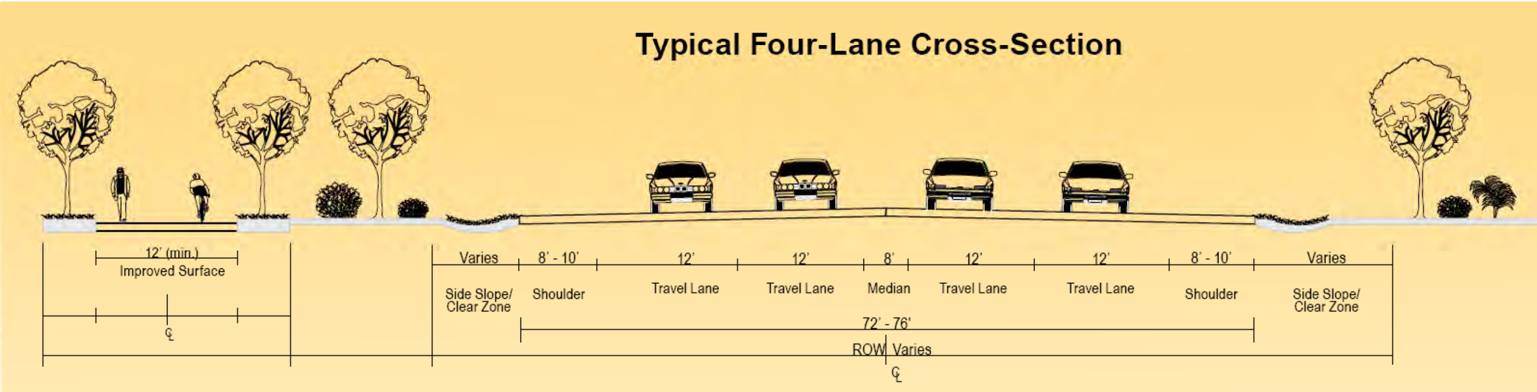
- 4-Lane on Piers with Separated Multi-Use Path
- 3-Lane on Piers with Separated Multi-Use Path
- Spot Improvements with Separated Multi-Use Path
- No Build

23. COMMENTS

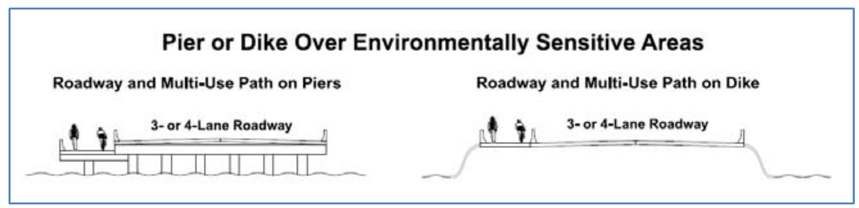
4-Lane Alternative with Causeway on Piers and Separated Multi-Use Path

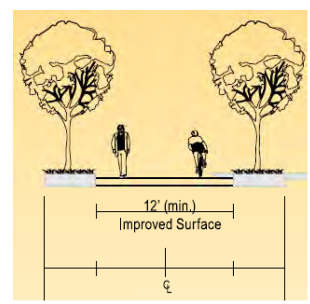
Four Lanes

The highway would be widened to four travel lanes, plus a center left-turn lane at certain intersections. A multi-use path would also be provided with as much separation from the highway as possible. Over environmentally sensitive areas, the roadway could be built on piers or a dike and the multi-use path may need to be adjacent to the highway, with separation consisting of a median barrier or other design feature.



- Design Options to Consider:
  - Causeway on Dike
  - Separated Multi-Use Path (Southern Alignment i.e. Perkins and Cantrell Roads)

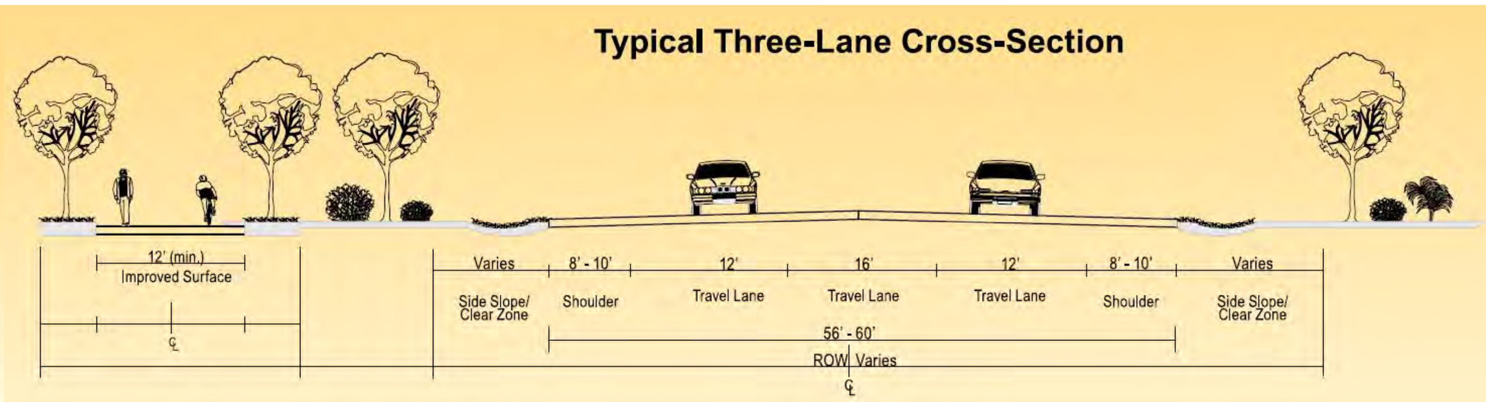




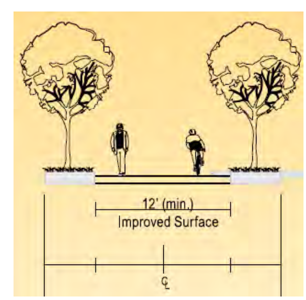
3-Lane Alternative with Causeway on Piers and Separated Multi-Use Path

Three Lanes

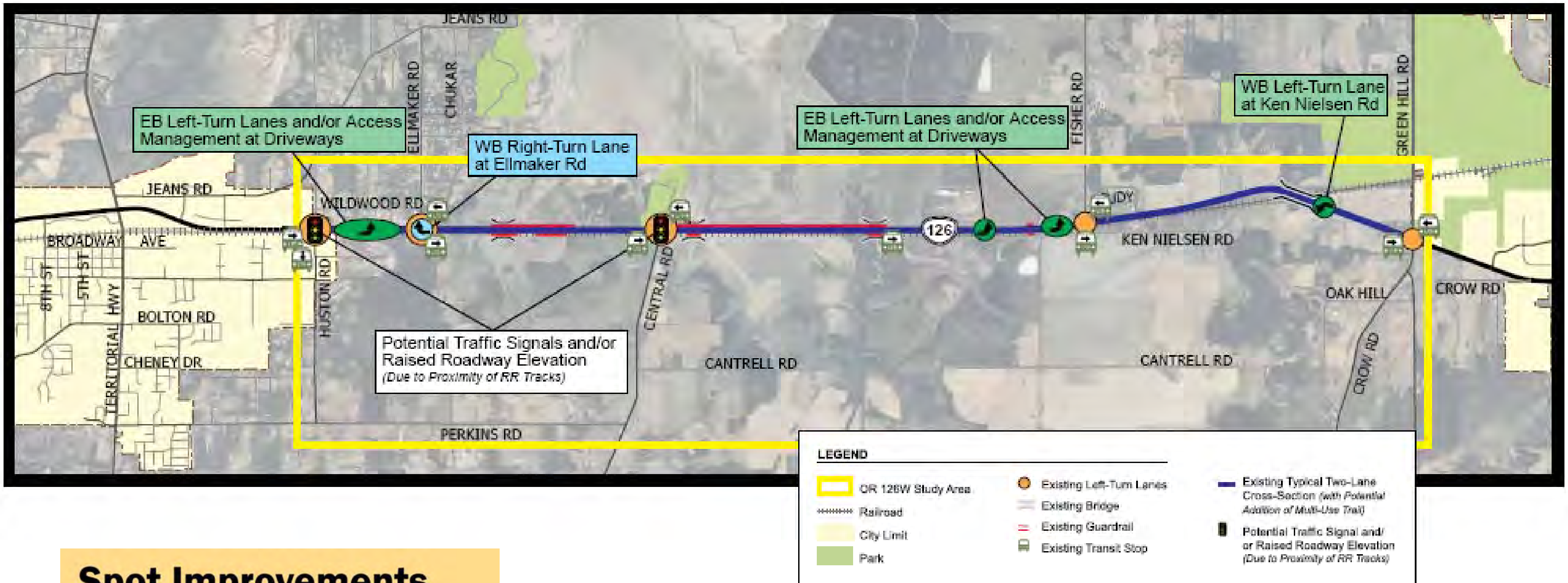
The highway would be widened to three travel lanes, which provides one lane in each direction and either a center turn lane, a passing lane, or a reversible travel lane to accommodate rush hour traffic. The same multi-use path, pier, and dike considerations exist as identified above in the Four Lanes option.



- Design Options to Consider:
  - Causeway on Dike
  - Separated Multi-Use Path (Southern Alignment i.e. Perkins and Cantrell Roads)



Spot Improvements with Separated Multi-Use Path



Spot Improvements

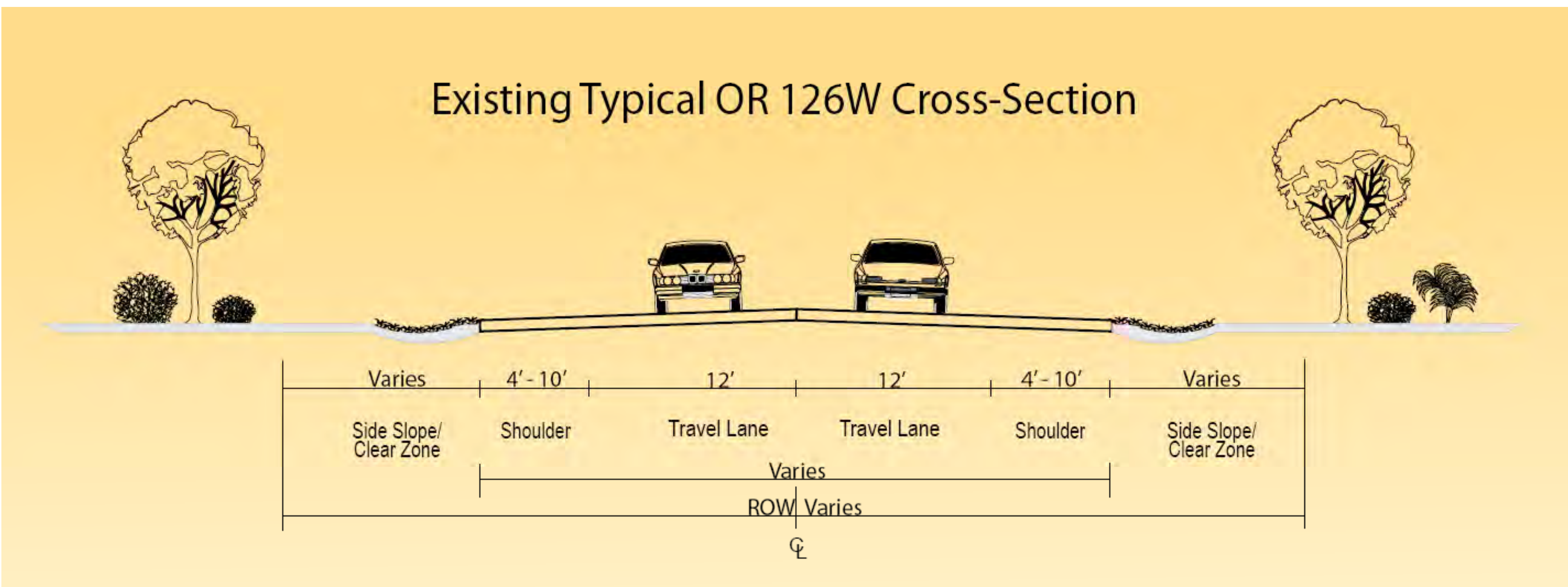
with Multi-Use Path

Spot improvements could be funded for construction more quickly than Options 1 and 2, and could be either stand-alone improvements or components of an early phase of the other options. Examples include turn lanes, wider shoulders, traffic signals, and improved transit facilities. A multi-use path could be built along sections of Lane County roads to the south, including Perkins, Cantrell, and Ken Nielsen Roads.

- Design Options to Consider:
  - Left- and/or Right Turn Lanes at Intersections
  - Traffic Signals
  - Limited Passing Lanes
  - Transit Stop Improvements
  - Emergency Turnarounds and Police Pull-Offs

No Build

- No Facility Improvements
- No Build Alternative required to advance per NEPA requirements



MEETING SUMMARY

Community Forum #3: Choose an Option
Tuesday, May 8th, 2012, 6-7:30 pm, Elmira High School

Introduction

The Highway 126: Fern Ridge Corridor Plan hosted three community forums to arrive at the final recommended transportation corridor plan between the cities of Veneta and Eugene. At the first meeting, in October 2011, participants answered open-ended questions about *the project purpose, needs, and goals*. At the second meeting, in January 2012, specific feedback was gathered on a *range of alternatives* to solve the problems.

