

TRANSPORTATION SYSTEM PLAN

City of Florence, Oregon

# Transportation System Plan Technical Appendix Volume II

Project Technical Memoranda

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KITTELSON & ASSOCIATES, INC.  
TRANSPORTATION ENGINEERING/PLANNING

MOVINGFORWARDTHINKING



## PROJECT MEMORANDUM #1

### Plan Assessment

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**Date:** September 8, 2010 Project #: 10103.0  
**To:** Sandra Belson  
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250 Highway 101  
Florence, Oregon 97439  
**From:** Chris Tiesler, P.E., Dan Seeman, and Diego Arguea  
**Project:** City of Florence Transportation System Plan Update – Project Memorandum #1  
**Subject:** Plan Assessment

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Per the Statement of Work agreement for the City of Florence Transportation System Plan (TSP) Update, this memorandum summarizes the review of the adopted Florence TSP and Community Transit Plan. This memorandum provides a summary of each document along with a description of those elements that will be updated as part of this project. In closing, a brief description of the process describes the way the results of this TSP Update will be incorporated into the existing TSP and Community Transit Plan to develop an updated TSP for the City.

### **TRANSPORTATION SYSTEM PLAN (2002)**

This section provides an overview of the need for a TSP Update, summarizes the expected project outcomes, and describes those elements from the 2002 TSP that need to be updated.

#### ***Need for Update***

An update to the 2002 Florence TSP is needed for the following reasons:

- Florence is one of the fastest growing cities in Oregon—the City’s population grew by about 50 percent during the 1990s and is expected to double by around 2030.
- The 2002 TSP’s horizon date is 2020, which is less than the 15 years required by the Oregon Transportation Planning Rule (TPR).
- The 2002 TSP lacks performance standards, as required by the Oregon Transportation Planning Rule.
- The city’s local streets are relatively disconnected in certain areas, thereby requiring greater reliance on US 101.

- The city's bicycle and pedestrian facilities are discontinuous, thereby discouraging travel via these modes.
- Safe routes to school have not been identified and improved, resulting in greater automobile trips for students to school.
- The Community Transit Plan was written in 2000 prior to the establishment of Rhody Express bus service, and the horizon date is 2010. It is time to update the Community Transit Plan to evaluate existing service and plan for the future of transit in Florence and perhaps future public bus service to Eugene.
- The City's CIP is the basis for the City's Transportation System Development Charge (SDC), and the CIP must be updated with improvement costs identified in the TSP to provide adequate funding for needed improvements.

### ***Anticipated Project Outcomes***

The following list of project objectives summarizes the expected outcomes of the TSP Update as a result of communication and discussion with City of Florence staff.

1. Develop a recommended Local Street System that will provide connectivity within the Project Study Area to adequately serve urbanized areas and to reduce reliance on the State highway system;
2. Evaluate potential expansion of Rhody Express transit services within the Project Study Area and public bus service to Eugene, and develop a stand-alone Community Transit Plan;
3. Identify a system of on-street and off-street facilities to provide access and connectivity for cyclists and pedestrians, and safe routes to school;
4. Estimate costs for needed transportation improvements and identify potential funding sources for those improvements, including an Updated CIP that will result in an adjustment to the City's transportation SDC;
5. Develop street and facility standards to ensure facilities are designed to adequately provide for access by private vehicles, transit services, bicycles, and pedestrians;
6. Coordinate development of the Local Street System and facility standards with consideration of the need to provide other utility services, topographic and geographic features, environmental constraints, and surrounding land uses (existing and potential);
7. In the West 9<sup>th</sup> Street area, coordinate with Peace Health on the development of plans for the Peace Harbor Hospital site;
8. Provide the City with a comprehensive set of transportation-related Geographic Information System (GIS) information, including street and off-street path locations, street

names, functional class, roadway condition, right-of-way width, pavement and lane width, sidewalk width and condition and Americans with Disabilities Act compliance, and the location of Americans with Disabilities Act access ramps;

9. Provide recommended policies, performance standards, and projects for incorporation into the Updated TSP, Updated Community Transit Plan, and Updated CIP;
10. Provide recommended amendments to the City's development code and other policies to implement the Updated TSP; and
11. Assure consistency of recommended Updated TSP elements with other adopted local, regional, and state plans, policies, and rules including the City's Comprehensive Plan and the Transportation Planning Rule (Oregon Administrative Rule (OAR) 660-012).

### ***Elements from the 2002 TSP to be Updated***

A detailed review of the 2002 Florence TSP was conducted to identify those elements that require updating as a result of the needs identified previously.

The original TSP as adopted by the City of Florence was adopted January 14, 2002. A reprint of the original was issued in 2008 that includes "housekeeping edits" so that the document would be internally consistent with other City planning documents. The principal content, deficiencies, policies, and identified projects were not changed from the original document, but the document was reformatted consistently throughout to incorporate all adopted amendments to the text and maps since its 2002 adoption. As such, the review below is based on the 2008 Update of the Florence TSP (adopted July 2008).

The TSP consists of an Executive Summary, Project Summary, and five sections detailing various elements of the Plan, each of which requires updating. Following is a summary of Executive Summary, Project Summary, and the five sections, along with the actions necessary to develop a 2010 plan with a 2035 planning horizon.

### **Executive Summary**

This summary provides context for the planning needed as a result of growth pressures from development and increasing traffic, recognizing that implementation of the TSP requires successful inter-jurisdictional cooperation. To address the requirements of the TPR, the Plan takes into account the complex system of State, County, and City roads, Port of Siuslaw facilities, rail, air, bike, pedestrian, transit, private vehicle, and other alternative modes, with the goal of developing a multi-modal transportation system with efficient interconnections within Florence and to other networks within the Lane County region.



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## Project Summary

The Plan divides the City of Florence into planning areas and has identified specific projects to address identified issues or deficiencies within each area or segment of highway. Where it is not appropriate to list projects within a planning area, specific types of projects are identified under separate categories. The planning areas and separate categories for projects are listed below:

- Florence Downtown Transportation Planning Area – this area is defined in the *Florence Downtown Implementation Plan* (adopted September 20, 1999).
- North Florence Transportation Planning Area
- Pacific View Business Park Transportation Planning Area
- Highway 101 – Other Improvements
- West 9<sup>th</sup> Street Transportation Planning Area
- Other Highway 126 Improvements
- Other Local Street Improvements
- Signalization Improvements
- Bicycle Plan Improvements
- Pedestrian Improvements
- Airport Plan Improvements
- Port of Siuslaw Water-Related Transportation Improvements
- Transit Plan
- Rail Plan
- Pipeline Plan
- Telecommunications Plan
- Functional Roadway Classifications
  - Roadway designations will be revisited and potentially updated for the benefit of function, connectivity, and pedestrian and bicycle access.
- Roadway Design Standards
  - If needed, these may be updated as a result of any functional classification changes identified.

Each area listed above has several projects prioritized for implementation. The TSP Update should revisit each of these projects for need and priority based upon updated analysis and future forecasts. This includes, but is not limited to revisiting planned street extensions, signal warrant analyses, evaluation of potential UBA or STA designation<sup>1</sup>, establishing timelines for projects, revisiting turn lane needs, and opportunities for bicycle corridors. In addition, projects that have been funded and/or completed should be updated as such in the TSP, as should any change of status or priority of any listed project. The process will follow that of the development of the TSP Update, including discussions with Project staff and public involvement and feedback.

## **Section 1: Introduction**

As described in this section, the Florence TSP guides transportation planning within the urban growth boundary (UGB) for the next 20 years. The context of the plan is described, and a summary of Oregon’s Statewide Planning Goal 12 is provided, listing nine objectives that should be met by the transportation plan. Within this section, the following updates/revisions will be made with this TSP Update:

### **Planning Assumptions**

- Update the TSP to reflect the 2004 Comprehensive Plan population and housing projections.
- Verify the projection of population growth out to the horizon year (2035). Currently, the base year for population is 1998, and for employment is 1996. If available, updated inventories of population and employment for the current year (2010) will be used as a basis to develop future forecasts.

### **Planning Process**

- A description of agency involvement is described and no updates to the process are anticipated.

### **Plan Monitoring and Performance**

- The assumptions for growth, development, population, employment, and travel behavior patterns should be revisited at the time of this TSP Update.

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<sup>1</sup> Urban Business Area (UBA) and Special Transportation Area (STA) are two designations along a statewide highway that can help to provide calmer traffic flow through a downtown area by allowing more access points and improving the street cross-section to benefit all modes of travel. An STA designation prioritizes access, while the UBA designation attempts to balance mobility and access. The STA designation is typically applied within downtown areas located on a state highway.

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## **Section 2: Goals and Policies**

This section lists the transportation goals. These broad statements of philosophy were developed by the Planning Commission and the Citizen Advisory Committee and guided the development of the 2002 TSP. The policies provide a specific course of action that will move the community toward the attainment of its goals.

- Revisit and update as needed the goals and policy statements

The process will follow the regularly scheduled Project Advisory Committee (PAC) meetings, in which the project team will share thoughts and collect feedback on proposed changes/updates to the TSP language. The Open House public involvement event will further provide an opportunity for local residents to reflect and give feedback on the draft TSP.

## **Section 3: Modal Plans**

This section provides a plan for each of the transportation modes. Where appropriate, maps are provided to illustrate the planned project locations—these maps graphically portray the street plan, bicycle plan, pedestrian plan, and public transportation plan.

### **Projects Identified by Planning Area and Category**

- The TSP Update will revisit the identified forecast deficiencies and evaluate the need/priority for the identified transportation system improvements.

The process will involve an analysis of the street network with updated traffic, population, and employment data. The PAC will be involved during the regularly scheduled project meetings and a public Open House will provide a venue for further public involvement.

### **Functional Roadway Classification**

- The current roadway classification hierarchy includes Arterial Streets, Collector Streets, Local Streets, and Scenic Drive streets. The TSP Update will look for opportunities to optimize mobility vs. access where appropriate, and, if needed, re-designate existing classifications and potentially introduce new classifications to better integrate the multi-modal long-term outlook.

### **Roadway Design Standards**

- As described in the Project Summary section, these may be updated in addition to any functional classification changes identified.

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## **Section 4: Implementation Actions**

There are four types of implementation actions that are described in this section. The capital improvements section lists projects and improvements. Each project and improvement is accompanied with a brief project description. The ordinance revisions section describes changes that will need to be made in the Florence City Code Titles 10 and 11 to implement the adopted policies. The third section includes education strategies. The last section consists of areas of further study.

- As appropriate, each of the implementation actions will be reviewed in detail to identify any changes to project identification, description, prioritization, maintenance project timelines, educational efforts, and incorporation of recent, applicable, transportation studies and research.

## **Section 5: Financing Strategies**

Existing and potential funding sources are described that would pay for the capital improvements, educational efforts, and further studies that were identified in the previous section.

- As appropriate, update any new sources of funding that have been identified since the 2008 TSP update on a local, regional, state, and federal level.

## **COMMUNITY TRANSIT PLAN (2000)**

The Community Transit Plan (CTP) was written in 2000 prior to the establishment of Rhody Express bus service, and the horizon date is 2010. Together with the TSP Update, the Community Transit Plan should be updated to evaluate existing service and plan for the future of transit in Florence and perhaps future public bus service to Eugene.

The CTP consists of eight sections, each of which requires updating. Following is a summary of the eight sections along with the actions necessary to develop a 2010 plan with a 2020 planning horizon.

### ***Chapter 1 – Introduction***

This chapter contains the historical context for transit service in the Florence area and the process used to develop the CTP.

- Update Plan Context section to be to include changes to the transit service in the past 10 years.

*Process:* Conversations with City staff and written documentation of City actions will be used to provide the verbal history of the development of the transit system since 1998.

- Update Planning Process section to reflect process used for the 2010 CTP.

*Process:* Document process established as an element of this work plan.

## **Chapter 2 – Profile of Study Area**

This chapter provides an overview of the CTP study area, including land use patterns, major activity centers, trip generators, population and employment.

- Update all sections of this chapter to reflect any changes in study area boundaries (e.g. City of Florence Urban Growth Boundary), land use patterns, population (including age and disability status), employment, activity centers and trip generators, and updates to other planning efforts (e.g. comprehensive plan). This includes existing conditions, plus forecasts for future conditions for population and employment.

*Process:* Updates to this section will follow on the efforts used to update the TSP.

## **Chapter 3 – Existing Transportation Services**

This chapter reviews the existing transportation providers in the Florence area include public, private and non-profit groups, and social service providers. A review of peer transit systems is also presented.

- Update the Transportation Providers section in this chapter to reflect current transportation options in Florence. This includes private providers of taxi and inter-city bus service; non-profit/social service providers; retirement, assisted living and nursing home services; and general public service provided through the Rhody Express.

*Process:* Work with City staff to identify local providers of transportation services; contact all providers, including senior living facilities, and document the type and level of service provided, qualifications for receiving services, and number of trips provided annually. Note that currently an ADA Complementary Paratransit Plan is being developed by Lane Transit District staff and will be appropriately referenced.

- Review the Alternative Service Models and Peer System Descriptions sections of this chapter. A peer review was used to help identify a potential organizational and operations structure for City of Florence transit service. Since 1998, the Rhody Express transit system has been established making this information less relevant.

*Process:* These two sections can be deleted from the updated CTP assuming that a peer review is not required of the CTP. The project team will coordinate with local agency staff to determine if an on-going peer review is required or provides distinct benefit. It may also be appropriate to consider a different focus or discuss a transportation district.

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## **Chapter 4 – Public Involvement and Survey Results**

This chapter describes public involvement strategies used during the CTP planning process, including results from a community transit survey.

- Update the Public Involvement Process section of this chapter.

*Process:* The chapter will be updated to document the public process used for this project.

- Update the Community Survey Results section of this chapter.

*Process:* Resident and transit rider surveys will be conducted by the City of Florence, in coordination with the Consultant. The intent of the survey will be to ascertain current attitudes towards transit service, transit service needs, and transit usage by area residents. The results of the two surveys will be documented in this chapter.

## **Chapter 5 – Needs Analysis and Service Alternatives**

This chapter includes a discussion of transit planning needs and issues, summarizes the needs analysis, and outlines the range of service alternatives.

- Update all sections of this chapter.

*Process:*

1) Summarize transit needs as identified through the public involvement process and community survey.

2) Map transit supportive areas, defined as areas with minimum three jobs per acre and/or four homes per acre for existing conditions and future year forecasts. Overlay with existing transit service to identify areas that are currently under- or over-served.

3) Collect data on location of senior and disabled populations using population estimates, established social service databases, current transportation provider data. Map the areas of need and overlay with areas that have public transit options. Identify the areas on the map that are within ¾-mile of fixed route service and fall under ADA requirements. Include 2020 year projects for population and employment to identify areas of future transit need.

4) Identify areas that support additional fixed route service; support demand-responsive service, and/or; require ADA complementary paratransit service. Overlay the transit needs identified through the public involvement process. Propose service alternatives that address the service needs.

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## **Chapter 6 – Recommended Transit Service Plan**

This chapter lists the community’s short and long term transit goals, objectives and strategies for enhancing service. A recommended service design is fully described, along with an outline of the projected operating budget.

- Update the Transit Goals and Objectives.

*Process:* Early in the process, engage all stakeholder groups in a review and update of the Mission, Foundation Goals, Short-Term Goals and Long-Term Goals for transit service. Use these adopted goals and objectives as a basis for development and selecting the preferred transit service alternative.

- Update the description of the Proposed Transit Service.

*Process:* Based on the service analysis, describe the service plan for fixed-route and demand responsive services, including routing, days and hours of service, schedules, vehicles, total service hours and projected operating budget requirements. Identify potential sources of revenue, including federal, state, and local funds, including fare revenue. Note that ADA complementary paratransit service will be described, but that it will not take the place of the ADA Fixed-Route Complementary Paratransit Plan currently being developed by Lane Transit District staff.

## **Chapter 7 – Transit Service Implementation Plan**

This chapter contains the proposed detailed implementation plan, including tasks, timeline, operating policies, and steps to establish a transit management agency.

- Update all sections of this chapter to reflect recommended service plan.

*Process:* Provide detailed steps required to move from existing operations to the expanded operations under the recommended service plan. This would include descriptions and timing of operational steps, capital improvements, policy changes, and organizational considerations in order to meet both short-term and long-term transit goals.

## **Chapter 8 – Financing Strategies**

This Chapter describes opportunities available from a variety of federal state and local funding sources.

- Review all sections of this chapter.

*Process:* Review funding mechanisms identified in the chapter and update to reflect changes over the past ten years. Identify any new sources of funding that may be available.

We trust this memorandum adequately summarizes those elements of the 2002 TSP and the Community Transit Plan that will be updated as an outcome of this TSP Update project. The updated traffic analysis, forecast deficiencies, existing infrastructure, potential improvement projects, and update of the funding measures will be incorporated into one document to address the updates described within this memorandum. In addition to being a stand-alone document, the updated Community Transit Plan will also be incorporated as a separate chapter of the updated TSP to create one planning document that integrates all travel modes for the City of Florence.

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.*

*The contents of this document do not necessarily reflect views or policies of the State of Oregon.*



**MEMORANDUM #2**  
**Goals, Policies, and Performance Measures**

*Prepared by the City of Florence for the August 26, 2010 Project Advisory Committee Meeting  
Revised September 5, 2010*

The city's goals and policies with regard to Transportation are located in Chapter 12 (starting on page XII-1) of the Florence Realization 2020 Comprehensive Plan. They are also listed in a different format in the Florence Transportation System Plan starting on page 16. The Community Transit Plan was written before the City had the Rhody Express. Chapter 6 of that document (starting on page 6-1) includes goals specific to developing a transit system. As you prepare for the meeting on Thursday, please read through those goals and policies. This memo provides a working draft of the types of policy analysis that should be included as part of the update to the Transportation System Plan and the Community Transit Plan.

Overall, the city's goals and policies are working and could remain largely unchanged. This memo lists the issues identified by staff and gleaned from the issues discussed by the Project Advisory Committee. In the case of transit issues, it includes items already discussed by the Transit Advisory Committee. It does not include recommendations by Kittelson & Associates – the consultant's assessment of the Plan is covered in Memorandum #1. There may also be new issues identified during the actual update of the Transportation System Plan (TSP) and Community Transit Plan. Many of the issues identified by the Project Advisory Committee do not require changes to existing policy. Rather, they point to the need to implement existing policies through specific projects.

Policies No Longer Needed

With the establishment of the Rhody Express, there is no longer a need for the short term goals (listed on page 6-2 of the Community Transit Plan) which relate to the need to establish a local transit service.

Policies to be Re-Evaluated

***Transit Service***

The City has achieved the first of the long-term goals, "Develop a combination service: comprehensive deviated route or fixed route service, and Taxi or Dial-A-Ride Service (door-to-door)." That goal could change that to "maintaining and/or expanding our current fixed route service (with minor deviations) and "dial-a-ride" service for people with disabilities".

***Street Standards (widths of right-of-way, pavement, sidewalks, bicycle lanes as shown in the cross-sectional diagrams)***

Until recently, the city's code was in conflict with the TSP with regard to street standards in that it had different minimum right-of-way and paving widths. As the city updated its code with regard to development standards, the city deleted the conflicting provisions of the city code. However, in updating the development standards in the code, it was determined that the street standards in the TSP should be re-evaluated and potentially detailed in the city code. The TSP would then provide more general policy direction rather than specific standards. Wherever they end up, the street standards need to also take into consideration not only the transportation aspects of streets, but also the location of utilities and in particular, stormwater systems.

### ***Street Functional Classifications (purpose of street in terms of movement and access)***

The TSP update should include a review the classification of streets as arterials, collectors, and local streets, to ensure consistency between planned function and classification of streets. For example, should 9<sup>th</sup> Street be a minor arterial? Kingwood between 15<sup>th</sup> and 35<sup>th</sup> Streets is classified as a minor arterial, yet a local street south of 15<sup>th</sup> Street. Maybe it should be at least a collector street. Is Greenwood Street correctly classified as a collector? The TSP update should review the definitions for each street classification and include a review of each street to ensure that it is appropriately classified.

### ***Bicycle Lanes –When are they required?***

Policy 14 states, “Streets, bikeways and walkway shall be designed to meet the needs of pedestrians and cyclists to promote safe and convenient bicycle and pedestrian circulation within the community. To promote bicycling and walking, all new collector and arterial streets should have bicycle lanes, and all new streets, except short, very low volume local streets, should have sidewalks.” Right now, in the “functional classification section of our TSP”, the description for collector streets states that bicycle lanes are warranted when average daily traffic volumes exceed 3000 vehicles per day, where the collector street directly connects to a land use that generates significant bicycle traffic (e.g. a school or park), and on any other street where separately striped bike lanes may be necessary to accommodate safe bike travel along the facility. Are these the correct standards for the requirement of bicycle lanes? Are there other types of accommodations that we should require to permit safely shared use of our roadways (among bicycles, vehicles, and pedestrians)? The TSP update may want to reconsider these guidelines, especially in recognition that the provision of bike lanes on certain local/collector streets may preclude on-street parking; or conversely not provide for safe bicycle travel in the future when there are more vehicles utilizing the street.

### ***Sidewalk Requirements – Where are they required?***

Policy 14 currently requires all new streets (except short, very low volume local streets) to include sidewalks. The city code requires that infill or redevelopment projects include building new sidewalks, even if there are no other existing sidewalks on the street. The current code requirements are based on the premise that over time, development and redevelopment will result in a more complete pedestrian system. Is that premise an appropriate approach to infill and redevelopment, particularly in established neighborhoods? If not, are there places such as around the schools and at bus stops where sidewalks should be constructed even if there were no sidewalks in the neighborhood?

### ***Sidewalk Widths***

The street sections in the TSP indicate 6’ sidewalks for arterials and 5’ sidewalks for collectors and local streets. The city code currently requires a five-foot wide sidewalk in most parts of town, an eight-foot wide sidewalk in Downtown (or six foot clear along on collector streets with no on-street parking), and twelve-feet wide in high pedestrian traffic areas. The model code developed by the state’s Transportation and Growth Management Program recommends a minimum of a six-foot wide sidewalk. Should the city change our standard width to six feet for sidewalks in areas where a five-foot sidewalk is currently required?

### ***Improving Accessibility for Bicycles and Pedestrians and Transit Riders***

There are gaps in our current bicycle and pedestrian systems that make it unsafe and/or inconvenient at times to travel by foot or bicycle and for people with physical disabilities. There may also be gaps in the pedestrian system for people wanting to get to bus stops, or the pedestrian system may not be compatible with the Americans with Disabilities Act. There may or may not be any policy changes needed to address those gaps, but we definitely need to prioritize needed connections in terms of future capital improvements, and ensure new development will pay for its share of those projects. A particular focus may be in providing access to schools so that students have a safe route to school.

### ***Access to Port Industrial Property***

The main access to the Port's 40 acre industrial property adjacent to the Pacific View Business Park will be from Pacific View Drive. However, there may also be a need for some type of access to the property from Rhododendron Drive. The TSP update should consider the potential location and type of access that would be appropriate to support industrial development of the Port's property that would comply with the following two policies.

Policy 15 – Streets shall be designed to efficiently and safely accommodate emergency service vehicles.

Policy 17 – City policies shall discourage the placement of streets serving primarily commercial or industrial development from negatively impacting adjoining residential development.

### ***West 9<sup>th</sup> Street Area***

Chapter 2 of the Comprehensive Plan includes a Land Use Plan for the West 9<sup>th</sup> Street Area, an area designated for professional office development. Although largely undeveloped, it is platted into grid-like blocks and relatively small lots. However, there are also wetlands running through this area that serve as important corridors for wildlife and storm drainage. The Comprehensive Plan shows a street network that identifies which streets should be built and which ones should be left undeveloped. However, as we have developed more detailed information about the actual location of wetlands, and as we have looked at how best to provide water and sewer to the undeveloped properties, the updated TSP may need to modify the planned street network for this area. It may even be appropriate to consider re-platting the area. The updated TSP may also need to consider the access needs of the expanding Peace Harbor Hospital.

### ***Airport Master Plan***

The city has prepared a new Airport Master Plan. The TSP update should undertake a comparison of the Airport Master Plan with existing policies to see if there are necessary changes to existing policies or new policies needed. This TSP update should incorporate the new information from this Airport Master Plan and amend policies as appropriate.

### ***Move projected Highway 101 traffic signal from 30<sup>th</sup> Street back to 27<sup>th</sup> Street***

When the TSP was first adopted, the City identified 27<sup>th</sup> Street as the appropriate location for a new signal, particularly because it provides access to the Pacific View Business Park. However, due to a death of a bicyclist at 30<sup>th</sup> Street, the City amended the TSP to relocate the future signal to 30<sup>th</sup> Street. However, with the closing of the Burger King at that location and further analysis,

it was determined that the 30<sup>th</sup> Street intersection would not likely meet state standards to warrant a signal. So, the City and State installed a pedestrian activated crossing with flashing lights at that location as an alternative. With that crossing now made safer for bicyclists and pedestrians, the TSP update should reconsider the 27<sup>th</sup> Street intersection as the location for a future traffic signal.

#### Policies to be Added

##### ***Street Connectivity***

Florence is a community that has major areas that are difficult to cross, thereby making the travel route from one place to another much longer than the “crow flies”. It is also designed so that much of our local traffic relies on the state highway and a few key city streets. This system leads to congestion and limited options in terms of alternate access in times of emergencies. There are three ways to potentially deal with this situation:

- 1) Identify on a map and prioritize all the roadway and path connections that should be constructed, taking into account topographic and geographic features (such as steep slopes, wetlands, creeks, riparian areas, and coastal shorelands) as well as pre-existing development patterns. Desired street connections also need to consider utility line locations, as most utilities are located within road rights-of-way. Key areas to consider are: north of Highway 126 and east of Vine Street; north of Munsel Lake Road and east of Highway 101; West 9<sup>th</sup> Street Area (see below), and; the unincorporated area of the Urban Growth Boundary.
- 2) Ensure that key roadway and path connections are made accessible to the general public, even if they are going through private developments.
- 3) Limit the block length and block perimeter allowed so that neighbors can easily get from one house to the next without going a long distance out-of-direction.
- 4) Limit the use of cul-de-sacs in new developments.
- 5) Require emergency access to and potentially through gated communities.

##### ***Level of Service and Mobility Standards – What level of congestion is acceptable?***

There are no policies in the TSP about how much congestion is acceptable before the city would either require street improvements such as additional lanes or limit new development. The TSP update should include the establishment of some operational standards so that the City can require street improvements of new development in a fair manner (i.e. if the additional traffic generated by a proposed development causes the adjacent street intersection to exceed its capacity, then the development will be responsible to construct improvements to improve the intersection to acceptable operations).

##### ***Multi-use Paths/Trails***

Based on the research done for the Draft Parks and Recreation Master Plan, there is a need for more trails and multi-use paths within the City of Florence. The TSP update should recognize the recreational and transportation aspects of this type of facility and include plans for expanding the existing path/trail system.

##### ***Rhododendron Drive***

Work with the state to establish Rhododendron Drive as an alternate scenic route for both the coastal trail (pedestrians), and for bicyclists travelling on Highway 101. Although not at the

policy level, there is a need for more detailed cross-sections of the planned improvements described in the Rhododendron Drive Integrated Transportation Plan.

### ***Establish a Local Freight Route***

Identify how best to accommodate trucks from the state highway system to the Port of Siuslaw's 40-acre industrial property and the city's business and industrial zones.

### ***Accommodate School Buses***

Similar to identification of appropriate freight routes, the city should consider policies that support safe routes to school for school buses (considering turning radius, visibility at intersections, bus stop locations).

### ***Speeding***

The City has no policies regarding safe travel speeds, although speeding has been brought up as a problem for Spruce Street, Rhododendron Drive, and Heceta Beach Road. It may be appropriate for the city to develop a policy providing guidance on how to respond to problem areas through traffic calming and/or through targeted enforcement/education.

### ***Safe Pedestrian Crossings***

The City already has a policy (Policy #3) about working with ODOT on improving the safe pedestrian crossings of Highway 101. However, the City does not have a policy to identify and address locations that may have unsafe crossings of city streets. The city should establish a policy for safe pedestrian crossing of city streets and thru the TSP update process. Also, the project list should identify locations where particular pedestrian crossings should be considered (such as 9<sup>th</sup> & Kingwood and the streets angling into Highway 101 in the Mainstreet District). The City may also want to develop a policy regarding audible signaling and/or pedestrian activated signalization.

### ***Bus Stops***

There are no policies regarding pedestrian or accessible access routes to bus stops or the types of facilities that should be provided at bus stops (e.g. shelter, seats, signs, pull-outs, pavement standards to accommodate heavier buses) and by whom. It may be helpful to establish a policy and recommended standards for these facilities.

### **What is Adopted As Part of Comprehensive Plan**

In the past, the city adopted many documents into the Comprehensive Plan as appendices. This approach ensures that reference documents and background studies are accessible, and clearly shows the facts and plans on which the policies in the main part of the Comprehensive Plan are based. However, by being in the Comprehensive Plan, they are subject to land use procedures. Therefore, if there are changes to the background documents, the city must go through a time consuming and sometimes expensive land use process to formalize these changes. The city is starting an effort to simplify the Comprehensive Plan by adopting only what is necessary as a land use document. Thus, the City updates the TSP and amends the Comprehensive Plan accordingly; many of the documents in the appendices should be removed. The TSP can still cite those documents as related plans or studies without their adoption as part of the Comprehensive Plan.

### Performance Measures

The city does not have any performance measures in the TSP. Therefore, any performance measures desired to evaluate implementation of the TSP over time need to be developed and added to the TSP.

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.*

*The contents of this document do not necessarily reflect views or policies of the State of Oregon.*

**DRAFT – M E M O R A N D U M #3**  
**Funding for Roadway, Pedestrian, Bicycle, and Transit Improvements**  
*Prepared by the City of Florence*  
*Updated November 4, 2011*

This memo is an expansion of the memo dated August 20, 2010. It presents a more complete description of the city's historic revenues and expenditures for transportation funding and incorporates the assumptions made for the future from the City of Florence Long Term Financial Plan adopted by Council on October 10, 2011.

**Historic Revenues and Expenditures in the City's Streets Program**

***State Fuel Tax***

The main source of the City's funding for maintaining our transportation infrastructure is the City's share of the State Fuel Tax. As part of the Jobs and Transportation Act, as of January 1, 2011, Oregon's fuel tax increased by six cents, bringing it to 30 cents per gallon for passenger and light vehicles. The tax for commercial trucks and other heavy vehicles was raised proportionately effective Oct. 1, 2010. Along with the increase in the fuel tax, the legislature no longer allows local governments to pass a new local fuel tax. The State distributes a percentage of the fuel tax collected (about \$54.6 million/year) to city street programs based on population.

***Street Light Fee***

In 2009, the City Council passed a street light fee that is charged as part of the city's utility bills. This fee covers the cost of electricity to power the street lights.

***Street LID Assessments***

There are several Local Improvement Districts that the City Council formed that included street projects. The revenues listed are the payments made by the property owners as they are paying off the assessments made on their benefitting properties. The City could form more local improvement districts where benefitting property owners agree to pay for new projects such as sidewalks.

***Grant Revenue***

This revenue is self-explanatory and depends on the City's success in obtaining grants for transportation projects.

***Intergovernmental***

Up through 2007, the City received a portion of the County's share of federal money that historically was known as "timber payments" and more recently as "secure rural schools". While the County still receives some federal funds under this program, the County no longer shares those funds with the city. The other revenue source listed here also originates at the federal level and is administered by the State. In this case, the revenues listed are payments that the state has made to reimburse expenses for the Siuslaw Interpretive Center (Federal Scenic Byways, State Fund Contribution, Federal Surface Transportation (including Exchange Funds). The Federal Scenic Byways funds were awarded to the Interpretive Center. Florence receives a share of the Federal Surface Transportation funds each year. ODOT has a program where we

can “exchange” those funds with ODOT so that we can more easily spend state dollars rather than have to deal with the federal “strings” that come with federal money.

### ***System Development Charges***

The City collects System Development Charges (SDCs) from new development to pay for projects to handle the increased traffic. So far, SDCs have helped to pay for the extension of Spruce Street north of Munsel Lake Road as part of the Local Improvement District project. It is anticipated that the next project to utilize the accumulated SDCs will be a traffic signal project at the intersection of Highway 101 and Munsel Lake Road.

### **Lane County**

At this time, Lane County no longer receives federal funds from either OTIA or Secure Rural Schools (timber payments) to fund any capital improvement projects. The CIP 2012-2016 reflects this funding scenario and proposes no capital improvements for the next five years. This project / funding forecast will likely to be valid unless something drastic change happens (at the federal level) in the near future.



## CITY OF FLORENCE HISTORIC REVENUES

| <b>REVENUES</b>        | <b><u>FY 2011</u></b>    | <b><u>FY 2010</u></b>    | <b><u>FY 2009</u></b>    | <b><u>FY 2008</u></b>    | <b><u>FY 2007</u></b>    | <b><u>FY 2006</u></b>    |
|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| STATE FUEL TAX         | \$ 453,784               | \$ 395,441               | \$ 342,671               | \$ 358,860               | \$ 382,421               | \$ 388,489               |
| STREET LIGHT FEE       | 88,768                   | 88,963                   | -                        | -                        | -                        | -                        |
| STREET LID ASSESSMEMTS | 26,193                   | 69,657                   | 20,267                   | 42,691                   | 31,397                   | 123,587                  |
| GRANT REVENUE          | 116,131                  | 13,452                   | 3,363                    | -                        | 15,844                   | 30,207                   |
| INTERGOVERNMENTAL *    | 13,996                   | 12,880                   | 30,461                   | 44,983                   | 140,228                  | 117,322                  |
| SYSTEM DEVP. CHARGES   | 28,732                   | 10,081                   | 28,674                   | 78,650                   | 62,266                   | -                        |
| OTHER                  | 1,684                    | 6,735                    | 4,433                    | 14,766                   | 10,110                   | 1,201                    |
| INTEREST               | <u>6,814</u>             | <u>3,583</u>             | <u>12,776</u>            | <u>33,226</u>            | <u>41,115</u>            | <u>12,322</u>            |
| <b>Total Revenues</b>  | <b><u>\$ 736,102</u></b> | <b><u>\$ 600,792</u></b> | <b><u>\$ 442,645</u></b> | <b><u>\$ 573,176</u></b> | <b><u>\$ 683,381</u></b> | <b><u>\$ 673,128</u></b> |

\* \$115,892 of 2007 Intergovernmental revenues were Lane County Partnership Payments  
 \$117,322 of 2006 Intergovernmental revenues were Lane County Partnership Payments  
 Other than the revenues from Lane County, the revenues in this row are federal monies used to reimburse expenses for the Siuslaw Interpretive Center.

## CITY OF FLORENCE EXPENSES

| EXPENSES   |   | FY 2011            | FY 2010          | FY 2009          | FY 2008            | FY 2007          | FY 2006          | Annual<br>Average |
|--|---|--------------------|------------------|------------------|--------------------|------------------|------------------|-------------------|
| TRAFFIC CONTROL DEVICES                                | 1 | \$31,120           | \$15,549         | \$26,062         | \$43,952           | \$30,537         | \$22,189         | \$28,235          |
| STREET REPAIR MATERIALS                                | 2 | 25,131             | 18,497           | 34,483           | 18,866             | 38,213           | 30,987           | 27,696            |
| OVERLAYS / SEALCOATS                                   | 3 | 10,802             | 14,343           | 5,809            | 56,133             | 154,516          | 124,717          | 61,053            |
| SIDEWALKS  |   | 3,259              | -                | 15,417           | 37,278             | 1,228            | 17,669           | 12,475            |
| ENGINEERING FOR STREET PROJECTS                        | 4 | -                  | 14,771           | 29,095           | 36,228             | 42,680           | 143,525          | 44,383            |
| SPRUCE STREET EXTENSION<br>(north of Munsel Lake Road) |   | -                  | 29,408           | 577,776          | 1,335,980          | 113,032          | -                | 342,699           |
| SCENIC BYWAYS – SIUSLAW<br>INTERPRETIVE CENTER         | 5 | 359,890            | 17,282           | 47,250           | 44,983             | 24,336           | 7,133            | 83,479            |
| PEDESTRIAN SAFETY HWY 101                              | 6 | 111,434            | 77,028           | 67,667           | -                  | -                | -                | 42,688            |
| 12TH ST MULTI-USE PATH                                 | 7 | 83,633             | -                | 3,338            | -                  | -                | -                | 14,495            |
| 27TH ST BIKE PATH<br>(between Spruce St. and Hwy. 101) | 8 | -                  | -                | 11,803           | -                  | -                | -                | 1,967             |
| LTD BUS STOP IMPROVEMENT                               |   | 9,324              | -                | -                | -                  | -                | -                | 1,554             |
| EQUIPMENT  |   | 24,437             | -                | -                | 54,443             | 28,570           | 7,393            | 19,141            |
| DEBT SERVICE   | 9 | <u>571,708</u>     | <u>172,739</u>   | <u>-</u>         | <u>-</u>           | <u>-</u>         | <u>-</u>         | <u>124,075</u>    |
| <b>Total Expenses</b>                                  |   | <u>\$1,253,738</u> | <u>\$359,617</u> | <u>\$818,700</u> | <u>\$1,627,863</u> | <u>\$433,112</u> | <u>\$353,613</u> | <u>\$807,774</u>  |

**NOTES:**

- 1 Traffic Control devices include all signage, traffic safety devices, and about \$11,000/year for Lane County to stripe our streets.
- 2 Street Repair Materials include sand, rock, gravel, concrete, asphalt, and other paving materials.
- 3 Payments made for others to overlay or sealcoat our streets.
- 4 Prior to FY11 engineering costs although related to a project were recorded here. FY10 was primarily for Spruce Street extension. FY09 was for both Spruce Street extension and designing Lingcod Court as part of a replat in Pacific View Business Park.
- 5 Scenic Byways FY10-11 used ODOT's Transportation Exchange Funds Agreement & Urban Renewal Funds to pay for the acquisition of land to be the future site of the Siuslaw River Bridge Wayside Interpretive Center.
- 6 The ADA ramps at intersection of Hwy. 101 and Rhododendron and 6<sup>th</sup> Streets cost \$123,685 which was reimbursed by ODOT. The remaining costs were for design of the pedestrian crossings at 2<sup>nd</sup>, 7<sup>th</sup>/8<sup>th</sup>, 18<sup>th</sup>/19<sup>th</sup>, and 30<sup>th</sup>; all but \$21,798 which was reimbursed.
- 7 See description below for funding of 12<sup>th</sup> Street Path.
- 8 This path was required as part of development approval for an expansion of Dunham Motors in 2006 and 2007. Dunham Motors agreed contributed \$16,816 towards this path but it only ended up costing \$11,803 since city staff built the project.
- 9 Debt Service is related to principal and interest payments on the Spruce Street Bond.

## **State/Federal Funding for Roadway, Pedestrian, and Bicycle Improvements**

The Oregon Department of Transportation (ODOT) is responsible for construction and maintenance of federal and state highways in Oregon, including US 101 and OR 126 in Florence. In addition, ODOT and other Federal and State agencies administer grant programs that can fund transportation improvements in Florence.

ODOT has made substantial investments in the federal and state highway system in Florence. For example, recent maintenance and improvements to the Siuslaw River Bridge on US 101 is estimated to have cost \$5.3 million. While the level of these investments has been substantial, these are long-term investments that occur infrequently. Therefore, it is not reasonable to assume that ODOT can fund this level of investment in Florence annually.

ODOT prioritizes projects needed on federal and state highways to allocate limited funding available. Criteria for project prioritization include safety, pavement condition, traffic volume and mobility, and compliance with applicable standards. In addition, ODOT seeks public input on project priorities established in the Statewide Transportation Improvement Program through advisory committees such as Area Commissions on Transportation and regional meetings open to the public.

Major grant funding programs for transportation administered by ODOT include Transportation Enhancement, Bicycle and Pedestrian, and Scenic Byways. A review of funding provided through these programs show the following trends:

- Between 1992 and 2011, the Transportation Enhancement Program provided grants to local jurisdictions up to \$4.2 million, but most grants were in the range of \$250,000 to \$1 million. None of these grants were awarded to projects in Florence.
- Between Fiscal Year 2004-2005 and 2008-2009, the Oregon Bicycle and Pedestrian Program awarded 60 grants with an average award of roughly \$200,000. None of these grants were awarded to projects in Florence.
- The Scenic Byways Program recently awarded over \$900,000 to the City of Florence for construction of interpretive waysides at the Siuslaw River Bridge on US 101.

While the City of Florence has historically not been very successful at obtaining grant funding, these programs have funded numerous projects in communities similar to Florence. In addition to the bridge restoration project mentioned above, the federal and state governments have directly funded other projects within Florence.

### ***9<sup>th</sup> Street Inlay ARRA project - \$201,000***

The American Recovery and Reinvestment Act (ARRA) provided what are called federal stimulus funds as a way to provide jobs and thus help the economy. With our portion of the money, we were able to complete the 9<sup>th</sup> Street inlay project, for a total cost of \$201,000 to complete the project in 2010.

**30th Street Pedestrian Crossing of Highway 101 - \$150,000 ODOT Bike/Ped Quick Fix Funds**

The State funded most of the project through the Oregon Department of Transportation (ODOT)'s Bike/Ped Program Quick Fix funds. The City paid \$21,797.78 which was not reimbursed. The crossing was constructed in 2009.

**2nd, 7th/8th, 18th/19th Pedestrian Crossings - \$405,003 Federal Appropriation & State Funds**

State funded this project directly with \$318,070 in federal appropriation in SAFETEAU-LU through the Oregon Department of Transportation (ODOT). The remaining project cost was paid for with state funds. The crossings were constructed in 2011.

**Rhododendron Drive/6th Street intersections with Highway 101 - \$123,685 ODOT Quick Fix**

Installation of sidewalk ramps at intersections to provide access to comply with the Americans with Disabilities Act (ADA). This project was completed in 2011. The City managed the project and was reimbursed per our agreement with ODOT utilizing ODOT's Quick Fix Funds.

**Siuslaw River Bridge Interpretive Wayside**

This wayside provides will provide an opportunity to enjoy the scenic splendor of the historic Siuslaw River Bridge and surrounding area. Costs and funding sources are as follows:

**Project Right-of-Way and Construction Funding Sources**

|                          | <b>Available Funds</b> | <b>Right-of-Way</b> | <b>Construction, Engineering, Permitting, Contingency</b> | <b>Committed Funds</b> |
|--------------------------|------------------------|---------------------|---|------------------------|
| Exchange Funds 2002-2006 | \$152,335              | \$0                 | \$152,335   | \$152,335              |
| Exchange Funds 2007/2008 | \$298,581              | \$0                 | \$68,977  | \$68,977               |
| Exchange Funds 2009      | \$93,398               | \$93,398            | \$0   | \$93,398               |
| Exchange Funds 2010      | \$98,203               | \$98,203            | \$0   | \$98,203               |
| Exchange Funds 2011      | \$111,348              | \$57,022            | \$54,326  | \$111,348              |
| Federal Scenic Byways    | \$298,581              | \$0                 | \$298,581   | \$298,581              |
| State Fund Contribution  | \$32,170               | \$0                 | \$32,170  | \$32,170               |
| Florence Urban Renewal   | \$85,238               | \$85,238            | \$0   | \$85,238               |
| <b>TOTALS</b>            | <b>\$1,023,394</b>     | <b>\$333,861</b>    | <b>\$606,389</b>  | <b>\$940,250</b>       |

**12<sup>th</sup> Street Path - \$42,275 State Parks grant, \$10,000 Cycle Oregon Grant, \$12,000 Developer**

This path from Kingwood to Rhododendron within existing right-of-way of 12<sup>th</sup> Street was constructed as an ADA accessible bark path with grants from State Parks and Cycle Oregon. The developer of Winsome Circle contributed \$12,000 required as part of the approval of the Planned Unit Development. The City paid the remaining amount of \$22,696 out of its parks budget. The path does not yet extend across the wetlands created by the stream flowing from the

Airport to the Siuslaw River. The City just purchased credits in the cost of \$2312 to mitigate the impact of filling the 0.025 acres of wetlands. The City has so far invested \$7000 in engineering costs. The estimated cost for installing the culvert is \$68,000.

Based on historical precedence and the outlook for future funding, the following assumptions appear reasonable for State funding in Florence through the planning period of the TSP:

- ODOT will continue to be responsible for maintenance of US 101 and OR 126 in Florence.
- ODOT is responsible for improvement of OR 126 from Spruce Street east to the City's Urban Growth Boundary, including additional capacity, sidewalks and bicycle lanes<sup>1</sup>, as warranted by traffic conditions, development, and population growth in Florence.
- ODOT is responsible for improvements to US 101, including the provision of additional capacity, sidewalks, and bicycle lanes north of 37<sup>th</sup> Street, as warranted by traffic conditions, development, and population growth in Florence.
- ODOT will fund improvements to highways and highway intersections that are determined by ODOT to be necessary to address safety, including signals and other traffic control measures.
- Developments affecting traffic conditions on state highways may be required to contribute funding for measures to mitigate traffic impacts caused by the development, including provision of turn lanes, traffic signals, and other traffic control measures.
- The City of Florence should continue to pursue funding available from grant programs administered by ODOT and other Federal and State agencies. The City should identify needed projects that are consistent with the funding criteria of these grant programs and prioritize projects for grant applications based on the City's need for the project and the likely competitiveness of the project based on past grant awards.

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<sup>1</sup> The configuration of improvements to OR 126 east of Spruce Street may be constrained by environmental conditions. An assessment of which improvements can be provided on this portion of OR 126 will be made during the project planning phase before construction.

## **Transit Funding**

### **Rhody Express Operations & Maintenance –History and Current Budget**

|                                | FY 2013<br>Budget | FY 2012<br>Budget | FY 2011<br>Budget | FY 2010        | FY 2009        | FY 2008      | FY 2007    | FY 2006    |
|--------------------------------|-------------------|-------------------|-------------------|----------------|----------------|--------------|------------|------------|
| Federal 5311<br>Funds          | \$73,200          | \$72,940          | \$78,800          | \$69,674       | \$63,671       | \$65,103     | \$68,388   | \$43,360   |
| Federal ARRA<br>5311 Funds     |                   |                   | \$1,100           | \$1,037        | \$0            | \$0          |            |            |
| Federal 5310<br>Funds          |                   |                   | \$0               | \$0            | \$3,796        | \$2,090      |            |            |
| STF-Out<br>City of<br>Florence | \$36,260          | \$36,500          | \$37,300          | \$28,144       | \$23,086       | \$30,258     | \$29,662   | \$46,538   |
| Farebox <sup>1</sup>           | <u>\$12,000</u>   | <u>\$11,000</u>   | <u>\$8,000</u>    | <u>\$9,442</u> | <u>\$6,983</u> | <u>\$200</u> | <u>\$0</u> | <u>\$0</u> |
| TOTAL                          | \$151,200         | \$149,200         | \$150,200         | \$135,297      | \$124,751      | \$123,151    | \$122,455  | \$103,023  |

<sup>1</sup> Fares were collected but not recorded prior to FY 2009. The \$200 listed in FY 2008 was actually a donation.

Other than FY 2012 and FY 2013, these totals include funding operating the Rhody Express, the separate rides provided for those with disabilities who can't ride or get to the bus, and the old nutrition service. For FY 2012 and FY 2013, the numbers only include the Rhody Express, not the separate rides. That ADA service (rides for those who can not ride the bus) is budgeted at \$7500 in FY 2012 and \$8000 in FY 2013 paid for by state and federal funds. None of the figures include the money Lane Transit District spends on administration (staff time), also paid for by state and federal funds. This table does not include the new Rhody Express Bus paid for by ARRA funds (federal stimulus).

## **Funding Projections**

### ***New Street Fee***

Street funding has not provided funding for the level of service that is necessary for our community. Based on the "Pavement Management Program Budget Options Report" prepared by Capitol Asset and Pavement Services Inc. and presented to the Committee in December 2010, the City would need to spend \$5.2 million over the next five years in order to improve and maintain the street network at an optimal level. But, because this level of expenditure is beyond the city's ability to pay, deferred maintenance continues to climb. The City's street network replacement value is estimated at \$67.4 million and is thus an asset worth preserving. The City is in need of additional funds in order to maintain the existing street infrastructure. At its meeting on October 10, the City Council adopted a long range financial plan that assumed a new street fee of \$3.50 per household. The Council stated that it would not impose this new fee unless approved by the voters. It is likely to go to an advisory vote in November 2012. This fee would enable the City to address the maintenance requirements of the street system.

### ***Assumptions for Future Funding***

The funding projections for the Street Fund are based on the following assumptions.

1. The Street Fee will increase annually by 2%.
2. System Development Charges are projected to increase annually by 2% but actual increases will depend on level of development activity.
3. Grant/Urban Renewal revenues and expenses are forecasted:

\$520,000 for the Interpretive Center - Scenic Byways funding secured  
\$190,000 for Pavement Preservation of Quince/2<sup>nd</sup> Street (Highway 126 to Harbor)  
- Urban Renewal funding secured  
\$1,200,000 for Rhododendron Drive – 1<sup>st</sup> runner-up in Transportation Enhancement  
\$800,000 for Pedestrian Crossings at Highway 101 at 12<sup>th</sup> Street and at midblock of 15<sup>th</sup>/16<sup>th</sup>  
Street and Highway 126 at Redwood – Flex Fund application submitted Oct. 2011  
\$250,000 for extension of Munsel Lake Road to the west – no grant identified  
\$320,000 for roundabout at 9<sup>th</sup> Street and Kingwood – no grant identified

4. Major capital improvements would likely be funded through debt. In general, for every \$1,000,000 that is borrowed, the annual cost for debt service is \$100,000 over a 20 year term.
5. Operating expenses provide the staff, materials, and services needed for minor maintenance such as crack seals. Microseals and overlays would be paid for as capital projects.
6. The City will continue to receive a portion of State Highway Fund revenue. It is expected that that annual revenue will be about \$220,000 in FY 2012 and increase to around \$550,000 by FY 2035.

### ***Conclusion***

Even with the imposition of a street fee set at \$3.50 per household, there will only be enough money in the Street Fund to pay for maintaining our current street system and to provide matching funds for grants. Capacity-increasing projects will be dependent on system development charges. Only through an increase in street fees, formation of Local Improvement Districts or Reimbursement Districts, or securing grant funding will the City be able to consider improving the city's street system.

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.*

*The contents of this document do not necessarily reflect views or policies of the State of Oregon.*

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## PROJECT MEMORANDUM #4

### Existing Conditions, Deficiencies, and Future Needs

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**Date:** June 28, 2011 Project #: 10103.0  
**To:** Sandra Belson  
Community Development Director – City of Florence  
250 US 101  
Florence, Oregon 97439  
**From:** Chris Tiesler, P.E., Dan Seeman, and Diego Arguea  
**Project:** City of Florence Transportation System Plan Update – Project Memorandum #4  
**Subject:** Existing Conditions, Deficiencies, and Future Needs

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This memorandum includes three sections that have been prepared as draft chapters for the City of Florence 2010 Transportation System Plan (TSP) Update. The sections of this memorandum are: Transportation System Inventory, Current Transportation Conditions, and Future Transportation Conditions. The findings highlight existing and future transportation system deficiencies, but do not include solutions to identified deficiencies. Preferred project alternatives will be developed and prioritized in Project Memorandum #9, *Costs and Priorities*, and will be included in the Draft TSP Update.

The current TSP (Reference 1) was adopted in 2002 and based the existing conditions analysis on population data from 1998 and employment data from 1996. A reformatted version was reissued in July 2008 that includes consistency in text, formatting, and includes all adopted amendments to the text and maps since original adoption in 2002; however, the housing and economic data were not updated. Because Florence is located on the Oregon Coast, the City is experiencing growth pressure from both land development as well as the increasing summertime tourist traffic. Based on anticipated changes in population and summertime travel demand, it is appropriate that the existing system and a forecast of future conditions be evaluated for its performance in meeting the daily travel needs of the community. This memorandum includes the following elements:

- Identification of existing transportation inventory and services;
- Analysis of existing transportation conditions;
- Forecast of future transportation needs; and,
- A summary of historic funding sources and potential future funding sources.

Figure 4-1 shows a street map of Florence and the study area, designated within the city limits and urban growth boundary (UGB). Based on the requirements of the Transportation Planning Rule (TPR), the focus of the existing conditions analysis is on significant roadways (arterials or





(NO SCALE)



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**LEGEND**

● - STUDY INTERSECTIONS

STUDY AREA  
FLORENCE, OREGON

FIGURE  
**4-1**

collectors) and intersections of these streets, as well as other transport facilities and services, including pedestrian, bicycle, public transportation, rail service, air service, pipelines and water service.

## Transportation System Inventory

This section describes the current performance and operational deficiencies of the City's transportation system, covering the automobile, pedestrian, bicycle, public transportation, freight, air, marine, and pipeline/transmission transportation modes.

### STREET SYSTEM

Highways and streets are the primary means of mobility for Florence's citizens, serving the majority of trips over multiple modes. Pedestrians, bicyclists and motorists all utilize public roads for the vast majority of their trips. These public facilities are controlled by multiple jurisdictions and are classified based on traffic loads, permitted speeds, and accessibility.

#### *Jurisdiction*

Public roads within the study area are operated by three different jurisdictions: the City of Florence, Lane County and the Oregon Department of Transportation (ODOT). Each jurisdiction is responsible for the following:








- Determining a road's functional classification;
- Defining a roadway's major design and multi-modal features;
- Maintenance; and,
- Approving construction and access permits.

Coordination is required among the jurisdictions to ensure that the transportation system is planned, maintained, and expanded to safely meet the needs of travelers in the area. Figure 4-2 shows the jurisdiction of roadways and Figure 4-3 shows the functional classifications of roadways in and around Florence as defined by the City.



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**LEGEND**








-  ODOT
-  Lane County
-  City of Florence
-  Private
-  Public & Open Space
-  City Limits
-  Urban Growth Boundary

**ROADWAY JURISDICTION  
FLORENCE, OREGON**

**FIGURE  
4-2**



**LEGEND**

-  Highway / Major Arterial
-  Minor Arterial
-  Collector
-  Local Road
-  Public & Open Space
-  City Limits
-  Urban Growth Boundary

**ROADWAY FUNCTIONAL CLASSIFICATION  
FLORENCE, OREGON**

**FIGURE  
4-3**

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## **Roadway Functional Classification**

A roadway's *functional classification* determines its role in the transportation system, as well as its width, right-of-way dedications, driveway (access) spacing requirements, types of pedestrian and bicycle facilities provided. The functional classification is typically established by the city or county based on the following hierarchy:

*Arterials* are intended to serve high volumes of traffic, particularly through traffic, at relatively high speeds. They also serve truck movements and typically emphasize traffic movement over local land access.

*Collectors* serve traffic from the local street system and distribute it to the arterial street system. These roadways provide a balance between traffic movement and land access, and should be designed as best to facilitate traffic circulation throughout the City.

*Local* streets provide land access and carry locally generated traffic at relatively low speeds to the collector street system. Local streets should provide connectivity through neighborhoods, but should be designed to discourage cut-through vehicular traffic.

The existing Florence functional classifications from the 2002 TSP are shown in Figure 4-3.

ODOT has a separate classification system for its highways, which guide the planning, management, and investment for state highways. ODOT's categories, from highest to lowest, are *Interstate*, *Statewide*, *Regional*, and *District* highways. According to the *Oregon Highway Plan* (OHP) (Reference 2), both US 101 and OR 126 are classified as *Statewide Highways* on the National Highway System (NHS). The OHP defines *Statewide Highways* on the NHS as follows:

Statewide Highways (NHS) typically provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports, and major recreation areas that are not directly served by Interstate Highways. A secondary function is to provide connections for intra-urban and intra-regional trips. The management objective is to provide safe and efficient, high-speed, continuous-flow operation. In constrained and urban areas, interruptions to flow should be minimal. Inside Special Transportation Areas (STAs), local access may also be a priority.

The OHP designates the portion of US 101 between OR 126 and the Siuslaw River Bridge (MP 190.23 to 190.84) as a Freight Route and as a STA. The OHP defines a STA as a district of compact development where the need for appropriate local access outweighs the considerations of highway mobility except on designated Freight Routes where highway mobility has greater importance.

The OHP designates the portion of US 101 between 30<sup>th</sup> Street and OR 126 (MP 188.97 to 190.23) as a Urban Business Area, which are defined as areas where vehicular accessibility is important to continued economic viability. In areas with a posted speed above 35 miles per hour, the OHP states that a management plan is required to balance the needs for vehicular, pedestrian, bicycle, and transit accessibility in an Urban Business Area.

## **Roadway Street Section Standards**

The current TSP also identifies roadway cross section elements that should be included for each classification. Each classification allows some flexibility with respect to parking, bike lanes and lane width, and is subdivided into minimum, maximum and typical cross sections. *The cross section design elements from the original 2002 TSP are summarized and attached in Attachment "A."*

## **Roadway Segment Conditions**

The roadway segment conditions were reviewed for approximate width and pavement condition. This data was field verified and confirmed with the roadway inventory information provided by the City of Florence Public Works. Table 1 summarizes the major arterial, minor arterial, and collector roadways in Florence and identifies the jurisdiction for each roadway, as well as the approximate pavement width and condition.

Street segments were surveyed and their condition summarized where data was available by the City of Florence. Table 1 below shows the condition of some of the major roadways within Florence. As shown, the City of Florence uses the Pavement Condition Index (PCI) to describe pavement conditions.

**Table 1  
 Inventory of Existing Arterial/Collector Streets**

| Street  | Jurisdiction | Functional Classification          | PCI Index <sup>1</sup> |
|---|--------------|------------------------------------|------------------------|
| <b>Arterials</b>  |              |                                    |                        |
| US 101 (Oregon Coast Highway 101)                       | State        | Statewide Highway <sup>2</sup>     | Fair                   |
| OR 126 (Florence-Eugene Highway 126)                    | State        | Statewide Highway <sup>2</sup>     | Fair                   |
| Kingwood Street (35 <sup>th</sup> to 15 <sup>th</sup> ) | City         | Minor Arterial                     | 78 <sup>4</sup>        |
| Munsel Lake Road  | County       | Minor Arterial                     | 72 <sup>4</sup>        |
| 35 <sup>th</sup> Street                                 | City         | Minor Arterial                     | 69 <sup>4</sup>        |
| 9 <sup>th</sup> Street                                  | City         | Minor Arterial                     | 50 <sup>4</sup>        |
| Rhododendron Drive                                      | City/County  | Minor Arterial                     | 44 <sup>4</sup>        |
| <b>Collectors</b>                                       |              |                                    |                        |
| Heceta Beach Road                                       | County       | Urban Major Collector <sup>3</sup> | Not Available          |
| North Fork Siuslaw Road                                 | County       | Urban Major Collector <sup>3</sup> | Not Available          |
| 42 <sup>nd</sup> Street                                 | City         | Minor Collector                    | 75 <sup>4</sup>        |
| 30 <sup>th</sup> Street                                 | City         | Minor Collector                    | 80 <sup>4</sup>        |
| 15 <sup>th</sup> Street                                 | City         | Minor Collector                    | 50 <sup>4</sup>        |
| 2 <sup>nd</sup> Street                                  | City         | Minor Collector                    | 68 <sup>4</sup>        |
| Oak Street  | City         | Minor Collector                    | 78 <sup>4</sup>        |
| Spruce Street   | City         | Minor Collector                    | 75 <sup>4</sup>        |
| Quince Street   | City         | Minor Collector                    | 45 <sup>4</sup>        |
| <b>Local</b>  |              |                                    |                        |
| 12 <sup>th</sup> Street                                 | City         | Local/Residential                  | 72                     |

<sup>1</sup> PCI reported in the *Pavement Management Program Budget Options Report*, December 2010. (Reference 3)  
 Statewide Highway pavement conditions as reported by the State Pavement Management System. (Reference 4)

<sup>2</sup> Oregon Highway Plan designation.

<sup>3</sup> Lane County classifications <http://maps.lanecounty.org/LaneCounty/Maps/viewer.htm>.

<sup>4</sup> Average of several sub-sections reported in the report.

The PCI is a measurement of pavement conditions that ranges from 0 to 100. A brand new road would have a PCI of 100, while a failed road (requiring complete reconstruction) would have a PCI under 10. The average PCI for City streets is 71.

Four of the major study roadways identified above have a PCI well below the City’s average: 9<sup>th</sup> Street, Rhododendron Drive, 15<sup>th</sup> Street, and Quince Street..

For both state facilities in Florence, ODOT used the Distress rating procedure which then converts to a GFP rating (GFP stands for Good-Fair-Poor). Each section is given a condition score ranging in value from 0 to 100, estimated to the nearest 5 points, based on the surface distresses present and, to a lesser degree, ride quality.

## **Other Roadway Deficiencies**

In addition to the existing roadway conditions and deficiencies identified above, the following issues were identified through general review of the roadway network and in consultation with City of Florence staff and Project Advisory Committee members:

- Several local streets are relatively disconnected in certain areas, thereby creating greater reliance on US 101;
- Speeding issues were identified along Spruce Street (posted speed limit of 25 mph);
- Several locations for potential wildlife crossings were identified along US 101;
- On-street parking should be limited in the vicinity of the 8<sup>th</sup> Street/Maple Street intersection, particularly on the east side fronting the library;
- Transportation system constraints on economic development may impact small businesses;
- Congestion, parking challenges, and general traffic flow issues have been identified within the Old Town district, which may warrant the potential analysis of a system of one-way streets;
- Concerns have been raised for lack of ADA accessible parking along Bay Street;
- Potential for relocating the planned traffic signal on US 101 at 30th Street to 27th Street;
- Addressing environmental and utility issues in the planned street network in the 9th Street area; and,
- Addressing street connectivity and provision of utilities in the southeast portion of the UGB.

## **TSUNAMI EVACUATION ROUTES**

Please refer to Attachment “B” for a map of identified tsunami evacuation routes prepared by the Oregon Department of Geology and Mineral Industries (DOGAMI).

## **PEDESTRIAN SYSTEM**

Pedestrian facilities serve a variety of needs, identified below:

- Relatively short trips (under a mile) to major pedestrian attractors, such as schools, parks, and public facilities;
- Recreational trips—for example, jogging or hiking—and circulation within parklands;
- Access to transit (generally trips under 1/2-mile to bus stops); and,
- Commute trips, where mixed-use development is provided and people have chosen to live near where they work.

Pedestrian facilities should be integrated with transit stops and effectively separate pedestrians from vehicular traffic. Furthermore, pedestrian facilities should provide continuous connections among neighborhoods, employment areas, and nearby pedestrian attractors. Pedestrian facilities usually refer to sidewalks or paths, but also include pedestrian crossings for high volume

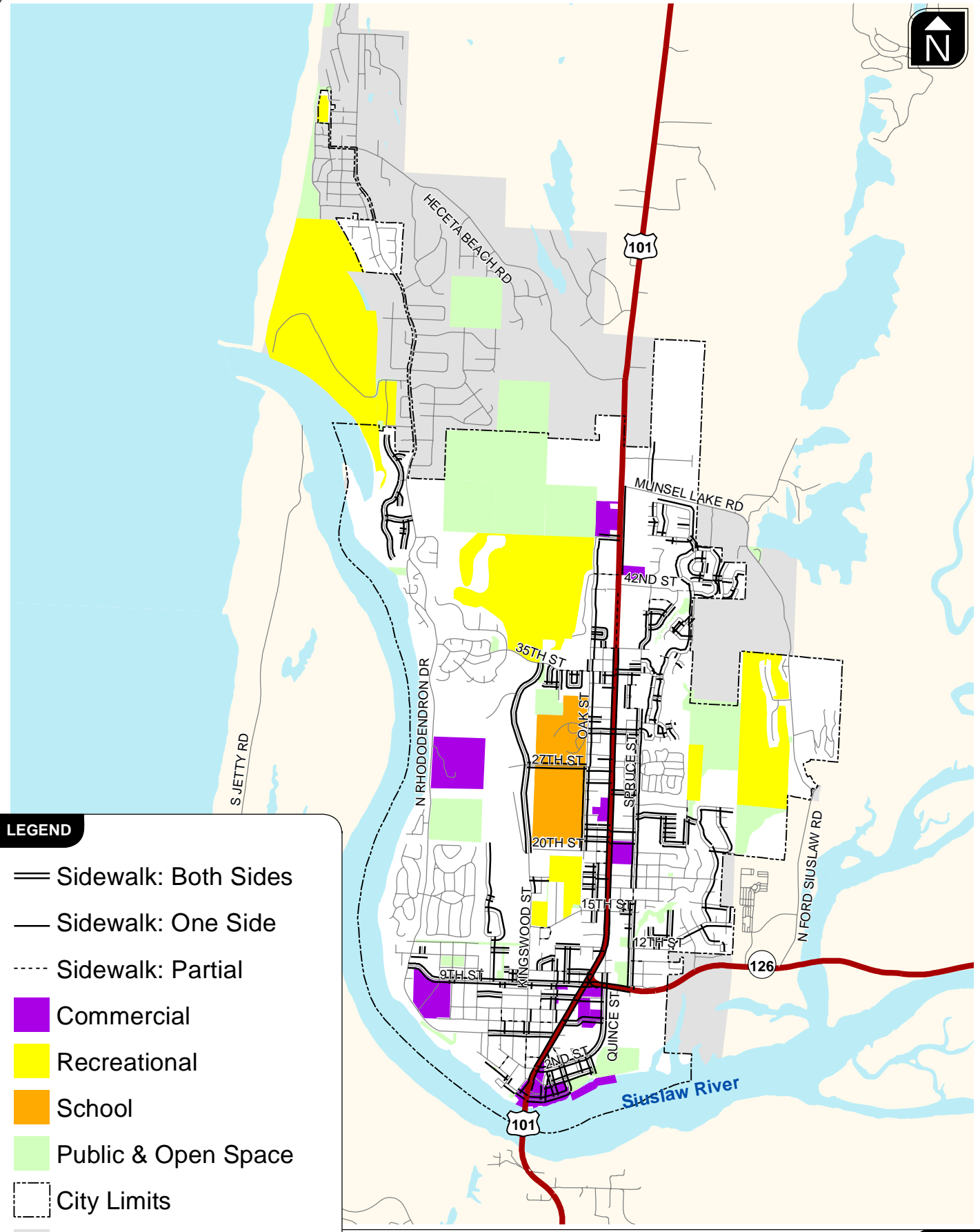


roadways. The existing pedestrian network serving Florence is shown in Figure 4-4, along with major activity centers where higher concentrations of pedestrians can be found.

As Figure 4-4 shows, the majority of the arterial and collector roadways in Florence provide sidewalks, though there are some significant gaps in the pedestrian network.

The following additional issues were identified through general review of the pedestrian network and in consultation with City of Florence staff and PAC members:

- The City's bicycle and pedestrian facilities are discontinuous, thereby discouraging travel via these modes.
- Potential for a pedestrian signal and crosswalk at the 9<sup>th</sup> Street/Kingwood Street intersection (this is a primary emergency corridor and has been identified as an issue for bus drivers);
- Crosswalks should be considered along Maple Street and Kingwood Street for improved accessibility to the library;
- Crosswalks should be considered along US 101 between 20<sup>th</sup> Street and 32<sup>nd</sup> Street to improve safety;
- A crosswalk should be considered on Bay Street in front of the Coffee Roasters (just east of the US 101 bridge overcrossing); and,
- In general, the City has raised concerns about pedestrian crossings across Kingwood Street.



**LEGEND**

-  Sidewalk: Both Sides
-  Sidewalk: One Side
-  Sidewalk: Partial
-  Commercial
-  Recreational
-  School
-  Public & Open Space
-  City Limits
-  Urban Growth Boundary

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**PEDESTRIAN FACILITIES  
FLORENCE, OREGON**

**FIGURE  
4-4**

## ***Pedestrian Crossings***

In the state of Oregon, all unsignalized intersections are considered legal cross walks and motor vehicles are required to yield the right of way to pedestrians to allow them to cross. However, compliance is not consistent and pedestrians may have difficulty crossing high volume roadways. Protected pedestrian crossings along the highways can be found at the following intersections:

- **US 101/2<sup>nd</sup> Street** – striped pedestrian crossing (a Rapid Rectangular Flashing Beacon [RRFB] and raised pedestrian refuge installation is currently under construction);
- **US 101/Rhododendron Drive** – signalized pedestrian crossing;
- **US 101, south side of 6<sup>th</sup> Street** – striped pedestrian crossing;
- **US 101, south side of 7<sup>th</sup> Street** – striped pedestrian crossing;
- **US 101, north of 7<sup>th</sup> Street** – mid-block RRFB and pedestrian refuge installation is currently under construction between 7<sup>th</sup> and 8<sup>th</sup> Streets;
- **US 101, south side of 8<sup>th</sup> Street** – striped pedestrian crossing;
- **US 101/OR 126** – signalized pedestrian crossing;
- **US 101, south side of 15<sup>th</sup> Street** – striped pedestrian crossing;
- **US 101/17<sup>th</sup> Street** – protected striped pedestrian crossing (mid-block RRFB installation currently under construction between 17<sup>th</sup> and 18<sup>th</sup> Streets);
- **US 101, north side of 18<sup>th</sup> Street** – striped pedestrian crossing;
- **US 101/21<sup>st</sup> Street** – signalized pedestrian crossing;
- **US 101, north side of 30<sup>th</sup> Street** – existing RRFB and raised pedestrian refuge installed;
- **US 101/35<sup>th</sup> Street** – signalized pedestrian crossing; and,
- **OR 126, west side of Quince Street** – striped pedestrian crossing.

The City has recently considered future installation of RRFB pedestrian crossings at 12<sup>th</sup> Street and mid-block between 15<sup>th</sup> and 16<sup>th</sup> Streets, though no formal design has been prepared and no funding source has been identified.

## ***Safe Routes to School***

Safe Routes to School (SRTS) is a national program which enables parents, schools, community leaders and local, state, and federal governments to improve safety and health of children by enabling and encouraging them to walk and bike to school. SRTS programs aim on reducing traffic and air pollution, and providing safer and more accessible facilities and transportation choices to children, thus encouraging a healthy and active lifestyle in their early age.

Safe Routes to School have not been identified and improved in Florence, resulting in greater automobile trips for students to school. There are currently no SRTS programs active in the City of Florence.

Additional school and pedestrian concerns are listed below as identified by City of Florence staff:

- School bus concerns:
  - Intersection visibility on 9<sup>th</sup> Street/Kingwood Street is not adequate;
  - In general, widening of roadways to accommodate bus turning radii;
  - In general, ensure that sidewalks are present at school bus stops;
- Additional sidewalks are needed for pedestrians near the schools; and,
- Congestion around the elementary and middle school may warrant the need for additional parking areas and larger drop-off areas.

## **BICYCLE SYSTEM**

Similar to pedestrian facilities, bicycle facilities (dedicated bicycle lanes in the paved roadway, multi-use paths shared with pedestrians, etc.) serve a variety of trips. These include:

- Trips to major attractors, such as schools, parks and open spaces, retail centers, and public facilities;
- Commute trips, where changing and showering facilities are provided at the workplace;
- Recreational trips; and,
- Access to transit, where bicycle storage facilities are available at the stop, or where space is available on bus-mounted bicycle racks.

As this list suggests, supporting bicycling as a viable alternative to the automobile requires more than simply providing bicycle lanes. Support facilities, such as secure parking and worksite changing/showering facilities, are also needed before many potential users will consider the bicycle trip as a practical alternative.

The *Oregon Bicycle and Pedestrian Plan* (Reference 5) identifies four basic bikeway designs:

- Shared roadway – Bicycles and vehicles share the same roadway area under this classification. The shared roadway facility is best used where there is minimal vehicle traffic to conflict with bicycle traffic.
- Shoulder bikeways – This bicycle facility consists of roadways with paved shoulders to accommodate bicycle traffic.
- Bike lanes – Separate lane adjacent to the vehicle travel lane for the exclusive use of bicyclists are considered bike lanes.
- Multi-use path – A facility separated from the roadway by open space or a barrier that is typically used by pedestrians, joggers, skaters, and bicyclists.

Dedicated bicycle facilities should be provided along major streets where automobile traffic speeds are significantly higher than bicycle speeds. Bicycle facilities should connect residential neighborhoods to schools, retail centers, and employment areas. However, allowing bicycle traffic to mix with automobile traffic is acceptable where the average daily traffic (ADT) on a roadway is less than 3,000 vehicles per day and vehicular speeds are low, according to the *Oregon Bicycle and Pedestrian Plan*. Lower volume roadways should be considered for bike shoulders or lanes if

anticipated to be used by children as part of any potential future Safe Routes to School program. In areas where no street connection currently exists or where substantial out-of-direction travel would otherwise be required, a multi-use path may be appropriate to provide adequate facilities for bicyclists.

Figure 4-5 shows the existing bicycle facilities in Florence as well as in the immediate area surrounding the UGB.

There is currently no separate bicycle plan for City of Florence. The original 2002 TSP indicates that local bicycle system improvements should be consistent with the *State of Oregon Bicycle Facilities Master Plan*. The following additional issues were identified through general review of the bicycle network and in consultation with City of Florence staff:

- The City's bicycle and pedestrian facilities are discontinuous, thereby discouraging travel via these modes;
- Heceta Beach Road as well as Rhododendron Drive currently lack facilities for bicycles and pedestrians, and travel speeds have been observed to be high; and,
- US 101 south of OR 126 lacks bicycle lanes near and on the bridge.



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**LEGEND**

-  Bike Lane
-  Multi-Use Trail
-  Future Multi-Use Trail
-  City Limits
-  Public & Open Space
-  Urban Growth Boundary

**BICYCLE FACILITIES  
FLORENCE, OREGON**

**FIGURE  
4-5**

## **PUBLIC TRANSPORTATION SYSTEM**

### ***Bus Service***

Local fixed-schedule transportation is provided in Florence by River Cities Taxi via the Rhody Express during the weekdays only. The North Loop route serves areas north of 20<sup>th</sup> Street, along US 101, Spruce Street and Oak Street, between the Grocery Outlet and Fred Meyer. The South Loop route serves areas south of 20<sup>th</sup> Street, along Spruce Street, US 101, 9<sup>th</sup> Street, Rhododendron Drive, Kingwood Street and Quince Street, circulating between Grocery Outlet, Safeway/Dunes Village Center, Peace Health Campus, and Old Town District.

Commuter fixed-schedule transportation is provided by Porter Stageline/Amtrak Thruway Motorcoach Service. The regional route provides services between Coos Bay and Eugene via Florence. The scheduled stops for Rhody Express and commuter bus services are summarized in Table 2. Also see <http://www.ci.florence.or.us/transportation.cfm> for the most up-to-date schedules.

**Table 2  
 Scheduled Transit Stops in Florence**

| <b>Rhody Express (Weekdays Only)</b>                      |                   |                       |                             |                          |                       |
|---|-------------------|-----------------------|-----------------------------|--------------------------|-----------------------|
| <b>North Loop</b>   |                   |                       | <b>South Loop</b>           |                          |                       |
| <b>Grocery Outlet</b>                                     | <b>Fred Meyer</b> | <b>Grocery Outlet</b> | <b>Grocery Outlet</b>       | <b>Old Town District</b> | <b>Grocery Outlet</b> |
| 10:39 AM  | 10:48 AM          | 11:00 AM              | 10:00 AM                    | 10:25 AM                 | 10:39 AM              |
| 11:39 AM  | 11:48 AM          | 12:00 PM              | 11:00 AM                    | 11:25 AM                 | 11:39 AM              |
| 12:39 PM  | 12:48 PM          | 1:00 PM               | 12:00 PM                    | 12:25 PM                 | 12:39 PM              |
| 1:39 PM   | 1:48 PM           | 2:00 PM               | 1:00 PM                     | 1:25 PM                  | 1:39 PM               |
| 2:39 PM   | 2:48 PM           | 3:00 PM               | 2:00 PM                     | 2:25 PM                  | 2:39 PM               |
| 3:39 PM   | 3:48 PM           | 4:00 PM               | 3:00 PM                     | 3:25 PM                  | 3:39 PM               |
| 4:39 PM   | 4:48 PM           | 5:00 PM               | 4:00 PM                     | 4:25 PM                  | 4:39 PM               |
| 5:39 PM   | 5:48 PM           | 6:00 PM               | 5:00 PM                     | 5:25 PM                  | 5:39 PM               |
| <b>Porter Stageline/Amtrak Thruway Motorcoach Service</b> |                   |                       |                             |                          |                       |
| <b>Weekdays</b>   |                   |                       |                             |                          |                       |
| <b>Florence to Eugene</b>                                 |                   |                       | <b>Eugene to Florence</b>   |                          |                       |
| 8:25 AM   |                   |                       | 10:40 AM                    |                          |                       |
| 1:55 PM   |                   |                       | 5:20 PM                     |                          |                       |
| <b>Florence to Coos Bay</b>                               |                   |                       | <b>Coos Bay to Florence</b> |                          |                       |
| 11:30 AM  |                   |                       | 8:00 AM                     |                          |                       |
| 6:15 PM   |                   |                       | 12:35 PM                    |                          |                       |
| <b>Weekends</b>   |                   |                       |                             |                          |                       |
| <b>Florence to Eugene</b>                                 |                   |                       | <b>Eugene to Florence</b>   |                          |                       |
| 8:25 AM   |                   |                       | 5:20 PM                     |                          |                       |
| <b>Florence to Coos Bay</b>                               |                   |                       | <b>Coos Bay to Florence</b> |                          |                       |
| No Service  |                   |                       | No Service                  |                          |                       |

As shown in Table 2, local bus service is provided throughout most of the day with one-hour headways, connecting between major commercial and institutional activities. However, the lack of services during morning peak hours essentially puts a barrier to residents commuting to work by bus. Also, no stops are available along US 101.

Porter Stage Lines provides only two bus services each day to both Eugene and Coos Bay during weekdays. Residents depending on transit services would be at a commuter disadvantage to have out-of-Florence employment.



In addition to the fixed-schedule services, various organizations and programs provide transportation services to senior, disabled, and people in need of medical services in and out of the Florence area. Several of these services include:

- Friends of Florence Van
- Medicaid Medical Rides
- Veteran's Transportation
- Florence Medical Escort Taxi Program
- Senior and Disable Services Volunteer Medical Rides

Transportation is also provided by some retirement centers. The most up-to-date information can be found at <http://www.ci.florence.or.us/transportation.cfm>.

Also identified by City of Florence staff and the project team, one significant deficiency in the transit system is the lack of transit service to the northwest quadrant of the City. This includes recreational areas such as the North Jetty, Driftwood Shores, and Heceta Beach. There is also a lack of transit service to the City of Yachats to the north.

### ***Community Transit Plan Update***

The Community Transit Plan was written in 2000 prior to the establishment of Rhody Express bus service, and this plan's horizon date is 2010. It is time to update the Community Transit Plan to evaluate existing service and plan for the future of transit in Florence and perhaps future public bus service to Eugene. The Community Transit Plan will be updated as a stand-alone document and incorporated into the Updated TSP.

### ***General Transit and Ridership Survey Results***

The City of Florence conducted several surveys across a variety of groups to assess the current Rhody Express service a general transit survey (mailed to all residents in utility bills) and a ridership survey (given exclusively to riders of the Rhody Express). Survey results are summarized below, along with some general characteristics of Florence residents to provide additional context. *Attachment "C" contains copies of the various surveys as well as the results.*

#### **Characteristics of Florence residents (based on 2005-09 American Community Survey 5-year rolling averages):**

- 38% of population is age 65+
- 37% of population is employed
- 7.3% of working-age population in the labor force is unemployed (probably higher now)
- Median household income is \$35,670
- 13% of households have children under 18 years of age
- Data on percent of population with disabilities not available
- 74% of commuters drive alone, 11% carpool, 6% walk, 6% work at home

## Statistics and Findings of the General Transit Survey

- 71% live in a household with a retired person
- 28% live in a household with an employed person
- 6% live in a household with K-12 students
- 11% live in a household with a disabled person

There were 342 survey responses to the General Transit survey mailed to residents (6.7% of Florence households). Households with retirees are considerably over-represented in the sample.

The typical survey respondent is aware that Rhody Express service exists (95% aware), but has never ridden it (75% of households, 76% of people).

A majority of survey respondents (61%) say they would ride the Rhody Express if it was more convenient. Most-desired improvements are expanded route coverage (52%), weekend service (39%), more frequent service (33%), and expanded AM/PM service hours (23%/26%).

Respondents who are employed or in school typically drive alone (67%), walk (21%), or carpool (9%). Nearly all (88%) of these work or study in Florence. Of those who travel away from Florence for work or study, 84% say they would use transit service if it was available and convenient.

## Statistics and Findings of the Ridership Survey:

There were 36 survey responses to the Ridership survey. The typical Rhody Express rider is a senior citizen or a person with a disability who uses the bus to go shopping and uses the service more than once a week.

Survey respondents were persons with disabilities or their companions (45%), senior citizens (33%), unemployed persons (11%), and employed persons (11%). No students or tourists responded to the survey.

Rhody Express is most commonly used for shopping trips (80% of respondents use it this way), while about 25% of respondents use it for social trips and about 25% use it to get to and from medical appointments (respondents could pick multiple trip purposes). About 2/3 of respondents use it more than once a week, while 85% use it at least once a week. 44% of respondents require some sort of assistance when using Rhody Express (e.g., stop announcements, companion, wheelchair lift).

Respondents' most-desired service improvement by far was weekend service (84%). Expanded AM service hours, more frequent service, and expanded route coverage were also desired by 25–30% of respondents, respectively (respondents could pick multiple desired improvements).

For 57% of respondents, Rhody Express is their only transportation option. 91% of those providing an answer to the question have household incomes less than \$30,000 (compared to Florence's median income of approximately \$35,000), while 41% have household incomes less than \$10,000.

## Statistics and Findings of the Employer Survey

The City of Florence also conducted a survey of three major employers in Florence to assess the potential for the Rhody Express to provide service for journey-to-work trips. The survey results are summarized below.

The City surveyed employees at three major employers: Peace Health, Fred Meyer, and Grocery Outlet, with 48, 14, and 12 responses received from the respective locations. Most respondents (ranging from 93% at Fred Meyer to 67% at Grocery Outlet) do not have the ability to adjust their work schedule. A large majority of the respondents drive alone exclusively (ranging from 92% at Peace Health to 75% at Grocery Outlet), some carpool with another employee or get a ride to work, and a few walk or bike. Those who drive alone do so because the bus is not available, they need their car for personal errands or to save time, they have no one to share a ride with, and/or (particularly for the retail employees) they have an irregular work schedule. Fred Meyer and Peace Health employees would be most likely to change mode if the bus was more convenient, if a guaranteed ride home program was available, or if there was the opportunity to share a ride.

None of the offered strategies resonated strongly with Grocery Outlet employees; however, they would be least unlikely to change modes if fuel prices increased, a guaranteed ride home program was available, or ridesharing opportunities existed. Virtually all of the respondents (96%) were aware of Rhody Express.

## Statistics and Findings of the Delivery Service and Jurisdiction Staff Survey

The City of Florence also conducted a survey of a wide range of service providers and jurisdictional staff to assess the current transportation system, its operation both today and in the future, existing or anticipated future issues, and any recommendations for improvement.

Surveys were sent to the following 16 service providers, 11 (\*) of which provided responses.

- Central Coast Disposal (\*)
- County Transfer and Recycling (\*)
- FEDEX
- Florence Airport (\*)
- Public Works Director (\*)
- Public Works GIS Manager (\*)
- Lane County Operations and Maintenance Staff (\*)
- ODOT Operations and Maintenance Staff (\*)
- Port of Siuslaw
- Rhody Express (\*)
- River City Taxi (\*)
- Siuslaw School Bus Service
- US Post Office (\*)
- Western Lane Ambulance Services

While the wide range of service providers and their respective focus area(s) resulted in disparate responses, there were a few consistent themes that emerged.

1. Service providers generally noted that the local street system within the City functions well today, and local knowledge of the area allows many service providers to use local streets and avoid congestion on the highways (thus avoiding higher volumes of traffic and “friction” on the system, improving efficiency).

2. Several service providers noted that the five-lane cross-section of US 101 should be extended north through the Munsel Lake Road intersection (and possibly to Heceta Beach Road) to better manage mobility needs through this section of the highway and improve accessibility to/from local side streets and/or driveways in this area. Some noted that they expect a larger proportion of future growth in the City to occur in this area.
3. There is a need for a greater number of multi-use paths with improved connectivity to address observed elevated levels of non-motorized modes of transportation. Some identified a need for increased bicyclist education to help reduce conflicts.
4. While the local street system operates well and is relatively well connected, maintenance of the roadways themselves and the need to find better/increased sources of funding for road maintenance and improvements is a concern.
5. In general, future funding sources for respective services are a concern.
6. General concerns raised about the street system include:
  - a. Bicycles conflicting with trucks
  - b. Campers/RVs cause congestion, particularly in the summertime
  - c. Traffic congestion on the Siuslaw River bridge during summer
7. Many concerns regarding the pedestrian/bicycle system include:
  - a. Need for more multi-use paths to separate these modes from motorists and improve safety
  - b. Many gaps in sidewalks and many sidewalks in disrepair
  - c. A “bike rest area” at the north end of Siuslaw River bridge may serve as a nice tourist diversion to view bay (ODOT seeking funding)
8. In Old Town, the following issues were raised:
  - a. Single lane alleys are sometimes difficult to maneuver in
  - b. Bay Street time restrictions (no trucks before 7:00 a.m.) requires trucks to mix with general traffic – restriction should be removed
9. With regard to the transit/taxi system:
  - a. Funding is always a concern, and inhibits the system from expanding.
  - b. Need to get transit routes out of parking lots and onto public streets
10. There was also a concern about the poor condition of the stormwater system on US 101 from 15<sup>th</sup> to 35<sup>th</sup> (ODOT seeking funds for this estimated \$2 million project)

For complete survey responses from service providers and jurisdictional staff, see Attachment C.

## ***Rail Transportation***

There are no rail facilities within the Florence UGB. There is currently no active freight rail running through Florence and the nearest passenger rail is located in Eugene/Springfield. The Coos Bay Rail Link, which ran between Eugene and Coos Bay via Florence, crosses the Siuslaw River approximately 2.5 miles east of Florence. This rail link has been closed since September 2007, but is expected to reopen sometime in 2011 (Reference 6).

## **Passenger Rail**

Passenger rail service is provided by Amtrak, with the nearest stations located in Eugene/Springfield. Amtrak operates the *Cascades* (Vancouver, BC to Eugene) and *Coast Starlight*

(Seattle to Los Angeles), though some scheduled trips are partial segments of the entire route. In addition, *Thruway* bus service connects Ontario, OR to Coos Bay, OR with stops in Florence and Eugene as well as the Bend bus station. The schedule for passenger rail service at the Eugene/Springfield station is shown in Table 3. Detailed schedules can be obtained at [www.amtrak.com](http://www.amtrak.com).

**Table 3**  
**Passenger Rail and Intercity Bus Schedules, Daily Service**

| Station            | Coast Starlight | Cascades |         |          |          | Thruway |         |
|--------------------|-----------------|----------|---------|----------|----------|---------|---------|
| <b>Southbound</b>  |                 |          |         |          |          |         |         |
| Eugene/Springfield | 3:37 PM         | 12:30 PM | 4:30 PM | 7:22 PM  | 10:17 PM | 6:45 PM | 8:30 PM |
| <b>Northbound</b>  |                 |          |         |          |          |         |         |
| Eugene/Springfield | 1:30 PM         | 6:13 AM  | 9:43 AM | 12:35 PM | 3:40 PM  |         | 2:05 PM |

***Air Service***

The Florence Municipal Airport (<http://www.airnav.com/airport/6S2>) is a *general aviation* facility, meaning that it serves flights other than military and scheduled commercial flights. The airport is publicly owned by the City of Florence. The airport uses a single runway, which is asphalt-paved to a length of 3,000 feet. Approximately 15 general aviation aircraft are based at the airport. No instrument landing system exists so operations are limited to visual flight rules (VFR) and there is no scheduled service provided by commercial carriers.

Florence residents traveling on commercial flights will be able to use either the Portland International Airport or the Eugene Airport, located approximately 200-minute and 90-minute driving from Florence, respectively. Commercial flights are also available at the Southwest Oregon Regional Airport in North Bend, approximately one hour south of Florence.

**PIPELINE SERVICE**

Florence does not have any major pipeline transmission lines. However, it does have an underground pipeline network for water, sewer, electric, fiber, and cable.

**WATER SERVICE**

The Siuslaw River is the only navigable waterway located within Florence. Access is provided through the Port of Siuslaw’s boat launch and marina. Other nearby available ports are located in Newport, Tillamook, Reedsport, Winchester Bay, and Coos Bay. There is a Siuslaw Water Trail that includes a stop at the Port’s boat launch.

## Current Transportation Conditions

### STUDY INTERSECTION OPERATIONS

This section of the existing conditions assessment documents the current performance of 16 key intersections within the City of Florence. The study intersections are summarized below.

#### *ODOT operated and maintained intersections:*

- US 101/Heceta Beach Road
- US 101/Munsel Lake Road
- US 101/35<sup>th</sup> Street
- US 101/30<sup>th</sup> Street
- US 101/27<sup>th</sup> Street
- US 101/15<sup>th</sup> Street
- US 101/ OR 126
- US 101/Rhododendron Drive
- US 101/2<sup>nd</sup> Street
- Quince Street/ OR 126
- Spruce Street/ OR 126
- North Fork Siuslaw Road/OR 126

#### *City of Florence operated and maintained intersections:*

- Rhododendron Road/35<sup>th</sup> Street
- Rhododendron Road/9<sup>th</sup> Street
- Kingwood Street/15<sup>th</sup> Street
- Kingwood Street/9<sup>th</sup> Street

### ***Analysis Methodology and Performance Standards***

All operational analyses described in this report were performed in accordance with accepted state-of-the-practice procedures stated in the 2000 *Highway Capacity Manual* (Reference 7). All intersection level-of-service evaluations used the peak 15-minute flow rate during the weekday p.m. peak hour. Using the peak 15-minute flow rate ensures that this analysis is based on a reasonable worst-case scenario. For this reason, the analysis reflects conditions that are only likely to occur for 15 minutes out of each average peak hour. The transportation system will likely operate under conditions better than those described in this report during all other time periods.

### **ODOT Intersections**

ODOT uses volume-to-capacity ratio standards to assess intersection operations. The ODOT controlled intersections within the study area are located along OR 126 and US 101, which are both designated as Statewide Highways. OR 126 is also designated as a freight route within the study area while US 101 is designated as a freight route within a Special Transportation Area (STA) south of OR 126, as a *non*-freight route within an Urban Business Area (UBA) north of OR 126 and south of 30<sup>th</sup> Street, and as a *non*-freight route north of 30<sup>th</sup> Street. *Attachment “D” contains the ODOT Highway Segment Designation map for the City of Florence.*

The minimum required performance standards shown in Table 4 reflect the highway and area designations shown in Attachment “D” as well as the posted speed limit and traffic control at the intersections. Figure 4-6 illustrates the existing lane configurations and traffic control devices at each of the study intersections.

In reviewing Table 4, it should be noted that the two-way stop-controlled (TWSC) intersections operated and maintained by ODOT are evaluated using two performance standards; one for the highway approaches and one for the minor street approaches. The major street volume-to-capacity (V/C) ratios shown in Table 4 reflect the mobility standards for OR 126 and US 101; in addition, in most cases the operating standard for the minor street approach is the same.

**Table 4  
 Summary of ODOT Intersection Performance Standards**

| Intersection                   | Traffic Control <sup>1</sup> | Posted Speed Limit (mph) | OHP <sup>2</sup> Mobility Standard |
|--------------------------------|------------------------------|--------------------------|------------------------------------|
| US 101/Heceta Beach Road       | TWSC                         | 55                       | V/C=0.75                           |
| US 101/Munsel Lake Road        | TWSC                         | 40                       | V/C=0.80                           |
| US 101/35 <sup>th</sup> Street | Signalized                   | 40                       | V/C=0.80                           |
| US 101/30 <sup>th</sup> Street | TWSC                         | 35                       | V/C=0.85                           |
| US 101/27 <sup>th</sup> Street | TWSC                         | 35                       | V/C=0.85                           |
| US 101/15 <sup>th</sup> St     | TWSC                         | 30                       | V/C=0.85                           |
| US 101/OR 126                  | Signalized                   | 30                       | V/C=0.85                           |
| US 101/Rhododendron Road       | Signalized                   | 30                       | V/C=0.85                           |
| US 101/2 <sup>nd</sup> St      | TWSC                         | 30                       | V/C=0.85                           |
| Quince Street/OR 126           | TWSC                         | 30                       | V/C=0.80                           |
| Spruce Street/OR 126           | TWSC                         | 35                       | V/C=0.80                           |
| N Fork Siuslaw Rd/OR 126       | TWSC                         | 45                       | V/C=0.70                           |

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

<sup>2</sup>OHP: Oregon Highway Plan

### City Intersections

The City of Florence has not adopted level-of-service (LOS) or volume-to-capacity (V/C) ratio standards for signalized or unsignalized intersections, and the 2002 TSP lacks level of service standards, as required by the Oregon Transportation Planning Rule (TPR).

Therefore, the following minimum operating standards were applied to City intersections:

- LOS “D” is considered acceptable at signalized and all-way stop controlled intersections if the V/C ratio is not higher than 1.0 for the sum of critical movements.
- LOS “E” is considered acceptable for the poorest operating approach at two-way stop intersections. LOS “F” is allowed in situations where a traffic signal is not warranted.

A summary of the recommended performance standards at each of the study intersections under City jurisdiction is included in Table 5.

*A description of level of service and the criteria by which they are determined is presented in Attachment “E”. Attachment “E” also indicates how level of service is measured and what is generally considered the acceptable range of level of service.*

**Table 5**  
**Recommended Performance Standards for City Intersections**

| Intersection                              | Traffic Control   | Performance Standard |
|---|-------------------|----------------------|
| Rhododendron Road/35 <sup>th</sup> Street | TWSC <sup>1</sup> | LOS "D"              |
| Rhododendron Road/9 <sup>th</sup> Street  | TWSC              | LOS "D"              |
| Kingwood Street/15 <sup>th</sup> Street   | TWSC              | LOS "D"              |
| Kingwood Street/9 <sup>th</sup> Street    | TWSC              | LOS "D"              |

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

The operational analysis results shown later in this report were compared with the mobility standards used by ODOT and the City to assess performance and potential areas for improvement.

### **Traffic Volumes**

Manual turning-movement counts were conducted at 12 study intersections in late August and early September 2009. Supplemental counts were conducted at four study intersections in early August 2010. All counts were conducted on a typical summertime mid-week day and include vehicle turning movements, pedestrian movements, bicycle movements, and heavy vehicle percentages. Figure 4-6 shows the existing lane configurations and traffic control devices in place at each of the study intersections. *Attachment "F" contains the traffic count worksheets used in this study.*

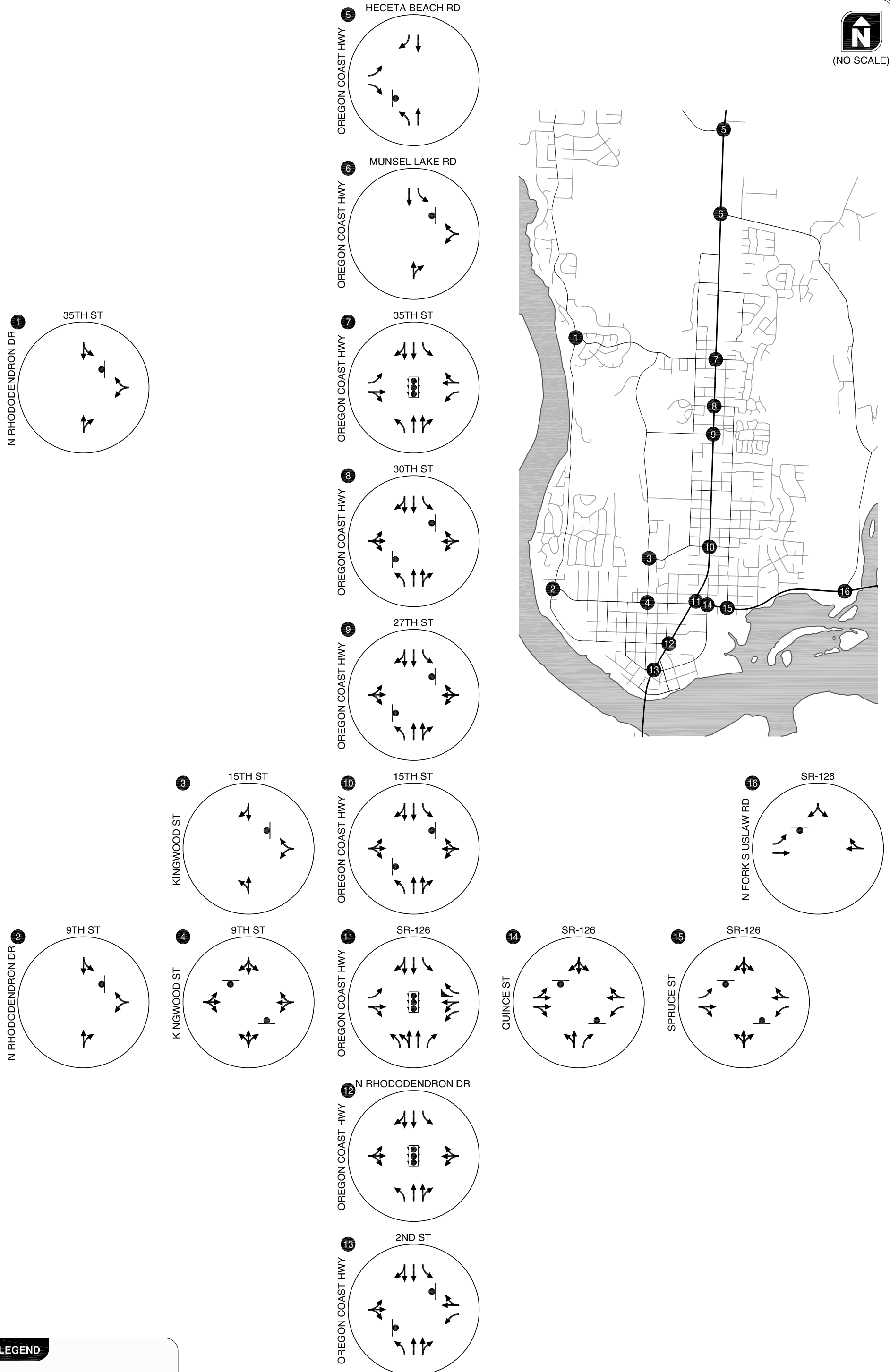
### **Seasonal Adjustment Factor**

Traffic volumes within Florence tend to fluctuate by time of year due to seasonal factors such as tourist travel. Typically, transportation facilities are not designed for the highest volume of traffic experienced in an hour, but instead, are designed for the 30<sup>th</sup> highest hour demand experienced over the course of the year. If demand on a given transportation facility were measured every hour in the year, and the demands were ranked from highest to lowest, the 30<sup>th</sup> highest hour demand would represent the condition for which the system is typically designed (i.e. the "design hour").

The concept of the 30<sup>th</sup> highest hour demand in estimating transportation or parking capacity requirements recognizes that it is not economically sound to have a roadway congestion-free throughout every hour of the year. By designing the system to satisfy the 30<sup>th</sup> highest hour demand, typical weekday peaks will operate acceptably.

The 30<sup>th</sup> highest hour volumes (30 HV) for Florence were derived from the manual turning movement counts conducted at the study intersections in accordance with the methodology described in the ODOT *Analysis Procedures Manual* (APM). The APM describes three methods for estimating 30 HV volumes including the On-Site ATR method, the ATR Characteristic Table method, and the Seasonal Trend Table method. Since there are no ATR's located within the City limits and no ATR's provided in the characteristic table that can accurately represent the conditions in Florence, the Seasonal Trend Table method was selected.





LEGEND

- STOP SIGN
- TRAFFIC SIGNAL

EXISTING LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES FLORENCE, OR

FIGURE 4-6

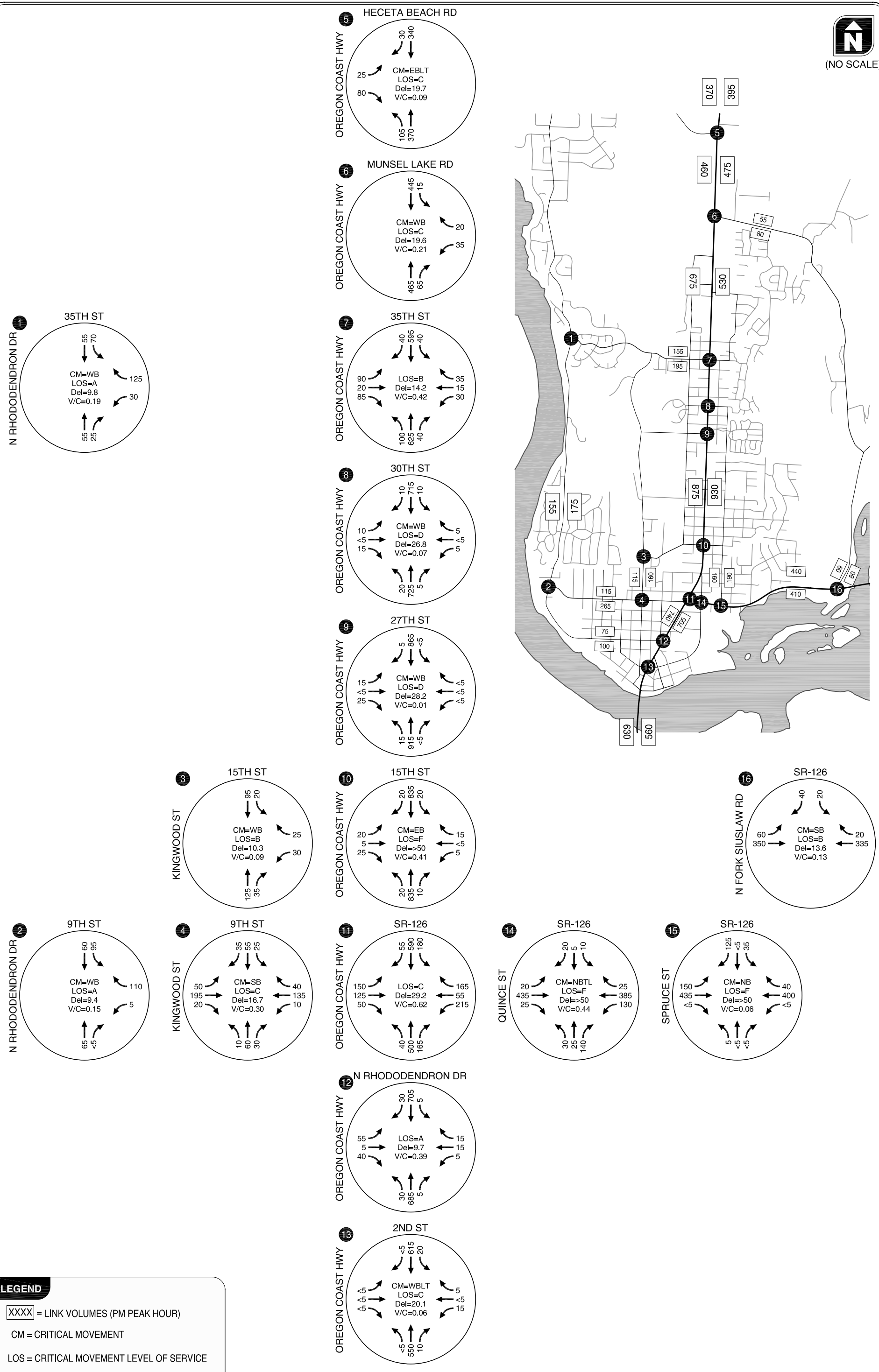
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The Seasonal Trend Table provides average values from the ODOT ATR Characteristic Table for each seasonal traffic trend. Values from the Coastal Destination seasonal traffic trend were used to derive 30 HV volumes for Florence. Table 6 summarizes the seasonal adjustment factors calculated for each study intersection based on the date the count was conducted, the seasonal factor associated with the count date and the peak period seasonal factor as provided in the ODOT Seasonal Trend Table for 2010.

**Table 6**  
**Seasonal Trend Table**

| Location                            | Count Date | Count Data Seasonal Factor | Peak Period Seasonal Factor | Seasonal Adjustment |
|-------------------------------------|------------|----------------------------|-----------------------------|---------------------|
| Kingwood St/15 <sup>th</sup> St     | 8/5/2010   | 0.82                       | 0.82                        | 1.0018              |
| Kingwood St/9 <sup>th</sup> St      | 8/5/2010   | 0.82                       | 0.82                        | 1.0018              |
| US 101/27 <sup>th</sup> St          | 8/5/2010   | 0.82                       | 0.82                        | 1.0018              |
| Quince St/OR 126                    | 8/5/2010   | 0.82                       | 0.82                        | 1.0018              |
| US 101/Heceta Beach Rd              | 8/24/2009  | 0.83                       | 0.82                        | 1.0088              |
| US 101/Munsel Lake Rd               | 8/24/2009  | 0.83                       | 0.82                        | 1.0088              |
| US 101/15 <sup>th</sup> St          | 8/25/2009  | 0.83                       | 0.82                        | 1.0088              |
| US 101/OR 126                       | 8/25/2009  | 0.83                       | 0.82                        | 1.0088              |
| Spruce St/OR 126                    | 8/25/2009  | 0.83                       | 0.82                        | 1.0088              |
| Rhododendron Dr/9 <sup>th</sup> St  | 8/26/2009  | 0.83                       | 0.82                        | 1.0088              |
| US 101/35 <sup>th</sup> St          | 8/26/2009  | 0.83                       | 0.82                        | 1.0088              |
| US 101/Rhododendron Dr              | 8/26/2009  | 0.83                       | 0.82                        | 1.0088              |
| US 101/2 <sup>nd</sup> St           | 8/26/2009  | 0.83                       | 0.82                        | 1.0088              |
| N Fork Siuslaw Rd/OR 126            | 8/26/2009  | 0.83                       | 0.82                        | 1.0088              |
| Rhododendron Dr/35 <sup>th</sup> St | 8/31/2009  | 0.83                       | 0.82                        | 1.0088              |
| US 101/30 <sup>th</sup> St          | 9/1/2009   | 0.88                       | 0.82                        | 1.0788              |

The 30 HV volumes for Florence were ultimately derived by increasing the traffic counts at the study intersections by the factors shown in Table 6 in accordance with ODOT’s *Analysis Procedures Manual* (APM) (Reference 8). Figure 4-7 provides a summary of the seasonally adjusted year 2010 turning-movement counts, which are rounded to the nearest five vehicles per hour for the weekday p.m. peak hour. The findings of the existing conditions analysis are also shown in Figure 4-7 and summarized in Table 7 below which also shows the applicable mobility standard. As shown, all study intersections currently meet the applicable mobility and level-of-service standards during the weekday p.m. peak hour. Attachment “G” includes the existing level-of-service analysis worksheets.



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**LEGEND**

- XXXX = LINK VOLUMES (PM PEAK HOUR)
- CM = CRITICAL MOVEMENT
- LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
- Del = CRITICAL MOVEMENT CONTROL DELAY
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

EXISTING TRAFFIC OPERATIONS  
 WEEKDAY PM PEAK HOUR  
 FLORENCE, OR **FIGURE 4-7**

**Table 7  
 Intersection Operations Analysis, Existing Weekday PM Peak Hour**

| Intersection                              | Traffic Control <sup>1</sup> | Mobility Standard | Existing Operations | Meets Standard? |
|---|------------------------------|-------------------|---------------------|-----------------|
| <b>ODOT Intersections</b>                 |                              |                   |                     |                 |
| US 101/Heceta Beach Road                  | TWSC                         | V/C=0.75          | V/C=0.09            | Yes             |
| US 101/Munsel Lake Road                   | TWSC                         | V/C=0.80          | V/C=0.21            | Yes             |
| US 101/35 <sup>th</sup> Street            | Signalized                   | V/C=0.80          | V/C=0.36            | Yes             |
| US 101/30 <sup>th</sup> Street            | TWSC                         | V/C=0.85          | V/C=0.07            | Yes             |
| US 101/27 <sup>th</sup> Street            | TWSC                         | V/C=0.85          | V/C=0.15            | Yes             |
| US 101/15 <sup>th</sup> St                | TWSC                         | V/C=0.85          | V/C=0.41            | Yes             |
| US 101/OR 126                             | Signalized                   | V/C=0.85          | V/C=0.48            | Yes             |
| US 101/Rhododendron Road                  | Signalized                   | V/C=0.85          | V/C=0.32            | Yes             |
| US 101/2 <sup>nd</sup> St                 | TWSC                         | V/C=0.85          | V/C=0.06            | Yes             |
| Quince Street/OR 126                      | TWSC                         | V/C=0.85          | V/C=0.44            | Yes             |
| Spruce Street/OR 126                      | TWSC                         | V/C=0.85          | V/C=0.06            | Yes             |
| North Fork Siuslaw Road/OR 126            | TWSC                         | V/C=0.85          | V/C=0.13            | Yes             |
| <b>City Intersections</b>                 |                              |                   |                     |                 |
| Rhododendron Road/35 <sup>th</sup> Street | TWSC                         | LOS "D"           | LOS=A               | Yes             |
| Rhododendron Road/9 <sup>th</sup> Street  | TWSC                         | LOS "D"           | LOS=A               | Yes             |
| Kingwood Street/15 <sup>th</sup> Street   | TWSC                         | LOS "D"           | LOS=B               | Yes             |
| Kingwood Street/9 <sup>th</sup> Street    | TWSC                         | LOS "D"           | LOS=C               | Yes             |

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

As shown on Figure 4-7 and Table 7, all study intersections currently meet their respective mobility standards during the weekday p.m. peak hour.

***Multi-Modal Level of Service Analysis***

For the multimodal level of service analysis, the methodology from the NCHRP Report 3-70 (Reference 9) was used as a basis for evaluating multiple modes of travel on the Highway 101 corridor. NCHRP 3-70 provides a scientific basis for evaluating multimodal level of service (MMLOS) on urban streets, combining LOS analysis for auto, transit, bicycle, and pedestrian travel modes. The methodology consists of a set of recommended procedures for predicting traveler perceptions of quality of service and performance measures for urban streets. The value of this analysis tool is that the model results have been calibrated to user perception based on real traffic situations.

As defined by the methodology, a *segment* is made up of the link of roadway between two signalized intersections and the downstream intersection. Because only the downstream intersection is considered for each segment, the methodology is limited to analyzing one direction

of travel at a time. For each link and downstream intersection, the principal inputs into the model are listed below:

- At the downstream cross street:
  - Approach volumes and lane geometries; and,
  - Signal timing data
- Along the segment being analyzed:
  - *Geometry*: cross-section geometry of the roadway link, pavement condition, speed limit, presence of a median (and type), turn lanes, number of unsignalized intersections/driveways, number of trees, pavement condition, and jay-walking assumptions;
  - *Volumes*: pedestrian volumes, vehicular volumes, heavy vehicle percentages, and average travel speed; and,
  - *Transit data*: the number of routes, frequency of service, and average passenger loads (performance measures such as on-time performance percentages are also a factor in the analysis).

For auto and transit modes, the methodology does not account for an intersection analysis. As such, a segment LOS is developed based on only those link characteristics and geometry previously listed. For bicycle and pedestrian modes, the methodology develops a segment LOS based on a combined link LOS as well as downstream intersection LOS. Note in this case, because the Rody Express does not travel directly along US 101 for any appreciable distance, transit LOS cannot be calculated for the segments analyzed.

The resultant LOS corresponds to the advantages and disadvantages that travelers perceive of traffic control, sidewalk and bike lane widths (if present), buffers between the travel lane and bike paths and sidewalks (i.e. parking lanes, planter strips, etc.), and other characteristics found on an urban roadway. Safety is indirectly considered in the MMLOS analysis in that the letter ratings are based in large part on user perceptions of comfort (including safety) for bicyclists and pedestrians.

The inputs into the analysis for this study are based on several sources of data compiled for this project, in addition to several assumptions to fill in missing gaps of required inputs. The MMLOS analysis was applied to the existing Highway 101 facility to develop a baseline for future relative comparison between alternatives that will be generated at a later date as part of this project. The segments analyzed are defined by the locations of signalized intersections, as prescribed by the methodology. Table 8 provides a segment MMLOS summary of the existing conditions in the northbound and southbound directions for the weekday p.m. peak hour study period.

**Table 8**  
**MMLOS – Existing Conditions, Weekday PM Peak Hour**

| US 101 Segment                         | Level-of-Service (NB/SB) |         |                   |                         |
|--|--------------------------|---------|-------------------|-------------------------|
|  | Auto <sup>1</sup>        | Transit | Bike <sup>2</sup> | Pedestrian <sup>2</sup> |
| 35 <sup>th</sup> Street to Highway 126 | B / B                    | n/a     | B / B             | C / C                   |
| Highway 126 to Rhododendron Drive      | B / B                    | n/a     | D / D             | B / B                   |

<sup>1</sup> Link LOS reported  
<sup>2</sup> Segment LOS reported

As shown in Table 8, a segment analysis for the existing conditions reveals the corridor’s level-of-service from a multi-modal perspective. With this analysis, elements of each mode (such as roadway geometry, signal timing, access spacing, transit frequency, bicycle demand, and others) have an effect on each other. For example, an increase in right-turns-on-red may improve the vehicle LOS but could have an adverse effect on pedestrians being able to cross the street, thus impacting the pedestrian LOS. As such, it is important to note that the results of the above analysis are based on planning level assumptions with as much field data as was able to be incorporated. The analysis serves as an additional tool in identifying potential hot-spot locations that may be missed by traditional intersection and segment LOS analysis.

The existing conditions analysis results shown in Table 8 will serve as a basis for comparison when various improvement alternatives are considered in later phases of this study. Each mode will be analyzed in greater detail, focusing on achieving the greatest system benefit to align with the goals of the MOA and community.

*Attachment “H” contains the MMLOS worksheets.*

**SAFETY ANALYSIS**

This section provides a comprehensive analysis of historic roadway safety information in Florence. As a starting point, both state highways in Florence were reviewed for identification in the ODOT Safety Priority Index System. This is followed by an analysis of crash data provided by ODOT. The crash data includes all reported crashes that occurred at study intersections for the five-year period from January 1, 2005 to December 31, 2009.

***Statewide Priority Index System***

The Statewide Priority Index System (SPIS) is a method developed by ODOT for identifying hazardous locations on state highways with consideration of crash frequency, crash rate, and crash severity. As described in ODOT’s SPIS description, a roadway segment becomes a SPIS site if a location has three or more crashes or one or more fatal crashes over the three-year period. Under this method, all state highways are analyzed in 0.10 mile segments to determine SPIS sites. Statewide, there are approximately 6,000 SPIS sites. SPIS sites are typically intersections, but can also be roadway segments.

According to ODOT's *Project Safety Management System* (Reference 10), four SPIS sites are shown to be in the "85 – 89.99" percentile.

### ***Intersection Crash Data Analysis***

ODOT provided detailed crash data covering all crashes that occurred in the City of Florence for the five-year period from January 1, 2005 to December 31, 2009. The data were analyzed to determine crash rates for all study intersections and roadway segments.

Crash rates for intersections were calculated in crashes per million entering vehicles (MEV). The crash data are summarized in Table 9, including types and severity of crashes as well as crash rate and critical crash rate for each intersection.

Based on a review of the crash data, the existing streets and intersections within Florence operate well within acceptable safety standards.

### ***Segment Crash Data Analysis***

ODOT provided crash data summary for the four SPIS sites in the "85 – 89.99" percentile for the three-year period between January 1, 2007 and December 31, 2009. The US 101/17<sup>th</sup> Street intersection is included in two of the sites, US 101 (MP 189.64 to 198.76) and US 101 (MP 189.71 to 189.81). Therefore, crash history at these two sites was combined in the reported summary. The crash data are summarized in Table 10 including types and severity of crashes as well as crash rate and critical crash rate for each segment.

These sites have crash rates in the range of approximately 0.63 to 0.74 crashes per million vehicle miles traveled (MVMT). No obvious crash patterns were identified.

**Table 9  
 Intersection Crash History (January 1, 2005-December 31, 2009)**

| Intersection                                 | Collision Type |      |       |       | Severity         |        |       | Total | Observed<br>Crash Rate |
|--|----------------|------|-------|-------|------------------|--------|-------|-------|------------------------|
|  | Rear<br>End    | Turn | Angle | Other | PDO <sup>1</sup> | Injury | Fatal |       |                        |
| <b>Signalized Intersections</b>              |                |      |       |       |                  |        |       |       |                        |
| US 101 /<br>35 <sup>th</sup> St              | 3              | 0    | 3     | 0     | 4                | 2      | 0     | 6     | 0.15                   |
| US 101 /<br>OR 126                           | 5              | 7    | 5     | 4     | 16               | 5      | 0     | 21    | 0.39                   |
| US 101 /<br>Rhododendron Dr                  | 2              | 3    | 1     | 1     | 4                | 3      | 0     | 7     | 0.26                   |
| <b>Two-Way Stop-Controlled Intersections</b> |                |      |       |       |                  |        |       |       |                        |
| Rhododendron Dr /<br>35 <sup>th</sup> St     | 1              | 0    | 0     | 0     | 1                | 0      | 0     | 1     | 0.12                   |
| Rhododendron Dr /<br>9 <sup>th</sup> St      | 0              | 0    | 0     | 0     | 0                | 0      | 0     | 0     | 0.00                   |
| Kingwood St /<br>15 <sup>th</sup> St         | 0              | 0    | 0     | 1     | 0                | 1      | 0     | 1     | 0.13                   |
| Kingwood St /<br>9 <sup>th</sup> St          | 6              | 1    | 0     | 0     | 4                | 3      | 0     | 7     | 0.45                   |
| US 101 /<br>Heceta Beach Rd                  | 0              | 1    | 0     | 0     | 1                | 0      | 0     | 1     | 0.05                   |
| US 101 /<br>Munsel Lake Rd                   | 0              | 0    | 0     | 0     | 0                | 0      | 0     | 0     | 0.00                   |
| US 101 /<br>30 <sup>th</sup> St              | 0              | 2    | 1     | 0     | 3                | 0      | 0     | 3     | 0.08                   |
| US 101 /<br>27 <sup>th</sup> St              | 0              | 1    | 0     | 0     | 1                | 0      | 0     | 1     | 0.02                   |
| US 101 /<br>Airport Rd                       | 3              | 0    | 1     | 0     | 3                | 1      | 0     | 4     | 0.09                   |
| US 101 /<br>2 <sup>nd</sup> St               | 3              | 0    | 0     | 0     | 2                | 1      | 0     | 3     | 0.11                   |
| Quince St /<br>OR 126                        | 1              | 2    | 2     | 0     | 3                | 2      | 0     | 5     | 0.17                   |
| OR 126 /<br>Spruce St                        | 0              | 2    | 0     | 0     | 2                | 0      | 0     | 2     | 0.07                   |
| OR 126 /<br>N Fork Siuslaw River<br>Rd       | 1              | 1    | 0     | 0     | 2                | 0      | 0     | 2     | 0.10                   |

<sup>1</sup>PDO: Property Damage Only.



**Table 10 Segment Crash History (2007 - 2009)**

| Roadway Segment             | Collision Type |      |       |     |            |       | Severity         |        |       | Total | Observed Crash Rate (MVMT) |
|-----------------------------|----------------|------|-------|-----|------------|-------|------------------|--------|-------|-------|----------------------------|
|                             | Rear End       | Turn | Angle | Ped | Side-swipe | Other | PDO <sup>1</sup> | Injury | Fatal |       |                            |
| <b>Roadway Segments</b>     |                |      |       |     |            |       |                  |        |       |       |                            |
| US 101 (MP 189.47 – 189.58) | 4              | 2    | 2     | 2   | 1          | 1     | 8                | 4      | 0     | 12    | 0.63                       |
| US 101 (MP 189.64 – 189.81) | 6              | 2    | 2     | 1   | 1          | 2     | 5                | 9      | 0     | 14    | 0.74                       |
| OR 126 (MP 2.64 – 2.78)     | 1              | 0    | 1     | 0   | 2          | 0     | 1                | 3      | 0     | 4     | 0.66                       |

<sup>1</sup>PDO: Property Damage Only.

*Safety information and crash records for this analysis are provided in Attachment “I.”*

## **ASSESSMENT OF POLICIES AND PROJECTS IN EXISTING TSP**

The types of deficiencies and needs that are not addressed by policies in the City’s 2002 TSP, Community Transportation Plan, and CIP by in large are captured in Project Memorandum #2, *Goals, Policies, and Performance Measures*. This Memorandum, developed by City Staff and last revised September 5, 2010, evaluated existing transportation policies for their relevance to the TSP update. Project Memorandum #2 identified policies that are outdated and no longer needed, policies that will need to be reevaluated and potentially modified to be consistent with existing conditions and new transportation findings, and policies that do not yet exist and will need to be added. The following is a summary of previously identified policy actions that will need to be incorporated in the TSP:

Update existing policy to reflect current fixed route transit service.

- Ensure that street standards are consistent between the TSP (policy) and the development code (regulations).
- Updated street functional classification definitions.
- Review and, if necessary, update existing policy to reflect the Americans with Disabilities Act.
- Review and, if necessary, update existing transportation policies to be consistent with the Airport Master Plan.
- Add policies that:
  - Promote street connectivity to reduce travel times, congestion, and reliance on US 101.
  - Tie required improvements to adopted operational standards.
  - Recognize the need for more trails and multi-use paths.

- Recognize the desire to establish Rhododendron Drive as a state scenic route.
- Support Safe Routes to Schools.
- Address traffic calming and speed limit enforcement.
- Address pedestrian safety (safe pedestrian crossings).
- Address transit stops (pedestrian access, facility design, expectations for accommodation of as part of private development).

The transportation deficiencies identified in this memorandum support the changes to the City's transportation policies, as outlined above. In addition, based on the documented existing conditions, the following may be appropriate for inclusion in new or modified transportation policies:

- The importance of reducing transportation system constraints to support economic development.
- The need for continuous bicycle and pedestrian systems to promote non-motorized modes of transportation.
- The need for increased bus service during peak commuting and/or weekend hours.

Draft policy language that incorporates the actions identified here and that implements the preferred local transportation system will be developed as part of a subsequent project task.

## Future Transportation Conditions

The following describes the weekday p.m. peak hour traffic volume development and the projected weekday p.m. peak hour traffic operations under year 2035 no-build traffic conditions. This section describes how the Florence street system will operate if traffic grows at projected rates and no improvements or expansions are made to the system.

### **Traffic Volume Forecast**

The turning movement counts provided by ODOT for the existing conditions analysis were used in conjunction with the base and future model volumes provided by the Lane County Council of Governments (LCOG) to derive future turning movements at the study intersections. Year 2035 intersection turning movement volumes were developed using a methodology described in National Cooperative Highway Research Program *Report 255* (NCHRP - Reference 11).<sup>1</sup> The

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<sup>1</sup> Existing link volumes were derived at each approach to the study intersections by summing the total of the left, through, and right-turning movements from the ODOT traffic counts. The existing link volumes were then evaluated along with the link volumes shown in the base year 2009 and future year 2035 LCOG traffic model following the methodology described in the National Cooperative Highway Research Program *Report 255*. This document describes two types of adjustment methods used to determine the final link volumes used in the analysis. The two adjustment methods are applied as follows:

- **Ratio Method:** In the Ratio method the existing volume is divided by the base model volume then multiplied by the future model volume to derive an *adjusted* volume that takes into account the difference between the models and the observed count. The results of this method were used when the Difference method resulted in a negative number or when the absolute value of the Difference method was greater than the absolute value of the Ratio method.
- **Difference Method:** In the Difference method the base model volume is subtracted from the existing volume then added to the future model volume to derive a future adjusted volume that takes into account the net difference between the

resulting turning movements were used in the traffic operations analysis described below. Attachment “J” contains the base and future year model outputs from the LCOG transportation demand model.

### ***Traffic Operations Analysis Results***

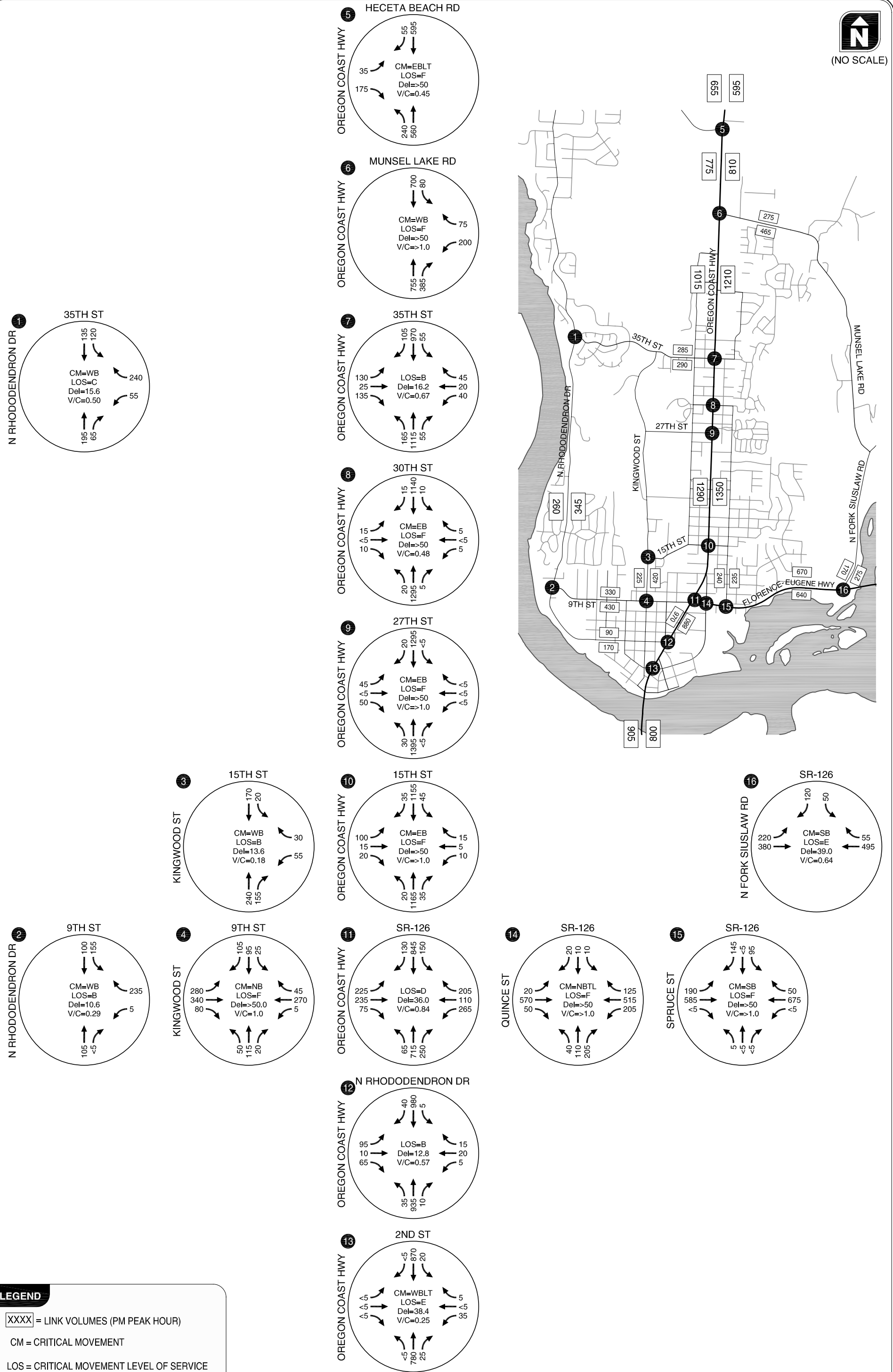
The findings of the future no-build year 2035 conditions analysis are shown in Figure 4-8 and summarized in Table 11 below, which also shows the applicable mobility standard.

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models and the observed count. The results of this method were used when the existing volumes were significantly higher than the base model volumes resulting in an excessively high value for the Ratio method.

Based on NCHRP 255, the final model volumes are often the result of an average of the two methods except in those situations described above: when the Difference is less than zero, when the absolute value of the Difference is greater than the absolute value of the Ratio, or when the existing link volume is significantly higher than the base model volume. The volumes selected through this process for the operations analysis were distributed at the study intersections based on the existing distribution. Volumes were then manually balanced or “smoothed” between intersections.

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2035 NO-BUILD TRAFFIC OPERATIONS  
 WEEKDAY PM PEAK HOUR  
 FLORENCE, OR **FIGURE 4-8**

H:\projfile\10103 - Florence TGM Grant Application\dwgs\figs\10103fig01\_TM#4.dwg Jun 27, 2011 - 6:33pm - darguea Layout Tab: Fig4-8

**LEGEND**

XXXXX = LINK VOLUMES (PM PEAK HOUR)

CM = CRITICAL MOVEMENT

LOS = CRITICAL MOVEMENT LEVEL OF SERVICE

Del = CRITICAL MOVEMENT CONTROL DELAY

V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

**Table 11**  
**Intersection Operations Analysis, Future No-Build Weekday PM Peak Hour**

| Intersection                              | Traffic Control <sup>1</sup> | Mobility Standard | Future Operations <sup>2</sup> | Meets Standard? |
|---|------------------------------|-------------------|--------------------------------|-----------------|
| <b>ODOT Intersections</b>                 |                              |                   |                                |                 |
| US 101/Heceta Beach Road                  | TWSC                         | V/C=0.75          | V/C=0.45                       | Yes             |
| US 101/Munsel Lake Road                   | TWSC                         | V/C=0.80          | V/C=>1.0                       | No              |
| US 101/35 <sup>th</sup> Street            | Signalized                   | V/C=0.80          | V/C=0.67                       | Yes             |
| US 101/30 <sup>th</sup> Street            | TWSC                         | V/C=0.85          | V/C=0.48                       | Yes             |
| US 101/27 <sup>th</sup> Street            | TWSC                         | V/C=0.85          | V/C=>1.0                       | No              |
| US 101/15 <sup>th</sup> St                | TWSC                         | V/C=0.85          | V/C=>1.0                       | No              |
| US 101/OR 126                             | Signalized                   | V/C=0.85          | V/C=0.84                       | Yes             |
| US 101/Rhododendron Road                  | Signalized                   | V/C=0.85          | V/C=0.57                       | Yes             |
| US 101/2 <sup>nd</sup> St                 | TWSC                         | V/C=0.85          | V/C=0.25                       | Yes             |
| Quince Street/OR 126                      | TWSC                         | V/C=0.80          | V/C=>1.0                       | No              |
| Spruce Street/OR 126                      | TWSC                         | V/C=0.80          | V/C=>1.0                       | No              |
| North Fork Siuslaw Road/OR 126            | TWSC                         | V/C=0.70          | V/C=0.64                       | Yes             |
| <b>City Intersections</b>                 |                              |                   |                                |                 |
| Rhododendron Road/35 <sup>th</sup> Street | TWSC                         | LOS "D"           | LOS=C                          | Yes             |
| Rhododendron Road/9 <sup>th</sup> Street  | TWSC                         | LOS "D"           | LOS=B                          | Yes             |
| Kingwood Street/15 <sup>th</sup> Street   | TWSC                         | LOS "D"           | LOS=B                          | Yes             |
| Kingwood Street/9 <sup>th</sup> Street    | TWSC                         | LOS "D"           | LOS=F                          | No              |

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

<sup>2</sup> V/C ratios reported for signalized intersection reflect the overall intersection V/C ratio; for unsignalized intersections, the reported V/C ratio is for the critical minor-street approach.

<sup>3</sup> Recent policy and intent clarifications by ODOT considers calculated vales for V/C ratios within 0.03 of the adopted standard in the OHP to be considered in compliance with the standard.

As shown in Figure 4-8 and Table 11, there are five study intersections under ODOT’s jurisdiction that are forecast to exceed the applicable OHP mobility standard under future no-build traffic conditions. The Kingwood Street/9<sup>th</sup> Street intersection is also forecast to operate unacceptably under future no-build traffic conditions. Improvements at these intersections as well as those potentially impacted by other future “build” improvements will need to satisfy the mobility standards identified previously. Alternatively, the City and ODOT may seek alternative mobility standards for these intersections. *Attachment “K” includes the future no-build level-of-service analysis worksheets.*

It should be noted that recent policy and intent clarifications by ODOT regarding Oregon Administrative Rule (OAR) 660-012-0060 (the “Transportation Planning Rule (TPR)”) considers calculated vales for V/C ratios within 0.03 of the adopted standard in the OHP to be considered in compliance with the standard. As such, forecast V/C ratios at ODOT intersections can be considered compliant with the TPR when they are within 0.03 of the adopted standard in the OHP.

## US 101/Munsel Lake Road

The US 101/Munsel Lake Road intersection is a three-legged intersection with stop control on the minor street (Munsel Lake Road) approach. The minor street approaches are currently one lane only. The forecast heavy westbound left-turn demand from Munsel Lake Road experiences long delays in entering the US 101 traffic stream, and causes the critical westbound approach to operate over capacity.

## US 101/27<sup>th</sup> Street

The US 101/27<sup>th</sup> Street intersection is a four-legged intersection with stop control on the minor street (27<sup>th</sup> Street) approaches. The minor street approaches are currently one lane only. While side street volumes are not forecast to be very high, the high northbound and southbound through volumes do not provide for adequate gaps in traffic for vehicles wishing to cross or turn left onto US 101, causing the eastbound single-lane approach to operate over capacity.

## US 101/15<sup>th</sup> Street

The US 101/15<sup>th</sup> Street intersection is a four-legged intersection with stop control on the minor street (15<sup>th</sup> Street) approaches. The minor street approaches are currently one lane only. While side street volumes are not forecast to be very high, the high northbound and southbound through volumes do not provide for adequate gaps in traffic for vehicles wishing to turn onto US 101, causing the eastbound single-lane approach to operate over capacity.

## OR 126/Quince Street

The OR 126/Quince Street intersection is a four-legged intersection with stop control on the minor street (Quince Street) approaches. The minor street approaches are currently one lane only. Heavy demand is forecast for the northbound approach on Quince, and the volume of through traffic on OR 126 does not provide for adequate gaps in traffic for vehicles wishing to cross or turn left onto OR 126, causing the northbound shared left-through lane to operate over capacity.

## OR 126/Spruce Street

The OR 126/Spruce Street intersection is a four-legged intersection with stop control on the minor street (Spruce Street) approaches. The minor street approaches are currently one lane only. Heavy demand is forecast for the southbound approach on Spruce, and the volume of through traffic on OR 126 does not provide for adequate gaps in traffic for vehicles wishing to turn onto OR 126, causing the southbound single-lane approach to operate over capacity.

## Kingwood Street/9<sup>th</sup> Street

The Kingwood Street/9<sup>th</sup> Street intersection is a four-legged intersection with stop control on the Kingwood Street approaches (northbound and southbound). Heavy through and left-turn volumes on 9<sup>th</sup> Street do not provide for adequate gaps in traffic for vehicles wishing to cross or turn left onto Kingwood Street, causing the northbound and southbound stop-controlled approaches to operate at LOS F.

## **SUMMARY**

### ***Existing Transportation Conditions***

The existing street system currently operates well within acceptable standards for vehicular movements within and through the City. There are elements of the system that will be further evaluated, including:

- Extended collector and local street connectivity into new developing areas, and those areas currently lacking good connections;
- Safe and better connected circulation for pedestrian and bicycle modes;
- Improved/enhanced transit service, within Florence and to outside destinations;
- Speeding issues; and,
- Parking on local and collector streets, and minimizing conflicts with bicycle lanes.

### ***Future Transportation Conditions***

Five of the twelve study intersections under ODOT's jurisdiction are forecast to exceed the applicable OHP mobility standard under future traffic conditions, including:

- US 101/Munsel Lake Road (unsignalized)
- US 101/27<sup>th</sup> Street (unsignalized)
- US 101/15<sup>th</sup> Street (unsignalized)
- OR 126/Quince Street (unsignalized)
- OR 126/Spruce Street (unsignalized)

One local intersection is forecast to exceed operational standards under future traffic conditions:

- Kingwood Street/9th Street (unsignalized)

All of these intersections are two-way stop-controlled intersections and operate over capacity due to an inability of minor street motorists find acceptable “gaps” in major street traffic attempting to cross or turn left onto the highway/major local street. This is exacerbated by the fact that in all cases, the minor street approaches are single lane approaches. The transportation analysis to be conducted in subsequent tasks will evaluate alternative solutions to these deficiencies. For these unsignalized intersections, this analysis will assess the following:

- magnitude of the problem (i.e. how many minor street vehicles are expected to experience these long delays?);
- opportunity for alternative access to the highway (i.e. is there a traffic signal reasonably nearby that could facilitate protected access to the highway?);
- geometric/lane configuration modifications to resolve the operational deficiency;

- system impact of providing a “robust” solution (i.e. if a traffic signal were installed in this location to provide protected access for the minor street, would it be adequately spaced from up- and downstream signals?); and,
- potential for alternate solutions to a traffic signal.

The future alternatives analysis will evaluate the operations, safety and connectivity of all travel modes to accommodate increased population and employment levels in Florence.

## REFERENCES

1. City of Florence. *Transportation System Plan*. 2008.
2. Oregon Department of Transportation. *Oregon Highway Plan*. 1999.
3. Capitol Asset & Pavement Services Inc. *Pavement Management Program Budget Options Report*. December 2010.
4. Oregon Department of Transportation. *2010 Pavement Condition Report*. [http://www.oregon.gov/ODOT/HWY/CONSTRUCTION/docs/pavement/2010\\_pave\\_condition/condition\\_report.pdf](http://www.oregon.gov/ODOT/HWY/CONSTRUCTION/docs/pavement/2010_pave_condition/condition_report.pdf).
5. Oregon Department of Transportation. *Oregon Bicycle and Pedestrian Plan*. 1995.
6. Oregon International Port of Coos Bay. <http://www.coosbayraillink.com/>.
7. Transportation Research Board. *Highway Capacity Manual*. 2000.
8. Oregon Department of Transportation. *Analysis Procedures Manual*. 2006.
9. Transportation Research Board. *National Cooperative Highway Research Program Report 3-70: Multimodal Level of Service for Urban Streets*. 2009.
10. Oregon Department of Transportation. *Safety Project Management System*. [http://www.oregon.gov/ODOT/TD/TDATA/gis/docs/stipmaps/spis\\_sipDist5.pdf](http://www.oregon.gov/ODOT/TD/TDATA/gis/docs/stipmaps/spis_sipDist5.pdf)
11. National Cooperative Highway Research Program. *Highway Traffic Data for Urbanized Area Project Planning and Design – Report 255*. 1982.

## ATTACHMENTS

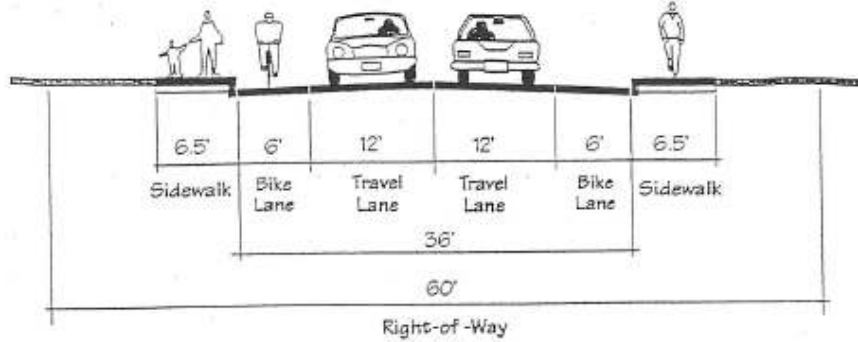
- A. Cross-Section Design Elements
- B. DOGAMI Tsunami Evacuation Routes
- C. Transit Survey Results
- D. ODOT Highway Segment Designation Map
- E. Level of Service and Volume-to-Capacity Definitions
- F. Traffic Counts
- G. Existing Level of Service Worksheets
- H. MMLOS Analysis Worksheets
- I. Crash Data
- J. Volume Development and LCOG Model Outputs
- K. Future No-Build Level of Service Worksheets



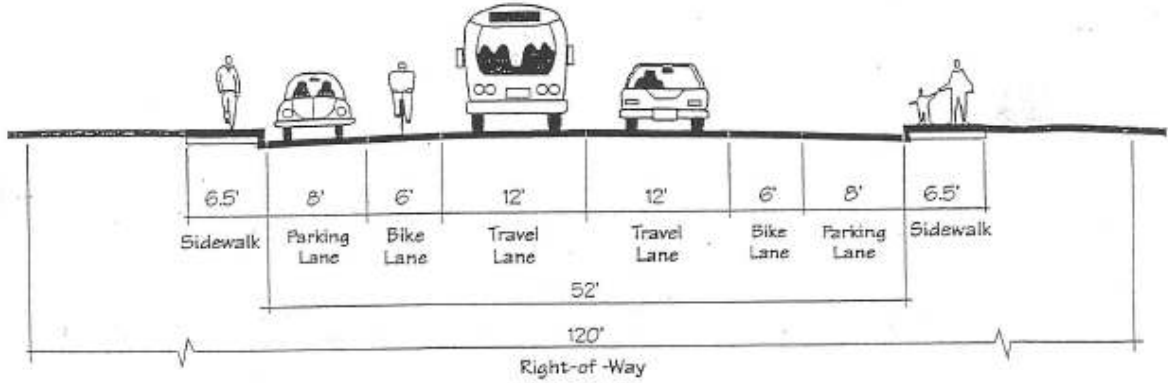
**Attachment A**  
Cross-Section Design  
Elements from Existing  
TSP

# Arterials

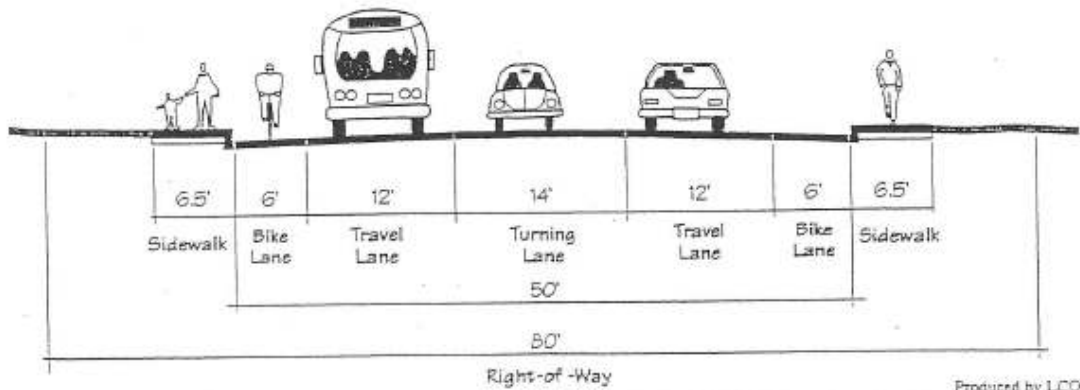
Minimum (no parking)



Maximum (on-street parking allowed)



Typical (with center turn lane)

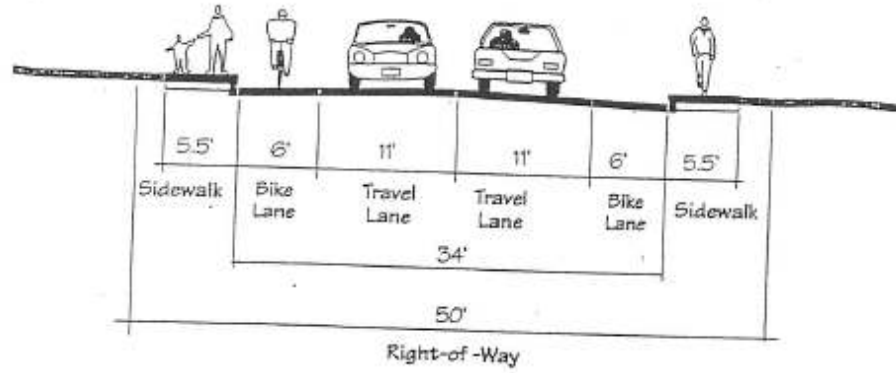


Produced by LCOG, 8/98

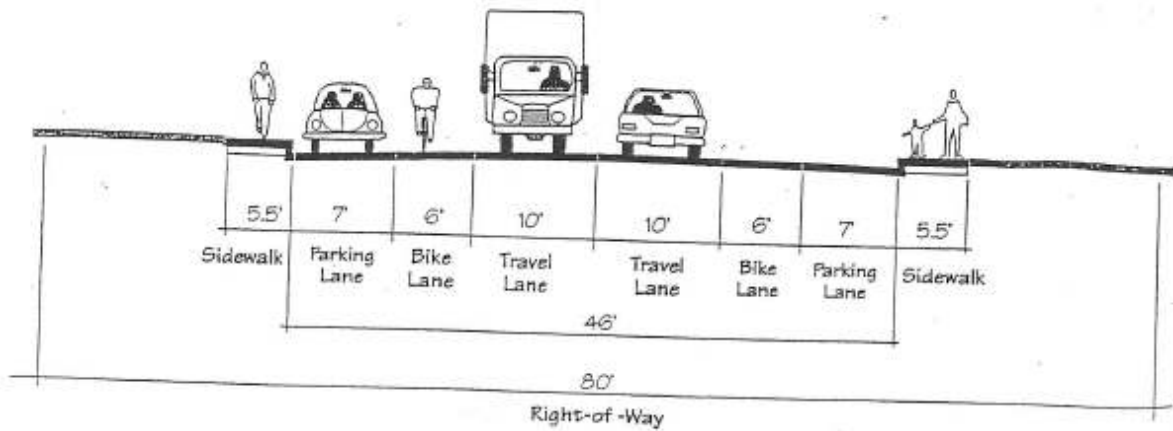
Transportation System Plan  
Figure - 1  
Proposed Street Standards

# Major Collectors

Minimum (with bike lanes and no parking)



Maximum (with bike lanes and on-street parking allowed)



Produced by LCOG, 8/96

## Transportation System Plan

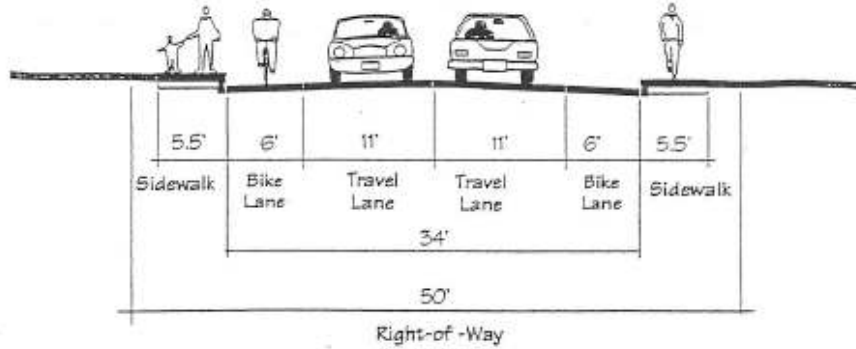
Figure - 2

Proposed Street Standards

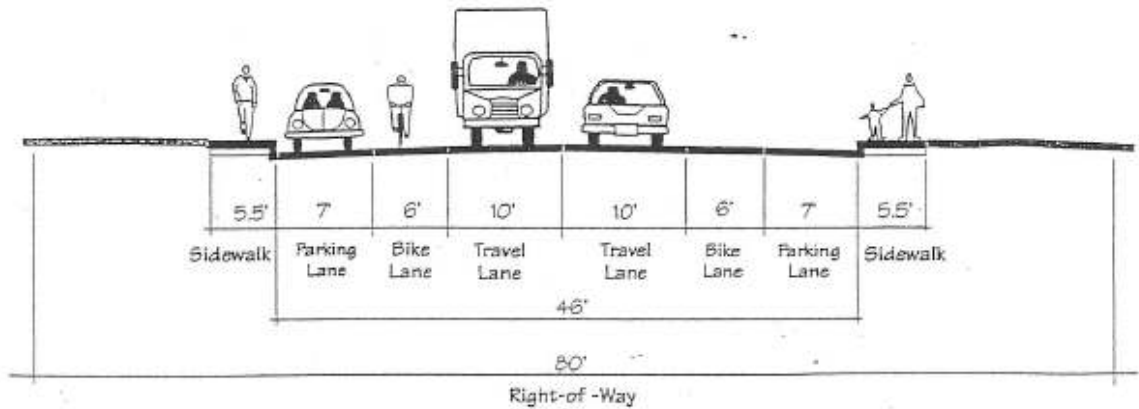
P4

## Minor Collectors

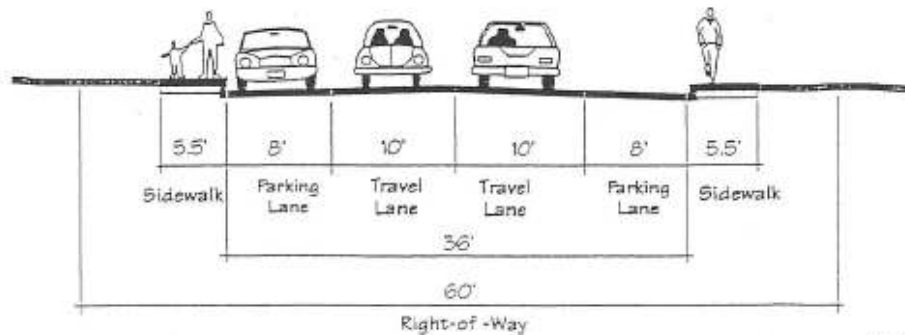
Minimum (with bike lanes\* and no parking)



Maximum (with bike lanes\* and on-street parking allowed)



Typical (without bike lanes)



Produced by LCOG, 8/98

\*bike lanes required only if identified in bicycle plan

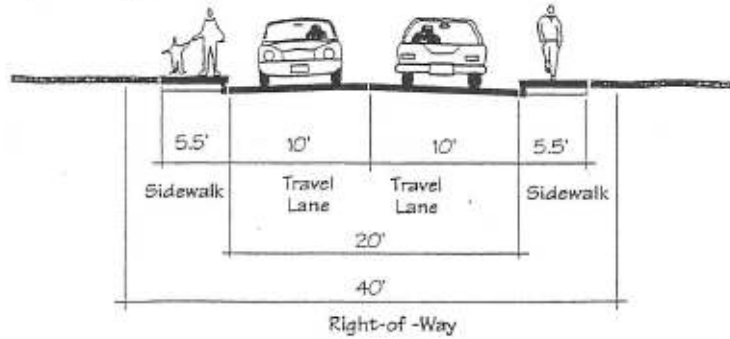
### Transportation System Plan

Figure - 3

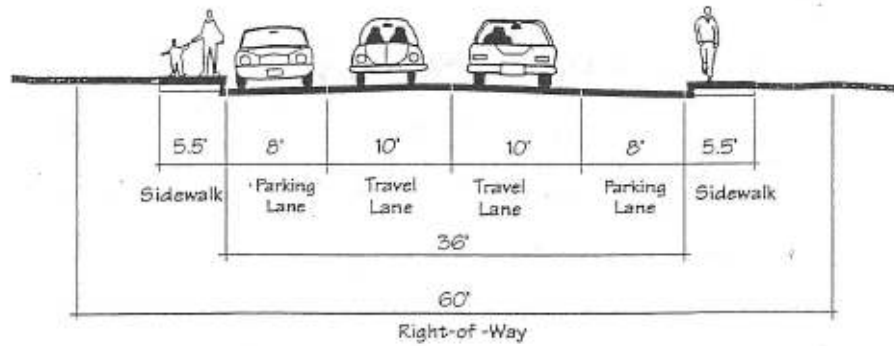
Proposed Street Standards

# Local Streets

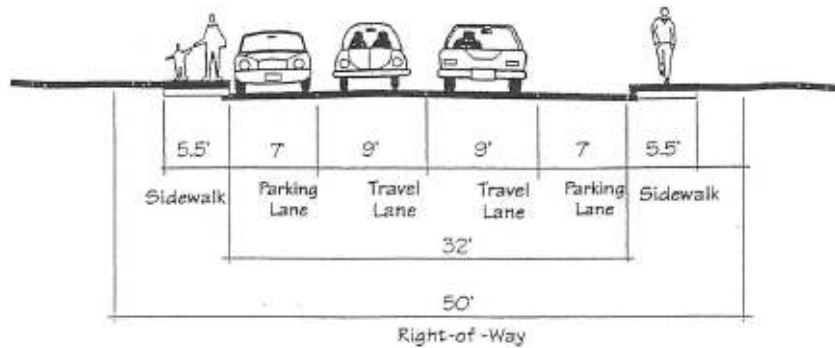
Minimum (no parking)



Maximum (on-street parking)



Typical (on-street parking)



Produced by LCOG, 8

## Transportation System

Figure - 4  
Proposed Street Standards

**Attachment B**  
DOGAMI Tsunami  
Evacuation  
Routes



# TSUNAMI EVACUATION MAP

## City of Florence, Oregon



### If you feel the ground shake:

- Move immediately inland to higher ground
- Follow evacuation route signs
- Do not wait for an official warning

### MAP SYMBOLS

|                         |           |                       |
|-------------------------|-----------|-----------------------|
| EVACUATE FROM THIS AREA | SCHOOL    | TSUNAMI WARNING SIREN |
| OUTSIDE HAZARD AREA     | HOSPITAL  | FIRE DEPT.            |
| EVACUATION ROUTE        | CITY HALL | POLICE                |
| ASSEMBLY AREA           | BRIDGE    |                       |



### NOTICE

The evacuation zone on this map was developed by the Oregon Department of Geology and Mineral Industries (DOGAMI) in consultation with local emergency officials. It is intended to represent a worst-case scenario for a local tsunami from an earthquake near the Oregon coast. The evacuation routes were developed by local emergency officials and reviewed by the Oregon Department of Emergency Management.

DOGAMI is publishing this brochure because the information furthers the mission of the Department. The map is intended for emergency response and should not be used for site-specific planning.





Look for these hazard zone signs and be ready to leave the area by following evacuation route signs.



To help or for more ideas, contact Oregon Emergency Management (503) 378-2911 <http://egov.oregon.gov/OOHS/OEM/>

- start a tsunami buddy system
- make and distribute emergency packs
- initiate or participate in a local preparedness program

### How to help with tsunami awareness in your community

- Assemble **emergency kits** with at least a 3-day supply for each family member:
- First-aid kit and reference guide
- Water — 1 gallon per person per day, for drinking, hygiene, and cooking
- Food (packaged, canned, no-cook, as well as baby food and food for special diets)
- Can opener (non-electric)
- Blankets or sleeping bags
- Fire extinguisher (standard)
- Essential medications
- Money
- Food, water, and leashes for pets
- Portable radio, NOAA weather radio, flashlights, and batteries
- Alternate cooking source and matches
- Heavy gloves and sturdy shoes
- Crescent wrench for utility shutoff (1/2" or larger)

## BE PREPARED!

MAP INSIDE

## City of Florence



This information could save your life — Please read it and share it with your family and friends.

## WHAT TO DO for both local and distant tsunamis

1. Evacuate on foot, if at all possible. Follow evacuation signs and arrows.
2. If you need help evacuating, the something white (sheet or towel) to the front door knob. Make it large enough to be visible from the street. If the emergency is a tsunami, then help may arrive. In the event of a local tsunami, it is unlikely that anyone will help you, so make a plan and be prepared!
3. Stay away from potentially hazardous areas until you receive an ALL CLEAR from local officials. Tsunamis often follow river channels, and dangerous waves can persist for several hours. Local officials must inspect all flooded or earthquake-damaged structures before anyone can go back into them.
4. After evacuation, check with local emergency officials if you think you have special skills and can help, or if you need assistance locating lost family members.



**Local tsunamis**  
A local tsunami can come onshore within 15 to 20 minutes after the earthquake — before there is time for an official warning from the national warning system. Ground shaking from the earthquake may be the only warning you have. Evacuate quickly!

**Distant tsunamis**  
A distant tsunami will take 4 hours or more to come ashore. You will feel no earthquake, and the tsunami will generally be smaller than that from a local earthquake. Typically, there is time for an official warning and evacuation to safety.

Evacuation for a distant tsunami will generally be indicated by a 3-minute siren blast (if your area has sirens) and an announcement over NOAA weather radio that the local area has been put into an official TSUNAMI WARNING. In isolated areas along beaches and bays you may not hear a warning siren. Here, a sudden change of sea level should prompt you to move immediately to high ground. If you hear the 3-minute blast from shoreline areas, then turn on your local broadcast media or NOAA weather radio for more information.

**about tsunamis**  
Recent research suggests that tsunamis have struck the Oregon coast on a regular basis. They can occur any time, day or night. Typical wave heights from tsunamis occurring in the Pacific Ocean over the last 500 years have been 20-65 feet at the shoreline. However, because of local conditions a few waves may have been much higher — as much as 100 feet.

We distinguish between a tsunami caused by an undersea earthquake near the Oregon coast (a local tsunami) and an undersea earthquake far away from the coast (a distant tsunami).

A tsunami is a series of sea waves, usually caused by a displacement of the ocean floor by shallow water near land, they increase in height and can cause great loss of life and property damage.

## WHAT TO KNOW

### CONTACTS

**Oregon Emergency Management**  
3225 State Street, P.O. Box 14370  
Salem, OR 97309  
(503) 378-2911  
<http://egov.oregon.gov/OOHS/OEM/>

**Siuslaw Valley Fire and Rescue**  
2625 Highway 101  
North Florence, OR 97439  
(541) 997-3212  
<http://florencecert.tripod.com/>

**City of Florence**  
250 Hwy 101,  
Florence, OR 97439  
(541) 997-3436  
<http://www.ci.florence.or.us/>

**Oregon Department of Geology and Mineral Industries**  
800 NE Oregon Street #28, Suite 965  
Portland, OR 97232  
(971) 673-1555  
<http://www.oregongeology.com>

**Nature of the Northwest Information Center**  
800 NE Oregon Street #5, Suite 177  
Portland, OR 97232  
(503) 872-2750  
<http://www.naturenw.org/>

**International Tsunami Information Centre**  
Box 50027  
Honolulu, HI 96850-4993  
(808) 541-1658  
<http://www.tsunamiwave.info/>



Funded by the National Oceanic and Atmospheric Administration under Requisition Number N7MAH000-4-01078 through the Oregon Department of Geology and Mineral Industries. Published by the Oregon Department of Geology and Mineral Industries in consultation with Oregon Parks and Recreation Department (OPRD) officials.

If you feel an **earthquake**, a **tsunami** may be coming...

### WHAT TO DO:

- **DROP, COVER, HOLD** until the earthquake is over; protect yourself
- **MOVE IMMEDIATELY INLAND** to high ground and away from low-lying coastal areas
- **FOLLOW EVACUATION ROUTE SIGNS**
- **DO NOT WAIT** for an official warning
- **GO ON FOOT** if at all possible
- **DO NOT PACK** or delay
- **DO NOT RETURN** to the beach — large waves may continue to come onshore for several hours
- **WAIT** for an "all clear" from local emergency officials before returning to low-lying areas





**Attachment C**  
Transit Survey Results

Survey Responses

| Respondent ID                          | What time do you need to be at work? | What time do you usually leave work? | Would you adjust your work schedule for commuting purposes? | Where do you work?                         | What is the zip code of your residence? | What is the street intersection nearest you home? | How do you usually get to work?           | If you drive please check up to three reasons why?   | If you usually drive alone to work, how likely are you to use a different form of transportation (such as bus, carpool, bicycle, etc.) if you had: |                              |  |   |                               |                                 |                                | Did you know that Florence has a public bus service, the Rhody Express? | How many people live in your household? | How many licensed drivers are in your household? | How many working vehicles are available in your household? | What is your approximate annual household income (before taxes)? |  |
|--|--------------------------------------|--------------------------------------|---|--|---|---|---|--|--|------------------------------|--|---|-------------------------------|---------------------------------|--------------------------------|---|---|--|--|--|--|
|  |                                      |                                      |   |  |   |   |   |  | To pay \$1.00 per gallon more for fuel   | Someone with whom to carpool | A guaranteed ride home for emergencies | A convenient bus to ride (route and schedule) | A more flexible work schedule | More sidewalks or bicycle lanes | Access to shower & locker room |   |   |  |  |  | Employer provided vehicle for company travel |
| <b>Peace Health Worker Respondents</b> |                                      |                                      |   |  |   |   |   |  |  |                              |  |   |                               |                                 |                                |   |   |  |  |  |  |
| 1269217640                             | 7:30:00 AM                           | 5:30:00 PM                           | Yes   | PeaceHealth                                | 97439                                   | 19th and Spruce Street                            | Drive alone                               | No one available to share ride,Saves time,Need car for personal errands before or after work,  | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Somewhat likely                 | Somewhat likely                | Somewhat likely   | Yes                                     | 2  | 2  | 2  | \$30,000-\$49,000                            |
| 1266882536                             | 7:00:00 AM                           | 5:30:00 PM                           | Yes   | 386 Ninth St.                              | 97439                                   | Rhody Dr. and Mariner Ln.                         | Drive alone                               | Bus is not available,Need car for personal errands before or after work,Need car for emergencies,                                      | Very likely  | Very likely                  | Very likely                            | Very likely                                   | Not likely                    | Very likely                     | Not likely                     | Very likely   | Yes                                     | 2  | 2  | 3  | More than \$70,000                           |
| 1266382375                             | 7:45:00 AM                           | 5:30:00 PM                           | No  | 390 Family Practice Office 9th St          | 97439                                   | HWY 101 & S. Loftus Rd                            | Drive alone                               | Bus is not available,Inadequate bike lanes or sidewalks,   | Very likely  | Very likely                  | Very likely                            | Very likely                                   | Very likely                   | Very likely                     | Very likely                    | Not likely  | Yes                                     | 2  | 2  | 3  | Choose not to answer                         |
| 1265830441                             | 12:00:00 AM                          | 12:00:00 AM                          | No  | PeaceHealth                                | 97439                                   | 25th and oak                                      | Drive alone                               | Saves time,Irregular work schedule,Need car for personal errands before or after work,Need car for emergencies,                        | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 3  | \$50,000-\$70,000                            |
| 1265650491                             | 8:00:00 AM                           | 5:00:00 PM                           | No  | Health Associates of Peace Harbor Hospital | 97439                                   | 35th and Oak                                      | Drive alone                               | Bus is not available,Need car to transport children,Need car for emergencies,  | Not likely   | Somewhat likely              | Somewhat likely                        | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 5  | 3  | 2  | \$30,000-\$49,000                            |
| 1265547333                             | 7:30:00 AM                           | 7:10:00 AM                           | Yes   | peace health on Kingwood Street            | 97439                                   | Mercer lake Rd                                    | Drive alone                               | No one available to share ride,Bus is not available,Inadequate bike lanes or sidewalks,  | Somewhat likely  | Very likely                  | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Very likely                     | Somewhat likely                | Very likely   | Yes                                     | 2  | 2  | 2  | \$50,000-\$70,000                            |
| 1264888006                             | 10:45:00 AM                          | 7:45:00 PM                           | No  | Peace Harbor Hospital                      | 97439                                   | 43rd and Hwy 101                                  | Drive alone,Bicycle                       | Inadequate bike lanes or sidewalks,Need car for personal errands before or after work,   | Very likely  | Very likely                  | Very likely                            | Very likely                                   | Somewhat likely               | Very likely                     | Very likely                    | Not likely  | No                                      | 1  | 1  | 1  | \$30,000-\$49,000                            |
| 1264836272                             | 8:00:00 AM                           | 4:30:00 PM                           | No  | Peace Harbor Hospital                      | 97439                                   | Oak Street and 28th                               | Drive alone                               | Saves time,Need car for personal errands before or after work,   | Somewhat likely  | Very likely                  | Very likely                            | Very likely                                   | Very likely                   | Somewhat likely                 | Somewhat likely                | Very likely   | Yes                                     | 2  | 1  | 1  | \$30,000-\$49,000                            |
| 1263230679                             | 7:00:00 AM                           | 4:00:00 PM                           | No  | PeaceHealth Lab                            | 97453                                   | E Maplton Rd and Hwy 126                          | Drive alone                               | No one available to share ride,Saves time,Bus is not available,Need car for personal errands before or after work,                     | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Very likely                                   | Very likely                   | Somewhat likely                 | Somewhat likely                | Somewhat likely   | Yes                                     | 3  | 3  | 3  | \$30,000-\$49,000                            |
| 1262825877                             | 1:30:00 PM                           | 12:00:00 AM                          | No  | Peace Harbor Hospital                      | 97498                                   | Live up the Yachats                               | Drive alone                               | No one available to share ride,Bus is not available,   |  | Very likely                  | Very likely                            | Very likely                                   |                               |                                 |                                |   | Yes                                     | 2  | 2  |  | More than \$70,000                           |
| 1262693608                             | 8:00:00 AM                           | 5:00:00 PM                           | Yes   | Peace Harbor                               | 97453                                   | Chestnut  | Drive alone                               | Car is required for my job,  |  |                              |  |   |                               |                                 |                                | Very likely   |   | 1  | 1  | 1  | \$30,000-\$49,000                            |
| 1261748079                             | 7:30:00 AM                           | 5:30:00 PM                           | Yes   | PHMG 390 Ninth Street, Florence            | 97439                                   | Spruce & 18th St, Florence                        | Carpool                                   | Irregular work schedule,Bus is not available,I give a neighbor a ride,   |  | Very likely                  |  |   |                               |                                 |                                |   | Yes                                     | 2  | 1  | 1  | \$50,000-\$70,000                            |
| 1261434853                             | 7:00:00 AM                           | 6:15:00 AM                           | Yes   | peace harbor hospital                      | 97439                                   | clear lake rd                                     | Drive alone                               | No one available to share ride,Bus is not available,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Very likely                                   |                               |                                 |                                |   | Yes                                     | 2  | 2  | 2  | \$10,000-\$29,000<br>Choose not to answer    |
| 1260970447                             | 8:00:00 AM                           | 7:40:00 AM                           | No  | Peace Health                               | 97439                                   | 30th & Hwy 101                                    | Drive alone                               | Saves time,  | Not likely   | Somewhat likely              | Somewhat likely                        | Somewhat likely                               | Not likely                    | Not likely                      | Not likely                     | Very likely   | Yes                                     | 4  | 2  | 2  | \$30,000-\$49,000                            |
| 1260536600                             | 8:00:00 AM                           | 5:00:00 PM                           | No  | PEACE HEALTH WOMEN'S HEALTH CLINIC         | 97439                                   | NORTH FORK AND HWY 126                            | Drive alone                               | No one available to share ride,Bus is not available,   | Not likely   | Somewhat likely              | Very likely                            | Very likely                                   | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 2  | \$10,000-\$29,000                            |
| 1260331442                             | 12:00:00 AM                          | 12:00:00 AM                          | Yes   | Kingwood Building                          | 97439                                   | Sutton Lake/Hwy 101                               | Drive alone                               | Bus is not available,Need car for personal errands before or after work,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Somewhat likely                 | Somewhat likely                |   | Yes                                     | 4  | 3  | 4  | More than \$70,000                           |
| 1260329196                             | 7:45:00 AM                           | 4:45:00 PM                           | Yes   | Peaceharbor Hospital, Peacehealth Clinics  | 97439                                   | 35th st   | Drive alone                               | Irregular work schedule,Bus is not available,Need car for personal errands before or after work,I live 4 miles north of Fred Meyer.,   | Somewhat likely  | Not likely                   | Very likely                            | Somewhat likely                               | Somewhat likely               | Not likely                      | Not likely                     | Very likely   | Yes                                     | 2  | 2  | 2  | \$30,000-\$49,000                            |
| 1259916669                             | 8:00:00 AM                           | 5:00:00 PM                           | No  | Home Health, on hospital campus.           | 97439                                   | 35th  | Drive alone                               | Car is required for my job,If I had an office job I would not drive alone, I need my car for work so must drive to and while at work., | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Very likely   | Yes                                     | 1  | 1  | 1  | \$50,000-\$70,000                            |
| 1259896254                             | 12:00:00 AM                          | 12:00:00 AM                          | Yes   | PeaceHealth                                | 97439                                   | Clear Lake RD                                     | Drive alone                               | Need car to transport children,  | Not likely   | Very likely                  | Somewhat likely                        | Very likely                                   | Very likely                   | Very likely                     | Very likely                    | Very likely   | Yes                                     | 4  | 2  | 2  | \$30,000-\$49,000                            |
| 1258554438                             | 7:00:00 AM                           | 6:50:00 AM                           | No  | Peace Harbour Hospital                     | 97439                                   | 35th and Oak                                      | Drive alone                               | Saves time,Need car for personal errands before or after work,   | Very likely  | Very likely                  | Very likely                            | Very likely                                   | Very likely                   | Not likely                      | Somewhat likely                | Very likely   | Yes                                     | 2  | 2  | 2  | \$50,000-\$70,000                            |
| 1258429021                             | 12:00:00 AM                          | 12:00:00 AM                          | No  | PHH  | 97439                                   | WILLOW LOOP AND 18TH                              | Drive alone                               | No one available to share ride,Saves time,I am not a good passenger. I can drive the bus if they want me to ride one.,                 | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Not likely                                    | Somewhat likely               | Not likely                      | Not likely                     | Very likely   | Yes                                     | 3  | 2  | 8  | Choose not to answer                         |
| 1258140803                             | 8:30:00 AM                           | 5:00:00 PM                           | No  | Peace Harbor Hospital                      | 97493                                   | Lake Blvd. and Ocean Ave                          | Drive alone                               |  | Not likely   | Very likely                  | Very likely                            | Very likely                                   | Very likely                   | Not likely                      | Not likely                     | Very likely   | Yes                                     | 4  | 3  | 2  | More than \$70,000                           |
| 1257836235                             | 8:00:00 AM                           | 12:00:00 AM                          | Yes   | Internal medicine 380                      | 97439                                   | Glenada Road                                      | Drive alone                               | Bus is not available,  |  | Somewhat likely              |  | Very likely                                   |                               | Very likely                     |                                |   | Yes                                     | 2  | 2  | 2  | \$30,000-\$49,000                            |
| 1257764367                             | 12:00:00 AM                          | 12:00:00 AM                          | No  | 380 IM Bldg                                | 95439                                   | Rhododendron & Woodlands                          | Drive alone,Get a ride from family/friend | Inadequate bike lanes or sidewalks,  | Somewhat likely  | Somewhat likely              | Very likely                            | Very likely                                   | Somewhat likely               | Very likely                     | Very likely                    | Very likely   | No                                      | 3  | 2  | 1  | \$30,000-\$49,000                            |
| 1256913810                             | 8:00:00 AM                           | 4:30:00 PM                           | No  | PeaceHealth                                | 97493                                   | Clear Lake/Canary                                 | Drive alone                               | Irregular work schedule,Need car to transport children,Need car for emergencies,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Somewhat likely                 | Not likely                     | Somewhat likely   | Yes                                     | 4  | 2  | 2  | \$50,000-\$70,000                            |
| 1256697976                             | 8:00:00 AM                           | 5:30:00 PM                           | No  | 390 CLINIC                                 | 97439                                   | GRAND AVE.  | Drive alone                               | Bus is not available,Inadequate bike lanes or sidewalks,Need car to transport children,  | Somewhat likely  | Somewhat likely              | Very likely                            | Very likely                                   | Somewhat likely               | Very likely                     | Not likely                     | Not likely  | Yes                                     | 4  | 1  | 1  | \$10,000-\$29,000                            |
| 1256570927                             | 12:00:00 AM                          | 5:00:00 PM                           | No  | Peace Harbor                               | 97439                                   | 6th & Juniper                                     | Drive alone,Get a ride from family/friend | Bus is not available,Inadequate bike lanes or sidewalks,Need car for personal errands before or after work,                            | Somewhat likely  | Not likely                   | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Very likely                     | Somewhat likely                | Not likely  | Yes                                     | 2  | 2  | 2  | More than \$70,000                           |
| 1255958137                             | 8:00:00 AM                           | 5:00:00 PM                           | Yes   | Peace Health                               | 97453                                   |   | Drive alone                               | No one available to share ride,Need car for personal errands before or after work,   | Very likely  | Very likely                  | Very likely                            | Not likely                                    | Somewhat likely               | Not likely                      | Not likely                     | Very likely   | Yes                                     | 3  | 2  | 2  | \$30,000-\$49,000                            |
| 1255920711                             | 12:30:00 PM                          | 9:00:00 PM                           | No  | Peace Harbor Hospital                      | 97439                                   | Hwy. 101 & Leverage Drive                         | Get a ride from family/friend             |  |  |                              |  |   |                               |                                 |                                |   | Yes                                     | 3  | 1  | 1  | \$10,000-\$29,000                            |
| 1255919806                             | 8:00:00 AM                           | 4:30:00 PM                           | No  | Peace Health                               | 97439                                   | Clear Lake Road and Canary Road                   | Drive alone                               | Bus is not available,Inadequate bike lanes or sidewalks,   | Somewhat likely  | Very likely                  | Very likely                            | Very likely                                   | Somewhat likely               | Somewhat likely                 | Somewhat likely                | Very likely   | Yes                                     | 2  | 2  | 2  | \$50,000-\$70,000                            |
| 125551103                              | 8:00:00 AM                           | 5:00:00 AM                           | No  | Hospital                                   | 97439                                   | Maple and Rhododendron                            | Drive alone                               | Need car for personal errands before or after work,Need car for emergencies,   | Somewhat likely  | Very likely                  | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 1  | 1  | More than \$70,000                           |
| 125532626                              | varies                               | varies                               | Yes   | Internal medicine clinic                   | 97439                                   | Rhododendron and Saitaire (Idyllwood)             | Drive alone                               | Irregular work schedule,Bus is not available,Need car for personal errands before or after work,                                       | Very likely  | Not likely                   | Very likely                            | Very likely                                   | Very likely                   | Very likely                     | Very likely                    | Somewhat likely   | Yes                                     | 2  | 2  | 2  | More than \$70,000                           |
| 125501995                              | 7:45:00 AM                           | 5:45:00 PM                           | No  | peace health                               | 97439                                   | Levage and 101                                    | Drive alone                               | I live 7 miles from work...,   | Not likely   | Not likely                   | Somewhat likely                        | Not likely                                    | Not likely                    | Not likely                      | Somewhat likely                | Somewhat likely   | Yes                                     | 1  | 1  | 1  | Choose not to answer                         |
| 125501606                              | 12:00:00 AM                          | 12:00:00 AM                          | No  | Peace Harbor Hospital                      | 97439                                   | North Jetty Road and Rhododendron                 | Drive alone                               | Bus is not available,Inadequate bike lanes or sidewalks,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Very likely                                   | Somewhat likely               | Very likely                     | Very likely                    | Somewhat likely   | Yes                                     | 2  | 2  | 1  |  |
| 125482053                              | 8:00:00 AM                           | 5:00:00 PM                           | No  | PEACEHEALTH                                | 97439                                   | 23RD AND OAK ST                                   | Drive alone                               | Need car for personal errands before or after work,  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 1  | 1  | 1  | Choose not to answer                         |
| 125452415                              | 6:30:00 AM                           | 3:00:00 AM                           | No  | PHH  | 97439                                   | 9th   | Drive alone                               | Car is required for my job,Saves time,Need car for personal errands before or after work,  |  |                              |  |   |                               |                                 |                                |   | Yes                                     | 2  | 2  | 4  | \$10,000-\$29,000                            |
| 125449477                              | 7:30:00 AM                           | 4:30:00 PM                           | No  | Peace Health                               | 97439                                   | 23rd and Willow                                   | Drive alone                               | Need car for personal errands before or after work,Need car for emergencies,   | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 2  | \$50,000-\$70,000                            |
| 125432242                              | 7:30:00 AM                           | 4:30:00 PM                           | No  | PeaceHealth Scanning Center                | 97467                                   | 22nd street and Birch Ave                         | Drive alone                               | Bus is not available,Need car for personal errands before or after work,   | Not likely   | Somewhat likely              | Somewhat likely                        | Very likely                                   | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 1  | \$10,000-\$29,000                            |
| 1254779755                             | 12:00:00 AM                          | 12:00:00 AM                          | No  | PHH  | 97490                                   | Hwy 126 & Penn Rd.                                | Drive alone                               | Bus is not available,  | Somewhat likely  | Somewhat likely              | Very likely                            | Somewhat likely                               |                               | Very likely                     | Somewhat likely                |   | Yes                                     | 4  | 1  | 1  | \$50,000-\$70,000                            |
| 1254738118                             | 10:30:00 PM                          | 12:00:00 AM                          | Yes   | Peace Harbor Hospital                      | 97439                                   | 9th street & Kingwood                             | Drive alone                               | Saves time,Bus is not available,dark either going to work or back,   | Very likely  | Very likely                  | Somewhat likely                        | Very likely                                   | Very likely                   | Very likely                     | Very likely                    | Very likely   | Yes                                     | 2  | 2  | 2  | \$50,000-\$70,000                            |
| 1254326719                             | 7:00:00 AM                           | 4:00:00 PM                           | No  | PeaceHealth Siuslaw region                 | 97439                                   | Kingwood  | Drive alone                               | Irregular work schedule,Bus is not available,Inadequate bike lanes or sidewalks,   | Very likely  | Very likely                  | Very likely                            | Very likely                                   | Very likely                   | Very likely                     | Not likely                     | Very likely   | Yes                                     | 8  | 6  | 3  | Choose not to answer                         |

Survey Responses

| Respondent ID                     | What time do you need to be at work? | What time do you usually leave work? | Would you adjust your work schedule for commuting purposes? | Where do you work?      | What is the zip code of your residence? | What is the street intersection nearest you home? | How do you usually get to work?   | If you drive please check up to three reasons why?   | If you usually drive alone to work, how likely are you to use a different form of transportation (such as bus, carpool, bicycle, etc.) if you had: |                              |  |   |                               |                                 |                                | Did you know that Florence has a public bus service, the Rhody Express? | How many people live in your household? | How many licensed drivers are in your household? | How many working vehicles are available in your household? | What is your approximate annual household income (before taxes)? |  |
|-----------------------------------|--------------------------------------|--------------------------------------|---|-------------------------|---|---|---|--|--|------------------------------|--|---|-------------------------------|---------------------------------|--------------------------------|---|---|--|--|--|--|
|                                   |                                      |                                      |   |                         |   |   |   |  | To pay \$1.00 per gallon more for fuel   | Someone with whom to carpool | A guaranteed ride home for emergencies | A convenient bus to ride (route and schedule) | A more flexible work schedule | More sidewalks or bicycle lanes | Access to shower & locker room |   |   |  |  |  | Employer provided vehicle for company travel |
| 1254133780                        | 12:00:00 AM                          | 12:00:00 AM                          | Yes   | PHH                     | 97439                                   | 126-quince  | Drive alone, Carpool, Get a ride from family/friend, Motorcycle/Scooter, Walk, Rhody Express, Bicycle, Taxi | Car is required for my job, No one available to share ride, Saves time, Irregular work schedule, Bus is not available, Inadequate bike lanes or sidewalks, Need car to transport children, Need car for personal errands before or after work, Need car for emergencies, | Very likely  | Very likely                  | Very likely                            | Very likely                                   | Somewhat likely               | Very likely                     | Not likely                     | Very likely   | Yes                                     | 4  | 2  | 1  | \$30,000-\$49,000                            |
| 1254010420                        | 6:00:00 PM                           | 6:00:00 AM                           | No  | Peace Harbor Hosp.      | 97439                                   | 17th and Spruce St.                               | Drive alone   | No one available to share ride, Saves time, Need car for emergencies,  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 4  | 2  | 2  | More than \$70,000                           |
| 1253955441                        | 8:00:00 AM                           | 5:15:00 PM                           | No  | Peace Harbor Hospital   | 97439                                   | hwy 101   | Drive alone   | Inadequate bike lanes or sidewalks,  | Somewhat likely  | Somewhat likely              | Very likely                            | Somewhat likely                               | Not likely                    | Very likely                     | Somewhat likely                | Not likely  | No                                      | 7  | 2  | 2  | More than \$70,000                           |
| 1253952415                        | 8:00:00 AM                           | 5:00:00 PM                           | No  | 310 ninth st            | 97439                                   | hwy 36 and deadwood creek road                    | Drive alone   | No one available to share ride, Saves time, Bus is not available,  | Somewhat likely  | Very likely                  | Very likely                            | Very likely                                   | Very likely                   | Not likely                      | Very likely                    | Very likely   | Yes                                     | 2  | 2  | 2  | \$30,000-\$49,000                            |
| 1253951863                        | 7:30:00 AM                           | 5:30:00 PM                           | No  | FMC                     | 97439                                   | 12TH SPRUCE                                       | Drive alone   | Bus is not available,  | Not likely   | Somewhat likely              | Somewhat likely                        | Somewhat likely                               | Not likely                    | Somewhat likely                 | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 3  | Choose not to answer                         |
| 1253951347                        | 12:00:00 AM                          | 12:00:00 AM                          | No  | peace health            | 97439                                   | heceta beach road/rhododendrom                    | Drive alone   | Bus is not available, Inadequate bike lanes or sidewalks, Need car to transport children, No one available to share ride, Bus is not available, Need car for personal errands before or after work,  | Somewhat likely  | Very likely                  | Very likely                            | Very likely                                   | Not likely                    | Somewhat likely                 | Not likely                     | Not likely  | Yes                                     | 5  | 2  | 2  | \$50,000-\$70,000                            |
| 1253951340                        | 8:00:00 AM                           | 5:30:00 AM                           | No  | PeaceHealth             | 97493                                   | 101 and Canary Rd                                 | Drive alone   | No one available to share ride, Saves time, Need car for personal errands before or after work,  | Not likely   | Somewhat likely              | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Not likely                      | Very likely                    | Not likely  | Yes                                     | 2  | 2  | 2  | \$50,000-\$70,000                            |
| <b>Safeway Worker Respondents</b> |                                      |                                      |   |                         |   |   |   |  |  |                              |  |   |                               |                                 |                                |   |   |  |  |  |  |
| 1290610986                        | Varies                               | Varies                               | No  | Fred Meyer              | 97439                                   | Cloud Nine Rd. & Clear Lake                       | Drive alone   | Saves time, Irregular work schedule, Bus is not available,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Very likely                                   | Somewhat likely               | Not likely                      | Not likely                     | Yes   | 2                                       | 2  | 2  | Choose not to answer   |  |
| 1290592174                        | 10:00:00 AM                          | 7:00:00 PM                           | No  | Fred Meyer              | 97439                                   | Spruce Street                                     | Drive alone   | Bus is not available, Need car to transport children, Irregular work schedule, Usually provide ride to folks who need one..  | Somewhat likely  | Somewhat likely              | Not likely                             | Very likely                                   | Not likely                    | Not likely                      | Not likely                     | Very likely   | Yes                                     | 5  | 3  | 3  | \$30,000-\$49,000                            |
| 1290589907                        | 3:00:00 PM                           | 10:30:00 PM                          | No  | Fred Meyer              | 97439                                   | Kingwood & 10th Street                            | Drive alone   | No one available to share ride, Irregular work schedule, Bus is not available, Inadequate bike lanes or sidewalks,   | Not likely   | Somewhat likely              | Very likely                            | Very likely                                   | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 6  | Choose not to answer                         |
| 1290586112                        | Varies                               | Varies                               | No  | Fred Meyer              | 97439                                   | Rhododendron                                      | Drive alone   | No one available to share ride, Irregular work schedule, Bus is not available, Inadequate bike lanes or sidewalks,   | Not likely   | Very likely                  | Very likely                            | Very likely                                   | Very likely                   | Very likely                     | Not likely                     | Yes   | 2                                       | 2  | 2  | Choose not to answer   |  |
| 1290580706                        | 6:30:00 AM                           | 3:30:00 PM                           | No  | Fred Meyer              | 97439                                   | 9th & Kingwood                                    | Drive alone   | Bus is not available, Very likely,   | Somewhat likely  | Somewhat likely              | Very likely                            | Very likely                                   | Somewhat likely               | Not likely                      | Somewhat likely                | Not likely  | Yes                                     | 2  | 1  | 1  | \$10,000-\$29,000                            |
| 1290576803                        | 12:30:00 PM                          | 10:30:00 PM                          | No  | Fred Meyer              | 97439                                   | Heceta Beach                                      | Drive alone   | Saves time, Irregular work schedule,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Somewhat likely                 | Somewhat likely                | Very likely   | Yes                                     | 3  | 2  | 1  |  |
| 1290573934                        | 7:00:00 AM                           | 2:00:00 PM                           | No  | Fred Meyer              | 97439                                   | Pine & 14th Street                                | Drive alone   | Saves time, Irregular work schedule, Need car for personal errands before or after work,   | Not likely   | Somewhat likely              | Somewhat likely                        | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Somewhat likely   | Yes                                     | 2  | 1  | 1  |  |
| 1290570984                        | 9:00:00 AM                           | 6:00:00 PM                           | No  | Fred Meyer              | 97439                                   | Munsel Lake Road                                  | Drive alone   | No one available to share ride, Bus is not available, Inadequate bike lanes or sidewalks,  | Not likely   | Not likely                   | Very likely                            | Very likely                                   | Not likely                    | Not likely                      | Not likely                     | Very likely   | Yes                                     | 2  | 2  | 2  |  |
| 1290567472                        | 6:45:00 AM                           | 6:00:00 PM                           | No  | Fred Meyer              | 97439                                   | Highway 101                                       | Drive alone   | Saves time, Irregular work schedule, Need car for personal errands before or after work,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Very likely                                   | Not likely                    | Not likely                      | Very likely                    | Yes   | 2                                       | 2  | 2  |  |  |
| 1290564326                        | 2:00:00 PM                           | 11:00:00 PM                          | No  | Fred Meyer              | 97439                                   | 35th & Siano Loop                                 | Drive alone   | No one available to share ride, Saves time, Need car for personal errands before or after work, Very likely,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Very likely                                   | Not likely                    | Somewhat likely                 | Very likely                    | Yes   | 3                                       | 2  | 2  | \$10,000-\$29,000  |  |
| 1290557668                        | 12:00:00 AM                          | 8:30:00 AM                           | No  | Fred Meyer              | 97439                                   | 101/ Sulton Lake Rd                               | Drive alone   | Bus is not available, Need car to transport children, Need car for personal errands before or after work,  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 1  | 1  | 1  | \$10,000-\$29,000                            |
| 1290554551                        | 9:00:00 AM                           | 6:00:00 PM                           | No  | Fred Meyer              | 97439                                   | Rhody Drive & Green Trees                         | Drive alone   | No one available to share ride, Saves time,  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 2  |  |
| 1290552146                        | 5:00:00 PM                           | 11:00:00 PM                          | Yes   | Fred Meyer              | 97439                                   | Rhody & Eden Ln.                                  | Drive alone   | No one available to share ride,  | Somewhat likely  | Very likely                  | Very likely                            | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 4  | 2  | 2  |  |
| 1290549150                        | 5:00:00 AM                           | 3:00:00 PM                           | No  | Fred Meyer              | 97439                                   | 24 & Willow                                       | Drive alone   | No one available to share ride, Irregular work schedule, Bus is not available,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Very likely                                   | Somewhat likely               | Very likely                     | Not likely                     | Not likely  | Yes                                     | 1  | 1  | 1  |  |
| <b>Grocery Respondents</b>        |                                      |                                      |   |                         |   |   |   |  |  |                              |  |   |                               |                                 |                                |   |   |  |  |  |  |
| 1287542423                        | 8:00:00 AM                           | 8:00:00 PM                           | No  | lots of places          | 97439                                   | Hwy 101   | Drive alone   | Irregular work schedule, Bus is not available, Need car for personal errands before or after work, Need car for emergencies, Very likely,  | Not likely   | Not likely                   | Somewhat likely                        | Somewhat likely                               | Somewhat likely               | Somewhat likely                 | Somewhat likely                | Somewhat likely   | Yes                                     | 2  | 1  | 2  |  |
| 1287539217                        | Varies                               | Varies                               | No  | Grocery Outlet          | 97439                                   | 35th Street                                       | Drive alone   | Irregular work schedule, Need car to transport children, Need car for personal errands before or after work,   | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 4  | 3  | 3  | \$10,000-\$29,000                            |
| 1287536824                        | 11:00:00 AM                          | 8:00:00 PM                           | Yes   | Florence Grocery Outlet | 97467                                   | Hwy 101/ Salmon Harbor Drive                      | Drive alone   | No one available to share ride, Saves time, Need car for personal errands before or after work,  | Somewhat likely  | Very likely                  | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Very likely   | Yes                                     | 2  | 2  | 2  |  |
| 1287532869                        | 11:30:00 AM                          | 11:15:00 PM                          | Yes   | Grocery Outlet          | 97439                                   | Highway 101                                       | Drive alone   | Saves time,  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Yes   | 5                                       | 2  | 2  | Less than \$10,000   |  |
| 1287530414                        | 7:30:00 AM                           | 4:pm                                 | No  | Grocery Outlet          | 97439                                   | 17th Street                                       | Drive alone   | Need car for personal errands before or after work,  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 1  | 1  | 1  | \$10,000-\$29,000                            |
| 1287527567                        | Varies                               | Varies                               | No  | Grocery Outlet          | 97439                                   | 15th Street                                       | Drive alone   | Irregular work schedule,   | Somewhat likely  | Somewhat likely              | Not likely                             | Not likely                                    | Not likely                    | Somewhat likely                 | Not likely                     | Not likely  | Yes                                     | 3  | 2  | 3  |  |
| 1287525000                        | 8:00:00 AM                           | 4:00:00 PM                           | No  | Grocery Outlet          | 97439                                   | 9th Street  | Drive alone   | No one available to share ride, Saves time, Need car for personal errands before or after work,  | Not likely   | Not likely                   | Very likely                            | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 5  | 2  | 2  |  |
| 1287495902                        | 7:20:00 AM                           | 12:00:00 PM                          | Yes   | Grocery Outlet          | 97439                                   | Mariner's Ln & Spy Glass Ln                       | Drive alone   | Irregular work schedule, Need car for personal errands before or after work,   | Somewhat likely  | Somewhat likely              | Somewhat likely                        | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Somewhat likely   | Yes                                     | 2  | 2  | 3  |  |
| 1287490552                        | 7:00:00 AM                           | 11:45:00 PM                          | No  | Grocery Outlet          | 97439                                   | 12th & Spruce                                     | Drive alone   | Irregular work schedule, Need car for personal errands before or after work, Need car for emergencies,   | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 3  |  |
| 1287477256                        | 11:45:00 AM                          | 8:15:00 PM                           | No  | Grocery Outlet          | 97439                                   | Rhody & Highway 101                               | Drive alone   | Need car for personal errands before or after work,  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Not likely  | Yes                                     | 2  | 2  | 2  | \$10,000-\$29,000                            |
| 1287474002                        | 7:30:00 AM                           | 4:00:00 PM                           | Yes   | Grocery Outlet          | 97439                                   | 22nd street                                       | Drive alone   |  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Yes   | 2                                       | 1  | 1  | \$10,000-\$29,000  |  |
| 1287470448                        | 11:45:00 AM                          | 8:15:00 PM                           | No  | Grocery Outlet          | 97439                                   | 17 & Highway 101                                  | Drive alone   |  | Not likely   | Not likely                   | Not likely                             | Not likely                                    | Not likely                    | Not likely                      | Not likely                     | Yes   | 3                                       | 3  | 3  | \$10,000-\$29,000  |  |

Survey Responses

| Where did you get on the bus? | How often do you ride the Rhody Express? | Where will you get off the bus? | What is your main purpose for riding the Rhody Express?  | What categories best fit your situation? | What kind of assistance do you need when riding the bus? | What changes to the Rhody Express would make riding more convenient for you? (check all that apply)   | Why do you ride the bus?                      | What is your annual household income (before taxes)? |
|-------------------------------|--|---------------------------------|--|--|--|---|---|--|
| <b>Rider Survey</b>           |  |                                 |  |  |  |   |   |  |
| Safeway                       | More than once a week                    | dmv                             | Shopping, Medical appointments   | Disabled                                 | Wheeler lift   | More frequent service,  | By choice,                                    | \$10,000- \$29,999                                   |
| 23rd oak street               | More than once a week                    | 23rd oak street                 | Shopping,  | Disabled                                 |  | More frequent service, weekend service  | Other   | Less than \$10,000                                   |
| siuslaw high school           | More than once a week                    | siuslaw public library          | To get to or from work or school   | Companion to rider                       | Verbal announcement of stops                             | weekend service   |   | Choose not to answer                                 |
| true value                    | About once a week                        | fred meyers                     | Shopping,  | Senior citizen (60 and Over)             |  | Expanded route-where would you like, where would you like the bus to go, circle road  | By choice, It's my only transportation option | \$10,000- \$29,999                                   |
| Coast Village                 | More than once a week                    | Cash King                       | Shopping, Social events or gatherings, Medical appointments  | Unemployed                               | Other  | weekend service, Expanded route-where would you like  | By choice,                                    | \$10,000- \$29,999                                   |
| fred meyer                    | More than once a week                    | 7th street                      | Shopping, Social events or gatherings  | Disabled                                 |  | More frequent service, weekend service  | By choice,                                    | Less than \$10,000                                   |
| Safeway                       | Rarely                                   | fred meyer                      | To get to or from work or school   | Disabled                                 | Someone to go with me                                    | weekend service   | It's my only transportation option            | \$50,000-\$70,000                                    |
| old town                      | One or two times a month                 | bimart                          | Other  | Companion to rider                       |  | weekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route-where would you like, where would you like the bus to go, south of the bridge | By choice, It's my only transportation option | Less than \$10,000                                   |
| 12th nopal                    | More than once a week                    | 28th and oak                    | Shopping, Social events or gatherings  | Disabled                                 | Wheeler lift   |   | By choice, It's my only transportation option | \$10,000- \$29,999                                   |
| 15th street                   | About once a week                        | miller park                     | Shopping,  | Senior citizen (60 and Over)             | Other  | weekend service   | By choice,                                    | \$10,000- \$29,999                                   |
| Safeway                       | More than once a week                    | fred meyers                     |  | Disabled                                 | Othernone  |   | By choice,                                    | \$10,000- \$29,999                                   |
| safeway                       | More than once a week                    | oak street                      | Shopping,  | Disabled                                 |  | weekend service, Expanded hours in the morning, Expanded route-where would you like   | By choice,                                    | Less than \$10,000                                   |
| 36th street                   | More than once a week                    | miller park                     | Shopping,  | Senior citizen (60 and Over)             | Verbal announcement of stops                             | More frequent service,  | By choice,                                    | Less than \$10,000                                   |
| Fred Meyer                    | More than once a week                    | Fred Meyer                      | To get to or from work or school   | Employed                                 |  | weekend service   | It's my only transportation option            | \$30,000-\$49,999                                    |
| 15th Street                   |  | Nopal Street                    | Shopping, Social events or gatherings, Special tours or events such as the Art Tour, Medical appointments, To get to or from work or school, Other | Disabled                                 | Verbal announcement of stops                             | Expanded hours in the morning   | By choice, It's my only transportation option | Choose not to answer                                 |
| Oak Terrace apartments        | About once a week                        | Fred Meyer                      | Shopping,  | Companion to rider                       |  | weekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route-where would you like  | It's my only transportation option            | Less than \$10,000                                   |
| North Wood Apartments         | More than once a week                    | Grocery Outlet                  | Shopping,  | Disabled                                 | Othernone  | weekend service   | It's my only transportation option            | Less than \$10,000                                   |
| Safeway                       | More than once a week                    | Oak Terrace Apartments          | Shopping, Social events or gatherings, Medical appointments, To get to or from work or school  | Senior citizen (60 and Over)             | Othernone  | weekend service   | It's my only transportation option            | \$10,000- \$29,999                                   |
| Munsel apt. Spruce Street     | More than once a week                    | 12th Street                     | Shopping, Social events or gatherings  | Senior citizen (60 and Over)             | Verbal announcement of stops                             | More frequent service, weekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route-where would you like, beach                            | Other, medical                                | Less than \$10,000                                   |
| 35th & Oak                    | More than once a week                    | 21st & hwy101                   | Shopping,  | Senior citizen (60 and Over)             |  | weekend service, Expanded hours in the morning  | It's my only transportation option            | \$10,000- \$29,999                                   |
| Oak & 35th street             | More than once a week                    | Library                         | Shopping, Medical appointments, To get to or from work or school   |  |  | weekend service   | It's my only transportation option            | Less than \$10,000                                   |
| Kingwood & 10th               | More than once a week                    | Safeway                         | Shopping,  | Senior citizen (60 and Over)             |  |   | By choice, It's my only transportation option | \$10,000- \$29,999                                   |
| kingwood & 10th               | More than once a week                    | hospital & clinic               | Shopping, Special tours or events such as the Art Tour, Medical appointments   | Disabled                                 | Someone to go with me                                    | weekend service   | By choice,                                    | \$10,000- \$29,999                                   |
| 16th street                   | About once a week                        | safeway                         | Shopping,  | Disabled                                 |  | More frequent service, weekend service, Expanded route-where would you like   | By choice, It's my only transportation option | Less than \$10,000                                   |
| Fred Meyer                    | One or two times a month                 | Safeway                         | Shopping,  | Unemployed                               | Other  | More frequent service, weekend service, Expanded hours in the evening   | By choice,                                    | Less than \$10,000                                   |
| Justice center                | More than once a week                    | Spruce street & 40th            | Other, no car  | Senior citizen (60 and Over)             |  |   | It's my only transportation option            | Choose not to answer                                 |
| 37th street                   | More than once a week                    | 37th street                     | Shopping, Social events or gatherings  | Companion to rider                       | Verbal announcement of stops                             | weekend service   | By choice,                                    | \$30,000-\$49,999                                    |
| Safeway                       | More than once a week                    | Old Town                        | Shopping,  | Unemployed                               | Othernone  | More frequent service,  | By choice,                                    | Less than \$10,000                                   |
| bi mart                       | More than once a week                    | 40th street                     | Shopping, Social events or gatherings, Medical appointments  | Disabled                                 |  | More frequent service, weekend service, Expanded hours in the morning, Expanded hours in the evening  | It's my only transportation option            | \$10,000- \$29,999                                   |
| Old Town                      | About once a week                        | Dairy Queen                     | Shopping, Other, Pharmacy  | Senior citizen (60 and Over)             |  | weekend service, Expanded route-where would you like, over the bridge   | It's my only transportation option            | Less than \$10,000                                   |

Survey Responses

| Where did you get on the bus? | How often do you ride the Rhody Express? | Where will you get off the bus? | What is your main purpose for riding the Rhody Express?     | What categories best fit your situation? | What kind of assistance do you need when riding the bus? | What changes to the Rhody Express would make riding more convenient for you? (check all that apply)     | Why do you ride the bus?                      | What is your annual household income (before taxes)? |
|-------------------------------|--|---------------------------------|---|--|--|---|---|--|
| w. 20th street                | More than once a week                    | Safeway and Fred Meyer          | Shopping, Medical appointments                              | Senior citizen (60 and Over)             |  | weekend service   | By choice, It's my only transportation option | \$10,000- \$29,999                                   |
| coast village                 | More than once a week                    | down town                       | Social events or gatherings                                 | Unemployed                               |  | weekend service   | By choice,                                    | \$10,000- \$29,999                                   |
| laurelwood housing            | One or two times a month                 | true value                      | Shopping, Other, appointments                               | Employed                                 | Someone to go with me                                    | weekend service, Expanded hours in the morning  | By choice, It's my only transportation option | \$10,000- \$29,999                                   |
| laurelwood                    | One or two times a month                 | true value                      | Other, business   | Employed                                 | Someone to go with me                                    | weekend service   |   | \$10,000- \$29,999                                   |
| corner of kingwood and rhody  | About once a week                        | fred meyer                      | Shopping, Social events or gatherings, Medical appointments | Senior citizen (60 and Over)             | OtherI get help with food bags                           | weekend service   | By choice,                                    | Choose not to answer                                 |
| Safeway                       | About once a week                        | 29th and oak                    | Shopping,   | Employed                                 |  | weekend service, Expanded route-where would you like, where would you like the bus to go, heceta market | It's my only transportation option            | \$10,000- \$29,999                                   |

Survey Responses

| How many people are in your household? | Do you live within Florence city limits | What categories best fit your household situation? (Check all that apply.) | What modes of transportation does your household use to get to work and/or school?               | What modes of transportation does your household use for non-work/non-school travel in Florence? | Did you know that Florence has a public bus service, the Rhody Express? | Has anyone in your household ever ridden the Rhody Express? | Would anyone in your household ride the bus if it was more convenient? | What would make riding the bus more convenient?  | Does anyone in your household work or go to school outside of Florence? If so, where? | And would that household member consider using transit if it were available and convenient? |
|--|---|--|--|--|---|---|--|--|---|---|
| <b>Transit Riders</b>                  |   |  |  |  |   |   |  |  |   |   |
| 1                                      | Outside Florence city limits            | Disabled   | Don't work or go to school   | Drive alone, Get a ride from family/friend, Walk, Rhody Express                                  | Yes   | Once  | Yes  | Expanded hours in the morning, Expanded hours in the evening, Expanded route -, Sutton Lake Store  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Bicycle   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Once  | Yes  | More frequent service  | Yes - Yachats   | Yes   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school   | Drive alone, Walk  | Yes   | Occasionally  | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded hours in the morning, Expanded hours in the evening                                       | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Don't work or go to school, Drive alone, Bicycle   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   | No   | Weekend service  | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Drive alone, Carpool, Get a ride from family/friend  |  | Yes   | Never   | Yes  | Weekend service, Expanded hours in the morning   | Yes - Eugene  | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 3                                      | Within Florence city limits             | EmployedUnemployed   | Drive alone  | Drive alone, Get a ride from family/friend   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  | Drive alone, Get a ride from family/friend   | Drive alone, Get a ride from family/friend   | Yes   |   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   |  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | More frequent service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | More frequent service  | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Rhody Express, Taxi  | Rhody Express, Taxi  | Yes   | Regularly   | Yes  | Weekend service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Get a ride from family/friend   | Drive alone, Get a ride from family/friend   | Yes   | Occasionally  | Yes  | Expanded hours in the morning, Expanded hours in the evening                                       | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentRetiredDisabled  | Don't work or go to school, Drive alone, Walk, Rhody Express, Taxi                               | Get a ride from family/friend  | Yes   | Once  |  | More frequent serviceWeekend service, Expanded route -   | Yes - East of town (Mapleton)   | Yes   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle   | Drive alone, Bicycle, Walk   | Yes   | Never   |  | Weekend service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | No  | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Taxi  | Yes   | Occasionally  | Yes  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Carpool  | Drive alone, Get a ride from family/friend, Walk, Rhody Express                                  | Yes   | Occasionally  | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Disabled   | Get a ride from family/friend  | Get a ride from family/friend  | Yes   | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school   | Drive alone, Get a ride from family/friend   | Yes   |   | Yes  |  | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Drive alone, Walk  | Drive alone, Walk  | Yes   | Once  | Yes  | Expanded hours in the evening  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Bicycle, Walk   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | More frequent service  | No  |   |
|  |   | RetiredDisabled  | Drive alone, Get a ride from family/friend   | Drive alone, Get a ride from family/friend   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Drive alone, Bicycle, Walk   | Yes   | Once  | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   | No   | More frequent serviceWeekend service, Expanded hours in the morning                                | Yes - Reedsport   | Yes   |
| 3                                      | Within Florence city limits             | Employed   | Drive alone, Get a ride from family/friend   | Drive alone, Walk  | Yes   | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Walk  | Drive alone, Walk  | Yes   | Occasionally  | Yes  | More frequent service  | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school   | Get a ride from family/friend  | Yes   | Never   | Yes  | Expanded route -, shelter cove   | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Drive alone, Get a ride from family/friend, Walk   | Drive alone, Get a ride from family/friend, Walk   | Yes   | Once  | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Get a ride from family/friend  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Carpool, Get a ride from family/friend, Bicycle, Walk, Rhody Express | Get a ride from family/friend  | Yes   | Occasionally  | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | More frequent service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   |  |  | No  |   |
| 3                                      | Within Florence city limits             | EmployedRetired  | Drive alone  | Drive alone  | No  | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | More frequent serviceExpanded route -, eugene  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | UnemployedRetired  | Don't work or go to school   | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | Yes  |  | No  |   |



Survey Responses

| How many people are in your household? | Do you live within Florence city limits | What categories best fit your household situation? (Check all that apply.) | What modes of transportation does your household use to get to work and/or school? | What modes of transportation does your household use for non-work/non-school travel in Florence? | Did you know that Florence has a public bus service, the Rhody Express? | Has anyone in your household ever ridden the Rhody Express? | Would anyone in your household ride the bus if it was more convenient? | What would make riding the bus more convenient?   | Does anyone in your household work or go to school outside of Florence? If so, where? | And would that household member consider using transit if it were available and convenient? |
|--|---|--|--|--|---|---|--|---|---|---|
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, florentine estates  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  | Expanded route -, Florentine Estates  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   | More frequent service   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   |  |   | No  |   |
| 2                                      | Within Florence city limits             | K-12 StudentRetired  | Drive alone, School bus, Taxi  | Drive alone, Walk, Rhody Express, Taxi   | Yes   | Occasionally  | Yes  | More frequent serviceWeekend service, Expanded hours in the evening   | Yes - East of town (Mapleton)   | Yes   |
| 1                                      | Within Florence city limits             | Unemployed   | Don't work or go to school, Drive alone  | Drive alone, Walk  | Yes   | Never   | No   | Expanded route -, eugene  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Get a ride from family/friend   | Drive alone, Get a ride from family/friend   | Yes   | Never   | Yes  | Expanded route -, shelter cove  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Outside Florence city limits            | College StudentEmployedUnemployed  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded hours in the evening   | Yes - South of townEast of town (Mapleton)  | Yes   |
| 1                                      | Within Florence city limits             | College StudentEmployed  | Drive alone, Carpool, Motorcycle/scooter, Bicycle, Walk, Rhody Express, Taxi       | Drive alone, Motorcycle/scooter, Bicycle, Walk, Rhody Express, Taxi                              | Yes   | Occasionally  | Yes  | More frequent serviceExpanded route -   | Yes - Eugene  | Yes   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone, Walk  | Drive alone, Walk  | Yes   | Occasionally  | Yes  | Weekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route -, driftwood shores | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Get a ride from family/friend, Walk                                   | Walk   | Yes   | Never   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone, Bicycle   | Yes   | Once  | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Walk  | Drive alone, Walk  | Yes   | Never   |  |   | No  |   |
| 2                                      | Outside Florence city limits            | Employed   | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, sutton lake   | No  |   |
| 2                                      | Outside Florence city limits            | Employed   | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, sutton lake   | No  |   |
| 2                                      | Outside Florence city limits            | Employed   | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Disabled   | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend, Motorcycle/scooter, Walk                             | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded hours in the evening   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Motorcycle/scooter, Walk                               | Drive alone, Get a ride from family/friend, Motorcycle/scooter                                   | Yes   | Never   | Yes  | Expanded route -  | Yes - Eugene  | Yes   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | Weekend service   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   |  |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Once  | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   | More frequent service   | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 4 or more                              | Within Florence city limits             | Disabled   | Drive alone, School bus, Walk  | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   |  |   | No  |   |
| 2                                      | Within Florence city limits             | K-12 StudentRetired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 4 or more                              | Within Florence city limits             | EmployedUnemployedDisabled   | Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 3                                      | Within Florence city limits             | UnemployedDisabled   | Drive alone, Carpool   | Drive alone, Bicycle, Walk, Rhody Express  | Yes   | Regularly   |  | Weekend service, Expanded hours in the morning  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle, Rhody Express  | Drive alone, Bicycle, Walk   | Yes   | Occasionally  | Yes  | More frequent service   | No  |   |
| 2                                      | Within Florence city limits             | Disabled   | Don't work or go to school, Drive alone, Carpool                                   |  | Yes   | Never   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, willow loop   | No  |   |
| 3                                      | Within Florence city limits             | College StudentEmployed  | Drive alone  | Drive alone  | Yes   | Never   | No   |   | Yes - Eugene  | No  |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Get a ride from family/friend   | Drive alone  | Yes   | Occasionally  | Yes  | Weekend service   | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded hours in the morning, Expanded hours in the evening  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Disabled   | Don't work or go to school   | Rhody Express  | Yes   | Regularly   | Yes  | Weekend service, Expanded route -, driftwood shores   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   |  |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school   | Drive alone  | Yes   | Never   |  |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   |  |   | No  |   |

Survey Responses

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|--|---|--|--|--|---|---|--|--|---|---|
| 2                                      |   | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  |  | No  |   |
| 3                                      | Outside Florence city limits            | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 3                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Once  |  | Weekend service  | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Drive alone, Walk, Rhody Express, Taxi   | Drive alone, Walk, Rhody Express   | Yes   | Never   | Yes  | Expanded hours in the morning, Expanded hours in the evening   | No  |   |
| 3                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | No  | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  | Drive alone, Get a ride from family/friend, Walk   | Drive alone, Get a ride from family/friend, Walk   | Yes   | Once  | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, florentine estates   | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone, work at home  | Drive alone  | Yes   | Never   | Yes  | Expanded hours in the evening  | No  |   |
| 2                                      | Within Florence city limits             | EmployedRetired  | Drive alone  | Drive alone  | No  | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Get a ride from family/friend  | Get a ride from family/friend  | Yes   | Never   | No   | Expanded route -   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   |  | More frequent service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Get a ride from family/friend   | Drive alone, Get a ride from family/friend   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   |   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Carpool, Get a ride from family/friend, Walk                                      | Drive alone, Get a ride from family/friend, Walk   | Yes   | Occasionally  |  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Get a ride from family/friend, Walk                   | Drive alone, Get a ride from family/friend, Walk, Taxi   | Yes   | Never   | Yes  | Weekend service  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Carpool, Bicycle   | Drive alone, Bicycle, Walk   | Yes   | Never   |  |  | Yes - Eugene  | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   | Expanded route -   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Carpool, Get a ride from family/friend, Bicycle, Walk | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Never   |  |  | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle, Walk   | Drive alone, Walk  | Yes   | Never   | Yes  | More frequent service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend   | Yes   | Never   | Yes  | Expanded route -   | No  |   |
| 2                                      | Outside Florence city limits            | Retired  |  |  | Yes   | Never   | Yes  | Expanded route -, dunes city   | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Drive alone  | Drive alone  | Yes   | Never   |  |  | Yes - North of town   | No  |
| 2                                      | Outside Florence city limits            | Retired  | Drive alone  | Drive alone, Get a ride from family/friend   | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone, Walk  | Yes   | Never   | Yes  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Walk  | Drive alone, Walk  | Yes   | Never   |  | Expanded route -, police station   | No  |   |
| 2                                      | Within Florence city limits             | College StudentEmployed  | Drive alone  | Drive alone, Get a ride from family/friend   | Yes   | Never   | Yes  | Weekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route -, north of florence, sutton lake area | Yes - Coos Bay  | Yes   |
| 1                                      | Outside Florence city limits            | Unemployed   | Don't work or go to school, Drive alone  | Drive alone  | No  | Never   | Yes  | More frequent serviceWeekend service, Expanded hours in the evening, Expanded route -, florentine estates                            | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  | Drive alone, Walk  |  | Yes   |   | Yes  | Weekend service, Expanded hours in the evening   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Walk, Taxi   | Walk, Taxi   | Yes   | Occasionally  | Yes  |  | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school   | Drive alone, Walk  | Yes   | Never   |  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Once  |  | Expanded hours in the evening  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Get a ride from family/friend   | Drive alone  | Yes   | Never   | Yes  | Weekend service, Expanded hours in the evening   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Carpool  | Drive alone, Get a ride from family/friend   | No  | Never   | Yes  | Expanded route -, Florentine   | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Don't work or go to school, Get a ride from family/friend                                      | Get a ride from family/friend  | Yes   | Never   |  | Expanded route -, pick up in idylwood  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Carpool  | Get a ride from family/friend  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Carpool  | Get a ride from family/friend  | Yes   | Never   | Yes  | Expanded route -, Florentine Estates   | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 3                                      | Within Florence city limits             | EmployedUnemployedDisabled   | Don't work or go to school, Drive alone, Bicycle   | Drive alone, Bicycle   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Outside Florence city limits            | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, outside city limits  | No  |   |
| 3                                      | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, Motorcycle/scooter  | Drive alone, Motorcycle/scooter  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Outside Florence city limits            | UnemployedRetired  | Drive alone, Motorcycle/scooter  | Drive alone, Motorcycle/scooter  | Yes   | Never   | Yes  | Expanded route -, buck lake  | Yes - Yachats   |   |
| 2                                      | Within Florence city limits             |  |  |  |   |   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Carpool, Walk  | Walk   |   |   |  |  | No  |   |



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|--|---|--|--|--|---|---|--|--|---|---|
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Walk  | Drive alone, Walk  | Yes   | Never   | Yes  | Expanded route -   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, School bus  | Drive alone  | Yes   | Once  | Yes  | Expanded hours in the morning, Expanded hours in the evening   | Yes - Eugene  | Yes   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone, Get a ride from family/friend, Bicycle, Walk, Rhody Express                         | Yes   | Occasionally  | Yes  | Weekend service, Expanded hours in the evening, Expanded route -, honeyman nursery   | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Bicycle, Walk  | Yes   | Never   | No   | Weekend service  | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  |  | Drive alone  | Yes   | Never   |  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Bicycle, Walk, Taxi  | Yes   | Once  | No   |  | No  |   |
| 2                                      | Outside Florence city limits            | EmployedRetired  | Drive alone  | Drive alone, Get a ride from family/friend   | Yes   | Occasionally  |  | Expanded route -, closer to myeena loop  | Yes - YachatsNorth of townEast of town (Mapleton)                                     |   |
| 1                                      | Within Florence city limits             | Retired  | School bus   | Drive alone, Walk  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  | Weekend service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Bicycle, Walk, Rhody Express  | Yes   | Occasionally  | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route -, between Munsel (FM) & Hwy 126; up kingwood, 35th to FM; needs more shelters; connect with Stage Line on Hwy 101 (with shelters both sides) | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Bicycle, Walk, Rhody Express  | Yes   | Regularly   | Yes  | Weekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route -, (Fred Meyers) to Munsel Rd to Rt 126: Kingwood to 35th to 101   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Once  | No   |  | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  | Expanded route -, westlake   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Walk, Rhody Express                       | Drive alone, Get a ride from family/friend   | Yes   | Occasionally  | Yes  | Weekend service, Expanded hours in the morning, Expanded hours in the evening  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | EmployedRetiredDisabled  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle, Walk   | Drive alone, Bicycle, Walk   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Walk                                      | Drive alone, Walk  | Yes   | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | UnemployedRetiredDisabled  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  | More frequent service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | No  | Never   |  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Bicycle, Walk   | Yes   | Never   | Yes  | More frequent service  | No  |   |
| 2                                      | Outside Florence city limits            | Employed   | Drive alone, Carpool   | Drive alone  | Yes   | Once  | No   |  | No  |   |
| 2                                      | Outside Florence city limits            | Employed   | Carpool  | Drive alone  | Yes   | Once  | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | No   | More frequent serviceExpanded hours in the morning, Expanded hours in the evening  | No  |   |
| 3                                      | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, School bus  | Drive alone  | Yes   | Never   | No   | More frequent service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Get a ride from family/friend             | Drive alone, Get a ride from family/friend   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Motorcycle/scooter, Bicycle   | Drive alone, Motorcycle/scooter, Bicycle, Walk   | Yes   | Never   | Yes  | More frequent serviceExpanded hours in the morning, Expanded hours in the evening  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Walk  | Yes   | Never   | Yes  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   |   | No   |  | No  |   |
| 3                                      | Within Florence city limits             | EmployedUnemployed   | Drive alone, Get a ride from family/friend, Bicycle                                | Drive alone, Get a ride from family/friend, Bicycle  | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening   | Yes - YachatsEugene   | Yes   |
| 1                                      | Within Florence city limits             | UnemployedRetired  | Don't work or go to school   | Drive alone  | Yes   | Never   |  |  | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Don't work or go to school, Walk   | Walk   | Yes   | Occasionally  | Yes  | More frequent service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Occasionally  | Yes  | More frequent serviceWeekend service   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Rhody Express, Taxi   | Drive alone, Walk, Rhody Express   | Yes   | Occasionally  | Yes  | Weekend service, Expanded hours in the evening   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Regularly   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Get a ride from family/friend             | Drive alone, Get a ride from family/friend   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | Yes - East of town (Mapleton)   | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   |  |  | No  |   |

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|--|---|--|--|--|---|---|--|--|---|---|
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone, Bicycle   | Yes   | Never   | No   |  | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone  | Drive alone  | Yes   | Never   | No   | Weekend service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Walk  | Yes   | Once  | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Get a ride from family/friend   | Drive alone, Get a ride from family/friend   | Yes   | Once  | No   |  | Yes - coos bay  | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Occasionally  | Yes  | Expanded route -   | No  |   |
| 3                                      | Within Florence city limits             | StudentEmployedRetiredDisab  | Drive alone, Motorcycle/scooter, Walk  | Drive alone, Get a ride from family/friend, Motorcycle/scooter, Bicycle, Walk, skate board       | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Walk  | Drive alone, Walk  | Yes   | Never   | Yes  | More frequent serviceExpanded route -, coos bay eugene   | Yes - coos bay  | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Occasionally  | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | No   | More frequent service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Get a ride from family/friend  | Get a ride from family/friend  | No  | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded route -   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Walk                                      |  | No  | Never   | Yes  | More frequent service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | No  | Never   | Yes  | More frequent service  | No  |   |
| 1                                      | Within Florence city limits             | Disabled   | Get a ride from family/friend, Taxi  | Get a ride from family/friend, Taxi  | Yes   | Occasionally  | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, florentine estates   | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Walk   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployedRetired  | Don't work or go to school, Drive alone, School bus                                | Drive alone  | Yes   | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Get a ride from family/friend             | Drive alone, Get a ride from family/friend   | Yes   | Never   | Yes  | Expanded route -, florentine estates   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -   | No  |   |
| 3                                      | Within Florence city limits             | Employed   | Drive alone, Get a ride from family/friend, Walk                                   | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | Yes  | More frequent service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Get a ride from family/friend, Motorcycle/scooter, Bicycle, Walk      | Drive alone, Get a ride from family/friend, Motorcycle/scooter, Bicycle, Walk                    | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Walk                                      | Drive alone  | Yes   | Never   | Yes  | Expanded route -, sandpines  | No  |   |
| 3                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Occasionally  |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   |  |  | No  |   |
| 3                                      | Within Florence city limits             | RetiredDisabled  | Drive alone, Rhody Express   | Drive alone, Rhody Express   | Yes   | Regularly   | Yes  | Expanded route -, sandpines gated community  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | Yes  | Expanded route -, eugene   | Yes - Eugene  | Yes   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Get a ride from family/friend, Walk                                   | Drive alone, Get a ride from family/friend, Walk, Taxi   | Yes   | Once  | Yes  | More frequent serviceExpanded hours in the morning   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Walk   | Drive alone, Get a ride from family/friend, Walk   | Yes   | Once  |  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, florentine estates   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend   | Yes   | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Get a ride from family/friend  | Get a ride from family/friend  | Yes   | Never   | Yes  | Expanded route -, florentine estates   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Walk                                      | Drive alone, Walk  | Yes   | Once  | Yes  | Expanded route -, florentine estates   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend, Walk, Rhody Express                                  | Yes   | Occasionally  | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening | No  |   |
| 2                                      | Within Florence city limits             | EmployedRetired  | Don't work or go to school   | Drive alone, Get a ride from family/friend   | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Get a ride from family/friend, Taxi                    | Get a ride from family/friend, Taxi  | Yes   | Never   | Yes  | Weekend service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone, Bicycle, Walk   | Yes   | Once  | Yes  | Expanded route -, 35 rhododendron drive  | No  |   |
| 3                                      | Within Florence city limits             | K-12 StudentEmployed   | Drive alone  | Drive alone  | Yes   | Never   | Yes  |  | Yes - coos bay  | Yes   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend   | Yes   | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | EmployedRetired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, munsel lake rd   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Walk   | Yes   | Never   |  | Expanded route -, eugene   | No  |   |

Survey Responses

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|--|---|--|--|--|---|---|--|--|---|---|
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, Carpool, Get a ride from family/friend, Walk                                | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Never   | Yes  |  | Yes - Eugene  | Yes   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Bicycle, Walk   | Drive alone, Bicycle, Walk   | Yes   | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone, Bicycle, Walk   | Drive alone, Bicycle, Walk   | Yes   | Never   | Yes  |  | No  |   |
| 1                                      | Within Florence city limits             | Disabled   | Bicycle, Walk  | Get a ride from family/friend, Taxi  | Yes   | Once  | Yes  | Weekend service, Expanded route -, south jetty north jetty   | 0   | Yes   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle, Walk   | Drive alone, Motorcycle/scooter, Bicycle, Walk   | Yes   | Never   | Yes  | Expanded route -, park village   | No  |   |
| 2                                      | Within Florence city limits             | EmployedRetired  | Drive alone  | Drive alone  | No  | Never   | Yes  | Expanded route -, munsel lake road   | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Walk  | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | Yes  |  | Yes - swiss home  | No  |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Walk  | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | Yes  | Expanded route -   | Yes - swiss home  | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Bicycle, Walk                                   | Drive alone  | Yes   | Never   |  |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Bicycle, Walk, drive with spouse                | Drive alone, Bicycle, Walk   | Yes   | Never   |  |  | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone, Get a ride from family/friend, Bicycle, Walk                                | Drive alone, Walk  | Yes   | Occasionally  |  |  | Yes - ReedsportYachatsEugene  | Yes   |
| 2                                      | Outside Florence city limits            | Retired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   | Yes  | Weekend service, Expanded route -, Fflorentine estates   | No  |   |
| 1                                      | Within Florence city limits             | RetiredDisabled  |  |  | Yes   | Never   | Yes  |  | No  |   |
| 2                                      | Outside Florence city limits            | Retired  |  |  | Yes   | Never   |  |  | No  |   |
| 4 or more                              | Within Florence city limits             | EmployedUnemployedRetiredDisabled  | Drive alone, Carpool, Get a ride from family/friend, Bicycle, Walk, Rhody Express, Taxi  | Drive alone, Get a ride from family/friend, Bicycle, Walk, Rhody Express, Taxi                   | Yes   | Occasionally  |  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route -, better living center | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, Walk  | Drive alone, Walk  | Yes   | Never   | No   |  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, florentine estates   | No  |   |
| 1                                      | Outside Florence city limits            | Employed   | Drive alone  | Drive alone  | Yes   | Never   |  | Weekend service, Expanded route -, outside City limits   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  | Expanded route -, munsel lake rd   | No  |   |
| 3                                      | Within Florence city limits             | K-12 StudentEmployedUnemployed   | Don't work or go to school, Drive alone, Get a ride from family/friend, School bus, Walk | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded hours in the morning  | Yes - YachatsNorth of townEugeneEast of town (Mapleton)newport                        | Yes   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Get a ride from family/friend                   | Drive alone, Get a ride from family/friend   | Yes   | Never   | Yes  | Expanded hours in the evening, Expanded route -, outside city limits   | No  |   |
| 3                                      |   | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |  | No  |   |
| 1                                      | Within Florence city limits             | Unemployed   | Don't work or go to school, Get a ride from family/friend, Rhody Express                 | Drive alone, Walk, Rhody Express   | Yes   | Regularly   | Yes  | Expanded route -, eugene service   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Rhody Express   | Yes   | Once  |  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Carpool, Get a ride from family/friend          | Drive alone, Get a ride from family/friend   | Yes   | Once  |  |  | No  |   |
| 2                                      | Outside Florence city limits            | Retired  | Drive alone  | Drive alone  | Yes   | Occasionally  | Yes  | Expanded route -, eugene   | No  |   |
| 4 or more                              | Outside Florence city limits            | College StudentEmployed  | Drive alone, Get a ride from family/friend   | Drive alone  | No  | Never   | No   | More frequent service  | Yes - Eugene  | Yes   |
| 3                                      | Outside Florence city limits            | Employed   | Drive alone  | Get a ride from family/friend  | No  | Never   | Yes  |  | Yes - silvertown  | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  | Weekend service  | No  |   |
| 2                                      | Outside Florence city limits            | Employed   | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded hours in the morning  | Yes - Yachats   | Yes   |
| 1                                      | Outside Florence city limits            | Unemployed   | Carpool  | Drive alone  | Yes   | Regularly   | Yes  |  | No  |   |
| 3                                      | Outside Florence city limits            | Retired  | Drive alone  | Drive alone  | Yes   | Once  | Yes  | Weekend service, Expanded hours in the morning, Expanded hours in the evening  | Yes - North of town   | Yes   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone  | Drive alone, Walk, Rhody Express   | Yes   | Occasionally  | Yes  | Weekend service, Expanded route -, beach,lake  | No  |   |
| 2                                      |   |  |  |  | Yes   |   |  |  | Yes - North of town   | Yes   |
| 3                                      | Within Florence city limits             | Unemployed   |  | Drive alone  | Yes   | Never   |  | More frequent serviceWeekend service, Expanded hours in the evening  | Yes - Eugene  | Yes   |
| 1                                      | Outside Florence city limits            | Employed   |  | Walk   | Yes   | Occasionally  |  | More frequent serviceWeekend service   | Yes - North of town   | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening   | No  |   |
| 4 or more                              | Outside Florence city limits            | K-12 StudentCollege StudentEmployedUnemployed                              | Don't work or go to school, Drive alone, School bus                                      | Drive alone, Get a ride from family/friend   | Yes   | Never   |  | Expanded route -   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  |  | No  |   |
| 2                                      | Outside Florence city limits            | Employed   | Drive alone  | Drive alone  | Yes   | Occasionally  | Yes  | Weekend service  | No  |   |
| 3                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   | Weekend service  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone  | Drive alone, Walk, Taxi  | Yes   | Never   |  |  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   | Expanded route -   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   |  | Expanded route -, munsel lake rd/north fork/hwy 126  | No  |   |