The final community forum held May 8, 2012, gathered *public input on the final recommendation* for improvements to Highway 126 between Greenhill Road and Huston Road. An estimated 75 people attended the final forum: 68 participants and 7 members of the project team. *The Project Team recommended moving forward with the 4-Lane and Spot Improvements Alternatives, and not moving forward with the 3-Lane Alternative. Ninety-five percent of the meeting participants agreed with these recommendations.*

The planning process is designed to incorporate a wide variety of perspectives and identify solutions that are realistic, have public support, and are within a 20-year planning horizon. Interviews, focus groups, connections with community groups, a project website, and public forums have all been part of the process.

Meeting Goals

- Share the results of the Tier 2 screening: right-of-way needs, cost estimates, etc.
- Discuss the reasoning behind the final recommendation of a 4-lane facility.
- Outline next steps in the process.
- Answer questions and gather input on the final recommendations.

Meeting Agenda

6:00 Dinner

6:05 Welcome
Dan Fricke, Oregon Department of Transportation

6:10 Introductions and Agenda
Ellen Teninty, Cogito

6:15 Presentation of Recommendations
Scott Mansur, DKS Associates

6:40 Questions and Discussion

7:00 View the Maps

7:20 Submit Input, Thank you, Next Steps, Adjourn

Presentation of Findings and Recommendations

Scott Mansur briefly reviewed the project needs, goals, study area, and process. He then shared the results of the survey conducted at the second community forum in January:

- Top Choice of alternative: 74% of the public selected the 4-lane, 20% selected 3-Lane, and 5% selected the spot improvements.
- Key issues raised: desire a net gain in environmental values, 4-lane is preferred by most, bike path is critical, short-term "spot improvements" are needed as soon as possible, transit improvements are important, and safety is essential.

Since the second forum in January the project team has:

- Incorporated public input and conducted field reconnaissance with ODOT, the Army Corps of Engineers, and the Oregon Department of Fish and Wildlife.
- Prepared concept drawings and cost estimates for the alternatives.
- Conducted Tier 2 environmental screening and scoring.

Results of the Traffic Analysis:

- 4-Lane alternative performed best with all study intersections meeting Oregon Highway Plan (OHP) mobility targets for future 2035 scenario
- Spot Improvements provide short to medium term intersection capacity but does not adequately address 20-year capacity needs
- 3-Lane would improve travel times along corridor but does not meet OHP Mobility Targets for 2035 scenario

Cost Estimate Summary:

- 3-Lane and 4-Lane on Dike are $95 Million and $130 Million, respectively
- Causeway on Piers Design Option adds $50 Million to 3-Lane and $65 Million to 4- Lane
- Spot Improvements are Lowest Cost Build Alternative
- Majority of the $15 Million Spot Improvements would be used in 4-Lane Alternative

Recommended Alternatives for Next Project Phase

Moving Forward:

1. 4-Lane Alternative
2. Spot Improvements (as Phased Improvement to 4-Lane)
3. No-Build (required to advance due to federal NEPA regulations)

Not Moving Forward: 3-Lane Alternative

Recommended Design Options to Move Forward for both Alternatives

Multi-Use Path

1. Adjacent to OR 126
2. Southern Alignment on Cantrell and Perkins

Causeway
1. On Dike
2. On Piers

Next Steps

After reviewing public comments from this forum, the project team will prepare a final plan and present it to the Lane County ACT (Area Commission on Transportation), the Lane County Planning Commission, and the Lane County Board of Commissioners. Finally, the Oregon Transportation Commission will consider and adopt the final plan.

Scott introduced maps of the corridor that identified spot improvements and delineated the footprint and concept design of both a 4-lane and 3-lane facility. To view the full PowerPoint presentation, please visit our website: www.highway126.org.

The Project team then talked informally with the public about the wall maps and encouraged them to complete a public input form (see below for a summary of input).

Participant comments and questions during the meeting

Q: I was wondering if there is any study as to the dike compared to the piers in terms of future maintenance?
A: There is less water impact on piers, but both options are on the table.

Q: What is the soonest construction could start?
A: Spot improvements could happen quickly once they are identified. Some of the simpler things we could get to in a year or two. The widening is a long-term proposition. I would not guess at this point, because funding has not been identified. It could be as long as 10 to 20 years.

Q: Is the existing roadway alignment where the widening would occur?
A: Yes.

Q. What is the property value analysis along Perkins Road? It is narrow and has a lot of traffic.
A: It would be evaluated in greater detail in the next phase. There is likely room in the right of way to add bike lanes on Cantrell Road.

Q: The roadway as it sits now is not on piers. Would you keep the dike if you add piers?
A: It would be removed. However, the railroad dike would have to remain.

Q: Mass transit – do you have population growth projections as to what will happen?
A: There is some significant growth that can occur out here. This project looks at how to improve amenities for getting on and off the bus more safely.

Q: Did you consider putting a no-pass lane in from Greenhill Rd. to North Territorial?
A: I don't remember if we looked at that, but it is a possibility.

Q; I'd like to address the public meeting with the Lane County Planning Commission. When and where will those meetings be?
A: I don't know yet, but we will talk to the County and find out how that will play out.

Q: I'm curious if we choose the southern route for the bike path, could that be built sooner as part of the spot improvements?
A: Funding would be an issue, and the southern alignment would be a county project. ODOT does have some money for projects like that.

Q: Of the $140 million, how much of that does the multi-use project cost?
A: About $2 million

Q: I disagree with a previous comment that there should be a "no-passing" lane. I do not support that. And we need to get this road built. We need it sooner than later.
A: The spot improvements are moving us forward, not backward.

Q: What is the environmental analysis of the dike construction compared to the pier construction? Is there a difference in analysis cost?
A: From an environmental standpoint, the piers option should provide better hydraulic flow. Unfortunately, we would still have to deal with the dike that supports the railroad tracks. So until the complete dike is removed, the full environmental lift would not be achieved.

Q: Is there a way to cooperate with the railroad?
A: We are working with the railroad.

Q: You should check on right of way of the railroad
A: We will.

Q: We need to keep the cost factor in mind when we are dealing with environmental considerations. We are not dealing with Crater Lake. The priority should be on getting the four lanes. We should forget about the piers to save cost. Have you considered the safety concerns of pier construction on freezing days?
A: That is something we would need to consider if that design option moves forward.

Q: The driver is to blame for accidents, not the road design. At this point, we know we need to get this four-lane through, the sooner the better.
A: We are making this plan towards doing that, with your help.

Q: Will the draft corridor plan be circulated for comment before adopted?
A: It will be released when available, as it goes through the approval process there will be public comment opportunities.

Q: Will they be made available in the libraries?
A: No. But they will be made available on ODOT's website.

Q: There is a mosquito problem. Get rid of the ditch to get rid of the mosquitoes.
A: It is a wetland and it is roadway drainage, and that would be addressed. That is all in the final design.

Input Form Results

A total of 61 input forms were collected, and 95% of respondents supported the final recommendations. Specifically:

I support ODOT's recommendations:
__Yes: 42 (69%)
__Yes, with this question or concern: 16 (26%)
__No: 2 (3%)
__Comment only: 1 (2%)

Comments on Input Forms	Support Recommend-ations?
No piers. The sooner the better!	Yes
No piers. Use fill for road bed. Take bikes off highway.	Yes
4-lane ASAP!	Yes
I like the no passing idea. We need a little more law enforcement in that area.	Yes
Just do it! Fill the potholes now!!	Yes
I think the south bike walking path is best, for drivers and future recreational development	Yes
I like the southern alignment for multi-use path in hopes it could be built earlier.	Yes
Get it done while I'm still able to drive - please!!	Yes
Bike lane should definitely be a part of this project. I do not support the south alignment for the bike lane.	Yes
Bike lane south if possible.	Yes
Build next to RR on RR ROW. Fill the mosquito swamp. Roadbed on 126 is former gravel road with faulty sub-grade. ODOT paved a cow path.	Yes
Eliminate pier option. Fill under northern improvements.	Yes
Want bike route southern alignment	Yes
Especially with bike access southern alignment	Yes
Would like to emphasize the southern bike path be built as part of spot improvements	Yes
We need traffic signal on Ellmaker	Yes
Four-lane on dike preferred (mitigate wetlands elsewhere) and since this would include wide shoulders, the bike lane on the southern alignment would be less effective (redundant). Spot improvements should proceed IMMEDIATELY. The adjacent multi-use path is a good compromise between southern off-system path and shoulder use by bikes/peds. Trucks and RVs are a frequent hold-up along the corridor and short-term improvements should evaluate SMV placement.	Yes
Piers too expensive. Yes to bike/walk paths, Territorial widen for bikes. Tell Corps that bike/walk path needed around the whole lake.	Yes with Q
Please, no piers just make 4 lanes on the dike.	Yes with Q
Keep the multi-path adjacent to the highway so it is funded by the project.	Yes with Q
If the spot improvements are initiated they must NOT be escalated to take the place of the 4 lanes!	Yes with Q
I would much rather have the 4 lane built ASAP. But, if only can do spot improvements would be better than nothing. Would rather have road on dike, not piers due to costs and weather concerns. Let's do it right the first time. You've done a good job. Wish we could start today!	Yes with Q
4 lanes, let us do it right not on the cheap.	Yes with Q
Please don't let the environmentalists priorities come ahead of the safety of motorists and their passengers. A good example is the spotted owl. They relocated without much help from human beings.	Yes with Q
I feel that a four-lane highway with jersey barrier and lights on a dike is the way to go. Piers seem to be waste of money, considering the railroad dike. I prefer the southern route for the multiuse path. Where does the money come from?	Yes with Q

My only concern is that we nickel and dime the money away before the project is actually committed and done. Please don't let that happen to Highway 126 again.	Yes with Q
I support the 4-lane on causeway, plus southern multi-use path. For $2 million, the path should be incorporated (along with "no pass" striping and signage) into short-term improvements. This would improve the corridor for bikes, peds and vehicles immediately. Also don't give up on more LTD express service from downtown Veneta to the westerly terminus of the EmX! They would be mutually supportive.	Yes with Q
I think the multi-use path should be on the south alignment and not along West 11th.	Yes with Q
Only for the dike procedure. No, if on piers. I am afraid environmental pushers will force piers on the project, with no benefit for traffic mitigation. And with huge construction and maintenance costs.	Yes with Q
The focus should be a safe and cost effective transportation route. It is not Crater Lake. Keep environmental reasonable. No piers.	Yes with Q
Roadkill - already significant and would increase with widening.	Yes with Q
What are the priorities for spot improvements and when can we expect some action on these? The 4-lane is ideal. It is commendable to have a plan that is agreed upon. However, I would like to see immediate action in terms of spot improvements to address safety issues first and foremost. At night, in the rain, it is difficult to see the ROAD! What do we need to do to get reflectors on the whole stretch of the road in question??? ASAP This is a public safety issue and addressing it may not be all THAT expensive.	Yes with Q
I approve of the 3-lane plan with added improvements of signs, bus stop and light improvements.	No
LTD bus schedule improved more frequently and multi-use path is a must. Really need to weigh the north extension into Fern Ridge canal. I believe that the road needs to be improved. Spot improvements will go a long way. Be cognizant of the waterway usage along north side of road across Fern Ridge Reservoir.	No
There needs to be more reflective lane and crossing markers to help people in dark, rainy or foggy nights. Now, visibility is very bad. Huston Road north of 126 is dangerous for drivers headed south toward 126. A slight rise in the road makes Huston south as it goes over the RR tracks appear continuous and 126 itself is not visible.	?

For a project description, visit www.highway126.org
To contact the project, email info@highway126.org.

Highway 126 Fern Ridge Corridor Plan
Community Forum #3: Choose an Option
Tuesday, May 8th, 6-7:30 pm

At our first meeting last October we asked participants open-ended questions to gather *input for the project purpose, need, and goals*. In the second meeting in January, the project presented a *range of alternatives* to solve the problem and we gathered specific information on each alternative through a survey. At this point in the project, most of the work is done. Your *input on the final recommendation* is the final step in this phase of the project:

Please check one:

I support ODOT's recommendations:

______ Yes

_______ No

_______ Yes, with this question or concern:

You are welcome to add other comments here:

Appendix J. Project Cost Estimates and Supplemental Traffic Analysis Data

PRELIMINARY COST ESTIMATE Otak, Inc.					
SECTION	OR126W: Fern Ridge Corridor 3-Lane Option with Multi-Use Path on Southern Alignment			COUNTY	Lane County
Otak Proj No. 16112	KIND OF WORK Grading, Drainage, Structure, Paving, Signing, Illumination, and Roadside Development	LENGTH 6.4 mi	DATE 6/20/12	ROADWAY DESIGNER	Otak, Inc.
ITEM NUMBER	**ITEM DESCRIPTION**	**UNIT**	**AMOUNT**	**UNIT COST**	**TOTAL**
TEMPORARY FEATURES					
1	MOBILIZATION (12% of material costs)	LS	1	$4,824,100	$4,824,100
2	TEMPORARY TRAFFIC CONTROL (7.5% of material costs)	LS	1	$3,015,100	$3,015,100
3	EROSION CONTROL (4% of material costs)	LS	1	$1,608,100	$1,608,100
4	POLLUTION CONTROL PLAN (2.5% of material costs)	LS	1	$1,005,100	$1,005,100
5	CONSTRUCTION SURVEY WORK (7.5% of material costs)	LS	1	$3,015,100	$3,015,100
EARTHWORK					
6	EMBANKMENT, RESERVOIR-NORTH	CY	161,111	$20	$3,222,222
7	EMBANKMENT, RESERVOIR-SOUTH	CY	5,800	$20	$116,000
8	EMBANKMENT, ROADWAY	CY	253,315	$20	$5,066,300
ROADWORK					
9	SIGN & STRIPE REMOVAL	FT	100,950	$1.50	$151,425
10	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (2.5% of widened roadways)	LS	1	$771,900	$771,900
11	ASPHALT SAWCUTTING	LF	67,300	$1.50	$100,950
12	COLD PLANE PAVEMENT REMOVAL, 1-2 INCH DEEP	SY	104,689	$5	$523,444
13	SUBGRADE STABILIZATION	SY	31,900	$20	$638,000
14	FULL DEPTH RECONSTRUCTION: 3-LN VERY CONSTRAINED	LF	15,950	$472	$7,528,400
15	FULL DEPTH RECONSTRUCTION: 3-LN CONSTRAINED	LF	16,800	$520	$8,736,000
16	FULL DEPTH RECONSTRUCTION: 3-LN UNCONSTRAINED	LF	900	$540	$486,000
17	CONCRETE BARRIER	LF	0	$50	$0
18	MULTI-USE PATH	LF	40,200	$60	$2,412,000
19	MINOR INTERSECTION IMPROVEMENTS	EA	5	$16,000	$80,000
20	INTERSECTION STREET LIGHTING	EA	4	$12,000	$48,000
21	BUS STOP IMPROVEMENTS	EA	5	$5,000	$25,000
22	GUARDRAIL	LF	14,000	$30	$420,000
STRUCTURES					
23	STRUCTURES, WIDENING	EA	3	$646,000	$1,938,000
24	OVERPASS STRUCTURE, WIDENING	SF	14,400	$350	$5,040,000
STORMWATER FACILITIES					
25	WATER QUALITY FACILITY	LS	1	$1,750,000	$1,750,000
26	CULVERT EXTENSIONS	EA	1	$250,000	$250,000
PERMANENT TRAFFIC CONTROL					
27	STRIPING	LF	134,600	$3.20	$430,720
28	LEGENDS	EA	20	$450	$9,000
29	CROSSWALKS	EA	5	$3,000	$15,000
30	MILE MARKER POSTS	EA	13	$100	$1,300
31	SIGNING (2 sides, 500' O.C. avg)	EA	135	$300	$40,380
32	TRAFFIC SIGNALS	EA	2	$200,000	$400,000
TOTALS					
	SUBTOTAL OF ITEMS				**$53,667,542**
	SOFT COSTS (30%)				$16,100,263
	CONSTRUCTION CONTINGENCIES (30%)				$16,100,263
	CONSTRUCTION ENGINEERING (10%)				$5,366,754
33	RIGHT-OF-WAY ACQUISITION	SF	117,059	$2.50	$292,646
34	TEMPORARY CONSTRUCTION EASEMENT	SF	874,000	$1.00	$874,000
	SUBTOTAL OF ITEMS				**$92,401,467**
	ROUNDED COST ESTIMATE				**$95,000,000**

PRELIMINARY COST ESTIMATE Otak, Inc.						
SECTION	OR126W: Fern Ridge Corridor 3-Lane Option with Adjacent Multi-Use Path				COUNTY Lane County	
Otak Proj No. 16112	KIND OF WORK Grading, Drainage, Structure, Paving, Signing, Illumination, and Roadside Development	LENGTH 6.4 mi	DATE 6/20/12	ROADWAY DESIGNER Otak, Inc.		
ITEM NUMBER	ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL	
TEMPORARY FEATURES						
1	MOBILIZATION (10% of material costs)	LS	1	$4,329,900	$4,329,900	
2	TEMPORARY TRAFFIC CONTROL (5% of material costs)	LS	1	$2,165,000	$2,165,000	
3	EROSION CONTROL (2.5% of material costs)	LS	1	$1,082,500	$1,082,500	
4	POLLUTION CONTROL PLAN (1.5% of material costs)	LS	1	$649,500	$649,500	
5	CONSTRUCTION SURVEY WORK (5% of material costs)	LS	1	$2,165,000	$2,165,000	
EARTHWORK						
6	EMBANKMENT, RESERVOIR-NORTH	CY	161,111	$20	$3,222,222	
7	EMBANKMENT, RESERVOIR-SOUTH	CY	5,800	$20	$116,000	
8	EMBANKMENT, ROADWAY	CY	253,315	$20	$5,066,300	
ROADWORK						
9	SIGN & STRIPE REMOVAL	FT	100,950	$1.50	$151,425	
10	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (1.5% of widened roadways)	LS	1	$513,500	$513,500	
11	ASPHALT SAWCUTTING	LF	67,300	$1.50	$100,950	
12	COLD PLANE PAVEMENT REMOVAL, 1-2 INCH DEEP	SY	104,689	$5	$523,444	
13	SUBGRADE STABILIZATION	SY	31,900	$20	$638,000	
14	FULL DEPTH RECONSTRUCTION: 3-LN VERY CONSTRAINED	LF	15,950	$472	$7,528,400	
15	FULL DEPTH RECONSTRUCTION: 3-LN CONSTRAINED	LF	16,800	$520	$8,736,000	
16	FULL DEPTH RECONSTRUCTION: 3-LN UNCONSTRAINED	LF	900	$540	$486,000	
17	CONCRETE BARRIER	LF	16,800	$50	$840,000	
18	MULTI-USE PATH	LF	32,910	$60	$1,974,600	
19	MINOR INTERSECTION IMPROVEMENTS	EA	5	$16,000	$80,000	
20	INTERSECTION STREET LIGHTING	EA	4	$12,000	$48,000	
21	BUS STOP IMPROVEMENTS	EA	5	$5,000	$25,000	
22	GUARDRAIL	LF	14,000	$30	$420,000	
STRUCTURES						
23	STRUCTURES, WIDENING	EA	3	$1,054,000	$3,162,000	
24	OVERPASS STRUCTURE, WIDENING	SF	19,200	$350	$6,720,000	
STORMWATER FACILITIES						
25	WATER QUALITY FACILITY	LS	1	$1,800,000	$1,800,000	
26	CULVERT EXTENSIONS	EA	1	$250,000	$250,000	
PERMANENT TRAFFIC CONTROL						
27	STRIPING	LF	134,600	$3.20	$430,720	
28	LEGENDS	EA	20	$450	$9,000	
29	CROSSWALKS	EA	5	$3,000	$15,000	
30	MILE MARKER POSTS	EA	13	$100	$1,300	
31	SIGNING (2 sides, 500' O.C. avg)	EA	135	$300	$40,380	
32	TRAFFIC SIGNALS	EA	2	$200,000	$400,000	
TOTALS						
	SUBTOTAL OF ITEMS				**$53,690,142**	
	SOFT COSTS (30%)				$16,107,043	
	CONSTRUCTION CONTINGENCIES (30%)				$16,107,043	
	CONSTRUCTION ENGINEERING (10%)				$5,369,014	
33	RIGHT-OF-WAY ACQUISITION	SF	117,059	$2.50	$292,646	
34	TEMPORARY CONSTRUCTION EASEMENT	SF	673,000	$1.00	$673,000	
	SUBTOTAL OF ITEMS				**$92,238,887**	
	ROUNDED COST ESTIMATE				**$95,000,000**	

PRELIMINARY COST ESTIMATE Otak, Inc.					
SECTION **OR126W: Fern Ridge Corridor 4-Lane Option with Multi-Use Path on Southern Alignment**				COUNTY **Lane County**	
Otak Proj No. **16112**	KIND OF WORK **Grading, Drainage, Structure, Paving, Signing, Illumination, and Roadside Development**	LENGTH **6.4 mi**	DATE 6/20/12	ROADWAY DESIGNER **Otak, Inc.**	
ITEM NUMBER	**ITEM DESCRIPTION**	**UNIT**	**AMOUNT**	**UNIT COST**	**TOTAL**
TEMPORARY FEATURES					
1	MOBILIZATION (12% of material costs)	LS	1	$5,179,800	$5,179,800
2	TEMPORARY TRAFFIC CONTROL (7.5% of material costs)	LS	1	$3,237,400	$3,237,400
3	EROSION CONTROL (4% of material costs)	LS	1	$1,726,600	$1,726,600
4	POLLUTION CONTROL PLAN (2.5% of material costs)	LS	1	$1,079,200	$1,079,200
5	CONSTRUCTION SURVEY WORK (7.5% of material costs)	LS	1	$3,237,400	$3,237,400
EARTHWORK					
6	EMBANKMENT, RESERVOIR-NORTH	CY	238,444	$20	$4,768,889
7	EMBANKMENT, RESERVOIR-SOUTH	CY	30,289	$20	$605,778
8	EMBANKMENT, ROADWAY	CY	475,040	$20	$9,500,800
ROADWORK					
9	SIGN & STRIPE REMOVAL	FT	100,950	$1.50	$151,425
10	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (2.5% of widened roadways)	LS	1	$1,049,200	$1,049,200
11	ASPHALT SAWCUTTING	LF	67,300	$1.50	$100,950
12	COLD PLANE PAVEMENT REMOVAL, 1-2 INCH DEEP	SY	104,689	$5	$523,444
13	SUBGRADE STABILIZATION	SY	100,156	$20	$2,003,111
14	FULL DEPTH RECONSTRUCTION: 4-LN VERY CONSTRAINED (8 ft)	LF	16,400	$620	$10,168,000
15	FULL DEPTH RECONSTRUCTION: 4-LN VERY CONSTRAINED (16 ft)	LF	7,550	$685	$5,171,750
16	FULL DEPTH RECONSTRUCTION: 4-LN CONSTRAINED (8 ft)	LF	2,500	$655	$1,637,500
17	FULL DEPTH RECONSTRUCTION: 4-LN CONSTRAINED (16 ft)	LF	5,850	$720	$4,212,000
18	FULL DEPTH RECONSTRUCTION: 4-LN UNCONSTRAINED	LF	950	$685	$650,750
19	CONCRETE BARRIER	LF	0	$60	$0
20	MULTI-USE PATH	LF	40,200	$60	$2,412,000
21	MINOR INTERSECTION IMPROVEMENTS	EA	5	$16,000	$80,000
22	INTERSECTION STREET LIGHTING	EA	4	$12,000	$48,000
23	BUS STOP IMPROVEMENTS	EA	5	$5,000	$25,000
24	GUARDRAIL	LF	14,000	$30	$420,000
STRUCTURES					
25	STRUCTURES, WIDENING	EA	3	$1,190,000	$3,570,000
26	OVERPASS STRUCTURE, WIDENING	SF	20,800	$350	$7,280,000
STORMWATER FACILITIES					
27	WATER QUALITY FACILITY	LS	1	$2,300,000	$2,300,000
28	CULVERT EXTENSIONS	EA	1	$250,000	$250,000
PERMANENT TRAFFIC CONTROL					
29	STRIPING	LF	201,900	$3.20	$646,080
30	LEGENDS	EA	20	$450	$9,000
31	CROSSWALKS	EA	5	$3,000	$15,000
32	MILE MARKER POSTS	EA	13	$100	$1,300
33	SIGNING (2 sides, 500' O.C. avg)	EA	135	$300	$40,380
34	TRAFFIC SIGNALS	EA	2	$200,000	$400,000
TOTALS					
	SUBTOTAL OF ITEMS				**$72,500,757**
	SOFT COSTS (30%)				$21,750,227
	CONSTRUCTION CONTINGENCIES (30%)				$21,750,227
	CONSTRUCTION ENGINEERING (10%)				$7,250,076
35	RIGHT-OF-WAY ACQUISITION	SF	225,390	$2.50	$563,475
36	TEMPORARY CONSTRUCTION EASEMENT	SF	874,000	$1.00	$874,000
	SUBTOTAL OF ITEMS				**$124,688,762**
	ROUNDED COST ESTIMATE				**$130,000,000**