Survey Responses

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|--|---|--|--|--|---|---|--|---|---|---|
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Get a ride from family/friend, Walk           | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | Yes  | Expanded route -, 35th street   | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  |  | Drive alone, Get a ride from family/friend   | Yes   | Never   | Yes  | Expanded route -, more stops  | No  |   |
| 2                                      | Within Florence city limits             | Retired  |  | Drive alone  | Yes   | Never   | Yes  | Expanded hours in the morning, Expanded route -, florentine estates   | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, Get a ride from family/friend, Walk                                       | Drive alone  | Yes   | Never   | Yes  | Expanded hours in the evening   | No  |   |
| 3                                      | Within Florence city limits             | EmployedRetired  | Don't work or go to school, Drive alone  | Drive alone  | Yes   | Never   |  |   | Yes - South of townCoos Bay   | No  |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle   | Drive alone, Bicycle   | No  | Once  |  | Expanded hours in the morning, Expanded route -, Driftwood Shores   | Yes - Eugene  | Yes   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone, Motorcycle/scooter  | No  | Never   | Yes  | Expanded route -, munsel lake rd/golf course  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Weekend service, Expanded hours in the morning, Expanded hours in the evening   | Yes - Eugene  | Yes   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Carpool, Get a ride from family/friend, Motorcycle/scooter, Bicycle, Walk | Drive alone, Get a ride from family/friend, Motorcycle/scooter, Bicycle, Walk                    | Yes   | Never   | Yes  |   | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, Bicycle   | Drive alone, Bicycle, Walk   | No  | Never   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, School bus  | Drive alone, Bicycle   | Yes   | Never   | Yes  | More frequent serviceExpanded hours in the morning  | No  |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Don't work or go to school   | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Unemployed   | Don't work or go to school   | Get a ride from family/friend, Walk, Rhody Express   | Yes   | Regularly   | Yes  | Weekend service, Expanded route -, Eugene   | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone, Work from home.   | Drive alone  | Yes   | Once  | Yes  | More frequent serviceWeekend service, Expanded hours in the evening, Expanded route -, The bus should go to the ocean and to the lakes at either end of city, so older people can enjoy the recreational areas right by the town. The buses should run from the grocery at the lake north of town all the way to Dune City. They should have "Sunday Church Runs" so the elderly were not stuck at home, and hate to bother others for a ride. They should have runs to Mapleton, and coordinate with a bus system or Porter Stage that would run to Eugene, to the Eugene airport and Sacred Heart Hospital and downtown Eugene. | No  |   |
| 3                                      | Within Florence city limits             | RetiredDisabled  | Drive alone, Walk, Taxi  | Drive alone, Bicycle, Walk   | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded route -, It goes just about every where now.   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Drive with spouse   | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening  | No  |   |
| 4 or more                              | Outside Florence city limits            | K-12 StudentCollege StudentEmployedUnemployed                              | Drive alone, Carpool, Get a ride from family/friend, Rhody Express, Taxi               | Drive alone, Get a ride from family/friend, Rhody Express, Taxi                                  | Yes   | Occasionally  | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route -, SOUTH OF THE BRIDGE   | No  |   |
| 3                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle, Walk   | Drive alone, Bicycle, Walk   | Yes   | Once  | No   |   | No  |   |
| 3                                      | Within Florence city limits             | K-12 Student   | Drive alone  | Drive alone  | Yes   | Once  | No   | Weekend service   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Walk  | Yes   | Never   | Yes  | More frequent serviceWeekend service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Walk  | Drive alone, Walk  | Yes   | Never   |  |   | No  |   |
| 3                                      | Within Florence city limits             | Employed   | Drive alone, Walk  | Drive alone, Walk  | Yes   | Once  | Yes  | Weekend service, Expanded hours in the morning, Expanded hours in the evening   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Rhody Express   | Yes   | Occasionally  | Yes  | More frequent serviceWeekend service, Expanded hours in the evening, Expanded route -, Eugene   | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Company car   | Drive alone  | Yes   | Never   | No   |   | Yes - ReedsportNewport  | No  |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Weekend service   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend, Taxi   | Yes   | Never   | Yes  | Expanded route -, Willow Street   | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Once  | Yes  | Expanded route -, Florentine Estates Clubhouse  | No  |   |
| 4 or more                              | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, Carpool   | Drive alone, Get a ride from family/friend   | Yes   | Never   | Yes  | Expanded route -, Stops along Rhody Dr.   | Yes -   |   |
| 2                                      | Within Florence city limits             | RetiredDisabled  | Drive alone  | Drive alone  | Yes   | Once  | Yes  | Weekend service, Expanded hours in the evening, Expanded route -, south over bridge   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Walk  | Yes   | Once  | Yes  | Weekend service, to sand dunes & recreational locations -state parks  | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle   | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Never   | Yes  | Weekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route -, Stop outside Mariner's Village and Shelter Cove subdivisions.  | Yes - Portland area.  | No  |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Walk  | Drive alone, Walk  | Yes   | Once  | Yes  | Weekend service, Expanded hours in the evening  | No  |   |

Survey Responses

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|--|---|--|--|--|---|---|--|---|---|---|
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend, Walk   | Yes   | Never   | Yes  | Weekend service, Expanded route -, Marine Manor on Rhody  | No  |   |
| 3                                      | Within Florence city limits             | College StudentEmployed  | Carpool, Get a ride from family/friend, Bicycle, Walk                              | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening                    | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Bicycle, Walk   | Yes   |   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Drive alone  | Drive alone  | Yes   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | Retired  |  | Drive alone  |   | Never   | No   |   | No  |   |
| 2                                      | Within Florence city limits             | EmployedRetired  | Drive alone, Carpool, Bicycle, Walk  | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Occasionally  | Yes  | Expanded hours in the morning, Expanded hours in the evening, Expanded route -, Driftwood Shores                      | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Carpool, Bicycle, Walk   | Drive alone, Bicycle, Walk   | Yes   | Never   | Yes  | More frequent serviceWeekend service, Expanded hours in the morning, Expanded hours in the evening, Expanded route -  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Carpool, Get a ride from family/friend, Bicycle, Walk                 | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Occasionally  | Yes  | More frequent service   | No  |   |
| 2                                      | Within Florence city limits             | Employed   | Bicycle, Walk  | Drive alone, Bicycle   | Yes   | Never   | Yes  | More frequent serviceWeekend service  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Walk  | Yes   | Never   | Yes  | More frequent serviceWeekend service  | No  |   |
| 2                                      | Within Florence city limits             | EmployedRetired  | Bicycle, Walk  | Drive alone, Bicycle   | Yes   | Once  | Yes  | More frequent service   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school, Drive alone, Walk                                      | Drive alone, Walk  | Yes   |   | No   |   | No  |   |
| 1                                      | Within Florence city limits             | Employed   | Drive alone, Bicycle, Walk   | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Once  | Yes  | Expanded hours in the morning   | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Drive alone, Carpool, Get a ride from family/friend, Bicycle, Walk                 | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Never   | Yes  | More frequent serviceExpanded hours in the morning, Expanded route -  | No  |   |
| 1                                      | Within Florence city limits             | Retired  | Drive alone  | Drive alone  | Yes   | Never   | Yes  | Expanded route -, drive through Florentine Estates  | No  |   |
| 2                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone, Get a ride from family/friend   | Yes   |   | Yes  | Expanded route -, into Coastal Highlands  | No  |   |
| 2                                      | Within Florence city limits             | K-12 StudentEmployed   | Drive alone, Carpool   | Drive alone, Get a ride from family/friend, Bicycle, Walk  | Yes   | Never   | Yes  | Weekend service, Expanded hours in the morning, i just need to be more aware i would love to take it to work-hospital | Yes - South of town   | Yes   |
| 1                                      | Within Florence city limits             | Retired  | Don't work or go to school   | Drive alone  | Yes   | Never   | Yes  | More frequent service   | No  |   |
| 4 or more                              | Within Florence city limits             | EmployedUnemployed   | Drive alone, Get a ride from family/friend, Walk                                   | Drive alone  | Yes   | Never   | Yes  | More frequent serviceExpanded hours in the morning, Expanded hours in the evening                                     | No  |   |

| Subject Area                     | Central Coast Disposal  |
|----------------------------------|---|
| 1. Services Provided             | Refuse and recycling  |
| 2. Delivery Schedule and Area    | 7 days a week; 5 am-3pm; Sat 6 am-noon; Sun varies, ends before 3pm; can operate until 6 pm if necessary; City-wide   |
| 3. Issues Today                  | Traffic in Old Town and single lane allies where the containers are located. Bicycles often conflict with trucks; difficult for big trucks to maneuver around and avoid bicyclists.   |
| 4. Works Well                    | Good traffic flow; if you work here and live here, you know where the high and low traffic areas are and can avoid them. For example, we can use Oak Street and/or Spruce Street and avoid Highway 101.   |
| 5. Problems Today                | Biggest problems are congestion due to slow drivers; and motor homes and camper vans. He is not sure there is a solution because Florence depends on retirees and tourism and these are associated.   |
| 6. Future Issues                 | 1) Anyplace where the lanes go from single lane to double lane, especially on Highway 101 from Munsel Lake Road to Heceta Beach Road. This is an area where the City is likely to have a lot of growth over the next 20 years and he can see a real need for the road to be expanded in this area; 2) It is hard to get larger equipment on and off the Highway without causing traffic congestion, especially in the summer; the intersection of Munsel Lake Road and Highway 101 is especially challenging; 3) Other high impact areas are the crosswalks at 8th and 2nd Streets. He thinks only one of them is needed because they eliminated a merge lane and now his trucks have to cross two lanes of traffic to get across the Highway; 4) May need to reduce the speed limit on Rhododendron Drive. There are 300 homes there and there are safety and congestion issues today that will become worse. 45 miles per hour is too high. 5) There is likely to be continued and increased congestion in allies on Bay Street; there will be a need to restrict cars in this area, and in the Waterfront area, in general, over time. |
| 7. Works well to address issues  | Double lanes are working on Highway 101; there is good traffic flow in most residential areas; infrastructure overall works very well.  |
| 8. Future Problems               | 1) Bay Street Time of Operation Restrictions: trucks are not allowed before 7:00 am except on holidays; this creates conflicts between the trucks and other traffic in this area, especially commute traffic. He thinks the City is going to need to eliminate this time restriction in the future. 2) There may be parking issues on Bay Street if the City does not recognize the impacts of growth in this area; should be ok as long as the City is aware of it. 3) There will be an increased need for ample parking in general, and especially for businesses along Highway 101, and for motor homes and camper vans. Many areas of the City have ample parking, like Fred Meyer; but where the parking is not sufficient or there are no stalls for big vehicles, store customers will park in "no parking" zones, such as the pick up spots for the refuse trucks.  |
| 9. Facility Needs and Priorities | 1. Remove time restraint for hours of operation; it is better for everyone if the refuse trucks can be on the street when traffic is low, such as the early morning before other vehicles are on the street; 2. Add a lane on Highway 101 from Munsel Lake Road to Heceta Beach Road on both sides of the Highway.<br>(He only had two top priorities)  |
| 10. Ways to Inform/Involve       | Email distribution list, Newspaper articles, Radio interviews and announcements, Direct Mail  |

| Subject Area                     | County Transfer and Recycling   |
|----------------------------------|---|
| 1. Services Provided             | Daily service for yard debris, garbage, recycling, portable toilets, and "roll-off" and "drop off" services for construction site disposal and recycling.   |
| 2. Delivery Schedule and Area    | M-Sat 5:30 am–5:00pm; City-wide in Florence and surrounding area: Yachats, Mapleton, Dunes City.  |
| 3. Issues Today                  | Florence is good with their internal projects. The existing transportation system works well. Biggest issue is delays at the Highway 101 Bridge during bridge maintenance and construction.   |
| 4. Works Well                    | Traffic lights work well, even with the seasonal traffic flow. The traffic light timing settings work well, much better than some other coastal communities. Timers in Florence are set up with a frequency that works well.  |
| 5. Problems Today                | Biggest problem is untimely bridge maintenance; once Highway 101 is hindered, everything in Florence comes to a stop.   |
| 6. Future Issues                 | The biggest issue in the future will likely continue to be traffic flow at the Highway 101 Bridge. In Bend, they built a bypass off Hwy 97 that improved flow a lot. He is not sure how they can do that in Florence with the bridge, but it will continue to have a significant impact on the community: an obstacle at the bridge can affect, and has affected, traffic all the way to Highway 126.   |
| 7. Works well to address issues  | Last year, they started to do bridge maintenance in the daytime. After a couple of days, they realized that didn't work; so, they changed it to evening; and that helped. It is especially important to allow for peak traffic flows during summer.   |
| 8. Future Problems               | The Bridge: with future development in the community, the bridge is still the main bottleneck for the community at large.   |
| 9. Facility Needs and Priorities | 1. Keep the traffic light sequencing working well, as it does today. 2. Maintain a police presence and enforcement on the roads to keep road rage down. Senior drivers tend to drive slow and that triggers aggressive driving in others; even tourists on vacation get impatient. This creates a bigger problem for other drivers. 3. Road maintenance awareness: get the word out where projects will take place and alternative routes (see list below for how to get the word out). |
| 10. Ways to Inform/Involve       | Email distribution list, Newspaper articles, Radio interviews and announcements, Planning Commission and City Council meeting agendas, Project updates on City web site   |

| Subject Area                     | FEDEX |
|----------------------------------|-------|
| 1. Services Provided             |       |
| 2. Delivery Schedule and Area    |       |
| 3. Issues Today                  |       |
| 4. Works Well                    |       |
| 5. Problems Today                |       |
| 6. Future Issues                 |       |
| 7. Works well to address issues  |       |
| 8. Future Problems               |       |
| 9. Facility Needs and Priorities |       |
| 10. Ways to Inform/Involve       |       |



| Subject Area                     | Florence Airport   |
|----------------------------------|--|
| 1. Services Provided             | UPS overnight emergency airlift flights for hospital and serious ill; facilities for numerous transient aircraft for tourists and visitors; used by charter aircraft for commute and sport aviation; emergency evacuation and services for natural disaster.   |
| 2. Delivery Schedule and Area    | M-F UPS; Airport open 7 week /24 hours; terminal building open 8-4:30; 7 days week. users drive from Florence area, and such areas as North Bend, Coos Bay, Eugene, and fly in from all parts of Oregon and as far as Florida Canada, California, Washington, Utah, and Idaho. Airport maintains a log of users and where they are from.   |
| 3. Issues Today                  | Funding to keep the airport open is the most important issue. There are no facility issues because the airport equipment is up to date, funded by grant funds; and well maintained. So, in terms of facilities, there are no major issues and no land use conflicts. Grants fund improvements; operations and maintenance are funded mostly by the sale of property in the Airport Business and Industrial Park and there have not been any sales of property in four years. |
| 4. Works Well                    | All aspects of existing transportation system work well: no land use conflict; and no issues with on the ground facilities.  |
| 5. Problems Today                | Lack of funding for operations and maintenance.  |
| 6. Future Issues                 | Funding for operations and maintenance will continue to be the most important issue until the City finds an alternative revenue source. There are no other issues.   |
| 7. Works well to address issues  | The General Fund is one possible funding source.   |
| 8. Future Problems               | Funding for operations and maintenance.  |
| 9. Facility Needs and Priorities | 1. Precision approach path indicator for one runway (the other runway has one); this is a safety issue; 2. Commercial hanger that can be leased to a business that would bring income to support the airport; 3. "T" hangers to store and stack airplanes on both sides which would also be leased to help support airport   |
| 10. Ways to Inform/Involve       | Email distribution list, Planning Commission and City Council meeting agendas, Project updates on City web site, direct communication  |

| Subject Area                     | Florence Public Works Department Operations and Maintenance Staff: Public Works Director  |
|----------------------------------|---|
| 1. Services Provided             | Operations and maintenance and facilities maintenance for: drinking water, sanitary sewer, stormwater management, streets, parks, and airport.  |
| 2. Delivery Schedule and Area    | M, T, W, Th, F; Sat, Sun and after hours on call; mostly 7am-3:30pm; some work 7-4, 8-5 and a few 6-2:30; plus on call; city-wide   |
| 3. Issues Today                  | We do not have issues in our operations as far as mobility is concerned. We use local streets for the most part; most tasks can be done off of Highway 101; so we do not have problems with the Highway. There are gaps in the sidewalks that need to be repaired and we need more trail networks, safe bicycle routes and bike lanes; but those are not issues with our operations per say.  |
| 4. Works Well                    | For the size of the community, everything works well; some grid systems could be improved along Highway 101 such as at Rhody Drive just before Heceta Beach Road and 35th and 9th there are large gaps and folks have to go out of their way to get to their destination. The airport is small and has daily UPS deliveries, but too small for big deliveries.  |
| 5. Problems Today                | Seasonal issues related to tourists. When compared with bigger cities, it is not really a problem, but the amount of traffic during tourist season creates a perception that there is a problem.  |
| 6. Future Issues                 | Technology challenges in delivery, such as new types of vehicles; and management of traffic flow.   |
| 7. Works well to address issues  | 1) The additional inter-connectedness from re-establishment of key grid points and the development of more multi-use paths and dedicated bike lanes for daily commuting and typical short trips and afternoon exercise. It will be good to provide these opportunities in Florence. 2) Providing safe access for pedestrians and bicyclists as traffic increases with growth. For example, from the area I live in, Idlewood, I would need to ride my bike to work along Rhody Drive and share a travel lane with cars and trucks going 45 mph. What are your organization's top priorities for how the transportation system in Florence should be maintained or improved to address current or anticipated future issues?<br>1. Improve pedestrian crossing on Highway 126 between Spruce and Quince. 2. Round-about at 9th and Kingwood. 3. Signalized intersection on Highway 101 at Munsel Lake Road.  |
| 8. Future Problems               | 1) Having sufficient funds to maintain street surfaces and invest in the street network. Improving the flow and safety for the commuting public using all modes – car, pedestrian and bikes. 2) Addressing unique challenges with motorized scooters. They are now allowed on the sidewalk which avoids conflicts with cars because they are too small to be seen from a car. Florence is recognized as a unique retirement community and the City will need to address the specific needs of this population more and more in the future. 3) There will be an increased need for more multi-use paths, bike lanes, and full sidewalks.   |
| 9. Facility Needs and Priorities | <b>Are there highway maintenance issues in Florence that could be improved or corrected by a capital improvement project?</b> Yes. ODOT stormwater system is failing or near failing from 15th north to 35th. The stormwater pipe system is on the east side of Hwy 101 in the right lane. ODOT maintenance staff is aware of the situation and are awaiting funding to make repairs. Estimated cost to replace (some of the pipe is so deteriorated that it needs to be completely replaced – slip lining may not be feasible due to sand intrusion) is approaching \$2 million. In general, the HMAC is in rough condition and a grind/inlay is in order to maintain the state's investment in the Highway.<br><b>Are there highway operation deficiencies or problems that could be improved or corrected by a capital improvement project?</b> 1) The intersection of Hwy 101 and 126 should be reconfigured in order to improve truck traffic movements from north bound Hwy 101 onto west bound 9th Street. 2) Additionally, the second travel lane north bound (just south of 42nd Street) needs to be extended to and through the intersection of Munsel Lake Road and Hwy 101. This will allow additional traffic flow past the north business area. |
| 10. Ways to Inform/Involve       | Email distribution list, Radio interviews and announcements, Planning Commission and City Council meeting agendas, Project updates on City web site, Other: Direct mailings.  |

| Subject Area                     | Florence Public Works Department Operations and Maintenance Staff; Public Works GIS Manager   |
|----------------------------------|---|
| 1. Services Provided             | City of Florence Public Works Department supplies and maintains the water system, sewer system, and storm water system. It is also responsible to maintain the city streets system.   |
| 2. Delivery Schedule and Area    | Daily M-F; Sat and Sun on call; city-wide   |
| 3. Issues Today                  | Maintain our street system with limited funds   |
| 4. Works Well                    | Our street system is used to deliver goods to business and citizens. It is used by residents, bicyclist, tourist, local cab co. and rhody bus.  |
| 5. Problems Today                | Funds to make the necessary repairs to our road system. We keep getting further behind on maintenance and our airport needs an overlay; no funds.   |
| 6. Future Issues                 | we don't have the revenue income to maintain our street system in the manner that we would like. As a result, our roads are in poor condition   |
| 7. Works well to address issues  | Without proper funding, how will any of the TSP be implemented?   |
| 8. Future Problems               | The ability to acquire necessary funding to repair our existing streets.  |
| 9. Facility Needs and Priorities | 1. Acquire funding for the necessary repairs to our road system. 2. Utilize crew to do as much of the repair work as possible. More bang for the buck. 3. Keep the public informed and up to date on all Transportation issues. |
| 10. Ways to Inform/Involve       | Email distribution list, Newspaper articles, Radio interviews and announcements, Planning Commission and City Council meeting agendas, Project updates on City web site, Other: Add flyers to the Water Bills.                  |

| Subject Area                     | Lane County Transportation Planning  |
|----------------------------------|--|
| 1. Services Provided             | Our agency, Lane County, doesn't provide specific services to Florence; Lane County has streets in Florence that they maintain. She is involved in committee to update TSP.                              |
| 2. Delivery Schedule and Area    | County roads are scattered throughout the City. Referred to road maintenance manager for schedule.   |
| 3. Issues Today                  | Having good coordination between the county and the city; there are roads that the county can continue to provide maintenance for; and ultimately all these roads will be under the city's jurisdiction. |
| 4. Works Well                    | NA   |
| 5. Problems Today                | NA   |
| 6. Future Issues                 | Transitioning from current needs and conditions to the needs and conditions of the future with peak oil and reduction of green house gas emissions.  |
| 7. Works well to address issues  | NA; do hear about the need to transit connections between Florence and metro area.   |
| 8. Future Problems               | Funding – how to maintain existing roads and roads of the future.  |
| 9. Facility Needs and Priorities | 1. Improving alternative modes through improving connectivity and design; a future network that gives equal treatment to all roads. 2. Improve funding – change our funding mechanism for roads.         |
| 10. Ways to Inform/Involve       | Email distribution list, Newspaper articles, Planning Commission and City Council meeting agendas, Project updates on City web site, Other: Direct Referrals   |

| Subject Area                     | Lane County Operations and Maintenance Staff   |
|----------------------------------|--|
| 1. Services Provided             | Our agency, Lane County, maintains county roads in Florence.   |
| 2. Delivery Schedule and Area    | M-Thurs 6:30-5; winter: M-F 7-3:30; County roads are scattered throughout the City. Over 200 miles of roads; 65 miles of gravel roads.   |
| 3. Issues Today                  | Maintenance costs of materials, gravel, asphalt, etc.. Traffic, weights and sizes are ok – not a big problem.  |
| 4. Works Well                    | Office at end of residential area; system works well; get to areas they service with no problems.  |
| 5. Problems Today                | Right now don't know of any problems that affect them; major highways lead to most of road system; a little different going out to rural areas; but doesn't cause a lot of problems. |
| 6. Future Issues                 | To provide the service they provide now; revenue to fund operations and maintenance. Road fund declines could impact the services.   |
| 7. Works well to address issues  | None. So much of revenue is timber –based and that is projected to decline drastically.  |
| 8. Future Problems               | Funding – how to maintain existing roads and roads of the future; and keep sufficient staffing levels.   |
| 9. Facility Needs and Priorities | 1. Bus service; Florence is small town and is growing and bus service would help move people around; improve awareness of existing system. 2. Improve City road conditions.          |
| 10. Ways to Inform/Involve       | Email distribution list, Newspaper articles, Radio interviews and announcements, Planning Commission and City Council meeting agendas, Project updates on City web site.             |

| Subject Area                     | ODOT Operations and Maintenance Staff   |
|----------------------------------|---|
| 1. Services Provided             | See emails forwarded by April Jonesto David Helton.   |
| 2. Delivery Schedule and Area    |   |
| 3. Issues Today                  |   |
| 4. Works Well                    |   |
| 5. Problems Today                |   |
| 6. Future Issues                 |   |
| 7. Works well to address issues  |   |
| 8. Future Problems               |   |
| 9. Facility Needs and Priorities | <p>There is a stormwater pipe that is deteriorating and must be replaced under US 101 from approximately 35th Street to 15th Street; from 15th Street the pipe turns to the southeast toward an outfall in Munsel Creek near Quince Street. The pipe runs under the right-hand northbound lane. District 5 is looking for funds to replace this pipe and is investigating the most cost-effective method of replacement. This project has an estimated cost of \$2 million. There is a flooding issue on US 101 north of Munsel Lake Road. I don't have any more information about this problem - it sounds like it is being addressed shortly. ODOT Area 5 has applied for a grant to develop a "Bicycle Rest Area" and Bay overlook at the north end of the Siuslaw River Bridge on US 101. We may want to add this project to the TSP. The City desires several additional marked crossings that are currently not funded: US 101 @ 12th Street; US 101 between 15th-16th Street; OR 126 between Redwood and Spruce. We may want to add these specific crossings to the TSP. Also, the TSP should have policies that support the City's desire for additional highway pedestrian crossings. Munsel Creek culverts under OR 126 are too small for fish passage and need to be replaced. In addition, City has entertained the idea of providing a pedestrian crossing of OR 126 under the highway within an enlarged culvert at Munsel Creek.</p> |
| 10. Ways to Inform/Involve       |   |

| Subject Area                     | Port of Siuslaw |
|----------------------------------|-----------------|
| 1. Services Provided             |                 |
| 2. Delivery Schedule and Area    |                 |
| 3. Issues Today                  |                 |
| 4. Works Well                    |                 |
| 5. Problems Today                |                 |
| 6. Future Issues                 |                 |
| 7. Works well to address issues  |                 |
| 8. Future Problems               |                 |
| 9. Facility Needs and Priorities |                 |
| 10. Ways to Inform/Involve       |                 |

| Subject Area                     | Rhody Express   |
|----------------------------------|---|
| 1. Services Provided             | Fixed route public bus service.   |
| 2. Delivery Schedule and Area    | M-F; 10am -6pm;one-hour loop around town 8 times a day; most of the housing projects and most medical facilities and businesses.  |
| 3. Issues Today                  | Funding: like all public transportation services, it is heavily subsidized, continued funding is the biggest issue.   |
| 4. Works Well                    | The ways the city is laid out, the way the roads are laid out, and the way the route is laid out all work well. The one-hour loop works well for passenger service; it is an adequate amount of time for passengers to use it effectively. For example, they can shop for an hour at Fred Meyer and take the bus home. The route and timing work well. It works well to have both the bus (Rhody Express) and the taxi service operated by the same business from same facility. For example, the bus has limited wheelchair accessibility; so they can dispatch a wheelchair van to pick up a passenger when there isn't room on the bus for the wheelchair; one business complements the other. |
| 5. Problems Today                | Funding is biggest problem; secondly, congestion in parking lots. We've been trying to move the bus route out of parking lots onto the public streets; will eventually happen because they are developing bus stops on the streets. Also, roads are not maintained well in some places, i.e., there are potholes in some places. This is especially a problem for people in wheelchairs. Wheelchairs have no springs in them the way car seats do; so, wheelchair riders are more likely to feel the bumps when driving along city streets. Most wheelchair clients have had an injury, like fractured hip, and driving over bumpy roads are an issue for them.                                   |
| 6. Future Issues                 | Funding will continue to be the biggest issue. They have requests to expand the route to go into areas they don't now cover but that can't happen until the subsidy increases. The existing equipment will wear out eventually and the purchase of new equipment will be an issue.  |
| 7. Works well to address issues  | NA  |
| 8. Future Problems               | Funding   |
| 9. Facility Needs and Priorities | 1. Get the route out of parking lots and onto public streets. Currently, pedestrian issues are being addressed with crosswalks; so, this should be the next step. 2. Expand the bridge to handle the increased traffic.   |
| 10. Ways to Inform/Involve       | Email distribution list, Newspaper articles, Radio interviews and announcements, Planning Commission and City Council meeting agendas, Other: Newsletters (like LTD's)  |



| Subject Area                     | River Cities Taxi  |
|----------------------------------|--|
| 1. Services Provided             | Demand-responsive taxi service to general public and wheelchair accessible vehicles.   |
| 2. Delivery Schedule and Area    | 7am-3am; 7 days/week; city-wide; 50 mile radius around Florence as long as trips originate or terminate in Florence  |
| 3. Issues Today                  | Insurance: it is difficult to buy and very expensive. They contract with Lane Transit District for Ride Source services to Medicaid and Oregon Health Plan clients.  |
| 4. Works Well                    | The ways the city is laid out and the way the roads are laid out work well. It works well to have both the bus (Rhody Express) and the taxi service operated by the same business from same facility. For example, the bus has limited wheelchair accessibility; so they can dispatch a wheelchair van to pick up a passenger when there isn't room on the bus for the wheelchair; one business complements the other.   |
| 5. Problems Today                | Buying affordable insurance; and finding qualified drivers are the biggest transportation problems for them. Also, roads are not maintained well in some places, i.e., there are potholes in some places. This is especially a problem for people in wheelchairs. Wheelchairs have no springs in them the way car seats do; so, wheelchair riders are more likely to feel the bumps when driving along city streets. Most wheelchair clients have had an injury, like fractured hip, and driving over bumpy roads are an issue for them. |
| 6. Future Issues                 | Lack of public funding: some of the taxi service funding by contract is public funding, i.e., Medicaid and Oregon Health Plan services through Ridesource; a lot of the transportation services they provide to the disabled community is in jeopardy.   |
| 7. Works well to address issues  | NA   |
| 8. Future Problems               | Price of insurance and fuel; and finding qualified drivers.  |
| 9. Facility Needs and Priorities | 1. Funding 2. Well maintained streets  |
| 10. Ways to Inform/Involve       | Email distribution list, Newspaper articles, Radio interviews and announcements, Planning Commission and City Council meeting agendas, Other: Newsletters (like LTD's)   |

| Subject Area                     | Siuslaw School Bus Service |
|----------------------------------|----------------------------|
| 1. Services Provided             |                            |
| 2. Delivery Schedule and Area    |                            |
| 3. Issues Today                  |                            |
| 4. Works Well                    |                            |
| 5. Problems Today                |                            |
| 6. Future Issues                 |                            |
| 7. Works well to address issues  |                            |
| 8. Future Problems               |                            |
| 9. Facility Needs and Priorities |                            |
| 10. Ways to Inform/Involve       |                            |

| Subject Area                     | United Parcel Post (UPS) |
|----------------------------------|--------------------------|
| 1. Services Provided             |                          |
| 2. Delivery Schedule and Area    |                          |
| 3. Issues Today                  |                          |
| 4. Works Well                    |                          |
| 5. Problems Today                |                          |
| 6. Future Issues                 |                          |
| 7. Works well to address issues  |                          |
| 8. Future Problems               |                          |
| 9. Facility Needs and Priorities |                          |
| 10. Ways to Inform/Involve       |                          |

| Subject Area                     | U.S. Post Office   |
|----------------------------------|--|
| 1. Services Provided             | Mail delivery.   |
| 2. Delivery Schedule and Area    | M-Sat 7-6; 97439 zip code (beyond city wide)   |
| 3. Issues Today                  | Fuel costs; pot holes and other road conditions; conflicts with bicyclists.                    |
| 4. Works Well                    | Good traffic flow.   |
| 5. Problems Today                | When bridge is up; fuel costs; pot holes and other road conditions; conflicts with bicyclists. |
| 6. Future Issues                 | Doesn't foresee any.   |
| 7. Works well to address issues  | Good traffic flow; no real problems with roads.  |
| 8. Future Problems               | Fuel costs.  |
| 9. Facility Needs and Priorities | 1. Better educate bicyclists on rules of road – safety issue.                                  |
| 10. Ways to Inform/Involve       | Other- direct mail   |

| Subject Area                     | Western Lane Ambulance District |
|----------------------------------|---------------------------------|
| 1. Services Provided             |                                 |
| 2. Delivery Schedule and Area    |                                 |
| 3. Issues Today                  |                                 |
| 4. Works Well                    |                                 |
| 5. Problems Today                |                                 |
| 6. Future Issues                 |                                 |
| 7. Works well to address issues  |                                 |
| 8. Future Problems               |                                 |
| 9. Facility Needs and Priorities |                                 |
| 10. Ways to Inform/Involve       |                                 |

**City of Florence Transportation System Plan Update  
Delivery Services Interview Schedule  
Service Provider Contacts  
Draft June 23, 2011**

| <b>Organization</b>   | <b>Name/Title</b>  | <b>E-mail</b>  | <b>Phone</b>  |
|---|--|--|---|
| <input checked="" type="checkbox"/><br>1. U.S. Post Office  | Lisa Herbert,<br>Postmaster<br><b>Completed 6/21</b>   | <a href="mailto:lisa.a.herbert@usps.gov">lisa.a.herbert@usps.gov</a>   | 541-997-9406<br>Fax: 997-8017                                 |
| 2. United Parcel Post (UPS)   | Driver:<br><br><b>Written Survey given to driver by Amanda Hennesse, Ship n Shack (997-5888) 6/21/11</b>             | <a href="mailto:Coastalimpressions@oregonfast.net">Coastalimpressions@oregonfast.net</a>   | UPS<br>Contact:<br>Natalie Epstien:<br>800-550-4184 ext. 6209 |
| <input checked="" type="checkbox"/><br>3. County Transfer and Recycling                             | Dan Webb,<br>Operations Manager<br><b>Completed 6/23</b>   | <a href="mailto:DanWebb@WasteConnections.com">DanWebb@WasteConnections.com</a>   | 997-8233  |
| <input checked="" type="checkbox"/><br>4. Central Coast Disposal                                    | Dave Twombly<br><b>Completed 6/16/11</b>   | <a href="mailto:twombly@winfinity.com">twombly@winfinity.com</a>   | 902-7554<br>Fax:<br>902-7554                                  |
| 5. Siuslaw School Bus Service   | Noland Huntington<br><b>Sent Email/left voice messages 6/16, 6/21, 6/23</b>  | <a href="mailto:nhuntington@siuslaw.k12.or.us">nhuntington@siuslaw.k12.or.us</a><br>bonnie   | 997-3816  |
| <input checked="" type="checkbox"/><br>6. ODOT Operations and Maintenance Staff                     | Tammy Trenholm,<br>Operations Manager for Florence Area<br><b>Sent email 6/16, 6/21/voice message 6/16, 6/23</b>     | <a href="mailto:Tammy.I.trenholm@odot.state.or.us">Tammy.I.trenholm@odot.state.or.us</a>   | 736-2847  |
| <input checked="" type="checkbox"/><br>7. Lane County Planning and Operations and Maintenance Staff | Lydia McKinney<br>Senior Transportation Planner <b>Completed 6/21/11</b><br>Joe Thorpe, Lane County Road Maintenance | <a href="mailto:Lydia.MCKINNEY@co.lane.or.us">Lydia.MCKINNEY@co.lane.or.us</a> ;<br><a href="mailto:joseph.thorpe@co.lane.or.us">joseph.thorpe@co.lane.or.us</a> ; | 682-6930<br>997-2251  |

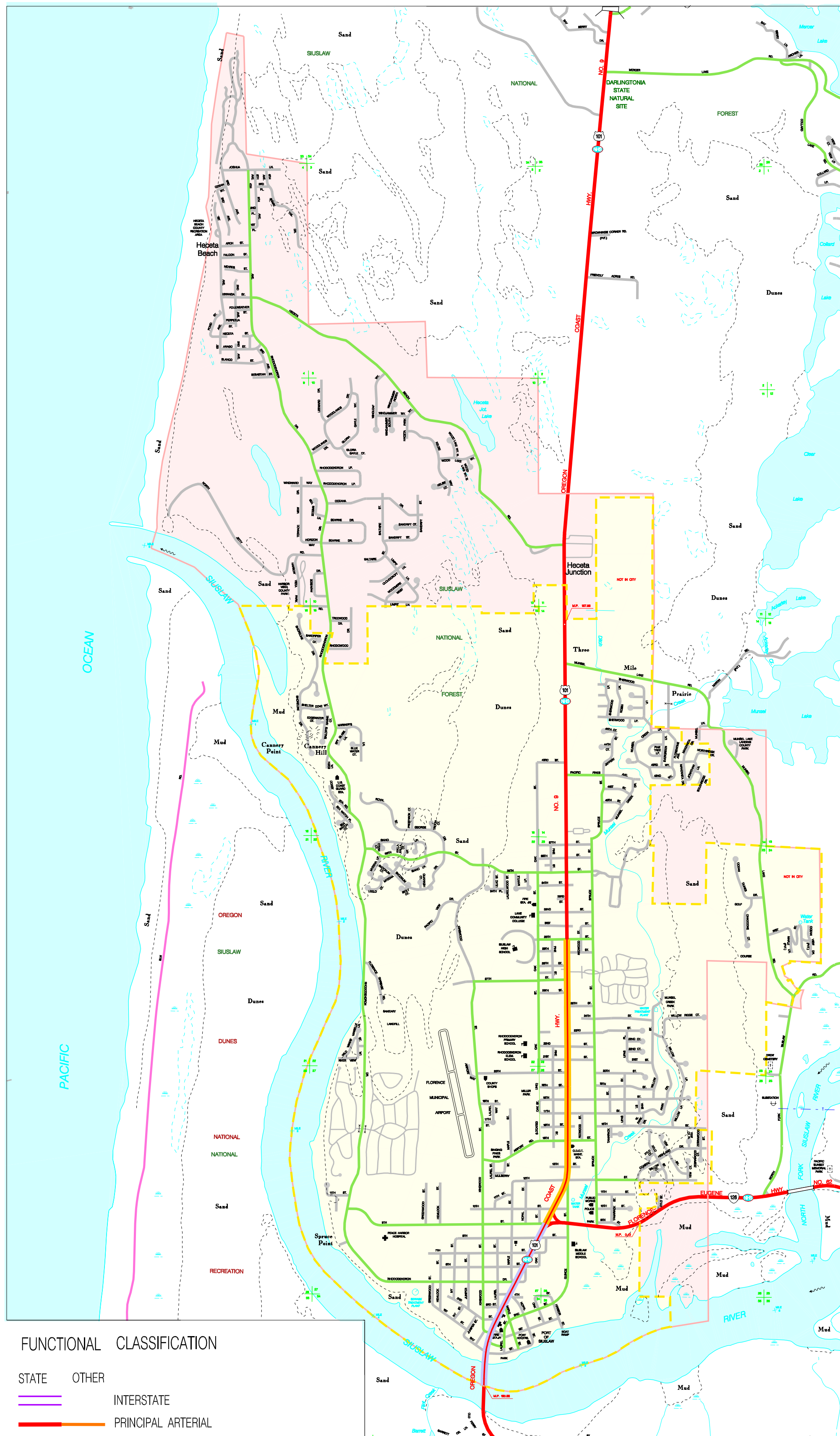
| Organization  | Name/Title  | E-mail   | Phone   |
|---|---|--|---|
|   | Supervisor, Florence<br><b>Completed 6/21/11</b>  |  |   |
| <input checked="" type="checkbox"/><br>8. Florence<br>Public Works<br>Department<br>Operations<br>and<br>Maintenance<br>Staff | Mike Miller, Public<br>Works Director<br><b>Completed 6/16</b><br>Ron Miller, Public<br>Works GIS Manager<br><b>Written form<br/>completed 6/20</b> | <a href="mailto:Mike.miller@ci.florence.or.us">Mike.miller@ci.florence.or.us</a><br><a href="mailto:Ron.miller@ci.florence.or.us">Ron.miller@ci.florence.or.us</a> | 997-5822<br>997-4106  |
| 9. FEDEX  | Driver:<br><br><b>Written Survey given<br/>to driver by Amanda<br/>Hennesse (997-<br/>5888) Ship n Shack,<br/>6/21/11</b>                           | <a href="mailto:Coastalimpressions@oregonfast.net">Coastalimpressions@oregonfast.net</a>   | FEDEX<br>Contact:<br>Marcia<br>Schmit:<br>800-513-<br>5591 Ext.<br>8431 |
| <input checked="" type="checkbox"/><br>10. Florence<br>Airport  | Gary Rose, Airport<br>Manager <b>Completed<br/>6/24</b>   | <a href="mailto:Gary.rose@ci.florence.or.us">Gary.rose@ci.florence.or.us</a>   | 997-8069  |
| <input checked="" type="checkbox"/><br>11. Rhody<br>Express   | Max Kuhn, Contract<br>Operator <b>Completed<br/>6/23</b>  | <a href="mailto:rctaxi@presys.com">rctaxi@presys.com</a>   | 997-8520  |
| <input checked="" type="checkbox"/><br>12. River Cities<br>Taxi   | Max Kuhn, Owner<br><b>Completed 6/23</b>  | <a href="mailto:rctaxi@presys.com">rctaxi@presys.com</a>   | 997-8520  |
| 13. Western<br>Lane<br>Ambulance<br>District  | Henry Hanf, District<br>Manager <b>voice<br/>message and email<br/>6/23</b>   | <a href="mailto:henry@wlambulance.com">henry@wlambulance.com</a>   | 997-6914  |
| 14. Port of<br>Siuslaw  | Mark Freeman, Port<br>District Manager<br><b>voice message and<br/>email 6/23</b>   | <a href="mailto:mark@portofsiuslaw.com">mark@portofsiuslaw.com</a>   | 997-3426  |

**Attachment D**  
ODOT Highway Segment  
Designation Map



# HWY. SEGMENT DESIGNATION FLORENCE, OREGON

Adopted August 17, 2005



## FUNCTIONAL CLASSIFICATION

- | STATE | OTHER |   |
|-------|-------|---|
|       |       | INTERSTATE                              |
|       |       | PRINCIPAL ARTERIAL                      |
|       |       | MINOR ARTERIAL                          |
|       |       | URBAN COLLECTOR / RURAL MAJOR COLLECTOR |
|       |       | MINOR COLLECTOR                         |
|       |       | LOCAL ROAD                              |

- |  |     |
|--|-----|
|  | STA |
|  | UBA |

PREPARED BY:  
OREGON DEPARTMENT OF TRANSPORTATION  
TDD - GIS UNIT

Speed4 Project 1646

**Attachment E**  
Level of Service  
Description

## LEVEL OF SERVICE CONCEPT

Level of Service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various Level of Service from A to F.<sup>1</sup>

## SIGNALIZED INTERSECTIONS

The six level of service grades are described qualitatively for signalized intersections in Table E1. Additionally, Table E2 identifies the relationship between level of service and average control delay per vehicle. Control delay is defined to include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Using this definition, level of service D is generally considered to represent the minimum acceptable design standard.

**Table E1: Level of Service Definitions (Signalized Intersections)**

| Level of Service | Average Delay per Vehicle   |
|------------------|---|
| A                | Very low average control delay, less than 10 seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.   |
| B                | Average control delay is greater than 10 seconds per vehicle and less than or equal to 20 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a level of service A, causing higher levels of average delay.  |
| C                | Average control delay is greater than 20 seconds per vehicle and less than or equal to 35 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.                       |
| D                | Average control delay is greater than 35 seconds per vehicle and less than or equal to 55 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. |
| E                | Average control delay is greater than 55 seconds per vehicle and less than or equal to 80 seconds per vehicle. This is usually considered to be the limit of acceptable delay. These high delay values generally (but not always) indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.   |
| F                | Average control delay is in excess of 80 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.  |

<sup>1</sup> Most of the material in this appendix is adapted from the Transportation Research Board, Highway Capacity Manual, (2000).

**Table E2: Level of Service Criteria for Signalized Intersections**

| Level of Service | Average Control Delay per Vehicle (Seconds) |
|------------------|---|
| A                | <10.0                                       |
| B                | >10 and ≤20                                 |
| C                | >20 and ≤35                                 |
| D                | >35 and ≤55                                 |
| E                | >55 and ≤80                                 |
| F                | >80   |

## UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two way stop controlled (TWSC) and all way stop controlled (AWSC) intersections. The 2000 Highway Capacity Manual provides models for estimating control delay at both TWSC and AWSC intersections. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table E3. A quantitative definition of level of service for unsignalized intersections is presented in Table E4. Using this definition, Level of Service E is generally considered to represent the minimum acceptable design standard.

**Table E3: Level of Service Criteria for Unsignalized Intersections**

| Level of Service | Average Delay per Vehicle to Minor Street   |
|------------------|---|
| A                | Nearly all drivers find freedom of operation. Very seldom is there more than one vehicle in queue.  |
| B                | Some drivers begin to consider the delay an inconvenience. Occasionally there is more than one vehicle in queue.  |
| C                | Many times there is more than one vehicle in queue. Most drivers feel restricted, but not objectionably so.   |
| D                | Often there is more than one vehicle in queue. Drivers feel quite restricted.   |
| E                | Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. There is almost always more than one vehicle in queue. Drivers find the delays approaching intolerable levels. |
| F                | Forced flow. Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.  |

**Table E4: Level of Service Criteria for Unsignalized Intersections**

| Level of Service | Average Control Delay per Vehicle (Seconds) |
|------------------|---|
| A                | <10.0                                       |
| B                | >10.0 and ≤15.0                             |
| C                | >15.0 and ≤25.0                             |
| D                | >25.0 and ≤35.0                             |
| E                | >35.0 and ≤50.0                             |
| F                | >50.0                                       |

It should be noted that the level of service criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the control delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. While overall intersection level of service is calculated for AWSC intersections, level of service is only calculated for the minor approaches and the major street left turn movements at TWSC intersections. No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection level of service remains undefined: level-of-service is only calculated for each minor street lane.

In the performance evaluation of TWSC intersections, it is important to consider other measures of effectiveness (MOE's) in addition to delay, such as v/c ratios for individual movements, average queue lengths, and 95<sup>th</sup>-percentile queue lengths. By focusing on a single MOE for the worst movement only, such as delay for the minor-street left turn, users may make inappropriate traffic control decisions. The potential for making such inappropriate decisions is likely to be particularly pronounced when the HCM level-of-service thresholds are adopted as legal standards.

## **VOLUME-TO-CAPACITY CONCEPT**

The *Highway Capacity Manual 2000* defines capacity as “the maximum number of vehicles that can pass a certain point during a specified period under prevailing roadway, traffic, and control conditions.” Capacity analysis examines segments or points (such as signalized intersections) of a facility under uniform traffic, roadway, and control conditions. These conditions determine capacity; therefore, segments with different prevailing conditions will have different capacities.

Capacity is not the absolute maximum flow rate – driver characteristics vary from region to region, and the absolute maximum capacity can vary from day to day and location to location.

## SIGNALIZED INTERSECTIONS

Capacity at signalized intersections is defined for each lane group. The lane group capacity is the maximum hourly rate at which vehicles can reasonably be expected to pass through the intersection under prevailing conditions. The ratio of flow rate to capacity (v/c), often called the volume to capacity ratio, is typically referred as to the degree of saturation. The critical v/c ratio (also know as the intersection v/c ratio) depends on the conflicting critical lane flow rates and the signal phasing, and considers only the lane groups that have the highest flow ratio (v/s) for a given signal phase.

The *Oregon Highway Plan* Action 1F.6 identifies maximum v/c thresholds for signalized intersections for areas within and outside of MPO areas. These are summarized below in Tables E5 and E6.

**Table E5: Maximum Volume-To-Capacity Ratios for Peak Hour Operating Conditions<sup>1</sup>**

| Maximum Volume-To-Capacity Ratios Outside Metro <sup>2</sup> |                              |      |   |  |   |                               |             |
|--|------------------------------|------|---|--|---|-------------------------------|-------------|
| Highway Category   | Inside Urban Growth Boundary |      |   |  |   | Outside Urban Growth Boundary |             |
|  | STAs                         | MPO  | Non-MPO outside of STAs where non-freeway posted speed <= 35 mph, or a Designated UBA | Non-MPO outside of STAs where non-freeway speed limit > 35 mph | Non-MPO where non-freeway speed limit >= 45 mph | Unincorporated Communities    | Rural Lands |
| Interstate Highways  | N/A                          | 0.80 | N/A   | 0.70   | 0.70  | 0.70                          | 0.70        |
| Statewide Expressways  | N/A                          | 0.80 | 0.70  | 0.70   | 0.70  | 0.70                          | 0.70        |
| Freight Route on a Statewide Highway                         | 0.85                         | 0.80 | 0.80  | 0.75   | 0.70  | 0.70                          | 0.70        |
| Statewide (not a freight route)                              | 0.90                         | 0.85 | 0.85  | 0.80   | 0.75  | 0.75                          | 0.70        |
| Freight Route on a Regional or District Highway              | 0.90                         | 0.85 | 0.85  | 0.80   | 0.75  | 0.75                          | 0.70        |
| Expressway on a Regional or District Highway                 | N/A                          | 0.85 | N/A   | 0.80   | 0.75  | 0.75                          | 0.70        |
| Regional Highways  | 0.95                         | 0.85 | 0.85  | 0.80   | 0.75  | 0.75                          | 0.70        |
| District/Local Interest Roads                                | 0.95                         | 0.90 | 0.90  | 0.85   | 0.80  | 0.80                          | 0.75        |

<sup>1</sup> For Portland Metro and the Rouge Valley MPO see also OHP Amendment 00-04 amended Table 7 regarding Metro and established Alternative Mobility Standards for the RVMPO. Where there is a conflict between the Table 6 standards and the established alternative mobility standards, the more tolerant standard (higher v/c ratio) applies. The OHP amendments establishing the RVMPO and Metro alternative standards are located on the web at:

<sup>2</sup> National Highway System (NHS) highway designation requirements are addressed in the Highway Design Manual (HDM)

**Table E6: Maximum Volume-To-Capacity Ratios Within Portland Metropolitan Region<sup>1</sup>**

| Location   | Standard             |   |
|--|----------------------|---|
|  | 1 <sup>st</sup> Hour | 2 <sup>nd</sup> Hour  |
| Central City<br>Regional Centers<br>Town Centers<br>Main Streets<br>Station Communities  | 1.1                  | 0.99  |
| Corridors <sup>2</sup><br>Industrial Areas<br>Intermodal Facilities<br>Employment Areas<br>Inner Neighborhoods<br>Outer Neighborhoods  | 0.99                 | 0.99  |
| Banfield Freeway <sup>3</sup><br>(from I-5 to I-205)   | 1.1                  | 0.99  |
| I-5 North <sup>3</sup><br>(from Marquam Bridge<br>to Interstate Bridge)  | 1.1                  | 0.99  |
| Highway 99E <sup>3</sup><br>(from Lincoln Street to<br>Highway 224 Interchange)  | 1.1                  | 0.99  |
| Sunset Highway <sup>3</sup><br>(from I-405 to Sylvan interchange)  | 1.1                  | 0.99  |
| Stadium Freeway <sup>3</sup><br>(from I-5 South to I-5 North)  | 1.1                  | 0.99  |
| <b>Other Principal Arterial Routes</b><br>I-205 <sup>3</sup><br>I-84 (east of I-205)<br>I-5 (Marquam Bridge to Wilsonville)<br>Highway 217 <sup>3</sup><br>US 26 (west of Sylvan)<br>Highway 30<br>Tualatin Valley Hwy <sup>3</sup> (Cedar Hills Blvd.<br>to Brookwood Avenue)<br>Highway 224 <sup>3</sup><br>Highway 47<br>Highway 213<br>242 <sup>nd</sup> /US 26 in Gresham | 0.99                 | 0.99  |
| <b>Areas of Special Concern</b><br>Beaverton Regional Center<br><br>Highway 99W (I-5 to Tualatin Road)   | 1.0<br><br>0.95      | Areas with this designation are planned for mixed use development, but are also characterized by physical, environmental or other constraints that limit the range of acceptable transportation solutions for addressing a high level-of-service need, but where alternative routes for regional through-traffic are provided. In these areas, substitute performance measures are allowed by OAR.660.012.0060(1)(d). Provisions for determining the alternative performance measures are included in Section 6.7.7 of the 200 RTP. The OHP mobility standard for state highways in these areas applies until the alternative performance measures are adopted in local plans and approved by the Oregon Transportation Commission. |

Note: Maximum volume to capacity ratios for two hour peak hour operating conditions through a 20-year horizon for state highway sections within the Portland metropolitan area urban growth boundary.

**Additional Notes for Table C6:**

<sup>1</sup> The volume to capacity ratios in the table are for the highest two consecutive hours or weekday traffic volumes. This is calculated by dividing the traffic volume for the average weekly two-hour PM peak by twice the hourly capacity.

<sup>2</sup> Corridors that are also state highways are 99W, Sandy Boulevard, Powell Boulevard, 82<sup>nd</sup> Avenue, North Portland Road, North Denver Street, Lombard Street, Hall Boulevard, Farmington Road, Canyon Road, Beaverton-Hillsdale Highway, Tualatin Valley Highway (from Hall Boulevard to Cedar Hills Boulevard and from Brookwood Street to E Street in Forest Grove), Scholls Ferry Road, 99E (from Milwaukie to Oregon City) and Highway 43.

<sup>3</sup> Thresholds shown are for interim purposes only; refinement plans for these corridors are required in Metro Regional Transportation Plan and will include a recommended motor vehicle performance policy for each corridor.

## UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, capacity is determined using a gap acceptance model which calculates the potential capacity of each minor traffic stream in accordance with Equation 17-3 in the *Highway Capacity Manual 2000*. The potential capacity of a movement is a function of the conflicting flow rate expressed as an hourly rate, as well as the minor-street movement.

The *Oregon Highway Plan* Action 1F.1 identifies maximum v/c thresholds for unsignalized intersections. As stated on page 75, "At unsignalized intersections and road approaches, the volume-to-capacity ratios in Tables 6 and 7 shall not be exceeded for either of the state highway approaches that are not stopped. Approaches at which traffic must stop, or otherwise yield the right of way, shall be operated to maintain safe operation of the intersection and all of its approaches and shall not exceed the volume to capacity ratios for District/Local Interest Roads in Table 6 within the urban growth boundaries or 0.80 outside of urban growth boundaries."



**Attachment F**  
Traffic Counts

**Summary of Traffic Count  
Transportation Development Division**

Site: 20112009  
County: Lane  
City: Florence

Date: 8/31/2009  
Hours: 6:00 AM-10:00 PM  
Highway #:  
Rhododendron Dr. @ 35th  
Location: St.  
Weather: Clear

Milepoint:  
Count Number: 1.00

| Time of Day | Summary By Movements |     |     |     |     |     |       | Entering Volumes |      |       |
|-------------|----------------------|-----|-----|-----|-----|-----|-------|------------------|------|-------|
|             | N-E                  | N-S | E-N | E-S | S-N | S-E | TOTAL | North            | East | South |
| 16:15       | 18                   | 13  | 33  | 13  | 14  | 6   | 97    | 31               | 46   | 20    |
| 16:30       | 17                   | 12  | 35  | 8   | 9   | 2   | 83    | 29               | 43   | 11    |
| 16:45       | 17                   | 14  | 28  | 9   | 11  | 11  | 90    | 31               | 37   | 22    |
| 17:00       | 17                   | 17  | 29  | 1   | 19  | 5   | 88    | 34               | 30   | 24    |

**Summary of Traffic Count  
Transportation Development Division**

Site: 20042009  
County: Lane  
City: Florence

Date: 8/26/2009  
Hours: 6:00 AM-10:00 PM  
Highway #:

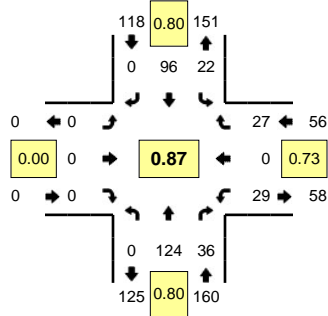
Milepoint:  
Count Number: 1.00

Location: at 9th St.  
Weather: Clear;Fog

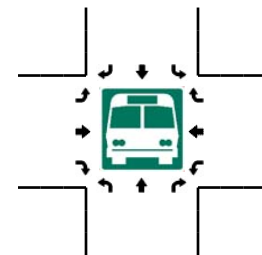
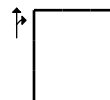
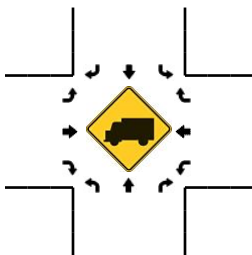
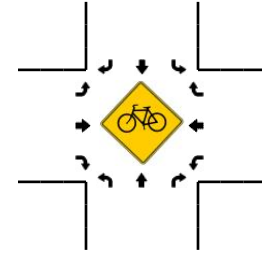
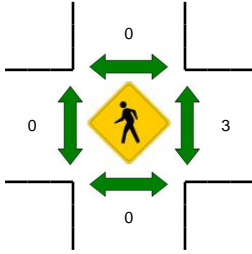
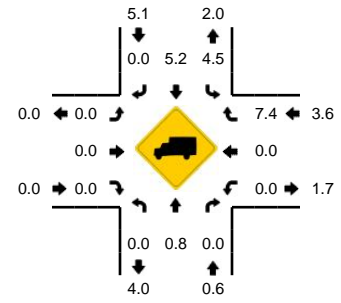
| Time of Day | Summary By Movements |     |     |     |     |     |       | Entering Volumes |      |       |
|-------------|----------------------|-----|-----|-----|-----|-----|-------|------------------|------|-------|
|             | N-E                  | N-S | E-N | E-S | S-N | S-E | TOTAL | North            | East | South |
| 16:15       | 18                   | 14  | 31  | 2   | 12  | 1   | 78    | 32               | 33   | 13    |
| 16:30       | 18                   | 12  | 17  | 0   | 18  | 0   | 65    | 30               | 17   | 18    |
| 16:45       | 29                   | 17  | 31  | 0   | 9   | 1   | 87    | 46               | 31   | 10    |
| 17:00       | 27                   | 15  | 29  | 4   | 24  | 0   | 99    | 42               | 33   | 24    |

**LOCATION:** Kingwood St -- 15th St  
**CITY/STATE:** Florence, OR

**QC JOB #:** 10525802  
**DATE:** 8/5/2010



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

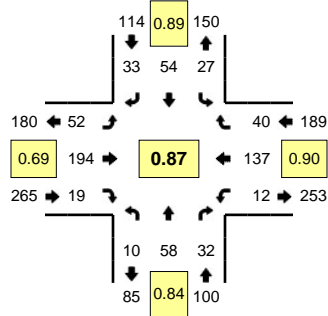


| 15-Min Count Period Beginning At | Kingwood St (Northbound) |      |       |   | Kingwood St (Southbound) |      |       |   | 15th St (Eastbound) |      |       |   | 15th St (Westbound) |      |       |   | Total | Hourly Totals |
|----------------------------------|--------------------------|------|-------|---|--------------------------|------|-------|---|---------------------|------|-------|---|---------------------|------|-------|---|-------|---------------|
|                                  | Left                     | Thru | Right | U | Left                     | Thru | Right | U | Left                | Thru | Right | U | Left                | Thru | Right | U |       |               |
| 4:00 PM                          | 0                        | 39   | 4     | 0 | 3                        | 21   | 0     | 0 | 0                   | 0    | 0     | 0 | 7                   | 0    | 6     | 0 | 80    |               |
| 4:15 PM                          | 0                        | 24   | 10    | 0 | 7                        | 30   | 0     | 0 | 0                   | 0    | 0     | 0 | 7                   | 0    | 8     | 0 | 86    |               |
| 4:30 PM                          | 0                        | 29   | 9     | 0 | 7                        | 22   | 0     | 0 | 0                   | 0    | 0     | 0 | 6                   | 0    | 5     | 0 | 78    |               |
| 4:45 PM                          | 0                        | 30   | 8     | 0 | 2                        | 24   | 0     | 0 | 0                   | 0    | 0     | 0 | 4                   | 0    | 6     | 0 | 74    | 318           |
| 5:00 PM                          | 0                        | 41   | 9     | 0 | 6                        | 20   | 0     | 0 | 0                   | 0    | 0     | 0 | 12                  | 0    | 8     | 0 | 96    | 334           |
| 5:15 PM                          | 0                        | 21   | 8     | 0 | 6                        | 15   | 0     | 0 | 0                   | 0    | 0     | 0 | 6                   | 0    | 11    | 0 | 67    | 315           |
| 5:30 PM                          | 0                        | 13   | 5     | 0 | 3                        | 14   | 0     | 0 | 0                   | 0    | 0     | 0 | 9                   | 0    | 2     | 0 | 46    | 283           |
| 5:45 PM                          | 0                        | 9    | 2     | 0 | 2                        | 15   | 0     | 0 | 0                   | 0    | 0     | 0 | 3                   | 0    | 5     | 1 | 37    | 246           |
| Peak 15-Min Flowrates            | Northbound               |      |       |   | Southbound               |      |       |   | Eastbound           |      |       |   | Westbound           |      |       |   | Total |               |
| All Vehicles                     | 0                        | 164  | 36    | 0 | 24                       | 80   | 0     | 0 | 0                   | 0    | 0     | 0 | 48                  | 0    | 32    | 0 | 384   |               |
| Heavy Trucks                     | 0                        | 0    | 0     | 0 | 0                        | 0    | 0     | 0 | 0                   | 0    | 0     | 0 | 0                   | 0    | 0     | 0 | 0     |               |
| Pedestrians                      | 0                        |      |       |   | 0                        |      |       |   | 0                   |      |       |   | 0                   |      |       |   | 0     |               |
| Bicycles                         |                          |      |       |   |                          |      |       |   |                     |      |       |   |                     |      |       |   | 0     |               |
| Railroad                         |                          |      |       |   |                          |      |       |   |                     |      |       |   |                     |      |       |   |       |               |
| Stopped Buses                    |                          |      |       |   |                          |      |       |   |                     |      |       |   |                     |      |       |   |       |               |

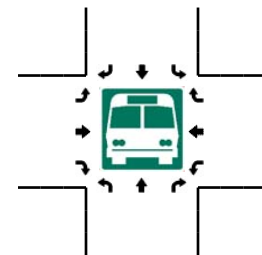
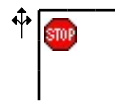
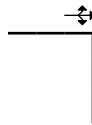
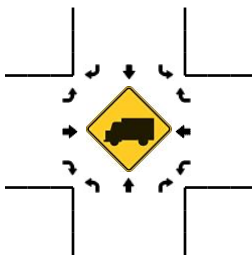
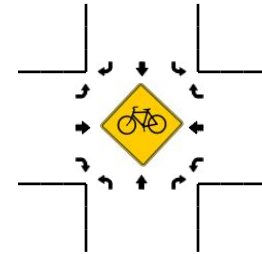
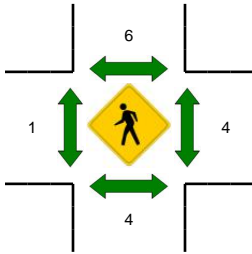
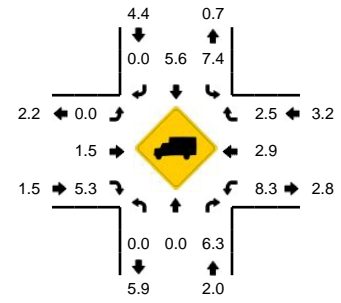
Comments:

**LOCATION:** Kingwood St -- 9th St  
**CITY/STATE:** Florence, OR

**QC JOB #:** 10525801  
**DATE:** 8/5/2010



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



| 15-Min Count Period Beginning At | Kingwood St (Northbound) |      |       |   | Kingwood St (Southbound) |      |       |   | 9th St (Eastbound) |      |       |   | 9th St (Westbound) |      |       |   | Total | Hourly Totals |
|----------------------------------|--------------------------|------|-------|---|--------------------------|------|-------|---|--------------------|------|-------|---|--------------------|------|-------|---|-------|---------------|
|                                  | Left                     | Thru | Right | U | Left                     | Thru | Right | U | Left               | Thru | Right | U | Left               | Thru | Right | U |       |               |
| 4:00 PM                          | 6                        | 21   | 5     | 0 | 5                        | 8    | 13    | 0 | 11                 | 54   | 4     | 0 | 3                  | 38   | 7     | 0 | 175   |               |
| 4:15 PM                          | 2                        | 8    | 6     | 0 | 8                        | 10   | 14    | 0 | 9                  | 44   | 7     | 0 | 3                  | 42   | 10    | 0 | 163   |               |
| 4:30 PM                          | 2                        | 17   | 6     | 0 | 8                        | 13   | 6     | 0 | 11                 | 37   | 4     | 0 | 4                  | 42   | 8     | 0 | 158   |               |
| 4:45 PM                          | 4                        | 20   | 8     | 0 | 5                        | 16   | 3     | 0 | 7                  | 46   | 4     | 0 | 2                  | 31   | 9     | 0 | 155   | 651           |
| 5:00 PM                          | 2                        | 13   | 12    | 0 | 6                        | 15   | 10    | 0 | 25                 | 67   | 4     | 0 | 3                  | 22   | 13    | 0 | 192   | 668           |
| 5:15 PM                          | 4                        | 14   | 5     | 0 | 5                        | 3    | 8     | 0 | 3                  | 28   | 2     | 0 | 7                  | 26   | 6     | 0 | 111   | 616           |
| 5:30 PM                          | 4                        | 7    | 3     | 0 | 4                        | 12   | 6     | 0 | 5                  | 20   | 3     | 0 | 5                  | 26   | 2     | 0 | 97    | 555           |
| 5:45 PM                          | 2                        | 3    | 6     | 0 | 2                        | 7    | 6     | 0 | 2                  | 26   | 2     | 0 | 3                  | 26   | 1     | 0 | 86    | 486           |
| Peak 15-Min Flowrates            | Northbound               |      |       |   | Southbound               |      |       |   | Eastbound          |      |       |   | Westbound          |      |       |   | Total |               |
| All Vehicles                     | 8                        | 52   | 48    | 0 | 24                       | 60   | 40    | 0 | 100                | 268  | 16    | 0 | 12                 | 88   | 52    | 0 | 768   |               |
| Heavy Trucks                     | 0                        | 0    | 0     |   | 0                        | 0    | 0     |   | 0                  | 0    | 0     |   | 0                  | 4    | 0     |   | 4     |               |
| Pedestrians                      |                          | 8    |       |   |                          | 12   |       |   |                    | 4    |       |   |                    | 0    |       |   | 24    |               |
| Bicycles                         |                          |      |       |   |                          |      |       |   |                    |      |       |   |                    |      |       |   |       |               |
| Railroad                         |                          |      |       |   |                          |      |       |   |                    |      |       |   |                    |      |       |   |       |               |
| Stopped Buses                    |                          |      |       |   |                          |      |       |   |                    |      |       |   |                    |      |       |   |       |               |

Comments:

**Summary of Traffic Count  
Transportation Development Division**

Site: 20022009  
County: Lane  
City: Florence

Date: 8/24/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 009  
Hwy(US101) @ Heceta  
Location: Beach Rd.  
Weather: Clear

Milepoint: 187.23  
Count Number: 1.00

| Time of Day | Summary By Movements |     |     |     |     |     |       | Entering Volumes |       |      |
|-------------|----------------------|-----|-----|-----|-----|-----|-------|------------------|-------|------|
|             | N-S                  | N-W | S-N | S-W | W-N | W-S | TOTAL | North            | South | West |
| 16:15       | 75                   | 7   | 91  | 33  | 5   | 17  | 228   | 82               | 124   | 22   |
| 16:30       | 87                   | 8   | 92  | 23  | 5   | 25  | 240   | 95               | 115   | 30   |
| 16:45       | 105                  | 5   | 68  | 25  | 6   | 21  | 230   | 110              | 93    | 27   |
| 17:00       | 72                   | 12  | 114 | 21  | 7   | 14  | 240   | 84               | 135   | 21   |

**Summary of Traffic Count  
Transportation Development Division**

Site: 20102009  
County: Lane  
City: Florence

Date: 8/24/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 009  
Rd.  
Location: site #1169 - north leg  
Weather: Clear

Milepoint: 187.26  
Count Number: 1.00

| Time of Day | Summary By Movements |     |     |     |     |     |       | Entering Volumes |      |       |
|-------------|----------------------|-----|-----|-----|-----|-----|-------|------------------|------|-------|
|             | N-E                  | N-S | E-N | E-S | S-N | S-E | TOTAL | North            | East | South |
| 16:15       | 5                    | 96  | 4   | 8   | 115 | 18  | 246   | 101              | 12   | 133   |
| 16:30       | 4                    | 128 | 6   | 7   | 118 | 20  | 283   | 132              | 13   | 138   |
| 16:45       | 4                    | 124 | 4   | 12  | 89  | 14  | 247   | 128              | 16   | 103   |
| 17:00       | 3                    | 93  | 8   | 10  | 137 | 14  | 265   | 96               | 18   | 151   |

**Summary of Traffic Count  
Transportation Development Division**

Site: 20132009  
County: Lane  
City: Florence

Date: 8/26/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 009

Milepoint: 188.88  
Count Number: 1.00

Location: site #1171  
Weather: Clear

| Time of Day | Summary By Movements |     |     |     |     |     |     |     |     |     |     |     |       | Entering Volumes |      |       |      |
|-------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------------------|------|-------|------|
|             | N-E                  | N-S | N-W | E-N | E-S | E-W | S-N | S-E | S-W | W-N | W-E | W-S | TOTAL | North            | East | South | West |
| 16:15       | 8                    | 131 | 11  | 9   | 7   | 5   | 161 | 9   | 21  | 17  | 7   | 19  | 405   | 150              | 21   | 191   | 43   |
| 16:30       | 11                   | 133 | 11  | 9   | 4   | 3   | 149 | 12  | 27  | 30  | 8   | 22  | 419   | 155              | 16   | 188   | 60   |
| 16:45       | 9                    | 156 | 9   | 8   | 10  | 7   | 137 | 5   | 22  | 12  | 2   | 26  | 403   | 174              | 25   | 164   | 40   |
| 17:00       | 11                   | 169 | 7   | 7   | 7   | 1   | 172 | 14  | 29  | 32  | 5   | 15  | 469   | 187              | 15   | 215   | 52   |



**Summary of Traffic Count  
Transportation Development Division**

Site: 20072009  
County: Lane  
City: Florence

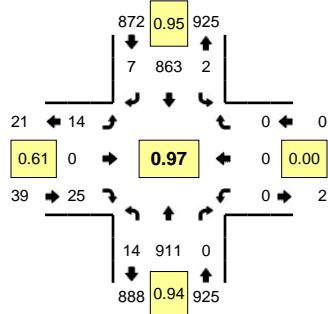
Date: 9/1/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 009  
US101 @ 30th St.  
Location: site # 1171 - south leg  
Weather: Clear;Fog

Milepoint: 188.97  
Count Number: 1.00

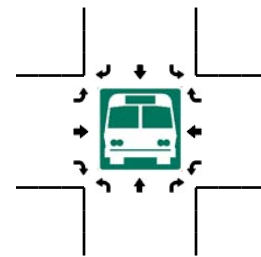
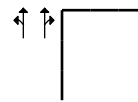
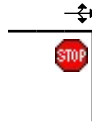
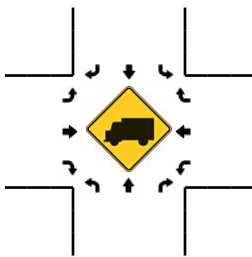
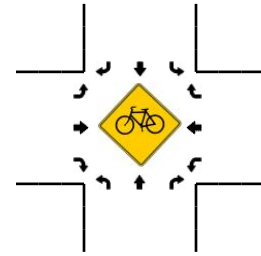
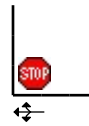
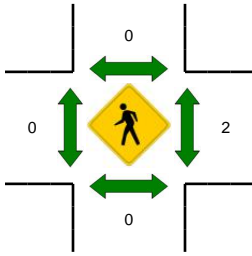
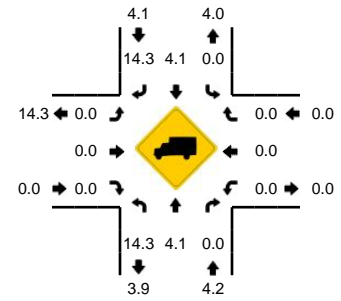
| Time of Day | Summary By Movements |     |     |     |     |     |     |     |     |     |     |     |       | Entering Volumes |      |       |      |
|-------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------------------|------|-------|------|
|             | N-E                  | N-S | N-W | E-N | E-S | E-W | S-N | S-E | S-W | W-N | W-E | W-S | TOTAL | North            | East | South | West |
| 16:15       | 0                    | 161 | 4   | 2   | 0   | 0   | 155 | 2   | 8   | 5   | 0   | 3   | 340   | 165              | 2    | 165   | 8    |
| 16:30       | 4                    | 154 | 1   | 2   | 1   | 0   | 160 | 0   | 5   | 1   | 0   | 4   | 332   | 159              | 3    | 165   | 5    |
| 16:45       | 2                    | 166 | 2   | 1   | 3   | 0   | 149 | 1   | 3   | 0   | 0   | 2   | 329   | 170              | 4    | 153   | 2    |
| 17:00       | 1                    | 182 | 3   | 1   | 1   | 0   | 209 | 2   | 4   | 2   | 0   | 4   | 409   | 186              | 2    | 215   | 6    |

**LOCATION:** US 101 -- 27th St  
**CITY/STATE:** Florence, OR

**QC JOB #:** 10525804  
**DATE:** 8/5/2010



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



| 15-Min Count Period Beginning At | US 101 (Northbound) |      |       |   | US 101 (Southbound) |      |       |   | 27th St (Eastbound) |      |       |   | 27th St (Westbound) |      |       |   | Total        | Hourly Totals |
|----------------------------------|---------------------|------|-------|---|---------------------|------|-------|---|---------------------|------|-------|---|---------------------|------|-------|---|--------------|---------------|
|                                  | Left                | Thru | Right | U | Left                | Thru | Right | U | Left                | Thru | Right | U | Left                | Thru | Right | U |              |               |
| 4:00 PM                          | 1                   | 176  | 0     | 0 | 0                   | 160  | 4     | 0 | 1                   | 0    | 5     | 0 | 0                   | 0    | 0     | 0 | 347          |               |
| 4:15 PM                          | 5                   | 234  | 0     | 0 | 0                   | 228  | 0     | 0 | 3                   | 0    | 4     | 0 | 0                   | 0    | 0     | 0 | 474          |               |
| 4:30 PM                          | 2                   | 218  | 0     | 0 | 0                   | 227  | 3     | 0 | 3                   | 0    | 3     | 0 | 0                   | 0    | 0     | 0 | 456          |               |
| 4:45 PM                          | 6                   | 215  | 0     | 0 | 2                   | 196  | 3     | 0 | 6                   | 0    | 10    | 0 | 0                   | 0    | 0     | 0 | 438          | 1715          |
| 5:00 PM                          | 1                   | 244  | 0     | 0 | 0                   | 212  | 1     | 0 | 2                   | 0    | 8     | 0 | 0                   | 0    | 0     | 0 | 468          | 1836          |
| 5:15 PM                          | 3                   | 206  | 1     | 0 | 0                   | 178  | 3     | 0 | 0                   | 0    | 7     | 0 | 0                   | 0    | 0     | 0 | 398          | 1760          |
| 5:30 PM                          | 5                   | 192  | 2     | 0 | 0                   | 161  | 1     | 0 | 0                   | 0    | 11    | 0 | 0                   | 0    | 3     | 0 | 375          | 1679          |
| 5:45 PM                          | 0                   | 168  | 1     | 0 | 2                   | 181  | 1     | 0 | 1                   | 0    | 3     | 0 | 1                   | 0    | 0     | 0 | 358          | 1599          |
| <b>Peak 15-Min Flowrates</b>     | <b>Northbound</b>   |      |       |   | <b>Southbound</b>   |      |       |   | <b>Eastbound</b>    |      |       |   | <b>Westbound</b>    |      |       |   | <b>Total</b> |               |
| All Vehicles                     | 20                  | 936  | 0     | 0 | 0                   | 912  | 0     | 0 | 12                  | 0    | 16    | 0 | 0                   | 0    | 0     | 0 | 1896         |               |
| Heavy Trucks                     | 4                   | 40   | 0     | 0 | 0                   | 36   | 0     | 0 | 0                   | 0    | 0     | 0 | 0                   | 0    | 0     | 0 | 80           |               |
| Pedestrians                      |                     | 0    |       |   |                     | 0    |       |   |                     | 0    |       |   |                     | 4    |       |   | 4            |               |
| Bicycles                         |                     |      |       |   |                     |      |       |   |                     |      |       |   |                     |      |       |   |              |               |
| Railroad                         |                     |      |       |   |                     |      |       |   |                     |      |       |   |                     |      |       |   |              |               |
| Stopped Buses                    |                     |      |       |   |                     |      |       |   |                     |      |       |   |                     |      |       |   |              |               |

Comments:

**Summary of Traffic Count  
Transportation Development Division**

Site: 20032009  
County: Lane  
City: Florence

Date: 8/25/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 009

Milepoint: 189.85  
Count Number: 1.00

Location: US101 @ Airport Rd. (15th St.)  
Weather: Clear;Fog

| Time of Day | Summary By Movements |     |     |     |     |     |     |     |     |     |     |     |       | Entering Volumes |      |       |      |
|-------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------------------|------|-------|------|
|             | N-E                  | N-S | N-W | E-N | E-S | E-W | S-N | S-E | S-W | W-N | W-E | W-S | TOTAL | North            | East | South | West |
| 16:15       | 3                    | 204 | 4   | 3   | 0   | 0   | 226 | 3   | 4   | 6   | 1   | 12  | 466   | 211              | 3    | 233   | 19   |
| 16:30       | 5                    | 182 | 3   | 3   | 3   | 0   | 200 | 4   | 7   | 6   | 1   | 6   | 420   | 190              | 6    | 211   | 13   |
| 16:45       | 5                    | 200 | 5   | 4   | 1   | 1   | 176 | 3   | 6   | 2   | 0   | 5   | 408   | 210              | 6    | 185   | 7    |
| 17:00       | 7                    | 244 | 6   | 3   | 2   | 1   | 227 | 1   | 5   | 5   | 2   | 3   | 506   | 257              | 6    | 233   | 10   |

**Summary of Traffic Count  
Transportation Development Division**

Site: 20122009  
County: Lane  
City: Florence

Date: 8/25/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 009

Milepoint: 190.24  
Count Number: 1.00

Location: site = 1176 north leg  
Weather: Clear;Fog

| Time of Day | Summary By Movements |     |     |     |     |     |     |     |     |     |     |     |  | Entering Volumes |       |      |       |      |
|-------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|------------------|-------|------|-------|------|
|             | N-E                  | N-S | N-W | E-N | E-S | E-W | S-N | S-E | S-W | W-N | W-E | W-S |  | TOTAL            | North | East | South | West |
| 16:15       | 39                   | 148 | 16  | 41  | 45  | 9   | 133 | 38  | 10  | 41  | 28  | 11  |  | 559              | 203   | 95   | 181   | 80   |
| 16:30       | 43                   | 130 | 14  | 25  | 43  | 12  | 134 | 39  | 9   | 43  | 32  | 8   |  | 532              | 187   | 80   | 182   | 83   |
| 16:45       | 34                   | 145 | 10  | 38  | 40  | 7   | 121 | 40  | 8   | 23  | 24  | 15  |  | 505              | 189   | 85   | 169   | 62   |
| 17:00       | 63                   | 162 | 13  | 29  | 47  | 19  | 110 | 49  | 13  | 43  | 41  | 15  |  | 604              | 238   | 95   | 172   | 99   |

**Summary of Traffic Count  
Transportation Development Division**

Site: 20142009  
County: Lane  
City: Florence

Date: 8/26/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 009

Milepoint: 190.53  
Count Number: 1.00

Location: site 1178 - north leg  
Weather: Clear;Cloudy

| Time of Day | Summary By Movements |     |     |     |     |     |     |     |     |     |     |     |       | Entering Volumes |      |       |      |
|-------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------------------|------|-------|------|
|             | N-E                  | N-S | N-W | E-N | E-S | E-W | S-N | S-E | S-W | W-N | W-E | W-S | TOTAL | North            | East | South | West |
| 16:15       | 2                    | 188 | 8   | 2   | 5   | 2   | 162 | 0   | 9   | 8   | 1   | 7   | 394   | 198              | 9    | 171   | 16   |
| 16:30       | 2                    | 164 | 8   | 4   | 4   | 2   | 176 | 2   | 8   | 11  | 0   | 11  | 392   | 174              | 10   | 186   | 22   |
| 16:45       | 0                    | 170 | 5   | 5   | 3   | 0   | 171 | 1   | 5   | 14  | 1   | 10  | 385   | 175              | 8    | 177   | 25   |
| 17:00       | 2                    | 177 | 7   | 6   | 5   | 1   | 172 | 1   | 8   | 20  | 1   | 11  | 411   | 186              | 12   | 181   | 32   |

**Summary of Traffic Count  
Transportation Development Division**

Site: 20062009  
County: Lane  
City: Florence

Date: 8/26/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 009

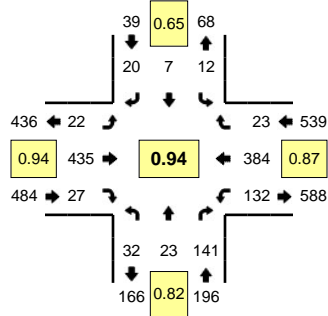
Milepoint: 190.92  
Count Number: 1.00

Location: US101 @ 2nd St.  
Weather: Clear;Fog

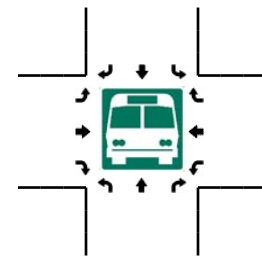
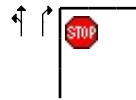
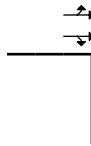
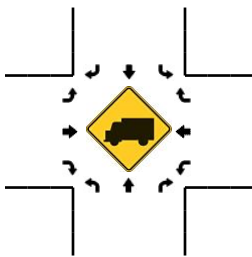
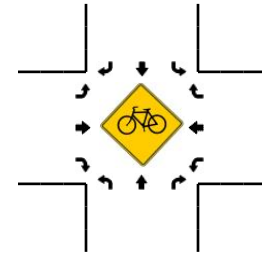
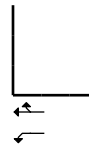
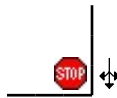
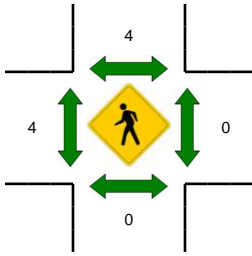
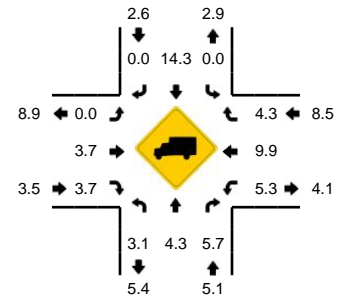
| Time of Day | Summary By Movements |     |     |     |     |     |       | Entering Volumes |      |       |
|-------------|----------------------|-----|-----|-----|-----|-----|-------|------------------|------|-------|
|             | N-E                  | N-S | E-N | E-S | S-N | S-E | TOTAL | North            | East | South |
| 16:15       | 4                    | 153 | 0   | 4   | 123 | 1   | 285   | 157              | 4    | 124   |
| 16:30       | 5                    | 133 | 2   | 2   | 150 | 5   | 297   | 138              | 4    | 155   |
| 16:45       | 6                    | 156 | 0   | 3   | 136 | 3   | 304   | 162              | 3    | 139   |
| 17:00       | 6                    | 166 | 4   | 5   | 134 | 1   | 316   | 172              | 9    | 135   |

**LOCATION:** Quince St -- US 126  
**CITY/STATE:** Florence, OR

**QC JOB #:** 10525803  
**DATE:** 8/5/2010



**Peak-Hour: 4:15 PM -- 5:15 PM**  
**Peak 15-Min: 4:30 PM -- 4:45 PM**



| 15-Min Count Period Beginning At | Quince St (Northbound) |      |       |   | Quince St (Southbound) |      |       |   | US 126 (Eastbound) |      |       |   | US 126 (Westbound) |      |       |   | Total | Hourly Totals |
|----------------------------------|------------------------|------|-------|---|------------------------|------|-------|---|--------------------|------|-------|---|--------------------|------|-------|---|-------|---------------|
|                                  | Left                   | Thru | Right | U | Left                   | Thru | Right | U | Left               | Thru | Right | U | Left               | Thru | Right | U |       |               |
| 4:00 PM                          | 6                      | 3    | 28    | 0 | 3                      | 0    | 2     | 0 | 3                  | 133  | 2     | 0 | 39                 | 116  | 6     | 0 | 341   |               |
| 4:15 PM                          | 8                      | 9    | 33    | 0 | 3                      | 1    | 5     | 0 | 7                  | 98   | 6     | 0 | 33                 | 105  | 8     | 0 | 316   |               |
| 4:30 PM                          | 4                      | 6    | 31    | 0 | 3                      | 3    | 4     | 0 | 7                  | 112  | 10    | 0 | 40                 | 111  | 4     | 0 | 335   |               |
| 4:45 PM                          | 12                     | 3    | 45    | 0 | 1                      | 1    | 3     | 0 | 3                  | 114  | 6     | 0 | 26                 | 76   | 6     | 0 | 296   | 1288          |
| 5:00 PM                          | 8                      | 5    | 32    | 0 | 5                      | 2    | 8     | 0 | 5                  | 111  | 5     | 0 | 33                 | 92   | 5     | 0 | 311   | 1258          |
| 5:15 PM                          | 14                     | 6    | 23    | 0 | 2                      | 1    | 0     | 0 | 5                  | 88   | 4     | 0 | 25                 | 94   | 7     | 0 | 269   | 1211          |
| 5:30 PM                          | 6                      | 9    | 32    | 0 | 5                      | 2    | 3     | 0 | 2                  | 88   | 7     | 0 | 19                 | 81   | 1     | 0 | 255   | 1131          |
| 5:45 PM                          | 4                      | 4    | 16    | 0 | 5                      | 1    | 0     | 0 | 0                  | 81   | 6     | 0 | 21                 | 76   | 5     | 0 | 219   | 1054          |

| Peak 15-Min Flowrates | Northbound |      |       |   | Southbound |      |       |   | Eastbound |      |       |   | Westbound |      |       |   | Total |
|-----------------------|------------|------|-------|---|------------|------|-------|---|-----------|------|-------|---|-----------|------|-------|---|-------|
|                       | Left       | Thru | Right | U | Left       | Thru | Right | U | Left      | Thru | Right | U | Left      | Thru | Right | U |       |
| All Vehicles          | 16         | 24   | 124   | 0 | 12         | 12   | 16    | 0 | 28        | 448  | 40    | 0 | 160       | 444  | 16    | 0 | 1340  |
| Heavy Trucks          | 0          | 0    | 8     |   | 0          | 0    | 0     |   | 0         | 12   | 4     |   | 4         | 40   | 0     |   | 68    |
| Pedestrians           |            |      | 0     |   |            |      | 8     |   |           | 16   |       |   |           | 0    |       |   | 24    |
| Bicycles              |            |      |       |   |            |      |       |   |           |      |       |   |           |      |       |   |       |
| Railroad              |            |      |       |   |            |      |       |   |           |      |       |   |           |      |       |   |       |
| Stopped Buses         |            |      |       |   |            |      |       |   |           |      |       |   |           |      |       |   |       |

Comments:

**Summary of Traffic Count  
Transportation Development Division**

Site: 20052009  
County: Lane  
City: Florence

Date: 8/25/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 062

Milepoint: 0.24  
Count Number: 1.00

Location: OR126 @ Spruce St.  
Weather: Clear

| Time of Day | Summary By Movements |     |     |     |     |     |     |     |     |     |     |     |       | Entering Volumes |      |       |      |
|-------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------------------|------|-------|------|
|             | N-E                  | N-S | N-W | E-N | E-S | E-W | S-N | S-E | S-W | W-N | W-E | W-S | TOTAL | North            | East | South | West |
| 16:15       | 8                    | 0   | 24  | 10  | 0   | 92  | 0   | 0   | 0   | 29  | 91  | 0   | 254   | 32               | 102  | 0     | 120  |
| 16:30       | 9                    | 0   | 22  | 13  | 0   | 79  | 0   | 0   | 0   | 36  | 89  | 1   | 249   | 31               | 92   | 0     | 126  |
| 16:45       | 11                   | 0   | 31  | 8   | 0   | 78  | 0   | 0   | 0   | 27  | 83  | 0   | 238   | 42               | 86   | 0     | 110  |
| 17:00       | 8                    | 0   | 33  | 11  | 0   | 107 | 0   | 1   | 3   | 42  | 117 | 1   | 323   | 41               | 118  | 4     | 160  |



**Summary of Traffic Count  
Transportation Development Division**

Site: 20082009  
County: Lane  
City: RURAL

Date: 8/26/2009  
Hours: 6:00 AM-10:00 PM  
Highway #: 062  
Siusalaw River Rd.  
Location: site 2677 = west leg  
Weather: Clear

Milepoint: 1.00  
Count Number: 1.00

| Time of Day | Summary By Movements |     |     |     |     |     |       | Entering Volumes |      |      |
|-------------|----------------------|-----|-----|-----|-----|-----|-------|------------------|------|------|
|             | N-E                  | N-W | E-N | E-W | W-N | W-E | TOTAL | North            | East | West |
| 16:15       | 6                    | 7   | 3   | 77  | 14  | 65  | 172   | 13               | 80   | 79   |
| 16:30       | 3                    | 11  | 4   | 57  | 16  | 70  | 161   | 14               | 61   | 86   |
| 16:45       | 5                    | 15  | 3   | 54  | 16  | 74  | 167   | 20               | 57   | 90   |
| 17:00       | 5                    | 6   | 8   | 65  | 14  | 86  | 184   | 11               | 73   | 100  |

**Attachment G**  
Existing Conditions Level  
of Service Worksheets

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Scenario Report

Scenario: pm  
 Command: pm  
 Volume: pm  
 Geometry: pm  
 Impact Fee: Default Impact Fee  
 Trip Generation: pm  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: Default Configuration

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Impact Analysis Report  
 Level Of Service

| Intersection                        | Base |             |         | Future |             |         | Change<br>in |
|-------------------------------------|------|-------------|---------|--------|-------------|---------|--------------|
|                                     | LOS  | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |
| # 1 Rhododendren Drive/35th Street  | A    | 9.8         | 0.137   | A      | 9.8         | 0.137   | + 0.000 D/V  |
| # 2 Rhododendren Drive/9th Street   | A    | 9.4         | 0.134   | A      | 9.4         | 0.134   | + 0.000 D/V  |
| # 3 Kingwood Street/15th Street     | B    | 10.3        | 0.051   | B      | 10.3        | 0.051   | + 0.000 D/V  |
| # 4 Kingwood Street/9th Street      | C    | 16.7        | 0.169   | C      | 16.7        | 0.169   | + 0.000 D/V  |
| # 5 US 101/Hecata Beach Road        | B    | 12.9        | 0.117   | B      | 12.9        | 0.117   | + 0.000 D/V  |
| # 6 US 101/Munsel Lake Road         | C    | 19.6        | 0.163   | C      | 19.6        | 0.163   | + 0.000 D/V  |
| # 7 US 101/35th Street              | B    | 16.5        | 0.355   | B      | 16.5        | 0.355   | + 0.000 D/V  |
| # 8 US 101/30th Street              | D    | 26.8        | 0.097   | D      | 26.8        | 0.097   | + 0.000 D/V  |
| # 9 US 101/27th Street              | C    | 21.4        | 0.109   | C      | 21.4        | 0.109   | + 0.000 D/V  |
| # 10 US 101/Airport Road            | F    | 50.7        | 0.285   | F      | 50.7        | 0.285   | + 0.000 D/V  |
| # 11 US 101/US 126                  | C    | 27.3        | 0.484   | C      | 27.3        | 0.484   | + 0.000 D/V  |
| # 12 US 101/Rhododendren Drive      | A    | 9.2         | 0.320   | A      | 9.2         | 0.320   | + 0.000 D/V  |
| # 13 US 101/2nd Street              | C    | 17.1        | 0.058   | C      | 17.1        | 0.058   | + 0.000 D/V  |
| # 14 Quince Street/US 126           | C    | 23.9        | 0.278   | C      | 23.9        | 0.278   | + 0.000 D/V  |
| # 15 Spruce Street/US 126           | F    | 50.4        | 0.435   | F      | 50.4        | 0.435   | + 0.000 D/V  |
| # 16 North Fork Siuslaw River Road/ | B    | 13.6        | 0.067   | B      | 13.6        | 0.067   | + 0.000 D/V  |

Kittelson & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #1 Rhododendren Drive/35th Street
\*\*\*\*\*

Average Delay (sec/veh): 5.8 Worst Case Level Of Service: A[ 9.8]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Rhododendren Drive and 35th Street with various approach and movement details.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows show traffic volume and adjustment factors.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows show critical gap and follow-up time values.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows show capacity and conflict volume data.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows show level of service and delay metrics.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Kittelson & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

\*\*\*\*\*
Intersection #1 Rhododendren Drive/35th Street
\*\*\*\*\*

Table with columns: Approach, Movement, North Bound, South Bound, East Bound, West Bound. Rows include HevVeh, Grade, Peds/Hour, Pedestrian Walk Speed, LaneWidth, Time Period.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #2 Rhododendren Drive/9th Street
\*\*\*\*\*

Average Delay (sec/veh): 5.4 Worst Case Level Of Service: A[ 9.4]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows include Rhododendren Drive and 9th Street with various traffic parameters.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows show traffic volume and adjustment factors.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows show critical gap and follow-up time values.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows show capacity and conflict volume data.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows show level of service and control delay details.

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

\*\*\*\*\*
Intersection #2 Rhododendren Drive/9th Street
\*\*\*\*\*

Table with columns: Approach, Movement, North Bound, South Bound, East Bound, West Bound. Rows include HevVeh, Grade, Peds/Hour, Pedestrian Walk Speed, LaneWidth, Time Period.

Kittelton & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*
Intersection #3 Kingwood Street/15th Street
\*\*\*\*\*

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: B[ 10.3]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Kingwood Street and 15th Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows for 5 Aug 2010 4:45 PM to 5:45 PM.

Table for Critical Gap Module with columns: Critical Gp, FollowUpTim.

Table for Capacity Module with columns: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table for Level Of Service Module with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelton & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

\*\*\*\*\*
Intersection #3 Kingwood Street/15th Street
\*\*\*\*\*

Table with columns: Approach, Movement, HevVeh, Grade, Peds/Hour, Pedestrian Walk Speed, LaneWidth, Time Period. Rows for North, South, East, West bounds.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 Kingwood Street/9th Street

Average Delay (sec/veh): 5.9 Worst Case Level Of Service: C [ 16.7]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Kingwood Street and 9th Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows for 5 Aug 2010.

Table with columns: Critical Gap, FollowUpTim. Rows for Critical Gap Module.

Table with columns: Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Capacity Module.

Table with columns: Level Of Service, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for Level Of Service Module.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #4 Kingwood Street/9th Street

Table with columns: Approach, Movement, HevVeh, Grade, Peds/Hour, Pedestrian Walk Speed, LaneWidth. Rows for North, South, East, West bounds.

Table with columns: Time Period, Upstream Signals, Link Index, Dist(miles), Speed (mph), SignalIndex, Cycle Time, InitVolume, Saturation, ArrivalType, G/C. Rows for various parameters.

Table with columns: P, gq1, gq2, gq, alpha, beta, ta (secs), F, f, vcmax, vcg, vcmin, tp. Rows for Computation 1 and 2.

Table with columns: Computation 3, pdom/psubo, Computation 4, Computation 5. Rows for various computations.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 US 101/Hecata Beach Road

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: B[ 12.9]

Table with columns for Street Name (US 101, Hecata Beach Road), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Uncontrolled, Stop Sign), Rights (Include), and Lanes.

Table with columns for Volume Module (Count, Date, Time), Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Table for Critical Gap Module with columns for Critical Gp, FollowUpTim, and various performance metrics.

Table for Capacity Module with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table for Level Of Service Module with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #5 US 101/Hecata Beach Road

Table with columns for Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), HevVeh, Grade, Peds/Hour, Pedestrian Walk Speed, LaneWidth, and Time Period.

Table with columns for Upstream Signals (Link Index, Dist(miles), Speed (mph), SignalIndex, Cycle Time, InitVolume, Saturation, ArrivalType, G/C).

Table for Computation 1: Time for Queue to Clear at Each Upstream Intersection with columns for P, gq1, gq2, gq.

Table for Computation 2: Time Intersection Blocked Because of Upstream Platoons with columns for alpha, beta, ta (secs), F, f, vcmax, vcg, vcmin, tp, p.

Table for Computation 3: Platoon Event Periods with columns for pdom/psubo.

Table for Computation 4: Conflicting Flows During Each Unblocked Period with columns for InitCnflVol, AdjCnflVol, UpstreamAdj, ConflictVol.

Table for Computation 5: Capacity for Subject Movement During Unblocked Period with columns for InitPotCap, UpstreamAdj, Potent Cap.



Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 US 101/Munsel Lake Road

Average Delay (sec/veh): 1.2 Worst Case Level Of Service: C [ 19.6]

Street Name: US 101 Munsel Lake Road

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 24 Aug 2009 << 4:15 PM to 5:15 PM

Table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume across four approaches.

Critical Gap Module:

Table with columns for Critical Gp, FollowUpTim across four approaches.

Capacity Module:

Table with columns for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap across four approaches.

Level Of Service Module:

Table with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS across four approaches.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #6 US 101/Munsel Lake Road

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

HevVeh: 3% 5% 0% 0%

Grade: 0% 0% 0% 0%

Peds/Hour: 1 0 0 0

Pedestrian Walk Speed: 4.00 feet/sec

LaneWidth: 12 feet 12 feet 12 feet 12 feet

Time Period: 0.25 hour

Upstream Signals:

Link Index: #7

Dist(miles): 0.000

Speed (mph): 0.00

SignalIndex: #7

Cycle Time: 0 secs

InitVolume: 0 0

Saturation: 0 0

ArrivalType: 0 0

G/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection

P: 0.000 0.000

gq1: 0.00 0.00

gq2: 0.00 0.00

gq: 0.00 0.00

\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons

alpha: 0.000

beta: 0.000

ta (secs): 0.000

F: 0.000

f: 0.000 0.000

vcmax: 0 0

vchg: 0 0

vcmin: 0 0

tp: 0.0 0.0

p: 0.000

\*\*\* Computation 3: Platoon Event Periods

pdom/psubo: 0.000/0.000/Unconstrained

\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period

InitCnflVol: 0 xxxxxx xxxxxx 576 xxxxxx xxxxxx 1070 1095 485 1059 1058 540

AdjCnflVol: 0 xxxxxx xxxxxx 576 xxxxxx xxxxxx 1070 1095 485 1059 1058 540

UpstreamAdj: 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx 1.00 1.000 1.000 1.00 1.000 1.000

ConflictVol: 0 xxxxxx xxxxxx 576 xxxxxx xxxxxx 1070 1095 485 1059 1058 540

\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period

InitPotCap: 1617 xxxxxx xxxxxx 983 xxxxxx xxxxxx 201 216 586 251 227 546

UpstreamAdj: 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx 1.00 1.000 1.000 1.00 1.000 1.000

Potent Cap.: 1617 xxxxxx xxxxxx 983 xxxxxx xxxxxx 201 216 586 251 227 546

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #7 US 101/35th Street

Cycle (sec): 100 Critical Vol./Cap.(X): 0.355
Loss Time (sec): 0 Average Delay (sec/veh): 16.5
Optimal Cycle: 35 Level Of Service: B

Table with 4 columns for North Bound, South Bound, East Bound, and West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module table with columns for Count Date (26 Aug 2009) and time range (4:15 PM to 5:15 PM). Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report
2000 HCM Operations Method
Base Volume Alternative

Intersection #7 US 101/35th Street

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

HCM Ops Adjusted Lane Utilization Module table with columns for Lane Group, #LnsInGrps, HCM Ops Input, Saturation Adj, Lane Width, CrsswalkWid, % Hev Veh, Grade, Parking/Hr, Bus Stp/Hr, and Area Type.

HCM Ops Input Saturation Adj Module table with columns for Lane Width, CrsswalkWid, % Hev Veh, Grade, Parking/Hr, Bus Stp/Hr, and Area Type.

HCM Ops f(lt) Adj Case Module table with columns for f(lt) Case and HCM Ops Saturation Adj Module.

HCM Ops Saturation Adj Module table with columns for Ln Wid Adj, Hev Veh Adj, Grade Adj, Parking Adj, Bus Stp Adj, Area Adj, RT Adj, LT Adj, PedBike Adj, HCM Sat Adj, Ushr Sat Adj, MLF Sat Adj, and Fnl Sat Adj.

Delay Adjustment Factor Module table with columns for Coordinated, Signal Type, and DelAdjFctr.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (Ped/Bike Sat Adj)  
 2000 HCM Operations Method  
 Base Volume Alternative

\*\*\*\*\*  
 Intersection #7 US 101/35th Street  
 \*\*\*\*\*

| Approach:    | North Bound |       |       | South Bound |       |       | East Bound |       |       | West Bound |       |       |
|--------------|-------------|-------|-------|-------------|-------|-------|------------|-------|-------|------------|-------|-------|
| Movement:    | L           | T     | R     | L           | T     | R     | L          | T     | R     | L          | T     | R     |
| CrsswalkWid: | 0.00        | 8.00  | 0.00  | 0.00        | 8.00  | 0.00  | 0.00       | 8.00  | 0.00  | 0.00       | 8.00  | 0.00  |
| CrsswalkLen: | 0.00        | 36.00 | 0.00  | 0.00        | 36.00 | 0.00  | 0.00       | 60.00 | 0.00  | 0.00       | 60.00 | 0.00  |
| MinPedGrn:   | 0.00        | 12.22 | 0.00  | 0.00        | 12.22 | 0.00  | 0.00       | 18.30 | 0.00  | 0.00       | 18.21 | 0.00  |
| PedGrn:      | 0.00        | 12.22 | 0.00  | 0.00        | 12.22 | 0.00  | 0.00       | 18.30 | 0.00  | 0.00       | 18.21 | 0.00  |
| PedVolume:   | 0           | 2     | 0     | 0           | 3     | 0     | 0          | 13    | 0     | 0          | 1     | 0     |
| PedFlowRate: | 0           | 16    | 0     | 0           | 25    | 0     | 0          | 71    | 0     | 0          | 5     | 0     |
| BikeVol:     | 0           | 0     | 0     | 0           | 0     | 0     | 0          | 0     | 0     | 0          | 0     | 0     |
| BikeFlwRate: | 0           | 0     | 0     | 0           | 0     | 0     | 0          | 0     | 0     | 0          | 0     | 0     |
| PedOcc:      | 0.000       | 0.008 | 0.000 | 0.000       | 0.012 | 0.000 | 0.000      | 0.036 | 0.000 | 0.000      | 0.003 | 0.000 |
| BikeOcc:     | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| PedAfterOcc: | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| rOcc:        | 0.000       | 0.008 | 0.000 | 0.000       | 0.012 | 0.000 | 0.000      | 0.036 | 0.000 | 0.000      | 0.003 | 0.000 |
| TurnVehAdj:  | 0.000       | 0.992 | 0.000 | 0.000       | 0.988 | 0.000 | 0.000      | 0.979 | 0.000 | 0.000      | 0.998 | 0.000 |
| Prt:         | 0.000       | 0.060 | 0.000 | 0.000       | 0.060 | 0.000 | 0.000      | 0.790 | 0.000 | 0.000      | 0.673 | 0.000 |
| Prta:        | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| Plt:         | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| Plta:        | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| PedBike Adj: | 1.000       | 1.000 | 1.000 | 0.999       | 1.000 | 1.000 | 0.983      | 1.000 | 0.999 | 1.000      | 0.999 | 1.000 |

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
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Level Of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method  
 Base Volume Alternative

\*\*\*\*\*  
 Intersection #7 US 101/35th Street  
 \*\*\*\*\*

| Approach:    | North Bound |      |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |
|--------------|-------------|------|------|-------------|------|------|------------|------|------|------------|------|------|
| Movement:    | L           | T    | R    | L           | T    | R    | L          | T    | R    | L          | T    | R    |
| Green/Cycle: | 0.18        | 0.67 | 0.67 | 0.08        | 0.57 | 0.57 | 0.16       | 0.20 | 0.20 | 0.05       | 0.09 | 0.09 |
| ArrivalType: |             | 3    |      |             | 3    |      |            | 3    |      |            | 3    |      |
| ProgFactor:  | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Q1:          | 2.7         | 4.5  | 4.5  | 1.1         | 5.5  | 5.5  | 2.5        | 2.8  | 2.8  | 0.8        | 1.4  | 1.4  |
| UpstreamVC:  | 0.48        | 0.48 | 0.48 | 0.00        | 0.00 | 0.00 | 0.00       | 0.00 | 0.00 | 0.00       | 0.00 | 0.00 |
| UpstreamAdj: | 0.87        | 0.87 | 0.87 | 0.00        | 0.00 | 0.00 | 0.00       | 0.00 | 0.00 | 0.00       | 0.00 | 0.00 |
| EarlyArrAdj: | 0.32        | 0.73 | 0.72 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Q2:          | 0.2         | 0.3  | 0.3  | 0.4         | 0.5  | 0.5  | 0.5        | 0.5  | 0.5  | 0.5        | 0.5  | 0.5  |
| HCM2KQueue:  | 2.9         | 4.9  | 4.9  | 1.6         | 6.1  | 6.1  | 3.1        | 3.4  | 3.3  | 1.3        | 2.0  | 2.0  |
| 70th%Factor: | 1.19        | 1.19 | 1.19 | 1.20        | 1.19 | 1.19 | 1.19       | 1.19 | 1.19 | 1.20       | 1.20 | 1.20 |
| HCM2k70thQ:  | 3.4         | 5.8  | 5.8  | 1.9         | 7.2  | 7.2  | 3.7        | 4.0  | 3.9  | 1.6        | 2.3  | 2.3  |
| 85th%Factor: | 1.57        | 1.56 | 1.56 | 1.58        | 1.54 | 1.54 | 1.57       | 1.57 | 1.57 | 1.59       | 1.58 | 1.58 |
| HCM2k85thQ:  | 4.5         | 7.6  | 7.6  | 2.5         | 9.4  | 9.4  | 4.8        | 5.3  | 5.2  | 2.1        | 3.1  | 3.1  |
| 90th%Factor: | 1.75        | 1.71 | 1.71 | 1.77        | 1.70 | 1.70 | 1.74       | 1.74 | 1.74 | 1.77       | 1.76 | 1.76 |
| HCM2k90thQ:  | 5.0         | 8.3  | 8.3  | 2.8         | 10.3 | 10.3 | 5.4        | 5.8  | 5.8  | 2.4        | 3.4  | 3.4  |
| 95th%Factor: | 2.01        | 1.96 | 1.96 | 2.05        | 1.93 | 1.93 | 2.01       | 2.00 | 2.00 | 2.06       | 2.04 | 2.04 |
| HCM2k95thQ:  | 5.8         | 9.5  | 9.5  | 3.2         | 11.7 | 11.7 | 6.2        | 6.7  | 6.6  | 2.8        | 4.0  | 4.0  |
| 98th%Factor: | 2.50        | 2.39 | 2.39 | 2.59        | 2.33 | 2.33 | 2.49       | 2.47 | 2.48 | 2.60       | 2.56 | 2.56 |
| HCM2k98thQ:  | 7.2         | 11.6 | 11.6 | 4.1         | 14.1 | 14.1 | 7.6        | 8.3  | 8.2  | 3.5        | 5.0  | 5.0  |

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
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Fuel Consumption and Emissions
2000 HCM Operations Method
Base Volume Alternative

Intersection #7 US 101/35th Street

Table with 5 columns: Approach, Movement, Run Speed, NumOfStops. Rows include North Bound, South Bound, East Bound, West Bound movements.

Name: year 1995 composite fleet
Fuel Consumption: 44.199 pounds
Carbon Dioxide: 137.901 pounds
Carbon Monoxide: 10.330 pounds
Hydrocarbons: 1.731 pounds
Nitrogen Oxides: 0.506 pounds

Name: year 2000 composite fleet
Fuel Consumption: 44.199 pounds
Carbon Dioxide: 137.901 pounds
Carbon Monoxide: 10.330 pounds
Hydrocarbons: 1.731 pounds
Nitrogen Oxides: 0.506 pounds

DISCLAIMER
The fuel consumption and emissions measures should be used with caution and only for comparisons of different signal timings, geometric design alternatives or for general planning applications, as these calculations are applied to the analysis of a single intersection within the CCG and TRAFFIX. Network models are more appropriate since they can account for the influence of the adjacent control measures and other system elements.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 US 101/30th Street

Table with 5 columns: Approach, Movement, Control, Rights, Lanes. Rows include North Bound, South Bound, East Bound, West Bound movements.

Table with 12 columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows include Count Date: 1 Sep 2009 << 4:15 PM to 5:15 PM.

Table with 10 columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows include values for 4.1, 7.5, 6.5, 6.9, 7.7, 6.7, 7.1.

Table with 12 columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows include values for 844, 788, 788, 0.03.