PRELIMINARY COST ESTIMATE Otak, Inc.					
SECTION **OR126W: Fern Ridge Corridor 4-Lane Option with Adjacent Multi-Use Path**				COUNTY **Lane County**	
Otak Proj No. **16112**	KIND OF WORK **Grading, Drainage, Structure, Paving, Signing, Illumination, and Roadside Development**	LENGTH **6.4 mi**	DATE 6/20/12	ROADWAY DESIGNER **Otak, Inc.**	
ITEM NUMBER	**ITEM DESCRIPTION**	**UNIT**	**AMOUNT**	**UNIT COST**	**TOTAL**
TEMPORARY FEATURES					
1	MOBILIZATION (10% of material costs)	LS	1	$4,560,600	$4,560,600
2	TEMPORARY TRAFFIC CONTROL (5% of material costs)	LS	1	$2,280,300	$2,280,300
3	EROSION CONTROL (2.5% of material costs)	LS	1	$1,140,200	$1,140,200
4	POLLUTION CONTROL PLAN (1.5% of material costs)	LS	1	$684,100	$684,100
5	CONSTRUCTION SURVEY WORK (5% of material costs)	LS	1	$2,280,300	$2,280,300
EARTHWORK					
6	EMBANKMENT, RESERVOIR-NORTH	CY	238,444	$20	$4,768,889
7	EMBANKMENT, RESERVOIR-SOUTH	CY	30,289	$20	$605,778
8	EMBANKMENT, ROADWAY	CY	475,040	$20	$9,500,800
ROADWORK					
9	SIGN & STRIPE REMOVAL	FT	100,950	$1.50	$151,425
10	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (1.5% of widened roadways)	LS	1	$671,800	$671,800
11	ASPHALT SAWCUTTING	LF	67,300	$1.50	$100,950
12	COLD PLANE PAVEMENT REMOVAL, 1-2 INCH DEEP	SY	104,689	$5	$523,444
13	SUBGRADE STABILIZATION	SY	100,156	$20	$2,003,111
14	FULL DEPTH RECONSTRUCTION: 4-LN VERY CONSTRAINED (8 ft)	LF	16,400	$620	$10,168,000
15	FULL DEPTH RECONSTRUCTION: 4-LN VERY CONSTRAINED (16 ft)	LF	7,550	$685	$5,171,750
16	FULL DEPTH RECONSTRUCTION: 4-LN CONSTRAINED (8 ft)	LF	2,500	$655	$1,637,500
17	FULL DEPTH RECONSTRUCTION: 4-LN CONSTRAINED (16 ft)	LF	5,850	$720	$4,212,000
18	FULL DEPTH RECONSTRUCTION: 4-LN UNCONSTRAINED	LF	950	$685	$650,750
19	CONCRETE BARRIER	LF	5,850	$60	$351,000
20	MULTI-USE PATH	LF	32,910	$60	$1,974,600
21	MINOR INTERSECTION IMPROVEMENTS	EA	5	$16,000	$80,000
22	INTERSECTION STREET LIGHTING	EA	4	$12,000	$48,000
23	BUS STOP IMPROVEMENTS	EA	5	$5,000	$25,000
24	GUARDRAIL	LF	14,000	$30	$420,000
STRUCTURES					
25	STRUCTURES, WIDENING	EA	3	$1,598,000	$4,794,000
26	OVERPASS STRUCTURE, WIDENING	SF	25,600	$350	$8,960,000
STORMWATER FACILITIES					
27	WATER QUALITY FACILITY	LS	1	$2,300,000	$2,300,000
28	CULVERT EXTENSIONS	EA	1	$250,000	$250,000
PERMANENT TRAFFIC CONTROL					
29	STRIPING	LF	201,900	$3.20	$646,080
30	LEGENDS	EA	20	$450	$9,000
31	CROSSWALKS	EA	5	$3,000	$15,000
32	MILE MARKER POSTS	EA	13	$100	$1,300
33	SIGNING (2 sides, 500' O.C. avg)	EA	135	$300	$40,380
34	TRAFFIC SIGNALS	EA	2	$200,000	$400,000
TOTALS					
	SUBTOTAL OF ITEMS				**$71,426,057**
	SOFT COSTS (30%)				$21,427,817
	CONSTRUCTION CONTINGENCIES (30%)				$21,427,817
	CONSTRUCTION ENGINEERING (10%)				$7,142,606
35	RIGHT-OF-WAY ACQUISITION	SF	225,390	$2.50	$563,475
36	TEMPORARY CONSTRUCTION EASEMENT	SF	673,000	$1.00	$673,000
	SUBTOTAL OF ITEMS				**$122,660,772**
	ROUNDED COST ESTIMATE				**$130,000,000**

PRELIMINARY COST ESTIMATE
Otak, Inc.

SECTION				COUNTY	
OR126W: Fern Ridge Corridor Spot Improvements with Multi-Use Path on Southern Alignment				**Lane County**	
Otak Proj No.	KIND OF WORK	LENGTH	DATE	ROADWAY DESIGNER	
16112	**Grading, Drainage, Structure, Paving, Signing, Illumination, and Roadside Development**	**6.4 mi**	**6/20/12**	**Otak, Inc.**	
ITEM NUMBER	**ITEM DESCRIPTION**	**UNIT**	**AMOUNT**	**UNIT COST**	**TOTAL**
TEMPORARY FEATURES					
1	MOBILIZATION (10% of material costs)	LS	1	$441,600	$441,600
2	TEMPORARY TRAFFIC CONTROL (5% of material costs)	LS	1	$220,800	$220,800
3	EROSION CONTROL (2.5% of material costs)	LS	1	$110,400	$110,400
4	POLLUTION CONTROL PLAN (1.5% of material costs)	LS	1	$66,300	$66,300
5	CONSTRUCTION SURVEY WORK (5% of material costs)	LS	1	$220,800	$220,800
EARTHWORK					
6	EMBANKMENT, MULTI-USE PATH	CY	53,600	$20	$1,072,000
ROADWORK					
7	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (1.5% of widened roadways)	LS	1	$65,300	$65,300
8	MULTI-USE PATH	LF	40,200	$60	$2,412,000
9	ADDITIONAL TURN LANE	LF	7,575	$160	$1,212,000
10	MINOR INTERSECTION IMPROVEMENTS	EA	5	$16,000	$80,000
11	PEDESTRIAN REFUGE ISLAND (8'x16')	EA	2	$1,200	$2,400
12	INTERSECTION STREET LIGHTING	EA	4	$12,000	$48,000
13	BUS STOP IMPROVEMENTS	EA	5	$5,000	$25,000
PERMANENT TRAFFIC CONTROL					
14	STRIPING	LF	7,575	$3.20	$24,240
15	LEGENDS	EA	20	$450	$9,000
16	CROSSWALKS	EA	5	$3,000	$15,000
17	SIGNING (2 sides, 200' O.C. avg)	EA	76	$300	$22,725
18	TRAFFIC SIGNALS	EA	2	$250,000	$500,000
TOTALS					
	SUBTOTAL OF ITEMS				**$6,547,565**
	SOFT COSTS (30%)				$1,964,270
	CONSTRUCTION CONTINGENCIES (30%)				$1,964,270
	CONSTRUCTION ENGINEERING (10%)				$654,757
19	RIGHT-OF-WAY ACQUISITION	AC	0.00	$3,500	$0
20	TEMPORARY CONSTRUCTION EASEMENT	AC	9.23	$1,500	$13,843
	SUBTOTAL OF ITEMS				**$11,144,703**
	ROUNDED COST ESTIMATE				**$15,000,000**

Left Turn Lane Analysis

Project: **OR 126W Fern Ridge Corridor Plan** Average Vehicle Length in Queue = 25 ft

Scenario(s): **No-Build** Rough estimate because we do not expect trucks to be making these turn movements

2011 Existing 30th HV

Intersection	Approach (NB,SB, EB,WB)	Number of Advancing Lanes	Number of Opposing Lanes	Volume Opposing (Vo)	Volume Advancing (Va)	Combined Volume (÷ Lane)	LT %	LT Vol	ODOT LT Threshold	ODOT Criteria Met?	Max. Est. Queue	Storage Length (ft)
Driveway 1 & Hwy 126	EB	1	1	826	406	1232	0%	1	10	Consider		
Driveway 2 & Hwy 126	EB	1	1	825	405	1230	0%	0	10	No		
Driveway 3 & Hwy 126	EB	1	1	822	405	1227	0%	0	10	No		
Driveway 4 & Hwy 126	EB	1	1	820	405	1225	0%	0	10	No		
Driveway 5 & Hwy 126	EB	1	1	815	405	1220	0%	0	10	No		
Driveway 6 & Hwy 126	EB	1	1	817	406	1223	0%	1	10	Consider		
Driveway 7 & Hwy 126	EB	1	1	820	407	1227	0%	2	10	Consider		
Driveway 8 & Hwy 126	EB	1	1	816	410	1226	0%	0	10	No		
Driveway 9 & Hwy 126	EB	1	1	816	410	1226	0%	0	10	No		
Driveway 10 & Hwy 126	EB	1	1	806	410	1216	2%	10	10	Yes	1	75
Driveway 11 & Hwy 126	EB	1	1	805	400	1205	1%	5	10	Consider		
Driveway 12 & Hwy 126	EB	1	1	800	400	1200	4%	15	10	Yes	1	75
Driveway 13 & Hwy 126	EB	1	1	800	391	1191	0%	1	10	Consider		
Shady Rest Dr & Hwy 126	EB	1	1	895	400	1295	0%	0	10	No		
Lake Side Dr & Hwy 126	EB	1	1	895	400	1295	0%	0	10	No		
Richmond St & Hwy 126	EB	1	1	930	425	1355	0%	0	10	No		
Ken Neilsen Rd & Hwy 126	WB	1	1	435	925	1360	1%	5	10	Consider		

2035 Future 30th HV (No-Build)

Intersection	Approach (NB,SB, EB,WB)	Number of Advancing Lanes	Number of Opposing Lanes	Volume Opposing (Vo)	Volume Advancing (Va)	Combined Volume (÷ Lane)	LT %	LT Vol	ODOT LT Threshold	ODOT Criteria Met?	Max. Est. Queue	Storage Length (ft)
Driveway 1 & Hwy 126	EB	1	1	1116	561	1677	0%	1	10	Consider		
Driveway 2 & Hwy 126	EB	1	1	1110	560	1670	0%	0	10	No		
Driveway 3 & Hwy 126	EB	1	1	1110	560	1670	0%	0	10	No		
Driveway 4 & Hwy 126	EB	1	1	1110	560	1670	0%	0	10	No		
Driveway 5 & Hwy 126	EB	1	1	1105	560	1665	0%	0	10	No		
Driveway 6 & Hwy 126	EB	1	1	1110	561	1671	0%	1	10	Consider		
Driveway 7 & Hwy 126	EB	1	1	1115	560	1675	1%	5	10	Consider		
Driveway 8 & Hwy 126	EB	1	1	1111	560	1671	0%	0	10	No		
Driveway 9 & Hwy 126	EB	1	1	1111	560	1671	0%	0	10	No		
Driveway 10 & Hwy 126	EB	1	1	1096	560	1656	3%	15	10	Yes	1	75
Driveway 11 & Hwy 126	EB	1	1	1095	545	1640	1%	5	10	Consider		
Driveway 12 & Hwy 126	EB	1	1	1090	545	1635	4%	20	10	Yes	2	75
Driveway 13 & Hwy 126	EB	1	1	1090	531	1621	0%	1	10	Consider		
Shady Rest Dr & Hwy 126	EB	1	1	1215	545	1760	0%	0	10	No		
Lake Side Dr & Hwy 126	EB	1	1	1215	545	1760	0%	0	10	No		
Richmond St & Hwy 126	EB	1	1	1265	580	1845	0%	0	10	No		
Ken Neilsen Rd & Hwy 126	WB	1	1	590	1255	1845	0%	5	10	Consider		

*The "Consider" note applies when there are high through volumes but less than 10 left turning vehicles.

ODOT LEFT TURN CRITERIA IS BASED ON THE **8-13-03** LEFT TURN CRITERIA
MAX QUEUE AND STORAGE ESTIMATES BASED ON GARD METHOD

Right-Turn Lane Analysis

Project: OR 126W Fern Ridge Corridor Plan
Scenario(s): No-Build

2011 Existing 30th HV

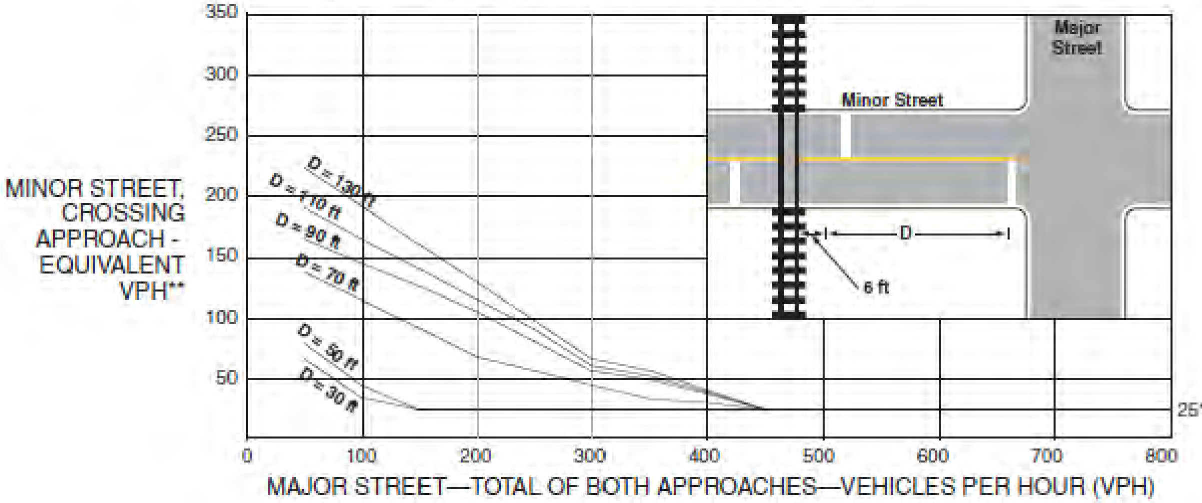
Intersection	Approach (NB,SB, EB,WB)	2-lane or Multi-lane Highway	Volume Advancing (Va)	RT Vol	ODOT RT Lane Criteria	ODOT RT Lane?	NCHRP RT Volume	Taper Criteria	RT Lane Criteria	NCHRP Taper?	NCHRP RT Lane?
Driveway 1 & Hwy 126	WB	2-lane	826	1	20	Shoulder	1	20	40	No	No
Driveway 2 & Hwy 126	WB	2-lane	825	0	20	Shoulder	0	20	40	No	No
Driveway 3 & Hwy 126	WB	2-lane	822	2	20	Shoulder	2	20	40	No	No
Driveway 4 & Hwy 126	WB	2-lane	820	0	20	Shoulder	0	20	40	No	No
Driveway 5 & Hwy 126	WB	2-lane	815	0	20	Shoulder	0	20	40	No	No
Driveway 6 & Hwy 126	WB	2-lane	817	2	20	Shoulder	2	20	40	No	No
Driveway 7 & Hwy 126	WB	2-lane	820	5	20	Shoulder	5	20	40	No	No
Driveway 8 & Hwy 126	WB	2-lane	816	1	20	Shoulder	1	20	40	No	No
Driveway 9 & Hwy 126	WB	2-lane	816	1	20	Shoulder	1	20	40	No	No
Driveway 10 & Hwy 126	WB	2-lane	806	1	20	Shoulder	1	20	40	No	No
Driveway 11 & Hwy 126	WB	2-lane	805	10	20	Shoulder	10	20	40	No	No
Driveway 12 & Hwy 126	WB	2-lane	800	10	20	Shoulder	10	20	40	No	No
Driveway 13 & Hwy 126	WB	2-lane	800	0	20	Shoulder	0	20	40	No	No
Ellmaker Rd & Hwy 126	WB	2-lane	915	125	20	Yes	125	20	40	Yes	Yes
Shady Rest Dr & Hwy 126	WB	2-lane	895	0	20	Shoulder	0	20	40	No	No
Lake Side Dr & Hwy 126	WB	2-lane	896	5	20	Shoulder	5	20	40	No	No
Central Rd & Hwy 126	EB	2-lane	397	10	28	No	10	31	68	No	No
Central Rd & Hwy 126	WB	2-lane	1032	2	20	Shoulder	2	20	40	No	No
Fisher Rd & Hwy 126	WB	2-lane	925	5	20	Shoulder	5	20	40	No	No
Richmond St & Hwy 126	WB	2-lane	930	0	20	Shoulder	0	20	40	No	No
Ken Neilsen Rd & Hwy 126	EB	2-lane	435	0	25	No	0	27	63	No	No