Table with 12 columns: Level of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows include values for 0.1, 9.7, A, LT - LTR - RT, 24.3, C.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
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Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #8 US 101/30th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
HevVeh: 2% 2% 0% 9%
Grade: 0% 0% 0% 0%
Peds/Hour: 4 7 0 0
Pedestrian Walk Speed: 4.00 feet/sec
LaneWidth: 12 feet 12 feet 12 feet 12 feet
Time Period: 0.25 hour
Upstream Signals:
Link Index: #14 #3
Dist(miles): 0.000 0.000
Speed (mph): 0.00 0.00
SignalIndex: #11 #7
Cycle Time: 0 secs 0 secs
InitVolume: 0 0 0 0
Saturation: 0 0 0 0
ArrivalType: 0 0 0 0
G/C: 0.00 0.00 0.00 0.00
\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection
P: 0.000 0.000 0.000 0.000
gq1: 0.00 0.00 0.00 0.00
gq2: 0.00 0.00 0.00 0.00
gq: 0.00 0.00 0.00 0.00
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons
alpha: 0.000 0.000
beta: 0.000 0.000
ta (secs): 0.000 0.000
F: 0.000 0.000
f: 0.000 0.000 0.000 0.000
vcmax: 0 0 0 0
vcg: 0 0 0 0
vcmin: 0 0 0 0
tp: 0.0 0.0 0.0 0.0
p: 0.000 0.000
\*\*\* Computation 3: Platoon Event Periods
pdom/psubo: 0.000/0.000/Unconstrained
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period
InitCnflVol: 844 xxxxxx xxxxxx 850 xxxxxx xxxxxx 1337 1758 426 1337 1761 432
AdjCnflVol: 844 xxxxxx xxxxxx 850 xxxxxx xxxxxx 1337 1758 426 1337 1761 432
UpstreamAdj: 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx 1.00 1.000 1.000 1.000 1.000
ConflictVol: 844 xxxxxx xxxxxx 850 xxxxxx xxxxxx 1337 1758 426 1337 1761 432
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period
InitPotCap: 788 xxxxxx xxxxxx 784 xxxxxx xxxxxx 113 86 582 105 78 553
UpstreamAdj: 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx 1.00 1.000 1.000 1.000 1.000
Potent Cap.: 788 xxxxxx xxxxxx 784 xxxxxx xxxxxx 113 86 582 105 78 553

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #9 US 101/27th Street
Average Delay (sec/veh): 0.5 Worst Case Level Of Service: C[ 21.4]
Street Name: US 101 27th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 1 1 0 0 1 1 0 1 0 0 1 0 0 0 0
Volume Module: >> Count Date: 5 Aug 2010 << 4:15 PM to 5:15 PM
Base Vol: 14 913 0 2 865 7 14 0 25 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 14 913 0 2 865 7 14 0 25 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97 0.97
PHF Volume: 14 941 0 2 892 7 14 0 26 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 14 941 0 2 892 7 14 0 26 0 0 0
Critical Gap Module:
Critical Gp: 4.2 xxxxx xxxxxx 4.2 xxxxx xxxxxx 6.8 6.5 6.9 xxxxxx xxxxx xxxxxx
FollowUpTim: 2.2 xxxxx xxxxxx 2.2 xxxxx xxxxxx 3.5 4.0 3.3 xxxxxx xxxxx xxxxxx
Capacity Module:
Cnflct Vol: 899 xxxxx xxxxxx 941 xxxxx xxxxxx 1395 1866 448 xxxxx xxxxx xxxxxx
Potent Cap.: 739 xxxxx xxxxxx 712 xxxxx xxxxxx 135 73 564 xxxxx xxxxx xxxxxx
Move Cap.: 739 xxxxx xxxxxx 712 xxxxx xxxxxx 132 72 563 xxxxx xxxxx xxxxxx
Volume/Cap: 0.02 xxxxx xxxxx 0.00 xxxxx xxxxx 0.11 0.00 0.05 xxxxx xxxxx xxxxx
Level Of Service Module:
2Way95thQ: 0.1 xxxxx xxxxxx 0.0 xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx
Control Del: 10.0 xxxxx xxxxxx 10.1 xxxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
LOS by Move: A \* \* B \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx 260 xxxxxx xxxxx xxxxx xxxxxx
SharedQueue: xxxxxx xxxxx xxxxxx 0.0 xxxxx xxxxxx xxxxxx 0.5 xxxxxx xxxxxx xxxxx xxxxxx
Shrd ConDel: xxxxxx xxxxx xxxxxx 10.1 xxxxx xxxxxx xxxxxx 21.4 xxxxxx xxxxxx xxxxx xxxxxx
Shared LOS: \* \* \* B \* \* \* C \* \* \* \* \*
ApproachDel: xxxxxxx xxxxxxx 21.4 xxxxxxx
ApproachLOS: \* \* \* C \* \* \*
Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
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Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #9 US 101/27th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
HevVeh: 4% 4% 0% 0%
Grade: 0% 0% 0% 0%
Peds/Hour: 2 0 0 0
Pedestrian Walk Speed: 4.00 feet/sec
LaneWidth: 12 feet 12 feet 12 feet 12 feet
Time Period: 0.25 hour
Upstream Signals:
Link Index: #14 #3
Dist(miles): 0.000 0.000
Speed (mph): 0.00 0.00
SignalIndex: #11 #7
Cycle Time: 0 secs 0 secs
InitVolume: 0 0 0 0
Saturation: 0 0 0 0
ArrivalType: 0 0 0 0
G/C: 0.00 0.00 0.00 0.00
\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection
P: 0.000 0.000 0.000 0.000
gq1: 0.00 0.00 0.00 0.00
gq2: 0.00 0.00 0.00 0.00
gq: 0.00 0.00 0.00 0.00
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons
alpha: 0.000 0.000
beta: 0.000 0.000
ta (secs): 0.000 0.000
F: 0.000 0.000
f: 0.000 0.000 0.000 0.000
vcmax: 0 0 0 0
vcg: 0 0 0 0
vcmin: 0 0 0 0
tp: 0.0 0.0 0.0 0.0
p: 0.000 0.000
\*\*\* Computation 3: Platoon Event Periods
pdom/psubo: 0.000/0.000/Unconstrained
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period
InitCnflVol: 899 xxxxxx xxxxxx 941 xxxxxx xxxxxx 1395 1866 448 1422 1873 471
AdjCnflVol: 899 xxxxxx xxxxxx 941 xxxxxx xxxxxx 1395 1866 448 1422 1873 471
UpstreamAdj: 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx 1.00 1.000 1.000 1.00 1.000 1.000
ConflictVol: 899 xxxxxx xxxxxx 941 xxxxxx xxxxxx 1395 1866 448 1422 1873 471
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period
InitPotCap: 739 xxxxxx xxxxxx 712 xxxxxx xxxxxx 135 73 564 98 73 545
UpstreamAdj: 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx 1.00 1.000 1.000 1.00 1.000 1.000
Potent Cap.: 739 xxxxxx xxxxxx 712 xxxxxx xxxxxx 135 73 564 98 73 545

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #10 US 101/Airport Road
Average Delay (sec/veh): 2.0 Worst Case Level Of Service: F[ 50.7]
Street Name: US 101 Airport Road
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 1! 0 0 0 0 1! 0 0
Volume Module: >> Count Date: 25 Aug 2009 << 4:15 PM to 5:15 PM
Base Vol: 22 836 11 20 837 18 19 4 26 6 2 13
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 22 836 11 20 837 18 19 4 26 6 2 13
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89
PHF Volume: 25 939 12 22 940 20 21 4 29 7 2 15
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 25 939 12 22 940 20 21 4 29 7 2 15
Critical Gap Module:
Critical Gp: 4.2 xxxxx xxxxxx 4.2 xxxxx xxxxxx 7.5 6.5 6.9 7.5 6.5 6.9
FollowUpTim: 2.2 xxxxx xxxxxx 2.2 xxxxx xxxxxx 3.5 4.0 3.3 3.5 4.0 3.3
Capacity Module:
Cnflct Vol: 961 xxxxx xxxxxx 952 xxxxx xxxxxx 1516 1997 480 1512 2001 476
Potent Cap.: 706 xxxxx xxxxxx 711 xxxxx xxxxxx 84 61 537 84 61 541
Move Cap.: 706 xxxxx xxxxxx 711 xxxxx xxxxxx 75 57 537 71 57 541
Volume/Cap: 0.04 xxxxx xxxxx 0.03 xxxxx xxxxx 0.28 0.08 0.05 0.09 0.04 0.03
Level Of Service Module:
2Way95thQ: 0.1 xxxxx xxxxxx 0.1 xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx
Control Del: 10.3 xxxxx xxxxxx 10.2 xxxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
LOS by Move: B \* \* B \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxxx 1.8 xxxxxx xxxxxx 0.6 xxxxxx
Shrd ConDel: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxxx 50.7 xxxxxx xxxxxx 34.4 xxxxxx
Shared LOS: \* \* \* \* \* \* \* \* \* \* F \* \* D \*
ApproachDel: xxxxxxx xxxxxxx 50.7 34.4
ApproachLOS: \* \* \* \* \* F D
Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #10 US 101/Airport Road
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
HevVeh: 3% 3% 0% 0%
Grade: 0% 0% 0% 0%
Peds/Hour: 0 0 0 0
Pedestrian Walk Speed: 4.00 feet/sec
LaneWidth: 12 feet 12 feet 12 feet 12 feet
Time Period: 0.25 hour
Upstream Signals:
Link Index: #14 #3
Dist(miles): 0.000 0.000
Speed (mph): 0.00 0.00
SignalIndex: #11 #7
Cycle Time: 0 secs 0 secs
InitVolume: 0 0 0 0
Saturation: 0 0 0 0
ArrivalType: 0 0 0 0
G/C: 0.00 0.00 0.00 0.00
\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection
P: 0.000 0.000 0.000 0.000
gq1: 0.00 0.00 0.00 0.00
gq2: 0.00 0.00 0.00 0.00
gq: 0.00 0.00 0.00 0.00
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons
alpha: 0.000 0.000
beta: 0.000 0.000
ta (secs): 0.000 0.000
F: 0.000 0.000 0.000 0.000
f: 0.000 0.000 0.000 0.000
vcmax: 0 0 0 0
vcg: 0 0 0 0
vcmin: 0 0 0 0
tp: 0.0 0.0 0.0 0.0
p: 0.000 0.000
\*\*\* Computation 3: Platoon Event Periods
pdom/psubo: 0.000/0.000/Unconstrained
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period
InitCnflVol: 961 xxxxxx xxxxxx 952 xxxxxx xxxxxx 1516 1997 480 1512 2001 476
AdjCnflVol: 961 xxxxxx xxxxxx 952 xxxxxx xxxxxx 1516 1997 480 1512 2001 476
UpstreamAdj: 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx 1.00 1.000 1.000 1.00 1.000 1.000
ConflictVol: 961 xxxxxx xxxxxx 952 xxxxxx xxxxxx 1516 1997 480 1512 2001 476
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period
InitPotCap: 706 xxxxxx xxxxxx 711 xxxxxx xxxxxx 84 61 537 84 61 541
UpstreamAdj: 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx 1.00 1.000 1.000 1.00 1.000 1.000
Potent Cap.: 706 xxxxxx xxxxxx 711 xxxxxx xxxxxx 84 61 537 84 61 541

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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #11 US 101/US 126
Cycle (sec): 100 Critical Vol./Cap.(X): 0.484
Loss Time (sec): 0 Average Delay (sec/veh): 27.3
Optimal Cycle: 44 Level Of Service: C
Street Name: US 101 US 126
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 1 1 0 1 1 0 1 1 0 1 0 0 1 0 0 1
Volume Module: >> Count Date: 25 Aug 2009 << 4:15 PM to 5:15 PM
Base Vol: 40 502 167 181 590 53 151 126 49 216 57 164
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 40 502 167 181 590 53 151 126 49 216 57 164
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91 0.91
PHF Volume: 44 552 184 199 648 58 166 138 54 237 63 180
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 44 552 184 199 648 58 166 138 54 237 63 180
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 44 552 184 199 648 58 166 138 54 237 63 180
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.93 0.93 0.82 0.92 0.91 0.91 0.94 0.95 0.95 0.89 0.89 0.78
Lanes: 1.00 2.00 1.00 1.00 1.83 0.17 1.00 0.72 0.28 1.58 0.42 1.00
Final Sat.: 1762 3524 1562 1753 3177 285 1787 1297 505 2678 707 1491
Capacity Analysis Module:
Vol/Sat: 0.02 0.16 0.12 0.11 0.20 0.20 0.09 0.11 0.11 0.09 0.09 0.12
Crit Moves: \*\*\*\*
Green/Cycle: 0.06 0.32 0.32 0.23 0.50 0.50 0.19 0.24 0.24 0.20 0.25 0.25
Volume/Cap: 0.41 0.48 0.36 0.48 0.41 0.41 0.48 0.44 0.44 0.44 0.35 0.48
Delay/Veh: 45.4 27.4 26.4 33.9 16.0 16.0 37.1 32.9 32.9 35.5 31.1 33.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 45.4 27.4 26.4 33.9 16.0 16.0 37.1 32.9 32.9 35.5 31.1 33.0
LOS by Move: D C C C B B D C C D C C
HCM2kAvgQ: 1 7 4 5 7 7 5 5 5 4 4 5
Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report  
2000 HCM Operations Method  
Base Volume Alternative

Intersection #11 US 101/US 126  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
HCM Ops Adjusted Lane Utilization Module:  
Lanes: 1 1 1 0 1 1 0 1 1 0 1 0 0 1 0 1 1 0 0 1  
Lane Group: LT LT R L RT RT L RT RT LT LT R  
#LnsInGrps: 3 3 1 1 2 2 1 1 1 2 2 1  
HCM Ops Input Saturation Adj Module:  
Lane Width: 12 12 12 12 12 12 12 12 12 12 12 12  
CrsswalkWid: 8 8 8 8 8  
% Hev Veh: 2 3 1 8  
Grade: 0% 0% 0% 0%  
Parking/Hr: No No No No  
Bus Stp/Hr: 0 0 0 0  
Area Type: < < < < < < < < < < < < Other > > > > > > > > > > > >  
>  
Cnft Ped/Hr: 4 4 0 2  
ExclusiveRT: Include Include Include Include  
% RT Prtct: 0 0 0 0  
HCM Ops f(lt) Adj Case Module:  
f(lt) Case: 4 4 xxxx 1 xxxx xxxx 1 xxxx xxxx 4 4 xxxx  
HCM Ops Saturation Adj Module:  
Ln Wid Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Hev Veh Adj: 0.98 0.98 0.98 0.97 0.97 0.97 0.99 0.99 0.99 0.93 0.93 0.93  
Grade Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Parking Adj: xxxx xxxx 1.00 xxxx 1.00 1.00 xxxx 1.00 1.00 xxxx xxxx 1.00  
Bus Stp Adj: xxxx xxxx 1.00 xxxx 1.00 1.00 xxxx 1.00 1.00 xxxx xxxx 1.00  
Area Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
RT Adj: xxxx xxxx 0.85 xxxx 0.99 0.99 xxxx 0.96 0.96 xxxx xxxx 0.85  
LT Adj: 1.00 1.00 xxxxxx 0.95 xxxx xxxxxx 0.95 xxxx xxxxxx 0.96 0.96 xxxxxx  
PedBike Adj: 1.00 1.00 0.99 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
HCM Sat Adj: 0.98 0.98 0.82 0.92 0.96 0.96 0.94 0.95 0.95 0.89 0.89 0.78  
Usr Sat Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Sat Adj: 0.95 0.95 1.00 1.00 0.95 0.95 1.00 1.00 1.00 1.00 1.00 1.00  
Fnl Sat Adj: 0.93 0.93 0.82 0.92 0.91 0.91 0.94 0.95 0.95 0.89 0.89 0.78  
Delay Adjustment Factor Module:  
Coordinated: < < < < < < < < < < < < No > > > > > > > > > > > >  
>  
Signal Type: < < < < < < < < < < Actuated > > > > > > > > > > > >  
>  
DelAdjFctr: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
\*\*\*\*\*

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Florence TSP - Florence, OR  
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (Ped/Bike Sat Adj)  
2000 HCM Operations Method  
Base Volume Alternative

Intersection #11 US 101/US 126  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
CrsswalkWid: 0.00 8.00 0.00 8.00 0.00 8.00 0.00 8.00  
CrsswalkLen: 0.00 48.00 0.00 36.00 0.00 72.00 0.00 60.00  
MinPedGrn: 0.00 15.23 0.00 12.23 0.00 21.20 0.00 18.22  
PedGrn: 0.00 15.23 0.00 12.23 0.00 21.20 0.00 18.22  
PedVolume: 0 4 0 4 0 0 0 2  
PedFlowRate: 0 26 0 33 0 0 0 11  
BikeVol: 0 0 0 0 0 0 0 0  
BikeFlwRate: 0 0 0 0 0 0 0 0  
PedOcc: 0.000 0.013 0.000 0.016 0.000 0.000 0.000 0.005  
BikeOcc: 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
PedAfterOcc: 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
rOcc: 0.000 0.013 0.000 0.016 0.000 0.000 0.000 0.005  
TurnVehAdj: 0.000 0.987 0.000 0.984 0.000 1.000 0.000 0.997  
Prt: 0.000 1.000 0.000 0.082 0.000 0.280 0.000 1.000  
Prta: 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
Plt: 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
Plta: 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000  
PedBike Adj: 1.000 0.987 1.000 0.999 1.000 1.000 1.000 0.997



Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (HCM2000 Queue Method)
2000 HCM Operations Method
Base Volume Alternative

Table with columns: Approach, Movement, North Bound, South Bound, East Bound, West Bound. Rows include: Intersection #11 US 101/US 126, Green/Cycle, ArrivalType, ProgFactor, Q1, UpstreamVC, UpstreamAdj, EarlyArrAdj, Q2, HCM2KQueue, 70th%Factor, HCM2k70thQ, 85th%Factor, HCM2k85thQ, 90th%Factor, HCM2k90thQ, 95th%Factor, HCM2k95thQ, 98th%Factor, HCM2k98thQ.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Fuel Consumption and Emissions
2000 HCM Operations Method
Base Volume Alternative

Table with columns: Approach, Movement, North Bound, South Bound, East Bound, West Bound. Rows include: Intersection #11 US 101/US 126, Run Speed, NumOfStops, Name: year 1995 composite fleet, Fuel Consumption, Carbon Dioxide, Carbon Monoxide, Hydrocarbons, Nitrogen Oxides, Name: year 2000 composite fleet, Fuel Consumption, Carbon Dioxide, Carbon Monoxide, Hydrocarbons, Nitrogen Oxides, DISCLAIMER.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

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Intersection #12 US 101/Rhododendren Drive
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.320
Loss Time (sec): 0 Average Delay (sec/veh): 9.2
Optimal Cycle: 34 Level Of Service: A

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, Lanes, Volume Module, Sat/Lane, Adjustment, Lanes, Final Sat., Capacity Analysis Module, Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ.

Table with columns for Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Table with columns for Capacity Analysis Module, Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Operations Method
Base Volume Alternative

\*\*\*\*\*
Intersection #12 US 101/Rhododendren Drive
\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Table with columns for HCM Ops Adjusted Lane Utilization Module, Lane Group, #LnsInGrps, HCM Ops Input Saturation Adj Module, Lane Width, CrsswalkWid, % Hev Veh, Grade, Parking/Hr, Bus Stp/Hr, Area Type, Cnft Ped/Hr, ExclusiveRT, % RT Prtct.

Table with columns for HCM Ops f(lt) Adj Case Module, f(lt) Case.

Table with columns for HCM Ops Saturation Adj Module, Ln Wid Adj, Hev Veh Adj, Grade Adj, Parking Adj, Bus Stp Adj, Area Adj, RT Adj, LT Adj, PedBike Adj, HCM Sat Adj, Usr Sat Adj, MLF Sat Adj, Fnl Sat Adj.

Table with columns for Delay Adjustment Factor Module, Coordinated, Signal Type.

Table with columns for DelAdjFctr.

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (Ped/Bike Sat Adj)  
 2000 HCM Operations Method  
 Base Volume Alternative

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Intersection #12 US 101/Rhododendren Drive

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| Approach:    | North Bound |       |       | South Bound |       |       | East Bound |       |       | West Bound |       |       |
|--------------|-------------|-------|-------|-------------|-------|-------|------------|-------|-------|------------|-------|-------|
| Movement:    | L           | T     | R     | L           | T     | R     | L          | T     | R     | L          | T     | R     |
| CrsswalkWid: | 0.00        | 8.00  | 0.00  | 0.00        | 8.00  | 0.00  | 0.00       | 8.00  | 0.00  | 0.00       | 8.00  | 0.00  |
| CrsswalkLen: | 0.00        | 24.00 | 0.00  | 0.00        | 24.00 | 0.00  | 0.00       | 60.00 | 0.00  | 0.00       | 60.00 | 0.00  |
| MinPedGrn:   | 0.00        | 9.20  | 0.00  | 0.00        | 9.21  | 0.00  | 0.00       | 18.23 | 0.00  | 0.00       | 18.23 | 0.00  |
| PedGrn:      | 0.00        | 9.20  | 0.00  | 0.00        | 9.21  | 0.00  | 0.00       | 18.23 | 0.00  | 0.00       | 18.23 | 0.00  |
| PedVolume:   | 0           | 0     | 0     | 0           | 1     | 0     | 0          | 4     | 0     | 0          | 4     | 0     |
| PedFlowRate: | 0           | 0     | 0     | 0           | 11    | 0     | 0          | 22    | 0     | 0          | 22    | 0     |
| BikeVol:     | 0           | 0     | 0     | 0           | 0     | 0     | 0          | 0     | 0     | 0          | 0     | 0     |
| BikeFlwRate: | 0           | 0     | 0     | 0           | 0     | 0     | 0          | 0     | 0     | 0          | 0     | 0     |
| PedOcc:      | 0.000       | 0.000 | 0.000 | 0.005       | 0.000 | 0.000 | 0.011      | 0.000 | 0.000 | 0.011      | 0.000 | 0.011 |
| BikeOcc:     | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| PedAfterOcc: | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| rOcc:        | 0.000       | 0.000 | 0.000 | 0.005       | 0.000 | 0.000 | 0.011      | 0.000 | 0.000 | 0.011      | 0.000 | 0.011 |
| TurnVehAdj:  | 0.000       | 1.000 | 0.000 | 0.995       | 0.000 | 0.993 | 0.993      | 0.000 | 0.993 | 0.993      | 0.000 | 0.993 |
| Prt:         | 0.000       | 0.006 | 0.000 | 0.038       | 0.000 | 0.411 | 0.000      | 0.000 | 0.436 | 0.000      | 0.000 | 0.000 |
| Prta:        | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| Plt:         | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| Plta:        | 0.000       | 0.000 | 0.000 | 0.000       | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 | 0.000      | 0.000 | 0.000 |
| PedBike Adj: | 1.000       | 1.000 | 1.000 | 1.000       | 1.000 | 1.000 | 0.997      | 1.000 | 0.997 | 1.000      | 0.997 | 1.000 |

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method  
 Base Volume Alternative

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Intersection #12 US 101/Rhododendren Drive

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| Approach:    | North Bound |      |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |
|--------------|-------------|------|------|-------------|------|------|------------|------|------|------------|------|------|
| Movement:    | L           | T    | R    | L           | T    | R    | L          | T    | R    | L          | T    | R    |
| Green/Cycle: | 0.06        | 0.73 | 0.73 | 0.01        | 0.69 | 0.69 | 0.18       | 0.18 | 0.18 | 0.07       | 0.07 | 0.07 |
| ArrivalType: |             | 3    |      |             | 3    |      |            | 3    |      |            | 3    |      |
| ProgFactor:  | 1.00        | 1.00 | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Q1:          | 0.8         | 3.5  | 3.5  | 0.2         | 4.4  | 4.4  | 2.4        | 2.4  | 2.4  | 1.1        | 1.1  | 1.1  |
| UpstreamVC:  | 0.00        | 0.00 | 0.00 | 0.41        | 0.41 | 0.41 | 0.00       | 0.00 | 0.00 | 0.00       | 0.00 | 0.00 |
| UpstreamAdj: | 0.00        | 0.00 | 0.00 | 0.92        | 0.92 | 0.92 | 0.00       | 0.00 | 0.00 | 0.00       | 0.00 | 0.00 |
| EarlyArrAdj: | 1.00        | 1.00 | 1.00 | 0.07        | 0.77 | 0.77 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Q2:          | 0.4         | 0.4  | 0.4  | 0.0         | 0.4  | 0.4  | 0.5        | 0.5  | 0.5  | 0.5        | 0.5  | 0.5  |
| HCM2KQueue:  | 1.3         | 3.9  | 3.9  | 0.2         | 4.8  | 4.8  | 2.9        | 2.9  | 2.8  | 1.5        | 1.5  | 1.5  |
| 70th%Factor: | 1.20        | 1.19 | 1.19 | 1.20        | 1.19 | 1.19 | 1.19       | 1.19 | 1.19 | 1.20       | 1.20 | 1.20 |
| HCM2k70thQ:  | 1.5         | 4.7  | 4.7  | 0.2         | 5.7  | 5.7  | 3.4        | 3.4  | 3.4  | 1.8        | 1.8  | 1.8  |
| 85th%Factor: | 1.59        | 1.56 | 1.56 | 1.60        | 1.56 | 1.56 | 1.57       | 1.57 | 1.57 | 1.59       | 1.59 | 1.59 |
| HCM2k85thQ:  | 2.0         | 6.1  | 6.1  | 0.3         | 7.5  | 7.5  | 4.5        | 4.5  | 4.5  | 2.4        | 2.4  | 2.4  |
| 90th%Factor: | 1.78        | 1.73 | 1.73 | 1.80        | 1.71 | 1.71 | 1.75       | 1.75 | 1.75 | 1.77       | 1.77 | 1.77 |
| HCM2k90thQ:  | 2.3         | 6.8  | 6.8  | 0.4         | 8.2  | 8.2  | 5.0        | 5.0  | 5.0  | 2.7        | 2.7  | 2.7  |
| 95th%Factor: | 2.06        | 1.98 | 1.98 | 2.09        | 1.96 | 1.96 | 2.01       | 2.01 | 2.01 | 2.05       | 2.05 | 2.05 |
| HCM2k95thQ:  | 2.6         | 7.8  | 7.8  | 0.4         | 9.4  | 9.4  | 5.7        | 5.7  | 5.7  | 3.1        | 3.1  | 3.1  |
| 98th%Factor: | 2.61        | 2.44 | 2.44 | 2.68        | 2.39 | 2.39 | 2.50       | 2.50 | 2.50 | 2.59       | 2.59 | 2.59 |
| HCM2k98thQ:  | 3.3         | 9.6  | 9.6  | 0.5         | 11.5 | 11.5 | 7.1        | 7.1  | 7.1  | 4.0        | 4.0  | 3.9  |

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Florence TSP - Florence, OR  
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Fuel Consumption and Emissions  
2000 HCM Operations Method  
Base Volume Alternative

Intersection #12 US 101/Rhododendren Drive

Table with 5 columns: Approach, Movement, Run Speed, NumOfStops. Rows include North Bound, South Bound, East Bound, West Bound movements and their respective speeds and stop counts.

Name: year 1995 composite fleet  
Fuel Consumption: 29.509 pounds  
4.780 gallons  
Carbon Dioxide: 92.068 pounds  
Carbon Monoxide: 6.495 pounds  
Hydrocarbons: 0.973 pounds  
Nitrogen Oxides: 0.338 pounds

Name: year 2000 composite fleet  
Fuel Consumption: 29.509 pounds  
4.780 gallons  
Carbon Dioxide: 92.068 pounds  
Carbon Monoxide: 6.495 pounds  
Hydrocarbons: 0.973 pounds  
Nitrogen Oxides: 0.338 pounds

DISCLAIMER  
The fuel consumption and emissions measures should be used with caution and only for comparisons of different signal timings, geometric design alternatives or for general planning applications, as these calculations are applied to the analysis of a single intersection within the CCG and TRAFFIX. Network models are more appropriate since they can account for the influence of the adjacent control measures and other system elements.

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Florence TSP - Florence, OR  
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #13 US 101/2nd Street

Table with 4 columns: Street Name, Approach, Movement, Control. Rows include US 101 and 2nd Street movements, control types (Uncontrolled, Stop Sign), and lane configurations.

Table with 12 columns: Volume Module, Count, Date, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows show traffic volume and adjustment factors for different movements.

Table with 12 columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows show critical gap and follow-up time values for different movements.

Table with 12 columns: Capacity Module, Conflict Vol, Potent Cap, Move Cap, Volume/Cap. Rows show capacity and volume-to-capacity ratios for different movements.

Table with 12 columns: Level of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap, Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows show level of service and various delay and queue metrics.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
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Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #13 US 101/2nd Street

Table with columns: Approach, Movement, North Bound, South Bound, East Bound, West Bound. Rows include HevVeh, Grade, Peds/Hour, Pedestrian Walk Speed, LaneWidth, Time Period, Upstream Signals, Link Index, Dist(miles), Speed (mph), SignalIndex, Cycle Time, InitVolume, Saturation, ArrivalType, G/C.

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection

Table with columns: P, gq1, gq2, gq. Values are 0.000 0.000, 0.00 0.00, 0.00 0.00, 0.00 0.00.

\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons

Table with columns: alpha, beta, ta (secs), F, f, vcmax, vcg, vcmin, tp, p. Values range from 0.000 to 0.000.

\*\*\* Computation 3: Platoon Event Periods
pdom/psubo: 0.000/0.000/Unconstrained

Table with columns: InitCnflVol, AdjCnflVol, UpstreamAdj, ConflictVol. Values include 0, 592, 983, 1287, 330, 956, 1282, 299.

\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period

Table with columns: InitPotCap, UpstreamAdj, Potent Cap. Values include 1607, 959, 206, 166, 672, 260, 167, 703.

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Florence TSP - Florence, OR
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #14 Quince Street/US 126

Table with columns: Approach, Movement, North Bound, South Bound, East Bound, West Bound. Rows include Average Delay, Street Name, Control, Rights, Lanes, Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module:

Table with columns: Critical Gp, FollowUpTim. Values include 7.2, 6.6, 6.3, 7.1, 6.5, 6.2, 4.1, 4.2, 3.5, 4.0, 3.3, 2.2, 2.3.

Capacity Module:

Table with columns: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Values include 1242, 1244, 250, 1002, 1246, 426, 438, 493, 149, 172, 781, 220, 173, 626, 1111, 1036, 122, 145, 779, 136, 146, 624, 1108, 1036, 0.28, 0.17, 0.19, 0.09, 0.05, 0.03, 0.02, 0.14.

Level Of Service Module:

Table with columns: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Values include 0.7, 10.7, 8.3, 9.0, 22.6, 23.9, C, C.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #14 Quince Street/US 126
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
HevVeh: 5% 3% 4% 9%
Grade: 0% 0% 0% 0%
Peds/Hour: 0 4 0 4
Pedestrian Walk Speed: 4.00 feet/sec
LaneWidth: 12 feet 12 feet 12 feet 12 feet
Time Period: 0.25 hour
Upstream Signals:
Link Index: #50
Dist(miles): 0.000
Speed (mph): 0.00
SignalIndex: #11
Cycle Time: 0 secs
InitVolume: 0 0
Saturation: 0 0
ArrivalType: 0 0
G/C: 0.00 0.00
\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection
P: 0.000 0.000
gq1: 0.00 0.00
gq2: 0.00 0.00
gq: 0.00 0.00
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons
alpha: 0.000
beta: 0.000
ta (secs): 0.000
F: 0.000
f: 0.000 0.000
vcmax: 0 0
vcg: 0 0
vcmin: 0 0
tp: 0.0 0.0
p: 0.000
\*\*\* Computation 3: Platoon Event Periods
pdom/psubo: 0.000/0.000/Unconstrained
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period
InitCnflVol:1242 1244 250 1002 1246 426 438 xxxxxx xxxxxx 493 xxxxxx xxxxxx
AdjCnflVol: 1242 1244 250 1002 1246 426 438 xxxxxx xxxxxx 493 xxxxxx xxxxxx
UpstreamAdj:1.00 1.000 1.000 1.00 1.000 1.000 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx
ConflictVol:1242 1244 250 1002 1246 426 438 xxxxxx xxxxxx 493 xxxxxx xxxxxx
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period
InitPotCap: 149 172 781 220 173 626 1111 xxxxxx xxxxxx 1036 xxxxxx xxxxxx
UpstreamAdj:1.00 1.000 1.000 1.00 1.000 1.000 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx
Potent Cap.: 149 172 781 220 173 626 1111 xxxxxx xxxxxx 1036 xxxxxx xxxxxx

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 Spruce Street/US 126
Average Delay (sec/veh): 7.3 Worst Case Level Of Service: F[ 50.4]
Street Name: Spruce Street US 126
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 1 0 0
Volume Module: >> Count Date: 25 Aug 2009 << 4:15 PM to 5:15 PM
Base Vol: 3 0 1 36 0 125 148 433 2 0 402 42
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 3 0 1 36 0 125 148 433 2 0 402 42
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82 0.82
PHF Volume: 4 0 1 44 0 152 180 528 2 0 490 51
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 4 0 1 44 0 152 180 528 2 0 490 51
Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxx xxxxx
Capacity Module:
Cnflct Vol: 1482 1432 529 1407 1407 516 541 xxxx xxxxx xxxxx xxxx xxxxx
Potent Cap.: 104 136 553 117 140 561 1017 xxxx xxxxx xxxxx xxxx xxxxx
Move Cap.: 66 112 553 101 115 561 1017 xxxx xxxxx xxxxx xxxx xxxxx
Volume/Cap: 0.06 0.00 0.00 0.43 0.00 0.27 0.18 xxxx xxxxx xxxxx xxxx xxxxx
Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.6 xxxx xxxxx xxxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 9.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: \* \* \* \* \* A \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 84 xxxxx xxxxx 278 xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx 0.2 xxxxx xxxxx 4.9 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx 50.4 xxxxx xxxxx 44.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: \* F \* \* E \* \* \* \* \*
ApproachDel: 50.4 44.0 xxxxxxx xxxxxxx
ApproachLOS: F E \* \* \*
Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Base Volume Alternative

Intersection #15 Spruce Street/US 126
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
HevVeh: 0% 1% 4% 7%
Grade: 0% 0% 0% 0%
Peds/Hour: 0 0 0 0
Pedestrian Walk Speed: 4.00 feet/sec
LaneWidth: 12 feet 12 feet 12 feet 12 feet
Time Period: 0.25 hour
Upstream Signals:
Link Index: #50
Dist(miles): 0.000
Speed (mph): 0.00
SignalIndex: #11
Cycle Time: 0 secs
InitVolume: 0 0
Saturation: 0 0
ArrivalType: 0 0
G/C: 0.00 0.00
\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection
P: 0.000 0.000
gq1: 0.00 0.00
gq2: 0.00 0.00
gq: 0.00 0.00
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons
alpha: 0.000
beta: 0.000
ta (secs): 0.000
F: 0.000
f: 0.000 0.000
vcmax: 0 0
vcg: 0 0
vcmin: 0 0
tp: 0.0 0.0
p: 0.000
\*\*\* Computation 3: Platoon Event Periods
pdom/psubo: 0.000/0.000/Unconstrained
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period
InitCnflVol:1482 1432 529 1407 1407 516 541 xxxxxx xxxxxx 0 xxxxxx xxxxxx
AdjCnflVol: 1482 1432 529 1407 1407 516 541 xxxxxx xxxxxx 0 xxxxxx xxxxxx
UpstreamAdj:1.00 1.000 1.000 1.00 1.000 1.000 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx
ConflictVol:1482 1432 529 1407 1407 516 541 xxxxxx xxxxxx 0 xxxxxx xxxxxx
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period
InitPotCap: 104 136 553 117 140 561 1017 xxxxxx xxxxxx 1591 xxxxxx xxxxxx
UpstreamAdj:1.00 1.000 1.000 1.00 1.000 1.000 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx
Potent Cap.: 104 136 553 117 140 561 1017 xxxxxx xxxxxx 1591 xxxxxx xxxxxx

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #16 North Fork Siuslaw River Road/US 126
Average Delay (sec/veh): 1.6 Worst Case Level Of Service: B[ 13.6]
Street Name: North Fork Siuslaw River Road US 126
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 1 0
Volume Module: >> Count Date: 26 Aug 2009 << 4:15 PM to 5:15 PM
Base Vol: 0 0 0 19 0 39 61 348 0 0 0 335 18
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 19 0 39 61 348 0 0 0 335 18
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 0 0 0 20 0 42 66 374 0 0 0 360 19
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 20 0 42 66 374 0 0 0 360 19
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 6.4 6.5 6.2 4.2 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxxx xxxxx xxxxxx 3.5 4.0 3.3 2.3 xxxxx xxxxxx xxxxxx xxxxx xxxxxx
Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxxx 876 875 370 380 xxxxx xxxxxx xxxxx xxxxx xxxxxx
Potent Cap.: xxxxx xxxxx xxxxxx 318 287 674 1157 xxxxx xxxxxx xxxxx xxxxx xxxxxx
Move Cap.: xxxxx xxxxx xxxxxx 304 270 674 1157 xxxxx xxxxxx xxxxx xxxxx xxxxxx
Volume/Cap: xxxxx xxxxx xxxxx 0.07 0.00 0.06 0.06 xxxxx xxxxx xxxxx xxxxx xxxxx
Level Of Service Module:
2Way95thQ: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx 0.2 xxxxx xxxxxx xxxxx xxxxx xxxxxx
Control Del:xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx 8.3 xxxxx xxxxxx xxxxxx xxxxx xxxxxx
LOS by Move: \* \* \* \* \* A \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxxx xxxxx 482 xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
SharedQueue:xxxxxx xxxxx xxxxxx xxxxxx 0.4 xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
Shrd ConDel:xxxxxx xxxxx xxxxxx xxxxxx 13.6 xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx
Shared LOS: \* \* \* \* \* B \* \* \* \* \*
ApproachDel: xxxxxxxx 13.6 xxxxxxxx xxxxxxxx
ApproachLOS: B \* \* \* \* \*

Note: Queue reported is the number of cars per lane.

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 Kittelson & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2010 Existing Traffic Conditions, Weekday PM Peak Hour  
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Level Of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Base Volume Alternative

\*\*\*\*\*

Intersection #16 North Fork Siuslaw River Road/US 126

\*\*\*\*\*

| Approach: | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-----------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement: | L           | T | R | L           | T | R | L          | T | R | L          | T | R |

|            |    |  |  |    |  |  |    |  |  |    |  |  |
|------------|----|--|--|----|--|--|----|--|--|----|--|--|
| HevVeh:    | 0% |  |  | 3% |  |  | 6% |  |  | 8% |  |  |
| Grade:     | 0% |  |  | 0% |  |  | 0% |  |  | 0% |  |  |
| Peds/Hour: | 0  |  |  | 0  |  |  | 0  |  |  | 1  |  |  |

|                        |               |  |  |         |  |  |         |  |  |         |  |  |
|------------------------|---------------|--|--|---------|--|--|---------|--|--|---------|--|--|
| Pedestrian Walk Speed: | 4.00 feet/sec |  |  |         |  |  |         |  |  |         |  |  |
| LaneWidth:             | 12 feet       |  |  | 12 feet |  |  | 12 feet |  |  | 12 feet |  |  |

Time Period: 0.25 hour

Upstream Signals:

Link Index: #50

Dist(miles): 0.000

Speed (mph): 0.00

SignalIndex: #11

Cycle Time: 0 secs

InitVolume: 0 0

Saturation: 0 0

ArrivalType: 0 0

G/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection

P: 0.000 0.000

gq1: 0.00 0.00

gq2: 0.00 0.00

gq: 0.00 0.00

\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons

alpha: 0.000

beta: 0.000

ta (secs): 0.000

F: 0.000

f: 0.000 0.000

vcmax: 0 0

vcg: 0 0

vcmin: 0 0

tp: 0.0 0.0

p: 0.000

\*\*\* Computation 3: Platoon Event Periods

pdom/psubo: 0.000/0.000/Unconstrained

\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period

InitCnflVol: 896 885 375 876 875 370 380 xxxxxx xxxxxx 0 xxxxxx xxxxxx

AdjCnflVol: 896 885 375 876 875 370 380 xxxxxx xxxxxx 0 xxxxxx xxxxxx

UpstreamAdj: 1.00 1.000 1.000 1.00 1.000 1.000 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx

ConflictVol: 896 885 375 876 875 370 380 xxxxxx xxxxxx 0 xxxxxx xxxxxx

\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period

InitPotCap: 263 286 676 318 287 674 1157 xxxxxx xxxxxx 1585 xxxxxx xxxxxx

UpstreamAdj: 1.00 1.000 1.000 1.00 1.000 1.000 1.00 x.xxx x.xxx 1.00 x.xxx x.xxx

Potent Cap.: 263 286 676 318 287 674 1157 xxxxxx xxxxxx 1585 xxxxxx xxxxxx



**Attachment H**  
MMLOS Analysis  
Worksheets

Multimodal Level of Service for Urban Streets

Results

Street: Highway 101

Date: 40704

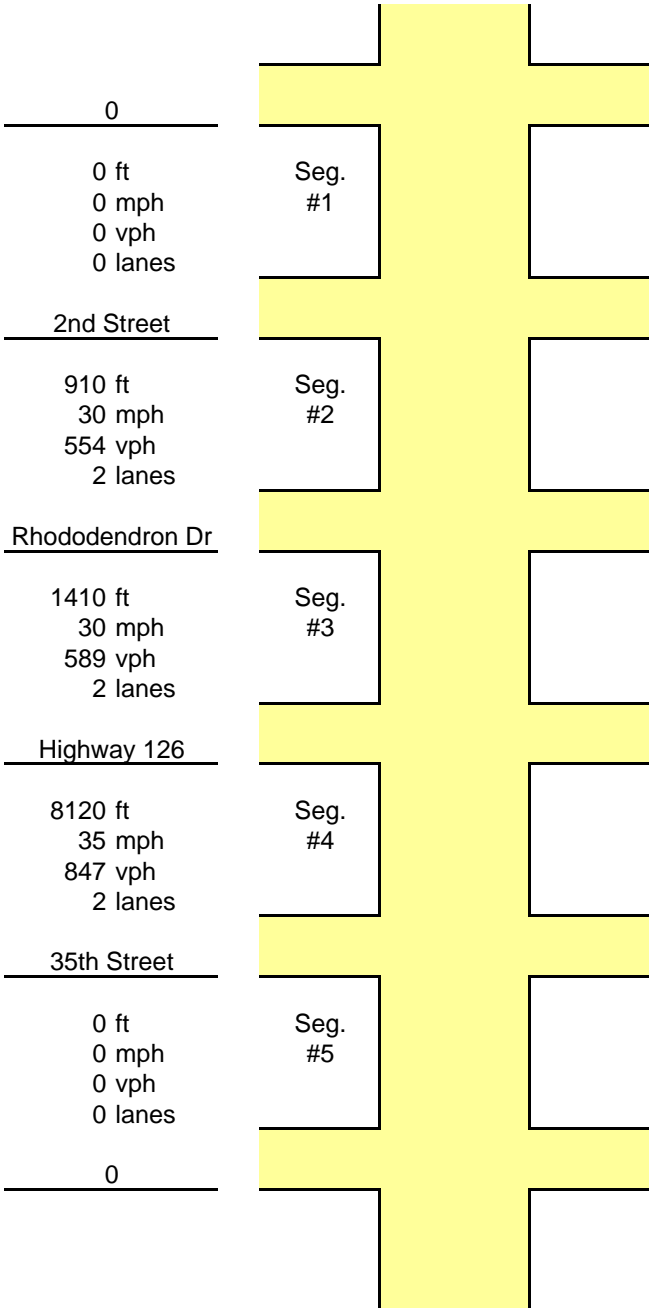
Limits: from 2nd Street to 35th Street

Observer: Chris Tiesler

Analysis Direction: NB

(Down Direction on this Sheet)

Auto LOS Model: NCHRP 3-70 Stops Model



| Seg 1   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | N/A     | #N/A    | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | #DIV/0! | #DIV/0! | E       |
| Ped     | #DIV/0! | A       | #DIV/0! |

| Seg 2   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | 2.14    | B       | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | 4.45    | C       | A       |
| Ped     | #VALUE! | A       | #VALUE! |

| Seg 3   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | 2.14    | B       | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | 4.49    | C       | A       |
| Ped     | #VALUE! | B       | #VALUE! |

| Seg 4   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | 2.14    | B       | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | 4.43    | B       | A       |
| Ped     | #VALUE! | C       | #VALUE! |

| Seg 5   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | N/A     | #N/A    | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | #DIV/0! | #DIV/0! | D       |
| Ped     | #DIV/0! | A       | #DIV/0! |

| Street  | Score | LOS |
|---------|-------|-----|
| Auto    | 2.14  | B   |
| Transit | 0.00  | A   |
| Bike    | 4.44  | E   |
| Ped     | 0.00  | A   |

Multimodal Level of Service for Urban Streets

Results

Street: Highway 101

Date: 40704

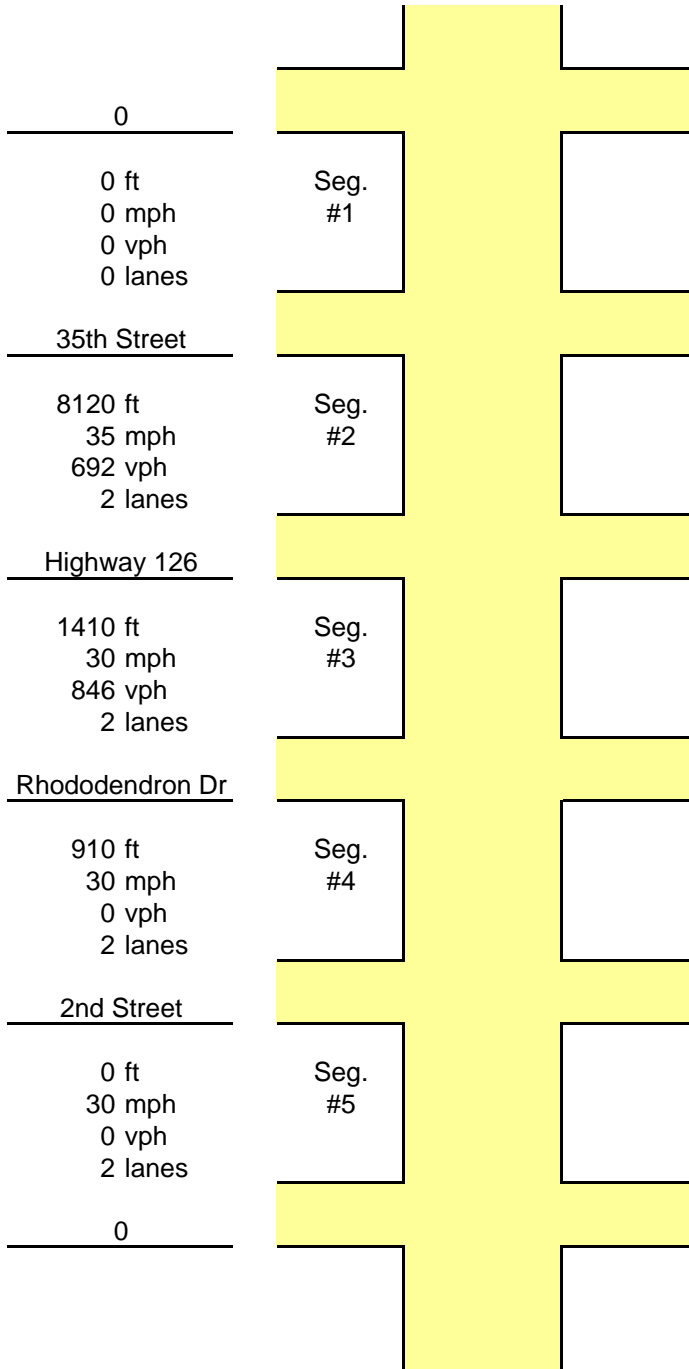
Limits: from 2nd Street to 35th Street

Observer: Chris Tiesler

|                     |    |
|---------------------|----|
| Analysis Direction: | SB |
|---------------------|----|

(Down Direction on this Sheet)

|                 |                        |
|-----------------|------------------------|
| Auto LOS Model: | NCHRP 3-70 Stops Model |
|-----------------|------------------------|



| Seg 1   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | N/A     | #N/A    | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | #DIV/0! | #DIV/0! | E       |
| Ped     | #DIV/0! | A       | #DIV/0! |

| Seg 2   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | 2.34    | B       | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | 3.80    | B       | B       |
| Ped     | #VALUE! | C       | #####   |

| Seg 3   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | 2.34    | B       | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | 6.89    | D       | A       |
| Ped     | #VALUE! | B       | #####   |

| Seg 4   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | 2.34    | #VALUE! | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | 4.18    | A       | A       |
| Ped     | #DIV/0! | A       | #DIV/0! |

| Seg 5   | Score   | Seg LOS | Int LOS |
|---------|---------|---------|---------|
| Auto    | N/A     | #N/A    | N/A     |
| Transit | #DIV/0! | N/A     | N/A     |
| Bike    | #DIV/0! | #DIV/0! | A       |
| Ped     | #DIV/0! | A       | #DIV/0! |

| Street  | Score | LOS     |
|---------|-------|---------|
| Auto    | 2.34  | #VALUE! |
| Transit | 0.00  | A       |
| Bike    | 4.25  | E       |
| Ped     | 0.00  | A       |

**Attachment I**  
Crash Data

---

**From:** WESTMORELAND Amanda <Amanda.Westmoreland@odot.state.or.us>  
**Sent:** Thursday, June 09, 2011 10:30 AM  
**To:** Chris Tiesler; Diego Arguea  
**Subject:** RE: Florence - SPIS

Chris and Diego,

I will give you as much information as I can, one thing I will recommend is the ODOT crash analysis/reporting unit has more details on crashes and will notice and fix incorrectly coded crash listings so if you want more general crash information now or in the future (not specific to SPIS), I would recommend contacting them first. The people to contact are Sylvia Vogel (lead - 503.986.4240) and Robin Ness (manager - 503.986.4236).

Below is my summary/analysis:

**SSH # 062 MP 2.64-2.78 (Top 10% SPIS site)**

- All crashes in 2007 - will most likely fall of 2011 SPIS which will look at 2008-2010 crashes
- 2 injury A crashes with low ADT (5500) is most likely why it was a Top 10% SPIS site
- 4 crashes total, no obvious crash patterns
- 1 injury A - angle crash with parked vehicle at Rose Hill Rd, 1 injury A - side swipe meeting, driver sleepy and crossed centerline at MP 2.73
- 2 crashes at Rose Hill Rd, 1 rear end, 1 angle crash (referenced above)

**SSH # 009 MP 189.47-189.58 (Top 10% SPIS site)**

- 5 crashes 2007, 3 crashes 2008, 4 crashes 2009
- 1 injury A crash, 1 injury B crash, 2 injury C crashes, 8 PDO crashes with ADT 17,300. The injury A ped crash and general number of crashes with this ADT is most likely why it was a Top 10% SPIS site.
- 6/12 crashes at 21st St - 2 ped crashes, 3 rear end crashes, 1 turning crash; 2/12 crashes at 20th St, 1 turning crash, 1 angle crash
- 1 injury A was a pedestrian crash at 21st during the day, vehicle failed to yield right of way
- 1 parking related crash at MP 189.49

**SSH # 009 MP 189.64-189.81 (combined 2 overlapping Top 10% SPIS sites)**

- 2 crashes in 2007, 5 crashes in 2008, 7 crashes in 2009
- 1 injury A crash, 3 injury B crashes, 5 injury C crashes and 5 PDO crashes with ADT of 17,300. The injury A ped crash and the general number of crashes with this ADT is most likely why it was a Top 10% SPIS site
- 4/14 crashes at 18th St - 2 angle crashes, 1 turning crash and 1 rear end crash; 4/14 crashes at 17th St - 3 rear end crashes, 1 ped crash
- 1 injury A was a pedestrian crash during dark conditions at 17th St, pedestrian in crosswalk, alcohol related
- 3 driveway related crashes
- 2 bike crashes, right turn vehicles entering driveway, failed to yield to bikes, both at MP 189.72

Amanda

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**From:** Chris Tiesler [mailto:ctiesler@kittelson.com]  
**Sent:** Wednesday, June 08, 2011 5:18 PM  
**To:** Diego Arguea  
**Cc:** WESTMORELAND Amanda  
**Subject:** Re: Florence - SPIS

More specifically, the 3 segments on US 101 (SSH#009) in Lane County, and the one segment on OR 126 (SSH#062) closest to Florence (the lowest milepoint segment).

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Rhododendron Drive @ 35th Street  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|----------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2007     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| REAR-END       | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2007 TOTAL     | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL    | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Rhododendron Drive @ 9th Street  
January 1, 2005 through December 31, 2009

| <u>COLLISION TYPE</u> | <u>FATAL</u><br><u>CRASHES</u> | <u>NON-</u><br><u>FATAL</u><br><u>CRASHES</u> | <u>PROPERTY</u><br><u>DAMAGE</u><br><u>ONLY</u> | <u>TOTAL</u><br><u>CRASHES</u> | <u>PEOPLE</u><br><u>KILLED</u> | <u>PEOPLE</u><br><u>INJURED</u> | <u>TRUCKS</u> | <u>DRY</u><br><u>SURF</u> | <u>WET</u><br><u>SURF</u> | <u>DAY</u> | <u>DARK</u> | <u>INTER-</u><br><u>SECTION</u> | <u>INTER-</u><br><u>SECTION</u><br><u>RELATED</u> | <u>OFF-</u><br><u>ROAD</u> |
|-----------------------|--------------------------------|---|---|--------------------------------|--------------------------------|---------------------------------|---------------|---------------------------|---------------------------|------------|-------------|---------------------------------|---|----------------------------|
|-----------------------|--------------------------------|---|---|--------------------------------|--------------------------------|---------------------------------|---------------|---------------------------|---------------------------|------------|-------------|---------------------------------|---|----------------------------|

YEAR:

TOTAL

FINAL TOTAL

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Kingwood Street @ 15th Street/Airport Road  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|----------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2008     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| PEDESTRIAN     | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2008 TOTAL     | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL    | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Kingwood Street @ 9th Street  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE    | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|-------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2008        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE             | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2008 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| YEAR: 2007        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE             | 0                | 1                        | 1                          | 2                | 0                | 1                 | 0      | 2           | 0           | 2   | 0    | 2                 | 0                            | 0            |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| 2007 TOTAL        | 0                | 1                        | 2                          | 3                | 0                | 1                 | 0      | 2           | 1           | 3   | 0    | 3                 | 0                            | 0            |
| YEAR: 2006        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE             | 0                | 2                        | 1                          | 3                | 0                | 4                 | 0      | 3           | 0           | 1   | 2    | 3                 | 0                            | 0            |
| 2006 TOTAL        | 0                | 2                        | 1                          | 3                | 0                | 4                 | 0      | 3           | 0           | 1   | 2    | 3                 | 0                            | 0            |
| FINAL TOTAL       | 0                | 3                        | 4                          | 7                | 0                | 5                 | 0      | 6           | 1           | 5   | 2    | 7                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 URBAN NON-SYSTEM CRASH LISTING

CITY OF FLORENCE, LANE COUNTY

Kingwood Street @ 9th Street  
 January 1, 2005 through December 31, 2009

| SER#   | INVEST    | E A U C O<br>E L G H R<br>C L K | DATE       | CLASS | CITY STREET<br>FIRST STREET<br>SECOND STREET | RD CHAR<br>DIRECT<br>LOCTN | INT-TYP<br>(MEDIAN)<br>LEGS<br>(#LANES) | INT-REL<br>TRAF-<br>CONTL | OFF-RD<br>RDNDBT<br>DRVWY | WTHR<br>SURF<br>LIGHT | CRASH TYP<br>COLL TYP<br>SVRTY | SPCL USE<br>TRLR QTY<br>OWNER<br>VEH TYPE | MOVE<br>FROM<br>TO | P# | PRTC<br>TYPE | INJ<br>SVRTY | A S<br>G E LICNS<br>E X RES | PED<br>LOC | ERROR | ACTN | EVENT | CAUSE |
|--------|-----------|---------------------------------|------------|-------|--|----------------------------|---|---------------------------|---------------------------|-----------------------|--------------------------------|---|--------------------|----|--------------|--------------|-----------------------------|------------|-------|------|-------|-------|
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                |   |                    |    |              |              |                             |            |       |      |       |       |
| 00693  | N N N     |                                 | 02/27/2007 | 17    | KINGWOOD ST                                  | INTER                      | CROSS                                   | N                         |                           | N RAIN                | O-1TURN                        | 01 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      |       | 02    |
| NO RPT |           |                                 | Tue        | 0     | 9TH ST                                       | CN                         |   | STOP SIGN                 |                           | N WET                 | TURN                           | PRVTE                                     | N S                |    |              |              |                             |            |       |      | 015   | 00    |
|        |           |                                 | 1P         |       |  | 01                         | 0                                       |                           |                           | N DAY                 | PDO                            | PSNGR CAR                                 |                    | 01 | DRVR         | NONE         | 58 F                        | OR-Y       |       | 028  | 000   | 02    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                |   |                    |    |              |              | OR<25                       |            |       |      |       |       |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | 02 NONE                                   | 0 TURN-L           |    |              |              |                             |            |       |      | 015   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PRVTE                                     | S W                | 01 | DRVR         | NONE         | 20 M                        | OR-Y       |       | 000  | 000   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PSNGR CAR                                 |                    |    |              |              | OR<25                       |            |       |      |       | 00    |
| 00541  | N N N     |                                 | 02/09/2006 | 19    | KINGWOOD ST                                  | INTER                      | CROSS                                   | N                         |                           | N CLR                 | ANGL-OTH                       | 01 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      |       | 03    |
|        |           |                                 | Thu        | 0     | 9TH ST                                       | CN                         |   | STOP SIGN                 |                           | N DRY                 | ANGL                           | PRVTE                                     | E W                |    |              |              |                             |            |       |      | 000   | 00    |
|        |           |                                 | 3P         |       |  | 02                         | 99                                      |                           |                           | N DAY                 | INJ                            | PSNGR CAR                                 |                    | 01 | DRVR         | NONE         | 76 F                        | OR-Y       |       | 021  | 000   | 03    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                |   |                    |    |              |              | OR<25                       |            |       |      |       |       |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | 02 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      | 000   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PRVTE                                     | S N                | 01 | DRVR         | INJB         | 17 F                        | OR-Y       |       | 000  | 000   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PSNGR CAR                                 |                    |    |              |              | OR<25                       |            |       |      |       | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                |   |                    | 02 | PSNG         | INJC         | 17 F                        |            |       | 000  | 000   | 00    |
| 03529  | N N N N N |                                 | 09/25/2007 | 17    | KINGWOOD ST                                  | INTER                      | CROSS                                   | N                         |                           | N CLR                 | ANGL-OTH                       | 01 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      |       | 02    |
| CITY   |           |                                 | Tue        | 0     | 9TH ST                                       | CN                         |   | STOP SIGN                 |                           | N DRY                 | ANGL                           | PRVTE                                     | E W                |    |              |              |                             |            |       |      | 000   | 00    |
|        |           |                                 | 5P         |       |  | 02                         | 0                                       |                           |                           | N DAY                 | PDO                            | PSNGR CAR                                 |                    | 01 | DRVR         | NONE         | 18 F                        | OTH-Y      |       | 000  | 000   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                |   |                    |    |              |              | OR<25                       |            |       |      |       |       |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | 02 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      | 015   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PRVTE                                     | S N                | 01 | DRVR         | NONE         | 17 M                        | OR-Y       |       | 028  | 000   | 02    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PSNGR CAR                                 |                    |    |              |              | OR<25                       |            |       |      |       |       |
| 03894  | N N N     |                                 | 11/21/2008 | 17    | KINGWOOD ST                                  | INTER                      | CROSS                                   | N                         |                           | N CLR                 | ANGL-OTH                       | 01 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      |       | 02    |
| NO RPT |           |                                 | Fri        | 0     | 9TH ST                                       | CN                         |   | STOP SIGN                 |                           | N DRY                 | ANGL                           | PRVTE                                     | S N                |    |              |              |                             |            |       |      | 015   | 00    |
|        |           |                                 | 11A        |       |  | 02                         | 0                                       |                           |                           | N DAY                 | PDO                            | PSNGR CAR                                 |                    | 01 | DRVR         | NONE         | 70 M                        | OR-Y       |       | 028  | 000   | 02    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                |   |                    |    |              |              | OR<25                       |            |       |      |       |       |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | 02 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      | 000   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PRVTE                                     | E W                | 01 | DRVR         | NONE         | 71 M                        | OR-Y       |       | 000  | 000   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PSNGR CAR                                 |                    |    |              |              | OR<25                       |            |       |      |       |       |
| 01025  | N N N     |                                 | 03/21/2006 | 16    | KINGWOOD ST                                  | INTER                      | CROSS                                   | N                         |                           | N CLD                 | ANGL-OTH                       | 01 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      |       | 02    |
|        |           |                                 | Tue        | 0     | 9TH ST                                       | CN                         |   | UNKNOWN                   |                           | N DRY                 | ANGL                           | PRVTE                                     | W E                |    |              |              |                             |            |       |      | 000   | 00    |
|        |           |                                 | 5P         |       |  | 03                         | 99                                      |                           |                           | N DUSK                | PDO                            | PSNGR CAR                                 |                    | 01 | DRVR         | NONE         | 49 F                        | OR-Y       |       | 000  | 000   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                |   |                    |    |              |              | OR<25                       |            |       |      |       |       |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | 02 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      | 000   | 00    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PRVTE                                     | N S                | 01 | DRVR         | NONE         | 75 F                        | OR-Y       |       | 028  | 000   | 02    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                | PSNGR CAR                                 |                    |    |              |              | OR<25                       |            |       |      |       |       |
| 02201  | N Y N     |                                 | 06/22/2006 | 19    | KINGWOOD ST                                  | INTER                      | CROSS                                   | N                         |                           | N CLR                 | ANGL-OTH                       | 01 NONE                                   | 0 STRGHT           |    |              |              |                             |            |       |      |       | 03    |
| CITY   |           |                                 | Thu        | 0     | 9TH ST                                       | CN                         |   | STOP SIGN                 |                           | N DRY                 | ANGL                           | PRVTE                                     | S N                |    |              |              |                             |            |       |      | 000   | 00    |
|        |           |                                 | 10P        |       |  | 04                         | 99                                      |                           |                           | N DLIT                | INJ                            | PSNGR CAR                                 |                    | 01 | DRVR         | INJC         | 18 M                        | OR-Y       |       | 021  | 000   | 03    |
|        |           |                                 |            |       |  |                            |   |                           |                           |                       |                                |   |                    |    |              |              | OR<25                       |            |       |      |       |       |



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ Heceta Beach Road  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE    | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|-------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2006        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2006 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL       | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ Munzel Lake Road/46th Street  
January 1, 2005 through December 31, 2009

| COLLISION TYPE | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|----------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR:          |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TOTAL          |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| FINAL TOTAL    |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ 35th Street  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|----------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2009     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE          | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| REAR-END       | 0                | 1                        | 2                          | 3                | 0                | 1                 | 0      | 3           | 0           | 3   | 0    | 3                 | 0                            | 0            |
| 2009 TOTAL     | 0                | 1                        | 3                          | 4                | 0                | 1                 | 0      | 3           | 1           | 4   | 0    | 4                 | 0                            | 0            |
| YEAR: 2006     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE          | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2006 TOTAL     | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| YEAR: 2005     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE          | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| 2005 TOTAL     | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL    | 0                | 2                        | 4                          | 6                | 0                | 2                 | 0      | 4           | 2           | 6   | 0    | 6                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

009 OREGON COAST

Hwy 101 (Hwy 009) @ 35th Street  
 January 1, 2005 through December 31, 2009

| SER#  | INVEST | S D<br>P R S W<br>E A U C O<br>E L G H R<br>D C S L K | DATE       | COUNTY                          | RD# FC<br>COMPNT<br>MLG TYP<br>MILEPNT | CONN #<br>FIRST STREET<br>SECOND STREET | RD CHAR<br>DIRECT<br>LOCTN | INT-TYP<br>(MEDIAN)<br>LEGS<br>(#LANES) | INT-REL<br>TRAF-<br>CNTL | OFFRD<br>RNDBT<br>DRVWY | WTHR<br>SURF<br>LIGHT | CRASH TYP<br>COLL TYP<br>SVRTY | SPCL USE<br>TRLR QTY<br>OWNER<br>V# | MOVE<br>FROM<br>TO | PRTC<br>P# | INJ<br>TYPE | SVRTRY | A S<br>G E<br>X RES | LICNS<br>RES   | PED<br>LOC | ERROR   | ACTN       | EVENT      | CAUSE          |
|-------|--------|---|------------|---------------------------------|--|---|----------------------------|---|--------------------------|-------------------------|-----------------------|--------------------------------|-------------------------------------|--------------------|------------|-------------|--------|---------------------|----------------|------------|---------|------------|------------|----------------|
| 03716 | NO RPT | NNN   | 11/28/2009 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>188.68                  | OREGON COAST HY<br>35TH ST              | INTER<br>N<br>06           | CROSS<br>0                              | N<br>TRF SIGNAL          | N<br>N                  | CLR<br>DRY<br>DAY     | S-1STOP<br>REAR<br>PDO         | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0 STRGHT<br>N S    | 01         | DRVR        | NONE   | 78 F                | OR-Y<br>OR<25  |            | 016,026 | 000<br>038 |            | 27<br>00<br>27 |
|       |        |   |            |                                 |  |   |                            |   |                          |                         |                       | 02 NONE<br>PRVTE<br>PSNGR CAR  | 0 STOP<br>N S                       | 01                 | DRVR       | NONE        | 28 M   | OR-Y<br>OR<25       |                | 000        | 000     |            | 011<br>000 | 00<br>00       |
| 01442 | CITY   | NNNN  | 05/19/2009 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>188.68                  | OREGON COAST HY<br>35TH ST              | INTER<br>S<br>06           | CROSS<br>0                              | N<br>TRF SIGNAL          | N<br>N                  | CLR<br>DRY<br>DAY     | S-1STOP<br>REAR<br>INJ         | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0 STRGHT<br>S N    | 01         | DRVR        | NONE   | 27 F                | OR-Y<br>OR<25  |            | 043,026 | 000<br>000 |            | 07<br>00<br>07 |
|       |        |   |            |                                 |  |   |                            |   |                          |                         |                       | 02 NONE<br>PRVTE<br>PSNGR CAR  | 0 STOP<br>S N                       | 01                 | DRVR       | INJB        | 58 M   | OR-Y<br>OR<25       |                | 000        | 000     |            | 011<br>000 | 00<br>00       |
| 01729 | NO RPT | NNN   | 06/12/2009 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>188.68                  | OREGON COAST HY<br>35TH ST              | INTER<br>S<br>06           | CROSS<br>0                              | N<br>TRF SIGNAL          | N<br>N                  | CLR<br>DRY<br>DAY     | S-1STOP<br>REAR<br>PDO         | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0 STRGHT<br>S N    | 01         | DRVR        | NONE   | 57 M                | OR-Y<br>OR<25  |            | 026     | 000<br>038 |            | 07<br>00<br>07 |
|       |        |   |            |                                 |  |   |                            |   |                          |                         |                       | 02 NONE<br>PRVTE<br>PSNGR CAR  | 0 STOP<br>S N                       | 01                 | DRVR       | NONE        | 70 M   | OTH-Y<br>N-RES      |                | 000        | 000     |            | 011<br>000 | 00<br>00       |
| 00883 | NO RPT | NNN   | 04/01/2009 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>188.68                  | OREGON COAST HY<br>35TH ST              | INTER<br>CN<br>01          | CROSS<br>0                              | N<br>TRF SIGNAL          | N<br>N                  | RAIN<br>WET<br>DAY    | ANGL-OTH<br>ANGL<br>PDO        | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0 STRGHT<br>N S    | 01         | DRVR        | NONE   | 80 F                | OR-Y<br>OR<25  |            | 020     | 000<br>000 |            | 04<br>00<br>04 |
|       |        |   |            |                                 |  |   |                            |   |                          |                         |                       | 02 NONE<br>PRVTE<br>PSNGR CAR  | 0 STRGHT<br>E W                     | 01                 | DRVR       | NONE        | 30 F   | OR-Y<br>OR<25       |                | 000        | 000     |            | 000<br>000 | 00<br>00       |
| 01263 | NONE   | NNN   | 04/13/2005 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>188.68                  | OREGON COAST HY<br>35TH ST              | INTER<br>CN<br>02          | CROSS<br>99                             | N<br>TRF SIGNAL          | N<br>N                  | CLD<br>WET<br>DAY     | ANGL-OTH<br>ANGL<br>INJ        | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0 STRGHT<br>S N    | 01         | DRVR        | NONE   | 74 M                | OTH-Y<br>N-RES |            | 020     | 000<br>000 |            | 04<br>00<br>04 |
|       |        |   |            |                                 |  |   |                            |   |                          |                         |                       | 02 NONE<br>PRVTE<br>PSNGR CAR  | 0 STRGHT<br>E W                     | 01                 | DRVR       | INJC        | 43 M   | OR-Y<br>OR<25       |                | 000        | 000     |            | 000<br>000 | 00<br>00       |



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ 30th Street  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE    | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|-------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2008        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| 2008 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| YEAR: 2007        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2007 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| YEAR: 2005        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE             | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2005 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL       | 0                | 0                        | 3                          | 3                | 0                | 0                 | 0      | 2           | 1           | 3   | 0    | 3                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

009 OREGON COAST

Hwy 101 (Hwy 009) @ 30th Street  
 January 1, 2005 through December 31, 2009

| SER#  | S D P R S W<br>E A U C O DATE<br>E L G H R DAY<br>INVEST D C S L K TIME | COUNTY<br>CITY<br>URBAN AREA    | RD# FC<br>COMPNT<br>MLG TYP<br>MILEPNT | CONN #<br>FIRST STREET<br>SECOND STREET | RD CHAR<br>DIRECT<br>LOCTN | INT-TYP<br>(MEDIAN)<br>LEGS<br>(#LANES) | INT-REL<br>TRAF-<br>CNTL | OFFRD WTHR<br>RND BT SURF<br>DRVWY LIGHT | CRASH TYP<br>COLL TYP<br>SVRTY | SPCL USE<br>TRLR QTY<br>OWNER<br>VEH TYPE | MOVE<br>FROM<br>TO | PRTC INJ<br>TYPE SVRTY | A S<br>G E LICNS<br>E X RES | PED<br>LOC<br>ERROR    | ACTN EVENT | CAUSE      |                |
|-------|---|---------------------------------|--|---|----------------------------|---|--------------------------|--|--------------------------------|---|--------------------|------------------------|-----------------------------|------------------------|------------|------------|----------------|
| 01471 | N N N<br>Mon<br>11A   | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>188.97                  | OREGON COAST HY<br>30TH ST              | INTER<br>CN<br>02          | CROSS<br>0                              | N<br>STOP SIGN           | N CLR<br>N DRY<br>N DAY                  | ANGL-OTH<br>TURN<br>PDO        | 01 NONE<br>PRVTE<br>PSNGR CAR             | 0<br>W N           | TURN-L                 | 01 DRVR<br>NONE             | 17 M<br>OR-Y<br>OR<25  | 028        | 015<br>000 | 02<br>00<br>02 |
|       |   |                                 |  |   |                            |   |                          |  |                                | 02 NONE<br>PRVTE<br>PSNGR CAR             | 0<br>S N           | STRGHT                 | 01 DRVR<br>NONE             | 72 F<br>OR-Y<br>OR<25  | 000        | 000<br>000 | 00<br>00       |
| 03144 | N N N<br>Wed<br>2P  | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>188.97                  | OREGON COAST HY<br>30TH ST              | INTER<br>CN<br>02          | CROSS<br>0                              | N<br>STOP SIGN           | N RAIN<br>N WET<br>N DAY                 | ANGL-OTH<br>TURN<br>PDO        | 01 NONE<br>PRVTE<br>PSNGR CAR             | 0<br>E S           | TURN-L                 | 01 DRVR<br>NONE             | 78 M<br>OR-Y<br>OR<25  | 028        | 015<br>000 | 02<br>00<br>02 |
|       |   |                                 |  |   |                            |   |                          |  |                                | 02 NONE<br>PRVTE<br>PSNGR CAR             | 0<br>S N           | STRGHT                 | 01 DRVR<br>NONE             | 74 M<br>OTH-Y<br>N-RES | 000        | 000<br>000 | 00<br>00       |
| 00688 | N N N<br>Fri<br>3P  | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>188.97                  | OREGON COAST HY<br>30TH ST              | INTER<br>CN<br>04          | CROSS<br>99                             | N<br>UNKNOWN             | N CLR<br>N DRY<br>N DAY                  | ANGL-OTH<br>ANGL<br>PDO        | 01 NONE<br>PRVTE<br>PSNGR CAR             | 0<br>W E           | STRGHT                 | 01 DRVR<br>NONE             | 00 M<br>OR-Y<br>OR<25  | 000        | 000<br>000 | 02<br>00<br>00 |
|       |   |                                 |  |   |                            |   |                          |  |                                | 02 NONE<br>PRVTE<br>PSNGR CAR             | 0<br>S N           | STRGHT                 | 01 DRVR<br>NONE             | 48 F<br>OR-Y<br>OR<25  | 028        | 000<br>000 | 00<br>00       |

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ 27th Street  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE    | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|-------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2007        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2007 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL       | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ 15th Street (Airport Road)  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|----------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2008     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE          | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| REAR-END       | 0                | 0                        | 2                          | 2                | 0                | 0                 | 0      | 2           | 0           | 2   | 0    | 2                 | 0                            | 0            |
| 2008 TOTAL     | 0                | 0                        | 3                          | 3                | 0                | 0                 | 0      | 2           | 1           | 3   | 0    | 3                 | 0                            | 0            |
| YEAR: 2005     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| REAR-END       | 0                | 1                        | 0                          | 1                | 0                | 2                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2005 TOTAL     | 0                | 1                        | 0                          | 1                | 0                | 2                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL    | 0                | 1                        | 3                          | 4                | 0                | 2                 | 0      | 3           | 1           | 4   | 0    | 4                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.







OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ Hwy 126 (Hwy 062)  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE         | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|------------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2009             |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| SIDESWIPE - OVERTAKING | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| TURNING MOVEMENTS      | 0                | 1                        | 1                          | 2                | 0                | 1                 | 0      | 2           | 0           | 1   | 1    | 2                 | 0                            | 0            |
| 2009 TOTAL             | 0                | 1                        | 2                          | 3                | 0                | 1                 | 0      | 3           | 0           | 2   | 1    | 3                 | 0                            | 0            |
| YEAR: 2008             |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE                  | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FIXED / OTHER OBJECT   | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 1            |
| REAR-END               | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| SIDESWIPE - OVERTAKING | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2008 TOTAL             | 0                | 0                        | 4                          | 4                | 0                | 0                 | 0      | 4           | 0           | 4   | 0    | 4                 | 0                            | 1            |
| YEAR: 2007             |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| REAR-END               | 0                | 0                        | 2                          | 2                | 0                | 0                 | 0      | 1           | 1           | 2   | 0    | 1                 | 1                            | 0            |
| TURNING MOVEMENTS      | 0                | 2                        | 2                          | 4                | 0                | 2                 | 0      | 3           | 1           | 4   | 0    | 4                 | 0                            | 0            |
| 2007 TOTAL             | 0                | 2                        | 4                          | 6                | 0                | 2                 | 0      | 4           | 2           | 6   | 0    | 5                 | 1                            | 0            |
| YEAR: 2006             |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE                  | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| TURNING MOVEMENTS      | 0                | 0                        | 2                          | 2                | 0                | 0                 | 0      | 2           | 0           | 2   | 0    | 1                 | 0                            | 0            |
| 2006 TOTAL             | 0                | 0                        | 3                          | 3                | 0                | 0                 | 0      | 3           | 0           | 3   | 0    | 2                 | 0                            | 0            |
| YEAR: 2005             |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE                  | 0                | 1                        | 3                          | 4                | 0                | 1                 | 0      | 4           | 0           | 3   | 1    | 4                 | 0                            | 0            |
| REAR-END               | 0                | 1                        | 1                          | 2                | 0                | 1                 | 0      | 2           | 0           | 2   | 0    | 0                 | 0                            | 0            |
| SIDESWIPE - OVERTAKING | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 0                 | 0                            | 0            |
| TURNING MOVEMENTS      | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2005 TOTAL             | 0                | 2                        | 6                          | 8                | 0                | 2                 | 0      | 8           | 0           | 7   | 1    | 5                 | 0                            | 0            |
| FINAL TOTAL            | 0                | 5                        | 19                         | 24               | 0                | 5                 | 0      | 22          | 2           | 22  | 2    | 19                | 1                            | 1            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

009 OREGON COAST

Hwy 101 (Hwy 009) @ Hwy 126 (Hwy 062)  
 January 1, 2005 through December 31, 2009

| SER#  | INVEST            | S D P R S W E A U C O DATE E L G H R DAY | COUNTY                          | RD# FC COMPNT MLG TYP MILEPNT | CONN # FIRST STREET SECOND STREET     | RD CHAR DIRECT LOCTN | INT-TYP (MEDIAN) LEGS (#LANES) | INT-REL TRAF-CNTL | OFFRD RNDBT SURF DRVWY | WTHR LIGHT         | CRASH TYP COLL SVRTY    | SPCL USE TRLR QTY OWNER V#          | MOVE FROM TO  | PRTC INJ P# | TYPE SVRTY   | A S G E LICNS RES | PED LOC      | ERROR        | ACTN EVENT   | CAUSE                 |  |
|-------|-------------------|--|---------------------------------|-------------------------------|---------------------------------------|----------------------|--------------------------------|-------------------|------------------------|--------------------|-------------------------|-------------------------------------|---------------|-------------|--------------|-------------------|--------------|--------------|--------------|-----------------------|--|
| 00922 | N N N             | 03/13/2006<br>Mon<br>11A                 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.16         | OREGON COAST HY<br>10TH ST            | INTER<br>CN<br>04    | CROSS<br>99                    | N<br>STOP SIGN    | N<br>N                 | CLD<br>DRY<br>DAY  | ANGL-OTH<br>ANGL<br>PDO | 01 NONE 0<br>PRVTE S N<br>PSNGR CAR | STRGHT<br>S N | 01<br>01    | DRVR<br>DRVR | NONE<br>NONE      | 80 F<br>63 F | OR-Y<br>OR-Y | OR<25        | 000<br>000            | 02<br>00<br>00<br>015<br>000<br>02                       |
| 01367 | N N N             | 04/19/2007<br>Thu<br>11A                 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.16         | OREGON COAST HY<br>10TH ST            | INTER<br>CN<br>04    | CROSS<br>0                     | N<br>UNKNOWN      | N<br>N                 | RAIN<br>WET<br>DAY | O-1TURN<br>TURN<br>PDO  | 01 NONE 0<br>PRVTE N E<br>PSNGR CAR | TURN-L<br>N E | 01<br>01    | DRVR<br>DRVR | NONE<br>NONE      | 00 M<br>76 M | UNK<br>OR-Y  | OR>25        | 004,028<br>000<br>000 | 02<br>00<br>02<br>00<br>00                               |
| 00120 | N N N N N<br>CITY | 01/10/2007<br>Wed<br>11A                 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.17         | OREGON COAST HY<br>FLORENCE-EUGENE HY | STRGHT<br>N<br>03    | (NONE)<br>(04)                 | Y<br>UNKNOWN      | N<br>N                 | CLD<br>WET<br>DAY  | S-1STOP<br>REAR<br>PDO  | 01 NONE 0<br>PRVTE N S<br>PSNGR CAR | STRGHT<br>N S | 01<br>01    | DRVR<br>DRVR | NONE<br>NONE      | 84 M<br>45 F | OR-Y<br>OR-Y | OR<25        | 000<br>038<br>000     | 013<br>00<br>27,32<br>00<br>00<br>011<br>013<br>00<br>00 |
| 03137 | Y N N<br>NONE     | 08/30/2005<br>Tue<br>3P                  | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.17         | OREGON COAST HY<br>10TH ST            | STRGHT<br>S<br>03    | (NONE)<br>(04)                 | N<br>UNKNOWN      | N<br>N                 | CLR<br>DRY<br>DAY  | S-1STOP<br>REAR<br>INJ  | 01 NONE 0<br>PRVTE N S<br>PSNGR CAR | STRGHT<br>N S | 01<br>01    | DRVR<br>DRVR | NONE<br>NONE      | 00 U<br>23 F | UNK<br>OR-Y  | UNK<br>OR<25 | 026<br>000            | 01<br>00<br>01<br>011<br>000<br>00                       |
| 03023 | N N N             | 08/17/2006<br>Thu<br>2P                  | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.17         | OREGON COAST HY<br>10TH ST            | ALLEY<br>S<br>03     | (NONE)<br>(04)                 | N<br>UNKNOWN      | N<br>N                 | CLR<br>DRY<br>DAY  | ANGL-OTH<br>TURN<br>PDO | 01 NONE 0<br>PRVTE N S<br>PSNGR CAR | STRGHT<br>N S | 01<br>01    | DRVR<br>DRVR | NONE<br>NONE      | 73 F<br>16 M | OR-Y<br>OR-Y | OR<25        | 000<br>000            | 02<br>00<br>00<br>018<br>000<br>02                       |

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

009 OREGON COAST

Hwy 101 (Hwy 009) @ Hwy 126 (Hwy 062)  
 January 1, 2005 through December 31, 2009

| SER#  | INVEST    | S D<br>E A U C O<br>E L G H R<br>D C S L K | DATE       | COUNTY<br>CITY<br>URBAN AREA    | RD# FC<br>COMPNT<br>MLG TYP<br>MILEPNT | CONN #<br>FIRST STREET<br>SECOND STREET | RD CHAR<br>DIRECT<br>LOCTN | INT-TYP<br>(MEDIAN)<br>LEGS<br>(#LANES) | INT-REL<br>TRAF-<br>CNTL | OFFRD WTHR<br>RNDBT SURF<br>DRVWY LIGHT | CRASH TYP<br>COLL TYP<br>SVRTY | SPCL USE<br>TRLR QTY<br>MOVE<br>OWNER<br>FROM<br>TO | PRTC<br>P#        | INJ<br>TYPE | A S<br>G E<br>X RES | LICNS<br>RES | PED<br>LOC | ERROR         | ACTN    | EVENT      | CAUSE                |
|-------|-----------|--|------------|---------------------------------|--|---|----------------------------|---|--------------------------|---|--------------------------------|---|-------------------|-------------|---------------------|--------------|------------|---------------|---------|------------|----------------------|
| 02517 | N N N     |  | 07/17/2005 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.17                  | OREGON COAST HY<br>10TH ST              | ALLEY<br>S<br>04           | (NONE)                                  | UNKNOWN                  | N CLR<br>N DRY<br>N DAY                 | S-STRGHT<br>SS-O<br>PDO        | 01 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STRGHT<br>N S   | 01          | DRVR                | NONE         | 35 M       | OR-Y<br>OR<25 | 045     | 000<br>000 | 06<br>00<br>06       |
|       |           |  |            |                                 |  |   |                            | (04)                                    |                          |   |                                | 02 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STRGHT<br>N S   | 01          | DRVR                | NONE         | 40 F       | OR-Y<br>OR>25 | 000     | 000        | 00<br>00             |
| 02475 | Y N N     |  | 07/15/2005 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.20                  | OREGON COAST HY<br>FLORENCE-EUGENE HY   | STRGHT<br>N<br>03          | (NONE)                                  | UNKNOWN                  | N CLR<br>N DRY<br>N DAY                 | S-1STOP<br>REAR<br>PDO         | 01 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STRGHT<br>N S   | 01          | DRVR                | NONE         | 74 M       | OR-Y<br>OR>25 | 026     | 000        | 01<br>00<br>01       |
|       |           |  |            |                                 |  |   |                            | (04)                                    |                          |   |                                | 02 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STOP<br>N S     | 01          | DRVR                | NONE         | 00 F       | OR-Y<br>OR<25 | 000     | 000        | 011<br>000           |
| 01794 | N N N     |  | 05/18/2007 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.23                  | FLORENCE-EUGENE HY<br>OREGON COAST HY   | INTER<br>N<br>06           | CROSS                                   | N<br>TRF SIGNAL          | N CLD<br>N DRY<br>N DAY                 | S-1STOP<br>REAR<br>PDO         | 01 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STRGHT<br>N S   | 01          | DRVR                | NONE         | 40 M       | OR-Y<br>OR>25 | 026     | 038        | 27,26<br>26<br>27    |
|       |           |  |            |                                 |  |   |                            |   |                          |   |                                | 02 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STOP<br>N S     | 01          | DRVR                | NONE         | 35 F       | OR-Y<br>OR<25 | 000     | 000        | 011<br>000           |
| 02163 | N N N     |  | 07/04/2008 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.23                  | OREGON COAST HY<br>9TH ST               | INTER<br>S<br>06           | CROSS                                   | N<br>TRF SIGNAL          | N CLR<br>N DRY<br>N DAY                 | S-STRGHT<br>SS-O<br>PDO        | 01 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STRGHT<br>S N   | 01          | DRVR                | NONE         | 50 F       | OR-Y<br>OR>25 | 045     | 000        | 13<br>00<br>13       |
|       |           |  |            |                                 |  |   |                            |   |                          |   |                                | 02 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STRGHT<br>S N   | 01          | DRVR                | NONE         | 68 F       | OR-Y<br>OR<25 | 000     | 000        | 00<br>00             |
| 03600 | N N N N N |  | 10/29/2008 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.23                  | OREGON COAST HY<br>9TH ST               | INTER<br>SW<br>06          | CROSS                                   | N<br>TRF SIGNAL          | N CLR<br>N DRY<br>N DAY                 | S-1STOP<br>REAR<br>PDO         | 01 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STRGHT<br>S N   | 01          | DRVR                | NONE         | 61 F       | OR-Y<br>OR<25 | 016,026 | 038        | 07,27<br>00<br>07,27 |
|       |           |  |            |                                 |  |   |                            |   |                          |   |                                | 02 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STOP<br>S N     | 01          | DRVR                | NONE         | 45 F       | OR-Y<br>OR<25 | 000     | 000        | 011<br>000           |
| 02014 | N N N     |  | 07/09/2009 | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>190.23                  | FLORENCE-EUGENE HY<br>OREGON COAST HY   | INTER<br>SW<br>06          | CROSS                                   | N<br>TRF SIGNAL          | N CLR<br>N DRY<br>N DAY                 | S-1STOP<br>SS-O<br>PDO         | 01 NONE<br>0 PRVTE<br>0 PSNGR CAR                   | 0 STRGHT<br>SW NE | 01          | DRVR                | NONE         | 25 F       | OR-Y<br>OR>25 | 045     | 000        | 13<br>00<br>13       |











OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ Rhododendron Drive  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE    | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|-------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2009        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE             | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| REAR-END          | 0                | 1                        | 1                          | 2                | 0                | 2                 | 0      | 0           | 2           | 1   | 1    | 2                 | 0                            | 0            |
| 2009 TOTAL        | 0                | 2                        | 1                          | 3                | 0                | 3                 | 0      | 1           | 2           | 2   | 1    | 3                 | 0                            | 0            |
| YEAR: 2008        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2008 TOTAL        | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| YEAR: 2007        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| BACKING           | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2007 TOTAL        | 0                | 0                        | 2                          | 2                | 0                | 0                 | 0      | 2           | 0           | 2   | 0    | 2                 | 0                            | 0            |
| YEAR: 2005        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| 2005 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 0           | 1           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL       | 0                | 3                        | 4                          | 7                | 0                | 4                 | 0      | 4           | 3           | 6   | 1    | 7                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.





OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 101 (Hwy 009) @ 2nd Street  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|----------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2008     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| REAR-END       | 0                | 1                        | 1                          | 2                | 0                | 2                 | 0      | 1           | 1           | 2   | 0    | 2                 | 0                            | 0            |
| 2008 TOTAL     | 0                | 1                        | 1                          | 2                | 0                | 2                 | 0      | 1           | 1           | 2   | 0    | 2                 | 0                            | 0            |
| YEAR: 2007     |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| REAR-END       | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2007 TOTAL     | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL    | 0                | 1                        | 2                          | 3                | 0                | 2                 | 0      | 2           | 1           | 3   | 0    | 3                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

009 OREGON COAST

Hwy 101 (Hwy 009) @ 2nd Street  
 January 1, 2005 through December 31, 2009

| SER#   | INVEST | S D P R S W<br>E A U C O DATE<br>E L G H R DAY<br>D C S L K TIME | COUNTY<br>CITY<br>URBAN AREA | RD# FC<br>COMPNT<br>MLG TYP<br>MILEPNT | CONN #<br>FIRST STREET<br>SECOND STREET | RD CHAR<br>DIRECT<br>LOCTN | INT-TYP<br>(MEDIAN)<br>LEGS<br>(#LANES) | INT-REL<br>TRAF-<br>CNTL | OFFRD WTHR<br>RND BT SURF<br>DRVWY LIGHT | CRASH TYP<br>COLL TYP<br>SVRTY | SPCL USE<br>TRLR QTY<br>OWNER<br>V# | MOVE<br>FROM<br>TO | PRTC<br>P# | INJ<br>SVRTY | A S<br>G E<br>E X RES | LICNS<br>LOC | PED<br>ERROR   | ACTN<br>EVENT | CAUSE |
|--------|--------|--|------------------------------|--|---|----------------------------|---|--------------------------|--|--------------------------------|-------------------------------------|--------------------|------------|--------------|-----------------------|--------------|----------------|---------------|-------|
| 03260  | N N N  | 10/03/2008   | LANE                         | 1 14                                   |   | INTER                      | CROSS                                   | N                        | N RAIN                                   | S-1STOP                        | 01 NONE                             | 0 STRGHT           |            |              |                       |              |                | 006,013       | 07    |
| NO RPT |        | Fri  | FLORENCE                     | 0 0                                    | OREGON COAST HY                         | NE                         | STOP SIGN                               |                          | N WET                                    | REAR                           | PRVTE                               | NE SW              |            |              |                       |              | 026            | 000           | 00    |
|        |        | 3P   | FLORENCE UA                  | 190.72                                 | 2ND ST                                  | 06                         | 0                                       |                          | N DAY                                    | PDO                            | PSNGR CAR                           |                    | 01         | DRVR         | NONE                  | 79 F         | OR-Y<br>OR<25  | 000           | 07    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | 02 NONE                             | 0 STOP             |            |              |                       |              |                | 011           | 013   |
|        |        |  |                              |  |   |                            |   |                          |  |                                | PRVTE                               | NE SW              |            |              |                       |              |                | 000           | 00    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | PSNGR CAR                           |                    | 01         | DRVR         | NONE                  | 18 M         | OR-Y<br>OR<25  | 000           | 00    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | 03 NONE                             | 0 STOP             |            |              |                       |              |                | 022           | 006   |
|        |        |  |                              |  |   |                            |   |                          |  |                                | PRVTE                               | NE SW              |            |              |                       |              |                | 000           | 00    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | PSNGR CAR                           |                    | 01         | DRVR         | NONE                  | 50 F         | OR-Y<br>OR<25  | 000           | 00    |
| 03182  | N N N  | 08/29/2007   | LANE                         | 1 14                                   |   | INTER                      | CROSS                                   | N                        | N CLR                                    | S-1STOP                        | 01 NONE                             | 0 STRGHT           |            |              |                       |              |                | 004           | 07    |
| NONE   |        | Wed  | FLORENCE                     | 0 0                                    | OREGON COAST HY                         | S                          | UNKNOWN                                 |                          | N DRY                                    | REAR                           | PRVTE                               | NE SW              |            |              |                       |              |                | 000           | 00    |
|        |        | 10A  | FLORENCE UA                  | 190.73                                 | 2ND ST                                  | 06                         | 0                                       |                          | N DAY                                    | PDO                            | PSNGR CAR                           |                    | 01         | DRVR         | NONE                  | 68 M         | OR-Y<br>OR>25  | 026           | 07    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | 02 NONE                             | 0 STOP             |            |              |                       |              |                | 011           | 004   |
|        |        |  |                              |  |   |                            |   |                          |  |                                | PRVTE                               | NE SW              |            |              |                       |              |                | 000           | 00    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | PSNGR CAR                           |                    | 01         | DRVR         | NONE                  | 68 M         | OTH-Y<br>N-RES | 000           | 00    |
| 02122  | N N N  | 06/30/2008   | LANE                         | 1 14                                   |   | INTER                      | CROSS                                   | N                        | N CLR                                    | S-1STOP                        | 01 NONE                             | 0 STRGHT           |            |              |                       |              |                | 000           | 07    |
| NONE   |        | Mon  | FLORENCE                     | 0 0                                    | FLORENCE-EUGENE HY                      | S                          | TRF SIGNAL                              |                          | N DRY                                    | REAR                           | PRVTE                               | S N                |            |              |                       |              |                | 000           | 00    |
|        |        | 5P   | FLORENCE UA                  | 190.73                                 | OREGON COAST HY                         | 06                         | 0                                       |                          | N DAY                                    | INJ                            | PSNGR CAR                           |                    | 01         | DRVR         | NONE                  | 67 M         | OR-Y<br>OR<25  | 026           | 07    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | 02 NONE                             | 0 STOP             |            |              |                       |              |                | 011           | 00    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | PRVTE                               | S N                |            |              |                       |              |                | 000           | 00    |
|        |        |  |                              |  |   |                            |   |                          |  |                                | PSNGR CAR                           |                    | 01         | DRVR         | INJC                  | 38 F         | OR-Y<br>OR<25  | 000           | 00    |
|        |        |  |                              |  |   |                            |   |                          |  |                                |                                     |                    | 02         | PSNG         | INJB                  | 03 F         |                | 000           | 00    |

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 126 (Hwy 062) @ Quince Street  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE    | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|-------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2008        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| REAR-END          | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2008 TOTAL        | 0                | 1                        | 1                          | 2                | 0                | 1                 | 0      | 2           | 0           | 2   | 0    | 2                 | 0                            | 0            |
| YEAR: 2007        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE             | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2007 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| YEAR: 2006        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2006 TOTAL        | 0                | 1                        | 0                          | 1                | 0                | 1                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| YEAR: 2005        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| ANGLE             | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2005 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| FINAL TOTAL       | 0                | 2                        | 3                          | 5                | 0                | 2                 | 0      | 5           | 0           | 5   | 0    | 5                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CONTINUOUS SYSTEM CRASH LISTING

062 FLORENCE-EUGENE

Hwy 126 (Hwy 062) @ Quince Street  
 January 1, 2005 through December 31, 2009

| SER#  | INVEST            | S D P R S W<br>E A U C O DATE<br>E L G H R DAY<br>D C S L K TIME | COUNTY<br>CITY<br>URBAN AREA    | RD# FC<br>COMPNT<br>MLG TYP<br>MILEPNT | CONN #<br>FIRST STREET<br>SECOND STREET | RD CHAR<br>DIRECT<br>LOCTN | INT-TYP<br>(MEDIAN)<br>LEGS<br>(#LANES) | INT-REL<br>TRAF-<br>CNTL | OFFRD WTHR<br>RNDBT SURF<br>DRVWY LIGHT | CRASH TYP<br>COLL TYP<br>SVRTY | SPCL USE<br>TRLR QTY<br>OWNER<br>V# | MOVE<br>FROM<br>TO | PRTC<br>P# | INJ<br>TYPE | SVRTY<br>SVRTY | A S<br>G E<br>X RES | LICNS<br>RES  | PED<br>LOC | ERROR | ACTN<br>EVENT | CAUSE          |
|-------|-------------------|--|---------------------------------|--|---|----------------------------|---|--------------------------|---|--------------------------------|-------------------------------------|--------------------|------------|-------------|----------------|---------------------|---------------|------------|-------|---------------|----------------|
| 02274 | N N N             | 07/08/2008<br>Tue<br>11A   | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>0.11                    | FLORENCE-EUGENE HY<br>QUINCE ST         | INTER<br>E<br>06           | CROSS<br>0                              | N<br>SP PED SIG          | N CLR<br>N DRY<br>N DAY                 | S-1STOP<br>REAR<br>INJ         | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>E W           | 01         | DRVR        | INJC           | 32 F                | OR-Y<br>OR<25 |            | 026   | 000<br>000    | 07<br>00<br>07 |
|       |                   |  |                                 |  |   |                            |   |                          |   |                                | 02 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>E W           | 01         | DRVR        | NONE           | 61 M                | OR-Y<br>OR<25 |            | 000   | 011<br>000    | 00<br>00       |
| 01790 | N N N             | 05/18/2007<br>Fri<br>2P  | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>0.11                    | FLORENCE-EUGENE HY<br>QUINCE ST         | INTER<br>CN<br>02          | CROSS<br>0                              | N<br>STOP SIGN           | N CLR<br>N DRY<br>N DAY                 | ANGL-OTH<br>ANGL<br>PDO        | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>E W           | 01         | DRVR        | NONE           | 60 M                | OR-Y<br>OR>25 |            | 000   | 000<br>000    | 02<br>00<br>00 |
|       |                   |  |                                 |  |   |                            |   |                          |   |                                | 02 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>S N           | 01         | DRVR        | NONE           | 66 M                | OR-Y<br>OR<25 | 028        | 000   | 015<br>000    | 00<br>02       |
| 03321 | N N N<br>NONE     | 09/12/2005<br>Mon<br>3P  | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>0.11                    | FLORENCE-EUGENE HY<br>QUINCE ST         | INTER<br>CN<br>03          | CROSS<br>99                             | N<br>UNKNOWN             | N CLR<br>N DRY<br>N DAY                 | ANGL-OTH<br>ANGL<br>PDO        | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>N S           | 01         | DRVR        | NONE           | 84 F                | OR-Y<br>OR<25 |            | 028   | 000<br>000    | 02<br>00<br>02 |
|       |                   |  |                                 |  |   |                            |   |                          |   |                                | 02 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>W E           | 01         | DRVR        | NONE           | 72 M                | OR-Y<br>OR<25 |            | 000   | 000<br>000    | 00<br>00<br>00 |
| 03766 | N N N<br>CITY     | 10/12/2006<br>Thu<br>5P  | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>0.11                    | FLORENCE-EUGENE HY<br>QUINCE ST         | INTER<br>CN<br>03          | CROSS<br>99                             | N<br>UNKNOWN             | N CLR<br>N DRY<br>N DAY                 | O-1TURN<br>TURN<br>INJ         | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>W E           | 01         | DRVR        | INJC           | 69 F                | OR-Y<br>OR<25 |            | 000   | 000<br>000    | 02<br>00<br>00 |
|       |                   |  |                                 |  |   |                            |   |                          |   |                                | 02 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>E S           | 01         | DRVR        | NONE           | 88 M                | OR-Y<br>OR<25 | 004        | 000   | 000<br>000    | 00<br>02       |
| 01359 | N N N N N<br>CITY | 04/24/2008<br>Thu<br>4P  | LANE<br>FLORENCE<br>FLORENCE UA | 1 14<br>0 0<br>0.11                    | FLORENCE-EUGENE HY<br>QUINCE ST         | INTER<br>CN<br>04          | CROSS<br>0                              | N<br>STOP SIGN           | N CLR<br>N DRY<br>N DAY                 | ANGL-OTH<br>TURN<br>PDO        | 01 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>W E           | 01         | DRVR        | NONE           | 52 F                | OR-Y<br>OR>25 |            | 000   | 000<br>000    | 02<br>00<br>00 |
|       |                   |  |                                 |  |   |                            |   |                          |   |                                | 02 NONE<br>PRVTE<br>PSNGR CAR       | 0<br>N E           | 01         | DRVR        | NONE           | 17 F                | OR-Y<br>OR<25 | 028        | 000   | 015<br>000    | 00<br>02       |



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 126 (Hwy 062) @ Spruce Street  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE    | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|-------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2009        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2009 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| YEAR: 2006        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 0   | 1    | 1                 | 0                            | 0            |
| 2006 TOTAL        | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 0   | 1    | 1                 | 0                            | 0            |
| FINAL TOTAL       | 0                | 0                        | 2                          | 2                | 0                | 0                 | 0      | 2           | 0           | 1   | 1    | 2                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION  
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT  
 CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Hwy 126 (Hwy 062) @ North Fork Siuslaw River Road  
 January 1, 2005 through December 31, 2009

| COLLISION TYPE    | FATAL<br>CRASHES | NON-<br>FATAL<br>CRASHES | PROPERTY<br>DAMAGE<br>ONLY | TOTAL<br>CRASHES | PEOPLE<br>KILLED | PEOPLE<br>INJURED | TRUCKS | DRY<br>SURF | WET<br>SURF | DAY | DARK | INTER-<br>SECTION | INTER-<br>SECTION<br>RELATED | OFF-<br>ROAD |
|-------------------|------------------|--------------------------|----------------------------|------------------|------------------|-------------------|--------|-------------|-------------|-----|------|-------------------|------------------------------|--------------|
| YEAR: 2009        |                  |                          |                            |                  |                  |                   |        |             |             |     |      |                   |                              |              |
| REAR-END          | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| TURNING MOVEMENTS | 0                | 0                        | 1                          | 1                | 0                | 0                 | 0      | 1           | 0           | 1   | 0    | 1                 | 0                            | 0            |
| 2009 TOTAL        | 0                | 0                        | 2                          | 2                | 0                | 0                 | 0      | 2           | 0           | 2   | 0    | 2                 | 0                            | 0            |
| FINAL TOTAL       | 0                | 0                        | 2                          | 2                | 0                | 0                 | 0      | 2           | 0           | 2   | 0    | 2                 | 0                            | 0            |

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.