2035 Future 30th HV (No-Build)

Intersection	Approach (NB,SB, EB,WB)	2-lane or Multi-lane Highway	Volume Advancing (Va)	RT Vol	ODOT RT Lane Criteria	ODOT RT Lane?	NCHRP RT Volume	Taper Criteria	RT Lane Criteria	NCHRP Taper?	NCHRP RT Lane?
Driveway 1 & Hwy 126	WB	2-lane	1116	1	20	Shoulder	1	20	40	No	No
Driveway 2 & Hwy 126	WB	2-lane	1110	0	20	Shoulder	0	20	40	No	No
Driveway 3 & Hwy 126	WB	2-lane	1110	5	20	Shoulder	5	20	40	No	No
Driveway 4 & Hwy 126	WB	2-lane	1110	0	20	Shoulder	0	20	40	No	No
Driveway 5 & Hwy 126	WB	2-lane	1105	0	20	Shoulder	0	20	40	No	No
Driveway 6 & Hwy 126	WB	2-lane	1110	5	20	Shoulder	5	20	40	No	No
Driveway 7 & Hwy 126	WB	2-lane	1115	5	20	Shoulder	5	20	40	No	No
Driveway 8 & Hwy 126	WB	2-lane	1111	1	20	Shoulder	1	20	40	No	No
Driveway 9 & Hwy 126	WB	2-lane	1111	1	20	Shoulder	1	20	40	No	No
Driveway 10 & Hwy 126	WB	2-lane	1096	1	20	Shoulder	1	20	40	No	No
Driveway 11 & Hwy 126	WB	2-lane	1095	15	20	Shoulder	15	20	40	No	No
Driveway 12 & Hwy 126	WB	2-lane	1090	15	20	Shoulder	15	20	40	No	No
Driveway 13 & Hwy 126	WB	2-lane	1090	0	20	Shoulder	0	20	40	No	No
Ellmaker Rd & Hwy 126	WB	2-lane	1245	170	20	Yes	170	20	40	Yes	Yes
Shady Rest Dr & Hwy 126	WB	2-lane	1215	0	20	Shoulder	0	20	40	No	No
Lake Side Dr & Hwy 126	WB	2-lane	1216	5	20	Shoulder	5	20	40	No	No
Central Rd & Hwy 126	EB	2-lane	545	15	20	No	15	20	48	No	No
Central Rd & Hwy 126	WB	2-lane	1405	5	20	Shoulder	5	20	40	No	No
Fisher Rd & Hwy 126	WB	2-lane	1255	5	20	Shoulder	5	20	40	No	No
Richmond St & Hwy 126	WB	2-lane	1265	0	20	Shoulder	0	20	40	No	No
Ken Neilsen Rd & Hwy 126	EB	2-lane	590	0	20	No	0	20	41	No	No

Signal Warrant Analysis

Figure 4C-9. Warrant 9, Intersection Near a Grade Crossing (One Approach Lane at the Track Crossing)



* 25 vph applies as the lower threshold volume
** VPH after applying the adjustment factors in Tables 4C-2, 4C-3, and/or 4C-4, if appropriate

MUTCD Signal Warrant 9: Intersection Near a Grade Crossing

Scenario: 2035 No-Build P.M. Peak Hour (DHV)

Intersection	Daily Rail Traffic	Crossing Approach Large Vehicle %	Stop Bar Distance from Rail Crossing	Major Volume	Minor Volume	Adjusted Minor Volume*	Warrant Met
OR 126W/Huston Road	2**	4%	45 feet	1,635	95	65	Yes
OR 126W/Central Road	2**	4%	50 feet	1,950	120	82	Yes

*See Tables 4C-2, 4C-3 and 4C-4 for adjustment factors.
**Currently one to two trains per week but assumed as two per day in 2035.

Table 4C-2. Warrant 9, Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Warrant 9, Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor-Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people.

Table 4C-4. Warrant 9, Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

Oregon Department of Transportation

Transportation Development Branch

Transportation Planning Analysis Unit

Preliminary Traffic Signal Warrant Analysis[1]

Major Street:	OR 126W	**Minor Street:**	Huston Rd
Project:	OR 126W Corridor Plan	**City/County:**	Veneta
Year:	2035	**Alternative:**	No-Build

Preliminary Signal Warrant Volumes

Number of Approach lanes		ADT on major street approaching from both directions		ADT on minor street, highest approaching volume	
Major Street	Minor Street	Percent of standard warrants 100	70	percent of standard warrants 100	70
Case A: Minimum Vehicular Traffic					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
Case B: Interruption of Continuous Traffic					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

5.65% of the above ADT volumes is equal to the MUTCD vehicles per hour (vph)

		100 percent of standard warrants
	x	70 percent of standard warrants[2]

Preliminary Signal Warrant Calculation

	Street	Number of Lanes	Warrant Volumes	Approach Volumes	Warrant Met
Case A	Major	1	6,200	16,350	No
	Minor	1	1,850	250	
Case B	Major	1	9,300	16,350	No
	Minor	1	950	250	

Analyst and Date: DKS 02/29/12	Reviewer and Date:

[1] Meeting preliminary signal warrants does **not** guarantee that a signal will be installed. Before a signal can be installed a traffic signal investigation must be conducted or reviewed by the Region Traffic Manager. Traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway.

[2] Used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000.

Oregon Department of Transportation
Transportation Development Branch
Transportation Planning Analysis Unit

Preliminary Traffic Signal Warrant Analysis[1]

Major Street:	OR 126W	**Minor Street:**	Central Rd
Project:	OR 126W Corridor Plan	**City/County:**	Veneta
Year:	2035	**Alternative:**	No-Build

Preliminary Signal Warrant Volumes

Number of Approach lanes		ADT on major street approaching from both directions		ADT on minor street, highest approaching volume	
Major Street	Minor Street	Percent of standard warrants 100	70	percent of standard warrants 100	70
Case A: Minimum Vehicular Traffic					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
Case B: Interruption of Continuous Traffic					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

5.65% of the above ADT volumes is equal to the MUTCD vehicles per hour (vph)

		100 percent of standard warrants
	x	70 percent of standard warrants[2]

Preliminary Signal Warrant Calculation

	Street	Number of Lanes	Warrant Volumes	Approach Volumes	Warrant Met
Case A	Major	1	6,200	19,500	No
	Minor	1	1,850	400	
Case B	Major	1	9,300	19,500	No
	Minor	1	950	400	
Analyst and Date: DKS 02/29/12			Reviewer and Date:		

[1] Meeting preliminary signal warrants does **not** guarantee that a signal will be installed. Before a signal can be installed a traffic signal investigation must be conducted or reviewed by the Region Traffic Manager. Traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway.

[2] Used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000.

Appendix K. Lane County Ordinances: No. 13-1 and No. PA 1297 (Including Staff Report)

BEFORE THE BOARD OF COMMISSIONERS OF LANE COUNTY, OREGON

ORDINANCE NO: 13-1

IN THE MATTER OF AMENDING LANE CODE CHAPTER 16 TO ADD NEW TEXT FOR THE HIGHWAY 126 FERN RIDGE CORRIDOR PLAN WITHIN THE LANE COUNTY RURAL COMPREHENSIVE PLAN (LCRCP)

WHEREAS, the Lane County Board of Commissioners ordains as follows; and

WHEREAS, certain changes to Lane Code Chapter 16 are desired to provide for a new Highway 126 Fern Ridge Corridor Plan.

NOW, THEREFORE, IT IS HEREBY ORDAINED, Lane Code Chapter 16 is amended by removing, substituting and adding the following sections:

REMOVE THESE SECTIONS	**INSERT THESE SECTIONS**
16.400	16.400

Amended section 16.400 is attached hereto and incorporated herein by reference.

Although not a part of this Ordinance, the Board of County Commissioners adopts Lane County findings in support of this action as set forth in Exhibit "A".

ADOPTED this _____ day of ________________, 2013.

Sid Leiken, Chair, Lane County Board of Commissioners

Recording Secretary for this Meeting of the Board

APPROVED AS TO FORM
Date 1/23/13 Lane County

OFFICE OF LEGAL COUNSEL

RURAL COMPREHENSIVE PLAN AMENDMENTS
RURAL COMPREHENSIVE PLAN

16.400 Rural Comprehensive Plan Amendments.

16.400 Rural Comprehensive Plan Amendments.

(1) Purpose. The Board shall adopt a Rural Comprehensive Plan. The general purpose of the Rural Comprehensive Plan is the guiding of social, economic and physical development of the County to best promote public health, safety, order, convenience, prosperity and general welfare. The Rural Comprehensive Plan shall be considered to be a dynamic policy instrument that can be modified to reflect changing circumstances and conditions as well as to correct errors and oversights. It is recognized that the Rural Comprehensive Plan affects the people of Lane County, and it is, therefore, important that the ability by individuals to propose amendments be free of restraint.

(2) Scope and Organization. The Rural Comprehensive Plan shall conform to the requirements of Statewide Planning Goals. The Rural Comprehensive Plan shall consist of components which shall be organized into categories by Plan type or geographic area as described in LC 16.400(3) below.

(3) Plan Categories.

(a) Rural Comprehensive Plan. This category includes all plans relating to lands beyond the Eugene-Springfield Metropolitan Area General Plan boundary and the urban growth boundaries of the cities within Lane County.

(b) Special Purpose Plan. This category includes Plans addressing a single or special need. The Plans may apply Countywide or to a limited area.

(4) Rural Comprehensive Plan Described. The Rural Comprehensive Plan of Lane County shall consist of the following components:

(a) Rural Comprehensive Plan.

(i) General Plan Policies and Plan Designations applying throughout Lane County outside of the Metropolitan Area General Plan and outside of all urban growth boundaries (Adopted by Ordinance No. 883).

(b) Special Purpose Plans.

(i) Transportation System Plan (Adopted by Ordinance No. 3-80 and Amended by Ordinance No. 10-04PA 1202) and the following component of the Transportation System Plan:

(aa) Coburg/Interstate 5 Interchange Area Management Plan (Adopted by Ordinance No. PA 1258).

(bb) Highway 126 Fern Ridge Corridor Plan (Adopted by Ordinance No. PA 1297).

(ii) Willamette Greenway Plan Ordinance No. 783).

(iii) Parks and Open Space Plan (Adopted by Ordinance No. 850).

(iv) Solid Waste Management Plan (Adopted by Ordinance No. 771) (Amended by Ordinance Nos. 79-80, PA 918 and PA 1179).

(v) Coastal Resources Management Plan (Adopted by Ordinance No. 803) (Amended by Ordinance Nos. 862 and 876).

(vi) Siuslaw River Dredged Material Disposal Plan (Adopted by Ordinance No. 749) (Amended by Ordinance Nos. 861 and 877).

(vii) Housing Plan (Adopted by Ordinance No. 1-78).

(5) Interrelationship of Plan Components. New Comprehensive Plan components shall include a description of relationship to other Plan components within the respective Plan category and to the overall Rural Comprehensive Plan. Existing Plan components not containing such a description of relationship shall, at the next update of that Plan, be amended to include such a description.

(6) <u>Plan Adoption or Amendment - General Procedures</u>. The Rural Comprehensive Plan, or any component of such Plan, shall be adopted or amended in accordance with the following procedures:

(a) Referral to Planning Commission. Before the Board takes any action on a Rural Comprehensive Plan component, or an amendment to such Plan component, a report and recommendation thereon shall be requested from the County Planning Commission and a reasonable time allowed for the submission of such report and recommendation. In the event the Rural Comprehensive Plan component, or amendment applies to a limited geographic area, only the Planning Commission having jurisdiction of that area need receive such referral.

(b) Planning Commission - Hearing and Notice.

(i) The Planning Commission shall hold at least one public hearing before making a recommendation to the Board on a Rural Comprehensive Plan component, or an amendment to such Plan component, and the hearing shall be conducted pursuant to LC 14.300.

(ii) Notice of the time and place of hearing shall be given, pursuant to LC 14.300.

(iii) If an exception to State Planning Goals is to be considered during the hearing, such exception shall be specifically noted in the notices of such hearing.

(iv) The proposed Rural Comprehensive Plan component, or an amendment to such Plan component, shall be on file with the Director and available for public examination for at least 10 days prior to the time set for hearing thereon.

(c) Planning Commission - Consideration With Other Agencies.

(i) In considering a Rural Comprehensive Plan component, or an amendment to such Plan component, the Planning Commission shall take account of and seek to harmonize, within the framework of the needs of the County, the Comprehensive Plans of cities, and the Plans and planning activities of local, state, federal and other public agencies, organizations and bodies within the County and adjacent to it.