**ACTION CODE TRANSLATION LIST**

| <b>ACTION CODE</b> | <b>SHORT DESCRIPTION</b> | <b>LONG DESCRIPTION</b>   |
|--------------------|--------------------------|---|
| 000                | NONE                     | NO ACTION OR NON-WARRANTED  |
| 001                | SKIDDED                  | SKIDDED   |
| 002                | ON/OFF V                 | GETTING ON OR OFF STOPPED OR PARKED VEHICLE   |
| 003                | LOAD OVR                 | OVERHANGING LOAD STRUCK ANOTHER VEHICLE, ETC.   |
| 006                | SLOW DN                  | SLOWED DOWN   |
| 007                | AVOIDING                 | AVOIDING MANEUVER   |
| 008                | PAR PARK                 | PARALLEL PARKING  |
| 009                | ANG PARK                 | ANGLE PARKING   |
| 010                | INTERFERE                | PASSENGER INTERFERING WITH DRIVER   |
| 011                | STOPPED                  | STOPPED IN TRAFFIC NOT WAITING TO MAKE A LEFT TURN  |
| 012                | STP/L TRN                | STOPPED BECAUSE OF LEFT TURN SIGNAL OR WAITING, ETC.                                      |
| 013                | STP TURN                 | STOPPED WHILE EXECUTING A TURN  |
| 015                | GO A/STOP                | PROCEED AFTER STOPPING FOR A STOP SIGN/FLASHING RED.                                      |
| 016                | TRN A/RED                | TURNUED ON RED AFTER STOPPING   |
| 017                | LOSTCTRL                 | LOST CONTROL OF VEHICLE   |
| 018                | EXIT DWY                 | ENTERING STREET OR HIGHWAY FROM ALLEY OR DRIVEWAY   |
| 019                | ENTR DWY                 | ENTERING ALLEY OR DRIVEWAY FROM STREET OR HIGHWAY   |
| 020                | STR ENTR                 | BEFORE ENTERING ROADWAY, STRUCK PEDESTRIAN, ETC. ON SIDEWALK OR SHOULDER                  |
| 021                | NO DRVR                  | CAR RAN AWAY - NO DRIVER  |
| 022                | PREV COL                 | STRUCK, OR WAS STRUCK BY, VEHICLE OR PEDESTRIAN IN PRIOR COLLISION BEFORE ACC. STABILIZED |
| 023                | STALLED                  | VEHICLE STALLED   |
| 024                | DRVR DEAD                | DEAD BY UNASSOCIATED CAUSE  |
| 025                | FATIGUE                  | FATIGUED, SLEEPY, ASLEEP  |
| 026                | SUN                      | DRIVER BLINDED BY SUN   |
| 027                | HDLGHTS                  | DRIVER BLINDED BY HEADLIGHTS  |
| 028                | ILLNESS                  | PHYSICALLY ILL  |
| 029                | THRU MED                 | VEHICLE CROSSED, PLUNGED OVER, OR THROUGH MEDIAN BARRIER                                  |
| 030                | PURSUIT                  | PURSUIUNG OR ATTEMPTING TO STOP ANOTHER VEHICLE   |
| 031                | PASSING                  | PASSING SITUATION   |
| 032                | PRKOFFRD                 | VEHICLE PARKED BEYOND CURB OR SHOULDER  |
| 033                | CROS MED                 | VEHICLE CROSSED EARTH OR GRASS MEDIAN   |
| 034                | X N/SGNL                 | CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT                                      |
| 035                | X W/ SGNL                | CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT   |
| 036                | DIAGONAL                 | CROSSING AT INTERSECTION - DIAGONALLY   |
| 037                | BTWN INT                 | CROSSING BETWEEN INTERSECTIONS  |
| 038                | DISTRACT                 | DRIVER'S ATTENTION DISTRACTED   |
| 039                | W/TRAF-S                 | WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC                                  |
| 040                | A/TRAF-S                 | WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC                                |
| 041                | W/TRAF-P                 | WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC                                  |
| 042                | A/TRAF-P                 | WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC                                |
| 043                | PLAYINRD                 | PLAYING IN STREET OR ROAD   |
| 044                | PUSH MV                  | PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER                                      |
| 045                | WORK ON                  | WORKING IN ROADWAY OR ALONG SHOULDER  |
| 050                | LAY ON RD                | STANDING OR LYING IN ROADWAY  |
| 051                | ENT OFFRD                | ENTERING / STARTING IN TRAFFIC LANE FROM OFF-ROAD   |
| 088                | OTHER                    | OTHER ACTION  |
| 099                | UNK                      | UNKNOWN ACTION  |

CAUSE CODE TRANSLATION LIST

| CAUSE CODE | SHORT DESCRIPTION | LONG DESCRIPTION                                 |
|------------|-------------------|--|
| 00         | NO CODE           | NO CAUSE ASSOCIATED AT THIS LEVEL                |
| 01         | TOO-FAST          | TOO FAST FOR CONDITIONS (NOT EXCEED POSTED SPEED |
| 02         | NO-YIELD          | DID NOT YIELD RIGHT-OF-WAY                       |
| 03         | PAS-STOP          | PASSED STOP SIGN OR RED FLASHER                  |
| 04         | DIS--RAG          | DISREGARDED R-A-G TRAFFIC SIGNAL.                |
| 05         | LEFT-CTR          | DROVE LEFT OF CENTER ON TWO-WAY ROAD             |
| 06         | IMP-OVER          | IMPROPER OVERTAKING                              |
| 07         | TOO-CLOS          | FOLLOWED TOO CLOSELY                             |
| 08         | IMP-TURN          | MADE IMPROPER TURN                               |
| 09         | DRINKING          | ALCOHOL OR DRUG INVOLVED                         |
| 10         | OTHR-IMP          | OTHER IMPROPER DRIVING                           |
| 11         | MECH-DEF          | MECHANICAL DEFECT                                |
| 12         | OTHER             | OTHER (NOT IMPROPER DRIVING)                     |
| 13         | IMP LN C          | IMPROPER CHANGE OF TRAFFIC LANES                 |
| 14         | DIS TCD           | DISREGARDED OTHER TRAFFIC CONTROL DEVICE         |
| 15         | WRNG WAY          | WRONG WAY ON ONE-WAY ROADWAY                     |
| 16         | FATIGUE           | DRIVER DROWSY/FATIGUED/SLEEPY                    |
| 18         | IN RDWY           | NON-MOTORIST ILLEGALLY IN ROADWAY                |
| 19         | NT VISBL          | NON-MOTORIST CLOTHING NOT VISIBLE                |
| 20         | IMP PKNG          | VEHICLE IMPROPERLY PARKED                        |
| 21         | DEF STER          | DEFECTIVE STEERING MECHANISM                     |
| 22         | DEF BRKE          | INADEQUATE OR NO BRAKES                          |
| 24         | LOADSHFT          | VEHICLE LOST LOAD OR LOAD SHIFTED                |
| 25         | TIREFAIL          | TIRE FAILURE                                     |
| 26         | PHANTOM           | PHANTOM / NON-CONTACT VEHICLE                    |
| 27         | INATTENT          | INATTENTION                                      |
| 30         | SPEED             | DRIVING IN EXCESS OF POSTED SPEED                |
| 31         | RACING            | SPEED RACING (PER PAR)                           |
| 32         | CARELESS          | CARELESS DRIVING (CITATION ISSUED)               |
| 33         | RECKLESS          | RECKLESS DRIVING (CITATION ISSUED)               |
| 34         | AGGRESV           | AGGRESSIVE DRIVING (PER PAR)                     |
| 35         | RD RAGE           | ROAD RAGE (PER PAR)                              |

COLLISION TYPE CODE TRANSLATION LIST

| COLL CODE | SHORT DESCRIPTION | LONG DESCRIPTION             |
|-----------|-------------------|------------------------------|
| &         | OTH               | MISCELLANEOUS                |
| -         | BACK              | BACKING                      |
| 0         | PED               | PEDESTRIAN                   |
| 1         | ANGL              | ANGLE                        |
| 2         | HEAD              | HEAD-ON                      |
| 3         | REAR              | REAR-END                     |
| 4         | SS-M              | SIDESWIPE - MEETING          |
| 5         | SS-O              | SIDESWIPE - OVERTAKING       |
| 6         | TURN              | TURNING MOVEMENT             |
| 7         | PARK              | PARKING MANEUVER             |
| 8         | NCOL              | NON-COLLISION                |
| 9         | FIX               | FIXED OBJECT OR OTHER OBJECT |

CRASH TYPE CODE TRANSLATION LIST

| CRASH TYPE | SHORT DESCRIPTION | LONG DESCRIPTION                                  |
|------------|-------------------|---|
| &          | OVERTURN          | OVERTURNED  |
| 0          | NON-COLL          | OTHER NON-COLLISION                               |
| 1          | OTH RDWY          | MOTOR VEHICLE ON OTHER ROADWAY                    |
| 2          | PRKD MV           | PARKED MOTOR VEHICLE                              |
| 3          | PED               | PEDESTRIAN  |
| 4          | TRAIN             | RAILWAY TRAIN                                     |
| 6          | BIKE              | PEDALCYCLIST                                      |
| 7          | ANIMAL            | ANIMAL  |
| 8          | FIX OBJ           | FIXED OBJECT                                      |
| 9          | OTH OBJ           | OTHER OBJECT                                      |
| A          | ANGL-STP          | ENTERING AT ANGLE - ONE VEHICLE STOPPED           |
| B          | ANGL-OTH          | ENTERING AT ANGLE - ALL OTHERS                    |
| C          | S-STRGHT          | FROM SAME DIRECTION - BOTH GOING STRAIGHT         |
| D          | S-1TURN           | FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT      |
| E          | S-1STOP           | FROM SAME DIRECTION - ONE STOPPED                 |
| F          | S-OTHER           | FROM SAME DIRECTION-ALL OTHERS, INCLUDING PARKING |
| G          | O-STRGHT          | FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT     |
| H          | O-1TURN           | FROM OPPOSITE DIRECTION - ONE TURN, ONE STRAIGHT  |
| I          | O-1STOP           | FROM OPPOSITE DIRECTION - ONE STOPPED             |
| J          | O-OTHER           | FROM OPPOSITE DIRECTION-ALL OTHERS INCL. PARKING  |

**DRIVER LICENSE CODE TRANSLATION LIST**

| LIC CODE | SHORT DESC | LONG DESCRIPTION                       |
|----------|------------|--|
| 0        | NONE       | NOT LICENSED (HAD NEVER BEEN LICENSED) |
| 1        | OR-Y       | VALID OREGON LICENSE                   |
| 2        | OTH-Y      | VALID LICENSE, OTHER STATE OR COUNTRY  |
| 3        | SUSP       | SUSPENDED/REVOKED                      |

**DRIVER RESIDENCE CODE TRANSLATION LIST**

| RES CODE | SHORT DESC | LONG DESCRIPTION                             |
|----------|------------|--|
| 1        | OR<25      | OREGON RESIDENT WITHIN 25 MILE OF HOME       |
| 2        | OR>25      | OREGON RESIDENT 25 OR MORE MILES FROM HOME   |
| 3        | OR-?       | OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME |
| 4        | N-RES      | NON-RESIDENT                                 |
| 9        | UNK        | UNKNOWN IF OREGON RESIDENT                   |

**ERROR CODE TRANSLATION LIST**

| ERROR CODE | SHORT DESCRIPTION | FULL DESCRIPTION   |
|------------|-------------------|--|
| 000        | NONE              | NO ERROR   |
| 001        | WIDE TRN          | WIDE TURN  |
| 002        | CUT CORN          | CUT CORNER ON TURN   |
| 003        | FAIL TRN          | FAILED TO OBEY MANDATORY TRAFFIC TURN SIGNAL, SIGN OR LANE MARKINGS                              |
| 004        | L IN TRF          | LEFT TURN IN FRONT OF ONCOMING TRAFFIC   |
| 005        | L PROHIB          | LEFT TURN WHERE PROHIBITED   |
| 006        | FRM WRNG          | TURNTD FROM WRONG LANE   |
| 007        | TO WRONG          | TURNTD INTO WRONG LANE   |
| 008        | ILLEG U           | U-TURNTD ILLEGALLY   |
| 009        | IMP STOP          | IMPROPERLY STOPPED IN TRAFFIC LANE   |
| 010        | IMP SIG           | IMPROPER SIGNAL OR FAILURE TO SIGNAL   |
| 011        | IMP BACK          | BACKING IMPROPERLY (NOT PARKING)   |
| 012        | IMP PARK          | IMPROPERLY PARKED  |
| 013        | UNPARK            | IMPROPER START LEAVING PARKED POSITION   |
| 014        | IMP STRT          | IMPROPER START FROM STOPPED POSITION   |
| 015        | IMP LGHT          | IMPROPER OR NO LIGHTS (VEHICLE IN TRAFFIC)   |
| 016        | INATTENT          | FAILED TO DIM LIGHTS (UNTIL 4/1/97) / INATTENTION (AFTER 4/1/97)                                 |
| 017        | UNSF VEH          | DRIVING UNSAFE VEHICLE (NO OTHER ERROR APPARENT)   |
| 018        | OTH PARK          | ENTERING, EXITING PARKED POSITION WITH INSUFFICIENT CLEARANCE OR OTHER IMPROPER PARKING MANEUVER |
| 019        | DIS DRIV          | DISREGARDED OTHER DRIVER'S SIGNAL  |
| 020        | DIS SGNL          | DISREGARDED TRAFFIC SIGNAL   |
| 021        | RAN STOP          | DISREGARDED STOP SIGN OR FLASHING RED  |
| 022        | DIS SIGN          | DISREGARDED WARNING SIGN, FLARES OR FLASHING AMBER   |
| 023        | DIS OFCR          | DISREGARDED POLICE OFFICER OR FLAGMAN  |
| 024        | DIS EMER          | DISREGARDED SIREN OR WARNING OF EMERGENCY VEHICLE  |
| 025        | DIS RR            | DISREGARDED RR SIGNAL, RR SIGN, OR RR FLAGMAN  |
| 026        | REAR-END          | FAILED TO AVOID STOPPED OR PARKED VEHICLE AHEAD OTHER THAN SCHOOL BUS                            |
| 027        | BIKE ROW          | DID NOT HAVE RIGHT-OF-WAY OVER PEDALCYCLIST  |
| 028        | NO ROW            | DID NOT HAVE RIGHT-OF-WAY  |
| 029        | PED ROW           | FAILED TO YIELD RIGHT-OF-WAY TO PEDESTRIAN   |
| 030        | PAS CURV          | PASSING ON A CURVE   |
| 031        | PAS WRNG          | PASSING ON THE WRONG SIDE  |
| 032        | PAS TANG          | PASSING ON STRAIGHT ROAD UNDER UNSAFE CONDITIONS   |
| 033        | PAS X-WK          | PASSED VEHICLE STOPPED AT CROSSWALK FOR PEDESTRIAN   |
| 034        | PAS INTR          | PASSING AT INTERSECTION  |
| 035        | PAS HILL          | PASSING ON CREST OF HILL   |
| 036        | N/PAS ZN          | PASSING IN "NO PASSING" ZONE   |
| 037        | PAS TRAF          | PASSING IN FRONT OF ONCOMING TRAFFIC   |
| 038        | CUT-IN            | CUTTING IN (TWO LANES - TWO WAY ONLY)  |
| 039        | WRNGSIDE          | DRIVING ON WRONG SIDE OF THE ROAD  |
| 040        | THRU MED          | DRIVING THROUGH SAFETY ZONE OR OVER ISLAND   |
| 041        | F/ST BUS          | FAILED TO STOP FOR SCHOOL BUS  |

ERROR CODE TRANSLATION LIST

| ERROR CODE | SHORT DESCRIPTION | FULL DESCRIPTION   |
|------------|-------------------|--|
| 042        | F/SLO MV          | FAILED TO DECREASE SPEED FOR SLOWER MOVING VEHICLE                             |
| 043        | TO CLOSE          | FOLLOWING TOO CLOSELY (MUST BE ON OFFICER'S REPORT)                            |
| 044        | STRDL LN          | STRADDLING OR DRIVING ON WRONG LANES   |
| 045        | IMP CHG           | IMPROPER CHANGE OF TRAFFIC LANES   |
| 046        | WRNG WAY          | WRONG WAY ON ONE-WAY ROADWAY (VEHICLE IS DELIBERATELY TRAVELING ON WRONG SIDE) |
| 047        | BASCRULE          | DRIVING TOO FAST FOR CONDITIONS (NOT EXCEEDING POSTED SPEED)                   |
| 048        | OPN DOOR          | OPENED DOOR INTO ADJACENT TRAFFIC LANE   |
| 049        | IMPEDING          | IMPEDING TRAFFIC   |
| 050        | SPEED             | DRIVING IN EXCESS OF POSTED SPEED  |
| 051        | RECKLESS          | RECKLESS DRIVING (PER PAR)   |
| 052        | CARELESS          | CARELESS DRIVING (PER PAR)   |
| 053        | RACING            | SPEED RACING (PER PAR)   |
| 054        | X N/SGNL          | CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT                           |
| 055        | X W/SGNL          | CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT                              |
| 056        | DIAGONAL          | CROSSING AT INTERSECTION - DIAGONALLY  |
| 057        | BTWN INT          | CROSSING BETWEEN INTERSECTIONS   |
| 059        | W/TRAF-S          | WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC                       |
| 060        | A/TRAF-S          | WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC                     |
| 061        | W/TRAF-P          | WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC                       |
| 062        | A/TRAF-P          | WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC                     |
| 063        | PLAYINRD          | PLAYING IN STREET OR ROAD  |
| 064        | PUSH MV           | PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER                           |
| 065        | WK IN RD          | WORKING IN ROADWAY OR ALONG SHOULDER   |
| 070        | LAYON RD          | STANDING OR LYING IN ROADWAY   |
| 073        | DIS POL           | DISREGARDING POLICE (ELUDING)  |
| 080        | FAIL LN           | FAILED TO MAINTAIN LANE  |
| 081        | OFF RD            | RAN OFF ROAD   |
| 082        | NO CLEAR          | DRIVER MISJUDGED CLEARANCE   |
| 083        | OVRSTEER          | OVER CORRECTING  |
| 084        | NOT USED          | CODE NOT IN USE  |
| 085        | OVRLOAD           | OVERLOADING OR IMPROPER LOADING OF VEHICLE WITH CARGO OR PASSENGERS            |
| 097        | UNA DIS TC        | UNABLE TO DETERMINE WHICH DRIVER DISREGARDED TRAFFIC CONTROL DEVICE            |



EVENT CODE TRANSLATION LIST

| EVENT CODE | SHORT DESCRIPTION | LONG DESCRIPTION  |
|------------|-------------------|---|
| 001        | FEL/JUMP          | OCCUPANT FELL, JUMPED OR WAS EJECTED FROM MOVING VEHICLE                  |
| 002        | INTERFER          | PASSENGER INTERFERED WITH DRIVER  |
| 003        | BUG INTF          | ANIMAL OR INSECT IN VEHICLE INTERFERED WITH DRIVER                        |
| 004        | PED INV           | PEDESTRIAN INVOLVED (NON-PEDESTRIAN ACCIDENT)                             |
| 005        | SUB-PED           | "SUB-PED": PEDESTRIAN INJURED SUBSEQUENT TO COLLISION, ETC.               |
| 006        | BIKE INV          | TRICYCLE-BICYCLE INVOLVED   |
| 007        | HITCHIKR          | HITCHHIKER (SOLICITING A RIDE)  |
| 008        | PSNGR TOW         | PASSENGER BEING TOWED OR PUSHED ON CONVEYANCE                             |
| 009        | ON/OFF V          | GETTING ON OR OFF STOPPED OR PARKED VEHICLE (OCCUPANTS ONLY)              |
| 010        | SUB OTRN          | OVERTURNED AFTER FIRST HARMFUL EVENT                                      |
| 011        | MV PUSHD          | VEHICLE BEING PUSHED  |
| 012        | MV TOWED          | VEHICLE TOWED OR HAD BEEN TOWING ANOTHER VEHICLE                          |
| 013        | FORCED            | VEHICLE FORCED BY IMPACT INTO ANOTHER VEHICLE, PEDALCYCLIST OR PEDESTRIAN |
| 014        | SET MOTN          | VEHICLE SET IN MOTION BY NON-DRIVER (CHILD RELEASED BRAKES, ETC.)         |
| 015        | RR ROW            | AT OR ON RAILROAD RIGHT-OF-WAY (NOT LIGHT RAIL)                           |
| 016        | LT RL ROW         | AT OR ON LIGHT-RAIL RIGHT-OF-WAY  |
| 017        | RR HIT V          | TRAIN STRUCK VEHICLE  |
| 018        | V HIT RR          | VEHICLE STRUCK TRAIN  |
| 019        | HIT RR CAR        | VEHICLE STRUCK RAILROAD CAR ON ROADWAY                                    |
| 020        | JACKKNIFE         | JACKKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE                 |
| 021        | TRL OTRN          | TRAILER OR TOWED VEHICLE OVERTURNED                                       |
| 022        | CN BROKE          | TRAILER CONNECTION BROKE  |
| 023        | DETACH TRL        | DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT    |
| 024        | V DOOR OPN        | VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE                            |
| 025        | WHEELOFF          | WHEEL CAME OFF  |
| 026        | HOOD UP           | HOOD FLEW UP  |
| 028        | LOAD SHIFT        | LOST LOAD, LOAD MOVED OR SHIFTED  |
| 029        | TIREFAIL          | TIRE FAILURE  |
| 030        | PET               | PET: CAT, DOG AND SIMILAR   |
| 031        | LVSTOCK           | STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.                                |
| 032        | HORSE             | HORSE, MULE, OR DONKEY  |
| 033        | HRSE&RID          | HORSE AND RIDER   |
| 034        | GAME              | WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)                       |
| 035        | DEER ELK          | DEER OR ELK, WAPITI   |
| 036        | ANML VEH          | ANIMAL-DRAWN VEHICLE  |
| 037        | CULVERT           | CULVERT, OPEN LOW OR HIGH MANHOLE   |
| 038        | ATENUATN          | IMPACT ATTENUATOR   |
| 039        | PK METER          | PARKING METER   |
| 040        | CURB              | CURB (ALSO NARROW SIDEWALKS ON BRIDGES)                                   |
| 041        | JIGGLE            | JIGGLE BARS OR TRAFFIC SNAKE FOR CHANNELIZATION                           |
| 042        | GDRL END          | LEADING EDGE OF GUARDRAIL   |
| 043        | GARDRAIL          | GUARD RAIL (NOT METAL MEDIAN BARRIER)                                     |
| 044        | BARRIER           | MEDIAN BARRIER (RAISED OR METAL)  |
| 045        | WALL              | RETAINING WALL OR TUNNEL WALL   |
| 046        | BR RAIL           | BRIDGE RAILING (ON BRIDGE AND APPROACH)                                   |
| 047        | BR ABUT           | BRIDGE ABUTMENT (APPROACH ENDS)   |
| 048        | BR COLMN          | BRIDGE PILLAR OR COLUMN (EVEN THOUGH STRUCK PROTECTIVE GUARD RAIL FIRST)  |
| 049        | BR GIRDR          | BRIDGE GIRDER (HORIZONTAL STRUCTURE OVERHEAD)                             |
| 050        | ISLAND            | TRAFFIC RAISED ISLAND   |
| 051        | GORE              | GORE  |
| 052        | POLE UNK          | POLE - TYPE UNKNOWN   |
| 053        | POLE UTL          | POLE - POWER OR TELEPHONE   |
| 054        | ST LIGHT          | POLE - STREET LIGHT ONLY  |
| 055        | TRF SGNL          | POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY                                 |
| 056        | SGN BRDG          | POLE - SIGN BRIDGE  |
| 057        | STOPSIGN          | STOP OR YIELD SIGN  |
| 058        | OTH SIGN          | OTHER SIGN, INCLUDING STREET SIGNS  |
| 059        | HYDRANT           | HYDRANT   |

EVENT CODE TRANSLATION LIST

| EVENT CODE | SHORT DESCRIPTION | LONG DESCRIPTION   |
|------------|-------------------|--|
| 060        | MARKER            | DELINEATOR OR MARKER (REFLECTOR POSTS)   |
| 061        | MAILBOX           | MAILBOX  |
| 062        | TREE              | TREE, STUMP OR SHRUBS  |
| 063        | VEG OHED          | TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.                                   |
| 064        | WIRE/CBL          | WIRE OR CABLE ACROSS OR OVER THE ROAD  |
| 065        | TEMP SGN          | TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.  |
| 066        | PERM SGN          | PERMANENT SIGN OR BARRICADE IN/OFF ROAD  |
| 067        | SLIDE             | SLIDES, ROCKS OFF OR ON ROAD, FALLING ROCKS                                      |
| 068        | FRGN OBJ          | FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)                                  |
| 069        | EQP WORK          | EQUIPMENT WORKING IN/OFF ROAD  |
| 070        | OTH EQP           | OTHER EQUIPMENT IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)                   |
| 071        | MAIN EQP          | WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT                          |
| 072        | OTHER WALL        | ROCK, BRICK OR OTHER SOLID WALL  |
| 073        | IRRGL PVMT        | SPEED BUMP, OTHER BUMP, POTHOLE OR PAVEMENT IRREGULARITY (PER PAR)               |
| 075        | CAVE IN           | BRIDGE OR ROAD CAVE IN   |
| 076        | HI WATER          | HIGH WATER   |
| 077        | SNO BANK          | SNOW BANK  |
| 078        | HOLE              | CHUCKHOLE IN ROAD, LOW OR HIGH SHOULDER AT PAVEMENT EDGE                         |
| 079        | DITCH             | CUT SLOPE OR DITCH EMBANKMENT  |
| 080        | OBJ F MV          | STRUCK BY ROCK OR OTHER OBJECT SET IN MOTION BY OTHER VEHICLE (INCL. LOST LOADS) |
| 081        | FLY-OBJ           | STRUCK BY OTHER MOVING OR FLYING OBJECT  |
| 082        | VEH HID           | VEHICLE OBSCURED VIEW  |
| 083        | VEG HID           | VEGETATION OBSCURED VIEW   |
| 084        | BLDG HID          | VIEW OBSCURED BY FENCE, SIGN, PHONE BOOTH, ETC.                                  |
| 085        | WIND GUST         | WIND GUST  |
| 086        | IMMERSED          | VEHICLE IMMERSED IN BODY OF WATER  |
| 087        | FIRE/EXP          | FIRE OR EXPLOSION  |
| 088        | FENC/BLD          | FENCE OR BUILDING, ETC.  |
| 089        | OTH ACDT          | ACCIDENT RELATED TO ANOTHER SEPARATE ACCIDENT                                    |
| 090        | TO 1 SIDE         | TWO-WAY TRAFFIC ON DIVIDED ROADWAY ALL ROUTED TO ONE SIDE                        |
| 092        | PHANTOM           | OTHER (PHANTOM) NON-CONTACT VEHICLE (ON PAR OR REPORT)                           |
| 093        | CELL-POL          | CELL PHONE (ON PAR OR DRIVER IN USE)   |
| 094        | VIOL GDL          | TEENAGE DRIVER IN VIOLATION OF GRADUATED LICENSE PGM                             |
| 095        | GUY WIRE          | GUY WIRE   |
| 096        | BERM              | BERM (EARTHEN OR GRAVEL MOUND)   |
| 097        | GRAVEL            | GRAVEL IN ROADWAY  |
| 098        | ABR EDGE          | ABRUPT EDGE  |
| 099        | CELL-WTN          | CELL PHONE USE WITNESSED BY OTHER PARTICIPANT                                    |
| 100        | UNK FIXD          | UNKNOWN TYPE OF FIXED OBJECT   |
| 101        | OTHER OBJ         | OTHER OR UNKNOWN OBJECT, NOT FIXED   |
| 104        | OUTSIDE V         | PASSENGER RIDING ON VEHICLE EXTERIOR   |
| 105        | PEDAL PSGR        | PASSENGER RIDING ON PEDALCYCLE   |
| 106        | MAN WHLCHR        | PEDESTRIAN IN NON-MOTORIZED WHEELCHAIR   |
| 107        | MTR WHLCHR        | PEDESTRIAN IN MOTORIZED WHEELCHAIR   |
| 110        | N-MTR             | NON-MOTORIST STRUCK VEHICLE  |
| 111        | S CAR VS V        | STREET CAR/TROLLEY (ON RAILS AND/OR OVERHEAD WIRE SYSTEM) STRUCK VEHICLE         |
| 112        | V VS S CAR        | VEHICLE STRUCK STREET CAR/TROLLEY (ON RAILS AND/OR OVERHEAD WIRE SYSTEM)         |
| 113        | S CAR ROW         | AT OR ON STREET CAR/TROLLEY RIGHT-OF-WAY   |
| 114        | RR EQUIP          | VEHICLE STRUCK RAILROAD EQUIPMENT (NOT TRAIN) ON TRACKS                          |
| 120        | WIRE BAR          | WIRE OR CABLE MEDIAN BARRIER   |
| 124        | SLIPPERY          | SLIDING OR SWERVING DUE TO WET, ICY, SLIPPERY OR LOOSE SURFACE                   |
| 125        | SHLDR             | SHOULDER GAVE WAY  |

**FUNCTIONAL CLASSIFICATION TRANSLATION LIST**

| FUNC CLASS | DESCRIPTION                                       |
|------------|---|
| 01         | RURAL PRINCIPAL ARTERIAL - INTERSTATE             |
| 02         | RURAL PRINCIPAL ARTERIAL - OTHER                  |
| 06         | RURAL MINOR ARTERIAL                              |
| 07         | RURAL MAJOR COLLECTOR                             |
| 08         | RURAL MINOR COLLECTOR                             |
| 09         | RURAL LOCAL                                       |
| 11         | URBAN PRINCIPAL ARTERIAL - INTERSTATE             |
| 12         | URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXP |
| 14         | URBAN PRINCIPAL ARTERIAL - OTHER                  |
| 16         | URBAN MINOR ARTERIAL                              |
| 17         | URBAN COLLECTOR                                   |
| 19         | URBAN LOCAL                                       |
| 78         | UNKNOWN RURAL SYSTEM                              |
| 79         | UNKNOWN RURAL NON-SYSTEM                          |
| 98         | UNKNOWN URBAN SYSTEM                              |
| 99         | UNKNOWN URBAN NON-SYSTEM                          |

**HIGHWAY COMPONENT TRANSLATION LIST**

| CODE | DESCRIPTION            |
|------|------------------------|
| 0    | MAINLINE STATE HIGHWAY |
| 1    | COUPLET                |
| 3    | FRONTAGE ROAD          |
| 6    | CONNECTION             |
| 8    | HIGHWAY - OTHER        |

**INJURY SEVERITY CODE TRANSLATION LIST**

| CODE | SHORT DESC | LONG DESCRIPTION                               |
|------|------------|--|
| 1    | KILL       | FATAL INJURY                                   |
| 2    | INJA       | INCAPACITATING INJURY - BLEEDING, BROKEN BONES |
| 3    | INJB       | NON-INCAPACITATING INJURY                      |
| 4    | INJC       | POSSIBLE INJURY - COMPLAINT OF PAIN            |
| 5    | PRI        | DIED PRIOR TO CRASH                            |
| 7    | NO<5       | NO INJURY - 0 TO 4 YEARS OF AGE                |

**LIGHT CONDITION CODE TRANSLATION LIST**

| CODE | SHORT DESC | LONG DESCRIPTION              |
|------|------------|-------------------------------|
| 0    | UNK        | UNKNOWN                       |
| 1    | DAY        | DAYLIGHT                      |
| 2    | DLIT       | DARKNESS - WITH STREET LIGHTS |
| 3    | DARK       | DARKNESS - NO STREET LIGHTS   |
| 4    | DAWN       | DAWN (TWILIGHT)               |
| 5    | DUSK       | DUSK (TWILIGHT)               |

**MEDIAN TYPE CODE TRANSLATION LIST**

| CODE | SHORT DESC | LONG DESCRIPTION             |
|------|------------|------------------------------|
| 0    | NONE       | NO MEDIAN                    |
| 1    | RSDMD      | SOLID MEDIAN BARRIER         |
| 2    | DIVMD      | EARTH, GRASS OR PAVED MEDIAN |

**MILEAGE TYPE CODE TRANSLATION LIST**

| CODE | LONG DESCRIPTION |
|------|------------------|
| 0    | REGULAR MILEAGE  |
| T    | TEMPORARY        |
| Y    | SPUR             |
| Z    | OVERLAPPING      |

**MOVEMENT TYPE CODE TRANSLATION LIST**

| CODE | SHORT DESC | LONG DESCRIPTION    |
|------|------------|---------------------|
| 0    | UNK        | UNKNOWN             |
| 1    | STRGHT     | STRAIGHT AHEAD      |
| 2    | TURN-R     | TURNING RIGHT       |
| 3    | TURN-L     | TURNING LEFT        |
| 4    | U-TURN     | MAKING A U-TURN     |
| 5    | BACK       | BACKING             |
| 6    | STOP       | STOPPED IN TRAFFIC  |
| 7    | PRKD-P     | PARKED - PROPERLY   |
| 8    | PRKD-I     | PARKED - IMPROPERLY |

**PARTICIPANT TYPE CODE TRANSLATION LIST**

| CODE | SHORT DESC | LONG DESCRIPTION                            |
|------|------------|---|
| 0    | OCC        | UNKNOWN OCCUPANT TYPE                       |
| 1    | DRVR       | DRIVER                                      |
| 2    | PSNG       | PASSENGER                                   |
| 3    | PED        | PEDESTRIAN                                  |
| 4    | CONV       | PEDESTRIAN USING A PEDESTRIAN CONVEYANCE    |
| 5    | PTOW       | PEDESTRIAN TOWING OR TRAILERING AN OBJECT   |
| 6    | BIKE       | PEDALCYCLIST                                |
| 7    | BTOW       | PEDALCYCLIST TOWING OR TRAILERING AN OBJECT |
| 8    | PRKD       | OCCUPANT OF A PARKED MOTOR VEHICLE          |
| 9    | UNK        | UNKNOWN TYPE OF NON-MOTORIST                |

**PEDESTRIAN LOCATION CODE TRANSLATION LIST**

| CODE | LONG DESCRIPTION                                  |
|------|---|
| 00   | AT INTERSECTION - NOT IN ROADWAY                  |
| 01   | AT INTERSECTION - INSIDE CROSSWALK                |
| 02   | AT INTERSECTION - IN ROADWAY, OUTSIDE CROSSWALK   |
| 03   | AT INTERSECTION - IN ROADWAY, XWALK AVAIL UNKNWN  |
| 04   | NOT AT INTERSECTION - IN ROADWAY                  |
| 05   | NOT AT INTERSECTION - ON SHOULDER                 |
| 06   | NOT AT INTERSECTION - ON MEDIAN                   |
| 07   | NOT AT INTERSECTION - WITHIN TRAFFIC RIGHT-OF-WAY |
| 08   | NOT AT INTERSECTION - IN BIKE PATH                |
| 09   | NOT-AT INTERSECTION - ON SIDEWALK                 |
| 10   | OUTSIDE TRAFFICWAY BOUNDARIES                     |
| 15   | NOT AT INTERSECTION - INSIDE MID-BLOCK CROSSWALK  |
| 18   | OTHER, NOT IN ROADWAY                             |
| 99   | UNKNOWN LOCATION                                  |

**TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST**

| CODE | SHORT DESC | LONG DESCRIPTION                                 |
|------|------------|--|
| 000  | NONE       | NO CONTROL                                       |
| 001  | TRF SIGNAL | TRAFFIC SIGNALS                                  |
| 002  | FLASHBCN-R | FLASHING BEACON - RED (STOP)                     |
| 003  | FLASHBCN-A | FLASHING BEACON - AMBER (SLOW)                   |
| 004  | STOP SIGN  | STOP SIGN  |
| 005  | SLOW SIGN  | SLOW SIGN  |
| 006  | REG-SIGN   | REGULATORY SIGN                                  |
| 007  | YIELD      | YIELD SIGN                                       |
| 008  | WARNING    | WARNING SIGN                                     |
| 009  | CURVE      | CURVE SIGN                                       |
| 010  | SCHL X-ING | SCHOOL CROSSING SIGN OR SPECIAL SIGNAL           |
| 011  | OFCCR/FLAG | POLICE OFFICER, FLAGMAN - SCHOOL PATROL          |
| 012  | BRDG-GATE  | BRIDGE GATE - BARRIER                            |
| 013  | TEMP-BARR  | TEMPORARY BARRIER                                |
| 014  | NO-PASS-ZN | NO PASSING ZONE                                  |
| 015  | ONE-WAY    | ONE-WAY STREET                                   |
| 016  | CHANNEL    | CHANNELIZATION                                   |
| 017  | MEDIAN BAR | MEDIAN BARRIER                                   |
| 018  | PILOT CAR  | PILOT CAR  |
| 019  | SP PED SIG | SPECIAL PEDESTRIAN SIGNAL                        |
| 020  | X-BUCK     | CROSSBUCK  |
| 021  | THR-GN-SIG | THROUGH GREEN ARROW OR SIGNAL                    |
| 022  | L-GRN-SIG  | LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL  |
| 023  | R-GRN-SIG  | RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL |
| 024  | WIGWAG     | WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE      |
| 025  | X-BUCK WRN | CROSSBUCK AND ADVANCE WARNING                    |
| 026  | WW W/ GATE | FLASHING LIGHTS WITH DROP-ARM GATES              |
| 027  | OVRHD SGNL | SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)      |
| 028  | SP RR STOP | SPECIAL RR STOP SIGN                             |
| 029  | ILUM GRD X | ILLUMINATED GRADE CROSSING                       |
| 037  | RAMP METER | METERED RAMPS                                    |
| 038  | RUMBLE STR | RUMBLE STRIP                                     |
| 090  | L-TURN REF | LEFT TURN REFUGE (WHEN REFUGE IS INVOLVED)       |
| 091  | R-TURN ALL | RIGHT TURN AT ALL TIMES SIGN, ETC.               |
| 092  | EMR SGN/FL | EMERGENCY SIGNS OR FLARES                        |
| 093  | ACCEL LANE | ACCELERATION OR DECELERATION LANES               |
| 094  | R-TURN PRO | RIGHT TURN PROHIBITED ON RED AFTER STOPPING      |

**ROAD CHARACTER CODE TRANSLATION LIST**

| CODE | SHORT DESC | LONG DESCRIPTION         |
|------|------------|--------------------------|
| 0    | UNK        | UNKNOWN                  |
| 1    | INTER      | INTERSECTION             |
| 2    | ALLEY      | DRIVEWAY OR ALLEY        |
| 3    | STRGHT     | STRAIGHT ROADWAY         |
| 4    | TRANS      | TRANSITION               |
| 5    | CURVE      | CURVE (HORIZONTAL CURVE) |
| 6    | OPENAC     | OPEN ACCESS OR TURNOUT   |
| 7    | GRADE      | GRADE (VERTICAL CURVE)   |
| 8    | BRIDGE     | BRIDGE STRUCTURE         |
| 9    | TUNNEL     | TUNNEL                   |

|     |            |                              |
|-----|------------|------------------------------|
| 095 | BUS STPSGN | BUS STOP SIGN AND RED LIGHTS |
| 099 | UNKNOWN    | UNKNOWN OR NOT DEFINITE      |

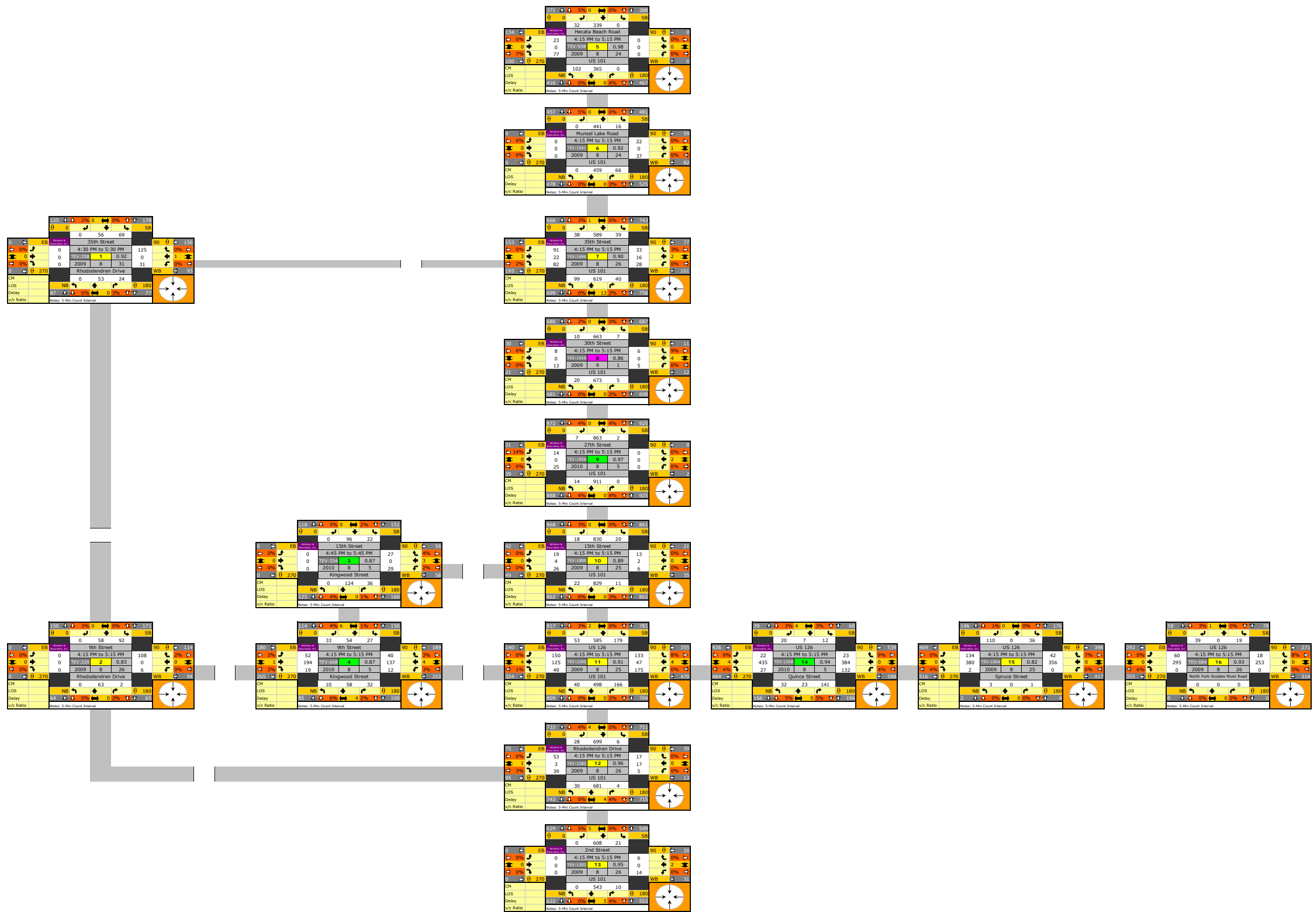
**VEHICLE TYPE CODE TRANSLATION LIST**

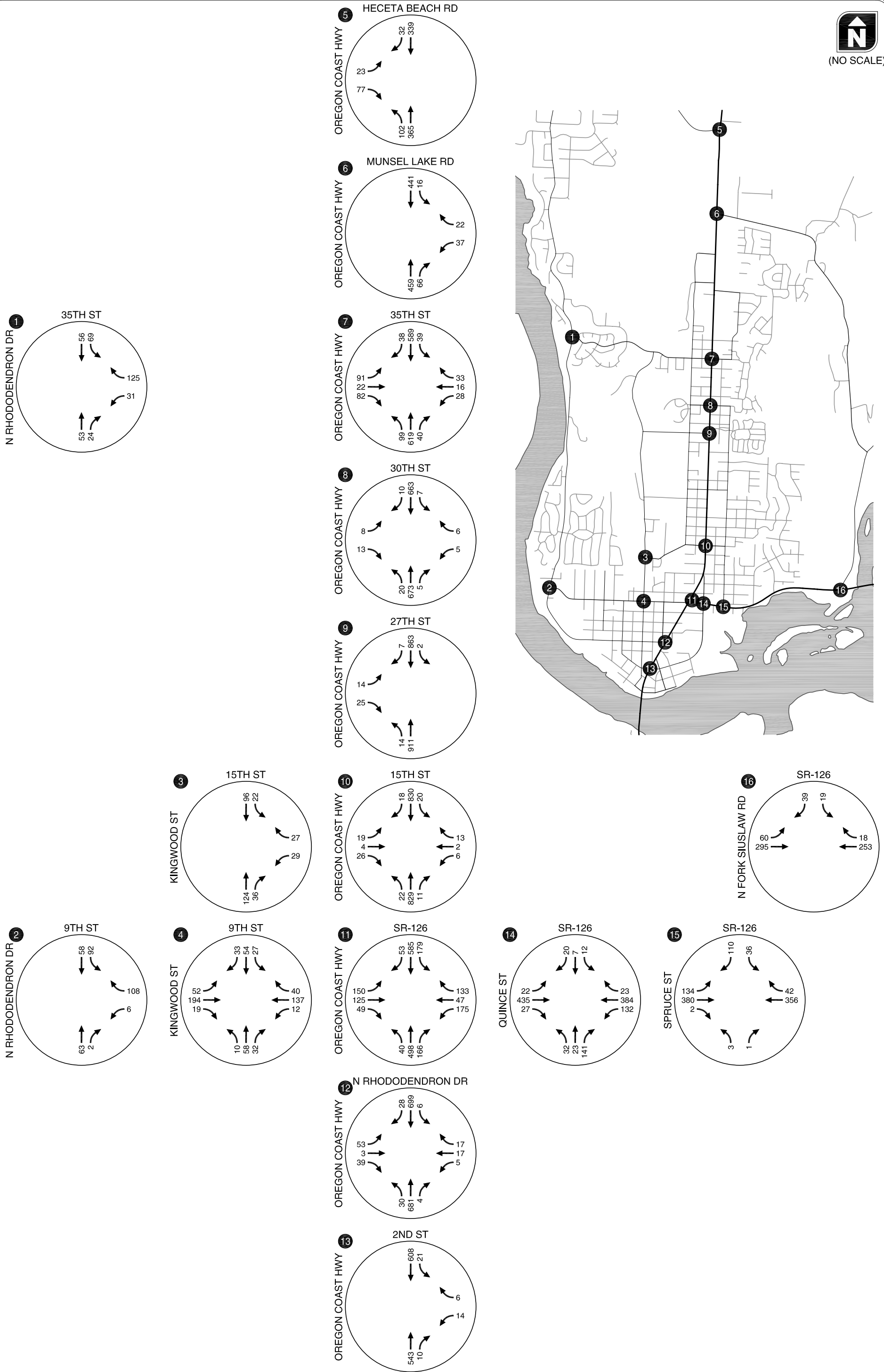
| CODE | SHORT DESC | LONG DESCRIPTION                                 |
|------|------------|--|
| 01   | PSNGR CAR  | PASSENGER CAR, PICKUP, ETC.                      |
| 02   | BOBTAIL    | TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)         |
| 03   | FARM TRCTR | FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT    |
| 04   | SEMI TOW   | TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW    |
| 05   | TRUCK      | TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.       |
| 06   | MOPED      | MOPED, MINIBIKE, MOTOR SCOOTER, OR MOTOR BICYCLE |
| 07   | SCHL BUS   | SCHOOL BUS (INCLUDES VAN)                        |
| 08   | OTH BUS    | OTHER BUS  |
| 09   | MTRCYCLE   | MOTORCYCLE                                       |
| 10   | OTHER      | OTHER: FORKLIFT, BACKHOE, ETC.                   |
| 11   | MOTRHOME   | MOTORHOME  |
| 12   | TROLLEY    | MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)    |
| 13   | ATV        | ATV  |
| 14   | MTRSCTR    | MOTORIZED SCOOTER                                |
| 15   | SNOWMOBILE | SNOWMOBILE                                       |
| 99   | UNKNOWN    | UNKNOWN VEHICLE TYPE                             |

**WEATHER CONDITION CODE TRANSLATION LIST**

| CODE | SHORT DESC | LONG DESCRIPTION |
|------|------------|------------------|
| 0    | UNK        | UNKNOWN          |
| 1    | CLR        | CLEAR            |
| 2    | CLD        | CLOUDY           |
| 3    | RAIN       | RAIN             |
| 4    | SLT        | SLEET            |
| 5    | FOG        | FOG              |
| 6    | SNOW       | SNOW             |
| 7    | DUST       | DUST             |
| 8    | SMOK       | SMOKE            |
| 9    | ASH        | ASH              |

**Attachment J**  
Volume Development  
and LCOG Model Outputs

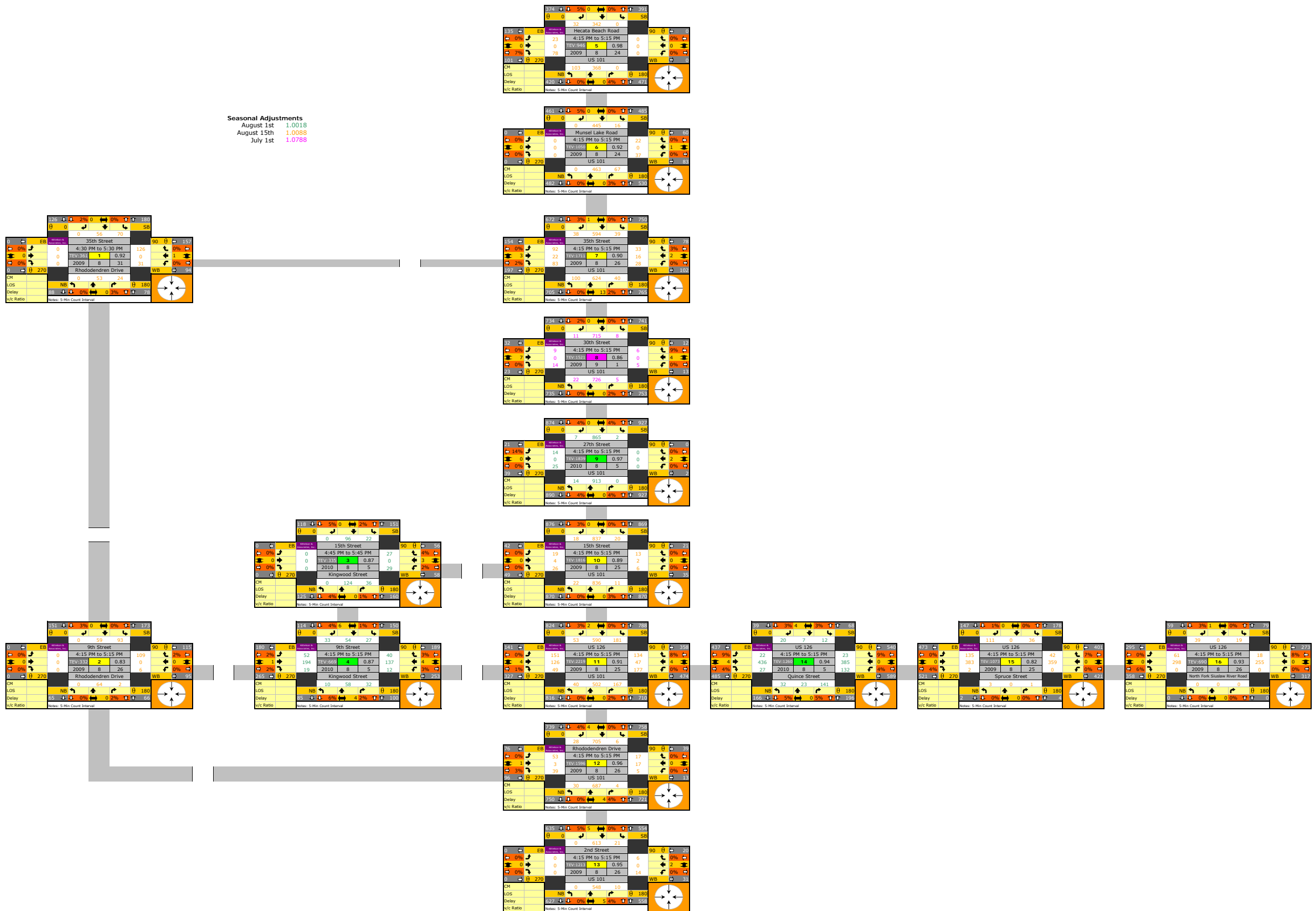


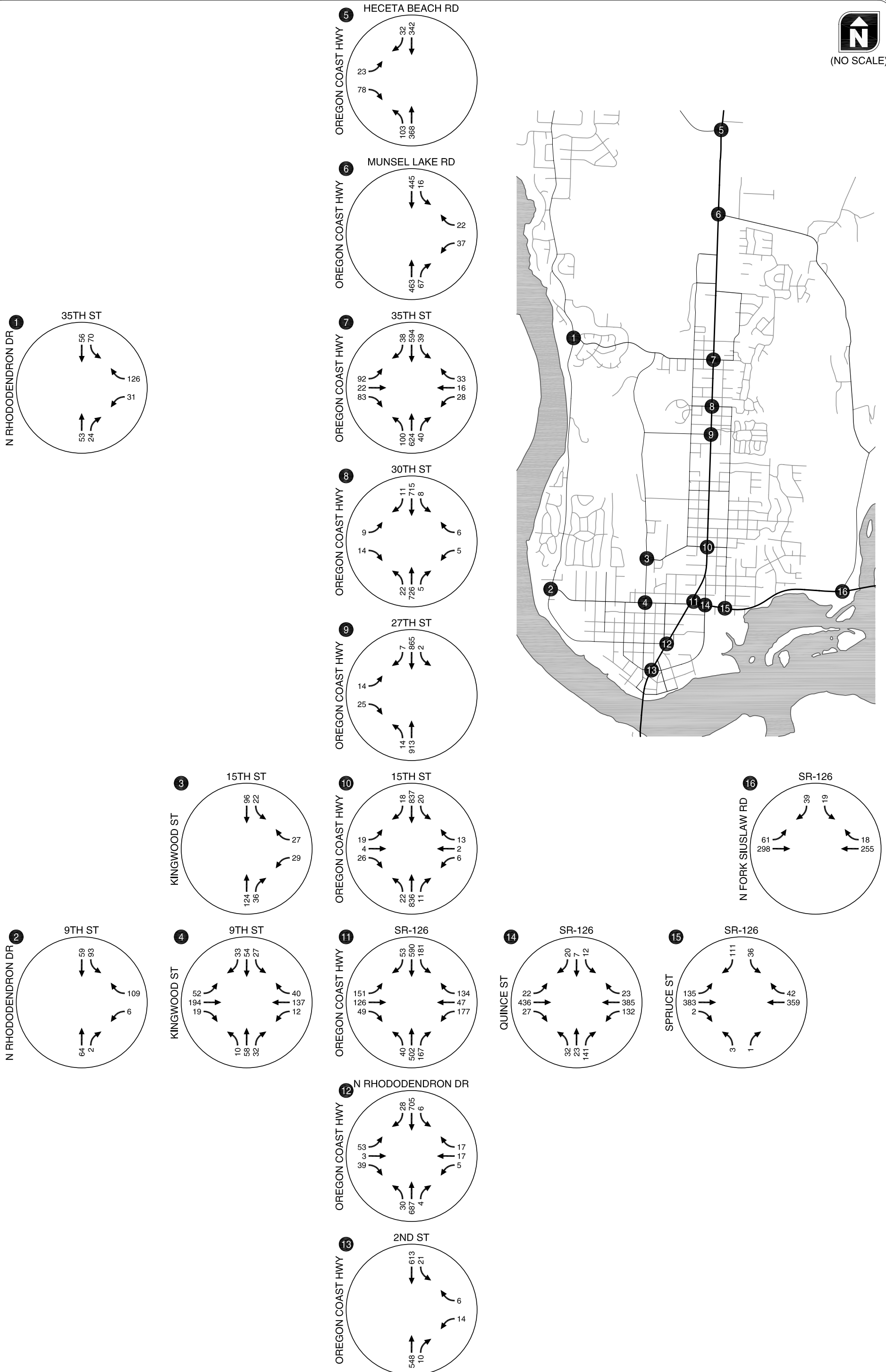


RAW VOLUMES  
WEEKDAY PM PEAK HOUR  
FLORENCE, OR  
FIGURE  
**J-1**



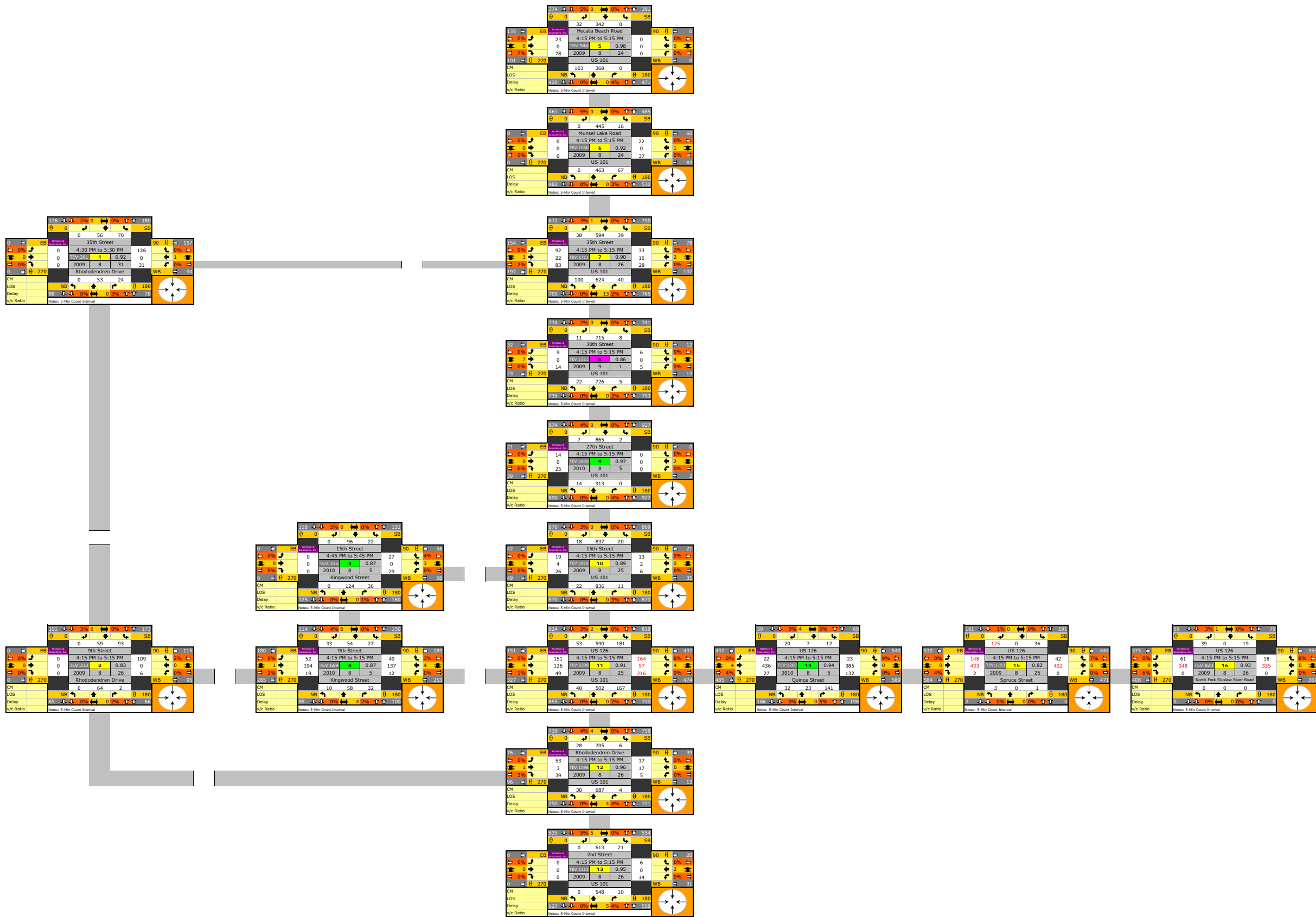
Seasonal Adjustments  
 August 1st 1.0018  
 August 15th 1.0083  
 July 1st 1.0788

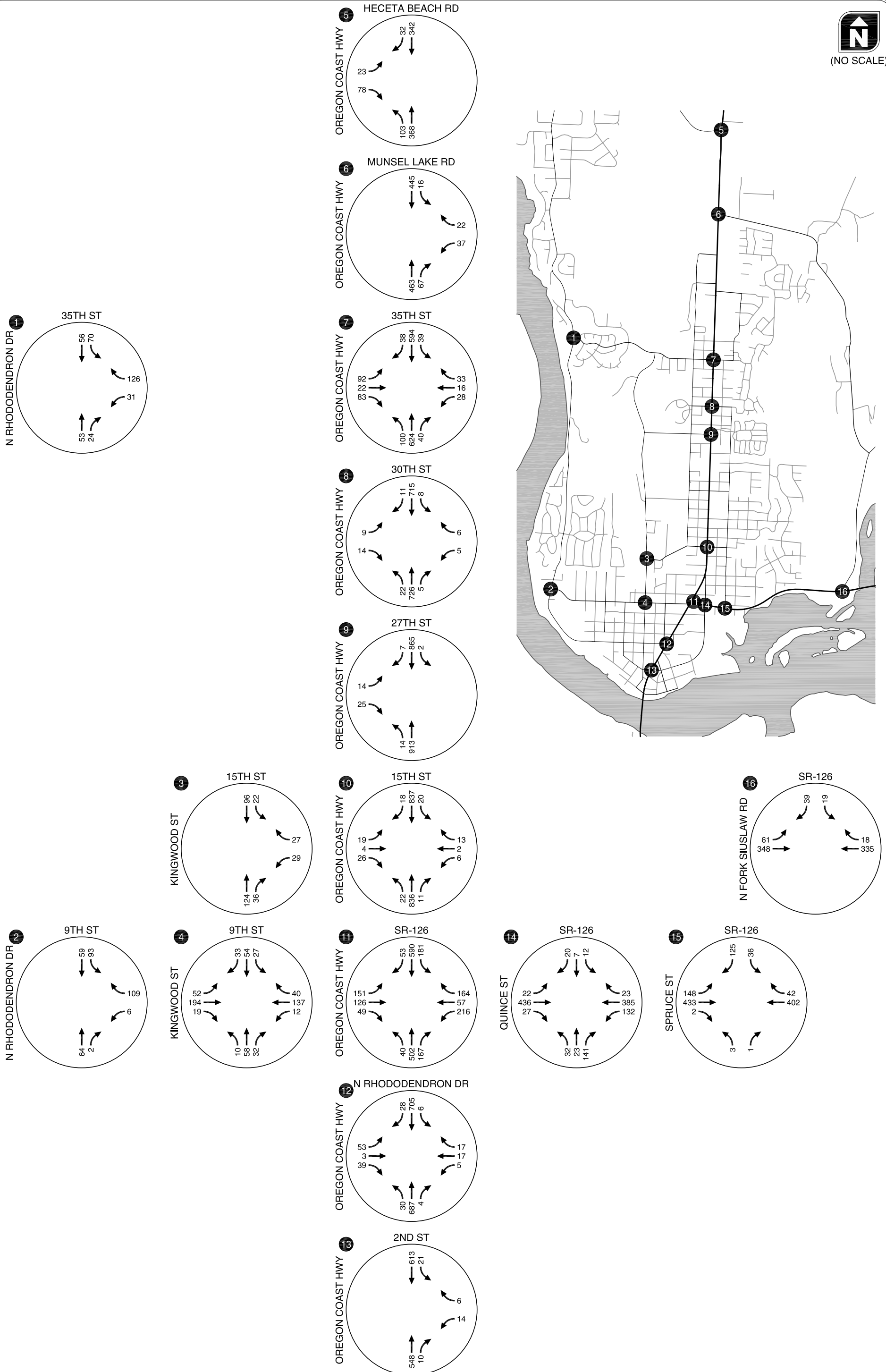




SEASONALLY ADJUSTED VOLUMES  
WEEKDAY PM PEAK HOUR  
FLORENCE, OR **FIGURE J-2**

C:\Documents and Settings\darguea\Desktop\10103 - Florence TGM Grant Application\dwgs\figs\10103fig01.dwg Jun 10, 2011 - 7:41am - darguea Layout Tab: Seasonally Adjusted





BALANCED VOLUMES  
WEEKDAY PM PEAK HOUR  
FLORENCE, OR

FIGURE  
**J-3**

C:\Documents and Settings\darguea\Desktop\10103 - Florence TGM Grant Application\dwgs\figs\10103fig01.dwg Jun 10, 2011 - 7:41am - darguea Layout Tab: Balanced Volumes

## Diego Arguea

---

**From:** Chris Tiesler  
**Sent:** Tuesday, August 31, 2010 3:34 PM  
**To:** Diego Arguea  
**Subject:** FW: Florence TSP Traffic Analysis Assumptions  
**Attachments:** Traffic Volume Growth.pdf; ATR seasonal adjustment.pdf  
  
**Importance:** High

Response to our volume questions

---

**From:** UPTON Dorothy J [mailto:Dorothy.J.UPTON@odot.state.or.us]  
**Sent:** Thursday, August 26, 2010 2:16 PM  
**To:** HELTON David I  
**Cc:** Chris Tiesler  
**Subject:** FW: Florence TSP Traffic Analysis Assumptions  
**Importance:** High

Thanks for the opportunity to comment.

As for the growth, it is acceptable based on the flat trend of the last year or two to not grow the 2009 volumes to 2010. The volumes have not likely changed much for the one year especially when looking at the long trend of growth.

As for the seasonal adjustment, the analysis needs to follow the APM process. The process has three steps -

1. On-Site - no since there are no ATR's on site
2. Characteristic Table - finding one or two ATR's that represent the counts that need to be adjusted.
  - o This would use the Coastal Destination and likely small urban/small urban fringe and then use # of lanes and AADT to filter further. With volumes in Florence ranging from 9300-15500 it is hard to use just one volume for this filtering - so this is not a good process for use in an entire town with counts at multiple locations
3. Trend Table - This table combines the data across all this category for a a single report for this characteristic.
  - o Using the Coastal Destination category, the adjustment can be used. The factor should be interpolated between the two points given so depending on when the actual counts were taken there may be no adjustment or it could be more (ie a count on July 10 would be interpolated as 0.85 which would then have a factor of  $0.85/0.82$ =which is 1.037.

The Trend Table method is the appropriate method that should be used for this. The count dates will need to be documented so as to determine if/how much seasonal adjustment is needed.

Call if you have questions.

***Dorothy J. Upton, PE***

Senior Transportation Analyst  
Transportation Planning Analysis Unit (TPAU)  
555 13th Street NE, Suite 2  
Salem, OR 97301-4178

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Fax 503-986-4174  
email dorothy.j.upton@odot.state.or.us

---

**From:** HELTON David I  
**Sent:** Wednesday, August 25, 2010 6:55 PM  
**To:** UPTON Dorothy J  
**Subject:** FW: Florence TSP Traffic Analysis Assumptions  
**Importance:** High

Dorothy:

For the Florence TSP Update project, our consultants at Kittelson have asked for "approval" of their assumptions for adjustment of existing traffic volumes. In short, they propose to

- not grow the 2009 volumes to 2010 because little growth was observed, and
- to not seasonally adjust the volumes as the counts were collected in August.

Please review these assumptions and let us know if you think these proposals are reasonable and acceptable. You're welcome to forward this request to others at TPAU if appropriate. Thank you in advance for your attention to this request.

-----  
David Helton  
Transportation/Land Use Planner  
Transportation and Growth Management Program  
Oregon Department of Transportation  
(541) 726-2545

---

**From:** Chris Tiesler [mailto:ctiesler@kittelson.com]  
**Sent:** Wednesday, August 25, 2010 5:47 PM  
**To:** HELTON David I  
**Cc:** BELSON Sandra (SMTP); Dan Seeman; Chris Tiesler; Diego Arguea  
**Subject:** Florence TSP Traffic Analysis Assumptions  
**Importance:** High

Dear David,

This email is intended to provide you with our traffic volume adjustment assumptions as we establish an existing conditions analysis base case for the Florence TSP study intersections. As we've discussed previously, I'm sending this to you so that you can pass it along to the appropriate person(s) at TPAU who must approve these assumptions. Our assumptions are summarized below and the methodology/justification is provided in more detail below.

1. We propose to maintain 2009 the volumes as provided (no growth to 2010 as no growth was observed in the area). 2010 volumes collected in August 2010 will be balanced with the 2009 volumes.
2. We propose to not make any seasonal adjustments to the traffic volumes. The volumes were collected during the peak months (July/August) and any adjustment would be insignificant/negligible.

It is our hope that you will approve these assumptions so that we may continue our analysis.

**Assumption 1: No growth from 2009-2010**

As you know, we have ODOT traffic counts from year 2009, and we have also collected traffic volume data in August 2010. Because we do not have any overlapping intersections, we made the assumption that we would be required to grow the 2009 volumes along US 101 by a one year growth factor, to be determined by traffic volumes along US 101.

The future volume tables (2006-2028) indicate an average annual growth of

- 1.94% at the north city limits (MP 187.58)
- 2.59% at 0.02 mi south of 29<sup>th</sup> Street (MP 189.05)
- 0.53% at the south city limits (MP 190.98)

After reviewing the collected traffic volumes from August 2010 data, there does not appear to be a significant growth in the neighboring intersections from those volumes collected in 2009. As such, we also reviewed the historical volume trends along US 101. From 1999-2009, the average annual growth rates found at each of the same locations as above were as follows:

- -0.41% at the north city limits (MP 187.58)
- -1.04% at 0.02 mi south of 29<sup>th</sup> Street (MP 189.05)
- -1.93% at the south city limits (MP 190.98)

The trends are slightly negative, and the attached PDF document illustrates the trend over the ten year period.

As such, we are not proposing to grow the 2009 volumes and rather balance these volumes with the existing 2010 traffic volumes collected this August.

### **Assumption 2: No seasonal adjustment**

The second item we'd like for you to confirm is that there is no need to seasonally adjust the traffic volumes along the state highways. Because all data was collected in August, the peak travel season is represented in the data and no further adjustment should be made. To verify this, we reviewed neighboring ATR stations as there is no ATR near Florence that could be applied. Of the ATRs reviewed (06-001 Lakeside, 06-009 Coos Bay, 21-007 West Devils Lake, 21-008 D River Wayside, 29-001 Rockaway, and 21-009 Newport), the best fit for use within Florence is the ATR located in Newport. This is the only ATR that showed traffic volumes within 10% of those in Florence, and its seasonal travel patterns and isolation from other major interstate highways and state routes prove this a similar area for seasonal comparison. This data shows that the peak months occur in July/August, with a 1.0027 adjustment in favor of July. This is not a significant adjustment, and applying this rate would add approximately 3 vehicles for every 1,000. The ATR data for 21-009 is shown as an attached PDF document.

Please confirm these assumptions at your earliest convenience. If you have any questions or comments, feel free to give me or Diego Arguea a call.

Thanks!

Christopher Tiesler, P.E.  
*Senior Engineer*

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| 2010 SEASONAL TREND TABLE (Printed: 07/07/10) |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       | Peak Period<br>Seasonal<br>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.

| Location     | Count | Dat       | Count | Dats | Peak   | Perio | 30th | HV | Factor |
|--------------|-------|-----------|-------|------|--------|-------|------|----|--------|
| 1 Kingwood   | 0.82  | 8/5/2010  | 0.82  | 0.82 | 1.0018 |       |      |    |        |
| 2 Kingwood   | 0.82  | 8/5/2010  | 0.82  | 0.82 | 1.0018 |       |      |    |        |
| 3 Hwy 101/2  | 0.82  | 8/5/2010  | 0.82  | 0.82 | 1.0018 |       |      |    |        |
| 4 Quince St  | 0.82  | 8/5/2010  | 0.82  | 0.82 | 1.0018 |       |      |    |        |
| 5 Hwy 101/H  | 0.83  | 8/24/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 6 Hwy 101/M  | 0.83  | 8/24/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 7 Hwy 101/I  | 0.83  | 8/25/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 8 Hwy 101/S  | 0.83  | 8/25/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 9 Spruce St  | 0.83  | 8/25/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 10 Rhododenc | 0.83  | 8/26/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 11 Hwy 101/3 | 0.83  | 8/26/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 12 Hwy 101/R | 0.83  | 8/26/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 13 Hwy 101/2 | 0.83  | 8/26/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 14 N Fork St | 0.83  | 8/26/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 15 Rhododenc | 0.83  | 8/31/2009 | 0.83  | 0.82 | 1.0088 |       |      |    |        |
| 16 Hwy 101/3 | 0.88  | 9/1/2009  | 0.88  | 0.82 | 1.0788 |       |      |    |        |



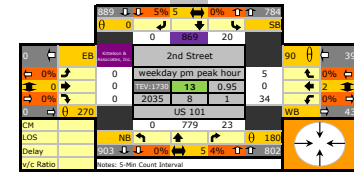
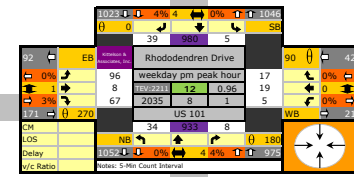
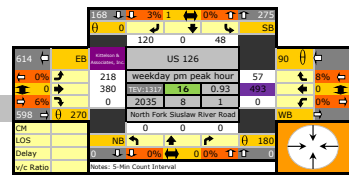
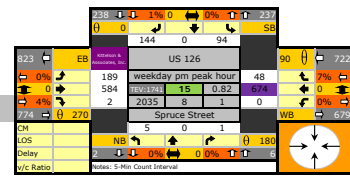
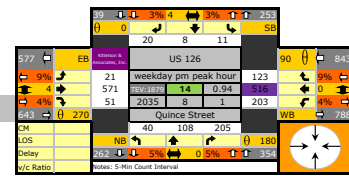
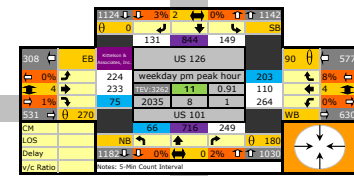
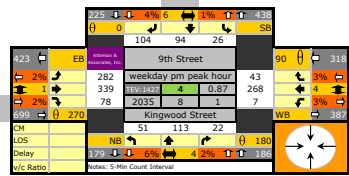
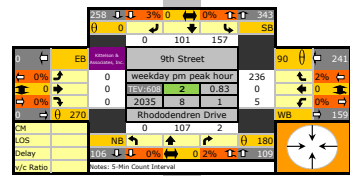
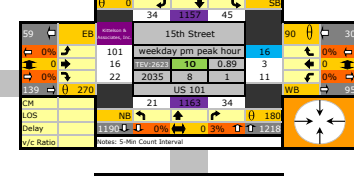
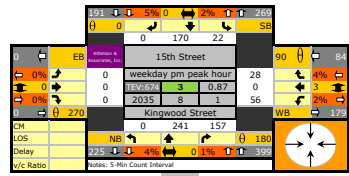
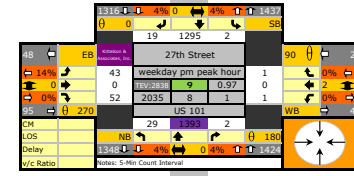
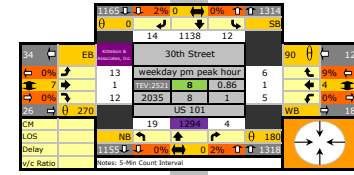
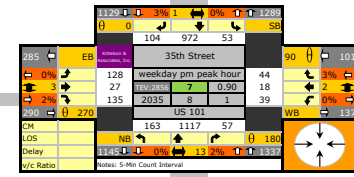
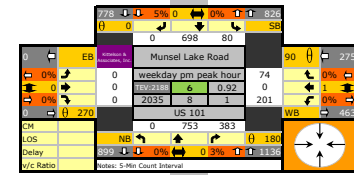
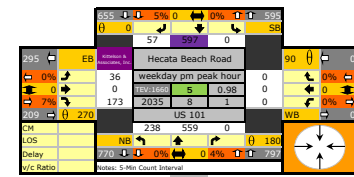
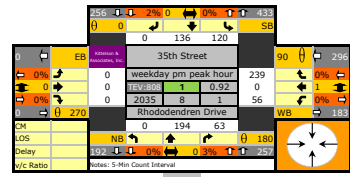
# NCHRP 255 Traffic Volume Forecast Methodology

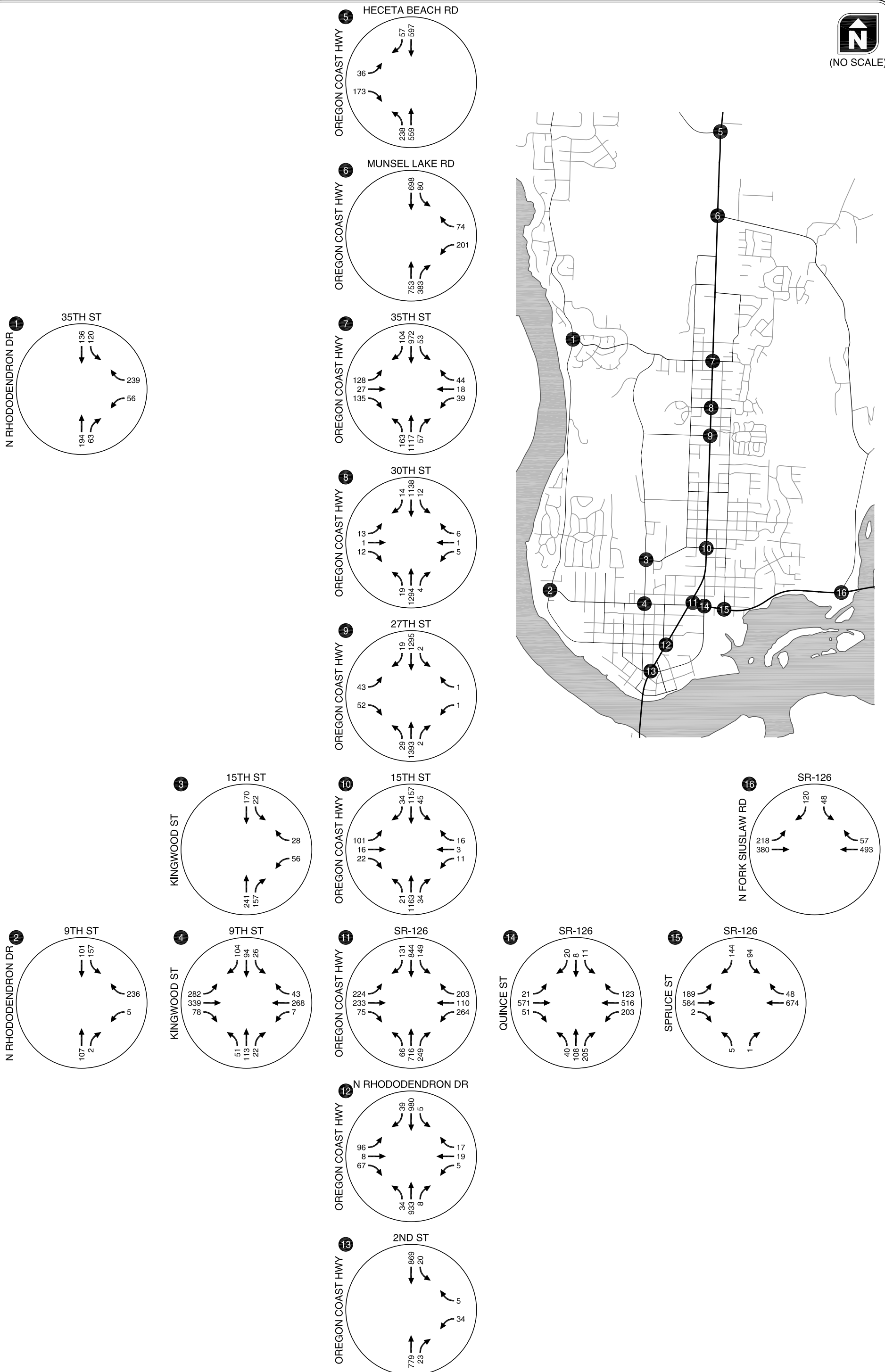
| Intersection Name | Movement | Existing        | Base Model | Future Model | Ratio | Difference | Average | Analysis Volume | Ratio Test | Difference Test 1 | Difference Test 2 | Difference Test 3 | New Link Test | Removed Link Test | Check Summary |
|-------------------|----------|-----------------|------------|--------------|-------|------------|---------|-----------------|------------|-------------------|-------------------|-------------------|---------------|-------------------|---------------|
|                   |          | Turning Volumes | Volume     | Volume       |       |            |         |                 |            |                   |                   |                   |               |                   |               |
| 1                 | EBL      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | EBT      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | EBR      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBL      | 30              | 34         | 62           | 55    | 58         | 56      | 56              | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBT      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBR      | 125             | 151        | 276          | 228   | 250        | 239     | 239             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | NBL      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | NBT      | 55              | 132        | 328          | 137   | 251        | 194     | 194             | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |
|                   | NBR      | 25              | 36         | 81           | 56    | 70         | 63      | 63              | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBL      | 70              | 91         | 147          | 113   | 126        | 120     | 120             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBT      | 55              | 80         | 176          | 121   | 151        | 136     | 136             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBR      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
| 2                 | EBL      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | EBT      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | EBR      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBL      | 5               | 0          | 0            |       | 5          | 5       | 5               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Check         |
|                   | WBT      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBR      | 110             | 226        | 396          | 193   | 280        | 236     | 236             | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |
|                   | NBL      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | NBT      | 65              | 140        | 197          | 91    | 122        | 107     | 107             | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |
|                   | NBR      | 2               | 0          | 0            |       | 2          | 2       | 2               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Check         |
|                   | SBL      | 95              | 134        | 206          | 146   | 167        | 157     | 157             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBT      | 60              | 84         | 132          | 94    | 108        | 101     | 101             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBR      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
| 3                 | EBL      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | EBT      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | EBR      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBL      | 30              | 31         | 57           | 55    | 56         | 56      | 56              | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBT      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBR      | 25              | 12         | 14           | 29    | 27         | 28      | 28              | Okay       | Okay              | Check             | Okay              | Okay          | Okay              | Check         |
|                   | NBL      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | NBT      | 125             | 91         | 189          | 260   | 223        | 241     | 241             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | NBR      | 35              | 30         | 143          | 167   | 148        | 157     | 157             | Okay       | Check             | Okay              | Okay              | Okay          | Okay              | Check         |
|                   | SBL      | 20              | 10         | 11           | 22    | 21         | 22      | 22              | Okay       | Okay              | Check             | Okay              | Okay          | Okay              | Check         |
|                   | SBT      | 95              | 69         | 132          | 182   | 158        | 170     | 170             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBR      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
| 4                 | EBL      | 50              | 27         | 190          | 352   | 213        | 282     | 282             | Okay       | Check             | Check             | Okay              | Okay          | Okay              | Check         |
|                   | EBT      | 195             | 313        | 490          | 305   | 372        | 339     | 339             | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |
|                   | EBR      | 20              | 36         | 110          | 61    | 94         | 78      | 78              | Okay       | Check             | Okay              | Check             | Okay          | Okay              | Check         |
|                   | WBL      | 10              | 2          | 1            | 5     | 9          | 7       | 7               | Okay       | Okay              | Check             | Okay              | Okay          | Okay              | Check         |
|                   | WBT      | 135             | 265        | 441          | 225   | 311        | 268     | 268             | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |
|                   | WBR      | 40              | 19         | 21           | 44    | 42         | 43      | 43              | Okay       | Okay              | Check             | Okay              | Okay          | Okay              | Check         |
|                   | NBL      | 10              | 30         | 92           | 31    | 72         | 51      | 51              | Okay       | Check             | Okay              | Check             | Okay          | Okay              | Check         |
|                   | NBT      | 60              | 70         | 127          | 109   | 117        | 113     | 113             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | NBR      | 30              | 2          | 1            | 15    | 29         | 22      | 22              | Okay       | Okay              | Check             | Okay              | Okay          | Okay              | Check         |
|                   | SBL      | 25              | 14         | 15           | 27    | 26         | 26      | 26              | Okay       | Okay              | Check             | Okay              | Okay          | Okay              | Check         |
|                   | SBT      | 55              | 57         | 97           | 94    | 95         | 94      | 94              | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBR      | 35              | 24         | 80           | 117   | 91         | 104     | 104             | Okay       | Check             | Okay              | Okay              | Okay          | Okay              | Check         |
| 5                 | EBL      | 25              | 41         | 55           | 34    | 39         | 36      | 36              | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |
|                   | EBT      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | EBR      | 80              | 216        | 351          | 130   | 215        | 173     | 173             | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |
|                   | WBL      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBT      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | WBR      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | NBL      | 105             | 333        | 535          | 169   | 307        | 238     | 238             | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |
|                   | NBT      | 370             | 544        | 769          | 523   | 595        | 559     | 559             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | NBR      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBL      | 0               | 0          | 0            |       | 0          | 0       | 0               | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBT      | 340             | 396        | 576          | 495   | 520        | 507     | 507             | Okay       | Okay              | Okay              | Okay              | Okay          | Okay              | Okay          |
|                   | SBR      | 30              | 49         | 83           | 51    | 64         | 57      | 57              | Okay       | Okay              | Okay              | Check             | Okay          | Okay              | Check         |





**LEGEND**  
 Adjusted based on observed volumes (model did not seem to be predicting in the correct trend direction (also see note in NCHRP 255 tab))  
 Balanced/adjusted to reflect balancing conditions similar to those observed volumes



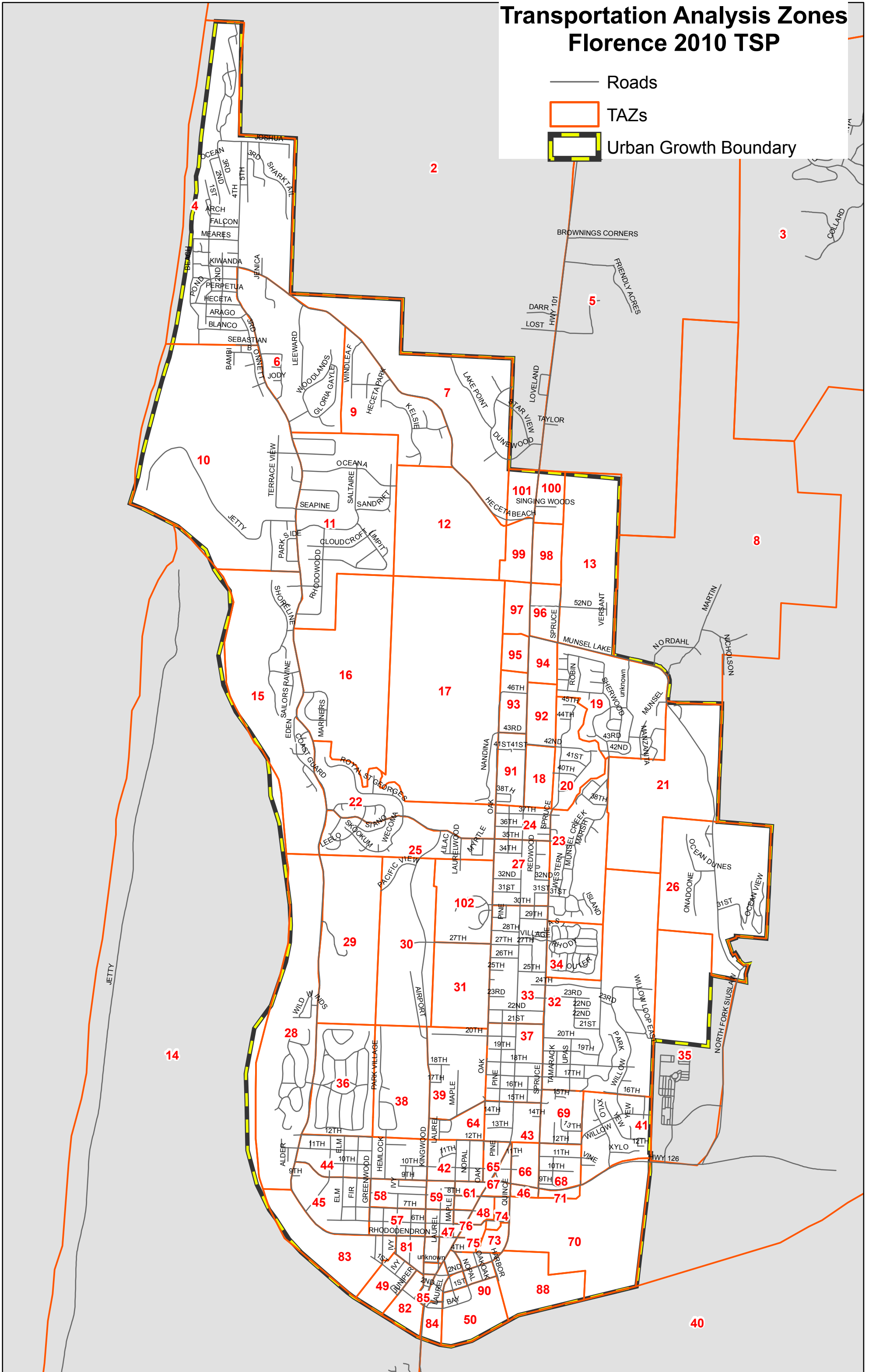


FORECAST ANALYSIS VOLUMES  
WEEKDAY PM PEAK HOUR  
FLORENCE, OR **FIGURE J-3**

C:\Documents and Settings\darguea\Desktop\10103 - Florence TGM Grant Application\dwgs\figs\10103fig01.dwg Jun 10, 2011 - 7:56am - darguea Layout Tab: Forecast Analysis Volumes

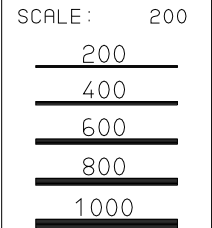
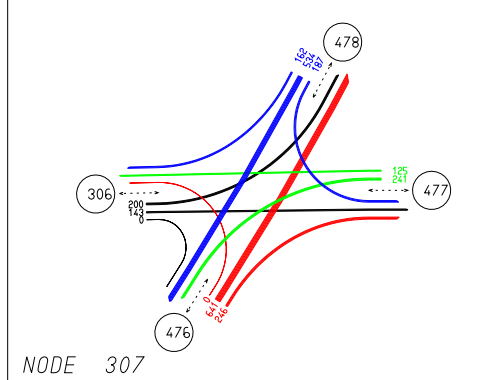
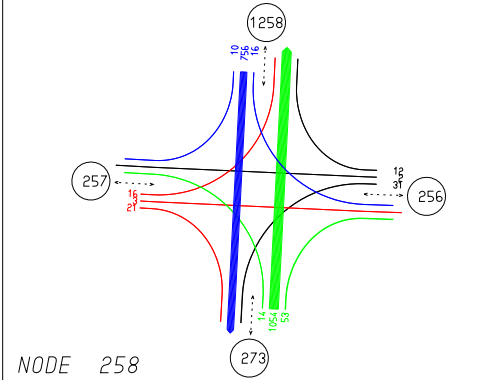
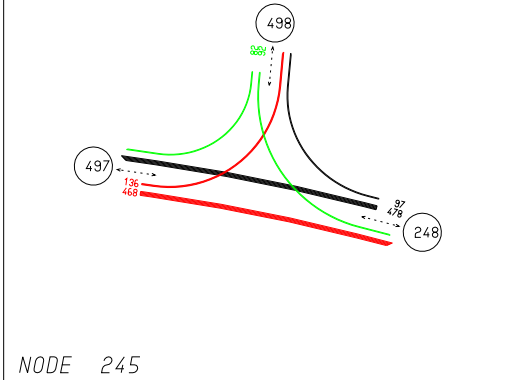
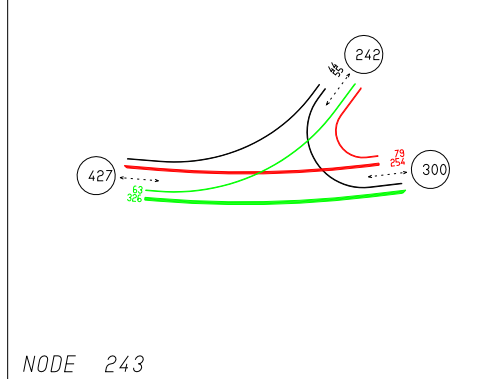
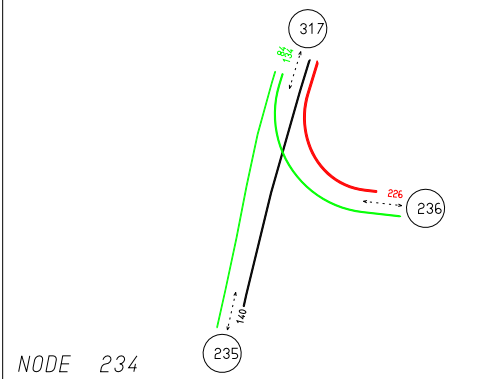
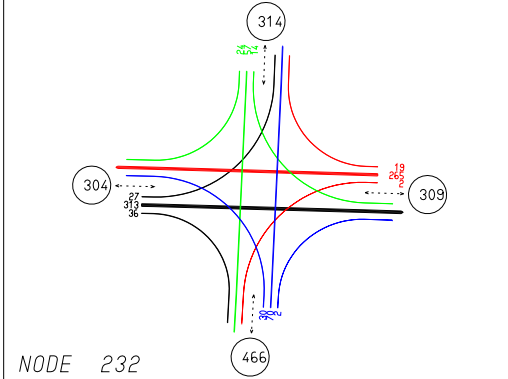
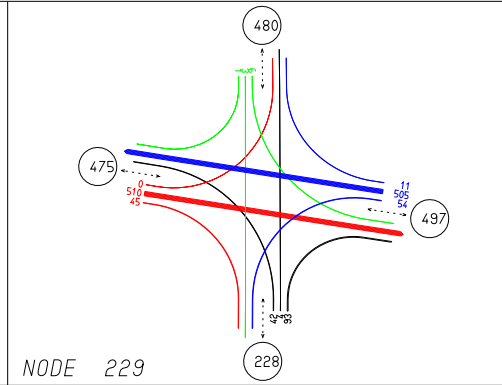
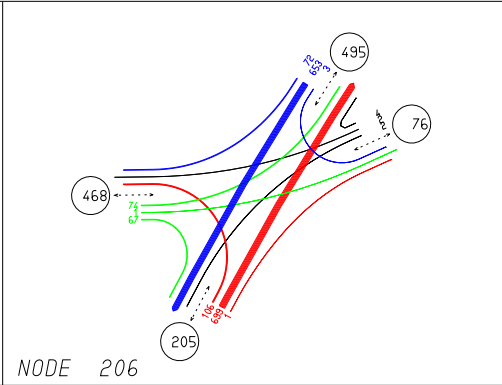
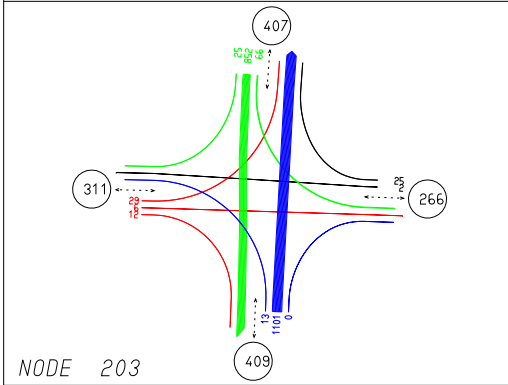
# Transportation Analysis Zones Florence 2010 TSP

- Roads
- ▭ TAZs
- ▭ Urban Growth Boundary



# AUTO VOLUMES ON INTERSECTIONS

emme/2



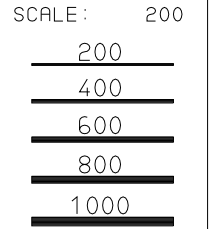
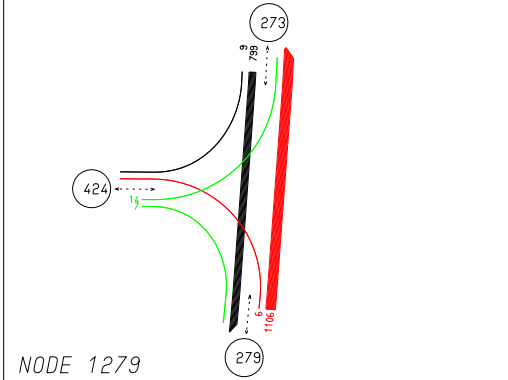
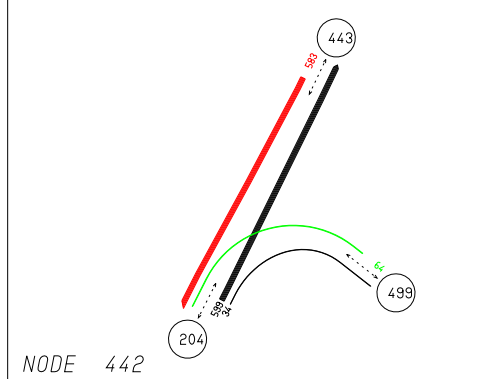
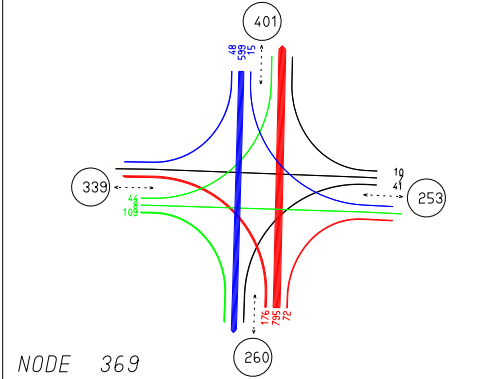
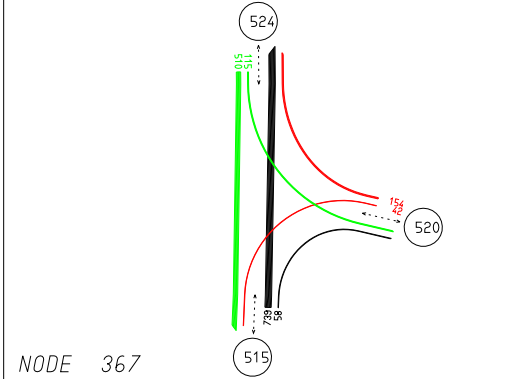
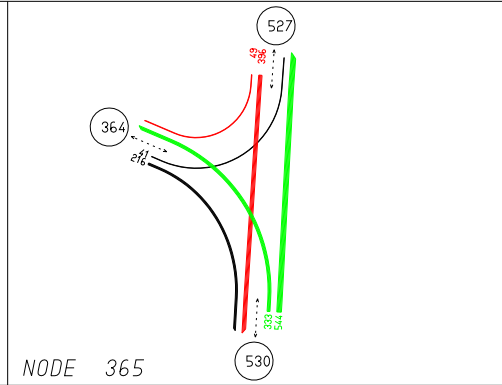
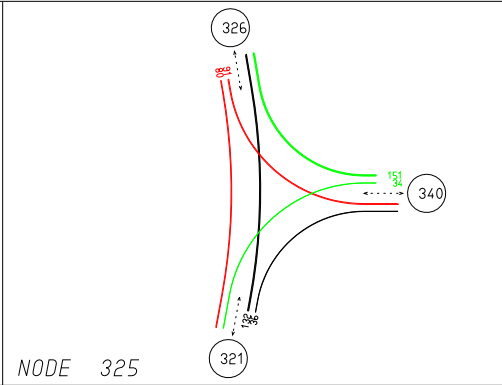
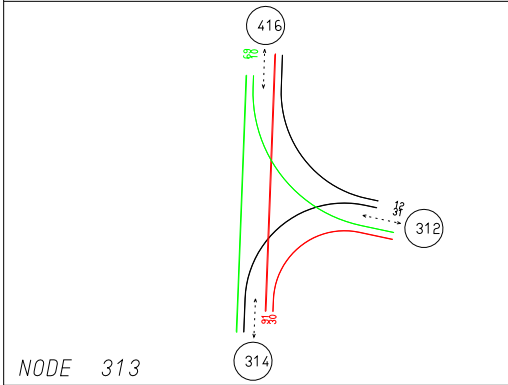
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 SCENARIO 212 : 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:43  
 MODULE : 6.14  
 OREGONDT...sgp



# AUTO VOLUMES ON INTERSECTIONS

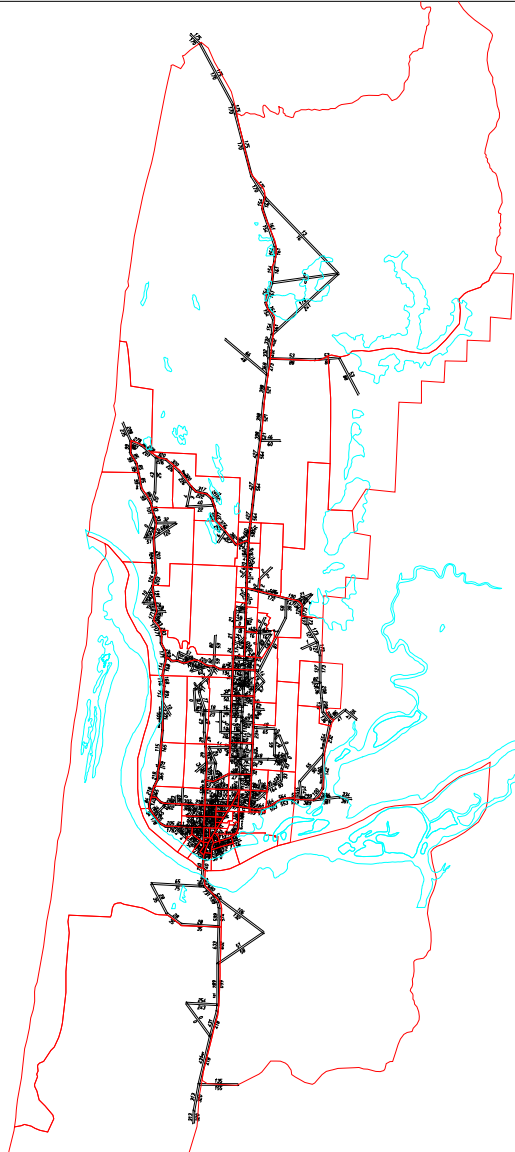
emme/2





AUTO VOLUMES

emme/2



LINKS:  
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THRESHOLD:  
LOWER: -.001  
UPPER: 999999

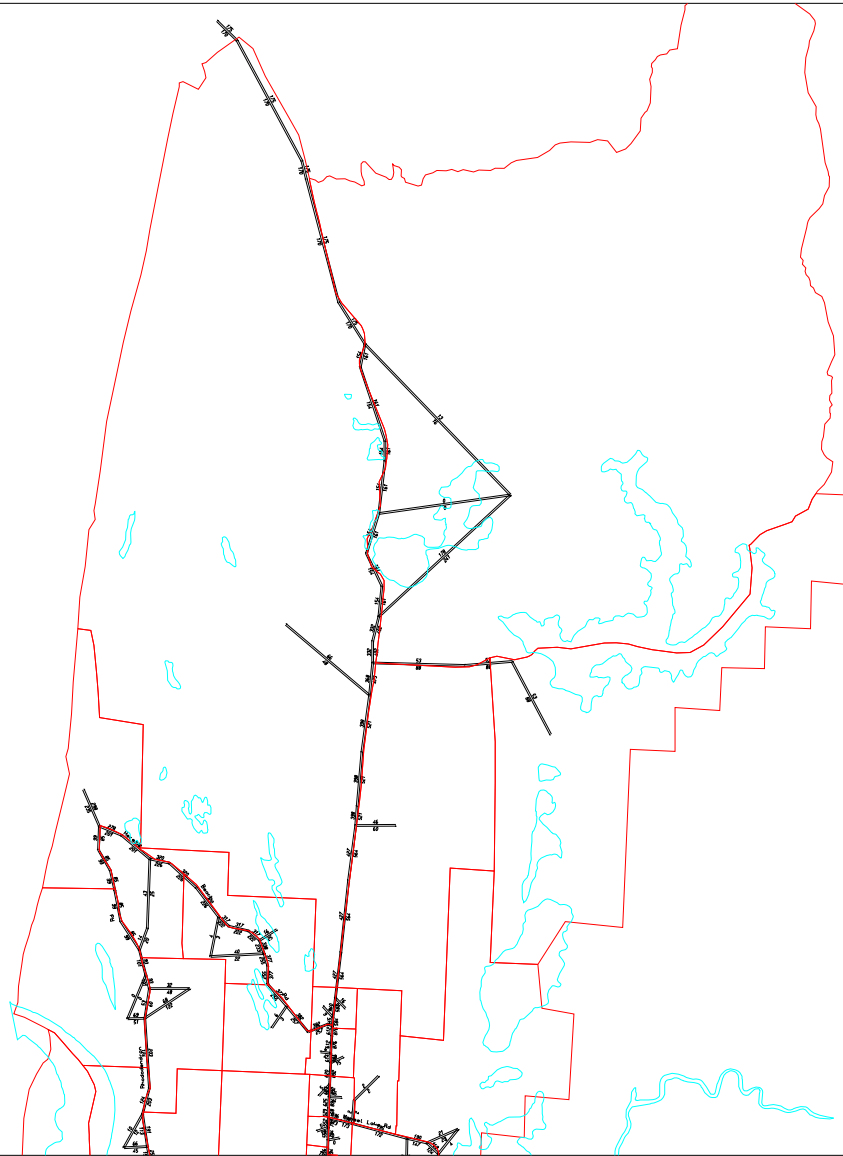
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207.96/172.227

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:51  
MODULE: 6.12  
OREGOND.T...sgp

# AUTO VOLUMES

emme/2



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all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

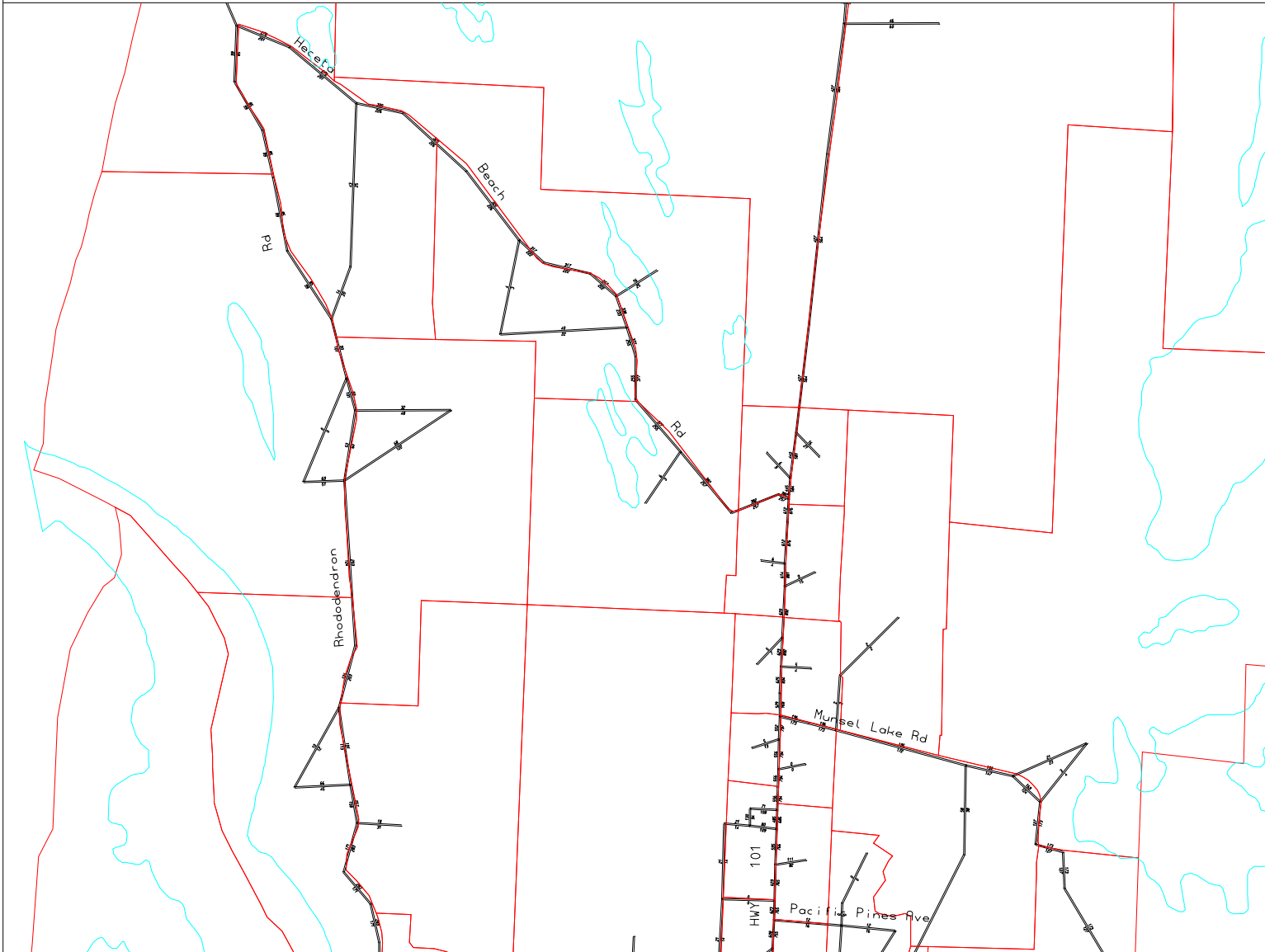
WINDOW B:  
195.08/165.418  
203.8/171.958

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:51  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
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THRESHOLD:  
LOWER: -.001  
UPPER: 999999

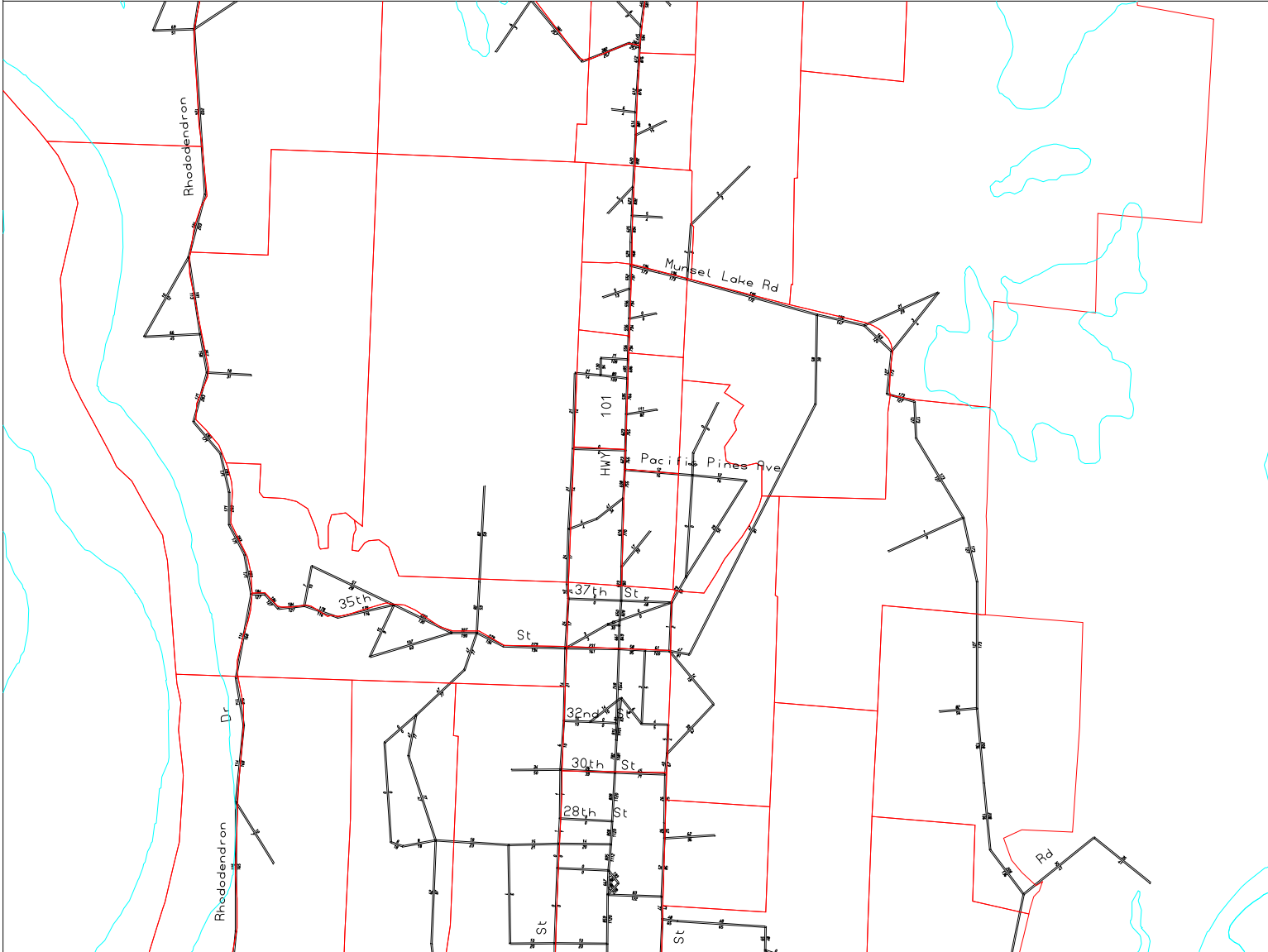
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200.61/167.341

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
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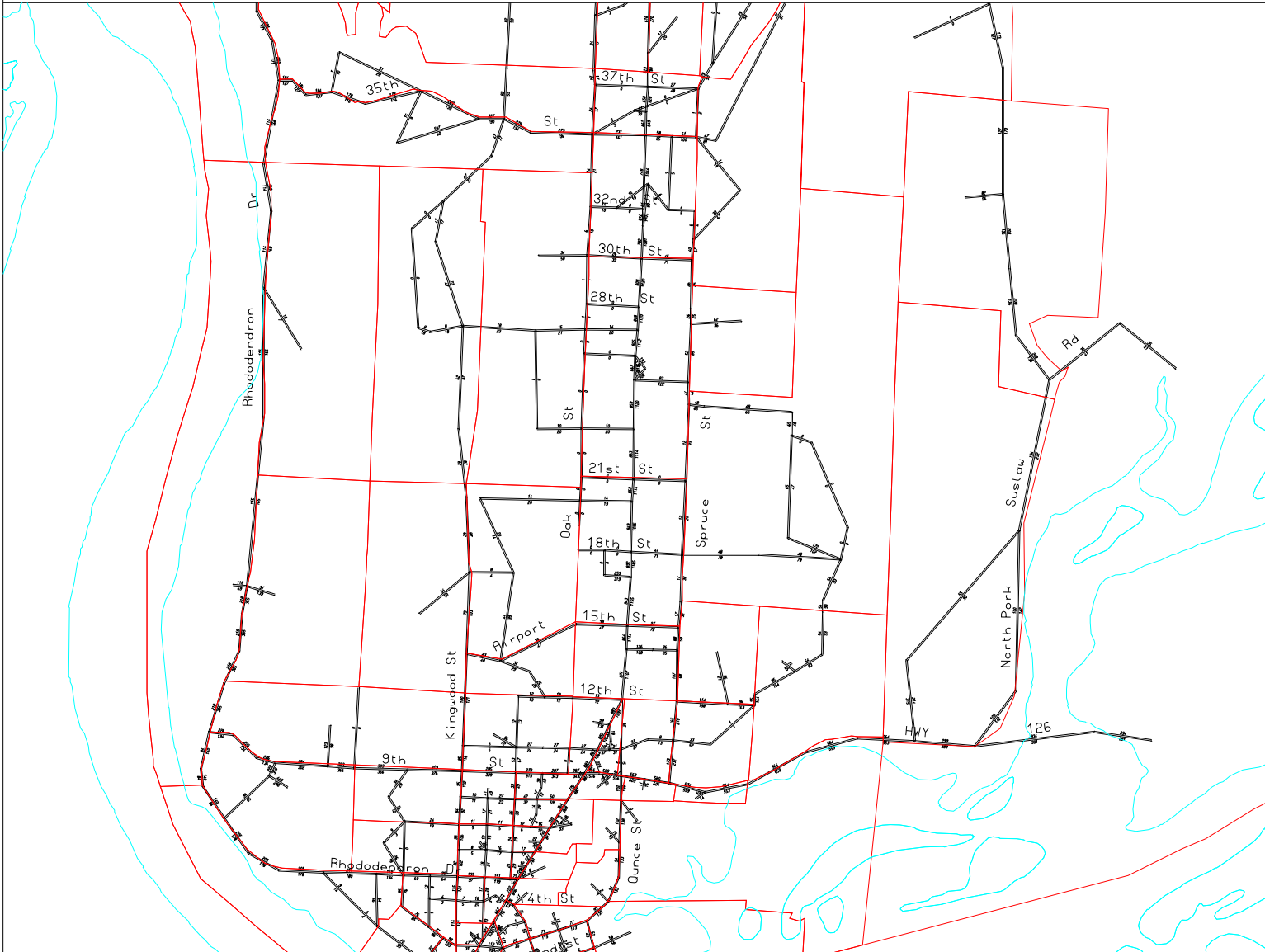
WINDOW D:  
197.93/163.987  
200.97/166.264

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGOND...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

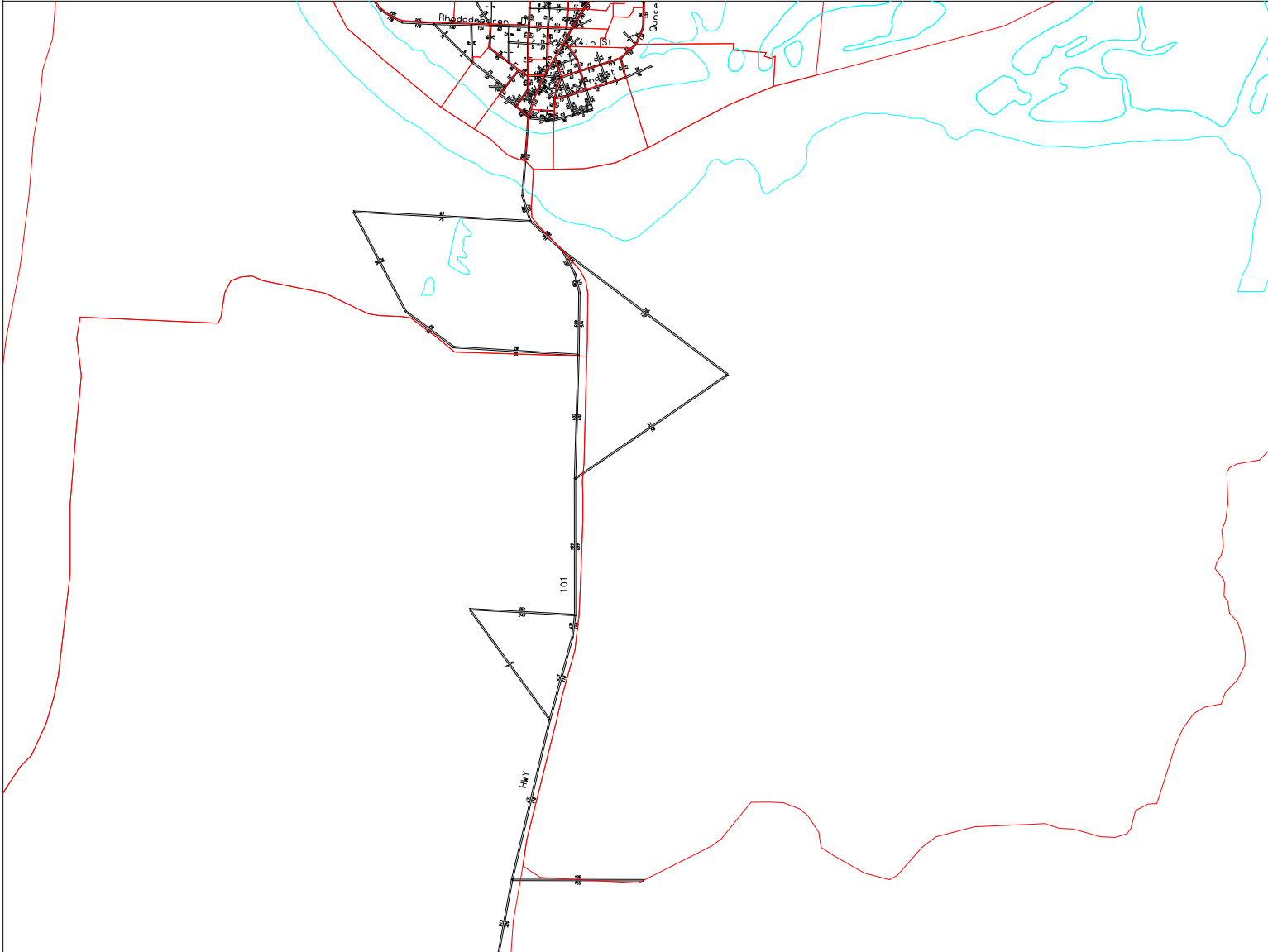
WINDOW E:  
197.86/162.755  
200.9/165.032

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

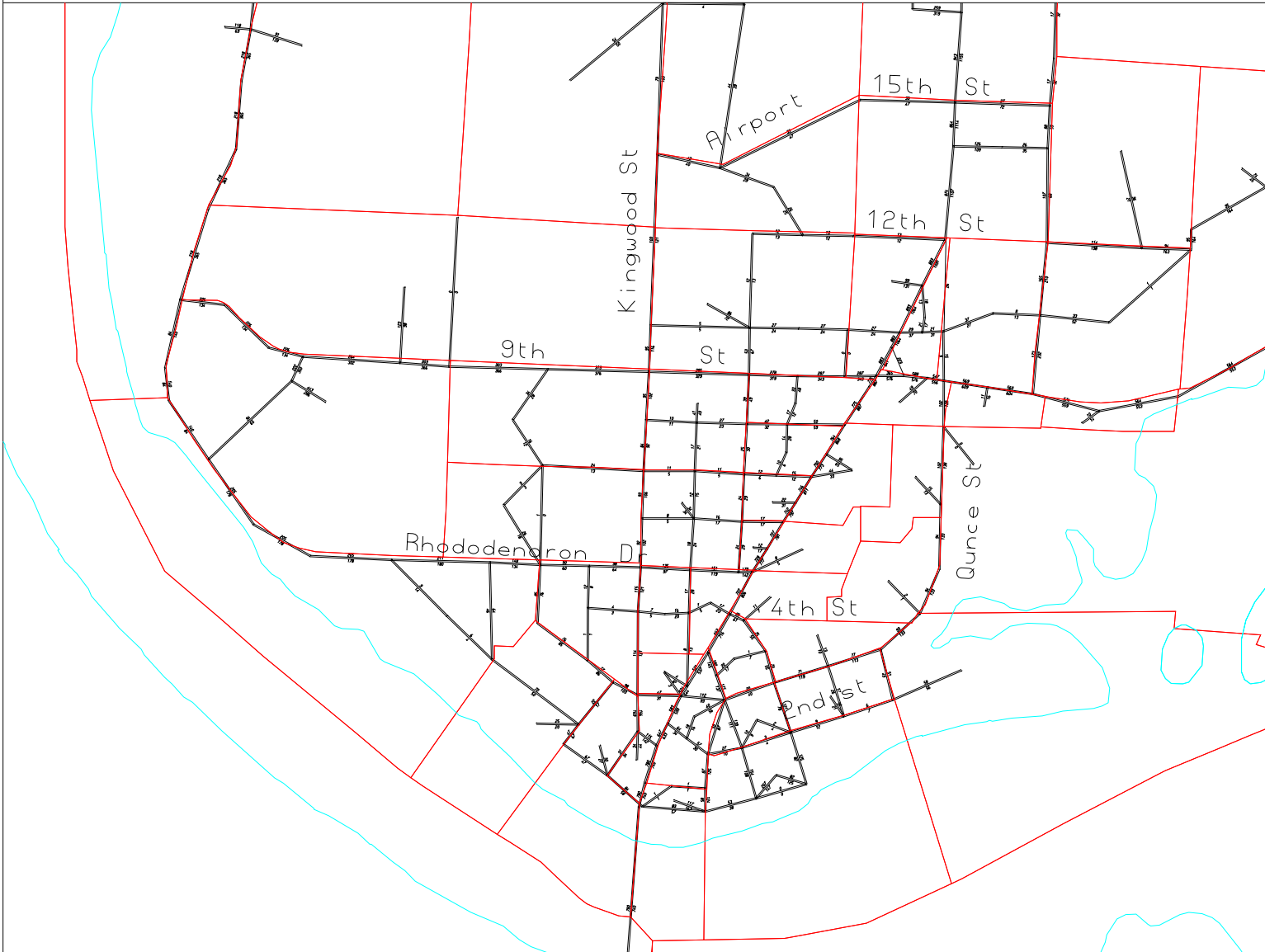
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201.47/163.026