(ii) The Planning Commission, during consideration of a Rural Comprehensive Plan component or an amendment to such Plan component, shall consult and advise with public officials and agencies, public utility companies, civic, educational, professional and other organizations, and citizens generally to the end that maximum coordination of Plans may be secured.

(iii) Whenever the Planning Commission is considering a Rural Comprehensive Plan component, or an amendment to such Plan component, it shall be referred to the planning agency of every city and county affected to inform them and solicit their comments.

(iv) The provisions of this subsection are directory, not mandatory, and the failure to refer such Plan, or an amendment to such Plan, shall not in any manner affect its validity.

(d) Planning Commission - Recommendation and Record.

(i) Recommendation of the Planning Commission on a Rural Comprehensive Plan component, or an amendment to a Plan component, shall be by resolution of the Commission and carried by the affirmative vote of not less than a majority of its total voting members.

(ii) The record made at the Planning Commission hearings on a Rural Comprehensive Plan component, or an amendment to such Plan component and all materials submitted to or gathered by the Planning Commission for its consideration, shall be forwarded to the Board along with the recommendation.

(e) Board Action - Hearing and Notice.

(i) After a recommendation has been submitted to the Board by the Planning Commission on the Rural Comprehensive Plan component, or an amendment to such Plan component, all interested persons shall have an opportunity to be heard thereon at a public hearing before the Board conducted pursuant to LC 14.300.

(ii) Notice of the time and place of the hearing shall be given pursuant to LC 14.300.

(iii) If an exception to Statewide Planning Goals is to be considered during the hearing, such exception shall be specifically noted in the notice of such hearing.

(iv) Hearings to consider amendments of the Plan Diagram that affect a single property, small group of properties or have other characteristics of a quasi-judicial proceeding shall be noticed pursuant to LC 14.300.

(f) Concurrent Consideration. The Board and Planning Commission may hold a single joint meeting to consider the proposed Plan amendment consistent with the requirements of LC 16.400(6)(e)(ii),(iii) and (iv) above.

(g) Board Referral. Before the Board makes any change or addition to a Plan component, or Plan component amendment recommended by the Planning Commission, it may first refer the proposed change or addition to the Planning Commission for an additional recommendation. Failure of the Planning Commission to report within 21 days after the referral, or such longer period as may be designated by the Board, shall be deemed to be approval of the proposed change or addition. It shall not be necessary for the Planning Commission to hold a public hearing on such change or addition.

(h) Method of Adoption and Amendment.

(i) The adoption or amendment of a Rural Comprehensive Plan component shall be by Ordinance.

(ii) The adoption or amendment shall be concurrent with an amendment to LC 16.400(4) above. In the case of a Rural Comprehensive Plan adoption, the Code amendment shall place such Plan in the appropriate category. In the case of a Rural Comprehensive Plan amendment, the Code amendment shall insert the number of the amending Ordinance.

(iii) The Board may amend or supplement the Rural Comprehensive Plan upon making the following findings:

(aa) For Major and Minor Amendments as defined in LC 16.400(8)(a) below, the Plan component or amendment meets all applicable requirements of local and state law, including Statewide Planning Goals and Oregon Administrative Rules.

(bb) For Major and Minor Amendments as defined in LC 16.400(8)(a) below, the Plan amendment or component is:

(i-i) necessary to correct an identified error in the application of the Plan; or

(ii-ii) necessary to fulfill an identified public or community need for the intended result of the component or amendment; or

(iii-iii) necessary to comply with the mandate of local, state or federal policy or law; or

(iv-iv) necessary to provide for the implementation of adopted Plan policy or elements; or

(v-v) otherwise deemed by the Board, for reasons briefly set forth in its decision, to be desirable, appropriate or proper.

(cc) For Minor Amendments as defined in LC 16.400(8)(a) below, the Plan amendment or component does not conflict with adopted Policies of the Rural Comprehensive Plan, and if possible, achieves policy support.

(dd) For Minor Amendments as defined in LC 16.400(8)(a) below, the Plan amendment or component is compatible with the existing structure of the

Rural Comprehensive Plan, and is consistent with the unamended portions or elements of the Plan.

(i) A change of zoning to implement a proposed Plan amendment may be considered concurrently with such amendment. In such case, the Board shall also make the final zone change decision, and the Hearings Official s consideration need not occur.

(7) Validation of Prior Action. The adoption of a Rural Comprehensive Plan component, or an amendment to such Plan component under the authority of prior acts, is hereby validated and shall continue in effect until changed or amended under the authority of these provisions.

(8) Additional Amendment Provisions. In addition to the general procedures set forth in LC 16.400(6) above, the following provisions shall apply to any amendment of Rural Comprehensive Plan components.

(a) Amendments to the Rural Comprehensive Plan shall be classified according to the following criteria:

(i) Minor Amendment. An amendment limited to the Plan Diagram only and, if requiring an exception to Statewide Planning Goals, justifies the exception solely on the basis that the resource land is already built upon or is irrevocably committed to other uses not allowed by an applicable goal.

(ii) Major Amendment. Any amendment that is not classified as a minor amendment.

(b) Amendment proposals, either minor or major, may be initiated by the County or by individual application. Individual applications shall be subject to a fee established by the Board and submitted pursuant to LC 14.050.

(c) Minor amendment proposals initiated by an applicant shall provide adequate documentation to allow complete evaluation of the proposal to determine if the findings required by LC 16.400(6)(h)(iii) above can be affirmatively made. Unless waived in writing by the Planning Director, the applicant shall supply documentation concerning the following:

(i) A complete description of the proposal and its relationship to the Plan.

(ii) An analysis responding to each of the required findings of LC 16.400(6)(h)(ii) above.

(iii) An assessment of the probable impacts of implementing the proposed amendment, including the following:

(aa) Evaluation of land use and ownership patterns of the area of the amendment;

(bb) Availability of public and/or private facilities and services to the area of the amendment, including transportation, water supply and sewage disposal;

(cc) Impact of the amendment on proximate natural resources, resource lands or resource sites, including a Statewide Planning Goal 5 "ESEE" conflict analysis where applicable;

(dd) Natural hazards affecting or affected by the proposal:

(ee) For a proposed amendment to a nonresidential, nonagricultural or nonforest designation, an assessment of employment gain or loss, tax revenue impacts and public service/facility costs, as compared to equivalent factors for the existing uses to be replaced by the proposal;

(ff) For a proposed amendment to a nonresidential, nonagricultural or nonforest designation, an inventory of reasonable alternative sites now appropriately designated by the Rural Comprehensive Plan, within the jurisdictional area of the Plan and located in the general vicinity of the proposed amendment;

(gg) For a proposed amendment to a Nonresource designation or a Marginal Land designation, an analysis responding to the criteria for the respective request as cited in the Plan document entitled, "Working Paper: Marginal Lands" (Lane County, 1983).

(9) Addition Amendment Provisions - Special Purpose Plans. In addition to the general provisions set forth in LC 16.400(6) above, the following provisions shall apply to any amendment of Rural Comprehensive Plan components classified in LC 16.400(4) above as Special Purpose Plans. Amendments to Special Purpose Plans may only be initiated by the County. Any individual, however, may request the Board to initiate such amendment. Requests must set forth compelling reasons as to why the amendment should be considered at this time, rather than in conjunction with a periodic Plan update. An offer to participate in costs incurred by the County shall accompany the request.

(10) Designation of Abandoned or Diminished Mill Sites. A minor plan amendment pursuant to LC 16.400(8)(a)(i), to the Rural Comprehensive Plan for an abandoned or diminished mill site on a lot or parcel zoned Nonimpacted Forest Lands Zone (F-1, RCP), Impacted Forest Lands Zone (F2, RCP) or Exclusive Farm Use Zone (E-RCP) to Rural Industrial Zone (RI, RCP) without taking an exception to Statewide Goal 3 (Agricultural Lands), Goal 4 (Forest Land), Goal 11 (Public Facilities and Services), or Goal 14 (Urbanization) may be allowed after submittal of an application pursuant to LC 14.050 and after review and approval of the application pursuant to LC 16.400(6) and (10).

(a) As used in this subsection, "abandoned or diminished mill site" means a mill, plant of other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

(i) Is located outside of urban growth boundaries;

(ii) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

(iii) Contains or contained permanent buildings used in the production or manufacturing of wood products.

(b) An abandoned or diminished mill site designated as Rural Industrial zone (RI, RCP) pursuant to LC 16.400(10), may be developed for any level of industrial use pursuant to LC 16.292(3)(o), is exempt from the standards of LC 16.292(3)(b), and may occur outside a building or in one or more buildings of any size.

(c) Concurrently with approval of a plan amendment, the Board may approve, without taking an exception to Statewide Goal 11:

(i) The extension of sewer facilities to lands that on June 10, 2003, were zoned Rural Industrial Zone (RI, RCP), Light Industrial Zone (M-1, RCP), Limited Industrial Zone (M-2, RCP), or Heavy Industrial Zone (M-3, RCP), and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

(ii) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for Rural Industrial (RI, RCP) use under LC 16.400(10) only as necessary to serve industrial uses authorized for the mill site.

(iii) The establishment of on-site sewer facilities to serve an area that on June 10, 2003, was zoned Rural Industrial Zone (RI, RCP), Light Industrial Zone (M-1, RCP), Limited Industrial Zone (M-2, RCP), or Heavy Industrial Zone (M-3, RCP), and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for Rural Industrial Zone (RI, RCP) pursuant to LC 16.400(10).

(d) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

(e) Sewer facilities approved pursuant to LC 16.400(10)(c) shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted to protect agricultural lands and forestlands or relating to urbanization.

(f) The Board shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for Rural Industrial Zone (RI, RCP) pursuant to LC 16.400(10), land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

(g) For an abandoned or diminished mill site subject to LC 16.400(10)(f), the Planning Director may approve a permit only for industrial development and accessory uses subordinate to such development on the mill site. The Planning Director may not approve a permit for retail, commercial or residential development on the mill site.

(h) For land that on June 10, 2003, was zoned Impacted Forest Land Zone (F-1, RCP), Nonimpacted Forest Land Zone (F-2, RCP), or Exclusive Farm Use Zone (E-RCP), and that is rezoned for Rural Industrial Zone (RI, RCP) under LC 16.400(10), the Board may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.

(11) Periodic Review of Plan Components. All components of the Rural Comprehensive Plan shall contain a provision requiring the Plan be reviewed and, as needed, revised on a periodic cycle to take into account changing public policies and circumstances. Any Plan component adopted under the authority of prior acts can be assumed to require a review every five years. *(Revised by Ordinance No. 7-87, Effective 6.17.87; 10-02, 11.15.02; 10-04, 6.4.04; 12-04, 6.11.04; 6-11; 7.21.11)*

| At left margin indicates changes
Bold indicates material being added
~~Strikethrough~~ indicates material being deleted

LEGISLATIVE FORMAT

RURAL COMPREHENSIVE PLAN AMENDMENTS
RURAL COMPREHENSIVE PLAN

16.400 Rural Comprehensive Plan Amendments.

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(2) Scope and Organization. The Rural Comprehensive Plan shall conform to the requirements of Statewide Planning Goals. The Rural Comprehensive Plan shall consist of components which shall be organized into categories by Plan type or geographic area as described in LC 16.400(3) below.

(3) Plan Categories.

(a) Rural Comprehensive Plan. This category includes all plans relating to lands beyond the Eugene-Springfield Metropolitan Area General Plan boundary and the urban growth boundaries of the cities within Lane County.

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(4) Rural Comprehensive Plan Described. The Rural Comprehensive Plan of Lane County shall consist of the following components:

(a) Rural Comprehensive Plan.

(i) General Plan Policies and Plan Designations applying throughout Lane County outside of the Metropolitan Area General Plan and outside of all urban growth boundaries (Adopted by Ordinance No. 883).

(b) Special Purpose Plans.

(i) Transportation System Plan (Adopted by Ordinance No. 3-80 and Amended by Ordinance No. 10-04PA 1202) and the following component of the Transportation System Plan:

(aa) Coburg/Interstate 5 Interchange Area Management Plan (Adopted by Ordinance No. PA 1258).

(bb) Highway 126 Fern Ridge Corridor Plan (Adopted by Ordinance No. PA 1297).

(ii) Willamette Greenway Plan Ordinance No. 783).

(iii) Parks and Open Space Plan (Adopted by Ordinance No. 850).

(iv) Solid Waste Management Plan (Adopted by Ordinance No. 771) (Amended by Ordinance Nos. 79-80, PA 918 and PA 1179).

(v) Coastal Resources Management Plan (Adopted by Ordinance No. 803) (Amended by Ordinance Nos. 862 and 876).

(vi) Siuslaw River Dredged Material Disposal Plan (Adopted by Ordinance No. 749) (Amended by Ordinance Nos. 861 and 877).

(vii) Housing Plan (Adopted by Ordinance No. 1-78).

(5) Interrelationship of Plan Components. New Comprehensive Plan components shall include a description of relationship to other Plan components within

resolution of the Commission and carried by the affirmative vote of not less than a majority of its total voting members.

(ii) The record made at the Planning Commission hearings on a Rural Comprehensive Plan component, or an amendment to such Plan component and all materials submitted to or gathered by the Planning Commission for its consideration, shall be forwarded to the Board along with the recommendation.

(e) Board Action - Hearing and Notice.

(i) After a recommendation has been submitted to the Board by the Planning Commission on the Rural Comprehensive Plan component, or an amendment to such Plan component, all interested persons shall have an opportunity to be heard thereon at a public hearing before the Board conducted pursuant to LC 14.300.

(ii) Notice of the time and place of the hearing shall be given pursuant to LC 14.300.