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

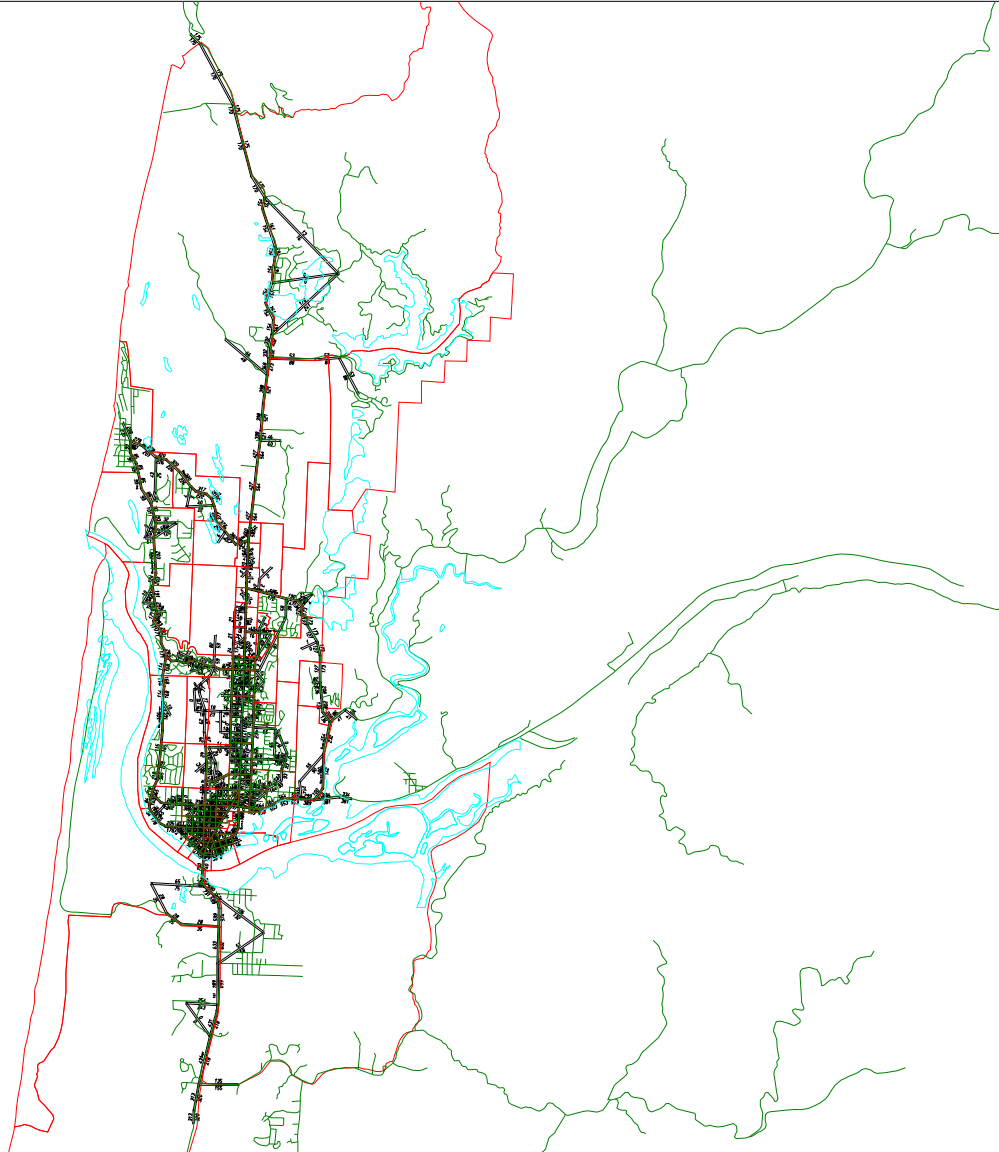
WINDOW G:  
198.13/ 162.44  
199.77/163.669

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGONDT...sgp

AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

WINDOW A:  
190.7/159.281  
207.96/172.227

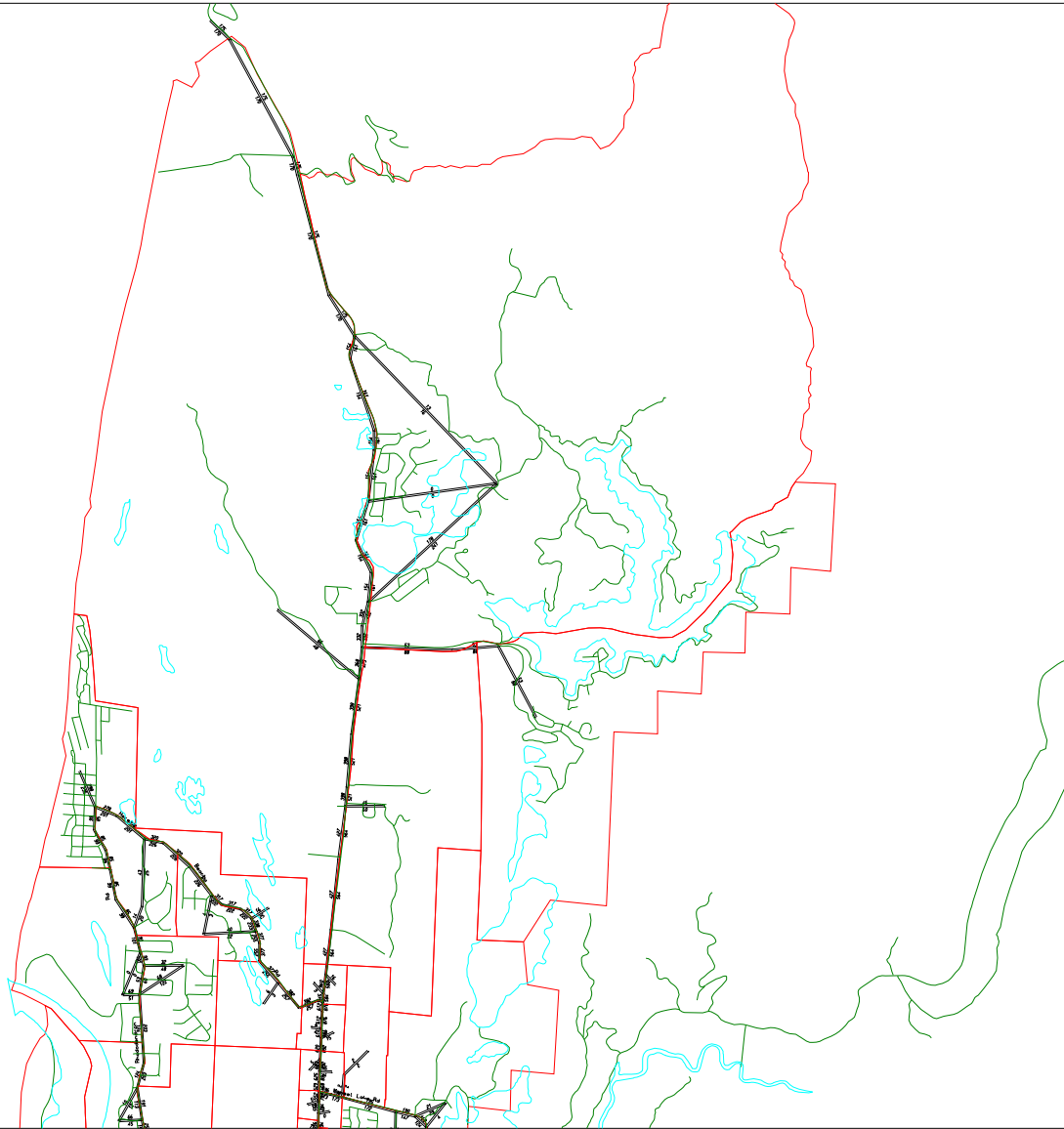
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SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGONDT...sgp



AUTO VOLUMES

emme/2



LINKS:  
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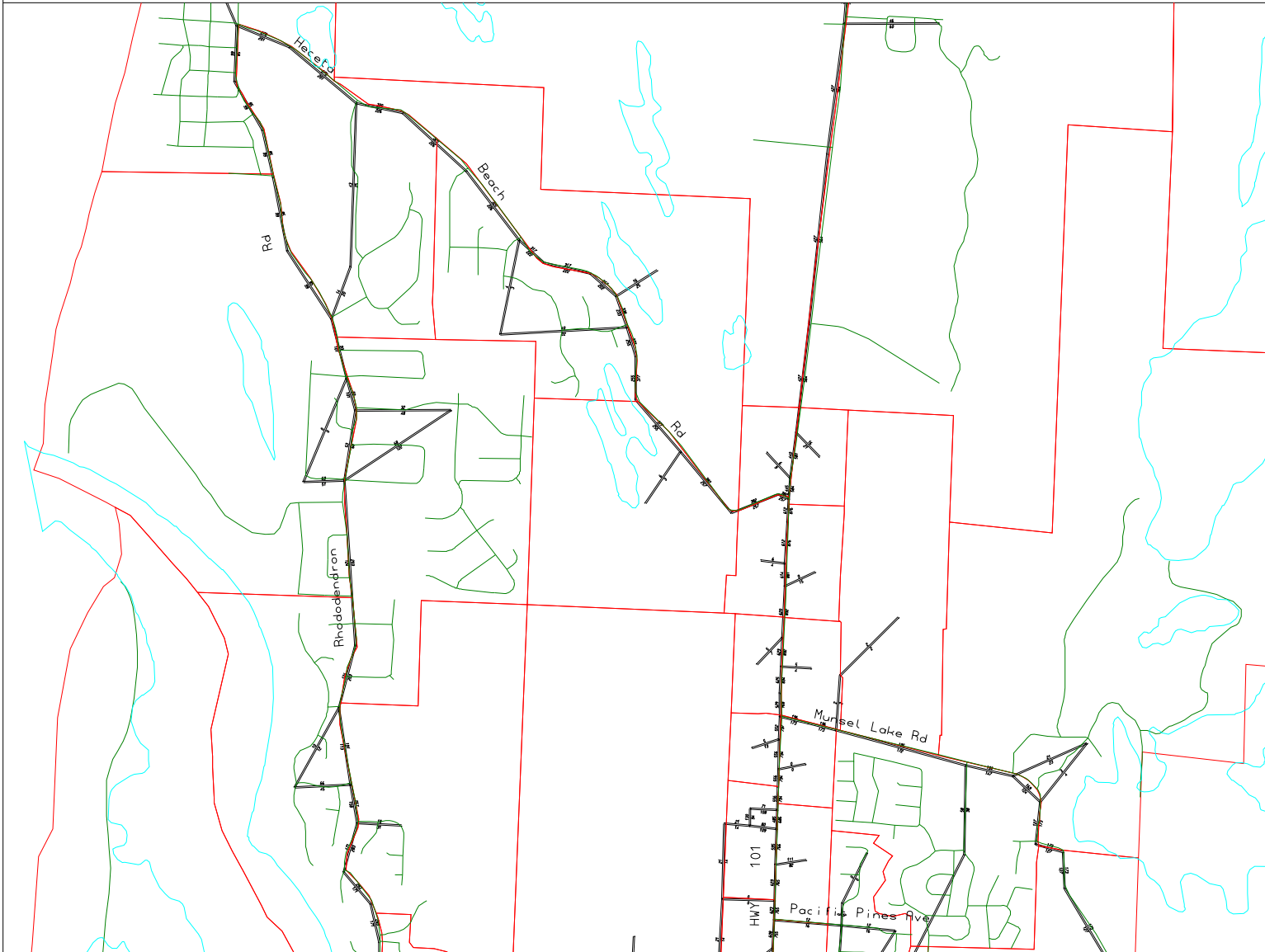
WINDOW B:  
195.08/165.418  
203.8/171.958

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGOND...sgp

AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

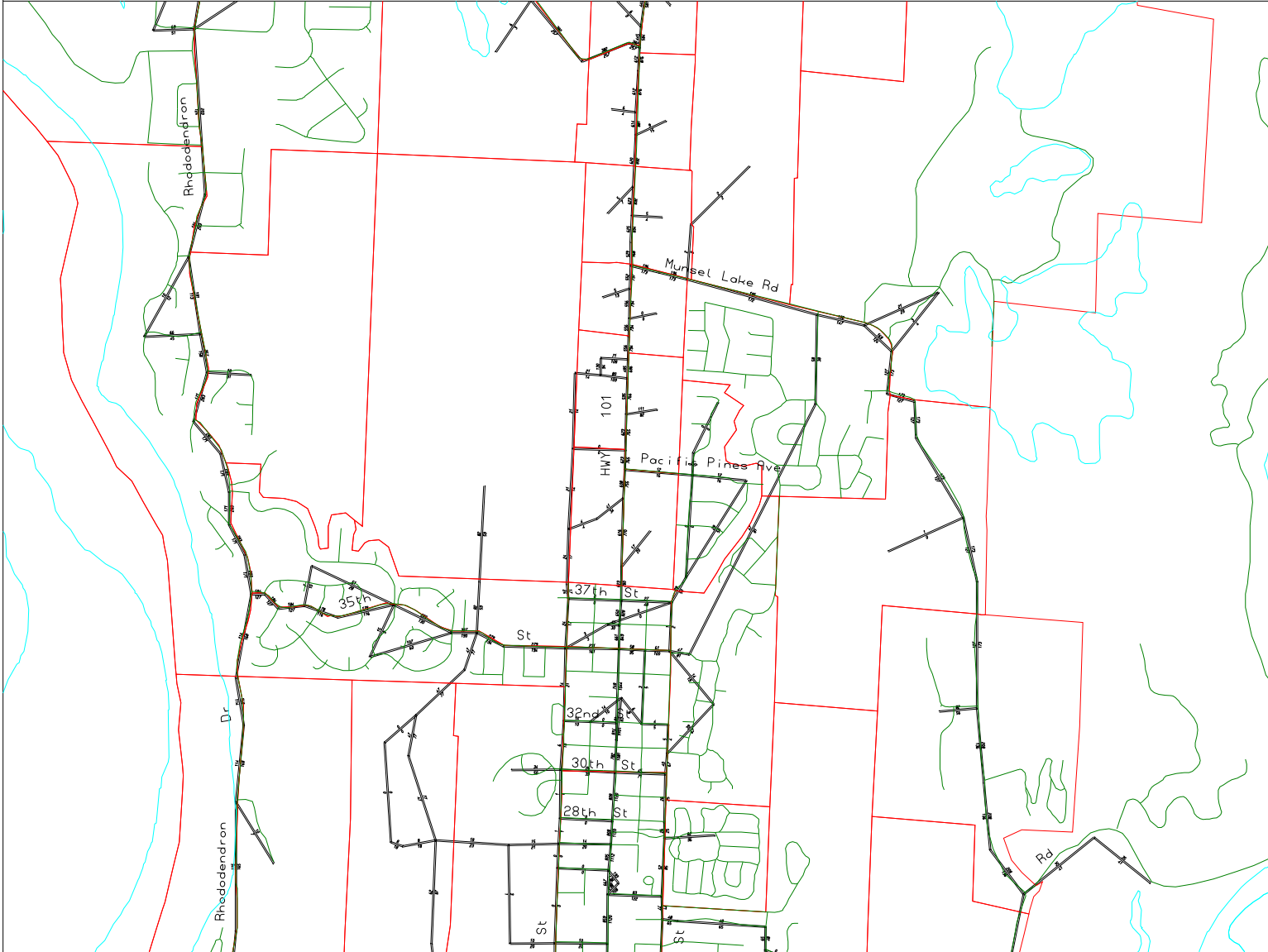
WINDOW C:  
197.57/165.065  
200.61/167.341

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGOND...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

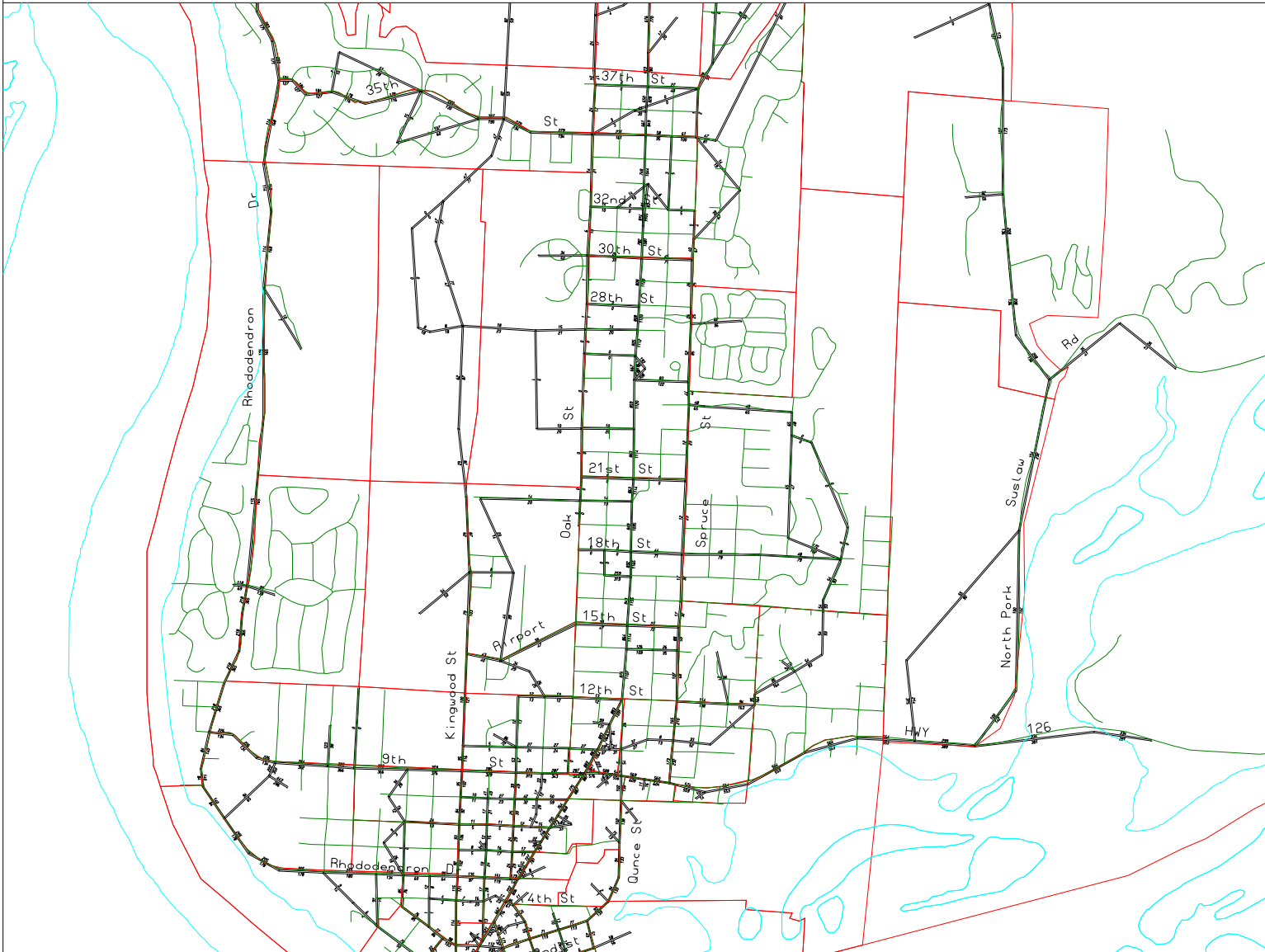
WINDOW D:  
197.93/163.987  
200.97/166.264

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGOND...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

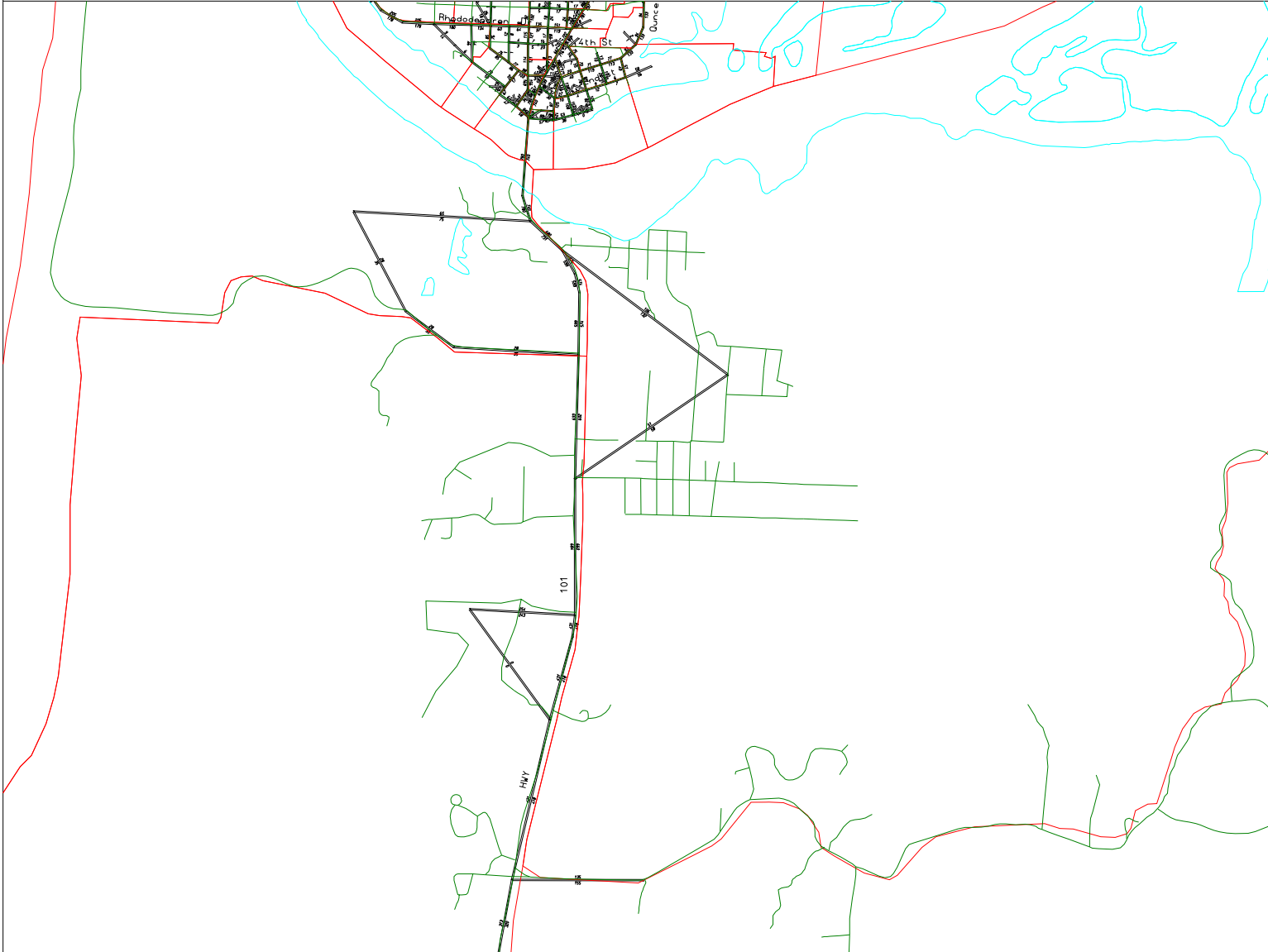
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197.86/162.755  
200.9/165.032

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGOND...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

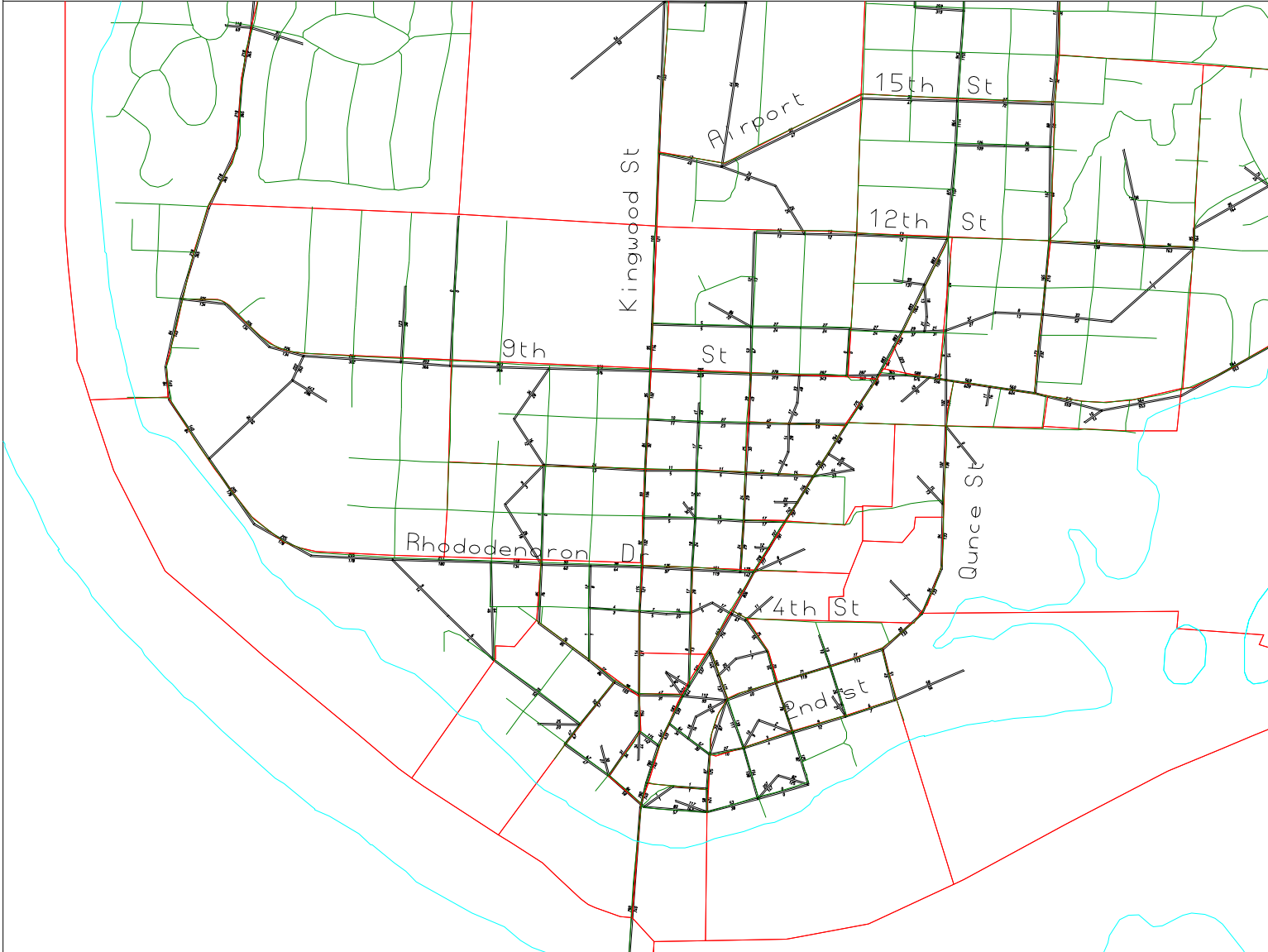
WINDOW F:  
197.17/159.805  
201.47/163.026

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

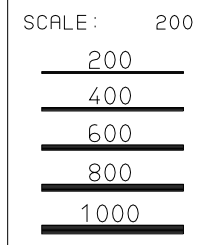
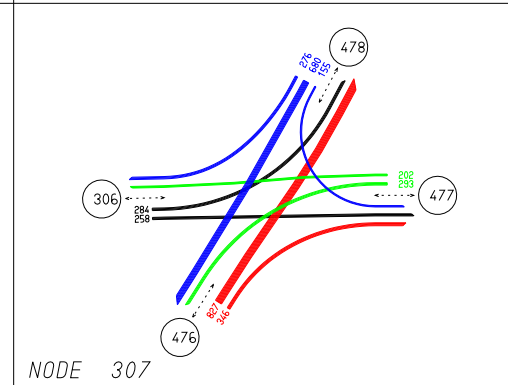
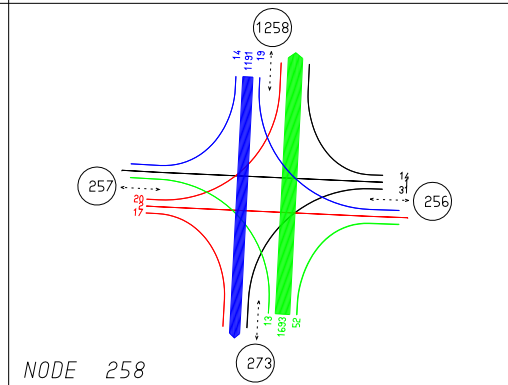
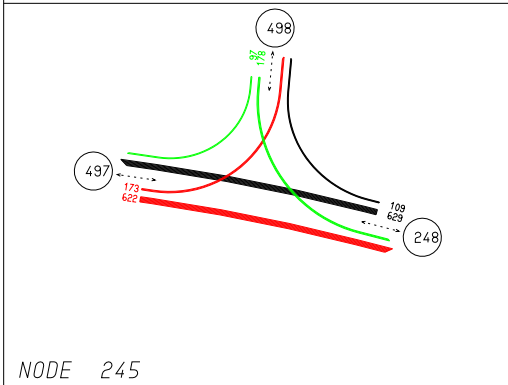
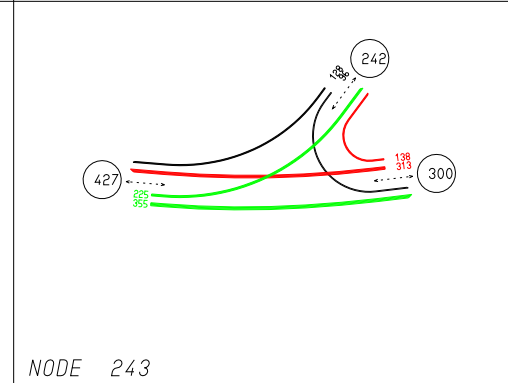
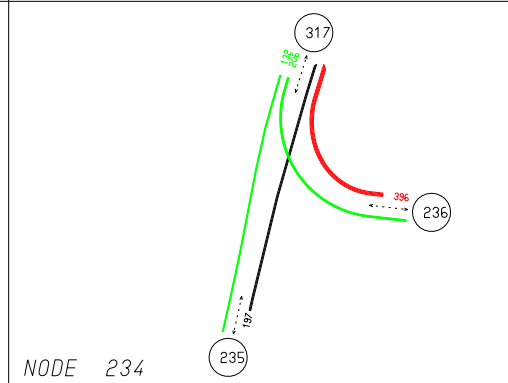
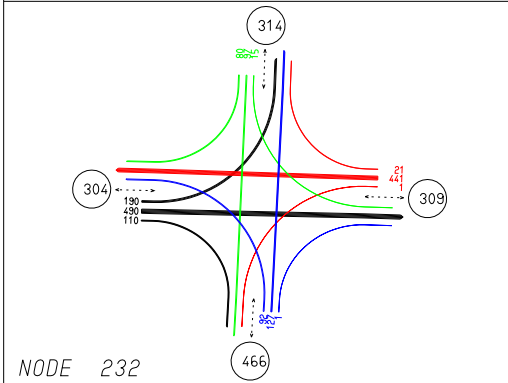
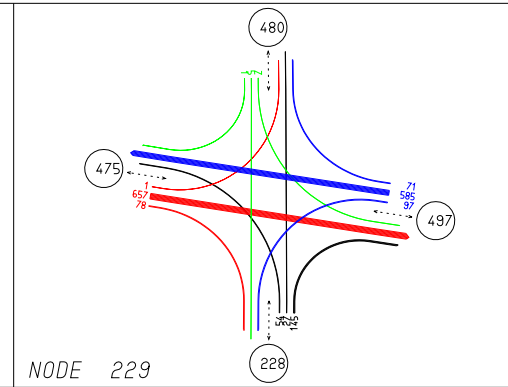
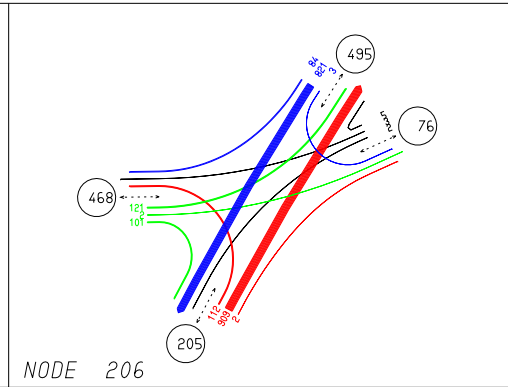
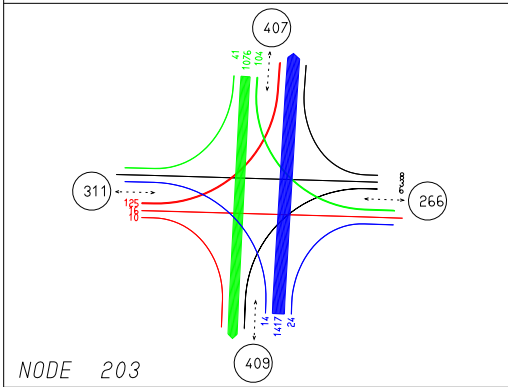
WINDOW G:  
198.13/ 162.44  
199.77/163.669

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 212: 2008 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:52  
MODULE: 6.12  
OREGONDT...sgp

AUTO VOLUMES ON INTERSECTIONS

*emme/2*

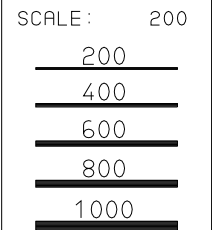
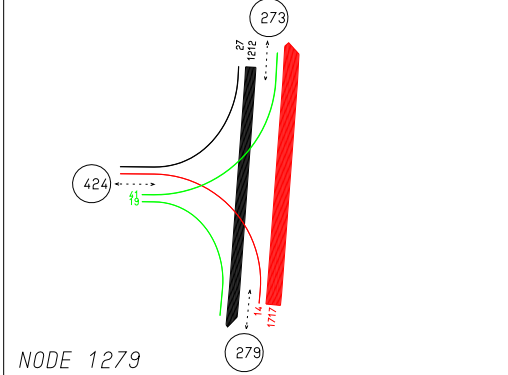
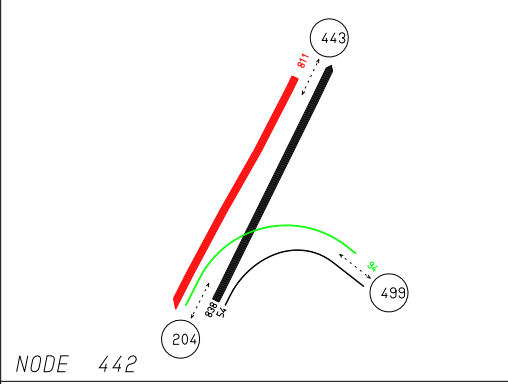
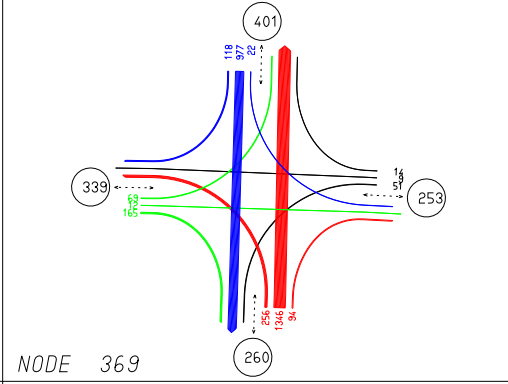
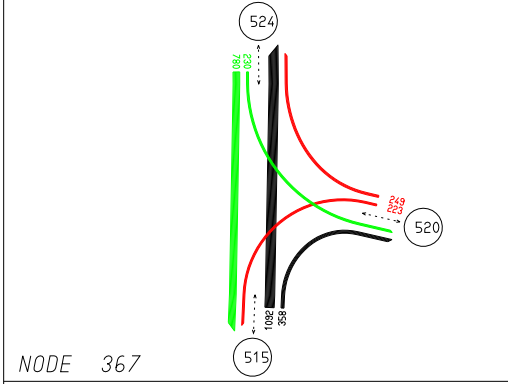
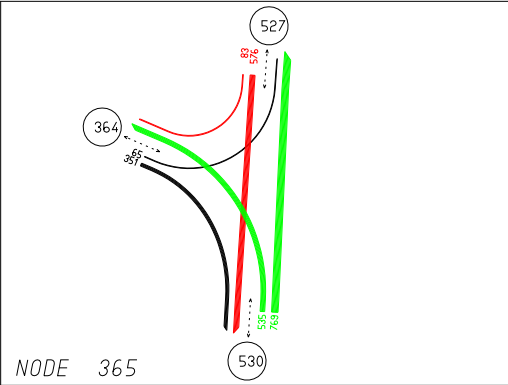
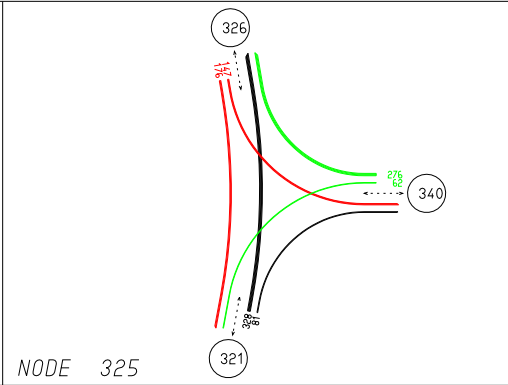
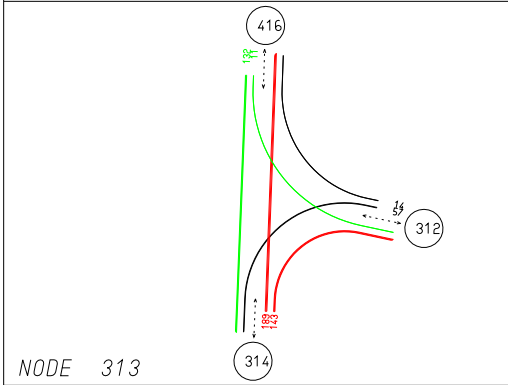


EMME/2 PROJECT : FLORENCE 2010 MODEL UPDATE  
 SCENARIO 312 : 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 08:04  
 MODULE : 6.14  
 OREGONDT...sgp

AUTO VOLUMES ON INTERSECTIONS

emme/2



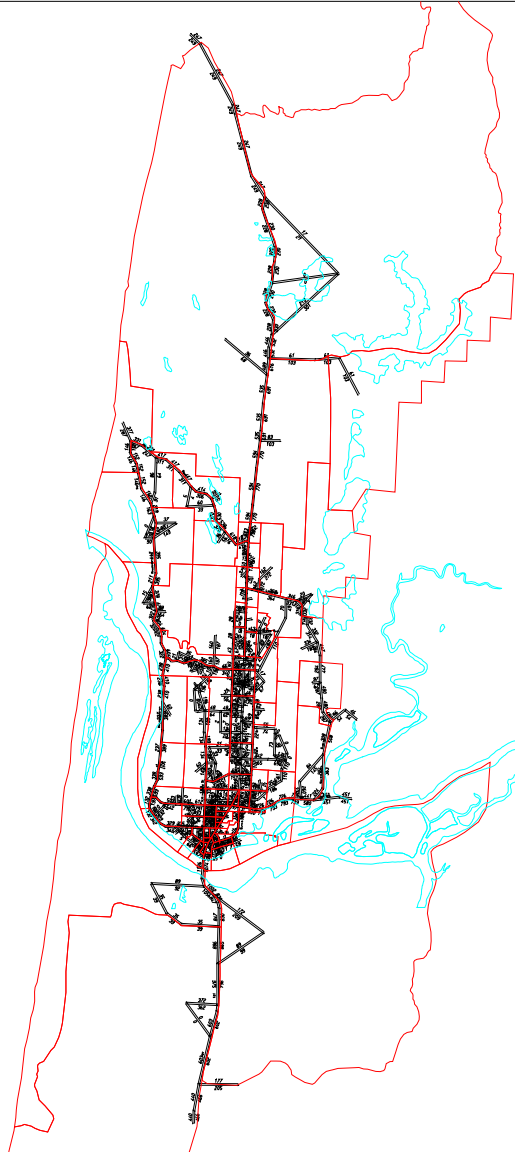
EMME/2 PROJECT : FLORENCE 2010 MODEL UPDATE  
 SCENARIO 312 : 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 08:04  
 MODULE : 6.14  
 OREGONDT...sgp



AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
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UPPER: 999999

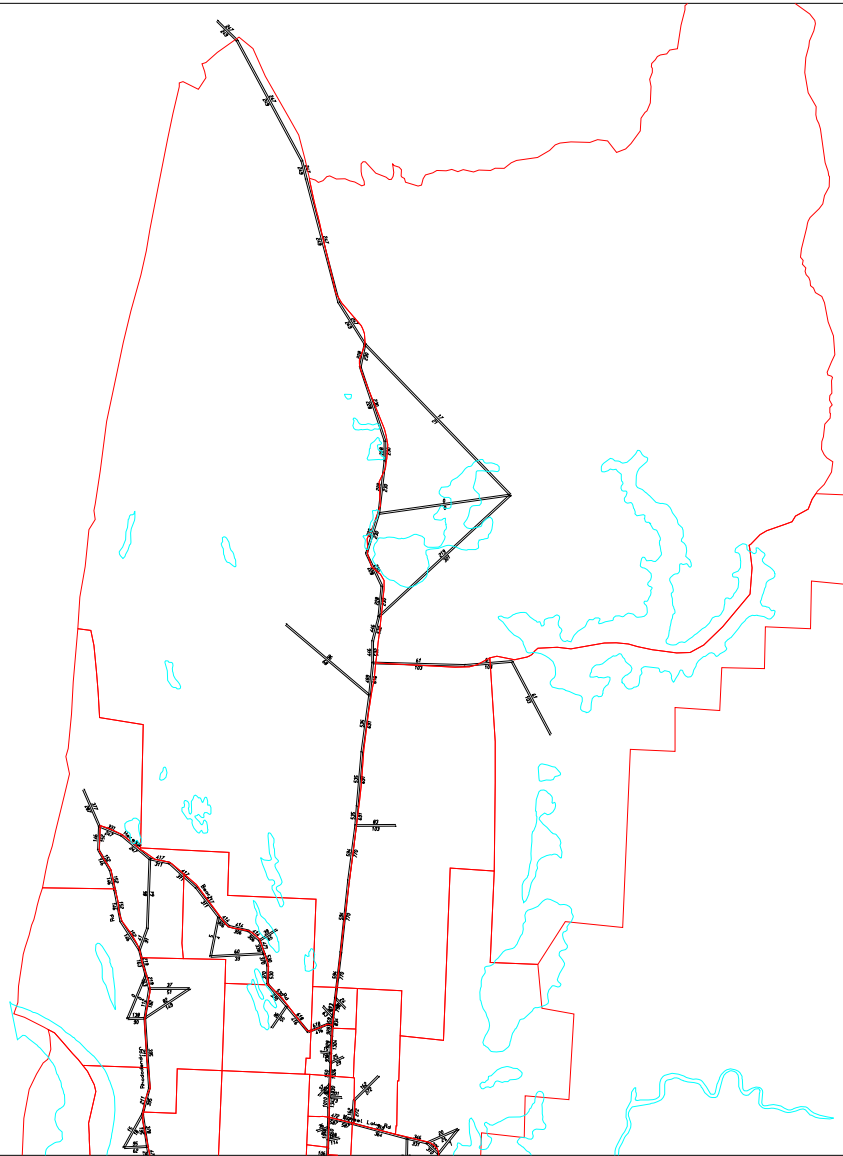
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207.96/172.227

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:32  
MODULE: 6.12  
OREGOND...sgp

AUTO VOLUMES

emme/2



LINKS:  
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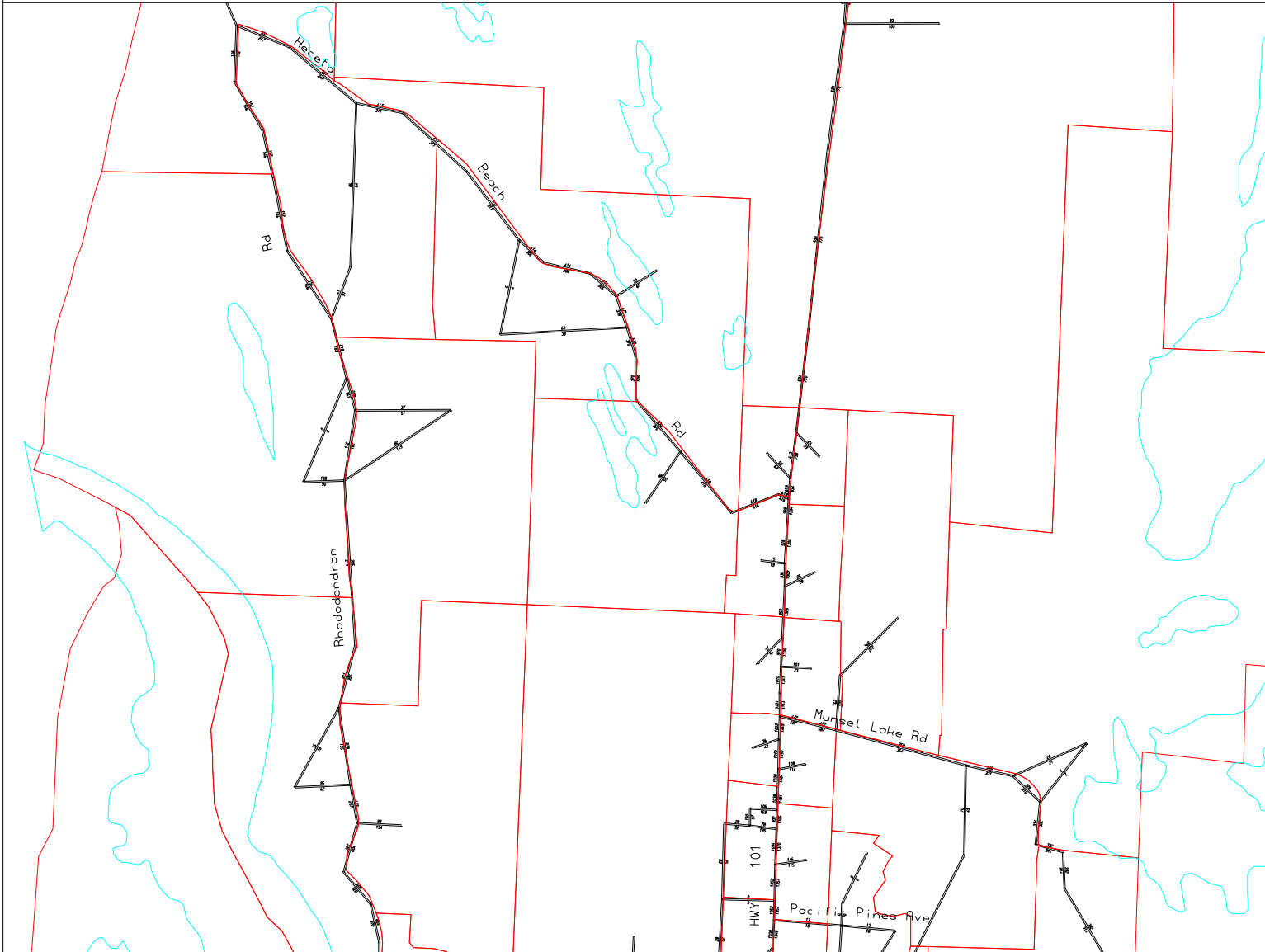
WINDOW B:  
195.08/165.418  
203.8/171.958

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:32  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
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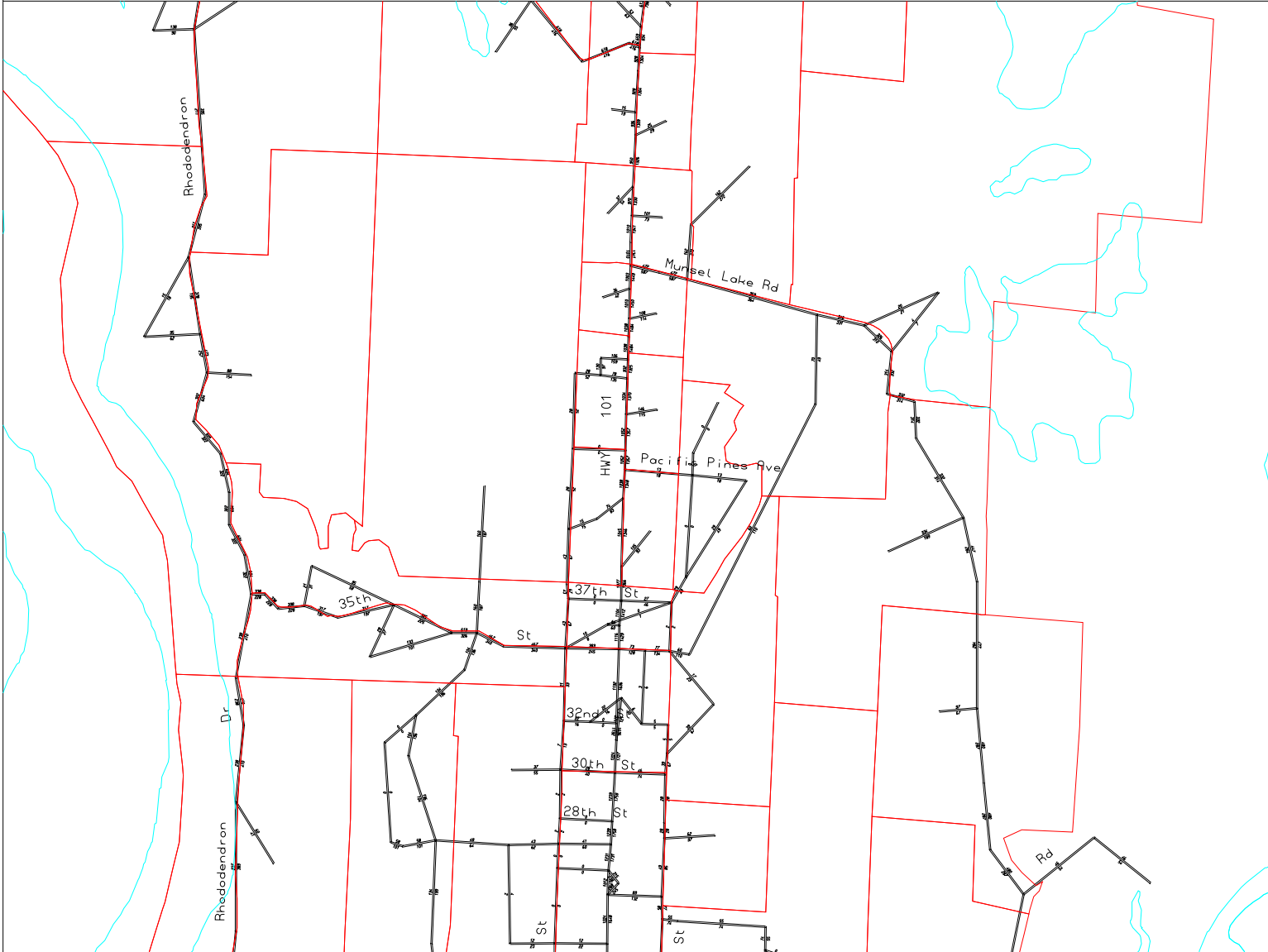
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200.61/167.341

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:32  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
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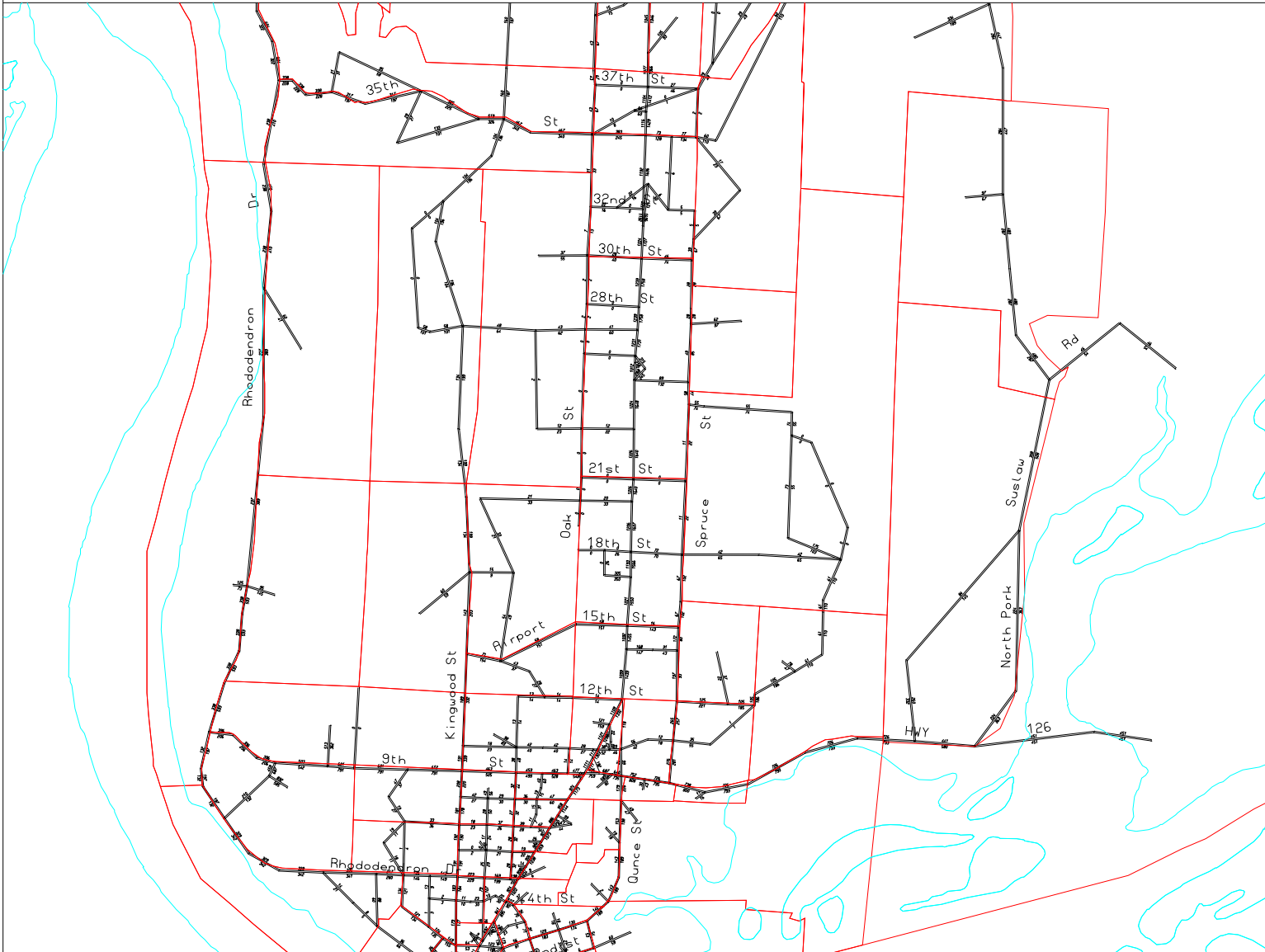
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200.97/166.264

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:32  
MODULE: 6.12  
OREGOND...sgp

# AUTO VOLUMES

emme/2



LINKS:  
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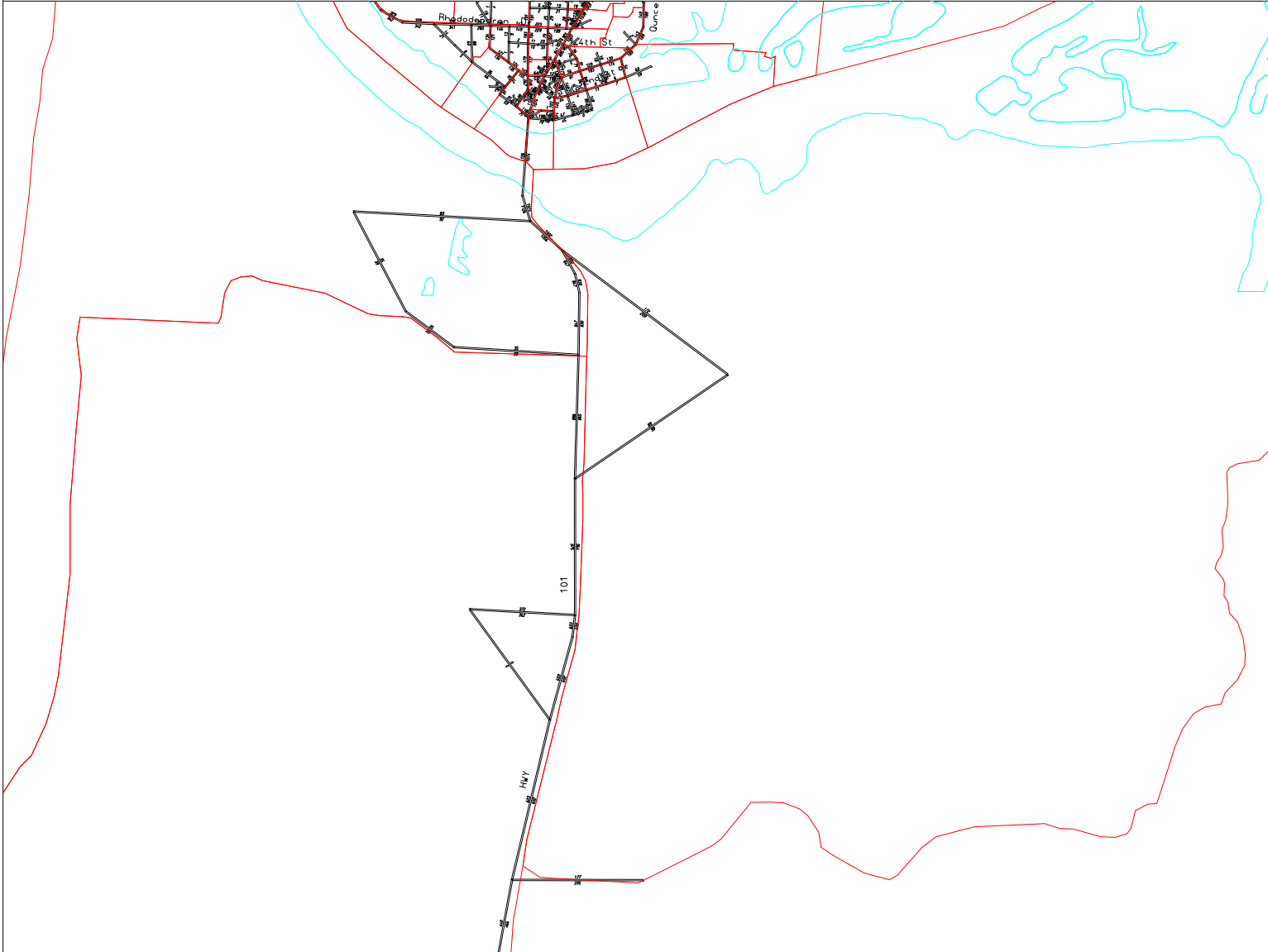
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EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:33  
MODULE: 6.12  
OREGOND...sgp

AUTO VOLUMES

emme/2



LINKS:  
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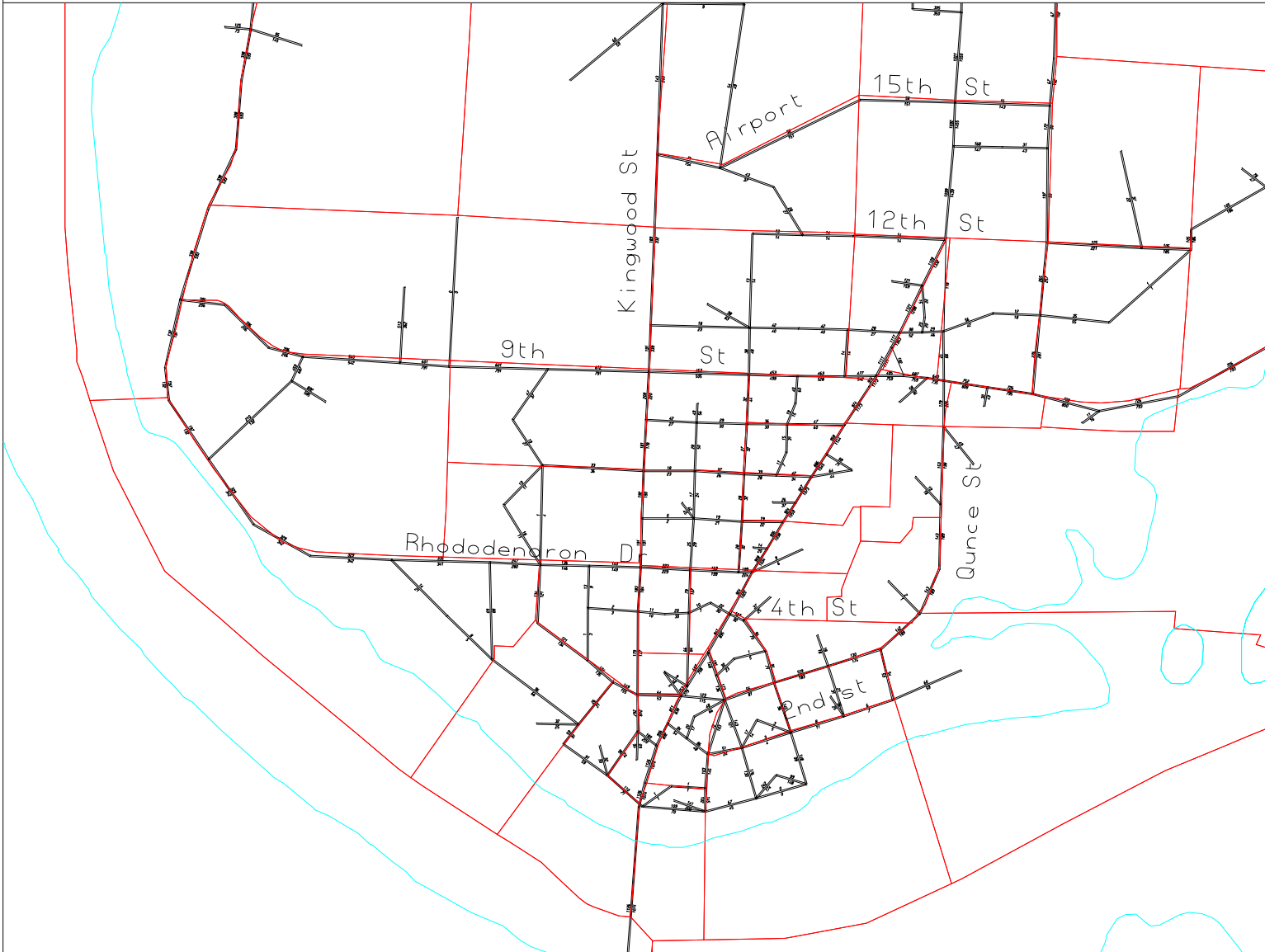
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EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:33  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
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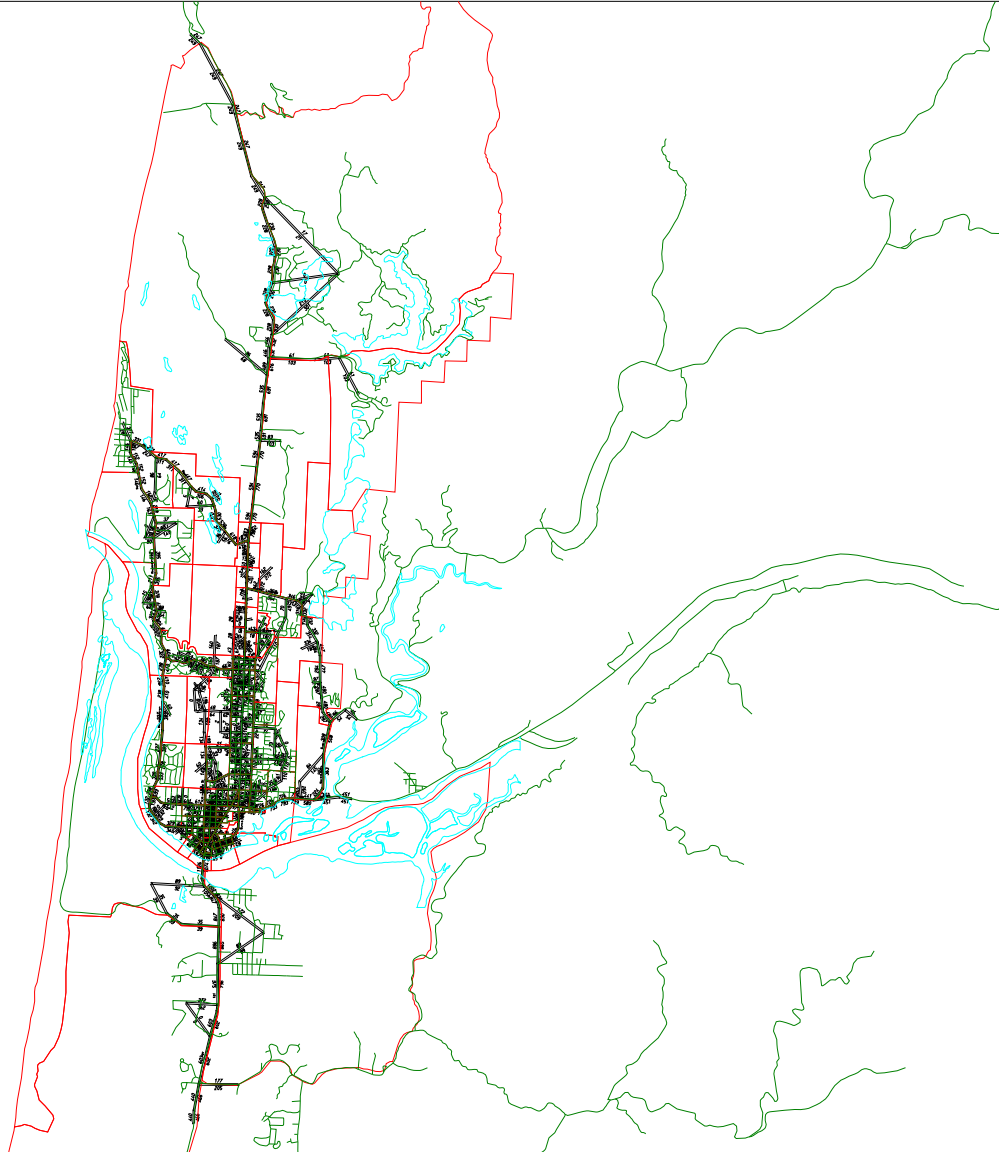
WINDOW G:  
198.13/ 162.44  
199.77/163.669

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:33  
MODULE: 6.12  
OREGONDT...sgp

AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

WINDOW A:  
190.7/159.281  
207.96/172.227

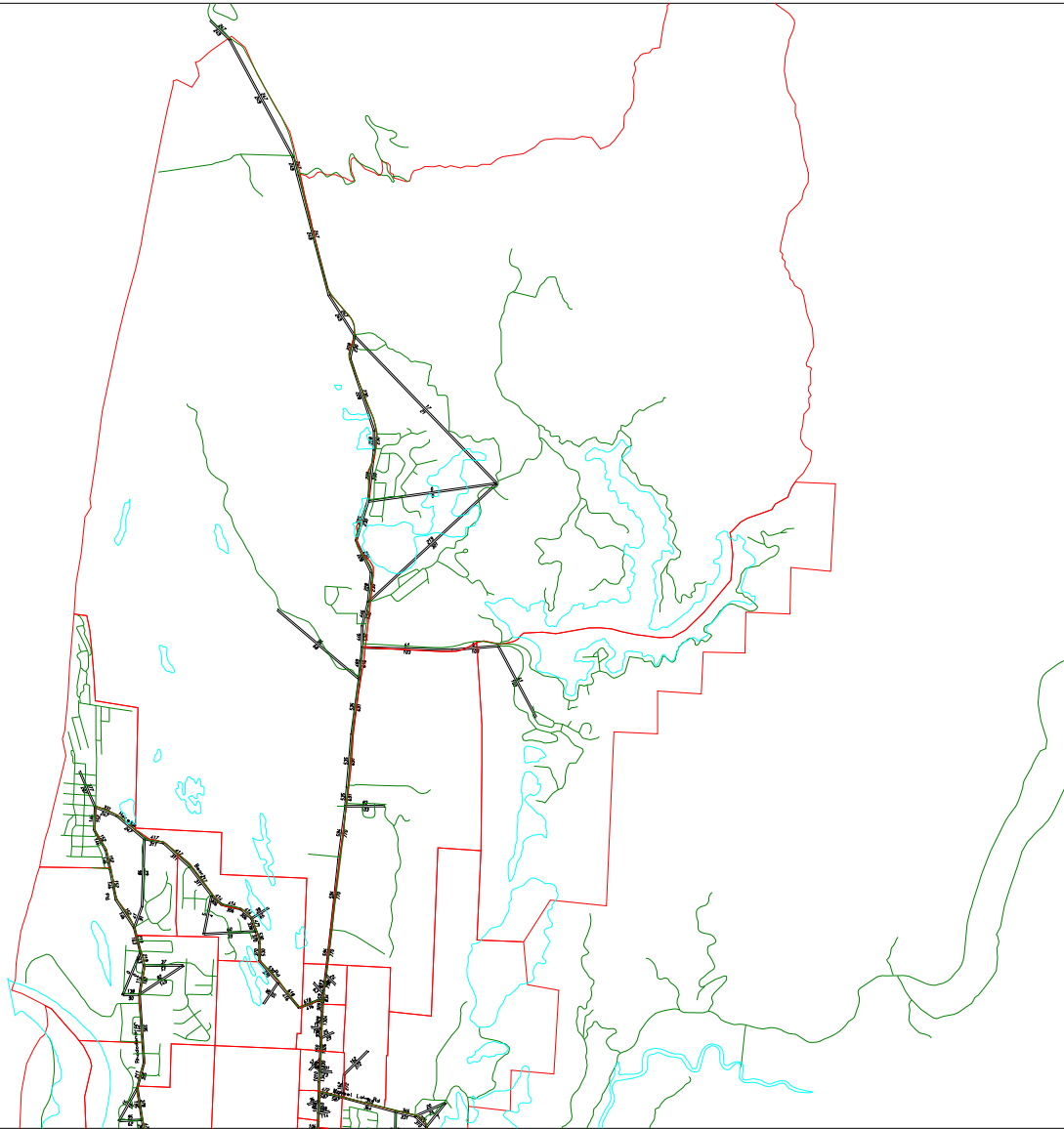
EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:34  
MODULE: 6.12  
OREGOND...sgp



AUTO VOLUMES

emme/2



LINKS:  
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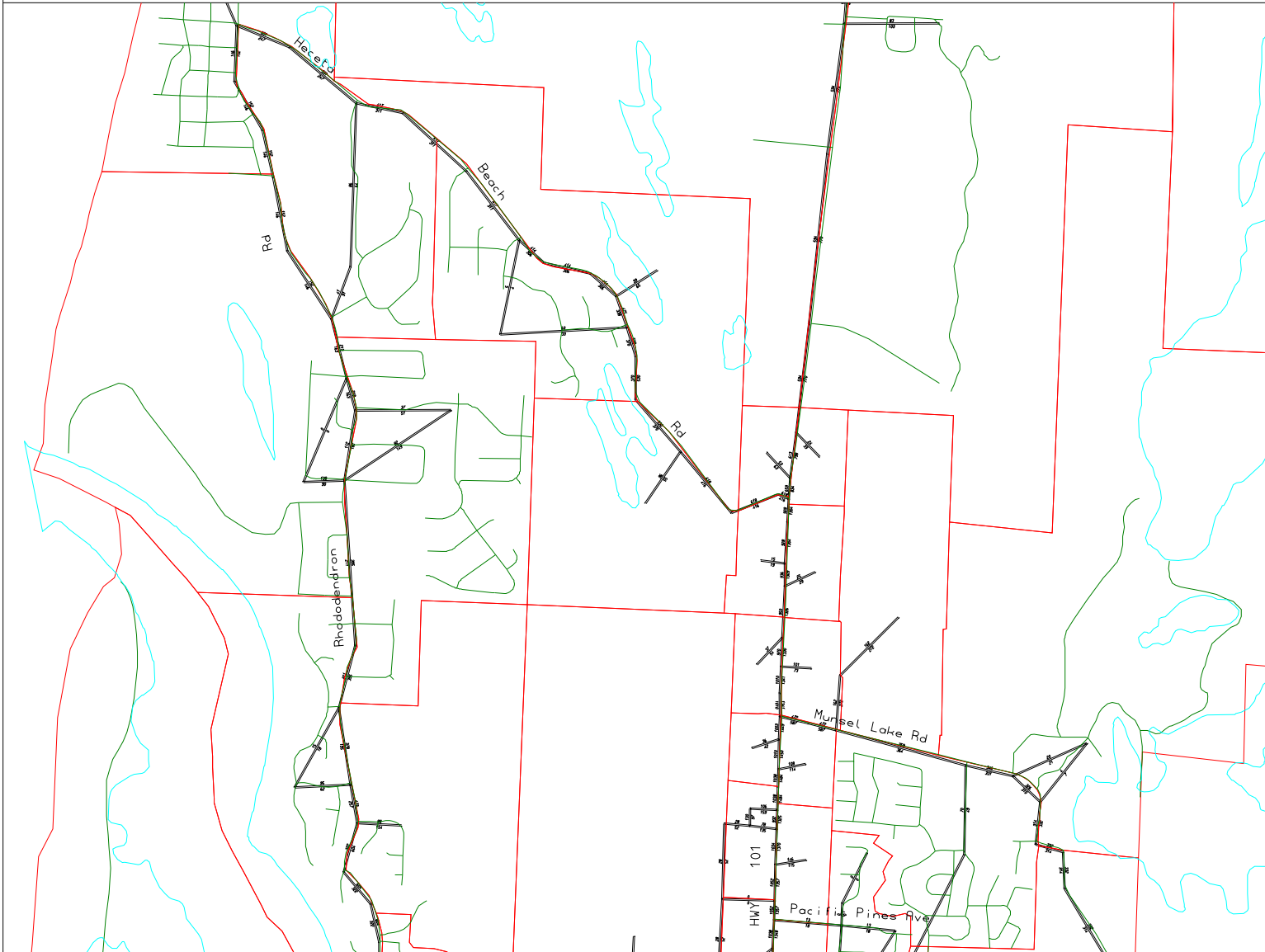
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195.08/165.418  
203.8/171.958

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:34  
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OREGOND...sgp

AUTO VOLUMES

emme/2



LINKS:  
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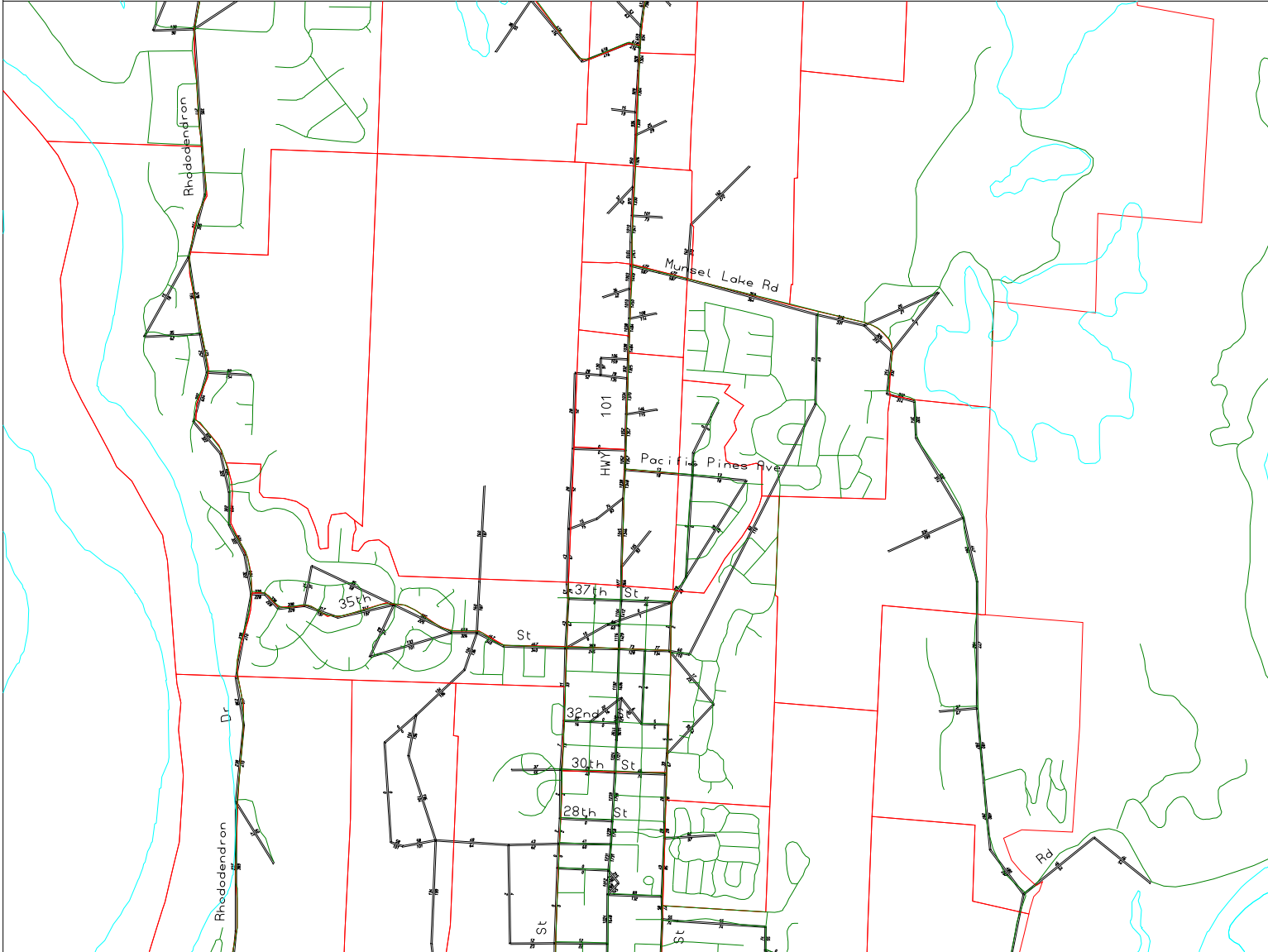
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EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:34  
MODULE: 6.12  
OREGOND...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
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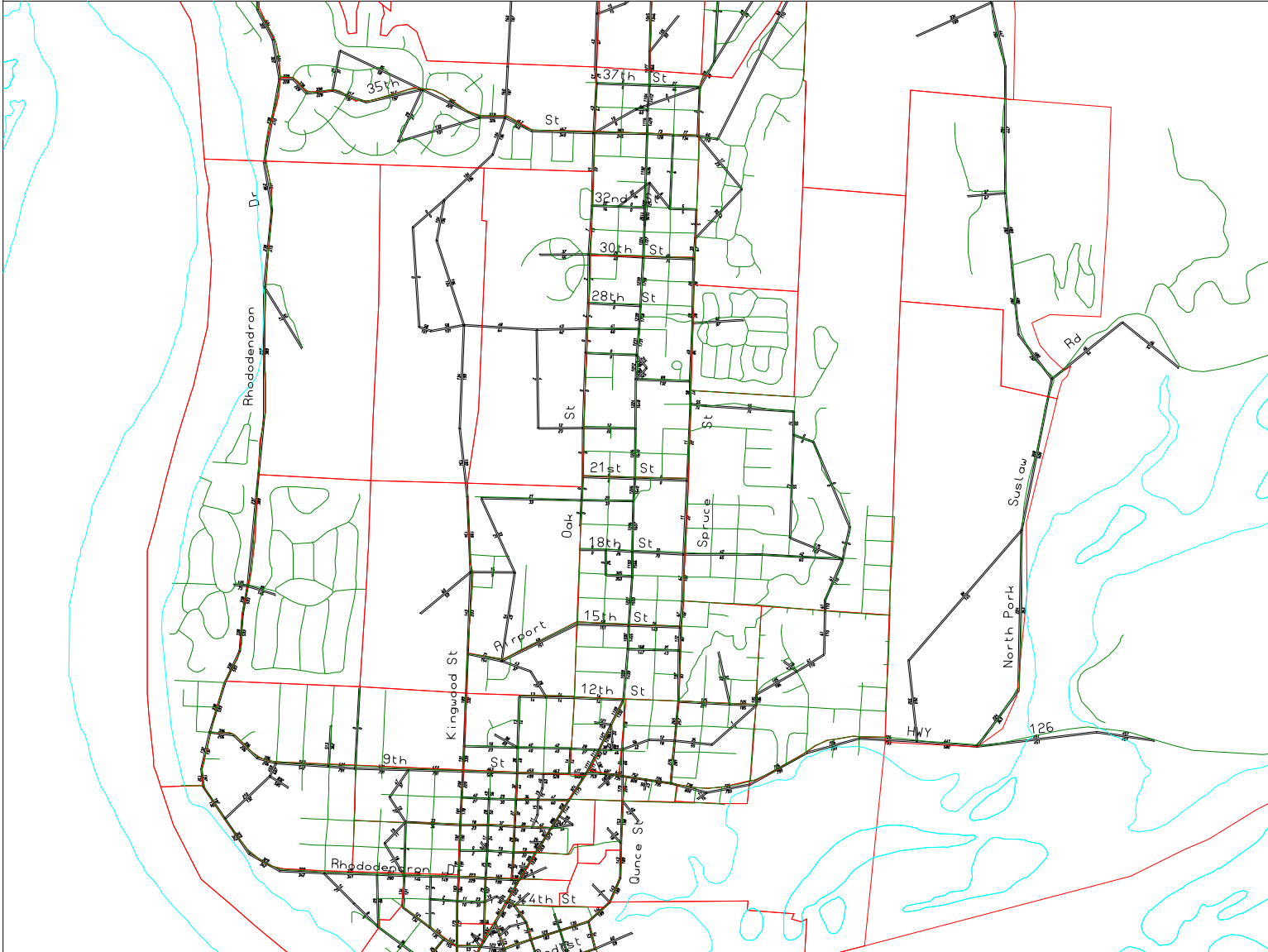
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200.97/166.264

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:34  
MODULE: 6.12  
OREGOND...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
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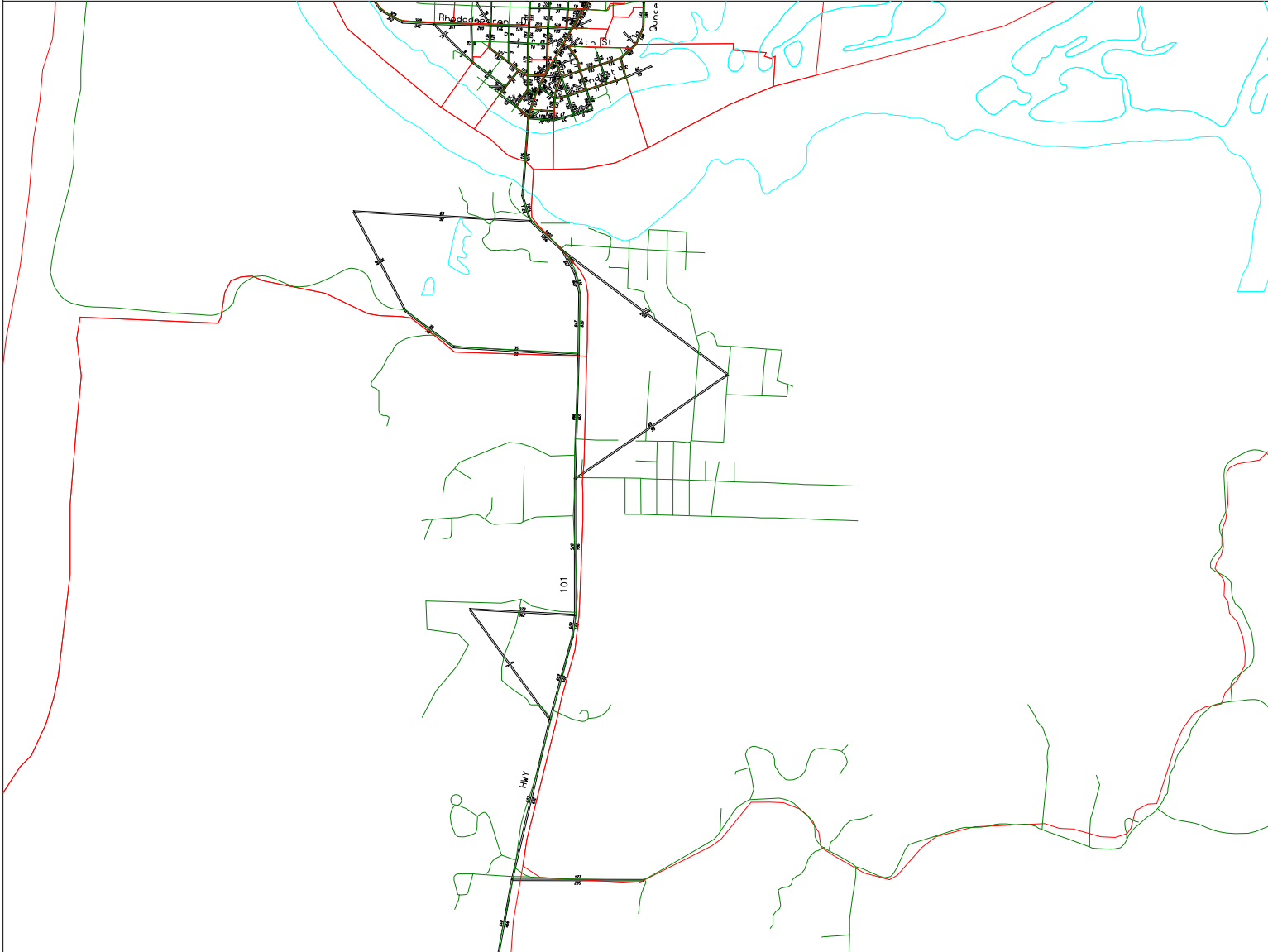
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EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:34  
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OREGOND...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
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UPPER: 999999

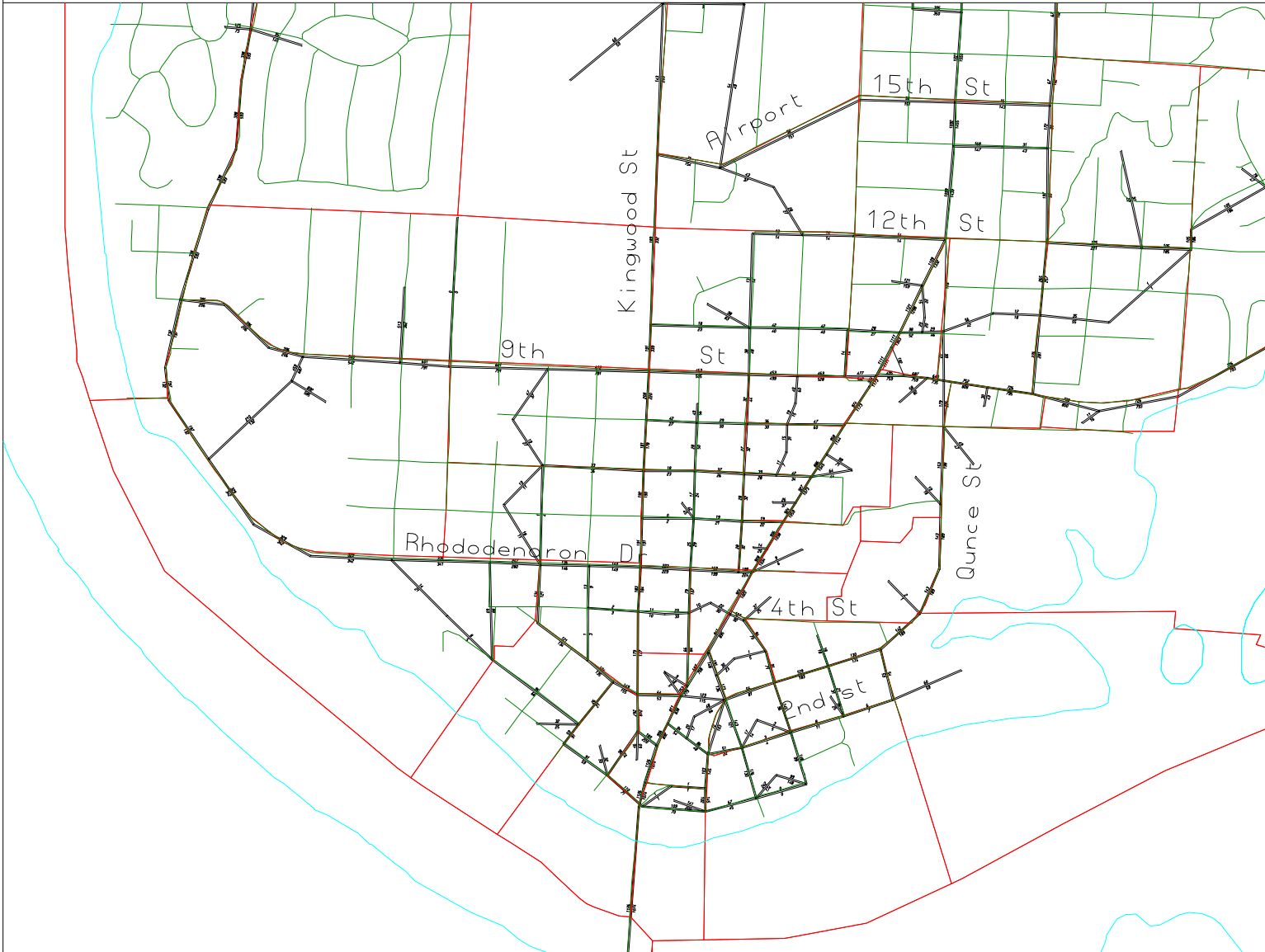
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197.17/159.805  
201.47/163.026

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:34  
MODULE: 6.12  
OREGONDT...sgp

# AUTO VOLUMES

emme/2



LINKS:  
all  
THRESHOLD:  
LOWER: -.001  
UPPER: 999999

WINDOW G:  
198.13/ 162.44  
199.77/163.669

EMME/2 PROJECT: FLORENCE 2010 MODEL UPDATE  
SCENARIO 312: 2035 Florence SP \ PMPK 1-Hr \ 110209

11-02-10 09:34  
MODULE: 6.12  
OREGONDT...sgp

**Attachment K**  
Future No-Build  
Conditions Level of  
Service Worksheets

Kittelton & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Scenario Report

Scenario: pm  
 Command: pm  
 Volume: pm  
 Geometry: pm  
 Impact Fee: Default Impact Fee  
 Trip Generation: pm  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: Default Configuration

Kittelton & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Impact Analysis Report  
 Level Of Service

| Intersection                        | Base        |              | Future      |              | Change<br>in |
|-------------------------------------|-------------|--------------|-------------|--------------|--------------|
|                                     | Del/<br>LOS | V/<br>Veh C  | Del/<br>LOS | V/<br>Veh C  |              |
| # 1 Rhododendren Drive/35th Street  | C           | 15.6 0.335   | C           | 15.6 0.335   | + 0.000 D/V  |
| # 2 Rhododendren Drive/9th Street   | B           | 10.6 0.282   | B           | 10.6 0.282   | + 0.000 D/V  |
| # 3 Kingwood Street/15th Street     | B           | 13.6 0.137   | B           | 13.6 0.137   | + 0.000 D/V  |
| # 4 Kingwood Street/9th Street      | F           | OVREFL 1.341 | F           | OVREFL 1.341 | + 0.000 D/V  |
| # 5 US 101/Hecata Beach Road        | D           | 27.6 0.447   | D           | 27.6 0.447   | + 0.000 D/V  |
| # 6 US 101/Munsel Lake Road         | F           | OVREFL 3.093 | F           | OVREFL 3.093 | + 0.000 D/V  |
| # 7 US 101/35th Street              | B           | 16.2 0.665   | B           | 16.2 0.665   | + 0.000 D/V  |
| # 8 US 101/30th Street              | F           | 112.5 0.394  | F           | 112.5 0.394  | + 0.000 D/V  |
| # 9 US 101/27th Street              | F           | 518.6 1.614  | F           | 518.6 1.614  | + 0.000 D/V  |
| # 10 US 101/15th Street             | F           | OVREFL 3.736 | F           | OVREFL 3.736 | + 0.000 D/V  |
| # 11 US 101/US 126                  | D           | 36.0 0.836   | D           | 36.0 0.836   | + 0.000 D/V  |
| # 12 US 101/Rhododendren Drive      | B           | 12.8 0.571   | B           | 12.8 0.571   | + 0.000 D/V  |
| # 13 US 101/2nd Street              | D           | 35.0 0.251   | D           | 35.0 0.251   | + 0.000 D/V  |
| # 14 Quince Street/US 126           | F           | OVREFL 1.891 | F           | OVREFL 1.891 | + 0.000 D/V  |
| # 15 Spruce Street/US 126           | F           | 607.5 1.794  | F           | 607.5 1.794  | + 0.000 D/V  |
| # 16 North Fork Siuslaw River Road/ | E           | 39.0 0.406   | E           | 39.0 0.406   | + 0.000 D/V  |



Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Rhododendren Drive/35th Street

Average Delay (sec/veh): 6.9 Worst Case Level Of Service: C[ 15.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Rhododendren Drive and 35th Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows for 1 Aug 2035 weekday pm peak hour.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for 4.1, 6.4, 6.5, 6.2.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for 286, 1277, 1277, 0.10.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for 0.3, 8.1, 0.3, 8.1, 15.6.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Rhododendren Drive/9th Street

Average Delay (sec/veh): 6.2 Worst Case Level Of Service: B[ 10.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Rhododendren Drive and 9th Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows for 1 Aug 2035 weekday pm peak hour.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for 4.1, 6.4, 6.5, 6.2.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for 121, 1460, 1460, 0.12.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for 0.4, 7.8, 0.4, 7.8, 10.6.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Kingwood Street/15th Street

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: B[ 13.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Kingwood Street and 15th Street.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Conflict Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 Kingwood Street/9th Street

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Kingwood Street and 9th Street.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Conflict Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 US 101/Hecata Beach Road

Average Delay (sec/veh): 5.0 Worst Case Level Of Service: D[ 27.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for US 101 and Hecata Beach Road.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for US 101 and Hecata Beach Road.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for US 101 and Hecata Beach Road.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for US 101 and Hecata Beach Road.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 US 101/Munsel Lake Road

Average Delay (sec/veh): 146.4 Worst Case Level Of Service: F[1162.0]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for US 101 and Munsel Lake Road.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for US 101 and Munsel Lake Road.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for US 101 and Munsel Lake Road.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for US 101 and Munsel Lake Road.

Note: Queue reported is the number of cars per lane.



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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #9 US 101/27th Street

Average Delay (sec/veh): 17.6 Worst Case Level Of Service: F[518.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for US 101 and 27th Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows for US 101 and 27th Street.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for US 101 and 27th Street.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for US 101 and 27th Street.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for US 101 and 27th Street.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #10 US 101/15th Street

Average Delay (sec/veh): 105.3 Worst Case Level Of Service: F[1869.0]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for US 101 and 15th Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows for US 101 and 15th Street.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for US 101 and 15th Street.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for US 101 and 15th Street.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for US 101 and 15th Street.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #11 US 101/US 126  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.836  
Loss Time (sec): 16 Average Delay (sec/veh): 36.0  
Optimal Cycle: 91 Level Of Service: D  
\*\*\*\*\*

Street Name: US 101 US 126  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Protected Protected Split Phase Split Phase  
Rights: Include Include Include Ignore  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
Lanes: 1 1 1 0 1 1 0 1 1 0 1 0 0 1

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 66 716 249 149 844 131 224 233 75 264 110 203  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 66 716 249 149 844 131 224 233 75 264 110 203  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.00  
PHF Volume: 69 754 262 157 888 138 236 245 79 278 116 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 69 754 262 157 888 138 236 245 79 278 116 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00  
Final Volume: 69 754 262 157 888 138 236 245 79 278 116 0

Saturation Flow Module:  
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
Adjustment: 0.93 0.93 0.82 0.92 0.90 0.90 0.94 0.95 0.95 0.89 0.89 1.00  
Lanes: 1.00 2.00 1.00 1.00 1.73 0.27 1.00 0.76 0.24 1.41 0.59 1.00  
Final Sat.: 1623 3245 1441 1614 2738 425 1646 1262 406 2210 921 1750

Capacity Analysis Module:  
Vol/Sat: 0.04 0.23 0.18 0.10 0.32 0.32 0.14 0.19 0.19 0.13 0.13 0.00  
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\*  
Green/Cycle: 0.05 0.31 0.31 0.13 0.39 0.39 0.23 0.23 0.23 0.15 0.15 0.00  
Volume/Cap: 0.84 0.75 0.59 0.75 0.84 0.84 0.62 0.84 0.84 0.84 0.84 0.00  
Delay/Veh: 48.6 30.8 28.3 51.7 30.1 30.1 34.0 47.5 47.5 49.5 49.5 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 48.6 30.8 28.3 51.7 30.1 30.1 34.0 47.5 47.5 49.5 49.5 0.0  
LOS by Move: D C C D C C C D D D A  
HCM2kAvgQ: 2 10 6 4 14 14 7 11 11 8 8 0

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #12 US 101/Rhododendren Drive  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.571  
Loss Time (sec): 12 Average Delay (sec/veh): 12.8  
Optimal Cycle: 45 Level Of Service: B  
\*\*\*\*\*

Street Name: US 101 Rhododendren Drive  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Prot+Permit Prot+Permit Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 1 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 34 933 8 5 980 39 96 8 67 5 19 17  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 34 933 8 5 980 39 96 8 67 5 19 17  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96  
PHF Volume: 35 972 8 5 1021 41 100 8 70 5 20 18  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 35 972 8 5 1021 41 100 8 70 5 20 18  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Volume: 35 972 8 5 1021 41 100 8 70 5 20 18

Saturation Flow Module:  
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
Adjustment: 0.91 0.91 0.91 0.91 0.91 0.73 0.74 0.73 0.92 0.92 0.91  
Lanes: 1.00 1.98 0.02 1.00 1.92 0.08 0.56 0.05 0.39 0.12 0.46 0.42  
Final Sat.: 1599 3168 27 1599 3058 122 721 60 503 195 742 664

Capacity Analysis Module:  
Vol/Sat: 0.02 0.31 0.31 0.00 0.33 0.33 0.14 0.14 0.14 0.03 0.03 0.03  
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\*  
Green/Cycle: 0.67 0.62 0.62 0.59 0.58 0.58 0.24 0.24 0.24 0.24 0.24 0.24  
Volume/Cap: 0.13 0.50 0.50 0.02 0.57 0.57 0.57 0.57 0.57 0.11 0.11 0.11  
Delay/Veh: 7.0 9.7 9.7 7.8 12.1 12.1 32.5 32.5 32.5 26.6 26.6 26.6  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 7.0 9.7 9.7 7.8 12.1 12.1 32.5 32.5 32.5 26.6 26.6 26.6  
LOS by Move: A A A A B B C C C C C C  
HCM2kAvgQ: 0 8 8 0 9 9 5 5 5 1 1 1

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #13 US 101/2nd Street

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: D[ 35.0]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for US 101 and 2nd Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows for US 101 and 2nd Street.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for US 101 and 2nd Street.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for US 101 and 2nd Street.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for US 101 and 2nd Street.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #14 Quince Street/US 126

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Quince Street and US 126.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Rows for Quince Street and US 126.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Quince Street and US 126.

Table with columns: Capacity Module, Conflict Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Quince Street and US 126.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for Quince Street and US 126.

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 Spruce Street/US 126

Average Delay (sec/veh): 84.6 Worst Case Level Of Service: F[607.5]

Street Name: Spruce Street US 126

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1! 0 0 0 0 1! 0 0 1 0 0 1 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 5 0 1 94 0 144 189 584 2 0 674 48
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 5 0 1 94 0 144 189 584 2 0 674 48
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 5 0 1 99 0 152 199 615 2 0 709 51
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 5 0 1 99 0 152 199 615 2 0 709 51

Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:
Conflict Vol: 1824 1774 616 1749 1749 735 760 xxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: 60 84 494 68 86 421 843 xxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: 32 64 494 55 66 421 843 xxxx xxxxx xxxxx xxxxx xxxxx
Volume/Cap: 0.17 0.00 0.00 1.79 0.00 0.36 0.24 xxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.9 xxxx xxxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 10.6 xxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: \* \* \* \* \* B \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx 37 xxxxx xxxx 116 xxxxx xxxx xxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx 0.5 xxxxx xxxxx 21.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx 120 xxxxx xxxxx 608 xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: \* F \* \* \* F \* \* \* \* \*
ApproachDel: 120.1 607.5 xxxxxxx xxxxxxx
ApproachLOS: F F \* \*

Note: Queue reported is the number of cars per lane.

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Florence TSP - Florence, OR
Year 2035 Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #16 North Fork Siuslaw River Road/US 126

Average Delay (sec/veh): 6.6 Worst Case Level Of Service: E[ 39.0]

Street Name: North Fork Siuslaw River Road US 126

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 0 1! 0 0 1 0 1 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 0 0 0 48 0 120 218 380 0 0 493 57
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 48 0 120 218 380 0 0 493 57
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 0 51 0 126 229 400 0 0 519 60
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 51 0 126 229 400 0 0 519 60

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 6.4 6.5 6.2 4.2 xxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx 3.5 4.0 3.3 2.3 xxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:
Conflict Vol: xxxx xxxx xxxxx 1409 1408 549 579 xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx 152 138 534 975 xxxx xxxxx xxxx xxxx xxxxx
Move Cap.: xxxx xxxx xxxxx 124 106 534 975 xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap: xxxx xxxx xxxxx 0.41 0.00 0.24 0.24 xxxx xxxxx xxxx xxxx xxxxx

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.9 xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 9.8 xxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: \* \* \* \* \* A \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx 275 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 4.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 39.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: \* \* \* \* \* E \* \* \* \* \*
ApproachDel: xxxxxxx 39.0 xxxxxxx xxxxxxx
ApproachLOS: \* E \* \*

Note: Queue reported is the number of cars per lane.





## PROJECT MEMORANDUM #5 – LOCAL STREET SYSTEM

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**Date:** October 30, 2011 **Project #:** 10103

**To:** Sandra Belson  
Community Development Director – City of Florence  
250 US 101  
Florence, Oregon 97439

**From:** Chris Tiesler, P.E., Dan Seeman, and Diego Arguea

**Project:** City of Florence Transportation System Plan Update

**Subject:** Project Memorandum #5 – Local Street System

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The purpose of this memorandum is to summarize local street system needs and deficiencies identified within the City of Florence, outline possible alternatives to address those needs and deficiencies, and describe recommended improvement projects. This memorandum, along with future memoranda addressing pedestrian, bicycle, and transit modes, will serve as an initial analysis of alternatives to be considered for the City of Florence Transportation System Plan (TSP) Update.

This document is organized into three sections. The *Summary of Needs and Deficiencies* section outlines the deficiencies identified in Technical Memorandum #4 (Existing Conditions, Deficiencies, and Future Needs). The *Alternatives Analysis* section outlines a variety of alternatives evaluated to address future needs of the Florence Urban Area transportation system. Finally, the *Key Development Areas* section summarizes the proposed projects of all types within each of the key growth areas identified by the City. It is critical to minimize transportation barriers to development in the areas that are targeted for growth to minimize sprawl into other areas.

## SUMMARY OF NEEDS AND DEFICIENCIES

This section presents needs and deficiencies identified in Technical Memorandum #4 (Existing Conditions, Deficiencies, and Future Needs). These summaries are organized in the following subsections:

- **Safety Focused Intersection and Roadway Segments** – Summarizes safety deficiencies identified at study intersections and roadway segments under existing conditions.
- **Forecasted Traffic Operations Issues** – Summarizes intersection operational deficiencies identified at study intersections under year 2035 future conditions.

## **Safety Focus Intersections and Roadway Segments**

Based on crash rates calculated as part of the existing conditions analysis, all study intersections were found to operate well within acceptable safety standards.

Three roadway segments were identified on ODOT's Safety Priority Index System (SPIS) list. However, no obvious crash patterns in these roadway segments were identified that would suggest potential mitigation measures.

## **Forecasted Traffic Operations Issues**

Based on the travel demand forecasts and operational analysis conducted for the study intersections, the following locations are expected to operate in excess of the applicable performance standards under 2035 No-Build conditions:

- US 101/Munsel Lake Road
- US 101/27<sup>th</sup> Street
- US 101/15<sup>th</sup> Street
- 9<sup>th</sup>/Kingwood
- OR 126/Quince Street
- OR 126/Spruce Street

The No-Build year 2035 forecasted turning movements and operations for each of the above study intersections is provided in Technical Memorandum #4.

# **ALTERNATIVES ANALYSIS**

This section presents alternative treatments, strategies and approaches that can be used to improve existing and forecasted transportation system deficiencies in the project study area. The treatments, strategies and approaches are organized in the following subsections:

- **Roadway Safety** – Presents measures to reduce crashes and address safety concerns at intersections and along roadway segments based on their crash history.
- **Local Street Connectivity** – Discusses strategies for improving local street connectivity to minimize the need for out-of-direction travel for all travel modes.
- **Access Management** – Presents treatments and policies for managing the frequency and density of driveways along roadways.
- **Transportation System Management (TSM)** – Discusses measures aimed at optimizing traffic operations of the existing roadway system.
- **Transportation Demand Management (TDM)** – Presents strategies to influence and manage the demand for travel on a system. For example, TDM methods would be employed to explore measures that encourage non-essential trips (e.g., trips to the grocery store) to occur outside of peak commuting hours.
- **Capacity Enhancing Roadway Treatments** – Presents treatments and approaches for adding capacity at existing intersections or along roadways.

These sub-sections are intended to outline the options or alternatives for addressing the deficiencies and needs noted in the previous section.

For ease of referencing, proposed projects, policies, programs, and travel demand management strategies have been numbered. The referencing codes are described below:

- PRJ-XX: Proposed Project
- POL-XX: Proposed Policy
- PRO-XX: Proposed Specific Plan
- TDM-XX: Proposed Travel Demand Management Strategy

## **Roadway Safety**

While no imminent safety concerns were identified at study intersections or roadway segments, improved safety for all modes should continue to be a focal point of other improvements and community enhancements considered as part of the TSP update process.

## Local Street Connectivity

The City of Florence transportation system currently relies heavily on the state highway system for local travel. In particular, north/south travel through the City is largely required to use US 101. Absence of contiguous parallel north/south facilities exacerbates this condition. The lack of contiguous east-west connections across Florence also adds to congestion on OR 126. As such, local trips often must navigate amongst regional traffic.

### Local Street Improvement Options

Many local improvements have been identified by City of Florence area planning documents that would serve to alleviate local trip reliance on the state highway system. The local street improvements identified below include those suggested for consideration either in these documents or by the Project Advisory Committee for inclusion in the updated TSP. Year 2035 forecasts have been prepared using the travel demand model to determine the future system capacity needs with the inclusion of these local street improvements. Analysis of these forecasts and their implications on transportation system needs is shown later in this memorandum. The local street improvements considered for inclusion in the updated TSP include:

- **Pacific View Drive Extension (PRJ-1)** – This improvement would extend the existing Pacific View Drive from its current terminus southwest to connect to N Rhododendron Drive at New Hope Way. This connection would enhance local east/west connectivity and reduce reliance on 35<sup>th</sup> Street and 9<sup>th</sup> Street.
- **46<sup>th</sup> Street/Munsel Lake Road Extension (PRJ-2)** – The 46<sup>th</sup> Street/Munsel Lake Road Extension would extend Munsel Lake Road at Oak Street to N Rhododendron Drive at the Shelter Cove Way/N Rhododendron Drive intersection. The exact alignment of this new collector is yet to be determined, but should minimize impacts to both dune areas and the Three Mile Prairie area. This connection would provide an alternative east/west route for local trips from the residential areas north of 35<sup>th</sup> Street and significantly reduce out-of-direction travel.
- **Willow Loop Extension (PRJ-3)** – The Willow Loop Extension would extend from the eastern terminus of Regal Street at the southwest corner of the Ocean Dunes Golf Course northeast and connect to Munsel Lake Road. This connection would provide a more complete transportation grid in the vicinity of the project, provide a needed local connection between residential areas on the eastern perimeter of the City and downtown, and help reduce

congestion along US 101 and OR 126, particularly at the US 101/Munsel Lake Road and OR 126/N Fork Siuslaw Road intersections. This alignment has challenges in that it extends across significant wetlands to connect with Munsel Lake Road. The alignment considered is the Ocean Dunes PUD preliminary development plan.

- **8<sup>th</sup> Street Extension (PRJ-4)** – The 8<sup>th</sup> Street Extension would extend 8<sup>th</sup> Street east from Quince Street to cross Munsel Creek and connect at the OR 126/Spruce Street intersection. This connection would increase local connectivity between residential areas on the east side of the City and Old Town, and reduce reliance on the state highway system (particularly OR 126). At such time that this connection is made, Quince Street between 8<sup>th</sup> Street and OR 126 would be re-classified as a local street, and 8<sup>th</sup> Street between Quince and Spruce would be re-classified as a Collector Street. In addition, movements for northbound and southbound traffic on Quince Street approaching OR 126 would be restricted to right-in/right-out only.
- **Oak Street South Connection (PRJ-5)** – Connect Oak Street from 15<sup>th</sup> to 20<sup>th</sup>. This connection would reduce north/south reliance on US 101 and would improve operations at signalized intersections at US 101/15<sup>th</sup>, US 101/21<sup>st</sup>, and US 101/OR 126.
- **Oak Street North Extension (PRJ-6)** – Extend Oak Street north from 46<sup>th</sup> to Heceta Beach Road. This connection would reduce north/south reliance on US 101 and would improve operations at the US 101/Munsel Lake Road and US 101/Heceta Beach Road intersections.
- **20<sup>th</sup> Street Extension (PRJ-7)** – Extend 20<sup>th</sup> Street west to Kingwood Street. This would entail construction of about 50-100 feet of additional roadway on City-owned right-of-way.
- **Spruce Street Extension (PRJ-8)** – Construct a new section of Spruce Street north from Munsel Lake Road to Heceta Beach Road. This new collector road will provide local access to future development areas, and should align with Heceta Beach Road at a single intersection on US 101.