(iii) If an exception to Statewide Planning Goals is to be considered during the hearing, such exception shall be specifically noted in the notice of such hearing.

(iv) Hearings to consider amendments of the Plan Diagram that affect a single property, small group of properties or have other characteristics of a quasi-judicial proceeding shall be noticed pursuant to LC 14.300.

(f) Concurrent Consideration. The Board and Planning Commission may hold a single joint meeting to consider the proposed Plan amendment consistent with the requirements of LC 16.400(6)(e)(ii),(iii) and (iv) above.

(g) Board Referral. Before the Board makes any change or addition to a Plan component, or Plan component amendment recommended by the Planning Commission, it may first refer the proposed change or addition to the Planning Commission for an additional recommendation. Failure of the Planning Commission to report within 21 days after the referral, or such longer period as may be designated by the Board, shall be deemed to be approval of the proposed change or addition. It shall not be necessary for the Planning Commission to hold a public hearing on such change or addition.

(h) Method of Adoption and Amendment.

(i) The adoption or amendment of a Rural Comprehensive Plan component shall be by Ordinance.

(ii) The adoption or amendment shall be concurrent with an amendment to LC 16.400(4) above. In the case of a Rural Comprehensive Plan adoption, the Code amendment shall place such Plan in the appropriate category. In the case of a Rural Comprehensive Plan amendment, the Code amendment shall insert the number of the amending Ordinance.

(iii) The Board may amend or supplement the Rural Comprehensive Plan upon making the following findings:

(aa) For Major and Minor Amendments as defined in LC 16.400(8)(a) below, the Plan component or amendment meets all applicable requirements of local and state law, including Statewide Planning Goals and Oregon Administrative Rules.

(bb) For Major and Minor Amendments as defined in LC 16.400(8)(a) below, the Plan amendment or component is:

(i-i) necessary to correct an identified error in the application of the Plan; or (aa) Evaluation of land use and ownership patterns of the area of the amendment;

(bb) Availability of public and/or private facilities and services to the area of the amendment, including transportation, water supply and sewage disposal;

(cc) Impact of the amendment on proximate natural resources, resource lands or resource sites, including a Statewide Planning Goal 5 "ESEE" conflict analysis where applicable;

(dd) Natural hazards affecting or affected by the proposal:

(ee) For a proposed amendment to a nonresidential, nonagricultural or nonforest designation, an assessment of employment gain or loss, tax revenue impacts and public service/facility costs, as compared to equivalent factors for the existing uses to be replaced by the proposal;

(ff) For a proposed amendment to a nonresidential, nonagricultural or nonforest designation, an inventory of reasonable alternative sites now appropriately designated by the Rural Comprehensive Plan, within the jurisdictional area of the Plan and located in the general vicinity of the proposed amendment;

(gg) For a proposed amendment to a Nonresource designation or a Marginal Land designation, an analysis responding to the criteria for the respective request as cited in the Plan document entitled, "Working Paper: Marginal Lands" (Lane County, 1983).

(9) Addition Amendment Provisions - Special Purpose Plans. In addition to the general provisions set forth in LC 16.400(6) above, the following provisions shall apply to any amendment of Rural Comprehensive Plan components classified in LC 16.400(4) above as Special Purpose Plans. Amendments to Special Purpose Plans may only be initiated by the County. Any individual, however, may request the Board to initiate such amendment. Requests must set forth compelling reasons as to why the amendment should be considered at this time, rather than in conjunction with a periodic Plan update. An offer to participate in costs incurred by the County shall accompany the request.

(10) Designation of Abandoned or Diminished Mill Sites. A minor plan amendment pursuant to LC 16.400(8)(a)(i), to the Rural Comprehensive Plan for an abandoned or diminished mill site on a lot or parcel zoned Nonimpacted Forest Lands Zone (F-1, RCP), Impacted Forest Lands Zone (F2, RCP) or Exclusive Farm Use Zone (E-RCP) to Rural Industrial Zone (RI, RCP) without taking an exception to Statewide Goal 3 (Agricultural Lands), Goal 4 (Forest Land), Goal 11 (Public Facilities and Services), or Goal 14 (Urbanization) may be allowed after submittal of an application pursuant to LC 14.050 and after review and approval of the application pursuant to LC 16.400(6) and (10).

(a) As used in this subsection, "abandoned or diminished mill site" means a mill, plant of other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

(i) Is located outside of urban growth boundaries;

(ii) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

(iii) Contains or contained permanent buildings used in the production or manufacturing of wood products.

| _At left margin indicates changes
Bold indicates material being added
~~Strikethrough~~ indicates material being deleted

LEGISLATIVE FORMAT

(11) Periodic Review of Plan Components. All components of the Rural Comprehensive Plan shall contain a provision requiring the Plan be reviewed and, as needed, revised on a periodic cycle to take into account changing public policies and circumstances. Any Plan component adopted under the authority of prior acts can be assumed to require a review every five years. *(Revised by Ordinance No. 7-87, Effective 6.17.87; 10-02, 11.15.02; 10-04, 6.4.04; 12-04, 6.11.04; 6-11; 7.21.11)*

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF LANE COUNTY, OREGON

ORDINANCE NO. PA 1297	) IN THE MATTER OF ADOPTING THE HIGHWAY 126) FERN RIDGE CORRIDOR PLAN FOR APPLICATION TO) THAT PORTION OF HIGHWAY 126 THAT FALLS) BETWEEN THE URBAN GROWTH BOUNDARIES OF) THE CITIES OF EUGENE AND VENETA, AND) ADOPTING SAVINGS AND SEVERABILITY CLAUSES

WHEREAS, the Board of County Commissioners of Lane County, through enactment of Ordinance PA 884, has adopted Land Use Designations and Zoning for lands within the Jurisdiction of the Lane County Rural Comprehensive Plan; and

WHEREAS, the Board of County Commissioners of Lane County, through enactment of Ordinance PA 883, has adopted the Lane County General Plan Policies which is a component of the Lane County Rural Comprehensive Plan; and

WHEREAS, the Board of County Commissioners adopted the Lane County Transportation System Plan by Ordinance No. PA 1202, on May 5, 2004; and

WHEREAS, both the Comprehensive Plans for cities and special purpose plans such as the Highway 126 Fern Ridge Corridor Plan are to be incorporated as components of the Lane County Rural Comprehensive Plan; and

WHEREAS, the Oregon Department of Transportation conducted a thorough planning process to develop and vet design alternatives and develop the Highway 126 Fern Ridge Corridor Plan; and

WHEREAS, the Lane County Planning Commission held a public hearing on the 2nd day of October 2012 and recommended adoption of the Highway 126 Fern Ridge Corridor Plan; and

WHEREAS, the Board of County Commissioners held a public hearing on the 12th day of February 2013 and voted to adopt the Highway 126 Fern Ridge Corridor Plan in accordance with the method prescribed by the Lane County Rural Comprehensive Plan and Lane Code.

NOW, THEREFORE, the Board of County Commissioners of Lane County ordains as follows:

> **Section 1**. The Highway 126 Fern Ridge Corridor Plan as set forth in Exhibit A, attached and incorporated by this reference, is adopted as a refinement plan to the Lane County Transportation System Plan.

FURTHER, although not a part of this Ordinance, the Board of County Commissioners adopts Lane County findings in support of this action as set forth in Exhibit B.

If any section, subsection, sentence, clause, phrase or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion is deemed a separate, distinct and independent provision, and such holding does not affect the validity of the remaining portions thereof.

Enacted this: 12th day of February, 2013

Sid Leiken, Chair
Lane County Board of Commissioners

Recording Secretary for This Meeting of the
Lane County Board of Commissioners

APPROVED AS TO FORM
Date 1/22/13 Lane County

OFFICE OF LEGAL COUNSEL

FINDINGS AND CONCLUSIONS IN SUPPORT OF ORDINANCE No. 1297

Lane County has prepared an amendment to its Transportation System Plan to be adopted by the Lane County Board of Commissioners (Board).

The Lane County Transportation System Plan (TSP) is a special purpose plan that is a component of the Lane County Rural Comprehensive Plan (RCP). The recently prepared Highway 126 Fern Ridge Corridor Plan (Corridor Plan) analyzed and recommended transportation improvements for the segment of OR 126W (a state facility) between Eugene and Veneta. The project study area (as shown on page 5 of Exhibit A of this Ordinance) includes County facilities. The Corridor Plan and its supporting documentation will be adopted by reference in the County TSP. The process for adoption of the Corridor Plan is through a TSP amendment.

Approval Criteria and Findings

The relevant approval criteria for this action are provided below in **bold** with findings and conclusions provided in regular text.

LC 12.005 Purpose.

> **(1) The board shall adopt a comprehensive plan. The general purpose of the comprehensive plan is the guiding of the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity and general welfare.**

The proposed amendment does not impair the purpose of the RCP as the guiding document for Lane County. The TSP is a required element of the RCP. The Corridor Plan provides detailed analysis and recommended improvements for OR 126W. The Corridor Plan does not conflict with the TSP or the RCP. Additional findings in support of this criterion are provided below.

LC 12.050 Method of Adoption and Amendment

> **(1) The adoption of the comprehensive plan or an amendment to such plan shall be by an ordinance.**

The proposed amendment to the TSP will be adopted by Ordinance when enacted by the Board.

> **(2) The Board may amend or supplement the comprehensive plan upon a finding of:**
>
> **(a) an error in the plan; or**
>
> **(b) changed circumstances affecting or pertaining to the plan; or**
>
> **(c) a change in public policy; or**
>
> **(d) a change in public need based on a reevaluation of factors affecting the plan; provided, the amendment or supplement does not impair the purpose of the plan as established by LC 12.005 above.**

The TSP amendment is proposed due to changed circumstances affecting or pertaining to the comprehensive plan, consistent with LC 12.050(2)(b). Transportation analysis in the Corridor Plan provides a detailed assessment of the mobility and safety conditions on a segment of OR 126W. This information provides a greater understanding of transportation needs for this particular facility than were available at the time of the adoption of the comprehensive plan or TSP and, therefore, reflects changed circumstances that should be adopted into the TSP by reference.

LC 16.400 Rural Comprehensive Plan Amendments.

(6) Plan Adoption or Amendment - General Procedures. The Rural Comprehensive Plan, or any component of such Plan, shall be adopted or amended in accordance with the following procedures:

(h) Method of Adoption and Amendment.

(i) The adoption or amendment of a Rural Comprehensive Plan component shall be by Ordinance.

The proposed amendment will be adopted by Ordinance when enacted by the Board, consistent with this section.

(ii) The adoption or amendment shall be concurrent with an amendment to LC 16.400(4) above. In the case of a Rural Comprehensive Plan adoption, the Code amendment shall place such Plan in the appropriate category. In the case of a Rural Comprehensive Plan amendment, the Code amendment shall insert the number of the amending Ordinance.

The proposed amendment is an amendment to the Rural Comprehensive Plan and will be listed under 16.400(4)(b)(i) being incorporated therein by reference and consistent with this section.

(iii) The Board may amend or supplement the Rural Comprehensive Plan upon making the following findings:

(aa) For Major and Minor Amendments as defined in LC 16.400(8)(a) below, the Plan component or amendment meets all applicable requirements of local and state law, including Statewide Planning Goals and Oregon Administrative Rules.

(bb) For Major and Minor Amendments as defined in LC16.400(8)(a) below, the Plan amendment or component is:

(i-i) necessary to correct an identified error in the application of the Plan; or
(ii-ii) necessary to fulfill an identified public or community need for the intended result of the component or amendment; or
(iii-iii) necessary to comply with the mandate of local, state or federal policy or law; or
(iv-iv) necessary to provide for the implementation of adopted Plan policy or elements; or
(v-v) otherwise deemed by the Board, for reasons briefly set forth in its decision, to be desirable, appropriate or proper.

This amendment is a major amendment. The amendment meets applicable requirements of local and state law in that it is being processed as a Plan Amendment pursuant to Lane Code Chapter 14 requirements and is subject to the approval criteria of Lane Code Chapters 12 and 16. Both of these chapters are in compliance with state law as outlined in the Statewide Planning Goal 2 findings below. The amendment is necessary to fulfill an identified public or community need for the intended result of the component or amendment as per (ii-ii) above because there is a public need to address the safety and mobility issues along the corridor. Findings of consistency with the approval criteria in Lane Code 16.400(6)(h)(iii)(aa) follow, including findings of consistency with applicable Statewide Planning Goals and Oregon Administrative Rules (OARs).

> **Statewide Planning Goal 1 - Citizen Involvement**. To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

The amendment is consistent with Statewide Planning Goal 1 because the process used to develop and adopt the Corridor Plan provided ample opportunities for citizen involvement.

- Between May and August 2011, forty stakeholder interviews were conducted to help identify key project issues. Stakeholders identified four specialized focus groups consisting of corridor users, multi-modal users, interested agencies and groups, and people who live and/or work along the corridor. These focus groups met with project staff between June and September 2011. Their input guided the project team in developing transportation solutions.

- Three community forums were held that engaged the public to review the progress of the Corridor Plan and provide input. The first forum was held on October 6, 2011, and the subsequent forums were held on January 24 and May 8 in 2012. Results of technical and transportation alternatives analyses were presented and public feedback was sought.

- Throughout the process, a website was maintained (highway126.org) that provided project updates and report documents. The website provided contact information for the project team and an email list was maintained to disseminate project information and updates.

- At public meetings and community events, project information was presented in a non-technical format to ensure clear public understanding.

In addition, the following actions were taken by Lane County:

- On September 11, 2012, a legal ad was published in The Register Guard, providing notice of the Lane County Planning Commission public hearing in the Customer Service Center on October 2, 2012, at 6:30 P.M. Legal notice was also provided in the Fern Ridge Review including the same information noted above.

- On October 2, 2012, the Lane County Planning Commission conducted a public hearing on the proposed amendments.

- On January 22, 2013, a legal ad was published in The Register Guard, providing notice of the Board of County Commissioners public hearing in Harris Hall on February 12, 2013. Legal notice was also provided in the Fern Ridge Review including the same information noted above.

- The Lane County Board of Commissioners held a public hearing regarding amendment to the TSP on February 12, 2013.

Adopting the Corridor Plan by reference in the TSP constitutes a plan amendment that is subject to the public notification and hearing processes and provisions of Lane Code Chapters 14 and 16. As described above, the public involvement requirements of these chapters have been met and opportunity for public involvement has been afforded at each phase of the process. Public input has helped inform the writing of the Corridor Plan. The amendment is therefore consistent with Goal 1.

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

The Rural Comprehensive Plan was acknowledged by the Land Conservation and Development Commission (LCDC) as complying with state planning goals. LC 16.400, adopted and also acknowledged by LCDC, specifies the means by which the RCP may be amended. Notice of the public hearing and pending amendment to the Lane County TSP was mailed to the Oregon Department of Land Conservation and Development (DLCD) on August 28, 2012. The adoption process follows the procedures outlined in Lane Code and these findings provide an adequate factual basis for action. The amendment therefore conforms to the established land use planning process and framework consistent with Goal 2.

> **Statewide Planning Goal 3 – Agricultural Lands:** To preserve and maintain agricultural lands.

The Corridor Plan study segment is located outside of established urban growth boundaries and passes through rural lands that are preserved by Lane County zoning provisions. Approximately 1.9 linear miles of the 6.1 mile OR 126W study segment is abutted by lands zoned Exclusive Farm Use (EFU). The Corridor Plan proposes improvements to OR 126W as well as development of a multi-use path. These actions will not impact the viability of adjacent agricultural lands. Zoning protections of adjacent agricultural lands will remain in place and will not be altered by the Corridor Plan. As identified transportation improvements move forward through the project development and design process, Lane Code 16.212 (requirements for the EFU zone) will be followed.

> **Statewide Planning Goal 4 – Forest Lands:** To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

The Corridor Plan study segment is located outside of established urban growth boundaries and passes through rural lands that are preserved by Lane County zoning provisions. None of the OR

126W study segment is directly abutted by lands zoned F-1 or F-2. There are F-2 zoned parcels located south of the OR 126W study segment. The Corridor Plan proposes improvements to OR 126W as well as development of a multi-use path. These actions will not impact the viability of forest lands in the project vicinity. Zoning protections of forest lands will remain in place and will not be altered by the Corridor Plan.

Statewide Planning Goal 5 – Natural Resources, Scenic and Historic Areas, and Open Spaces: To protect natural resources and conserve scenic and historic areas and open spaces.

Implementation of the Corridor Plan's long term recommendations would include technical evaluation of possible project impacts. This will involve evaluation of potential natural resource effects (e.g. wetlands, waterways, biological resources) as well as any impact to designated parks and open spaces or historic resources. During this project development process, ODOT will be obligated to avoid and minimize possible project impacts under the provisions of the National Environmental Policy Act (NEPA). These efforts will be documented in the NEPA phase of the project and will ensure consistency with Goal 5 and all applicable state and local regulations pertaining to Goal 5.

Statewide Planning Goal 6 - Air, Water and Land Resources Quality: To maintain and improve the quality of the air, water and land resources of the state.

Implementation of the Corridor Plan's long term recommendations would include technical evaluation of possible project impacts. This will involve evaluation of potential effects to air and water quality. During this project development process, ODOT will be obligated to avoid and minimize possible project impacts under the provisions of NEPA. As feasible, the project would be constructed within existing road right-of-way to minimize impact to adjacent land resources. Specific project elements may include stormwater treatment facilities that could improve existing conditions by filtering stormwater run-off before discharging into adjacent waterways. These efforts will be documented in the NEPA phase of the project and will ensure consistency with Goal 6 and all federal, state, and local regulations related to air and water quality. In addition, the Corridor Plan's long term recommendation includes development of a multi-use path. Substitution of bike and pedestrian trips in place of car trips would result in lower levels of air and water pollution. For these reasons, the TSP amendment is consistent with Goal 6.

Statewide Planning Goal 7 – Areas Subject to Natural Hazards: To protect people and property from natural hazards.

The Corridor Plan study area consists of relatively flat slopes that are not indicative of land slide potential. As part of the project development process, evaluation of existing conditions and application for relevant permits will be made prior to construction of any transportation improvements. This will include evaluation and mitigation of possible floodplain effects. Any structures that are constructed as part of the Corridor Plan's recommended improvements will meet all seismic and floodplain requirements. As the existing regulatory environment will ensure that proposed transportation improvements are resistant to natural hazards, the TSP amendment is consistent with Goal 7.

> **Statewide Planning Goal 8 - Recreational Needs:** To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

The TSP amendment is consistent with Goal 8 because the Corridor Plan identifies the need for a multi-use path that would also serve recreational purposes. Implementation of the Corridor Plan will enhance bike and pedestrian connectivity to recreational facilities at Fern Ridge Reservoir and wildlife area.

> **Statewide Planning Goal 9 – Economic Development:** To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

OR 126W is a statewide highway and designated freight route. Suggested improvements in the Corridor Plan will enhance safety and mobility for freight movement through this segment of the highway corridor. The TSP amendment therefore complies with Goal 9.

> **Statewide Planning Goal 11 - Public Facilities and Services:** To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

The TSP amendment is consistent with Statewide Planning Goal 11. No sanitary sewer or water service extensions are needed as part of the Corridor Plan. Recommended improvements are limited to enhancement of transportation facilities along to ameliorate identified operational and safety deficiencies.

> **Statewide Planning Goal 12 - Transportation:** To provide and encourage a safe, convenient and economic transportation system.

The Corridor Plan identifies transportation improvements that meet safety and operational needs for multi-modal users in the OR 126W corridor. Amending the TSP to adopt the Corridor Plan by reference balances the needs of all transportation system users and addresses identified deficiencies on the corridor. The proposed improvements are compatible with applicable land use plans and policies. Project development will focus on implementing the capital improvements in the long term while minimizing adverse social, economic and environmental impacts and costs. The TSP amendment is therefore consistent with Goal 12.

OAR 660-012-0000 Transportation Planning Rule: Goal 12 is implemented through the provisions in this OAR, known as the Transportation Planning Rule (TPR). The TPR directs the coordination of transportation and land use planning in the state.

The TPR places emphasis on transportation choices that balance vehicular use with other transportation modes. A specific goal of the Corridor Plan is to provide a multi-modal transportation system for all transportation system users. The Corridor Plan identifies transportation improvements that not only benefit safety and operations for vehicular passage but also includes bicycle, pedestrian, and transit elements that will improve the connectivity and safety of these modes.

The TPR requires coordination of transportation system plans across jurisdictional boundaries. The OR 126W study segment is located in an area under the land use jurisdiction of Lane County. The proposed Lane County TSP amendment will formalize coordination at the state and local level in acknowledging transportation deficiencies and a recommended transportation improvement program. Moreover, the Corridor Plan does not conflict with Lane County plans or the Statewide Planning Goals. Adoption of the Corridor Plan by reference will align the planning documents at the local level with transportation needs identified in the Corridor Plan. Such action will be consistent with the TPR's emphasis on transportation planning coordination.

Development of the Corridor Plan consisted of a comparative analysis of transportation system alternatives, including the no-build scenario, to determine the most effective transportation alternative while minimizing potential environmental impacts. The process used to assess alternatives is consistent with TPR requirements for alternatives selection in TSPs (OAR 660-12-0035(1)).

The TPR has a section regarding transportation improvements on rural lands. As noted, the OR 126W study segment is located outside of established urban growth boundaries in the area between Eugene and Veneta. According to the TPR, transportation uses allowed on rural lands include reconstruction or modification of public roads and highways, but this does not include the addition of travel lanes (OAR 660-012-0065(3)(b)). Proposed highway improvements, when advanced to the Statewide Transportation Improvement Program (STIP) and during the NEPA phase of project development, will require review by Lane County staff to determine the necessary land use planning action. Ultimate land use approval may involve County review as a special use. Transportation improvements for bikeways, footpaths, and recreation trails are permissible under the TPR, subject to all other requirements of the rule (OAR 660-012-0065(3)(h)). This amendment is consistent with Goal 12.

Goal 13 – Energy Conservation: To conserve energy.

The TSP amendment is consistent with Goal 13 to the extent that recommend transportation facility improvements encourage bike, pedestrian, and transit use. Proposed enhancements at bus stops and integration of a multi-use path encourage transportation choices that have a smaller energy impact compared to reliance on single-occupant vehicles.

Lane County Rural Comprehensive Plan: The general purpose of the RCP is the guiding of the social, economic, and physical development of the County to best promote public health, safety, order, convenience, prosperity, and general welfare.

The RCP goals and policies are patterned after the Statewide Planning Goals and the document has been acknowledged by the state. Consistent with findings of fact for the Statewide Planning Goals above, the proposed TSP amendment does not conflict with the RCP. Goals and policies in the RCP are supportive of the Corridor Plan's recommendations to enhance safety, mobility, and bike/pedestrian conditions along the study segment of OR 126W while minimizing impacts to adjacent rural land uses.

Lane County Transportation System Plan: The TSP is a special purpose plan under the RCP. Its overall purpose is to facilitate orderly and efficient management of the County's transportation system.

The TSP does not include an extensive assessment of the state highway system in Lane County, nor does it include state highway facility enhancements in its project list. Policy 2-d of the TSP acknowledges that ODOT projects on the state system need not be identified in the Lane County TSP project list. Nevertheless, ODOT projects must be consistent with TSP Policies 2a-c. The recommended improvements in the Corridor Plan are consistent with these policies. Policy 2-a states that Lane County supports the implementation of ODOT projects that improve the safety and operational characteristics of the state highway system consistent with applicable regulations. The Corridor Plan focused on identifying highway improvements that enhance safety and operations on OR 126W, including accommodation of bicycle and pedestrian travel. In addition, an objective of the Corridor Plan was to maintain consistency with adopted state, county, regional, and local TSPs and policies. TSP Policy 2-b advocates for County coordination with ODOT on plan development and facility improvements on the state system in Lane County. A Lane County representative served on the Corridor Plan's project team in an advisory role, fulfilling the coordination element of this policy. As facility improvements are incorporated in the STIP and move to implementation in the long term, additional coordination will occur with Lane County staff regarding necessary permits, land use review, and specific design collaboration where the state highway intersects County road facilities. TSP Policy 2-c addresses support of designated Scenic Byway routes. OR 126W is not a designated Scenic Byway.

Goal 6 of the TSP is to provide opportunities for bicycle and pedestrian travel throughout Lane County. Inclusion of a multi-use path in the Corridor Plan is consistent with all the bicycle and pedestrian facility goals in the TSP.

The Corridor Plan's conclusions are consistent with the TSP, and adoption of the Corridor Plan by reference will not conflict with TSP goals and policies.

Oregon Transportation Plan (OTP): The OTP is the state's long-range multi-modal transportation plan. The OTP consists of seven overarching goals. The proposed TSP amendment is consistent with these goals:

OTP Goal 1 – Mobility and Accessibility

This goal strives for a balanced and integrated multi-modal transportation system. The Corridor Plan advocates for mobility enhancements on OR 126W for vehicular, bicycle, pedestrian, and transit traffic. Implementation of the recommended capital improvements will meet the intent of OTP Goal 1.

OTP Goal 2 – Management of the System

The Corridor Plan encourages optimization of existing transportation infrastructure by phasing in improvements over the long term. By investing in operational and safety improvements on the existing OR 126W alignment as proposed in the Corridor Plan, the TSP amendment is consistent with OTP Goal 2.

OTP Goal 3 – Economic Vitality

As a designated freight route and a higher volume east-west state highway, the OR 126W corridor is a prime example of where investment can facilitate the efficient and effective movement of goods and people, consistent with OTP Goal 3.

OTP Goal 4 – Sustainability

The Corridor Plan proposal offers improved choices among transportation modes. In addition, implementation of long term improvements will be subject to environmental review to ensure due consideration is given to the natural and built environment and, as needed, environmental impacts will be minimized and mitigated in accordance with regulatory requirements. The TSP amendment is therefore consistent with OTP Goal 4.

OTP Goal 5 – Safety and Security

One of the key components of the Corridor Plan is implementation of transportation improvements that will enhance safety conditions for motorists, bicyclists, and pedestrians, thereby striving toward the OTP goal of maintaining and operating a safe transportation system.

OTP Goal 6 – Funding the Transportation System

There is currently no identified funding for recommended Corridor Plan improvements. However, adoption of the Corridor Plan would support movement of the recommended improvements into the STIP. As projects are programmed in the STIP, it establishes a formalized capital improvement and funding process to help realize the desired transportation enhancements. Recognition of the Corridor Plan in the TSP will support this process.

OTP Goal 7 – Coordination, Communication and Cooperation

Development of the Corridor Plan included various meetings with stakeholders and the general public. This guided the creation of the recommended transportation improvements in coordination with state and local agency staff. This interactive process is compliant with OTP Goal 7 and helped build consensus around the Corridor Plan's conclusions.

Conclusion

Based upon the preceding findings, the Board concludes that amendment of the Lane County TSP to include adoption of the Corridor Plan by reference is consistent with the requirements set forth in the applicable approval criteria. Therefore, the Board concludes the evidence and findings support adoption of the amendment.