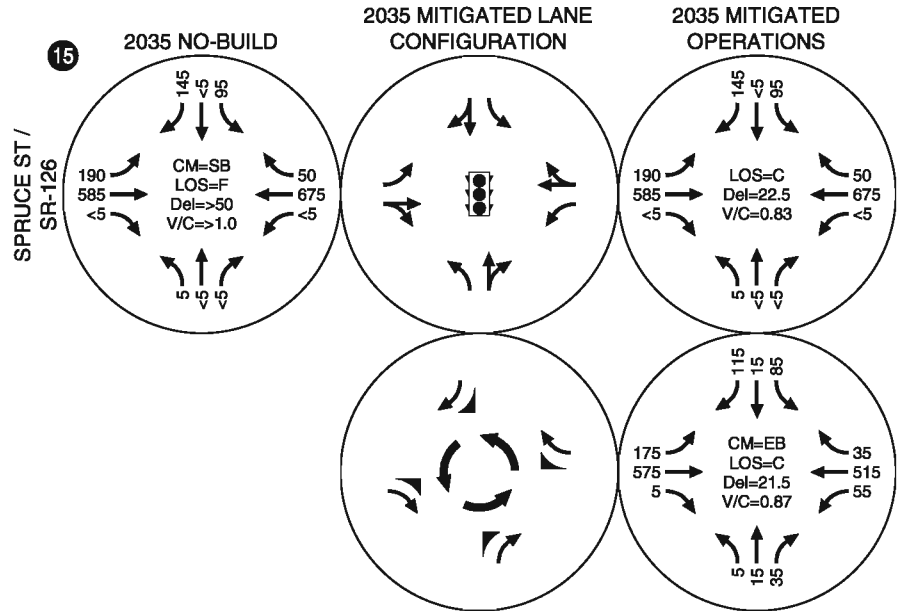
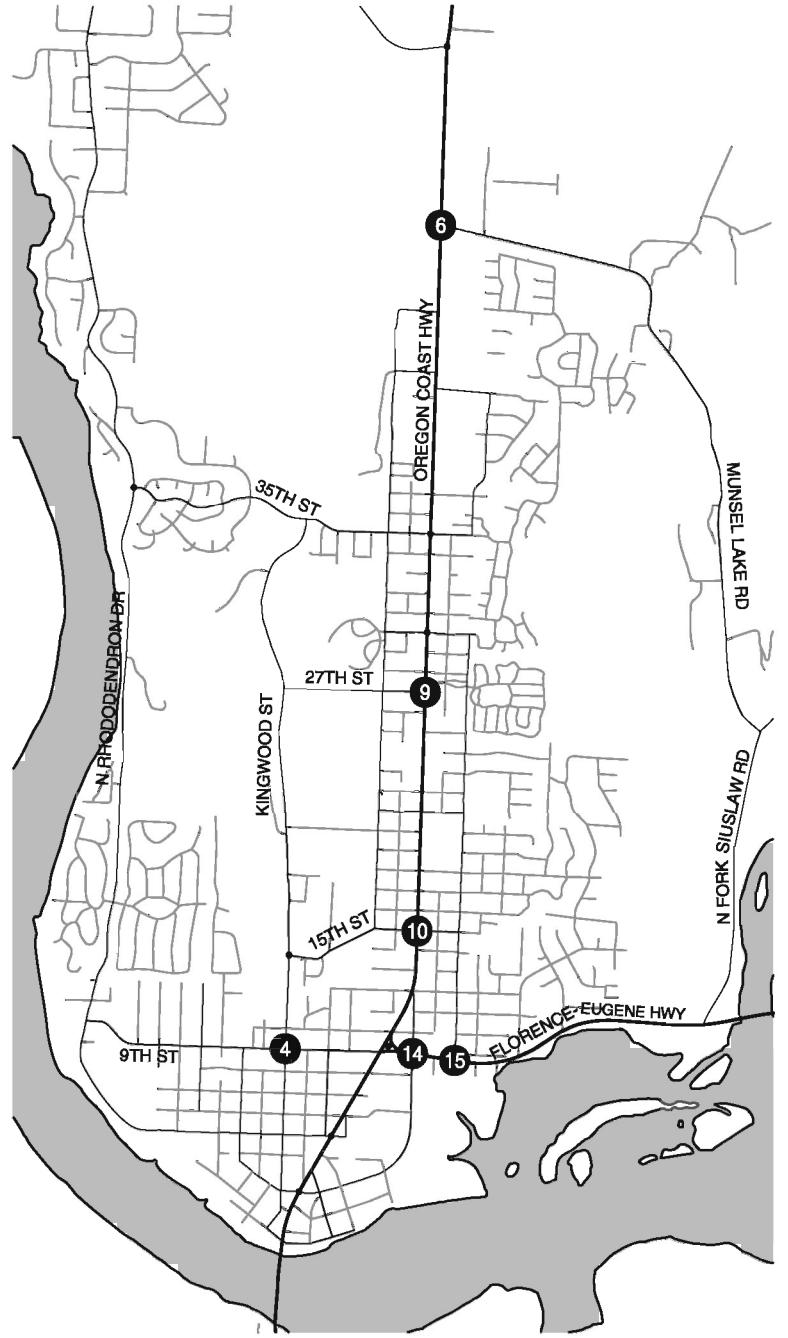
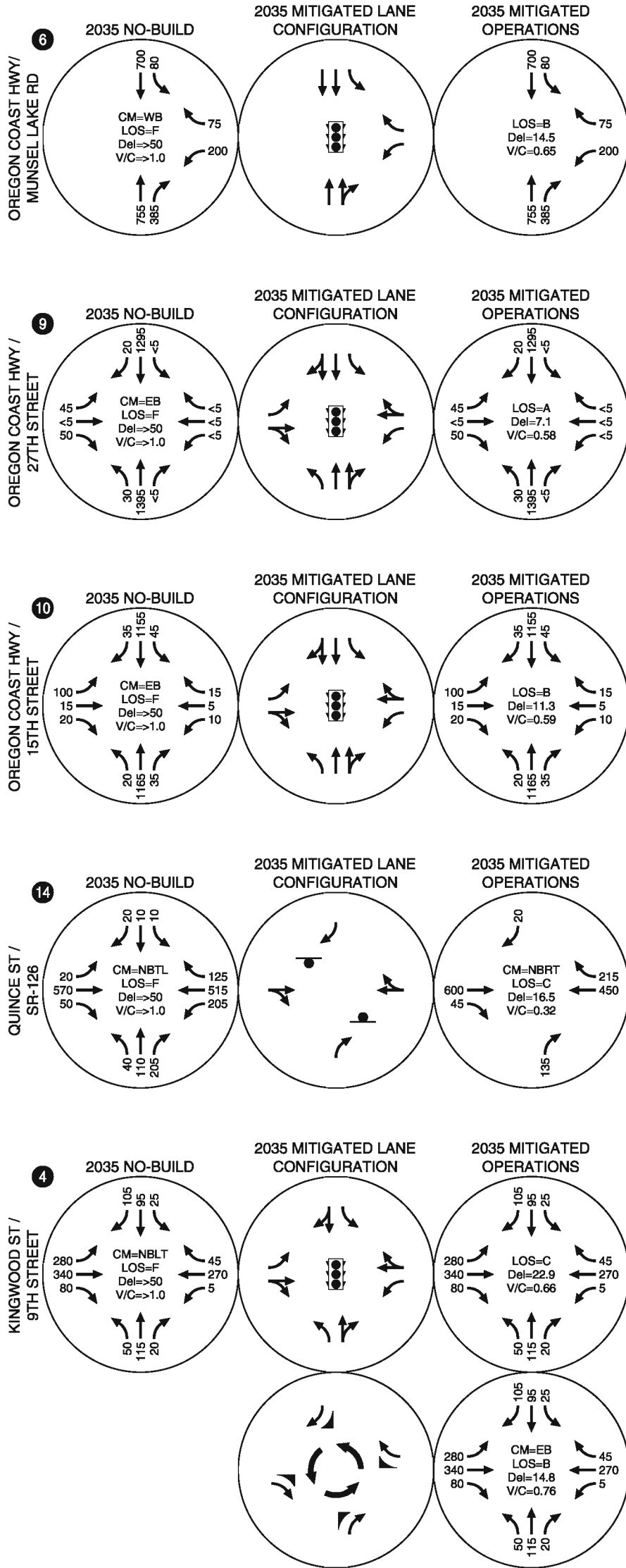
### Local Intersection Improvement Options

The 2035 No-Build analysis revealed those intersections listed below as needing improvements. Operations analysis was performed to determine the appropriate options for mitigation of each of these failing study area intersections. Accordingly, Figure 5-1 shows the operations of each of these intersections with no mitigation, and then with potential mitigations. In most cases, there are multiple potential mitigations available to meet City or ODOT mobility standards; the resultant operations for each of the optional treatments are shown in this figure.

- **US 101/Munsel Lake Road intersection (PRJ-9)** – This intersection is projected to operate unacceptably in 2035, based on ODOT mobility standards. A traffic signal was recommended in the 2008 TSP, consistent with the analysis provided in this report.
- **US 101/27<sup>th</sup> Street (PRJ-10)** – This intersection is projected to operate unacceptably in 2035, based on ODOT mobility standards. A traffic signal would restore future operations to meet ODOT mobility standards. (Note: The 2002 TSP identified the need for a future traffic signal at 27<sup>th</sup> Street to address operational deficiencies. Subsequently, but prior to installation, a pedestrian fatality occurred at the US101/30<sup>th</sup> Street intersection, and the City revised its TSP to prescribe a signal at 30<sup>th</sup> Street instead. Signal warrants at 30<sup>th</sup> Street were not met and ODOT installed a pedestrian signal to address this safety issue.)
- **US 101/15<sup>th</sup> Street (PRJ-11)** – This intersection is projected to operate unacceptably in 2035, based on ODOT mobility standards. A traffic signal would restore future operations to meet ODOT mobility standards.
- **9<sup>th</sup>/Kingwood Street (PRJ-12)** – This intersection is projected to operate unacceptably in 2035, based on City mobility standards. A traffic signal or a roundabout would restore future operations to meet City standards.
- **OR 126/Quince Street (PRJ-13)** – This intersection is projected to operate unacceptably in 2035, based on ODOT mobility standards. Given the close proximity of this intersection to the US 101 signalized intersection, a traffic signal or roundabout is not recommended at this location. The system improvement being considered at this intersection is to restrict movements (prohibit all movements except right-in/right-out for northbound and southbound approaches). Westbound left-turns from OR 126 to Quince Street would also be retained until such time that the 8<sup>th</sup> Street extension to Spruce Street and OR 126 is constructed.
- **OR 126/Spruce Street (PRJ-14)** – This intersection is projected to operate unacceptably in 2035, based on ODOT mobility standards. A traffic signal or roundabout would restore future operations to meet ODOT mobility standards.



(NO SCALE)



NOTE: ROUNDABOUT VOLUMES BASED ON 2035 ALTERNATIVE 4 (8TH STREET EXTENSION) MODEL OUTPUT VOLUMES

**LEGEND**

- STOP SIGN
- TRAFFIC SIGNAL
- ROUNDABOUT

CM = CRITICAL MOVEMENT  
 LOS = CRITICAL MOVEMENT LEVEL OF SERVICE  
 Del = CRITICAL MOVEMENT CONTROL DELAY  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

2035 MITIGATED NO-BUILD TRAFFIC OPERATIONS WEEKDAY PM PEAK HOUR FLORENCE, OR

H:\profile\10103 - Florence TGM Grant Application\dwgs\figs\10103fig04\_TMI\figs-1.dwg Oct 27, 2011 - 11:18am - danguea Layout Tab: Fig5-1

## Policies

In addition to roadway improvement projects, policies can be implemented that would move the City of Florence area towards being less reliant on the state highway system. Examples of such policies are outlined below:

- Development review process could include an evaluation of reliance on state highway system. This would not be a condition of approval, but rather would inform decision makers of potential travel patterns and encourage alternative strategies. **(POL-1)**
- Prioritize improvements that add parallel capacity to state highway facilities. **(POL-2)**

## Access Management

Access management is the systematic implementation and control of the locations, spacing, design, and operations of driveways, median openings, roundabouts, and street connections to a roadway, according to the Access Management Manual (AMM) (Reference 1). Access management involves managing the location, spacing and design of driveways, medians, turn lanes and public road intersections on major roadways to improve the safety and operation of the roadway for all modes of travel. Access points located too close together on major roads cause safety problems and contribute to traffic congestion. Each access point creates potential conflicts between through traffic and traffic using the access points. When the number of access points increase, so does the number of crashes. Access points also cause drivers to change lanes or slow down to turn into an access, forcing other drivers to have to slow down too. Managing roadway access improves safety, reduces congestion, and creates a more attractive business environment.

ODOT and Lane County have the authority to regulate approaches on state highways and county roads in Florence. ODOT and the City adopted the Access Management Plan for US 101 in Downtown Florence in 2004, which applies to the portion of US 101 between the Siuslaw River Bridge and OR 126. On other portions of US 101 and OR 126, statewide access management standards apply. Access spacing standards resulting from Senate Bill 264 will go into effect in 2012; these standards call for spacing of 500 feet between approaches where the speed limit is 30 or 35 miles per hour, and spacing of 800 feet where the speed limit is 40 or 45 miles per hour. Table 5-1 shows that average approach spacing on US 101 and OR 126 in Florence currently exceed Senate Bill 264 standards except for a segment of OR 126 west of Spruce Street. Specific corridors that should be prioritized for access management refinement plans are discussed further below. The observed access spacing that exists today for each of these corridors is shown in Table 5-1.



**Table 5-1 Observed Average Access Point Spacing**

| Corridor | Segment  | Distance (feet) | Number of Access Points / Average Spacing Between Accesses (feet) |   |
|----------|--|-----------------|---|---|
|          |  |                 | Northbound (US 101) or Eastbound (OR 126)                         | Southbound (US 101) or Westbound (OR 126) |
| US 101   | 2 <sup>nd</sup> Street to OR 126                   | 2,400 feet      | 12 / 200 feet   | 11 / 218 feet                             |
|          | OR 126 to 21 <sup>st</sup> Street                  | 3,790           | 19 / 199 feet   | 20 / 190 feet                             |
|          | 21 <sup>st</sup> Street to 35 <sup>th</sup> Street | 4,250           | 18 / 236 feet   | 17 / 250 feet                             |
|          | 35 <sup>th</sup> Street to Munsel Lake Road        | 4,730           | 13 / 363 feet   | 18 / 263 feet                             |
|          | Munsel Lake Road to Heceta Beach Road              | 2,730           | 8 / 341 feet  | 8 / 341 feet                              |
| OR 126   | US 101 to Spruce Street                            | 1,080 feet      | 3 / 360 feet  | 2 / 540 feet                              |
|          | Spruce Street to N Fork Siuslaw Road               | 3,950           | 6 / 658 feet  | 2 / 1975 feet                             |

A person must apply to ODOT for a permit before constructing or altering any highway approach, or when a change of use increases trips from a property over specified thresholds. While ODOT will seek to limit approaches to state highways to achieve spacing standards applicable at the time of permit review, Senate Bill 264<sup>1</sup> limits the ability of ODOT to deny reasonable access to any property abutting the highway.

Local access management standards apply on local streets. The City of Florence may want to develop and adopt access management standards to protect the operation of local streets, particularly in commercial districts such as downtown Florence and the Pacific View Business Park.

<sup>1</sup> Enrolled Senate Bill 1024 (2010) directed ODOT, in cooperation with stakeholders, to develop proposed legislation to codify, clarify and bring consistency to issuance of access based on objective standards and to establish less stringent access management rules, measures and spacing and mobility standards for highway segments where the annual amount of daily traffic is 5,000 vehicles or fewer.

<http://www.oregon.gov/ODOT/HWY/ACCESSMGT/SB264.shtml>

Local access management standards can also apply on State and County roadways if the local standards are more restrictive than the State or County standards. The City of Florence may want to develop and adopt local access management standards that apply to State highways and County roadways to give the City standing to ensure that approach patterns are consistent with the City's vision and planned land uses along these roadways. Local standards can augment State and County standards by, for example, providing a mechanism for negotiation of property cross-easements to allow consolidation of driveways.

### Access Management Recommendations

Currently, the City of Florence and ODOT do not have access management policies specific to OR 126 or US 101 north of OR 126 in Florence. While ODOT has general access spacing standards and policies for highways in urban areas across the state that can be applied to Florence, an access management plan could be specifically designed for the US 101 and OR 126 corridors. This will allow the character, context, and vision for the roadway to be considered when standards are developed. The City of Florence could develop and adopt local access management standards as provisions in the City's development code, or in conjunction with ODOT as formal plans that apply to specific highway segments in Florence.

As such, the following projects are recommended for future access management plan development:

- US 101 Access Management Plan (**PRO-1**) – US 101 serves both as the primary north/south route through the City of Florence, as well as a principal provider of local access to commercial development within the City. As such, access and mobility along this corridor north of OR 126 should be balanced.
- OR 126 Access Management Plan (**PRO-2**) – OR 126 serves as the primary route connecting to the Eugene/Springfield area to the east, as well as a principal provider of access to local businesses and residential areas. As such, access and mobility along this corridor should be balanced.

### Case Study: Downtown Florence

US 101 between the intersection with OR 126 and the Siuslaw River Bridge is designated as a Special Transportation Area (STA) in the Oregon Highway Plan. An STA is a district of compact development where the need for local access outweighs considerations of highway mobility.

The City and ODOT have collaborated on a variety of studies to implement the STA designation on US 101, and to support and revitalize downtown Florence as the center for cultural, commercial, and community activities for residents and visitors. These studies have identified the City's vision for land uses in the downtown Florence area and transportation investments needed to support those land uses. These studies include:

- The *1999 Florence Downtown Implementation Plan*, which identifies US 101 as the center of Florence's downtown, includes commercial districts on both sides of US 101 in downtown Florence, and seeks to improve access and visibility to Old Town from US 101.
- The *1999 Gateway District: Highway 126 and Quince Street Study*, which describes the OR 126/Quince Street intersection as an important gateway to downtown Florence and identifies design guidelines and transportation improvements needed to improve the appearance and function of this area.
- The *2004 Access Management Plan for Highway 101 in Downtown Florence*, which describes a range of measures for improving the operation of US 101 between the Siuslaw River Bridge and OR 126, including approaches for consolidation or closure, intersection realignments, and a new signal on US 101 at 2<sup>nd</sup> Street.

A variety of measures identified in these plans have been implemented, including the realignment of 2<sup>nd</sup> Street, development of parking lots in Old Town, and the provision of marked mid-block pedestrian crossings on US 101. These plans include many proposed improvements to the roadway system in Florence that have not been implemented; these proposed improvements should be reflected in the City's updated TSP. Proposed improvements from previous plans for downtown Florence that should be included in the City's TSP include the following:

- Stripe / mark on-street parking spaces on US 101. (Implementation Plan, p. 6)
- Extend Old Town historic street light program to US 101. (Implementation Plan, p. 6)
- Install irrigation and plant street trees in Siuslaw Bridge Gateway area on US 101. (Implementation Plan, p. 6)
- Improve connectivity in Old Town by extending and connecting local streets. (Implementation Plan, p. 6)
- Create a Downtown Green between US 101, 2<sup>nd</sup> Street, and Maple Street as a center for downtown Florence and a gateway to Old Town. (Implementation Plan, p. 9)

- Implement parking signage system to direct visitors to available parking. (Implementation Plan, p. 9)
- Develop parking district plan for Old Town and development of parking lots and accessways. (Implementation Plan, p. 16; Access Management Plan, Figures 2a and 2b)
- Extension of 8<sup>th</sup> Street east of Quince Street to connect to Redwood Street (Gateway District, p. 10)
- Signal at US 101 and 2<sup>nd</sup> Street to provide access to Old Town. (Access Management Plan, Figure 2a)

Additional analysis of traffic circulation at OR 126 and Quince Street has been conducted for this TSP Update, in light of the turn restrictions recommended for this intersection. An extension of 8<sup>th</sup> Street east of Quince Street to Spruce Street has been identified as an improvement that would allow westbound traffic on OR 126 to turn left at Spruce Street to access Old Town Florence without using the OR 126/Quince Street intersection or US 101. This extension would require a bridge over Munsel Creek, one block south of the existing OR 126 bridge over Munsel Creek.

## **Transportation System Management (TSM)**

TSM strategies include a wide variety of measures aimed at improving operations of existing transportation facilities. TSM measures can be focused on improving transportation “supply” through enhancing capacity and efficiency, typically with advanced technologies to improve traffic operations. Or they may be focused on reducing transportation demand, through promoting travel options and ongoing programs intended to reduce demand for drive alone trips, especially during peak travel periods.

The sections below present possible TSM alternatives that could be applied in the City of Florence to improve the capacity and efficiency of the transportation system.

### **Signal Retiming/Optimization (PRO-3)**

Signal retiming and optimization refers to updating timing plans to better match prevailing traffic conditions and coordinating signals. Timing optimization can be applied to existing systems or may include upgrading signal technology, including signal communication infrastructure or signal controllers or cabinets. Signal retiming can reduce travel times and be especially beneficial to improving travel time reliability. Signal retiming could also be implemented to improve or facilitate pedestrian movements through intersections by increasing minimum green times to accommodate

pedestrian crossing movements during each cycle in high pedestrian or desired pedestrian traffic areas, eliminating the need to push pedestrian crossing buttons. Bicycle movements could be facilitated by installing bicycle detection along existing or proposed bicycle routes. Signal upgrades often come at a higher cost and usually require further coordination between jurisdictions.

ODOT operates and maintains the timing of traffic signals along US 101. Although several of the signals were updated in 2008 and 2009, the US 101/OR 126 intersection has not been updated since its installation in 2002. A system wide update to traffic signal timings and/or hardware/software may benefit the efficiency of the transportation system.

#### Advanced Signal Systems (**PRO-4**)

Advanced signal systems incorporate various strategies in signal operations to improve the efficiency of a transportation network. Strategies may include coordinated signal operations across jurisdictions as well as centralized control of traffic signals. Advanced signal systems can reduce delay, travel time and the number of stops for vehicles, while potentially increasing average vehicle speed. In addition, these systems may help reduce vehicle emissions and have a high impact on improving travel time reliability.

Advanced signal systems may be applied to several innovative control strategies. The costs of these systems vary as a function of the types of controllers, programming needs and detection needs. Implementing any of these systems would require coordination between the City of Florence, Lane County, and ODOT. Alternative signal systems include:

- **Adaptive or active signal control systems** improve the efficiency of signal operations by actively changing the allotment of green time for vehicle movements, thus reducing average delay for vehicles. Adaptive or active signal control systems require several vehicle detectors at intersections and hardware and software upgrades to detect traffic flows adequately.

**Potential City of Florence Application:** US 101/OR 126 intersection

- **Traffic responsive control** uses data collected by traffic detectors to change signal timing plans for intersections. The data is used by the system to automatically select a timing plan best suited to current traffic conditions. This system is able to determine times when peak-hour timing plans begin or end; potentially reducing vehicle delays.

**Potential City of Florence Application:** US 101/OR 126 intersection

- **Truck signal priority systems** use sensors to detect approaching heavy vehicles and alter signal timings to improve truck freight travel. While truck signal priority may improve travel times for trucks, its primary purpose is to improve the overall performance of intersection operations by clearing any trucks that would otherwise be stopped at the intersection and subsequently have to spend a longer time getting back up to speed. Implementing truck signal priority requires additional advanced detector loops, usually placed in pairs back from the approach to the intersection.

**Potential City of Florence Application:** US 101

## **Transportation Demand Management (TDM)**

TDM measures include any method intended to shift travel demand from single occupant vehicles to non-auto modes or carpooling, travel at less congested times of the day, or to divert trips to locations with more available vehicle capacity. Some common examples of TDM strategies include programs such as carpool matching assistance or flexible work shifts; parking management strategies; direct financial incentives such as transit subsidies; or facility or service improvements, such as bicycle lockers or increased bus service.

Some of the most effective TDM strategies are best implemented by employers and are aimed at encouraging non-single occupancy vehicle (SOV) commuting. Strategies include preferential carpool parking, subsidized transit passes, and flexible work schedules. Cities and other public agencies can play a critical role in support of TDM through provision of facilities and services, as well as development policies that encourage TDM.

While many TDM strategies are most effectively implemented by employers, there are numerous strategies that cities can implement or support with other agencies. These include access management and connectivity strategies (that enhance pedestrian and bicycle travel) that are more often associated with roadway elements of planning. Other strategies include provision of facilities (sidewalks, bicycle lanes, transit amenities) and management of existing resources (parking). Another critical role that cities play is in the policies related to development activities. Through support, incentive, and mandate, cities can ensure that new development supports a balanced transportation system. Several broad TDM strategies are summarized in Table 5-2. The table also identifies typical implementation roles.

**Table 5-2 TDM Strategies and Typical Implementing Roles**

| TDM Strategy |                               | City | County | Transportation Management Association <sup>1</sup> | Developers | Transit Provider | Employers | State |
|--------------|-------------------------------|------|--------|--|------------|------------------|-----------|-------|
| TDM-1        | Public parking management     | P    |        |  | S          | S                | S         |       |
| TDM-2        | Flexible parking requirements | P    |        |  | S          |                  | S         |       |
| TDM-3        | Access management             | P    | S      |  |            |                  |           | P     |
| TDM-4        | Connectivity standards        | P    |        |  | S          |                  |           | P     |
| TDM-5        | Pedestrian facilities         | P    | S      |  | S          |                  | S         | S     |
| TDM-6        | Bicycle facilities            | P    | S      |  | S          |                  |           | P     |
| TDM-7        | Transit stop amenities        | S    |        |  | S          | P                |           |       |
| TDM-8        | Parking management            | P    |        |  | S          |                  | S         |       |
| TDM-9        | Limited parking requirements  | P    |        |  | S          |                  |           |       |
| TDM-10       | Carpool match services        | S    |        | P  |            |                  | S         |       |
| TDM-11       | Parking cash out              |      |        | S  |            | S                | P         |       |
| TDM-12       | Subsidized transit passes     |      |        |  |            | S                | P         |       |
| TDM-13       | Carsharing program support    | P    |        | S  | S          | S                | S         |       |

Note: 1A Transportation Management Association does not currently exist in Florence  
 P: Primary role  
 S: Secondary/Support role  
 \* Primary implementation depends on roadway jurisdiction

While all the strategies listed in Table 5-2 could be implemented in the City of Florence, the city faces a difficult challenge related to TDM strategies. Given the climate and culture, not all of the options listed would receive strong public support or involvement. As such, care should to be taken to implement strategies that are consistent with City of Florence lifestyles, while still effectively reducing travel demand. Below is a list of specific strategies that could be effective in the City of Florence.

- Access Management
- Connectivity Standards
- Pedestrian Facilities
- Bicycle Facilities
- Parking Management
- Developer Incentives
- Transit Stop Amenities

Incentives can also be used to encourage development to incorporate facilities, strategies and programs that promote TDM. For example, a tiered system of SDC credits could be provided to developers that implement two or more TDM strategies such as special carpool parking, free transit passes, shower facilities, electric vehicle charging stations, etc.

Many of the above TDM strategies would require coordination between the City/County and future developments that occur within the City of Florence. This can be accomplished by outlining clear standards related to access management, connectivity, complete street design, and parking requirements, to name a few. Consistency between the City and Lane County is important to maximize the effectiveness of any new standards developed. Under the current structure, Lane County retains Code authority to properties outside the City limits.

## Capacity Enhancing Roadway Projects

The following subsections present the draft roadway capacity project recommendations for the auto mode (local street system). These are based on existing and future no build conditions analyses as well as input from project stakeholders. The treatments, strategies and approaches are organized in the following subsections:

- **Roadway Segment Projects** – Presents roadway segment projects including new roads, roadway extensions and roadway widening projects that are in addition to the local street connectivity projects from the previous section.
- **Intersection Projects** – Presents specific intersection projects to address forecasted operational deficiencies.

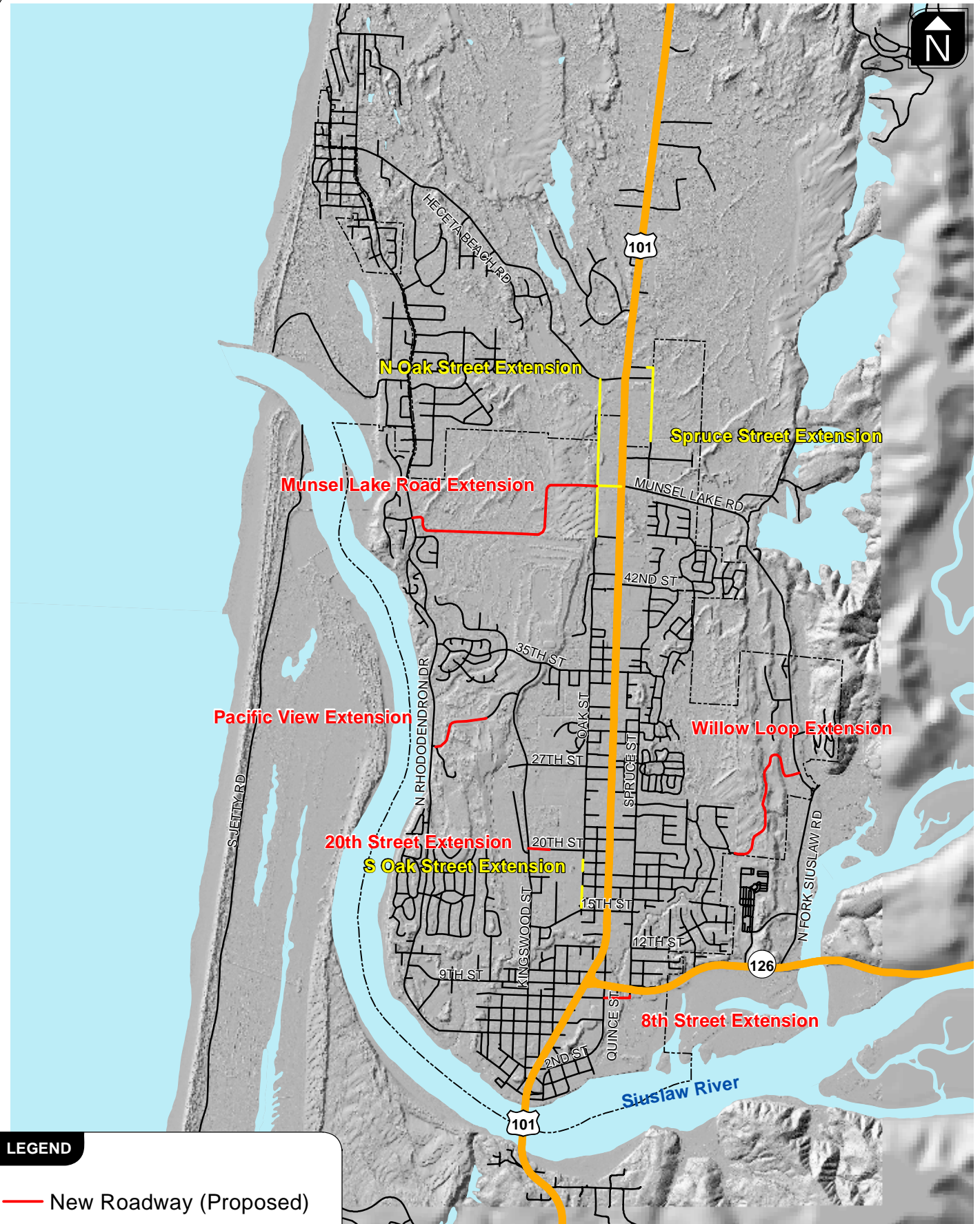
### Roadway Segment Projects

The Lane Council of Governments (LCOG) Travel Demand Model was used to evaluate the potential impact of the recommended draft projects. Figure 5-2 below shows the location and extent of the roadway segment projects considered for this analysis. They include the local street connectivity projects described previously plus the following additional roadway projects:

- Pacific View Drive Extension (PRJ-1)
- 46<sup>th</sup> Street/Munsel Lake Road Extension (PRJ-2)
- Willow Loop Extension (PRJ-3)



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**LEGEND**

- New Roadway (Proposed)
- New Roadway (Current TSP)

**PROPOSED NEW ROADWAYS  
FLORENCE, OREGON**

**FIGURE  
5-2**

- 8<sup>th</sup> Street Extension (PRJ-4)
- Spruce Street Extension (PRJ-5)
- Oak Street South Extension (PRJ-6)
- 20<sup>th</sup> Street Extension (PRJ-7)
- Spruce Street Extension (PRJ-8)

An analysis was conducted to determine the feasibility of constructing these alternatives, and the benefit that these alternatives will have on future congestion in Florence. This analysis is discussed in this section. Figure 5-2 shows the four street connections for which a detailed evaluation was conducted with respect to physical feasibility and traffic operations.

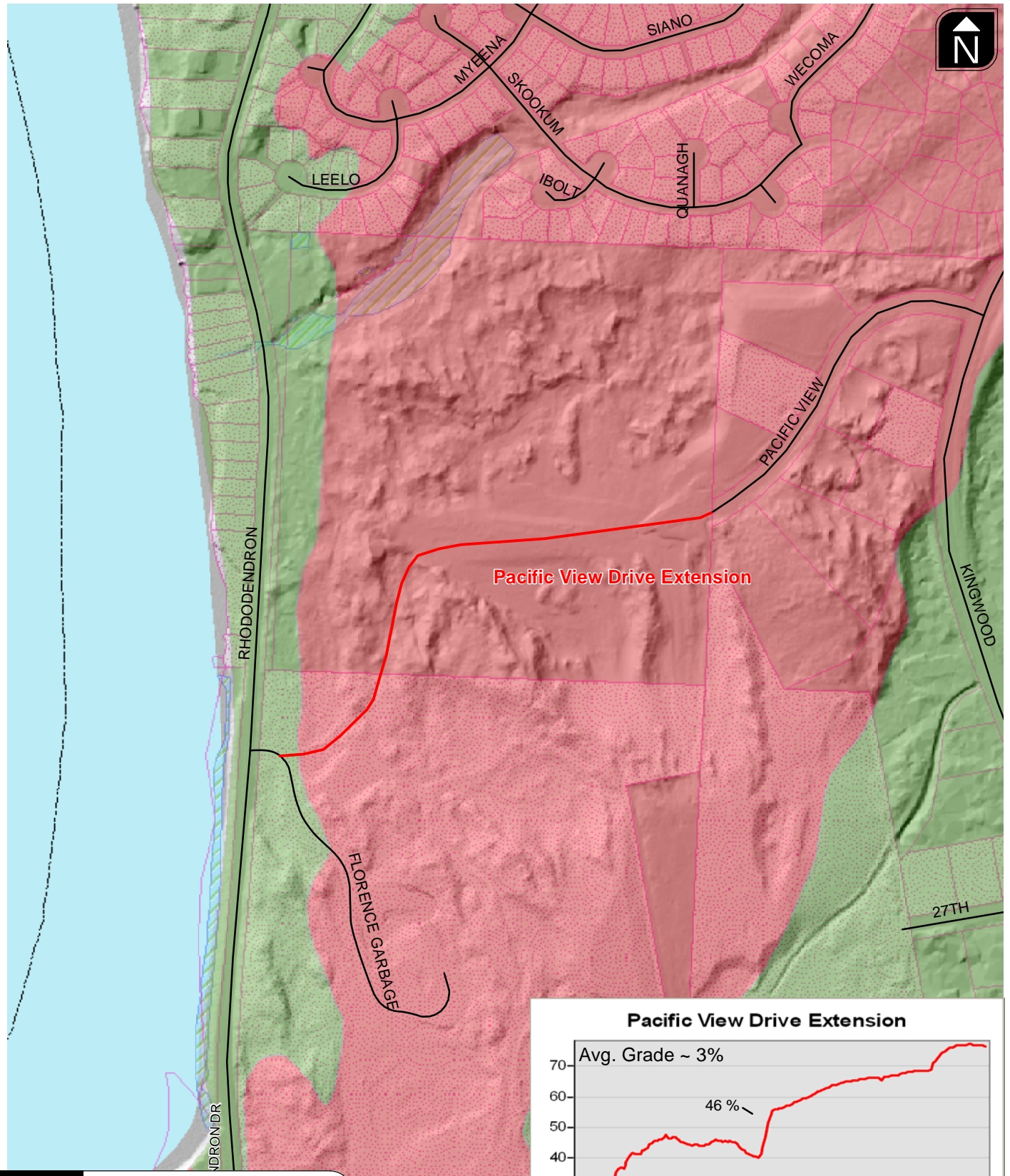
#### Pacific View Drive Extension (PRJ-1)

The Pacific View Drive extension would provide an east-west connection from Kingwood Street to Rhododendron Drive. Based on an analysis of the topography, wetlands, and soil stability, it appears that this local street connection can be feasibly constructed. Figure 5-3 shows the preliminary alignment of this street, which connects with New Hope Drive near the Humane Society. This connection would have an average grade of about 3 percent, and due to topography has a curve that traverses a gully. It appears that this gully can be filled to construct the street within allowable grades.

The impact that this connection would have on traffic operations is summarized in Figure 5-4. As shown, this connection would help to relieve traffic at three key arterial intersections: US 101/35<sup>th</sup> Street, 35<sup>th</sup> Street/Rhododendron Drive, and 9<sup>th</sup>/Rhododendron Drive. As shown in Figure 5-4, there is a relatively limited benefit that these intersections would experience with this connection (approximately 20-50 peak hour vehicles would be rerouted from each intersection). This connection would likely not eliminate the need for improvement at the 9<sup>th</sup> Street/Kingwood Street intersection. However, this connection would improve capacity at the described intersections by approximately three to fifteen percent, except at the US 101/35<sup>th</sup> Street, which would see slightly more traffic due to the new connection. This new connection would also provide a more convenient and efficient route for many Florence residents, resulting in a potential reduction of about 150,000 vehicle-miles-traveled annually.

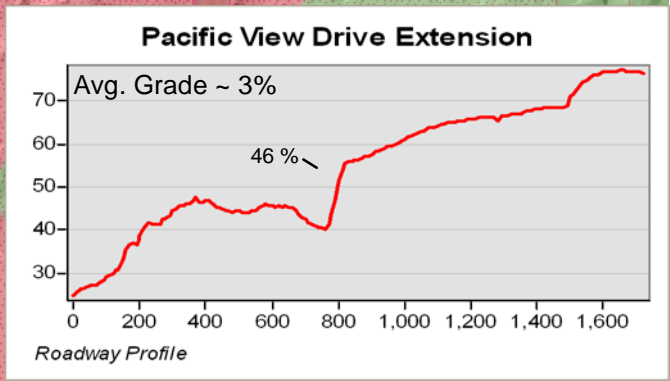


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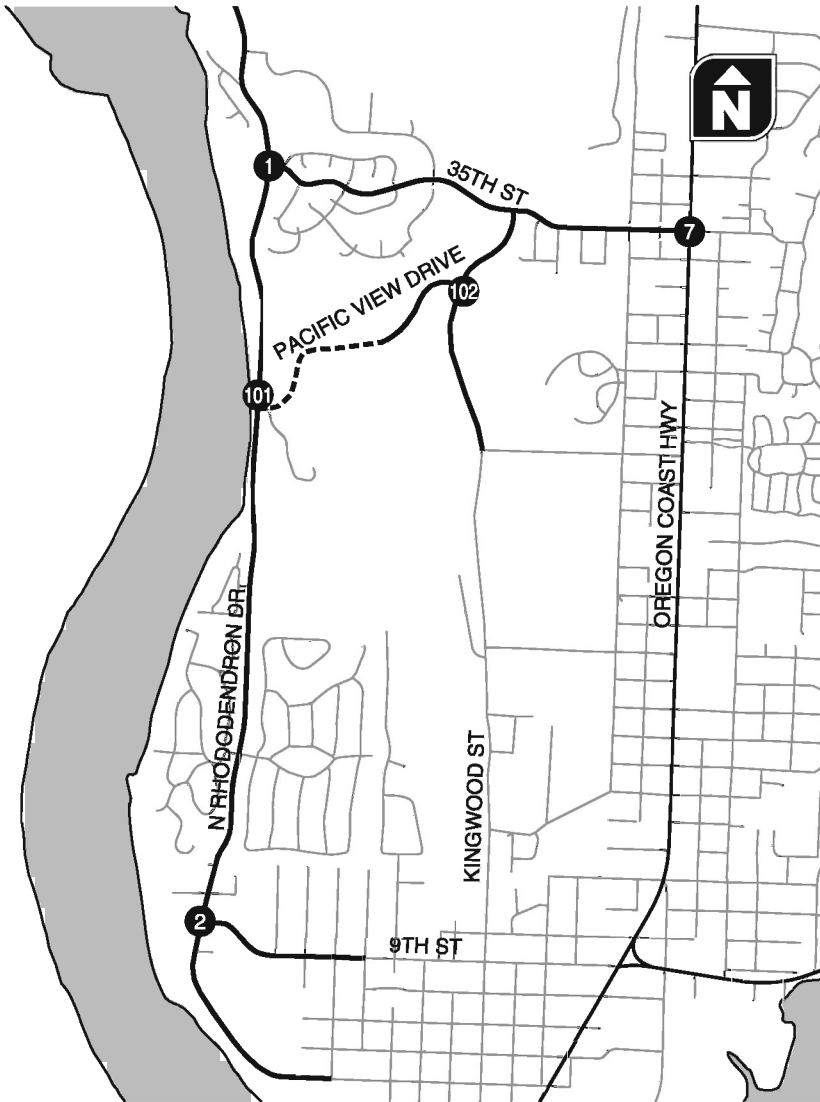
**LEGEND**

- Highly erodible land
- Not highly erodible land
- Improved Parcel
- Unimproved Parcel
- Wetland



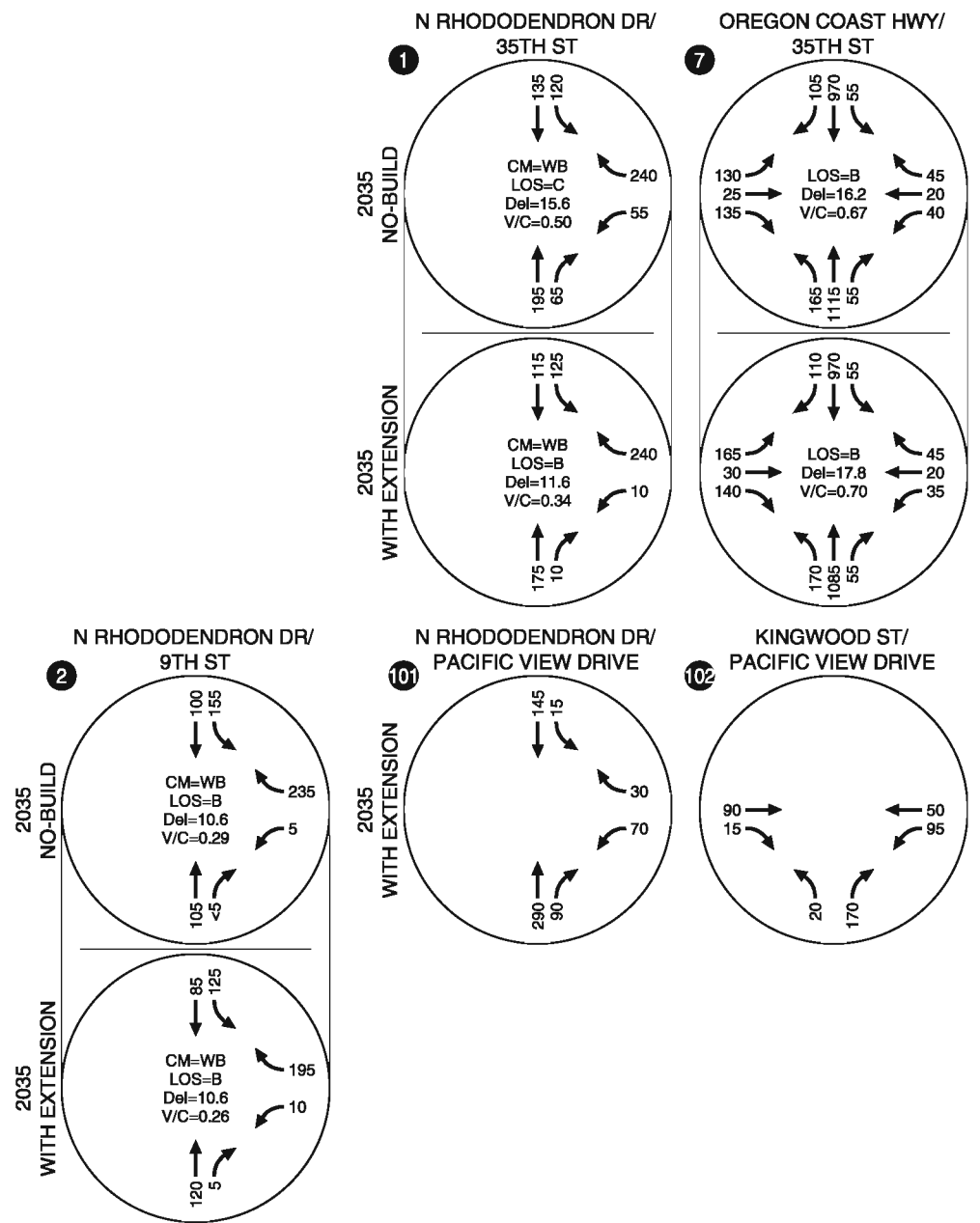
**PACIFIC VIEW DRIVE EXTENSION  
FLORENCE, OREGON** **FIGURE  
5-3**

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**LEGEND**

- LOS = INTERSECTION LEVEL OF SERVICE
- Del = INTERSECTION AVERAGE CONTROL DELAY
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- ROADWAY EXTENSION



**2035 ALTERNATIVE 1 - PACIFIC VIEW DRIVE EXTENSION  
WEEKDAY PM PEAK HOUR  
FLORENCE, OR**

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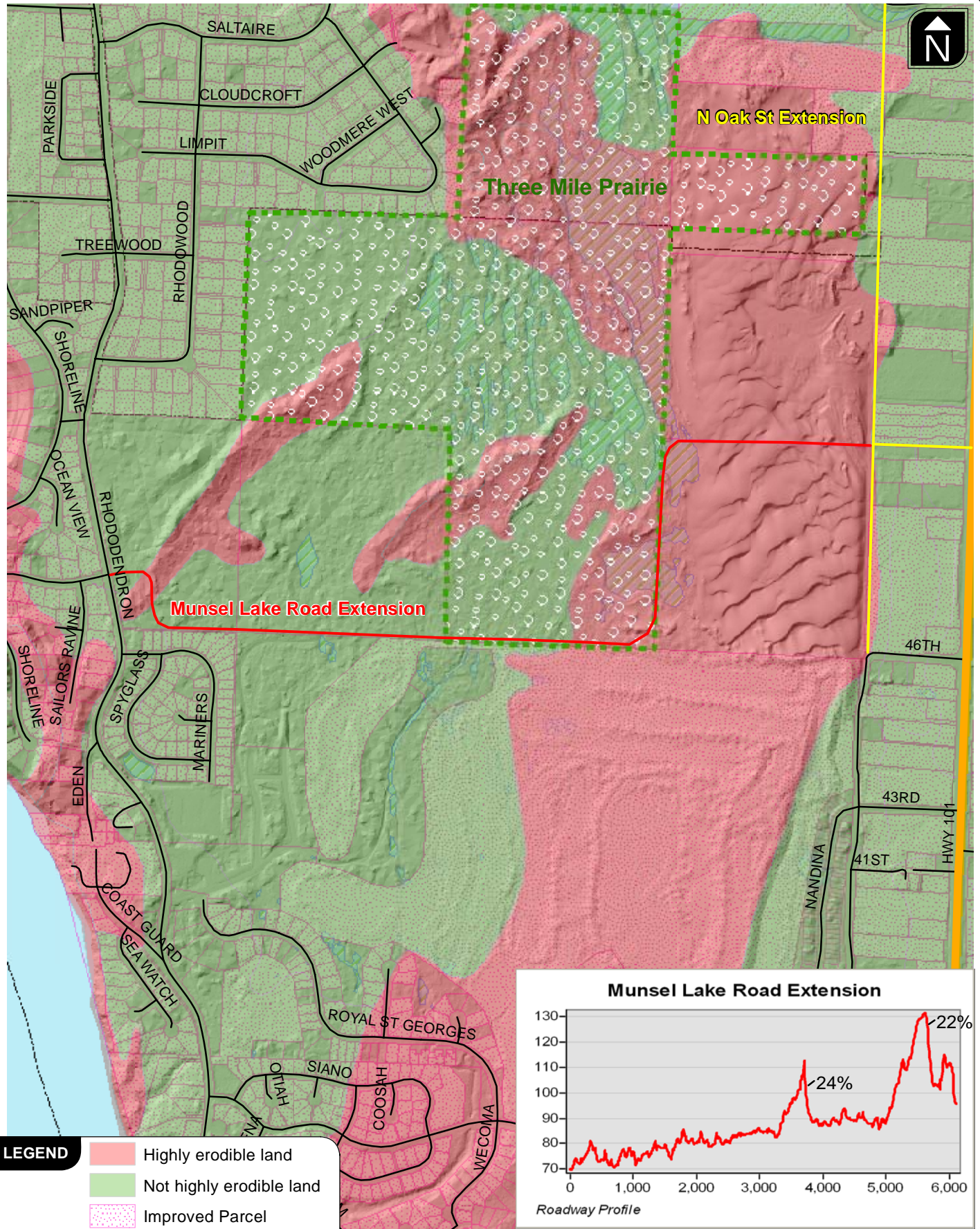
46<sup>th</sup> Street/Munsel Lake Road Extension (PRJ-2)

The 46<sup>th</sup> Street/Munsel Lake Road extension would provide an east-west connection from US 101 to Rhododendron Drive, and is illustrated in Figure 5-5. The exact alignment of this new collector is yet to be determined, but should minimize impacts to both dune areas and the Three Mile Prairie area. This connection faces environmental and physical challenges related to the large dune immediately adjacent to Oak Street and wetland areas. One system benefit of this extension is that it capitalizes on a direct connection to the proposed traffic signal that will be needed at the US 101/Munsel Lake Road intersection.

The impact that this connection would have on traffic operations is summarized in Figure 5-6. As shown, this connection would also help to relieve traffic at the intersections of US 101/35<sup>th</sup> Street, Rhododendron Drive/35<sup>th</sup> Street, and would have a direct impact on the US 101/Munsel Lake Road intersection by introducing a fourth leg. As shown in Figure 5-6, there are a significant number of peak hour trips rerouted from the Rhododendron Drive/35<sup>th</sup> Street with this new connection. This would improve this intersections capacity by as much as 35 percent. Similarly, the US 101/35<sup>th</sup> Street intersection would experience about a six percent improvement in capacity—the rerouted volumes would use the new 46<sup>th</sup> Street/Munsel Lake Road connection. The US 101/Munsel Lake Road intersection is expected to have sufficient capacity to accommodate a fourth leg assuming provision of a traffic signal. This connection would provide a more convenient and efficient route for many Florence residents, resulting in a potential reduction of over 500,000 vehicle-miles-traveled annually.



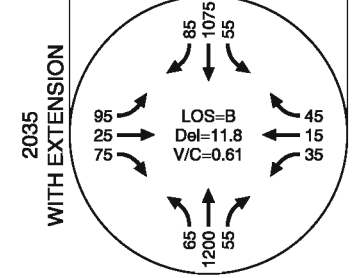
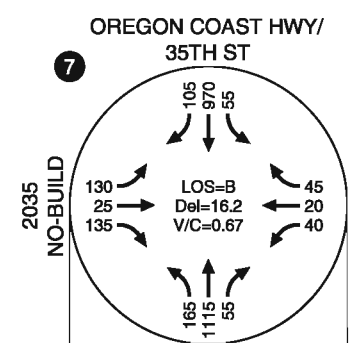
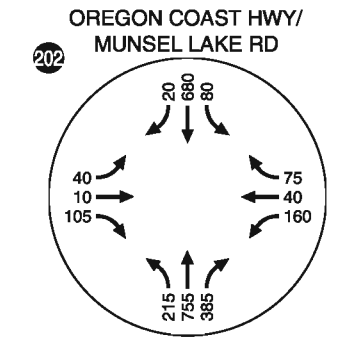
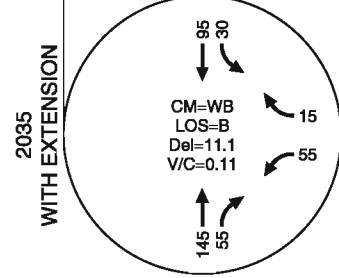
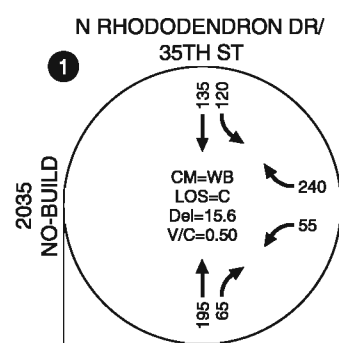
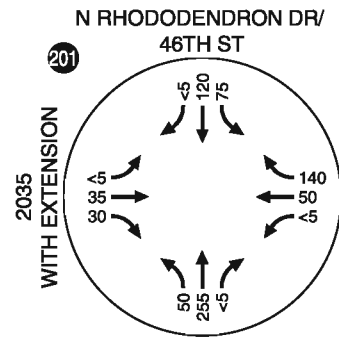
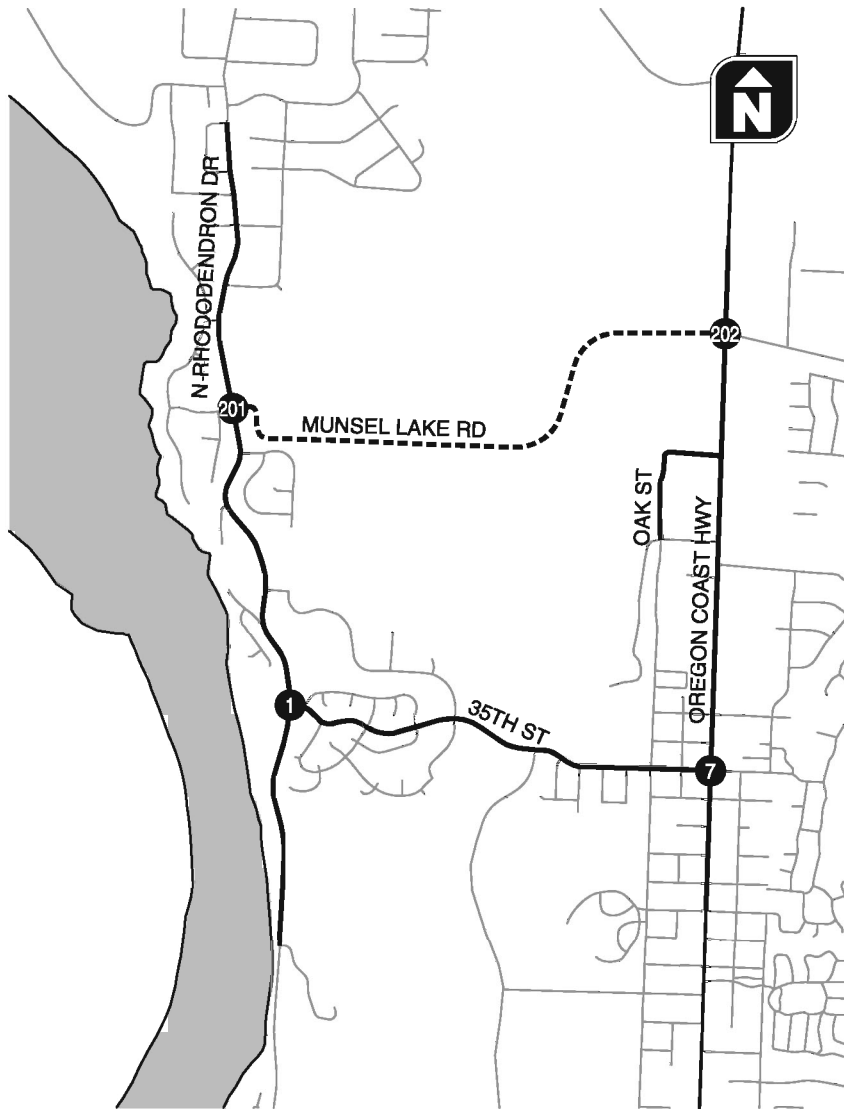
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46TH STREET/ MUNSEL LAKE ROAD EXTENSION FLORENCE, OREGON

FIGURE 5-5

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**LEGEND**

LOS = INTERSECTION LEVEL OF SERVICE  
 Del = INTERSECTION AVERAGE CONTROL DELAY  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO  
 - - - - - ROADWAY EXTENSION

2035 ALTERNATIVE 2 - MUNSEL LAKE ROAD EXTENSION  
 WEEKDAY PM PEAK HOUR  
 FLORENCE, OR

FIGURE  
**5-6**

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#### Willow Loop Extension (PRJ-3)

The Willow Loop Extension, as shown in Figure 5-7, would extend from the eastern terminus of Regal Street northeast through the Ocean Dunes Golf Course, across wetland to connect to North Fork Siuslaw Road. This connection would provide a more complete transportation grid in the vicinity of the project, provide a needed local connection between residential areas on the eastern perimeter of the City and downtown, and help reduce congestion along US 101 and OR 126. This alignment has challenges in that it extends across significant wetlands to connect with North Fork Siuslaw Road. The alignment considered is the Ocean Dunes PUD preliminary development plan.

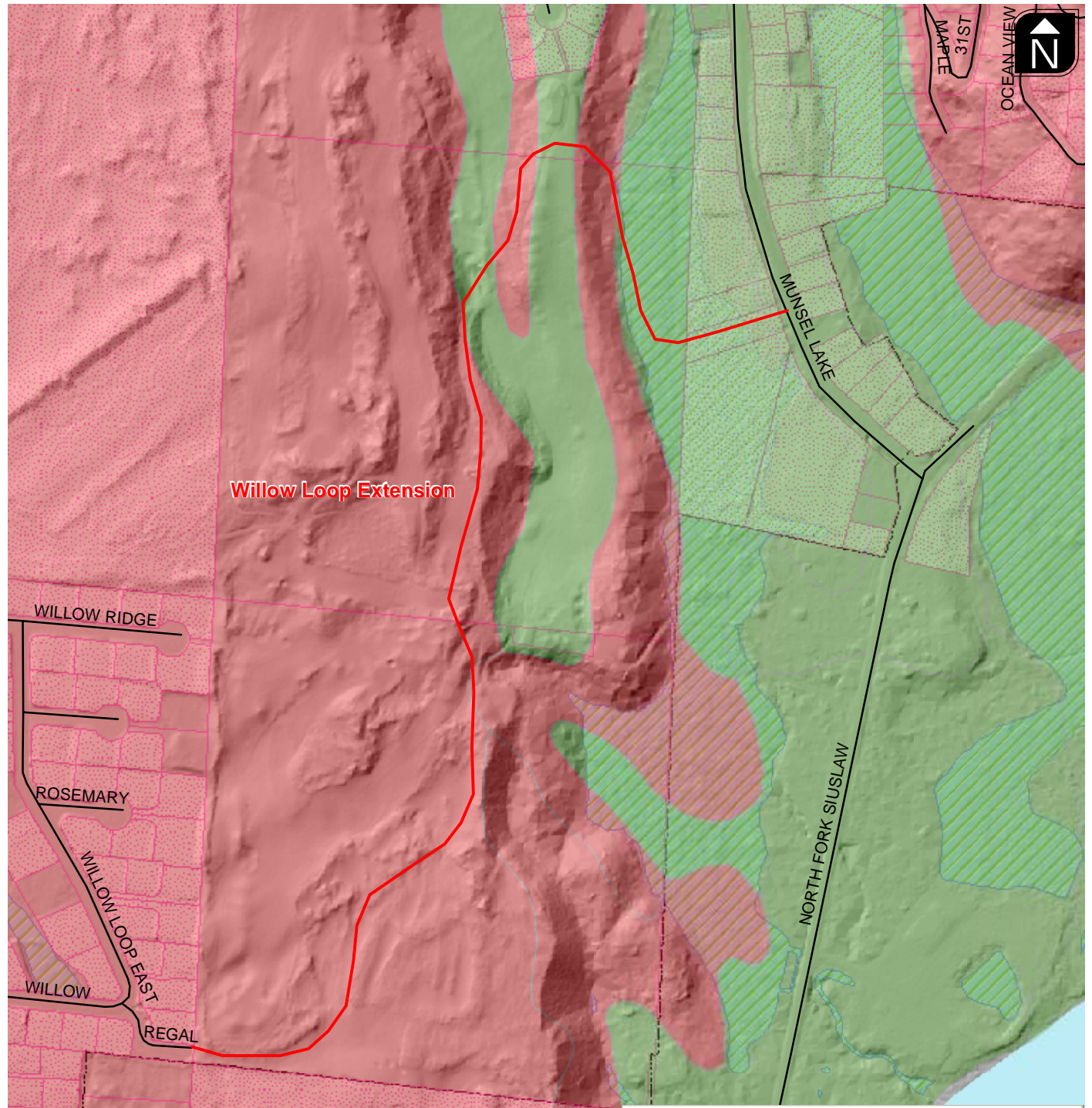
The impact that this connection would have on traffic operations is summarized in Figure 5-8. As shown, this connection would help to relieve traffic at the OR 126/North Fork Siuslaw Road intersection, but would have little impact (minor traffic reroutes) at the OR 126/Spruce Street intersection. As shown in Figure 5-8, the OR 126/North Fork Siuslaw Road intersection would see an increase in capacity of approximately 18 percent; however, this connection would not change the need for the recommended improvements at any of the previously identified deficient intersections. This connection would, however, provide a more convenient and efficient local route for many Florence residents, resulting in a potential reduction of over 370,000 vehicle-miles-traveled annually.

#### 8<sup>th</sup> Street Extension (PRJ-4)

The 8<sup>th</sup> Street Extension would extend 8<sup>th</sup> Street east from Quince Street to cross Munsel Creek and connect at the OR 126/Spruce Street intersection. This connection would increase local connectivity between residential areas on the east side of the City and Old Town, and reduce reliance on the state highway system (particularly OR 126). The alignment and topography of this street connection is shown in Figure 5-9.

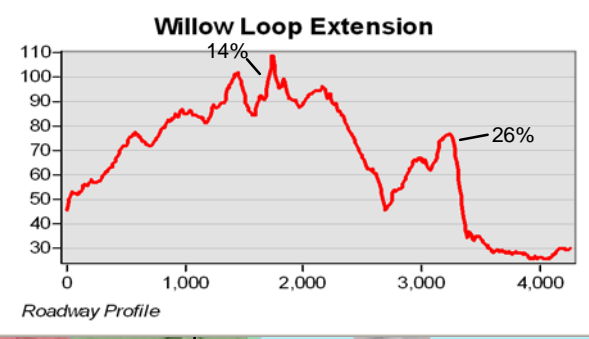


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**LEGEND**

- New Roadway (Proposed)
- New Roadway (Current TSP)
- Highly erodible land
- Not highly erodible land
- Improved Parcel
- Unimproved Parcel
- Wetlands



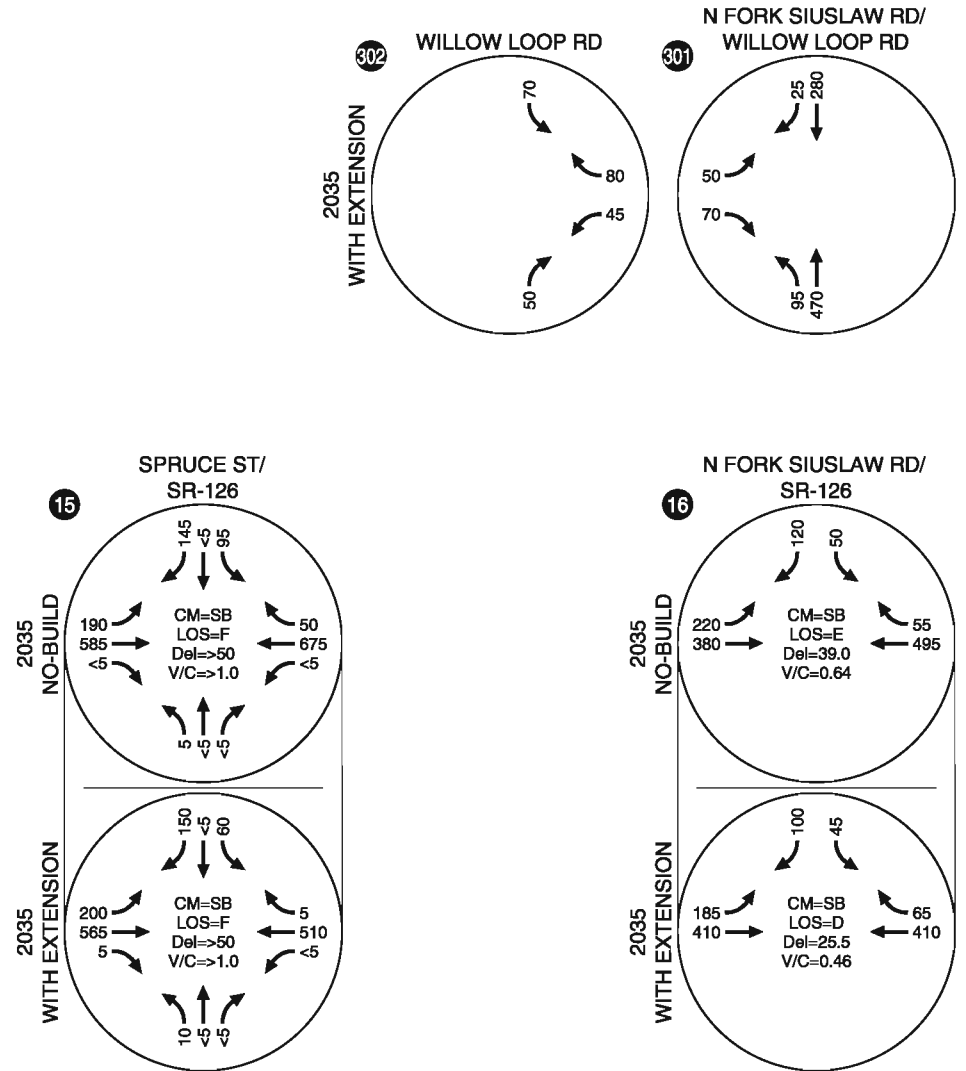
**WILLOW LOOP EXTENSION  
FLORENCE, OREGON** **FIGURE 5-7**

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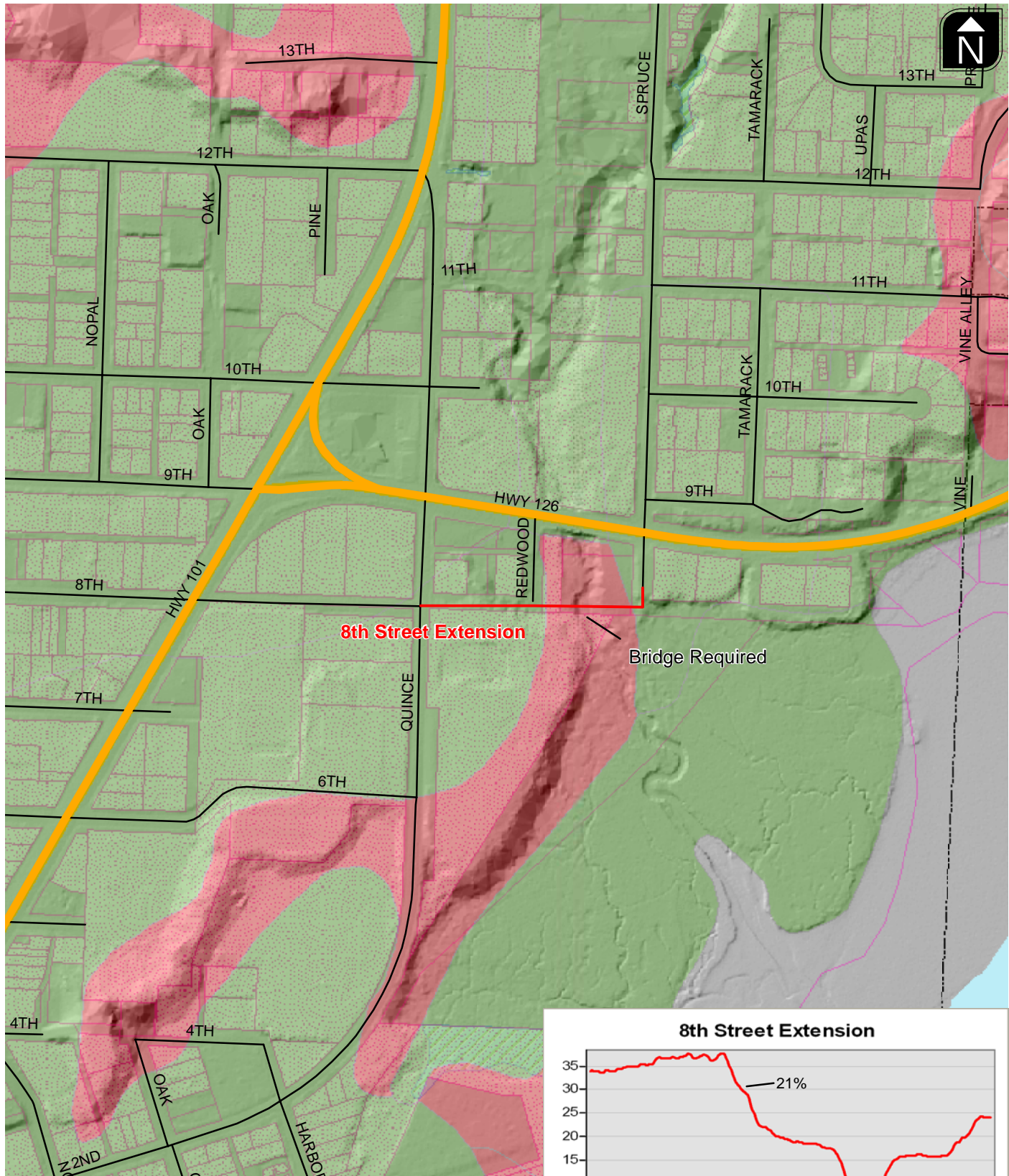
**LEGEND**

- LOS = INTERSECTION LEVEL OF SERVICE
- Del = INTERSECTION AVERAGE CONTROL DELAY
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
- ROADWAY EXTENSION



2035 ALTERNATIVE 3 - WILLOW LOOP ROAD EXTENSION  
WEEKDAY PM PEAK HOUR  
FLORENCE, OR

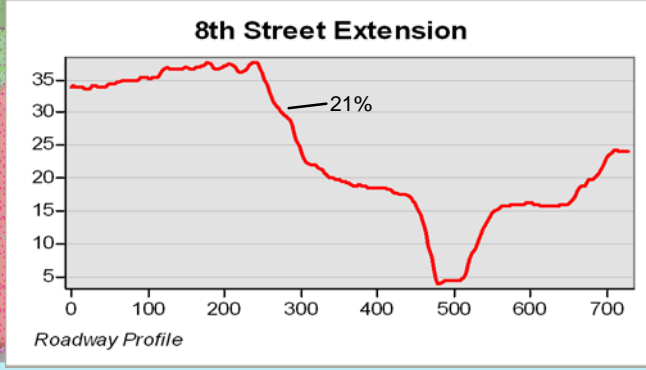




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**LEGEND**

- New Roadway (Proposed)
- New Roadway (Current TSP)
- Highly erodible land
- Not highly erodible land
- Improved Parcel
- Unimproved Parcel
- Wetlands



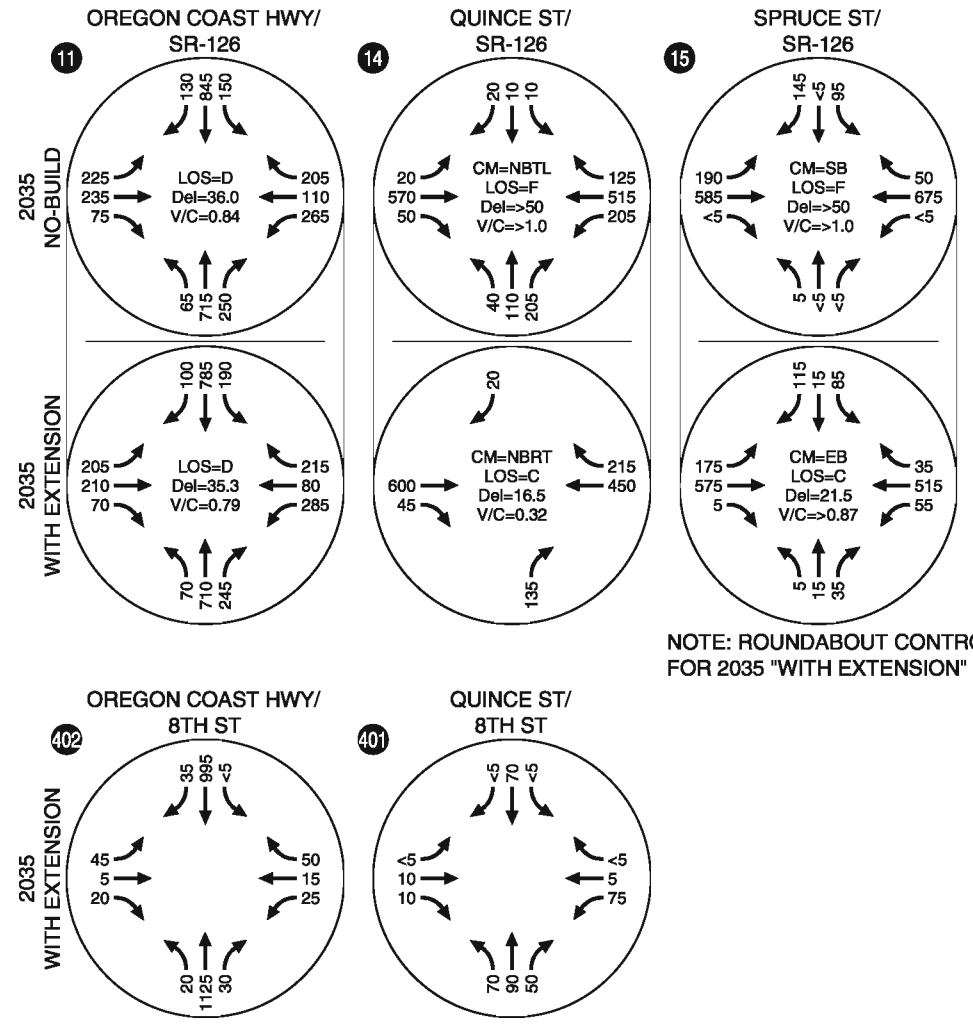
**8TH STREET EXTENSION  
FLORENCE, OREGON** **FIGURE 5-9**

The impact that this connection would have on traffic operations is summarized in Figure 5-10. This connection would be implemented in conjunction with two intersection improvements on OR 126 – at Quince Street and Spruce Street. The extension, in conjunction with intersection improvements at the two intersections, would help to relieve congestion. Both intersections are projected to operate worse than standard in 2035. The associated intersection improvements would involve the installation of a signal or a roundabout at the OR 126/Spruce Street intersection and implementation of turn restrictions at the OR 126/Quince Street intersection, allowing right-in/right-out only for the northbound and southbound approaches. Westbound left-turns from OR 126 to Quince Street would also be retained until such time that the 8<sup>th</sup> Street extension to Spruce Street and OR 126 is constructed.

In recognition that truck traffic uses OR 126, a roundabout at the OR 126/Quince Street intersection would need to be designed to accommodate trucks. Along Quince Street, northbound traffic approaching OR 126 to turn left or go through would likely divert to US 101 with the future restrictions; however, a roundabout at the OR 126/Spruce intersection would allow these motorists to continue to use the northbound approach, turn right, and use the roundabout to turn around. As shown in Figure 5-10, this package of improvements would provide acceptable operations on this section of OR 126, with the roundabout significantly improving capacity at Spruce Street over the 2035 forecast no-build operations. As shown in Figure 5-10, the forecast volumes for the 8<sup>th</sup> Street Extension project at the Spruce Street/OR 126 intersection are different than the 2035 no-build volumes as a result of rerouted traffic along this section (refer to Figure 5-1 for the 2035 No-Build volumes and signalized mitigation alternative). For this reason, the volumes on Figure 5-10 for the 2035 no-build are not the same as for the “2035 with extension” volumes.

Although beneficial to capacity improvements and relief of congestion along OR 126, it should be noted that this street extension project has limited benefit in reduction of overall vehicle-miles-traveled due to the additional out-of-direction travel resulting from turn restrictions at OR 126/Quince Street.

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NOTE: ROUNDABOUT CONTROL FOR 2035 "WITH EXTENSION"

**LEGEND**

LOS = INTERSECTION LEVEL OF SERVICE  
 Del = INTERSECTION AVERAGE CONTROL DELAY  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO  
 - - - - - ROADWAY EXTENSION

2035 ALTERNATIVE 4 - 8TH ST EXTENSION  
 WEEKDAY PM PEAK HOUR  
 FLORENCE, OR

These local connectivity projects may provide some system benefits, and even some capacity improvements at several intersections. However, the proposed connections do not necessarily resolve the anticipated forecast deficiencies identified under the 2035 no-build analysis (see Figure 4-8 in Technical Memorandum #4). The benefit of these projects, however, will be apparent in serving future growth and development, in addition to limited improvements in localized congestion. As such, all of the projects discussed above (shown in Figure 5-2) are recommended in this TSP update and be constructed when development or demand dictates.

### Intersection Projects

Year 2035 traffic volumes, operations, lane configurations and traffic control devices required at each study area intersection to mitigate the deficient intersections are shown on Figure 5-1. Table 5-3 summarizes the proposed intersection improvement projects and their resulting traffic operations. These projects address the capacity deficiencies identified in the existing and future conditions analyses (Project Technical Memorandum #4). *Technical analysis worksheets are included in Attachment A.*

Based on ridership counts for the Rhody Express bus, it can reasonably be concluded that improvements in transit service will not appreciably change the needed transportation improvements. The Rhody Express transit system is currently more a convenient system serving the transportation disadvantaged than it is a peak hour/commuter-based system, and hence is not designed or intended to significantly reduce peak hour traffic congestion. Moreover, it is also reasonable to conclude that TDM and TSM enhancements will not reduce the need for the mitigations described in this memorandum. The City should continue to seek opportunities to employ these non-capital intensive methods of reducing traffic congestion. Use of TDM, TSM, and transit can postpone the need for capital improvements prescribed from this analysis. Rather, this can be considered a conservative analysis by assuming that these methods will not significantly reduce capital transportation needs.

**Table 5-3 Proposed Intersection Improvements**

| Project | Intersection            | Mobility Standard | 2035 No-Build Performance Level | Proposed Mitigation Measure                             | Resultant Performance Level              | Considerations  |
|---------|-------------------------|-------------------|---------------------------------|---|--|---|
| PRJ-9   | US 101/Munsel Lake Road | v/c = 0.85        | v/c > 1.0 LOS "F"               | Install Traffic Signal                                  | v/c > 0.65 LOS "C"                       | A traffic signal was recommended in the 2008 TSP; this conclusion is confirmed in this analysis. A traffic signal would restore future operations to meet ODOT mobility standards.  |
| PRJ-10  | US 101/27th Street      | v/c = 0.85        | v/c > 1.0 LOS "F"               | Install Traffic Signal                                  | v/c > 0.58 LOS "A"                       | The analysis herein reveals that a signal at 27 <sup>th</sup> Street is needed to restore future operations to meet ODOT mobility standards. The current TSP identifies the need for a signal at 30 <sup>th</sup> Street to address a safety issue, which has since been addressed with a signalized pedestrian crossing. |
| PRJ-11  | US 101/15th Street      | v/c = 0.85        | v/c > 1.0 LOS "F"               | Install Traffic Signal                                  | v/c > 0.59 LOS "B"                       | A traffic signal would restore future operations to meet ODOT mobility standards.   |
| PRJ-12  | 9th/Kingwood Street     | LOS "E"           | v/c > 1.0 LOS "F"               | Install Traffic Signal<br>Install Roundabout            | v/c > 0.66 LOS "C"<br>v/c > 0.76 LOS "B" | A traffic signal or a roundabout would restore future operations to meet City standards.  |
| PRJ-13  | OR 126/Quince Street    | v/c = 0.85        | v/c > 1.0 LOS "F"               | Turning movement restrictions (right-in/right-out only) | v/c > 0.32 LOS "C"                       | Given the close proximity of this intersection to the US 101 signalized intersection, a traffic signal or roundabout is not recommended. The system improvement recommended at this intersection is to restrict movements (prohibit all movements except right-in/right-out for northbound and southbound approaches).    |
| PRJ-14  | OR 126/Spruce Street    | v/c = 0.85        | v/c > 1.0 LOS "F"               | Install Traffic Signal<br>Install Roundabout            | v/c > 0.83 LOS "C"<br>v/c > 0.87 LOS "C" | A traffic signal or roundabout would restore future operations to meet ODOT mobility standards.   |

## KEY DEVELOPMENT AREAS

Due to operational performance standards and roadway connectivity issues, the transportation system can at times be a barrier for development. Below is a summary of the proposed street improvements for several key areas targeted for growth in the City.

### West 9<sup>th</sup> Street Area

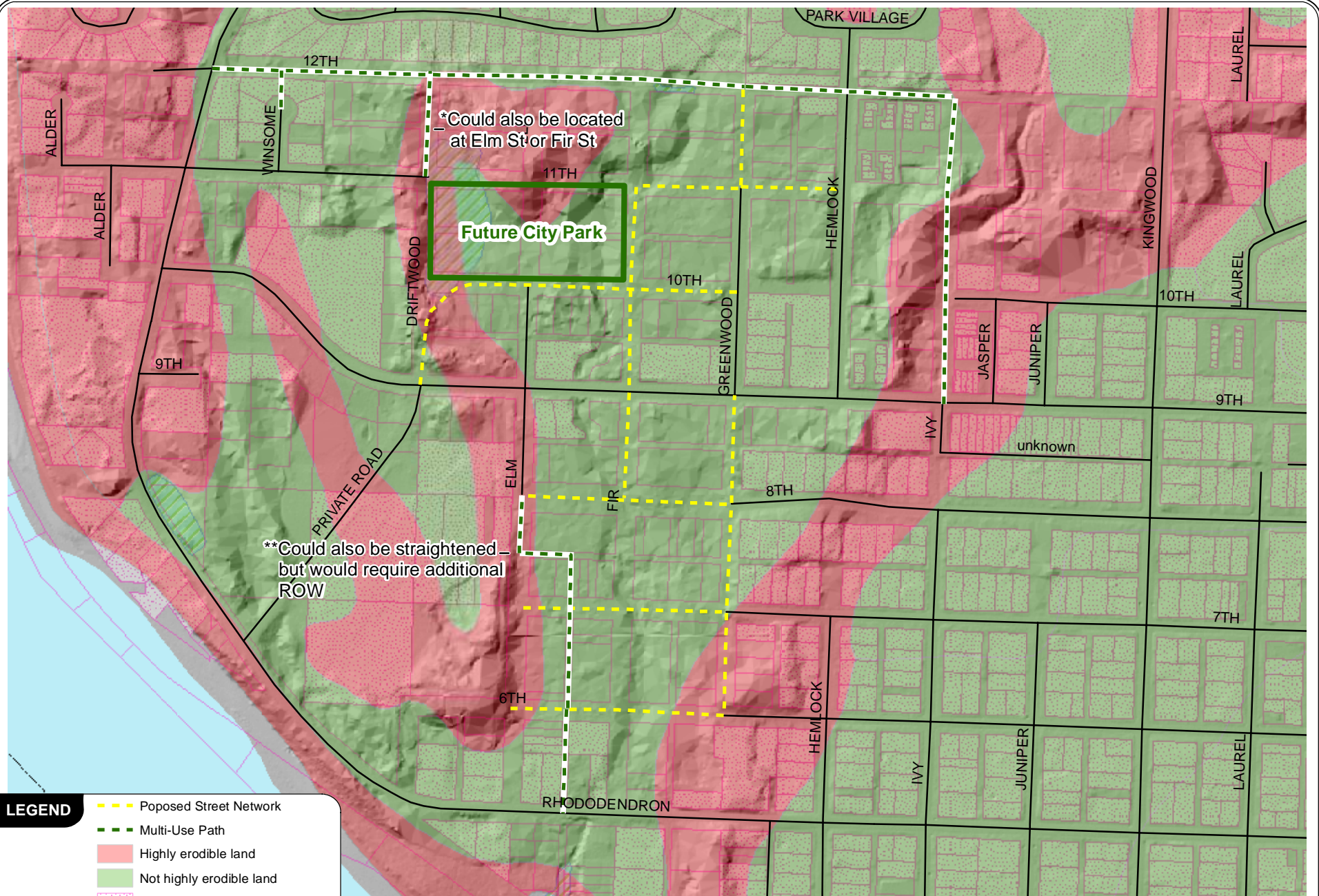
The West 9<sup>th</sup> Street Area is bordered by 12<sup>th</sup> Street on the north, Hemlock Street to the east, and Rhododendron Drive to the south and west. This area has significant physical constraints to constructing a grid system of local streets, which has in turn substantially inhibited development. This area is intended for development of professional offices, continuation of institutional uses primarily related to health care, and development of residential units. West 9<sup>th</sup> Street, classified as a collector street, has been developed to full urban standards in this area. Since the early days in Florence, this area has been platted with a local street grid that has since proved to be undevelopable due to physical constraints. There are two stream corridors which traverse this area` from north to south, along with a large dune in the northwest corner. This section presents specific local street alignments to facilitate vehicular, bicycle and pedestrian travel movements within the area, documenting considerations of the following:

- Existing street system
- Existing platting
- Development pattern
- Land ownership
- Topography
- Soils
- Provision of utility services in the right-of-way

Figure 5-11 shows the proposed street grid, superimposed on the topography, wetlands, property boundaries and rights-of-way. As this figure shows, it is infeasible to provide a complete grid; however, street connections are recommended where topography and wetlands allow. As a general rule, it was assumed that streets should: 1) follow property boundaries where possible, 2) avoid wetlands, 3) avoid major sand dunes, and 4) be built on stable soil (or minimize traversing highly



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\*Could also be located at Elm St or Fir St

**Future City Park**

\*\*Could also be straightened - but would require additional ROW

**LEGEND**

- Proposed Street Network
- Multi-Use Path
- Highly erodible land
- Not highly erodible land
- Improved Parcel
- Unimproved Parcel
- Wetland

**WEST 9TH AREA LOCAL STREET NETWORK  
FLORENCE, OREGON**

**FIGURE  
5-11**

erodible land), 5) serve undeveloped parcels and not negatively impact existing developments, and 6) connect at both ends (no dead ends). In addition, where local streets are not feasible, multi-use paths are prescribed, where practicable.

*Attachment B shows the centerline grade and height of each street identified on this map.*

## **North Florence**

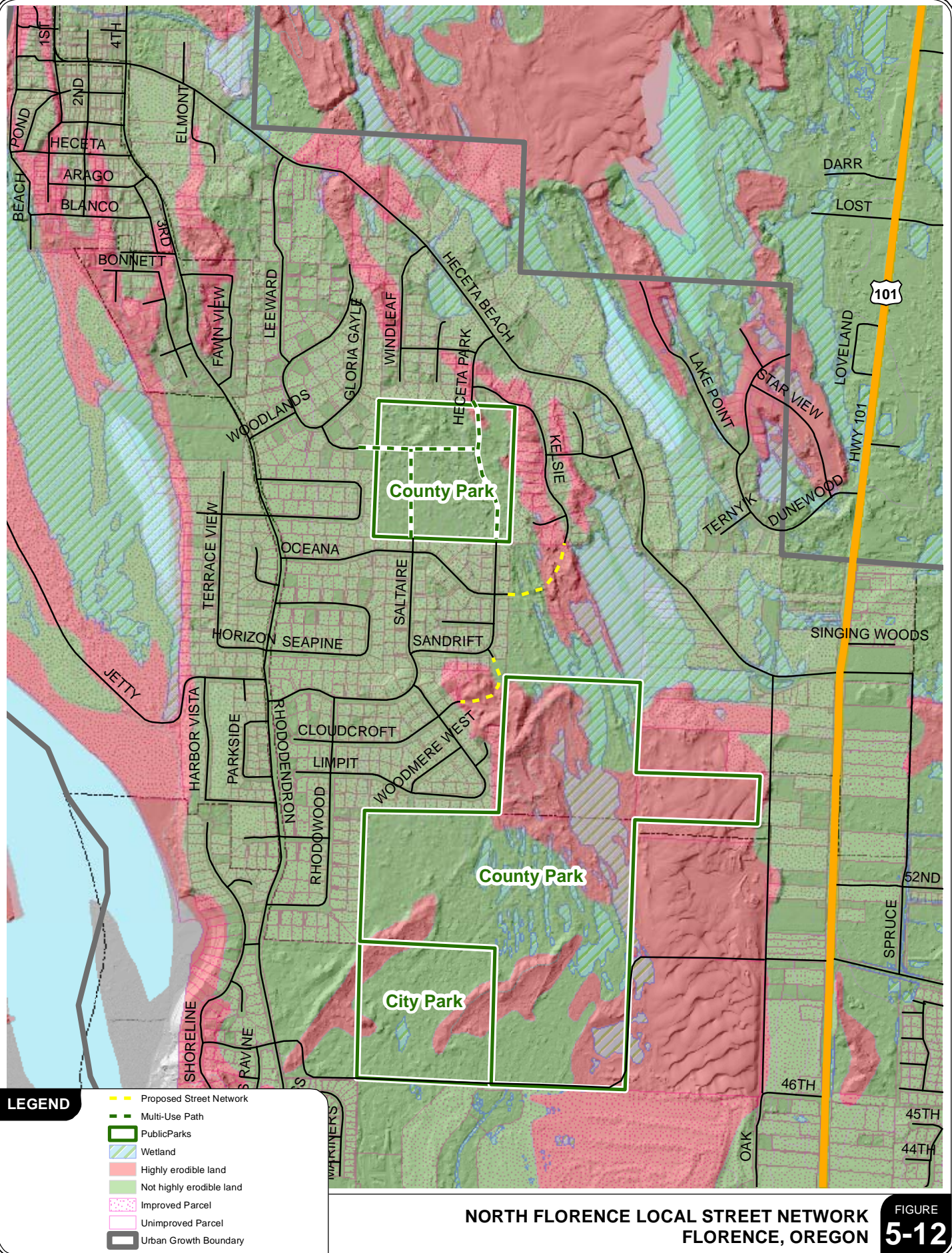
The North Florence Area is defined as that area within Florence's Urban Growth Boundary, west of US 101, east of Rhododendron Drive and north of Sandpines Golf Course. This is a topographically and environmentally challenging area to build new streets. Most development in this area is accessed via Rhododendron Drive, and has been built on the most physically compatible land, leaving very little developable land for future development. Based on an analysis of the physical geography including soils, slopes, wetlands, and existing built environment, there are relatively limited opportunities for new local street connections. Figure 5-12 shows the local and collector street connections that appear to be feasible, albeit with likely greater cost than would be experienced on level, good soil, and with concerns regarding impacts to dune areas and Three-Mile Prairie. This local street network provides connections for residential uses to the planned extension of Oak Street and the potential extension of Munsel Lake Road to Rhododendron Drive.

## **North of OR 126**

The North of OR 126 Area is bordered by OR 126 on the south, the Urban Growth Boundary on the east, Coastal Highlands Drive on the north, and Vine Street on the west. This area is largely developed, with the remaining undeveloped properties presenting significant challenges to provide access (due to difficult topography and environmental conditions). The street system shown in Figure 5-13 appears to be reasonably buildable, although due to physical constraints it will likely be more expensive to build than on level, stable terrain. This system, in combination with existing streets, provides access for residential uses in this subarea.



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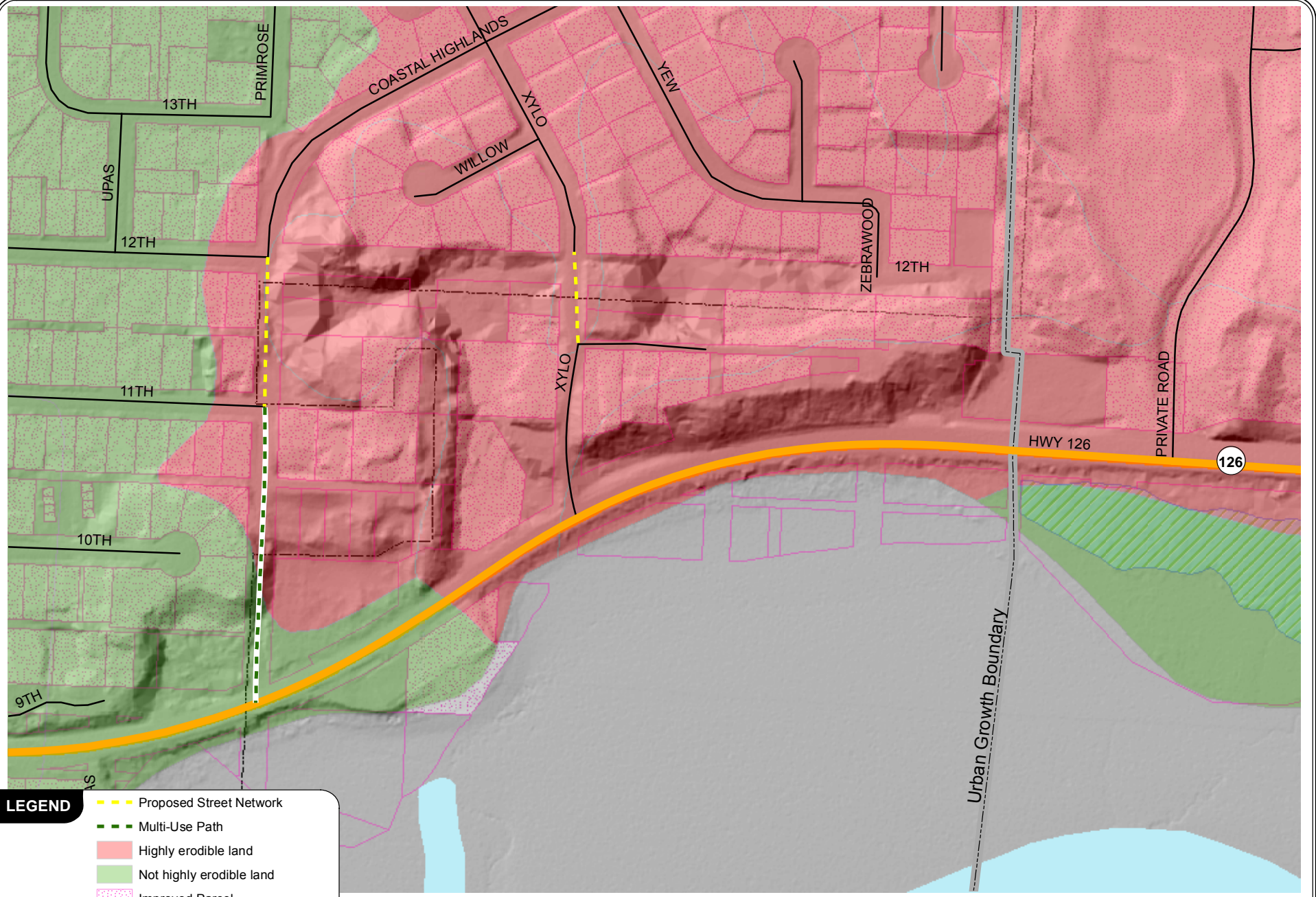


- LEGEND**
- Proposed Street Network
  - Multi-Use Path
  - Public Parks
  - Wetland
  - Highly erodible land
  - Not highly erodible land
  - Improved Parcel
  - Unimproved Parcel
  - Urban Growth Boundary

**NORTH FLORENCE LOCAL STREET NETWORK  
FLORENCE, OREGON** **FIGURE 5-12**



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**LEGEND**

- Proposed Street Network
- Multi-Use Path
- Highly erodible land
- Not highly erodible land
- Improved Parcel
- Unimproved Parcel
- Wetland

**NORTH OF OR 126 STREET NETWORK  
FLORENCE, OREGON**

**FIGURE  
5-13**

## Summary of Projects

As a result of analysis conducted and input gathered as part of the TSP update effort, the following issues have been identified for the transportation system within the City of Florence:

- Six intersections are forecasted to exceed applicable mobility standards under future conditions. Mitigation measures that address these deficiencies are proposed for these locations.
- There are three sections of US 101 that were observed to exceed critical crash rates and are rated high on ODOT's Safety Priority Index System.
- Gaps in the connectivity and coverage of the vehicular, pedestrian and bicycle networks were identified. An emphasis was put on proposing improvements that would improve these networks.
- Transit service within Florence was found to not appreciably change the needed transportation improvements. The Rhody Express transit system is currently more a convenient system serving the transportation disadvantaged than it is a peak hour/commuter-based system, and hence is not designed or intended to significantly reduce peak hour traffic congestion. Transit service within Florence was found to cover nearly all the existing and expected transit supportive areas within the Urban Area. Future expansion of the transit system could be focused on expanding frequency, coverage, or operating hours of the service.
- Certain areas in Florence have severe environmental or physical conditions that prohibit the ability to be easily served by transportation infrastructure, in some cases precluding desirable transportation connections and/or limiting development opportunities.
- Travel within Florence currently relies heavily on the state highway system for local connections. Future projects have been identified that would provide parallel or alternative routes for these trips.

Based on the issues identified above, the following recommendations have been proposed:

- Alternatives and policies have been proposed for Access Management, Transportation System Management, and Transportation Demand Management.
- Figure 5-1 shows the recommended intersection improvement projects. These are recommended for inclusion in the updated TSP.

- Figures 5-4 through 5-13 show the roadway projects included in the alternative analysis. These are recommended for inclusion in the updated TSP.

## NEXT STEPS

This memorandum serves as a summary of local street system alternatives available to address the challenges that the City of Florence transportation system is expected to face in the future. Final recommendations will be based on PAC feedback, project cost estimates, and anticipated future funding levels. The final project recommendations will be synthesized with those projects identified for other modes and proposed policies in future memoranda and will be documented and summarized in the Draft TSP.

## References

1. Transportation Research Board, *Access Management Manual*, TRB, National Research Council, Washington, D.C. (2003) 373 pp.
2. Rose, D.C., J. Gluck, K. Williams, and J. Kramer, *NCHRP Report 548: A Guidebook for Including Access Management in Transportation Planning*, Transportation Research Board, Washington, D.C., (2005) 84 pp.

## Attachments

Attachment A Technical Analysis Worksheets

Attachment B Centerline Grade and Height of West 9<sup>th</sup> Street Local Street Network

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.*

*The contents of this document do not necessarily reflect views or policies of the State of Oregon.*

Attachment A

Technical Analysis Worksheets

-----  
 Kittelson & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2035 Mitigated Forecast Traffic Conditions, Weekday PM Peak Hour  
 -----

Scenario Report

Scenario: pm  
 Command: pm  
 Volume: pm  
 Geometry: pm  
 Impact Fee: Default Impact Fee  
 Trip Generation: pm  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: Default Configuration

-----  
 Kittelson & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Year 2035 Mitigated Forecast Traffic Conditions, Weekday PM Peak Hour  
 -----

Impact Analysis Report  
 Level Of Service

| Intersection                   | Base |            | Future |            | Change<br>in |
|--------------------------------|------|------------|--------|------------|--------------|
|                                | LOS  | Veh C      | LOS    | Veh C      |              |
| # 4 Kingwood Street/9th Street | C    | 22.9 0.656 | C      | 22.9 0.656 | + 0.000 D/V  |
| # 6 US 101/Munsel Lake Road    | B    | 14.5 0.649 | B      | 14.5 0.649 | + 0.000 D/V  |
| # 9 US 101/27th Street         | A    | 7.1 0.580  | A      | 7.1 0.580  | + 0.000 D/V  |
| # 10 US 101/15th Street        | B    | 11.3 0.593 | B      | 11.3 0.593 | + 0.000 D/V  |
| # 14 Quince Street/US 126      | C    | 16.5 0.316 | C      | 16.5 0.316 | + 0.000 D/V  |
| # 15 Spruce Street/US 126      | C    | 22.5 0.833 | C      | 22.5 0.833 | + 0.000 D/V  |



Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2035 Mitigated Forecast Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Kingwood Street/9th Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.656
Loss Time (sec): 12 Average Delay (sec/veh): 22.9
Optimal Cycle: 54 Level Of Service: C

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes for Kingwood Street and 9th Street.

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour. Table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2035 Mitigated Forecast Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #6 US 101/Munsel Lake Road

Cycle (sec): 100 Critical Vol./Cap. (X): 0.649
Loss Time (sec): 12 Average Delay (sec/veh): 14.5
Optimal Cycle: 53 Level Of Service: B

Table with columns for Street Name, Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes for US 101 and Munsel Lake Road.

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour. Table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2035 Mitigated Forecast Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 US 101/27th Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.580
Loss Time (sec): 16 Average Delay (sec/veh): 7.1
Optimal Cycle: 55 Level Of Service: A

Table with columns for Street Name (US 101, 27th Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Prot+Permit), Rights (Include), and traffic volume data (Min. Green, Y+R, Lanes).

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour. Table showing traffic volume and adjustment factors for various movements.

Saturation Flow Module: Table showing Sat/Lane, Adjustment, Lanes, and Final Sat. values for different approaches.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
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Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 US 101/15th Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.593
Loss Time (sec): 16 Average Delay (sec/veh): 11.3
Optimal Cycle: 57 Level Of Service: B

Table with columns for Street Name (US 101, 15th Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Prot+Permit), Rights (Include), and traffic volume data (Min. Green, Y+R, Lanes).

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour. Table showing traffic volume and adjustment factors for various movements.

Saturation Flow Module: Table showing Sat/Lane, Adjustment, Lanes, and Final Sat. values for different approaches.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Year 2035 Mitigated Forecast Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #14 Quince Street/US 126
Average Delay (sec/veh): 1.7 Worst Case Level Of Service: C[ 16.5]
Street Name: Quince Street US 126
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0
Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 0 0 137 0 0 20 0 600 46 0 448 215
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 137 0 0 20 0 600 46 0 448 215
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 0 144 0 0 21 0 632 48 0 472 226
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 144 0 0 21 0 632 48 0 472 226
Critical Gap Module:
Critical Gp:xxxxx xxxx 6.3 xxxxx xxxx 6.2 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx xxxx 3.3 xxxxx xxxx 3.3 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Capacity Module:
Conflict Vol: xxxx xxxx 660 xxxx xxxx 589 xxxx xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx 458 xxxx xxxx 506 xxxx xxxx xxxxx xxxx xxxx xxxxx
Move Cap.: xxxx xxxx 456 xxxx xxxx 505 xxxx xxxx xxxxx xxxx xxxx xxxxx
Volume/Cap: xxxx xxxx 0.32 xxxxx xxxx 0.04 xxxxx xxxx xxxxx xxxxx xxxxx
Level Of Service Module:
2Way95thQ: xxxx xxxx 1.3 xxxxx xxxx 0.1 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Control Del:xxxxx xxxx 16.5 xxxxx xxxx 12.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: \* \* C \* \* B \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: \*
ApproachDel: 16.5 12.4 xxxxxxx xxxxxxx
ApproachLOS: C B \* \*
Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 Spruce Street/US 126
Cycle (sec): 100 Critical Vol./Cap.(X): 0.833
Loss Time (sec): 16 Average Delay (sec/veh): 22.5
Optimal Cycle: 95 Level Of Service: C
Street Name: Spruce Street US 126
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Prot+Permit Prot+Permit Prot+Permit Prot+Permit
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 0 1 0 1 0 0 1 0 1 0 0 1 0 1 0
Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 5 0 1 94 0 144 189 584 2 0 674 48
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 5 0 1 94 0 144 189 584 2 0 674 48
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 5 0 1 99 0 152 199 615 2 0 709 51
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 5 0 1 99 0 152 199 615 2 0 709 51
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 5 0 1 99 0 152 199 615 2 0 709 51
Saturation Flow Module:
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750
Adjustment: 0.95 1.00 0.85 0.94 1.00 0.84 0.91 0.96 0.96 1.00 0.93 0.93
Lanes: 1.00 0.00 1.00 1.00 0.00 1.00 1.00 0.99 0.01 1.00 0.93 0.07
Final Sat.: 1663 0 1488 1646 0 1473 1599 1678 6 1750 1512 108
Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.06 0.00 0.10 0.12 0.37 0.37 0.00 0.47 0.47
Crit Moves: \*\*\*\* \*\*\*\*
Green/Cycle: 0.00 0.00 0.00 0.17 0.00 0.12 0.75 0.71 0.71 0.00 0.56 0.56
Volume/Cap: 0.83 0.00 0.19 0.36 0.00 0.83 0.48 0.51 0.51 0.00 0.83 0.83
Delay/Veh: 294.0 0.0 65.0 37.5 0.0 69.5 11.8 6.9 6.9 0.0 24.6 24.6
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 294.0 0.0 65.0 37.5 0.0 69.5 11.8 6.9 6.9 0.0 24.6 24.6
LOS by Move: F A E D A E B A A A C C
HCM2kAvgQ: 1 0 0 3 0 7 2 8 8 0 21 21
Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Alternative 1 - Pacific View Drive Extension

Scenario Report

Scenario: pm  
 Command: pm  
 Volume: pm  
 Geometry: pm  
 Impact Fee: Default Impact Fee  
 Trip Generation: pm  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: Default Configuration

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Alternative 1 - Pacific View Drive Extension

Impact Analysis Report  
 Level Of Service

| Intersection                        | Base |             |         | Future |             |         | Change<br>in |
|-------------------------------------|------|-------------|---------|--------|-------------|---------|--------------|
|                                     | LOS  | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |
| # 1 35th Street/Rhododendren Drive  | B    | 11.6        | 0.316   | B      | 11.6        | 0.316   | + 0.000 D/V  |
| # 2 9th Street/Rhododendren Drive   | B    | 10.6        | 0.237   | B      | 10.6        | 0.237   | + 0.000 D/V  |
| # 3 15th Street/Kingwood Street     | B    | 12.3        | 0.091   | B      | 12.3        | 0.091   | + 0.000 D/V  |
| # 4 9th Street/Kingwood Street      | F    | 242.2       | 0.657   | F      | 242.2       | 0.657   | + 0.000 D/V  |
| # 5 Hecata Beach Road/US 101        | D    | 31.4        | 0.572   | D      | 31.4        | 0.572   | + 0.000 D/V  |
| # 6 Munsel Lake Road/US 101         | F    | OVRF        | 3.309   | F      | OVRF        | 3.309   | + 0.000 D/V  |
| # 7 35th Street/US 101              | B    | 17.8        | 0.702   | B      | 17.8        | 0.702   | + 0.000 D/V  |
| # 8 30th Street/US 101              | F    | 147.2       | 0.512   | F      | 147.2       | 0.512   | + 0.000 D/V  |
| # 9 27th Street/US 101              | F    | 875.9       | 2.343   | F      | 875.9       | 2.343   | + 0.000 D/V  |
| # 10 15th Street/US 101             | F    | 498.6       | 1.250   | F      | 498.6       | 1.250   | + 0.000 D/V  |
| # 11 US 126/US 101                  | C    | 34.9        | 0.766   | C      | 34.9        | 0.766   | + 0.000 D/V  |
| # 12 Rhododendren Drive/US 101      | A    | 9.9         | 0.499   | A      | 9.9         | 0.499   | + 0.000 D/V  |
| # 13 2nd Street/US 101              | E    | 38.5        | 0.319   | E      | 38.5        | 0.319   | + 0.000 D/V  |
| # 14 US 126/Quince Street           | F    | OVRF        | 2.092   | F      | OVRF        | 2.092   | + 0.000 D/V  |
| # 15 US 126/Spruce Street           | F    | 377.8       | 1.370   | F      | 377.8       | 1.370   | + 0.000 D/V  |
| # 16 US 126/North Fork Siuslaw Rive | D    | 31.2        | 0.362   | D      | 31.2        | 0.362   | + 0.000 D/V  |
| #101 Pacific View Drive/Rhododendre | B    | 13.7        | 0.158   | B      | 13.7        | 0.158   | + 0.000 D/V  |
| #102 Pacific View Drive/Kingwood St | B    | 10.3        | 0.201   | B      | 10.3        | 0.201   | + 0.000 D/V  |





Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Hecata Beach Road/US 101
Average Delay (sec/veh): 5.9 Worst Case Level Of Service: D[ 31.4]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Hecata Beach Road and US 101.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Munsel Lake Road/US 101
Average Delay (sec/veh): 162.2 Worst Case Level Of Service: F[1268.9]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Munsel Lake Road and US 101.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelton & Associates, Inc. - Project #10103  
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 Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #7 35th Street/US 101  
 \*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.702  
 Loss Time (sec): 12 Average Delay (sec/veh): 17.8  
 Optimal Cycle: 58 Level Of Service: B  
 \*\*\*\*\*

| Street Name: |  | 35th Street |     |     |             |     |     | US 101     |     |     |            |     |     |   |   |   |
|--------------|--|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|---|---|---|
| Approach:    |  | North Bound |     |     | South Bound |     |     | East Bound |     |     | West Bound |     |     |   |   |   |
| Movement:    |  | L           | T   | R   | L           | T   | R   | L          | T   | R   | L          | T   | R   |   |   |   |
| Control:     |  | Prot+Permit |     |     | Prot+Permit |     |     | Permitted  |     |     | Permitted  |     |     |   |   |   |
| Rights:      |  | Include     |     |     | Include     |     |     | Include    |     |     | Include    |     |     |   |   |   |
| Min. Green:  |  | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   | 0          | 0   | 0   |   |   |   |
| Y+R:         |  | 4.0         | 4.0 | 4.0 | 4.0         | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 |   |   |   |
| Lanes:       |  | 1           | 0   | 1   | 1           | 0   | 1   | 0          | 1   | 1   | 0          | 1   | 0   | 0 | 1 | 0 |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:     | 171  | 1085 | 53   | 55   | 972  | 110  | 163  | 32   | 139  | 37   | 18   | 44   |
| Growth Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:  | 171  | 1085 | 53   | 55   | 972  | 110  | 163  | 32   | 139  | 37   | 18   | 44   |
| Added Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut:  | 171  | 1085 | 53   | 55   | 972  | 110  | 163  | 32   | 139  | 37   | 18   | 44   |
| User Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:      | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:   | 180  | 1142 | 56   | 58   | 1023 | 116  | 172  | 34   | 146  | 39   | 19   | 46   |
| Reduct Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:  | 180  | 1142 | 56   | 58   | 1023 | 116  | 172  | 34   | 146  | 39   | 19   | 46   |
| PCE Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 180  | 1142 | 56   | 58   | 1023 | 116  | 172  | 34   | 146  | 39   | 19   | 46   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 |
| Adjustment: | 0.93 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.70 | 0.86 | 0.85 | 0.47 | 0.87 | 0.87 |
| Lanes:      | 1.00 | 1.91 | 0.09 | 1.00 | 1.80 | 0.20 | 1.00 | 0.18 | 0.82 | 1.00 | 0.29 | 0.71 |
| Final Sat.: | 1629 | 3085 | 151  | 1614 | 2857 | 323  | 1226 | 278  | 1208 | 830  | 441  | 1077 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.11 | 0.37 | 0.37 | 0.04 | 0.36 | 0.36 | 0.14 | 0.12 | 0.12 | 0.05 | 0.04 | 0.04 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.71 | 0.61 | 0.61 | 0.57 | 0.51 | 0.51 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Volume/Cap:  | 0.46 | 0.61 | 0.61 | 0.20 | 0.70 | 0.70 | 0.70 | 0.61 | 0.61 | 0.24 | 0.22 | 0.22 |
| Delay/Veh:   | 9.7  | 11.5 | 11.5 | 9.3  | 18.2 | 18.2 | 42.4 | 36.4 | 36.4 | 31.0 | 30.5 | 30.5 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 9.7  | 11.5 | 11.5 | 9.3  | 18.2 | 18.2 | 42.4 | 36.4 | 36.4 | 31.0 | 30.5 | 30.5 |
| LOS by Move: | A    | B    | B    | A    | B    | B    | D    | D    | D    | C    | C    | C    |
| HCM2kAvgQ:   | 2    | 10   | 10   | 1    | 14   | 14   | 6    | 6    | 5    | 1    | 2    | 2    |

Kittelton & Associates, Inc. - Project #10103  
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Note: Queue reported is the number of cars per lane.  
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Florence TSP - Florence, OR
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 15th Street/US 101
Average Delay (sec/veh): 21.1 Worst Case Level Of Service: F[498.6]
Street Name: 15th Street US 101
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 1! 0 0 0 0 1! 0 0 0

Critical Gap Module:
Critical Gp: 4.2 xxxx xxxxx 4.2 xxxx xxxxx 7.5 6.5 6.9 7.5 6.5 6.9
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: 1148 xxxx xxxxx 1218 xxxx xxxxx 1784 2407 574 1823 2403 609
Potent Cap.: 598 xxxx xxxxx 563 xxxx xxxxx 53 33 467 49 34 443
Move Cap.: 598 xxxx xxxxx 563 xxxx xxxxx 45 32 467 31 32 443
Volume/Cap: 0.04 xxxx xxxxx 0.00 xxxx xxxxx 1.25 0.39 0.06 0.51 0.10 0.04

Level Of Service Module:
2Way95thQ: 0.1 xxxx xxxxx 0.0 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 11.3 xxxx xxxxx 11.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: B \* \* B \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 56 xxxxx xxxx 54 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 8.9 xxxxx xxxxx 2.6 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 499 xxxxx xxxxx 151 xxxxx
Shared LOS: \* \* \* \* \* \* \* \* \* \* F \* \* F \*
ApproachDel: xxxxxx xxxxxx 498.6 150.7
ApproachLOS: \* \* \* \* F F

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 US 126/US 101
Cycle (sec): 90 Critical Vol./Cap.(X): 0.766
Loss Time (sec): 16 Average Delay (sec/veh): 34.9
Optimal Cycle: 77 Level Of Service: C
Street Name: US 126 US 101
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Split Phase Split Phase
Rights: Include Include Include Ignore
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 1 1 0 1 1 0 1 1 0 1 0 1 0 1 1 0 0 1

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 66 666 266 177 785 94 194 214 65 275 89 211
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 66 666 266 177 785 94 194 214 65 275 89 211
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 66 666 266 177 785 94 194 214 65 275 89 211
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.00
PHF Volume: 69 701 280 186 826 99 204 225 68 289 94 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 69 701 280 186 826 99 204 225 68 289 94 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
FinalVolume: 69 701 280 186 826 99 204 225 68 289 94 0

Saturation Flow Module:
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750
Adjustment: 0.93 0.93 0.82 0.92 0.91 0.91 0.94 0.96 0.96 0.89 0.89 1.00
Lanes: 1.00 2.00 1.00 1.00 1.79 0.21 1.00 0.77 0.23 1.51 0.49 1.00
Final Sat.: 1623 3245 1441 1614 2837 340 1646 1282 390 2360 764 1750

Capacity Analysis Module:
Vol/Sat: 0.04 0.22 0.19 0.12 0.29 0.29 0.12 0.18 0.18 0.12 0.12 0.00
Crit Moves: \*\*\*\*
Green/Cycle: 0.06 0.28 0.28 0.15 0.38 0.38 0.23 0.23 0.23 0.16 0.16 0.00
Volume/Cap: 0.77 0.77 0.69 0.77 0.77 0.77 0.54 0.77 0.77 0.77 0.77 0.00
Delay/Veh: 45.7 33.2 33.8 50.3 27.8 27.8 32.1 41.4 41.4 43.2 43.2 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 45.7 33.2 33.8 50.3 27.8 27.8 32.1 41.4 41.4 43.2 43.2 0.0
LOS by Move: D C C D C C C D D D A
HCM2kAvgQ: 2 10 7 5 12 12 6 10 10 7 7 0

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 1 - Pacific View Drive Extension

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #12 Rhododendren Drive/US 101  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.499  
Loss Time (sec): 12 Average Delay (sec/veh): 9.9  
Optimal Cycle: 40 Level Of Service: A  
\*\*\*\*\*

Street Name: Rhododendren Drive US 101

| Approach:   | North Bound |     |     | South Bound |     |     | East Bound |     |     | West Bound |     |     |
|-------------|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| Movement:   | L           | T   | R   | L           | T   | R   | L          | T   | R   | L          | T   | R   |
| Control:    | Prot+Permit |     |     | Prot+Permit |     |     | Permitted  |     |     | Permitted  |     |     |
| Rights:     | Include     |     |     | Include     |     |     | Include    |     |     | Include    |     |     |
| Min. Green: | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   | 0          | 0   | 0   |
| Y+R:        | 4.0         | 4.0 | 4.0 | 4.0         | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 |
| Lanes:      | 1           | 0   | 1   | 1           | 0   | 1   | 0          | 0   | 1   | 0          | 0   | 1   |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:     | 24   | 952  | 8    | 5    | 931  | 38   | 61   | 8    | 51   | 5    | 19   | 17   |
| Growth Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:  | 24   | 952  | 8    | 5    | 931  | 38   | 61   | 8    | 51   | 5    | 19   | 17   |
| Added Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut:  | 24   | 952  | 8    | 5    | 931  | 38   | 61   | 8    | 51   | 5    | 19   | 17   |
| User Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:      | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:   | 25   | 1002 | 8    | 5    | 980  | 40   | 64   | 8    | 54   | 5    | 20   | 18   |
| Reduct Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:  | 25   | 1002 | 8    | 5    | 980  | 40   | 64   | 8    | 54   | 5    | 20   | 18   |
| PCE Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 25   | 1002 | 8    | 5    | 980  | 40   | 64   | 8    | 54   | 5    | 20   | 18   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 |
| Adjustment: | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.75 | 0.76 | 0.75 | 0.92 | 0.92 | 0.91 |
| Lanes:      | 1.00 | 1.98 | 0.02 | 1.00 | 1.92 | 0.08 | 0.51 | 0.07 | 0.42 | 0.12 | 0.46 | 0.42 |
| Final Sat.: | 1599 | 3169 | 27   | 1599 | 3055 | 125  | 670  | 88   | 560  | 195  | 742  | 664  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.02 | 0.32 | 0.32 | 0.00 | 0.32 | 0.32 | 0.10 | 0.10 | 0.10 | 0.03 | 0.03 | 0.03 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.72 | 0.67 | 0.67 | 0.65 | 0.64 | 0.64 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 |
| Volume/Cap:  | 0.08 | 0.47 | 0.47 | 0.02 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.14 | 0.14 | 0.14 |
| Delay/Veh:   | 4.8  | 7.4  | 7.4  | 5.8  | 8.6  | 8.6  | 34.0 | 34.0 | 34.0 | 30.4 | 30.4 | 30.4 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 4.8  | 7.4  | 7.4  | 5.8  | 8.6  | 8.6  | 34.0 | 34.0 | 34.0 | 30.4 | 30.4 | 30.4 |
| LOS by Move: | A    | A    | A    | A    | A    | A    | C    | C    | C    | C    | C    | C    |
| HCM2kAvgQ:   | 0    | 7    | 7    | 0    | 7    | 7    | 4    | 4    | 4    | 1    | 1    | 1    |

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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 1 - Pacific View Drive Extension

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #13 2nd Street/US 101  
\*\*\*\*\*

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: E[ 38.5]  
\*\*\*\*\*

| Street Name: | 2nd Street   |   |   | US 101       |   |   |            |   |   |            |   |   |
|--------------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|
| Approach:    | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |
| Movement:    | L            | T | R | L            | T | R | L          | T | R | L          | T | R |
| Control:     | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |
| Rights:      | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |
| Lanes:       | 1            | 0 | 1 | 1            | 0 | 0 | 0          | 0 | 1 | 1          | 0 | 0 |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|              | 0    | 784  | 27   | 40   | 877  | 0    | 0    | 0    | 0    | 39   | 0    | 10   |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 784  | 27   | 40   | 877  | 0    | 0    | 0    | 0    | 39   | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 784  | 27   | 40   | 877  | 0    | 0    | 0    | 0    | 39   | 0    | 10   |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 784  | 27   | 40   | 877  | 0    | 0    | 0    | 0    | 39   | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:  | 0    | 825  | 28   | 42   | 923  | 0    | 0    | 0    | 0    | 41   | 0    | 11   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| FinalVolume: | 0    | 825  | 28   | 42   | 923  | 0    | 0    | 0    | 0    | 41   | 0    | 11   |

Critical Gap Module:

| Critical Gp: | xxxxx | xxxx | xxxxx | 4.2 | xxxx | xxxxx | 7.5 | 6.5 | 6.9 | 6.8 | 6.5 | 6.9 |
|--------------|-------|------|-------|-----|------|-------|-----|-----|-----|-----|-----|-----|
| FollowUpTim: | xxxxx | xxxx | xxxxx | 2.3 | xxxx | xxxxx | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |

Capacity Module:

| Cnflct Vol:  | xxxx | xxxx | xxxxx | 859  | xxxx | xxxxx | 1425 | 1871 | 469  | 1392 | 1857 | 432  |
|--------------|------|------|-------|------|------|-------|------|------|------|------|------|------|
| Potent Cap.: | xxxx | xxxx | xxxxx | 759  | xxxx | xxxxx | 98   | 73   | 547  | 135  | 74   | 577  |
| Move Cap.:   | xxxx | xxxx | xxxxx | 756  | xxxx | xxxxx | 91   | 68   | 543  | 129  | 70   | 575  |
| Volume/Cap:  | xxxx | xxxx | xxxx  | 0.06 | xxxx | xxxx  | 0.00 | 0.00 | 0.00 | 0.32 | 0.00 | 0.02 |

Level Of Service Module:

| 2Way95thQ:   | xxxx          | xxxx          | xxxxx         | 0.2           | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | 1.3           | xxxx          | xxxxx         |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Control Del: | xxxxx         | xxxx          | xxxxx         | 10.0          | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | 45.5          | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | B             | *             | *             | *             | *             | *             | E             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | 0             | xxxxx         | xxxx          | xxxx          | 575           |
| SharedQueue: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | 0.1           |
| Shrd ConDel: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | 11.4          |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | B             |
| ApproachDel: | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | 38.5          | xxxxxx        | xxxxxx        |
| ApproachLOS: | *             | *             | *             | *             | *             | *             | *             | *             | *             | E             | *             | *             |

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #14 US 126/Quince Street  
\*\*\*\*\*

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]  
\*\*\*\*\*

Street Name: US 126 Quince Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 1 0 0 1 0 0 1 0 1 0 1 0 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 43 108 190 11 8 20 21 598 51 217 452 179  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 43 108 190 11 8 20 21 598 51 217 452 179  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 43 108 190 11 8 20 21 598 51 217 452 179  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 45 114 200 12 8 21 22 629 54 228 476 188  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 45 114 200 12 8 21 22 629 54 228 476 188

Critical Gap Module:  
Critical Gp: 7.2 6.6 6.3 7.1 6.5 6.2 4.1 xxxx xxxxx 4.2 xxxx xxxxx  
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx 2.3 xxxx xxxxx

Capacity Module:  
Cnflct Vol: 1742 1826 346 1451 1758 574 668 xxxx xxxxxx 683 xxxx xxxxxx  
Potent Cap.: 67 76 691 108 84 516 912 xxxx xxxxxx 878 xxxx xxxxxx  
Move Cap.: 45 54 688 0 61 515 909 xxxx xxxxxx 878 xxxx xxxxxx  
Volume/Cap: 1.00 2.09 0.29 xxxx 0.14 0.04 0.02 xxxx xxxxx 0.26 xxxx xxxxx

Level Of Service Module:  
2Way95thQ: xxxx xxxx 1.2 xxxx xxxx xxxxx 0.1 xxxx xxxxx 1.0 xxxx xxxxx  
Control Del:xxxxx xxxx 12.4 xxxxx xxxx xxxxxx 9.1 xxxx xxxxx 10.5 xxxx xxxxx  
LOS by Move: \* \* B \* \* \* A \* \* B \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: 51 xxxx xxxxx xxxx 0 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
SharedQueue: 17.0 xxxx xxxxx xxxxx xxxx xxxxx 0.1 xxxx xxxxx xxxxx xxxx xxxxx  
Shrd ConDel: 1112 xxxx xxxxx xxxxx xxxx xxxxx 9.1 xxxx xxxxx xxxxx xxxx xxxxx  
Shared LOS: F \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: 499.3 xxxxxx xxxxxx xxxxxx  
ApproachLOS: F F \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #15 US 126/Spruce Street  
\*\*\*\*\*

Average Delay (sec/veh): 52.1 Worst Case Level Of Service: F[377.8]  
\*\*\*\*\*

Street Name: US 126 Spruce Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 1 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 10 0 2 87 0 129 185 603 4 0 569 36  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 10 0 2 87 0 129 185 603 4 0 569 36  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 10 0 2 87 0 129 185 603 4 0 569 36  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 11 0 2 92 0 136 195 635 4 0 599 38  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 11 0 2 92 0 136 195 635 4 0 599 38

Critical Gap Module:  
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx xxxxx xxxx xxxxx  
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:  
Cnflct Vol: 1712 1663 637 1645 1646 618 637 xxxx xxxxx xxxx xxxx xxxxx  
Potent Cap.: 72 98 481 80 100 491 937 xxxx xxxxx xxxx xxxx xxxxx  
Move Cap.: 44 78 481 67 79 491 937 xxxx xxxxx xxxx xxxx xxxxx  
Volume/Cap: 0.24 0.00 0.00 1.37 0.00 0.28 0.21 xxxx xxxxx xxxx xxxx xxxxx

Level Of Service Module:  
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.8 xxxx xxxxx xxxx xxxx xxxxx  
Control Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 9.8 xxxx xxxxx xxxxx xxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx 52 xxxxx xxxx 138 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
SharedQueue:xxxxx 0.8 xxxxx xxxxx 16.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shrd ConDel:xxxxx 95.9 xxxxx xxxxx 378 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shared LOS: \* F \* \* \* F \* \* \* \* \*  
ApproachDel: 95.9 377.8 xxxxxx xxxxxx  
ApproachLOS: F F \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 US 126/North Fork Siuslaw River Road
Average Delay (sec/veh): 5.6 Worst Case Level Of Service: D[ 31.2]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for US 126 and North Fork Siuslaw River Road.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #101 Pacific View Drive/Rhododendren Drive
Average Delay (sec/veh): 2.3 Worst Case Level Of Service: B[ 13.7]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Pacific View Drive and Rhododendren Drive.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 1 - Pacific View Drive Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #102 Pacific View Drive/Kingwood Street
Average Delay (sec/veh): 6.1 Worst Case Level Of Service: B[ 10.3]

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes for Pacific View Drive and Kingwood Street.

Table with columns for Volume Module, Count, Date, and various traffic volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Table for Critical Gap Module showing Critical Gp and FollowUpTim values.

Table for Capacity Module showing Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table for Level Of Service Module showing 2Way95thQ, Control Del, LOS by Move, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Alternative 2 - 46th Street Extension

Scenario Report

Scenario: pm  
 Command: pm  
 Volume: pm  
 Geometry: pm  
 Impact Fee: Default Impact Fee  
 Trip Generation: pm  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: Default Configuration

Kittelston & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Alternative 2 - 46th Street Extension

Impact Analysis Report  
 Level Of Service

| Intersection                        | Base        |             | Future      |             | Change<br>in |
|-------------------------------------|-------------|-------------|-------------|-------------|--------------|
|                                     | Del/<br>LOS | V/<br>Veh C | Del/<br>LOS | V/<br>Veh C |              |
| # 1 35th Street/Rhododendren Drive  | B           | 11.1 0.094  | B           | 11.1 0.094  | + 0.000 D/V  |
| # 2 9th Street/Rhododendren Drive   | B           | 10.2 0.208  | B           | 10.2 0.208  | + 0.000 D/V  |
| # 3 15th Street/Kingwood Street     | B           | 12.7 0.095  | B           | 12.7 0.095  | + 0.000 D/V  |
| # 4 9th Street/Kingwood Street      | F           | 902.3 1.774 | F           | 902.3 1.774 | + 0.000 D/V  |
| # 5 Hecata Beach Road/US 101        | D           | 26.7 0.464  | D           | 26.7 0.464  | + 0.000 D/V  |
| # 6 Munsel Lake Road/US 101         | F           | OVRFL 3.224 | F           | OVRFL 3.224 | + 0.000 D/V  |
| # 7 35th Street/US 101              | B           | 11.8 0.609  | B           | 11.8 0.609  | + 0.000 D/V  |
| # 8 30th Street/US 101              | F           | 166.3 0.537 | F           | 166.3 0.537 | + 0.000 D/V  |
| # 9 27th Street/US 101              | F           | 796.5 2.168 | F           | 796.5 2.168 | + 0.000 D/V  |
| # 10 15th Street/US 101             | F           | OVRFL XXXXX | F           | OVRFL XXXXX | + 0.000 D/V  |
| # 11 US 126/US 101                  | C           | 34.6 0.780  | C           | 34.6 0.780  | + 0.000 D/V  |
| # 12 Rhododendren Drive/US 101      | A           | 9.2 0.487   | A           | 9.2 0.487   | + 0.000 D/V  |
| # 13 2nd Street/US 101              | E           | 42.1 0.361  | E           | 42.1 0.361  | + 0.000 D/V  |
| # 14 US 126/Quince Street           | F           | OVRFL 2.043 | F           | OVRFL 2.043 | + 0.000 D/V  |
| # 15 US 126/Spruce Street           | F           | 438.0 1.491 | F           | 438.0 1.491 | + 0.000 D/V  |
| # 16 US 126/North Fork Siuslaw Rive | D           | 31.8 0.368  | D           | 31.8 0.368  | + 0.000 D/V  |
| #201 46th Street/Rhododendren Drive | C           | 15.5 0.205  | C           | 15.5 0.205  | + 0.000 D/V  |
| #202 46th Street/US 101             | F           | 594.9 1.693 | F           | 594.9 1.693 | + 0.000 D/V  |
| #203 46th Street/Oak Street         | B           | 12.9 0.252  | B           | 12.9 0.252  | + 0.000 D/V  |



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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 35th Street/Rhododendren Drive

Average Delay (sec/veh): 2.4 Worst Case Level Of Service: B[ 11.1]

Street Name: 35th Street Rhododendren Drive
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1! 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 0 147 56 28 97 0 0 0 0 53 0 14
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 147 56 28 97 0 0 0 0 53 0 14
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 147 56 28 97 0 0 0 0 53 0 14
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 0 163 62 31 108 0 0 0 0 59 0 16
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 163 62 31 108 0 0 0 0 59 0 16

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 4.1 xxxx xxxxx xxxxx xxxx xxxxx 6.4 6.5 6.2
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx xxxxx xxxx xxxxx 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx 226 xxxx xxxxx xxxx xxxx xxxxx 365 364 194
Potent Cap.: xxxx xxxx xxxxx 1343 xxxx xxxxx xxxx xxxx xxxxx 638 567 852
Move Cap.: xxxx xxxx xxxxx 1343 xxxx xxxxx xxxx xxxx xxxxx 626 553 852
Volume/Cap: xxxx xxxx xxxxx 0.02 xxxx xxxxx xxxx xxxx xxxxx 0.09 0.00 0.02

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.1 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: \* \* \* A \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 663 xxxxx
SharedQueue:xxxxx xxxx xxxxx 0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.4 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 11.1 xxxxx
Shared LOS: \* \* \* A \* \* \* \* \* \* \* \* \* \* B \* \*
ApproachDel: xxxxxx xxxxxx xxxxxx 11.1
ApproachLOS: \* \* \* B

Note: Queue reported is the number of cars per lane.

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2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 9th Street/Rhododendren Drive

Average Delay (sec/veh): 5.9 Worst Case Level Of Service: B[ 10.2]

Street Name: 9th Street Rhododendren Drive
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1! 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 0 102 2 132 75 0 0 0 0 10 0 176
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 102 2 132 75 0 0 0 0 10 0 176
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 102 2 132 75 0 0 0 0 10 0 176
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 0 113 2 147 83 0 0 0 0 11 0 196
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 113 2 147 83 0 0 0 0 11 0 196

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 4.1 xxxx xxxxx xxxxx xxxx xxxxx 6.4 6.5 6.2
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx xxxxx xxxx xxxxx 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx 116 xxxx xxxxx xxxx xxxx xxxxx 491 491 114
Potent Cap.: xxxx xxxx xxxxx 1467 xxxx xxxxx xxxx xxxx xxxxx 537 478 938
Move Cap.: xxxx xxxx xxxxx 1467 xxxx xxxxx xxxx xxxx xxxxx 492 426 938
Volume/Cap: xxxx xxxx xxxxx 0.10 xxxx xxxxx xxxx xxxx xxxxx 0.02 0.00 0.21

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.3 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: \* \* \* A \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 894 xxxxx
SharedQueue:xxxxx xxxx xxxxx 0.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.9 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 7.7 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 10.2 xxxxx
Shared LOS: \* \* \* A \* \* \* \* \* \* \* \* \* \* B \* \*
ApproachDel: xxxxxx xxxxxx xxxxxx 10.2
ApproachLOS: \* \* \* B

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 15th Street/Kingwood Street

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: B[ 12.7]

Street Name: 15th Street Kingwood Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 0 232 141 23 166 0 0 0 0 40 0 30
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 232 141 23 166 0 0 0 0 40 0 30
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 232 141 23 166 0 0 0 0 40 0 30
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 0 258 157 26 184 0 0 0 0 44 0 33
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 258 157 26 184 0 0 0 0 44 0 33

Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx 4.1 xxxx xxxxx xxxxx xxxx xxxxx 6.4 6.5 6.2
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx xxxxx xxxx xxxxx 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx 414 xxxx xxxxx xxxx xxxx xxxxx 575 572 336
Potent Cap.: xxxx xxxx xxxxx 1129 xxxx xxxxx xxxx xxxx xxxxx 477 428 701
Move Cap.: xxxx xxxx xxxxx 1129 xxxx xxxxx xxxx xxxx xxxxx 467 418 701
Volume/Cap: xxxx xxxx xxxxx 0.02 xxxx xxxxx xxxx xxxx xxxxx 0.10 0.00 0.05

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.1 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 8.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: \* \* \* A \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 545 xxxxx
SharedQueue:xxxxx xxxx xxxxx 0.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.5 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 8.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 12.7 xxxxx
Shared LOS: \* \* \* A \* \* \* \* \* \* \* \* \* \*
ApproachDel: xxxxxx xxxxxx xxxxxx 12.7
ApproachLOS: \* \* \* B

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 9th Street/Kingwood Street

Average Delay (sec/veh): 240.5 Worst Case Level Of Service: F[902.3]

Street Name: 9th Street Kingwood Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1! 0 0 0 0 1! 0 0 0 0 1! 0 0 0 0 1! 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 51 111 22 29 97 63 237 290 85 10 220 48
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 51 111 22 29 97 63 237 290 85 10 220 48
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 51 111 22 29 97 63 237 290 85 10 220 48
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 57 123 24 32 108 70 263 322 94 11 244 53
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 57 123 24 32 108 70 263 322 94 11 244 53

Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx 4.1 xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:
Cnflct Vol: 1286 1221 379 1270 1242 276 299 xxxx xxxxx 421 xxxx xxxxx
Potent Cap.: 141 180 667 143 173 758 1262 xxxx xxxxx 1133 xxxx xxxxx
Move Cap.: 32 134 662 23 129 755 1261 xxxx xxxxx 1129 xxxx xxxxx
Volume/Cap: 1.77 0.92 0.04 1.42 0.84 0.09 0.21 xxxx xxxxx 0.01 xxxx xxxxx

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.8 xxxx xxxxx 0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 8.6 xxxx xxxxx 8.2 xxxx xxxxx
LOS by Move: \* \* \* A \* \* \* A \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx 75 xxxxx xxxx 89 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
SharedQueue:xxxxx 20.0 xxxxx xxxxx 19.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx 902 xxxxx xxxxx 717 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: \* F \* \* \* F \* \* \* \* \* \* \* \* \* \*
ApproachDel: 902.3 717.4 xxxxxx xxxxxx
ApproachLOS: F F \* \*

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Hecata Beach Road/US 101
Average Delay (sec/veh): 4.8 Worst Case Level Of Service: D [ 26.7]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Hecata Beach Road and US 101.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap, Critical Gp, FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Munsel Lake Road/US 101
Average Delay (sec/veh): 159.3 Worst Case Level Of Service: F [1219.4]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Munsel Lake Road and US 101.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap, Critical Gp, FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #7 35th Street/US 101  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.609  
Loss Time (sec): 12 Average Delay (sec/veh): 11.8  
Optimal Cycle: 48 Level Of Service: B  
\*\*\*\*\*

Street Name: 35th Street US 101  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Prot+Permit Prot+Permit Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 0 1 0 1 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 66 1200 55 57 1076 85 96 25 73 37 17 46  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 66 1200 55 57 1076 85 96 25 73 37 17 46  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 66 1200 55 57 1076 85 96 25 73 37 17 46  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 69 1263 58 60 1133 89 101 26 77 39 18 48  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 69 1263 58 60 1133 89 101 26 77 39 18 48  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Volume: 69 1263 58 60 1133 89 101 26 77 39 18 48

Saturation Flow Module:  
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
Adjustment: 0.93 0.92 0.92 0.92 0.91 0.91 0.70 0.87 0.86 0.62 0.87 0.86  
Lanes: 1.00 1.91 0.09 1.00 1.85 0.15 1.00 0.25 0.75 1.00 0.27 0.73  
Final Sat.: 1629 3094 142 1614 2959 234 1225 384 1122 1081 408 1105

Capacity Analysis Module:  
Vol/Sat: 0.04 0.41 0.41 0.04 0.38 0.38 0.08 0.07 0.07 0.04 0.04 0.04  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.78 0.67 0.67 0.72 0.66 0.66 0.14 0.14 0.14 0.14 0.14 0.14  
Volume/Cap: 0.21 0.61 0.61 0.20 0.58 0.58 0.61 0.51 0.51 0.27 0.32 0.32  
Delay/Veh: 4.6 8.8 8.8 5.3 8.9 8.9 43.1 38.1 38.1 35.9 36.1 36.1  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 4.6 8.8 8.8 5.3 8.9 8.9 43.1 38.1 38.1 35.9 36.1 36.1  
LOS by Move: A A A A A A D D D D D D  
HCM2kAvgQ: 0 10 10 1 10 10 4 3 3 1 2 2  
\*\*\*\*\*

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Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 30th Street/US 101
Average Delay (sec/veh): 2.8 Worst Case Level Of Service: F[166.3]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 30th Street and US 101.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS.

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #9 27th Street/US 101
Average Delay (sec/veh): 26.8 Worst Case Level Of Service: F[796.5]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 27th Street and US 101.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS.

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #10 15th Street/US 101

Average Delay (sec/veh): 670.2 Worst Case Level Of Service: F[26027.8]

Street Name: 15th Street US 101

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 1 0 0 0 0 0 1 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 23 1135 18 65 1074 22 87 22 20 22 14 15
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 23 1135 18 65 1074 22 87 22 20 22 14 15
Added Vol: 0
In-Process: 0
Initial Fut: 23 1135 18 65 1074 22 87 22 20 22 14 15
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 24 1195 19 68 1131 23 92 23 21 23 15 16
Reduct Vol: 0
FinalVolume: 24 1195 19 68 1131 23 92 23 21 23 15 16

Critical Gap Module:
Critical Gp: 4.2 xxxx xxxxx 4.2 xxxx xxxxx 7.5 6.5 6.9 7.5 6.5 6.9
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: 1154 xxxx xxxxx 1214 xxxx xxxxx 1932 2541 577 1966 2543 607
Potent Cap.: 596 xxxx xxxxx 565 xxxx xxxxx 41 27 465 38 27 444
Move Cap.: 596 xxxx xxxxx 565 xxxx xxxxx 17 23 465 1 23 444
Volume/Cap: 0.04 xxxx xxxxx 0.12 xxxx xxxxx 5.33 1.00 0.05 45.18 0.64 0.04

Level Of Service Module:
2Way95thQ: 0.1 xxxx xxxxx 0.4 xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Control Del: 11.3 xxxx xxxxx 12.2 xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: B \* \* B \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx 21 xxxxx xxxx 1 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 17.3 xxxxx xxxxx 8.8 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 2777 xxxxx xxxxx xxxx xxxxx
Shared LOS: \*
ApproachDel: xxxxxx xxxxxx 2777.5 xxxxxx
ApproachLOS: \*

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 US 126/US 101

Cycle (sec): 90 Critical Vol./Cap.(X): 0.780
Loss Time (sec): 16 Average Delay (sec/veh): 34.6
Optimal Cycle: 79 Level Of Service: C

Street Name: US 126 US 101

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Split Phase Split Phase
Rights: Include Include Include Ignore
Min. Green: 0
Y+R: 4.0
Lanes: 1 1 1 0 1 1 0 1 1 0 1 0 0 1 0 1 1 0 0 1 1

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour
Base Vol: 67 678 261 167 795 101 194 214 65 279 91 214
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 67 678 261 167 795 101 194 214 65 279 91 214
Added Vol: 0
In-Process: 0
Initial Fut: 67 678 261 167 795 101 194 214 65 279 91 214
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.00
PHF Volume: 71 714 275 176 837 106 204 225 68 294 96 0
Reduct Vol: 0
Reduced Vol: 71 714 275 176 837 106 204 225 68 294 96 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
FinalVolume: 71 714 275 176 837 106 204 225 68 294 96 0

Saturation Flow Module:
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750
Adjustment: 0.93 0.93 0.82 0.92 0.91 0.91 0.94 0.96 0.96 0.89 0.89 1.00
Lanes: 1.00 2.00 1.00 1.00 1.77 0.23 1.00 0.77 0.23 1.51 0.49 1.00
Final Sat.: 1623 3245 1441 1614 2815 358 1646 1282 390 2356 768 1750

Capacity Analysis Module:
Vol/Sat: 0.04 0.22 0.19 0.11 0.30 0.30 0.12 0.18 0.18 0.12 0.12 0.00
Crit Moves: \*\*\*\* \*
Green/Cycle: 0.06 0.29 0.29 0.14 0.38 0.38 0.23 0.23 0.23 0.16 0.16 0.00
Volume/Cap: 0.78 0.75 0.65 0.75 0.78 0.78 0.55 0.78 0.78 0.78 0.78 0.00
Delay/Veh: 45.9 32.0 31.5 49.8 27.8 27.8 32.6 42.8 42.8 44.0 44.0 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 45.9 32.0 31.5 49.8 27.8 27.8 32.6 42.8 42.8 44.0 44.0 0.0
LOS by Move: D C C D C C C D D D D A
HCM2kAvgQ: 2 10 7 5 12 12 6 10 10 7 7 0

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 2 - 46th Street Extension

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 2 - 46th Street Extension

Level Of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #12 Rhododendren Drive/US 101  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.487  
Loss Time (sec): 12 Average Delay (sec/veh): 9.2  
Optimal Cycle: 39 Level Of Service: A  
\*\*\*\*\*

Street Name: Rhododendren Drive US 101

| Approach:   | North Bound |     |     | South Bound |     |     | East Bound |     |     | West Bound |     |     |
|-------------|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| Movement:   | L           | T   | R   | L           | T   | R   | L          | T   | R   | L          | T   | R   |
| Control:    | Prot+Permit |     |     | Prot+Permit |     |     | Permitted  |     |     | Permitted  |     |     |
| Rights:     | Include     |     |     | Include     |     |     | Include    |     |     | Include    |     |     |
| Min. Green: | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   | 0          | 0   | 0   |
| Y+R:        | 4.0         | 4.0 | 4.0 | 4.0         | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 |
| Lanes:      | 1           | 0   | 1   | 1           | 0   | 1   | 0          | 0   | 1   | 0          | 0   | 1   |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:     | 13   | 951  | 8    | 5    | 939  | 39   | 64   | 8    | 38   | 5    | 15   | 17   |
| Growth Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:  | 13   | 951  | 8    | 5    | 939  | 39   | 64   | 8    | 38   | 5    | 15   | 17   |
| Added Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut:  | 13   | 951  | 8    | 5    | 939  | 39   | 64   | 8    | 38   | 5    | 15   | 17   |
| User Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:      | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:   | 14   | 1001 | 8    | 5    | 988  | 41   | 67   | 8    | 40   | 5    | 16   | 18   |
| Reduct Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:  | 14   | 1001 | 8    | 5    | 988  | 41   | 67   | 8    | 40   | 5    | 16   | 18   |
| PCE Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 14   | 1001 | 8    | 5    | 988  | 41   | 67   | 8    | 40   | 5    | 16   | 18   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 |
| Adjustment: | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.74 | 0.74 | 0.74 | 0.91 | 0.91 | 0.90 |
| Lanes:      | 1.00 | 1.98 | 0.02 | 1.00 | 1.92 | 0.08 | 0.58 | 0.07 | 0.35 | 0.14 | 0.40 | 0.46 |
| Final Sat.: | 1599 | 3169 | 27   | 1599 | 3053 | 127  | 754  | 94   | 447  | 214  | 643  | 728  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.01 | 0.32 | 0.32 | 0.00 | 0.32 | 0.32 | 0.09 | 0.09 | 0.09 | 0.02 | 0.02 | 0.02 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.73 | 0.68 | 0.68 | 0.67 | 0.67 | 0.67 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Volume/Cap:  | 0.05 | 0.47 | 0.47 | 0.02 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.13 | 0.13 | 0.13 |
| Delay/Veh:   | 4.4  | 7.1  | 7.1  | 5.2  | 7.6  | 7.6  | 34.5 | 34.5 | 34.5 | 31.0 | 31.0 | 31.0 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 4.4  | 7.1  | 7.1  | 5.2  | 7.6  | 7.6  | 34.5 | 34.5 | 34.5 | 31.0 | 31.0 | 31.0 |
| LOS by Move: | A    | A    | A    | A    | A    | A    | C    | C    | C    | C    | C    | C    |
| HCM2kAvgQ:   | 0    | 7    | 7    | 0    | 7    | 7    | 3    | 3    | 3    | 1    | 1    | 1    |

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Kittelton & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 2 - 46th Street Extension

Note: Queue reported is the number of cars per lane.  
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Kittelton & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 2 - 46th Street Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #13 2nd Street/US 101  
\*\*\*\*\*  
Average Delay (sec/veh): 1.5 Worst Case Level Of Service: E[ 42.1]  
\*\*\*\*\*

| Street Name: | 2nd Street   |   |   | US 101       |   |   |            |   |   |            |   |   |   |   |   |   |   |  |   |   |   |   |   |  |
|--------------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|---|---|---|---|---|--|---|---|---|---|---|--|
| Approach:    | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |   |   |   |   |   |  |   |   |   |   |   |  |
| Movement:    | L            | T | R | L            | T | R | L          | T | R | L          | T | R |   |   |   |   |   |  |   |   |   |   |   |  |
| Control:     | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |   |   |   |   |   |  |   |   |   |   |   |  |
| Rights:      | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |   |   |   |   |   |  |   |   |   |   |   |  |
| Lanes:       | 1            | 0 | 1 | 1            | 0 |   | 1          | 0 | 1 | 1          | 0 |   | 0 | 0 | 1 | 0 | 0 |  | 1 | 0 | 0 | 1 | 0 |  |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|              | 0    | 797  | 26   | 40   | 887  | 0    | 0    | 0    | 0    | 43   | 0    | 10   |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 797  | 26   | 40   | 887  | 0    | 0    | 0    | 0    | 43   | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 797  | 26   | 40   | 887  | 0    | 0    | 0    | 0    | 43   | 0    | 10   |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 797  | 26   | 40   | 887  | 0    | 0    | 0    | 0    | 43   | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:  | 0    | 839  | 27   | 42   | 934  | 0    | 0    | 0    | 0    | 45   | 0    | 11   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| FinalVolume: | 0    | 839  | 27   | 42   | 934  | 0    | 0    | 0    | 0    | 45   | 0    | 11   |

Critical Gap Module:

| Critical Gp: | xxxxx | xxxx | xxxxx | 4.2 | xxxx | xxxxx | 7.5 | 6.5 | 6.9 | 6.8 | 6.5 | 6.9 |
|--------------|-------|------|-------|-----|------|-------|-----|-----|-----|-----|-----|-----|
| FollowUpTim: | xxxxx | xxxx | xxxxx | 2.3 | xxxx | xxxxx | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |

Capacity Module:

| Cnflct Vol:  | xxxx | xxxx | xxxxx | 871  | xxxx | xxxxx | 1442 | 1894 | 474  | 1411 | 1881 | 438  |
|--------------|------|------|-------|------|------|-------|------|------|------|------|------|------|
| Potent Cap.: | xxxx | xxxx | xxxxx | 751  | xxxx | xxxxx | 95   | 71   | 542  | 132  | 72   | 572  |
| Move Cap.:   | xxxx | xxxx | xxxxx | 748  | xxxx | xxxxx | 89   | 66   | 539  | 125  | 67   | 570  |
| Volume/Cap:  | xxxx | xxxx | xxxx  | 0.06 | xxxx | xxxx  | 0.00 | 0.00 | 0.00 | 0.36 | 0.00 | 0.02 |

Level Of Service Module:

| 2Way95thQ:   | xxxx   | xxxx | xxxxx | 0.2    | xxxx | xxxxx | xxxx   | xxxx | xxxxx | 1.5   | xxxx | xxxxx |      |   |    |
|--------------|--------|------|-------|--------|------|-------|--------|------|-------|-------|------|-------|------|---|----|
| Control Del: | xxxxx  | xxxx | xxxxx | 10.1   | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | 49.2  | xxxx | xxxxx |      |   |    |
| LOS by Move: | *      | *    | *     | B      | *    | *     | *      | *    | *     | E     | *    | *     |      |   |    |
| Movement:    | LT     | -    | LTR   | -      | RT   | LT    | -      | LTR  | -     | RT    | LT   | -     | LTR  | - | RT |
| Shared Cap.: | xxxx   | xxxx | xxxxx | xxxx   | xxxx | xxxxx | xxxx   | 0    | xxxxx | xxxx  | xxxx | xxxx  | 570  |   |    |
| SharedQueue: | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx | xxxx | xxxx  | 0.1  |   |    |
| Shrd ConDel: | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx | xxxx | xxxx  | 11.4 |   |    |
| Shared LOS:  | *      | *    | *     | *      | *    | *     | *      | *    | *     | *     | *    | *     | B    |   |    |
| ApproachDel: | xxxxxx |      |       | xxxxxx |      |       | xxxxxx |      |       | 42.1  |      |       |      |   |    |
| ApproachLOS: | *      |      |       | *      |      |       | *      |      |       | E     |      |       |      |   |    |

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*



Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 2 - 46th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 US 126/Quince Street
Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for US 126 and Quince Street.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 2 - 46th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 US 126/Spruce Street
Average Delay (sec/veh): 64.6 Worst Case Level Of Service: F[438.0]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for US 126 and Spruce Street.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 2 - 46th Street Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #16 US 126/North Fork Siuslaw River Road  
\*\*\*\*\*

Average Delay (sec/veh): 5.7 Worst Case Level Of Service: D[ 31.8]

Street Name: US 126 North Fork Siuslaw River Road  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 0 0 0 49 0 113 211 398 0 0 421 58  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 49 0 113 211 398 0 0 421 58  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 0 49 0 113 211 398 0 0 421 58  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 0 0 0 52 0 119 222 419 0 0 443 61  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 0 52 0 119 222 419 0 0 443 61

Critical Gap Module:  
Critical Gp:xxxxx xxxx xxxxx 6.4 6.5 6.2 4.2 xxxx xxxxx xxxxx xxxx xxxxx  
FollowUpTim:xxxxx xxxx xxxxx 3.5 4.0 3.3 2.3 xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:  
Cnflct Vol: xxxx xxxx xxxxx 1338 1337 474 504 xxxx xxxxx xxxx xxxx xxxxx  
Potent Cap.: xxxx xxxx xxxxx 168 152 589 1040 xxxx xxxxx xxxx xxxx xxxxx  
Move Cap.: xxxx xxxx xxxxx 140 120 589 1040 xxxx xxxxx xxxx xxxx xxxxx  
Volume/Cap: xxxx xxxx xxxxx 0.37 0.00 0.20 0.21 xxxx xxxx xxxx xxxx xxxxx

Level Of Service Module:  
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.8 xxxx xxxxx xxxx xxxx xxxxx  
Control Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 9.4 xxxx xxxxx xxxxx xxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx 299 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
SharedQueue:xxxxx xxxx xxxxx xxxxx 3.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 31.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shared LOS: \* \* \* \* \* D \* \* \* \* \*  
ApproachDel: xxxxxx 31.8 xxxxxx xxxxxx  
ApproachLOS: \* \* \* \* \* D \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 2 - 46th Street Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #201 46th Street/Rhododendren Drive  
\*\*\*\*\*

Average Delay (sec/veh): 6.5 Worst Case Level Of Service: C[ 15.5]

Street Name: 46th Street Rhododendren Drive  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 0 1 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 49 257 2 77 120 2 2 36 30 2 50 140  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 49 257 2 77 120 2 2 36 30 2 50 140  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 49 257 2 77 120 2 2 36 30 2 50 140  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90  
PHF Volume: 54 286 2 86 133 2 2 40 33 2 56 156  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 54 286 2 86 133 2 2 40 33 2 56 156

Critical Gap Module:  
Critical Gp: 4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2  
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3

Capacity Module:  
Cnflct Vol: 136 xxxx xxxxx 288 xxxx xxxxx 807 702 135 739 702 287  
Potent Cap.: 1443 xxxx xxxxx 1274 xxxx xxxxx 302 365 919 336 365 757  
Move Cap.: 1443 xxxx xxxxx 1274 xxxx xxxxx 192 326 918 270 326 757  
Volume/Cap: 0.04 xxxx xxxxx 0.07 xxxx xxxxx 0.01 0.12 0.04 0.01 0.17 0.21

Level Of Service Module:  
2Way95thQ: 0.1 xxxx xxxxx 0.2 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
Control Del: 7.6 xxxx xxxxx 8.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
LOS by Move: A \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 443 xxxxx xxxx 555 xxxxx  
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.6 xxxxx xxxxx 1.8 xxxxx  
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 14.8 xxxxx xxxxx 15.5 xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* B \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 14.8 xxxxxx 15.5  
ApproachLOS: \* \* \* \* \* B \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 2 - 46th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #202 46th Street/US 101

Average Delay (sec/veh): 64.6 Worst Case Level Of Service: F[594.9]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 46th Street and US 101.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 2 - 46th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #203 46th Street/Oak Street

Average Delay (sec/veh): 5.4 Worst Case Level Of Service: B[ 12.9]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 46th Street and Oak Street.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS.

Note: Queue reported is the number of cars per lane.

Kittelton & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Alternative 3 - Willow Loop Road Extension

Scenario Report

Scenario: pm  
 Command: pm  
 Volume: pm  
 Geometry: pm  
 Impact Fee: Default Impact Fee  
 Trip Generation: pm  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: Default Configuration

Kittelton & Associates, Inc. - Project #10103  
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Impact Analysis Report  
 Level Of Service

| Intersection                        | Base |             |         | Future |             |         | Change<br>in |
|-------------------------------------|------|-------------|---------|--------|-------------|---------|--------------|
|                                     | LOS  | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |
| # 1 35th Street/Rhododendren Drive  | B    | 14.6        | 0.333   | B      | 14.6        | 0.333   | + 0.000 D/V  |
| # 2 9th Street/Rhododendren Drive   | B    | 10.5        | 0.216   | B      | 10.5        | 0.216   | + 0.000 D/V  |
| # 3 15th Street/Kingwood Street     | B    | 12.5        | 0.094   | B      | 12.5        | 0.094   | + 0.000 D/V  |
| # 4 9th Street/Kingwood Street      | F    | 463.7       | 1.012   | F      | 463.7       | 1.012   | + 0.000 D/V  |
| # 5 Hecata Beach Road/US 101        | D    | 28.7        | 0.514   | D      | 28.7        | 0.514   | + 0.000 D/V  |
| # 6 Munsel Lake Road/US 101         | F    | OVREFL      | 2.976   | F      | OVREFL      | 2.976   | + 0.000 D/V  |
| # 7 35th Street/US 101              | B    | 16.9        | 0.686   | B      | 16.9        | 0.686   | + 0.000 D/V  |
| # 8 30th Street/US 101              | F    | 155.3       | 0.534   | F      | 155.3       | 0.534   | + 0.000 D/V  |
| # 9 27th Street/US 101              | F    | 802.6       | 2.179   | F      | 802.6       | 2.179   | + 0.000 D/V  |
| # 10 15th Street/US 101             | F    | 806.5       | 1.629   | F      | 806.5       | 1.629   | + 0.000 D/V  |
| # 11 US 126/US 101                  | C    | 34.4        | 0.782   | C      | 34.4        | 0.782   | + 0.000 D/V  |
| # 12 Rhododendren Drive/US 101      | B    | 10.6        | 0.518   | B      | 10.6        | 0.518   | + 0.000 D/V  |
| # 13 2nd Street/US 101              | E    | 41.3        | 0.342   | E      | 41.3        | 0.342   | + 0.000 D/V  |
| # 14 US 126/Quince Street           | F    | OVREFL      | 1.741   | F      | OVREFL      | 1.741   | + 0.000 D/V  |
| # 15 US 126/Spruce Street           | F    | 146.6       | 0.823   | F      | 146.6       | 0.823   | + 0.000 D/V  |
| # 16 US 126/North Fork Siuslaw Rive | D    | 25.5        | 0.290   | D      | 25.5        | 0.290   | + 0.000 D/V  |
| #301 Willow Loop Extension/North Fo | C    | 19.3        | 0.235   | C      | 19.3        | 0.235   | + 0.000 D/V  |
| #302 Willow Loop Extension/Willow L | A    | 9.4         | 0.081   | A      | 9.4         | 0.081   | + 0.000 D/V  |

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 35th Street/Rhododendren Drive

Average Delay (sec/veh): 7.1 Worst Case Level Of Service: B[ 14.6]

Street Name: 35th Street Rhododendren Drive
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1! 0 0

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table for Critical Gap Module: Critical Gp, FollowUpTim.

Table for Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table for Level Of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 9th Street/Rhododendren Drive

Average Delay (sec/veh): 5.6 Worst Case Level Of Service: B[ 10.5]

Street Name: 9th Street Rhododendren Drive
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1! 0 0

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table for Critical Gap Module: Critical Gp, FollowUpTim.

Table for Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table for Level Of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 15th Street/Kingwood Street
Average Delay (sec/veh): 1.8 Worst Case Level Of Service: B[ 12.5]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 15th Street and Kingwood Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows for 15th Street and Kingwood Street.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for 15th Street and Kingwood Street.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for 15th Street and Kingwood Street.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for 15th Street and Kingwood Street.

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 9th Street/Kingwood Street
Average Delay (sec/veh): 110.7 Worst Case Level Of Service: F[463.7]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 9th Street and Kingwood Street.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows for 9th Street and Kingwood Street.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for 9th Street and Kingwood Street.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for 9th Street and Kingwood Street.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for 9th Street and Kingwood Street.

Note: Queue reported is the number of cars per lane.



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Level Of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

Intersection #7 35th Street/US 101

Cycle (sec): 90 Critical Vol./Cap. (X): 0.686  
Loss Time (sec): 12 Average Delay (sec/veh): 16.9  
Optimal Cycle: 56 Level Of Service: B

Street Name: 35th Street US 101  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Prot+Permit Prot+Permit Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 0 1 0 1 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 175 1097 56 55 980 109 136 27 143 37 18 44  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 175 1097 56 55 980 109 136 27 143 37 18 44  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 175 1097 56 55 980 109 136 27 143 37 18 44  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 184 1155 59 58 1032 115 143 28 151 39 19 46  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 184 1155 59 58 1032 115 143 28 151 39 19 46  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Volume: 184 1155 59 58 1032 115 143 28 151 39 19 46

Saturation Flow Module:  
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
Adjustment: 0.93 0.92 0.92 0.92 0.91 0.91 0.70 0.86 0.84 0.45 0.87 0.87  
Lanes: 1.00 1.90 0.10 1.00 1.80 0.20 1.00 0.16 0.84 1.00 0.29 0.71  
Final Sat.: 1629 3079 157 1614 2862 318 1226 235 1244 788 441 1077

Capacity Analysis Module:  
Vol/Sat: 0.11 0.38 0.38 0.04 0.36 0.36 0.12 0.12 0.12 0.05 0.04 0.04  
Crit Moves: \*\*\*\* \*\*  
Green/Cycle: 0.73 0.63 0.63 0.59 0.53 0.53 0.18 0.18 0.18 0.18 0.18 0.18  
Volume/Cap: 0.44 0.60 0.60 0.19 0.69 0.69 0.66 0.69 0.69 0.28 0.24 0.24  
Delay/Veh: 8.6 10.3 10.3 8.5 17.1 17.1 42.0 42.1 42.1 33.2 32.4 32.4  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 8.6 10.3 10.3 8.5 17.1 17.1 42.0 42.1 42.1 33.2 32.4 32.4  
LOS by Move: A B B A B B D D D C C C  
HCM2kAvgQ: 2 10 10 1 13 13 5 6 6 1 2 2

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Note: Queue reported is the number of cars per lane.

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 Alternative 3 - Willow Loop Road Extension

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

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 Intersection #10 15th Street/US 101  
 \*\*\*\*\*

Average Delay (sec/veh): 38.1 Worst Case Level Of Service: F[806.5]  
 \*\*\*\*\*

Street Name: 15th Street US 101

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 1 0 1 1 0 1 0 1 1 0 0 0 1 0 0 0 0 0 1 0 0 0

| Volume Module: | >> Count | Date: | 1 Aug 2035 | << weekday | pm peak hour |      |      |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------|----------|-------|------------|------------|--------------|------|------|------|------|------|------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Base Vol:      | 21       | 1093  | 17         | 38         | 1040         | 24   | 66   | 20   | 22   | 5    | 2    | 15   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Growth Adj:    | 1.00     | 1.00  | 1.00       | 1.00       | 1.00         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Initial Bse:   | 21       | 1093  | 17         | 38         | 1040         | 24   | 66   | 20   | 22   | 5    | 2    | 15   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Added Vol:     | 0        | 0     | 0          | 0          | 0            | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| In-Process:    | 0        | 0     | 0          | 0          | 0            | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Initial Fut:   | 21       | 1093  | 17         | 38         | 1040         | 24   | 66   | 20   | 22   | 5    | 2    | 15   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| User Adj:      | 1.00     | 1.00  | 1.00       | 1.00       | 1.00         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PHF Adj:       | 0.95     | 0.95  | 0.95       | 0.95       | 0.95         | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PHF Volume:    | 22       | 1151  | 18         | 40         | 1095         | 25   | 69   | 21   | 23   | 5    | 2    | 16   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reduct Vol:    | 0        | 0     | 0          | 0          | 0            | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Final Volume:  | 22       | 1151  | 18         | 40         | 1095         | 25   | 69   | 21   | 23   | 5    | 2    | 16   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Critical Gap Module: |     |      |       |     |      |       |     |     |     |     |     |     |  |  |  |  |  |  |  |
|----------------------|-----|------|-------|-----|------|-------|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|
| Critical Gp:         | 4.2 | xxxx | xxxxx | 4.2 | xxxx | xxxxx | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 |  |  |  |  |  |  |  |
| FollowUpTim:         | 2.2 | xxxx | xxxxx | 2.2 | xxxx | xxxxx | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |  |  |  |  |  |  |  |

| Capacity Module: |      |      |       |      |      |       |      |      |      |      |      |      |  |  |  |  |
|------------------|------|------|-------|------|------|-------|------|------|------|------|------|------|--|--|--|--|
| Cnflct Vol:      | 1120 | xxxx | xxxxx | 1168 | xxxx | xxxxx | 1808 | 2400 | 560  | 1842 | 2404 | 584  |  |  |  |  |
| Potent Cap.:     | 614  | xxxx | xxxxx | 588  | xxxx | xxxxx | 51   | 34   | 477  | 48   | 34   | 460  |  |  |  |  |
| Move Cap.:       | 614  | xxxx | xxxxx | 588  | xxxx | xxxxx | 43   | 30   | 477  | 19   | 30   | 460  |  |  |  |  |
| Volume/Cap:      | 0.04 | xxxx | xxxxx | 0.07 | xxxx | xxxxx | 1.63 | 0.69 | 0.05 | 0.28 | 0.07 | 0.03 |  |  |  |  |

| Level Of Service Module: |          |      |          |       |          |       |          |      |          |       |          |       |  |  |  |  |
|--------------------------|----------|------|----------|-------|----------|-------|----------|------|----------|-------|----------|-------|--|--|--|--|
| 2Way95thQ:               | 0.1      | xxxx | xxxxx    | 0.2   | xxxx     | xxxxx | xxxx     | xxxx | xxxxx    | xxxx  | xxxx     | xxxxx |  |  |  |  |
| Control Del:             | 11.1     | xxxx | xxxxx    | 11.6  | xxxx     | xxxxx | xxxxx    | xxxx | xxxxx    | xxxxx | xxxx     | xxxxx |  |  |  |  |
| LOS by Move:             | B        | *    | *        | B     | *        | *     | *        | *    | *        | *     | *        | *     |  |  |  |  |
| Movement:                | LT - LTR | - RT | LT - LTR | - RT  | LT - LTR | - RT  | LT - LTR | - RT | LT - LTR | - RT  | LT - LTR | - RT  |  |  |  |  |
| Shared Cap.:             | xxxx     | xxxx | xxxxx    | xxxx  | xxxx     | xxxxx | xxxx     | 48   | xxxxx    | xxxx  | 60       | xxxxx |  |  |  |  |
| Shared Queue:            | xxxxx    | xxxx | xxxxx    | xxxxx | xxxx     | xxxxx | xxxxx    | 11.8 | xxxxx    | xxxxx | 1.4      | xxxxx |  |  |  |  |
| Shrd ConDel:             | xxxxx    | xxxx | xxxxx    | xxxxx | xxxx     | xxxxx | xxxxx    | 807  | xxxxx    | xxxxx | 98.8     | xxxxx |  |  |  |  |
| Shared LOS:              | *        | *    | *        | *     | *        | *     | *        | F    | *        | *     | F        | *     |  |  |  |  |
| ApproachDel:             | xxxxxx   |      | xxxxxx   |       | 806.5    |       | 98.8     |      |          |       |          |       |  |  |  |  |
| ApproachLOS:             | *        |      | *        |       | F        |       | F        |      |          |       |          |       |  |  |  |  |

Note: Queue reported is the number of cars per lane.  
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Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #11 US 126/US 101  
 \*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.782  
 Loss Time (sec): 16 Average Delay (sec/veh): 34.4  
 Optimal Cycle: 80 Level Of Service: C  
 \*\*\*\*\*

Street Name: US 126 US 101

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Split Phase Split Phase  
 Rights: Include Include Include Ignore  
 Min. Green: 0  
 Y+R: 4.0  
 Lanes: 1 1 1 0 1 1 0 1 1 0 1 0 0 1 0 1 1 0 0 1 1 0 0 1

| Volume Module: | >> Count | Date: | 1 Aug 2035 | << weekday | pm peak hour |      |      |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |
|----------------|----------|-------|------------|------------|--------------|------|------|------|------|------|------|------|--|--|--|--|--|--|--|--|--|--|
| Base Vol:      | 66       | 661   | 279        | 138        | 774          | 99   | 212  | 221  | 71   | 283  | 93   | 217  |  |  |  |  |  |  |  |  |  |  |
| Growth Adj:    | 1.00     | 1.00  | 1.00       | 1.00       | 1.00         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |  |  |  |  |  |  |  |
| Initial Bse:   | 66       | 661   | 279        | 138        | 774          | 99   | 212  | 221  | 71   | 283  | 93   | 217  |  |  |  |  |  |  |  |  |  |  |
| Added Vol:     | 0        | 0     | 0          | 0          | 0            | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |  |  |  |  |  |  |  |  |  |
| In-Process:    | 0        | 0     | 0          | 0          | 0            | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |  |  |  |  |  |  |  |  |  |
| Initial Fut:   | 66       | 661   | 279        | 138        | 774          | 99   | 212  | 221  | 71   | 283  | 93   | 217  |  |  |  |  |  |  |  |  |  |  |
| User Adj:      | 1.00     | 1.00  | 1.00       | 1.00       | 1.00         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |  |  |  |  |  |  |  |  |  |  |
| PHF Adj:       | 0.95     | 0.95  | 0.95       | 0.95       | 0.95         | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.00 |  |  |  |  |  |  |  |  |  |  |
| PHF Volume:    | 69       | 696   | 294        | 145        | 815          | 104  | 223  | 233  | 75   | 298  | 98   | 0    |  |  |  |  |  |  |  |  |  |  |
| Reduct Vol:    | 0        | 0     | 0          | 0          | 0            | 0    | 0    | 0    | 0    | 0    | 0    | 0    |  |  |  |  |  |  |  |  |  |  |
| Reduced Vol:   | 69       | 696   | 294        | 145        | 815          | 104  | 223  | 233  | 75   | 298  | 98   | 0    |  |  |  |  |  |  |  |  |  |  |
| PCE Adj:       | 1.00     | 1.00  | 1.00       | 1.00       | 1.00         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |  |  |  |  |  |  |  |  |  |  |
| MLF Adj:       | 1.00     | 1.00  | 1.00       | 1.00       | 1.00         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |  |  |  |  |  |  |  |  |  |  |
| Final Volume:  | 69       | 696   | 294        | 145        | 815          | 104  | 223  | 233  | 75   | 298  | 98   | 0    |  |  |  |  |  |  |  |  |  |  |

| Saturation Flow Module: |      |      |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|--|
| Sat/Lane:               | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 |  |  |  |  |
| Adjustment:             | 0.93 | 0.93 | 0.82 | 0.92 | 0.91 | 0.91 | 0.94 | 0.95 | 0.95 | 0.89 | 0.89 | 1.00 |  |  |  |  |
| Lanes:                  | 1.00 | 2.00 | 1.00 | 1.00 | 1.77 | 0.23 | 1.00 | 0.76 | 0.24 | 1.51 | 0.49 | 1.00 |  |  |  |  |
| Final Sat.:             | 1621 | 3242 | 1441 | 1614 | 2813 | 360  | 1646 | 1264 | 406  | 2352 | 773  | 1750 |  |  |  |  |

| Capacity Analysis Module: |      |      |      |      |      |      |      |      |      |      |      |      |  |  |  |  |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|--|
| Vol/Sat:                  | 0.04 | 0.21 | 0.20 | 0.09 | 0.29 | 0.29 | 0.14 | 0.18 | 0.18 | 0.13 | 0.13 | 0.00 |  |  |  |  |
| Crit Moves:               | **** |      |      | **** |      |      | **** |      |      | **** |      | **** |  |  |  |  |
| Green/Cycle:              | 0.05 | 0.30 | 0.30 | 0.13 | 0.37 | 0.37 | 0.24 | 0.24 | 0.24 | 0.16 | 0.16 | 0.00 |  |  |  |  |
| Volume/Cap:               | 0.78 | 0.72 | 0.68 | 0.72 | 0.78 | 0.78 | 0.58 | 0.78 | 0.78 | 0.78 | 0.78 | 0.00 |  |  |  |  |
| Delay/Veh:                | 46.2 | 30.5 | 32.1 | 49.4 | 28.6 | 28.6 | 32.6 | 42.1 | 42.1 | 43.9 | 43.9 | 0.0  |  |  |  |  |
| User DelAdj:              | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |  |
| AdjDel/Veh:               | 46.2 | 30.5 | 32.1 | 49.4 | 28.6 | 28.6 | 32.6 | 42.1 | 42.1 | 43.9 | 43.9 | 0.0  |  |  |  |  |
| LOS by Move:              | D    | C    | C    | D    | C    | C    | C    | D    | D    | D    | D    | A    |  |  |  |  |
| HCM2kAvgQ:                | 2    | 9    | 7    | 4    | 12   | 12   | 6    | 10   | 10   | 7    | 7    | 0    |  |  |  |  |

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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 3 - Willow Loop Road Extension

Note: Queue reported is the number of cars per lane.  
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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 3 - Willow Loop Road Extension

Level Of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #12 Rhododendren Drive/US 101  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.518  
Loss Time (sec): 12 Average Delay (sec/veh): 10.6  
Optimal Cycle: 41 Level Of Service: B  
\*\*\*\*\*

Street Name: Rhododendren Drive US 101

| Approach:   | North Bound |     |     | South Bound |     |     | East Bound |     |     | West Bound |     |     |
|-------------|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| Movement:   | L           | T   | R   | L           | T   | R   | L          | T   | R   | L          | T   | R   |
| Control:    | Prot+Permit |     |     | Prot+Permit |     |     | Permitted  |     |     | Permitted  |     |     |
| Rights:     | Include     |     |     | Include     |     |     | Include    |     |     | Include    |     |     |
| Min. Green: | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   | 0          | 0   | 0   |
| Y+R:        | 4.0         | 4.0 | 4.0 | 4.0         | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 |
| Lanes:      | 1           | 0   | 1   | 1           | 0   | 1   | 0          | 0   | 1   | 0          | 0   | 1   |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:     | 40   | 960  | 8    | 5    | 930  | 41   | 64   | 8    | 55   | 5    | 19   | 17   |
| Growth Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:  | 40   | 960  | 8    | 5    | 930  | 41   | 64   | 8    | 55   | 5    | 19   | 17   |
| Added Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut:  | 40   | 960  | 8    | 5    | 930  | 41   | 64   | 8    | 55   | 5    | 19   | 17   |
| User Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:      | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:   | 42   | 1011 | 8    | 5    | 979  | 43   | 67   | 8    | 58   | 5    | 20   | 18   |
| Reduct Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:  | 42   | 1011 | 8    | 5    | 979  | 43   | 67   | 8    | 58   | 5    | 20   | 18   |
| PCE Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 42   | 1011 | 8    | 5    | 979  | 43   | 67   | 8    | 58   | 5    | 20   | 18   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 |
| Adjustment: | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.75 | 0.75 | 0.75 | 0.92 | 0.92 | 0.91 |
| Lanes:      | 1.00 | 1.98 | 0.02 | 1.00 | 1.92 | 0.08 | 0.51 | 0.06 | 0.43 | 0.12 | 0.46 | 0.42 |
| Final Sat.: | 1599 | 3169 | 26   | 1599 | 3045 | 134  | 664  | 83   | 570  | 195  | 742  | 664  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.03 | 0.32 | 0.32 | 0.00 | 0.32 | 0.32 | 0.10 | 0.10 | 0.10 | 0.03 | 0.03 | 0.03 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.72 | 0.66 | 0.66 | 0.63 | 0.62 | 0.62 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Volume/Cap:  | 0.13 | 0.48 | 0.48 | 0.02 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.14 | 0.14 | 0.14 |
| Delay/Veh:   | 5.2  | 7.6  | 7.6  | 6.4  | 9.8  | 9.8  | 34.3 | 34.3 | 34.3 | 30.1 | 30.1 | 30.1 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 5.2  | 7.6  | 7.6  | 6.4  | 9.8  | 9.8  | 34.3 | 34.3 | 34.3 | 30.1 | 30.1 | 30.1 |
| LOS by Move: | A    | A    | A    | A    | A    | A    | C    | C    | C    | C    | C    | C    |
| HCM2kAvgQ:   | 0    | 8    | 8    | 0    | 8    | 8    | 4    | 4    | 4    | 1    | 1    | 1    |

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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 3 - Willow Loop Road Extension

Note: Queue reported is the number of cars per lane.  
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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 3 - Willow Loop Road Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #13 2nd Street/US 101  
\*\*\*\*\*  
Average Delay (sec/veh): 1.4 Worst Case Level Of Service: E[ 41.3]  
\*\*\*\*\*

| Street Name: | 2nd Street   |   |   | US 101       |   |   |            |   |   |            |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach:    | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |   |   |   |   |   |   |   |   |   |   |
| Movement:    | L            | T | R | L            | T | R | L          | T | R | L          | T | R |   |   |   |   |   |   |   |   |   |   |
| Control:     | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |   |   |   |   |   |   |   |   |   |   |
| Rights:      | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |   |   |   |   |   |   |   |   |   |   |
| Lanes:       | 1            | 0 | 1 | 1            | 0 | 0 | 1          | 0 | 1 | 1          | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 813  | 22   | 40   | 879  | 0    | 0    | 0    | 0    | 40   | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 813  | 22   | 40   | 879  | 0    | 0    | 0    | 0    | 40   | 0    | 10   |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 813  | 22   | 40   | 879  | 0    | 0    | 0    | 0    | 40   | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:  | 0    | 856  | 23   | 42   | 925  | 0    | 0    | 0    | 0    | 42   | 0    | 11   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| FinalVolume: | 0    | 856  | 23   | 42   | 925  | 0    | 0    | 0    | 0    | 42   | 0    | 11   |

Critical Gap Module:

|              |       |      |       |     |      |       |     |     |     |     |     |     |
|--------------|-------|------|-------|-----|------|-------|-----|-----|-----|-----|-----|-----|
| Critical Gp: | xxxxx | xxxx | xxxxx | 4.2 | xxxx | xxxxx | 7.5 | 6.5 | 6.9 | 6.8 | 6.5 | 6.9 |
| FollowUpTim: | xxxxx | xxxx | xxxxx | 2.3 | xxxx | xxxxx | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |

Capacity Module:

|              |      |      |       |      |      |       |      |      |      |      |      |      |
|--------------|------|------|-------|------|------|-------|------|------|------|------|------|------|
| Cnflct Vol:  | xxxx | xxxx | xxxxx | 884  | xxxx | xxxxx | 1442 | 1898 | 470  | 1421 | 1887 | 444  |
| Potent Cap.: | xxxx | xxxx | xxxxx | 743  | xxxx | xxxxx | 95   | 70   | 546  | 130  | 71   | 567  |
| Move Cap.:   | xxxx | xxxx | xxxxx | 739  | xxxx | xxxxx | 89   | 66   | 543  | 123  | 67   | 564  |
| Volume/Cap:  | xxxx | xxxx | xxxx  | 0.06 | xxxx | xxxx  | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 0.02 |

Level Of Service Module:

|              |        |      |       |        |      |       |        |      |       |       |      |       |     |   |    |
|--------------|--------|------|-------|--------|------|-------|--------|------|-------|-------|------|-------|-----|---|----|
| 2Way95thQ:   | xxxx   | xxxx | xxxxx | 0.2    | xxxx | xxxxx | xxxx   | xxxx | xxxxx | 1.4   | xxxx | xxxxx |     |   |    |
| Control Del: | xxxxx  | xxxx | xxxxx | 10.2   | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | 48.7  | xxxx | xxxxx |     |   |    |
| LOS by Move: | *      | *    | *     | B      | *    | *     | *      | *    | *     | E     | *    | *     |     |   |    |
| Movement:    | LT     | -    | LTR   | -      | RT   | LT    | -      | LTR  | -     | RT    | LT   | -     | LTR | - | RT |
| Shared Cap.: | xxxx   | xxxx | xxxxx | xxxx   | xxxx | xxxxx | xxxx   | 0    | xxxxx | xxxx  | xxxx | 564   |     |   |    |
| SharedQueue: | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx | xxxx | 0.1   |     |   |    |
| Shrd ConDel: | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx | xxxx | 11.5  |     |   |    |
| Shared LOS:  | *      | *    | *     | *      | *    | *     | *      | *    | *     | *     | *    | B     |     |   |    |
| ApproachDel: | xxxxxx |      |       | xxxxxx |      |       | xxxxxx |      |       | 41.3  |      |       |     |   |    |
| ApproachLOS: | *      |      |       | *      |      |       | *      |      |       | E     |      |       |     |   |    |

Note: Queue reported is the number of cars per lane.  
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Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 3 - Willow Loop Road Extension

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 US 126/Quince Street

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Table with columns for Street Name (US 126, Quince Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes.

Table with columns for Volume Module, Count, Date (1 Aug 2035), and weekday pm peak hour. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Table for Critical Gap Module with columns for Critical Gp and FollowUpTim.

Table for Capacity Module with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table for Level Of Service Module with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, and Approach LOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 3 - Willow Loop Road Extension

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #15 US 126/Spruce Street

Average Delay (sec/veh): 22.3 Worst Case Level Of Service: F[146.6]

Table with columns for Street Name (US 126, Spruce Street), Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), and Lanes.

Table with columns for Volume Module, Count, Date (1 Aug 2035), and weekday pm peak hour. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Table for Critical Gap Module with columns for Critical Gp and FollowUpTim.

Table for Capacity Module with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table for Level Of Service Module with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, and Approach LOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 3 - Willow Loop Road Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #16 US 126/North Fork Siuslaw River Road  
\*\*\*\*\*

Average Delay (sec/veh): 4.4 Worst Case Level Of Service: D[ 25.5]  
\*\*\*\*\*

Street Name: US 126 North Fork Siuslaw River Road  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 0 0 0 43 0 100 183 408 0 0 409 64  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 43 0 100 183 408 0 0 409 64  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 0 43 0 100 183 408 0 0 409 64  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 0 0 0 45 0 105 193 429 0 0 431 67  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 0 45 0 105 193 429 0 0 431 67

Critical Gap Module:  
Critical Gp:xxxxx xxxx xxxxx 6.4 6.5 6.2 4.2 xxxx xxxxx xxxxx xxxx xxxxx  
FollowUpTim:xxxxx xxxx xxxxx 3.5 4.0 3.3 2.3 xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:  
Cnflct Vol: xxxx xxxx xxxxx 1280 1279 464 498 xxxx xxxxx xxxx xxxx xxxxx  
Potent Cap.: xxxx xxxx xxxxx 182 165 596 1046 xxxx xxxxx xxxx xxxx xxxxx  
Move Cap.: xxxx xxxx xxxxx 156 135 596 1046 xxxx xxxxx xxxx xxxx xxxxx  
Volume/Cap: xxxx xxxx xxxxx 0.29 0.00 0.18 0.18 xxxx xxxx xxxx xxxx xxxxx

Level Of Service Module:  
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.7 xxxx xxxxx xxxx xxxx xxxxx  
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx 9.2 xxxx xxxxx xxxxx xxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx 323 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
SharedQueue:xxxxx xxxx xxxxx xxxxx 2.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 25.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shared LOS: \* \* \* \* \* D \* \* \* \* \*  
ApproachDel: xxxxxx 25.5 xxxxxx xxxxxx  
ApproachLOS: \* \* \* \* \* D \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 3 - Willow Loop Road Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #301 Willow Loop Extension/North Fork Siuslaw River Road  
\*\*\*\*\*

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: C[ 19.3]  
\*\*\*\*\*

Street Name: Willow Loop Extension North Fork Siuslaw River Road  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 96 470 0 0 278 26 48 0 72 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 96 470 0 0 278 26 48 0 72 0 0 0  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 96 470 0 0 278 26 48 0 72 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90  
PHF Volume: 107 522 0 0 309 29 53 0 80 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 107 522 0 0 309 29 53 0 80 0 0 0

Critical Gap Module:  
Critical Gp: 4.1 xxxx xxxxx xxxxx xxxx xxxxx 6.5 6.6 6.3 xxxxx xxxx xxxxx  
FollowUpTim: 2.2 xxxx xxxxx xxxxx xxxx xxxxx 3.6 4.1 3.4 xxxxx xxxx xxxxx

Capacity Module:  
Cnflct Vol: 338 xxxx xxxxx xxxx xxxx xxxxx 1059 1060 323 xxxx xxxx xxxxx  
Potent Cap.: 1233 xxxx xxxxx xxxx xxxx xxxxx 244 220 708 xxxx xxxx xxxxx  
Move Cap.: 1233 xxxx xxxxx xxxx xxxx xxxxx 227 200 708 xxxx xxxx xxxxx  
Volume/Cap: 0.09 xxxx xxxx xxxx xxxx xxxxx 0.23 0.00 0.11 xxxx xxxx xxxxx

Level Of Service Module:  
2Way95thQ: 0.3 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
Control Del: 8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
LOS by Move: A \* \* \* \* \* \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 383 xxxxx xxxx xxxx xxxxx  
SharedQueue: 0.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 1.5 xxxxx xxxxx xxxx xxxxx  
Shrd ConDel: 8.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 19.3 xxxxx xxxxx xxxx xxxxx  
Shared LOS: A \* \* \* \* \* \* \* \* \* \* C \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 19.3 xxxxxx  
ApproachLOS: \* \* \* \* \* C \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 3 - Willow Loop Road Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #302 Willow Loop Extension/Willow Loop Road
Average Delay (sec/veh): 6.9 Worst Case Level Of Service: A[ 9.4]

Table with columns for Street Name, Approach, Movement, Control, Rights, and Lanes. Rows include Willow Loop Extension and Willow Loop Road with various approach and movement details.

Table with columns for Volume Module, Count, Date, and weekday pm peak hour. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Table for Critical Gap Module with columns for Critical Gp, FollowUpTim, and values. Rows show critical gap and follow-up time for different approaches.

Table for Capacity Module with columns for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap. Rows show conflict volume, potential capacity, move capacity, and volume-to-capacity ratio.

Table for Level Of Service Module with columns for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS. Rows show level of service and various delay and queue metrics.

Note: Queue reported is the number of cars per lane.

Kittelton & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Alternative 4 - 8th Street Extension

Scenario Report

Scenario: pm  
 Command: pm  
 Volume: pm  
 Geometry: pm  
 Impact Fee: Default Impact Fee  
 Trip Generation: pm  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: Default Configuration

Kittelton & Associates, Inc. - Project #10103  
 Florence TSP - Florence, OR  
 Alternative 4 - 8th Street Extension

Impact Analysis Report  
 Level Of Service

| Intersection                        | Base        |              | Future      |              | Change<br>in |
|-------------------------------------|-------------|--------------|-------------|--------------|--------------|
|                                     | Del/<br>LOS | V/<br>Veh C  | Del/<br>LOS | V/<br>Veh C  |              |
| # 1 35th Street/Rhododendren Drive  | B           | 14.6 0.335   | B           | 14.6 0.335   | + 0.000 D/V  |
| # 2 9th Street/Rhododendren Drive   | B           | 10.5 0.216   | B           | 10.5 0.216   | + 0.000 D/V  |
| # 3 15th Street/Kingwood Street     | B           | 12.6 0.094   | B           | 12.6 0.094   | + 0.000 D/V  |
| # 4 9th Street/Kingwood Street      | F           | 562.5 1.179  | F           | 562.5 1.179  | + 0.000 D/V  |
| # 5 Hecata Beach Road/US 101        | D           | 31.6 0.574   | D           | 31.6 0.574   | + 0.000 D/V  |
| # 6 Munsel Lake Road/US 101         | F           | OVREFL 3.297 | F           | OVREFL 3.297 | + 0.000 D/V  |
| # 7 35th Street/US 101              | B           | 16.8 0.681   | B           | 16.8 0.681   | + 0.000 D/V  |
| # 8 30th Street/US 101              | F           | 158.5 0.535  | F           | 158.5 0.535  | + 0.000 D/V  |
| # 9 27th Street/US 101              | F           | 759.1 2.103  | F           | 759.1 2.103  | + 0.000 D/V  |
| # 10 15th Street/US 101             | F           | OVREFL 2.388 | F           | OVREFL 2.388 | + 0.000 D/V  |
| # 11 US 126/US 101                  | D           | 35.3 0.794   | D           | 35.3 0.794   | + 0.000 D/V  |
| # 12 Rhododendren Drive/US 101      | A           | 10.0 0.521   | A           | 10.0 0.521   | + 0.000 D/V  |
| # 13 2nd Street/US 101              | E           | 40.6 0.332   | E           | 40.6 0.332   | + 0.000 D/V  |
| # 14 US 126/Quince Street           | C           | 16.5 0.316   | C           | 16.5 0.316   | + 0.000 D/V  |
| # 15 US 126/Spruce Street           | F           | 700.9 1.867  | F           | 700.9 1.867  | + 0.000 D/V  |
| # 16 US 126/North Fork Siuslaw Rive | D           | 31.7 0.366   | D           | 31.7 0.366   | + 0.000 D/V  |
| #401 8th Stret/Quince Street        | B           | 12.6 0.155   | B           | 12.6 0.155   | + 0.000 D/V  |
| #402 8th Street/US 101              | F           | OVREFL 3.730 | F           | OVREFL 3.730 | + 0.000 D/V  |
| #403 8th Stret/Spruce Street        | A           | 8.6 0.073    | A           | 8.6 0.073    | + 0.000 D/V  |



Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 35th Street/Rhododendren Drive  
Average Delay (sec/veh): 7.2 Worst Case Level Of Service: B[ 14.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 35th Street and Rhododendren Drive.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 9th Street/Rhododendren Drive  
Average Delay (sec/veh): 5.6 Worst Case Level Of Service: B[ 10.5]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 9th Street and Rhododendren Drive.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 4 - 8th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 15th Street/Kingwood Street

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: B[ 12.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 15th Street and Kingwood Street.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for 15th Street and Kingwood Street.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for 15th Street and Kingwood Street.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for 15th Street and Kingwood Street.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 4 - 8th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 9th Street/Kingwood Street

Average Delay (sec/veh): 138.2 Worst Case Level Of Service: F[562.5]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 9th Street and Kingwood Street.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for 9th Street and Kingwood Street.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for 9th Street and Kingwood Street.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for 9th Street and Kingwood Street.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 Hecata Beach Road/US 101
Average Delay (sec/veh): 5.9 Worst Case Level Of Service: D[ 31.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Hecata Beach Road and US 101.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows for Hecata Beach Road and US 101.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Hecata Beach Road and US 101.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Hecata Beach Road and US 101.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for Hecata Beach Road and US 101.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 4 - 8th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Munsel Lake Road/US 101
Average Delay (sec/veh): 161.8 Worst Case Level Of Service: F[1263.0]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for Munsel Lake Road and US 101.

Table with columns: Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume. Rows for Munsel Lake Road and US 101.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Munsel Lake Road and US 101.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Munsel Lake Road and US 101.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS. Rows for Munsel Lake Road and US 101.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #7 35th Street/US 101  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.681  
Loss Time (sec): 12 Average Delay (sec/veh): 16.8  
Optimal Cycle: 56 Level Of Service: B  
\*\*\*\*\*

| Street Name: |  | 35th Street |     |     |             |     |     | US 101     |     |     |            |     |     |   |   |   |
|--------------|--|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|---|---|---|
| Approach:    |  | North Bound |     |     | South Bound |     |     | East Bound |     |     | West Bound |     |     |   |   |   |
| Movement:    |  | L           | T   | R   | L           | T   | R   | L          | T   | R   | L          | T   | R   |   |   |   |
| Control:     |  | Prot+Permit |     |     | Prot+Permit |     |     | Permitted  |     |     | Permitted  |     |     |   |   |   |
| Rights:      |  | Include     |     |     | Include     |     |     | Include    |     |     | Include    |     |     |   |   |   |
| Min. Green:  |  | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   | 0          | 0   | 0   |   |   |   |
| Y+R:         |  | 4.0         | 4.0 | 4.0 | 4.0         | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 |   |   |   |
| Lanes:       |  | 1           | 0   | 1   | 1           | 0   | 1   | 0          | 1   | 1   | 0          | 1   | 0   | 0 | 1 | 0 |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:     | 173  | 1111 | 56   | 55   | 973  | 110  | 134  | 27   | 142  | 37   | 18   | 44   |
| Growth Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:  | 173  | 1111 | 56   | 55   | 973  | 110  | 134  | 27   | 142  | 37   | 18   | 44   |
| Added Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut:  | 173  | 1111 | 56   | 55   | 973  | 110  | 134  | 27   | 142  | 37   | 18   | 44   |
| User Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:      | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:   | 182  | 1169 | 59   | 58   | 1024 | 116  | 141  | 28   | 149  | 39   | 19   | 46   |
| Reduct Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:  | 182  | 1169 | 59   | 58   | 1024 | 116  | 141  | 28   | 149  | 39   | 19   | 46   |
| PCE Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 182  | 1169 | 59   | 58   | 1024 | 116  | 141  | 28   | 149  | 39   | 19   | 46   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 |
| Adjustment: | 0.93 | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.70 | 0.86 | 0.84 | 0.45 | 0.87 | 0.87 |
| Lanes:      | 1.00 | 1.90 | 0.10 | 1.00 | 1.80 | 0.20 | 1.00 | 0.16 | 0.84 | 1.00 | 0.29 | 0.71 |
| Final Sat.: | 1629 | 3080 | 155  | 1614 | 2857 | 323  | 1226 | 236  | 1242 | 791  | 441  | 1077 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.11 | 0.38 | 0.38 | 0.04 | 0.36 | 0.36 | 0.12 | 0.12 | 0.12 | 0.05 | 0.04 | 0.04 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.73 | 0.63 | 0.63 | 0.59 | 0.53 | 0.53 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Volume/Cap:  | 0.44 | 0.60 | 0.60 | 0.20 | 0.68 | 0.68 | 0.65 | 0.68 | 0.68 | 0.28 | 0.24 | 0.24 |
| Delay/Veh:   | 8.7  | 10.4 | 10.4 | 8.5  | 16.9 | 16.9 | 41.4 | 41.9 | 41.9 | 33.2 | 32.4 | 32.4 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 8.7  | 10.4 | 10.4 | 8.5  | 16.9 | 16.9 | 41.4 | 41.9 | 41.9 | 33.2 | 32.4 | 32.4 |
| LOS by Move: | A    | B    | B    | A    | B    | B    | D    | D    | D    | C    | C    | C    |
| HCM2kAvgQ:   | 2    | 10   | 10   | 1    | 13   | 13   | 5    | 6    | 6    | 1    | 2    | 2    |

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
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Note: Queue reported is the number of cars per lane.  
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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Note: Queue reported is the number of cars per lane.  
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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #12 Rhododendren Drive/US 101  
\*\*\*\*\*

Cycle (sec): 90 Critical Vol./Cap. (X): 0.521  
Loss Time (sec): 12 Average Delay (sec/veh): 10.0  
Optimal Cycle: 42 Level Of Service: A  
\*\*\*\*\*

Street Name: Rhododendren Drive US 101

| Approach:   | North Bound |     |     | South Bound |     |     | East Bound |     |     | West Bound |     |     |
|-------------|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------------|-----|-----|
| Movement:   | L           | T   | R   | L           | T   | R   | L          | T   | R   | L          | T   | R   |
| Control:    | Prot+Permit |     |     | Prot+Permit |     |     | Permitted  |     |     | Permitted  |     |     |
| Rights:     | Include     |     |     | Include     |     |     | Include    |     |     | Include    |     |     |
| Min. Green: | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   | 0          | 0   | 0   |
| Y+R:        | 4.0         | 4.0 | 4.0 | 4.0         | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 | 4.0        | 4.0 | 4.0 |
| Lanes:      | 1           | 0   | 1   | 1           | 0   | 1   | 0          | 0   | 1   | 0          | 0   | 1   |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:     | 37   | 946  | 8    | 5    | 956  | 44   | 72   | 8    | 36   | 5    | 19   | 17   |
| Growth Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:  | 37   | 946  | 8    | 5    | 956  | 44   | 72   | 8    | 36   | 5    | 19   | 17   |
| Added Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut:  | 37   | 946  | 8    | 5    | 956  | 44   | 72   | 8    | 36   | 5    | 19   | 17   |
| User Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:      | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:   | 39   | 996  | 8    | 5    | 1006 | 46   | 76   | 8    | 38   | 5    | 20   | 18   |
| Reduct Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:  | 39   | 996  | 8    | 5    | 1006 | 46   | 76   | 8    | 38   | 5    | 20   | 18   |
| PCE Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Volume: | 39   | 996  | 8    | 5    | 1006 | 46   | 76   | 8    | 38   | 5    | 20   | 18   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 | 1750 |
| Adjustment: | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.73 | 0.73 | 0.73 | 0.92 | 0.92 | 0.91 |
| Lanes:      | 1.00 | 1.98 | 0.02 | 1.00 | 1.91 | 0.09 | 0.62 | 0.07 | 0.31 | 0.12 | 0.46 | 0.42 |
| Final Sat.: | 1599 | 3169 | 27   | 1599 | 3036 | 140  | 790  | 88   | 395  | 195  | 742  | 664  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.02 | 0.31 | 0.31 | 0.00 | 0.33 | 0.33 | 0.10 | 0.10 | 0.10 | 0.03 | 0.03 | 0.03 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.73 | 0.68 | 0.68 | 0.64 | 0.64 | 0.64 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Volume/Cap:  | 0.12 | 0.47 | 0.47 | 0.02 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.15 | 0.15 | 0.15 |
| Delay/Veh:   | 4.9  | 7.1  | 7.1  | 5.9  | 9.2  | 9.2  | 35.2 | 35.2 | 35.2 | 31.0 | 31.0 | 31.0 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 4.9  | 7.1  | 7.1  | 5.9  | 9.2  | 9.2  | 35.2 | 35.2 | 35.2 | 31.0 | 31.0 | 31.0 |
| LOS by Move: | A    | A    | A    | A    | A    | A    | D    | D    | D    | C    | C    | C    |
| HCM2kAvgQ:   | 0    | 7    | 7    | 0    | 8    | 8    | 4    | 4    | 4    | 1    | 1    | 1    |

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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Note: Queue reported is the number of cars per lane.  
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Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #13 2nd Street/US 101  
\*\*\*\*\*  
Average Delay (sec/veh): 1.3 Worst Case Level Of Service: E[ 40.6]  
\*\*\*\*\*

| Street Name: | 2nd Street   |   |              |   | US 101     |   |            |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------|--------------|---|--------------|---|------------|---|------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach:    | North Bound  |   | South Bound  |   | East Bound |   | West Bound |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Movement:    | L            | T | R            | L | T          | R | L          | T | R |   |   |   |   |   |   |   |   |   |   |   |
| Control:     | Uncontrolled |   | Uncontrolled |   | Stop Sign  |   | Stop Sign  |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Rights:      | Include      |   | Include      |   | Include    |   | Include    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lanes:       | 1            | 0 | 1            | 1 | 0          | 1 | 0          | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour

|              | 0    | 818  | 20   | 40   | 867  | 0    | 0    | 0    | 0    | 39   | 0    | 10   |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 818  | 20   | 40   | 867  | 0    | 0    | 0    | 0    | 39   | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 818  | 20   | 40   | 867  | 0    | 0    | 0    | 0    | 39   | 0    | 10   |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| In-Process:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 818  | 20   | 40   | 867  | 0    | 0    | 0    | 0    | 39   | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| PHF Volume:  | 0    | 861  | 21   | 42   | 913  | 0    | 0    | 0    | 0    | 41   | 0    | 11   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| FinalVolume: | 0    | 861  | 21   | 42   | 913  | 0    | 0    | 0    | 0    | 41   | 0    | 11   |

Critical Gap Module:

| Critical Gp: | xxxxx | xxxx | xxxxx | 4.2 | xxxx | xxxxx | 7.5 | 6.5 | 6.9 | 6.8 | 6.5 | 6.9 |
|--------------|-------|------|-------|-----|------|-------|-----|-----|-----|-----|-----|-----|
| FollowUpTim: | xxxxx | xxxx | xxxxx | 2.3 | xxxx | xxxxx | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 |

Capacity Module:

| Cnflct Vol:  | xxxx | xxxx | xxxxx | 887  | xxxx | xxxxx | 1432 | 1889 | 463  | 1419 | 1878 | 446  |
|--------------|------|------|-------|------|------|-------|------|------|------|------|------|------|
| Potent Cap.: | xxxx | xxxx | xxxxx | 740  | xxxx | xxxxx | 96   | 71   | 551  | 130  | 72   | 565  |
| Move Cap.:   | xxxx | xxxx | xxxxx | 737  | xxxx | xxxxx | 90   | 66   | 548  | 124  | 67   | 563  |
| Volume/Cap:  | xxxx | xxxx | xxxx  | 0.06 | xxxx | xxxx  | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 | 0.02 |

Level Of Service Module:

| 2Way95thQ:   | xxxx   | xxxx | xxxxx | 0.2    | xxxx | xxxxx | xxxx   | xxxx | xxxxx | 1.3   | xxxx | xxxxx |
|--------------|--------|------|-------|--------|------|-------|--------|------|-------|-------|------|-------|
| Control Del: | xxxxx  | xxxx | xxxxx | 10.2   | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | 48.0  | xxxx | xxxxx |
| LOS by Move: | *      | *    | *     | B      | *    | *     | *      | *    | *     | E     | *    | *     |
| Movement:    | LT     | LTR  | RT    | LT     | LTR  | RT    | LT     | LTR  | RT    | LT    | LTR  | RT    |
| Shared Cap.: | xxxx   | xxxx | xxxxx | xxxx   | xxxx | xxxxx | xxxx   | 0    | xxxxx | xxxx  | xxxx | 563   |
| SharedQueue: | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx | xxxx | 0.1   |
| Shrd ConDel: | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx | xxxx | 11.5  |
| Shared LOS:  | *      | *    | *     | *      | *    | *     | *      | *    | *     | *     | *    | B     |
| ApproachDel: | xxxxxx |      |       | xxxxxx |      |       | xxxxxx |      |       | 40.6  |      |       |
| ApproachLOS: | *      |      |       | *      |      |       | *      |      |       | E     |      |       |

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*



Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #14 US 126/Quince Street  
\*\*\*\*\*

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: C [ 16.5]  
\*\*\*\*\*

Street Name: US 126 Quince Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 0 0 137 0 0 20 0 600 46 0 448 215  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 137 0 0 20 0 600 46 0 448 215  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 137 0 0 20 0 600 46 0 448 215  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 0 0 144 0 0 21 0 632 48 0 472 226  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 144 0 0 21 0 632 48 0 472 226

Critical Gap Module:  
Critical Gp:xxxxx xxxx 6.3 xxxxx xxxx 6.2 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim:xxxxx xxxx 3.3 xxxxx xxxx 3.3 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:  
Cnflct Vol: xxxxx xxxxx 660 xxxxx xxxxx 589 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx 458 xxxxx xxxxx 506 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx xxxxx 456 xxxxx xxxxx 505 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Volume/Cap: xxxxx xxxxx 0.32 xxxxx xxxxx 0.04 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:  
2Way95thQ: xxxxx xxxxx 1.3 xxxxx xxxxx 0.1 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Control Del:xxxxx xxxxx 16.5 xxxxx xxxxx 12.4 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* C \* \* B \* \* \* \* \* \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
SharedQueue:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd ConDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \*  
ApproachDel: 16.5 12.4 xxxxxxx xxxxxxx  
ApproachLOS: C B \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #15 US 126/Spruce Street  
\*\*\*\*\*

Average Delay (sec/veh): 97.3 Worst Case Level Of Service: F[700.9]  
\*\*\*\*\*

Street Name: US 126 Spruce Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1! 0 0 0 0 1! 0 0 1 0 0 1 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 7 15 34 86 17 116 177 573 4 53 516 36  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 7 15 34 86 17 116 177 573 4 53 516 36  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 7 15 34 86 17 116 177 573 4 53 516 36  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 7 16 36 91 18 122 186 603 4 56 543 38  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 7 16 36 91 18 122 186 603 4 56 543 38

Critical Gap Module:  
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxxx xxxxx 4.2 xxxxx xxxxx  
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxxx xxxxx 2.3 xxxxx xxxxx

Capacity Module:  
Cnflct Vol: 1722 1671 605 1677 1654 562 581 xxxxx xxxxx 607 xxxxx xxxxx  
Potent Cap.: 71 97 501 76 99 528 983 xxxxx xxxxx 947 xxxxx xxxxx  
Move Cap.: 37 74 501 48 75 528 983 xxxxx xxxxx 947 xxxxx xxxxx  
Volume/Cap: 0.20 0.21 0.07 1.87 0.24 0.23 0.19 xxxxx xxxxx 0.06 xxxxx xxxxx

Level Of Service Module:  
2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.7 xxxxx xxxxx 0.2 xxxxx xxxxx  
Control Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.5 xxxxx xxxxx 9.0 xxxxx xxxxx  
LOS by Move: \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx 121 xxxxx xxxxx 99 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
SharedQueue:xxxxx 2.2 xxxxx xxxxx 20.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd ConDel:xxxxx 59.8 xxxxx xxxxx 701 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* F \* \* \* F \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: 59.8 700.9 xxxxxxx xxxxxxx  
ApproachLOS: F F \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #16 US 126/North Fork Siuslaw River Road

Average Delay (sec/veh): 5.7 Worst Case Level Of Service: D[ 31.7]

Street Name: US 126 North Fork Siuslaw River Road  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 0 0 0 0 0 1 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 0 0 0 49 0 114 211 398 0 0 418 59  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 49 0 114 211 398 0 0 418 59  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 0 49 0 114 211 398 0 0 418 59  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 0 0 0 52 0 120 222 419 0 0 440 62  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 0 52 0 120 222 419 0 0 440 62

Critical Gap Module:  
Critical Gp:xxxxx xxxx xxxxx 6.4 6.5 6.2 4.2 xxxx xxxxx xxxxx xxxx xxxxx  
FollowUpTim:xxxxx xxxx xxxxx 3.5 4.0 3.3 2.3 xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:  
Cnflct Vol: xxxx xxxx xxxxx 1335 1334 471 502 xxxx xxxxx xxxx xxxx xxxxx  
Potent Cap.: xxxx xxxx xxxxx 169 153 591 1042 xxxx xxxxx xxxx xxxx xxxxx  
Move Cap.: xxxx xxxx xxxxx 141 120 591 1042 xxxx xxxxx xxxx xxxx xxxxx  
Volume/Cap: xxxx xxxx xxxxx 0.37 0.00 0.20 0.21 xxxx xxxx xxxx xxxx xxxxx

Level Of Service Module:  
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.8 xxxx xxxxx xxxx xxxx xxxxx  
Control Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 9.4 xxxx xxxxx xxxxx xxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx 301 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
SharedQueue:xxxxx xxxx xxxxx xxxxx 3.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 31.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shared LOS: \* \* \* \* \* D \* \* \* \* \*  
ApproachDel: xxxxxx 31.7 xxxxxx xxxxxx  
ApproachLOS: \* \* \* \* \* D \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103  
Florence TSP - Florence, OR  
Alternative 4 - 8th Street Extension

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #401 8th Stret/Quince Street

Average Delay (sec/veh): 10.6 Worst Case Level Of Service: B[ 12.6]

Street Name: 8th Street Quince Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1! 0 0 0 0 1! 0 0 0 0 1! 0 0

Volume Module: >> Count Date: 1 Aug 2035 << weekday pm peak hour  
Base Vol: 69 91 52 2 72 2 2 8 11 75 3 2  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 69 91 52 2 72 2 2 8 11 75 3 2  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 69 91 52 2 72 2 2 8 11 75 3 2  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90  
PHF Volume: 77 101 58 2 80 2 2 9 12 83 3 2  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 77 101 58 2 80 2 2 9 12 83 3 2

Critical Gap Module:  
Critical Gp: 7.2 6.6 6.3 7.1 6.5 6.2 4.1 xxxx xxxxx 4.2 xxxx xxxxx  
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx 2.3 xxxx xxxxx

Capacity Module:  
Cnflct Vol: 232 196 19 278 201 8 10 xxxx xxxxx 21 xxxx xxxxx  
Potent Cap.: 717 694 1051 672 694 1071 1597 xxxx xxxxx 1550 xxxx xxxxx  
Move Cap.: 620 652 1047 532 651 1067 1592 xxxx xxxxx 1550 xxxx xxxxx  
Volume/Cap: 0.12 0.16 0.06 0.00 0.12 0.00 0.00 xxxx xxxx 0.05 xxxx xxxxx

Level Of Service Module:  
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx 0.0 xxxx xxxxx 0.2 xxxx xxxxx  
Control Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 7.3 xxxx xxxxx 7.5 xxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx 706 xxxxx xxxx 654 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
SharedQueue:xxxxx 1.5 xxxxx xxxxx 0.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shrd ConDel:xxxxx 12.6 xxxxx xxxxx 11.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx  
Shared LOS: \* B \* \* \* B \* \* \* \* \*  
ApproachDel: 12.6 11.3 xxxxxx xxxxxx  
ApproachLOS: B B \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 4 - 8th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #402 8th Street/US 101
Average Delay (sec/veh): 77.2 Worst Case Level Of Service: F[1760.5]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 8th Street and US 101.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS.

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10103
Florence TSP - Florence, OR
Alternative 4 - 8th Street Extension

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #403 8th Stret/Spruce Street
Average Delay (sec/veh): 7.6 Worst Case Level Of Service: A[ 8.6]

Table with columns: Street Name, Approach, Movement, Control, Rights, Lanes. Rows for 8th Street and Spruce Street.

Table with columns: Volume Module, Count, Date, weekday, pm, peak, hour. Rows for Base Vol, Growth Adj, Initial Bse, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Table with columns: Critical Gap Module, Critical Gp, FollowUpTim. Rows for Critical Gp and FollowUpTim.

Table with columns: Capacity Module, Cnflct Vol, Potent Cap., Move Cap., Volume/Cap. Rows for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

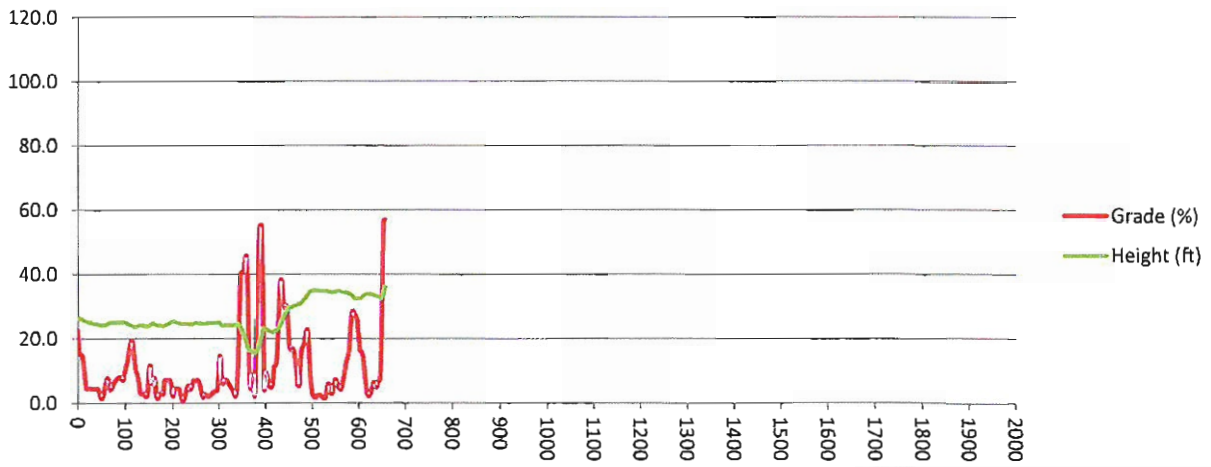
Table with columns: Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS. Rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, Approach Del, Approach LOS.

Note: Queue reported is the number of cars per lane.

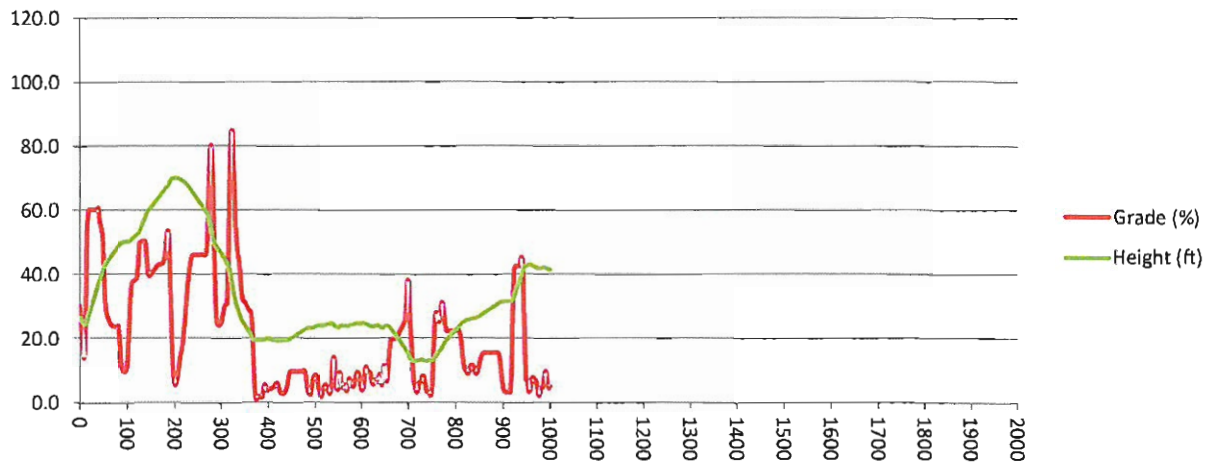
Attachment B

Centerline Grade and Height of  
West 9<sup>th</sup> Street Local Street  
Network

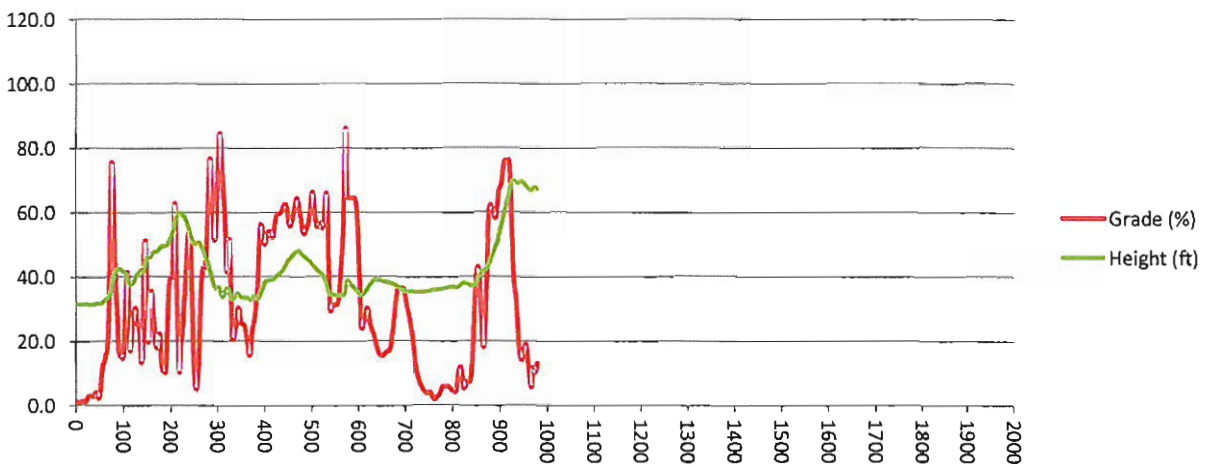
### 7th St



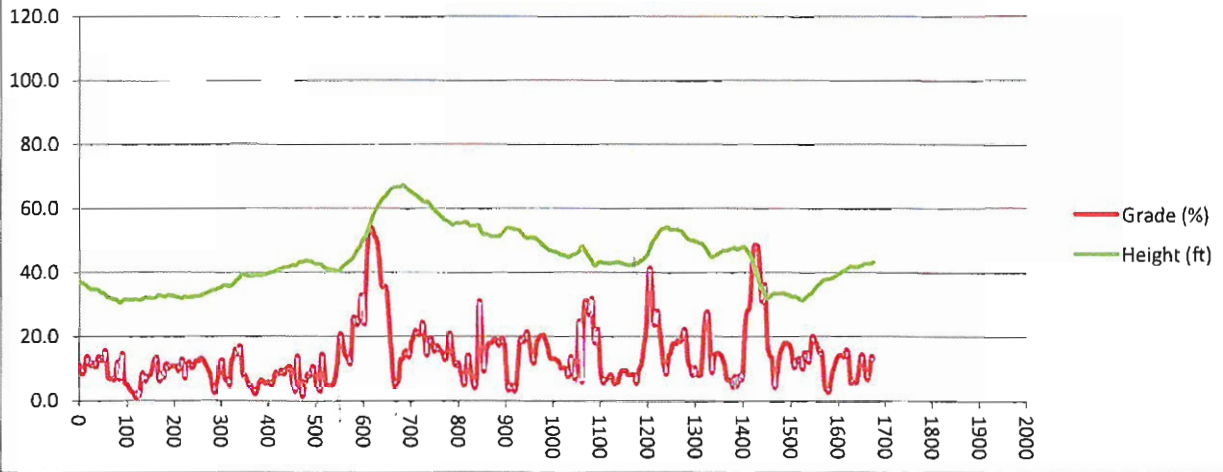
### 6th St



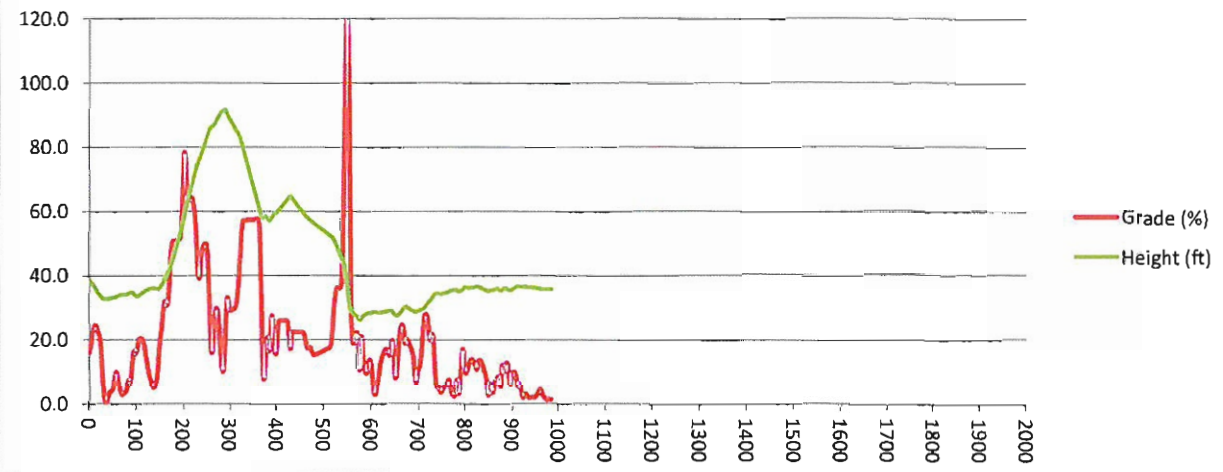
### Driftwood St



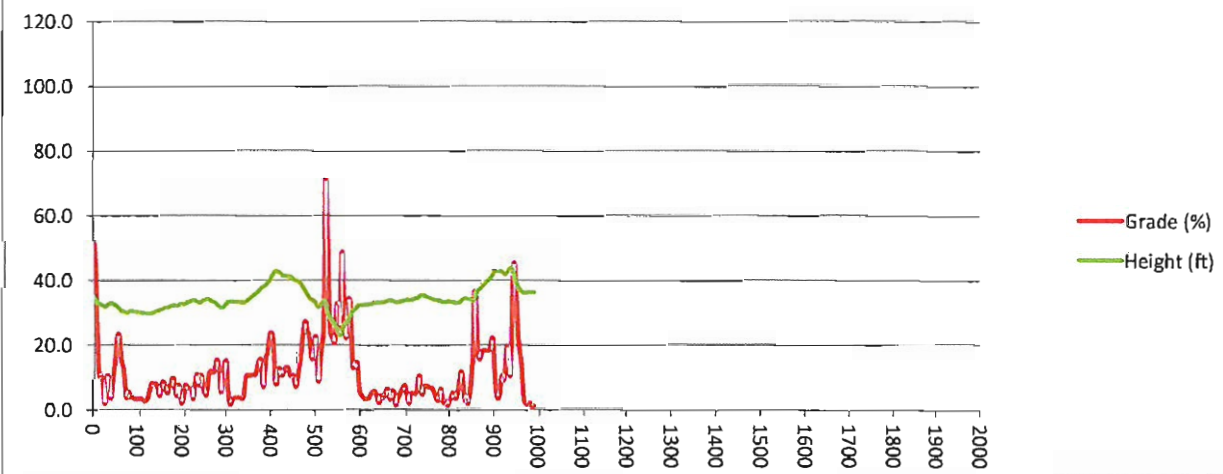
### 10th Street



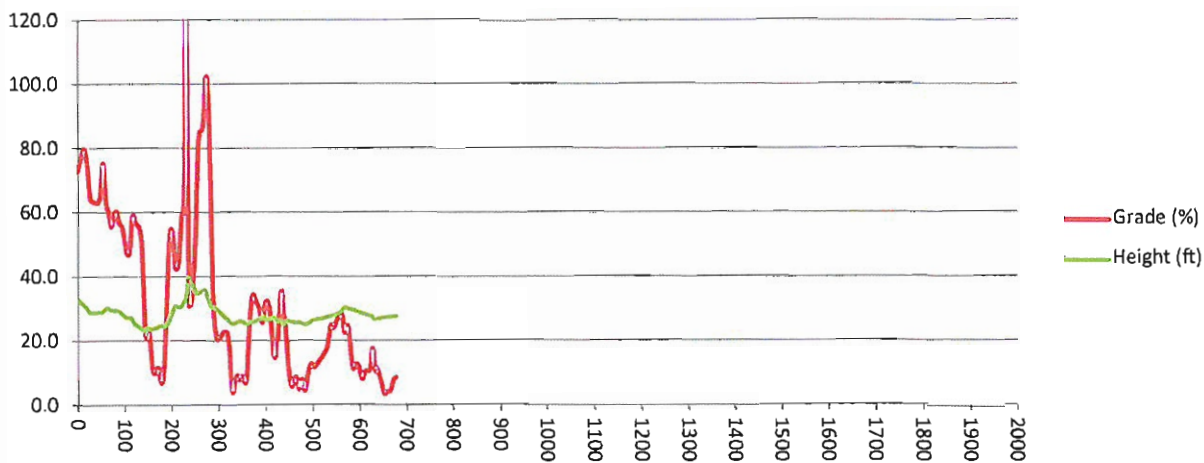
### 11th Street



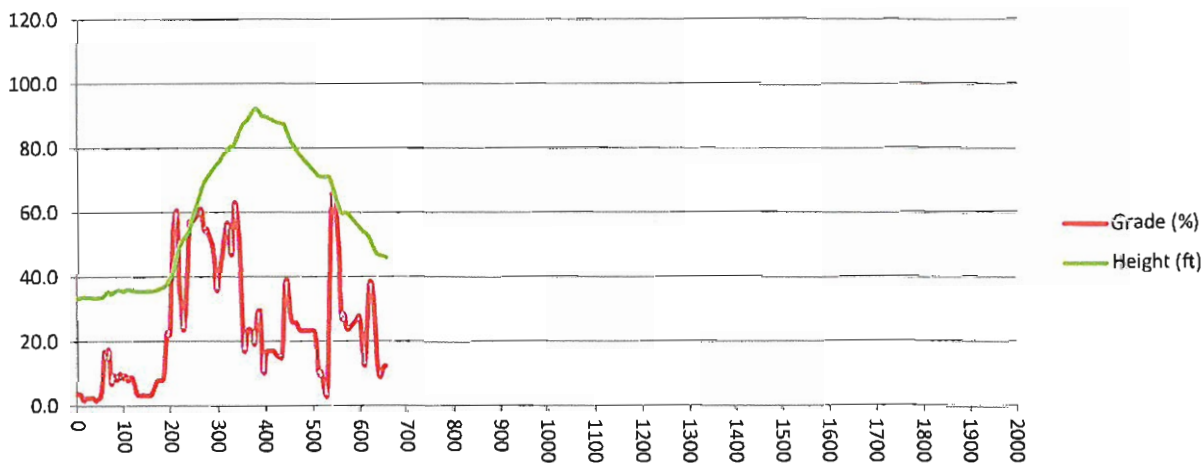
### 12th Street



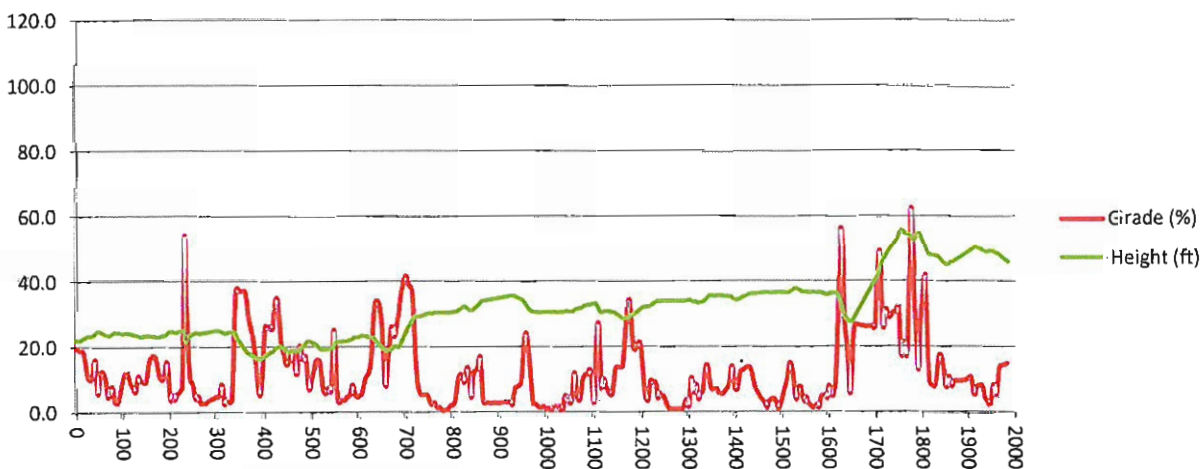
### Elm St South



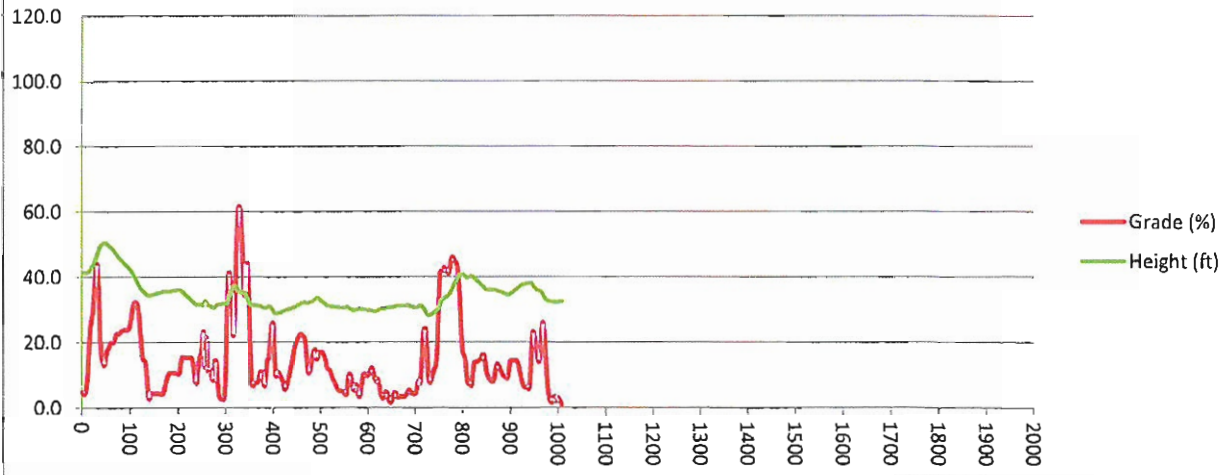
### Elm St North



### Fir St



# Greenwood St

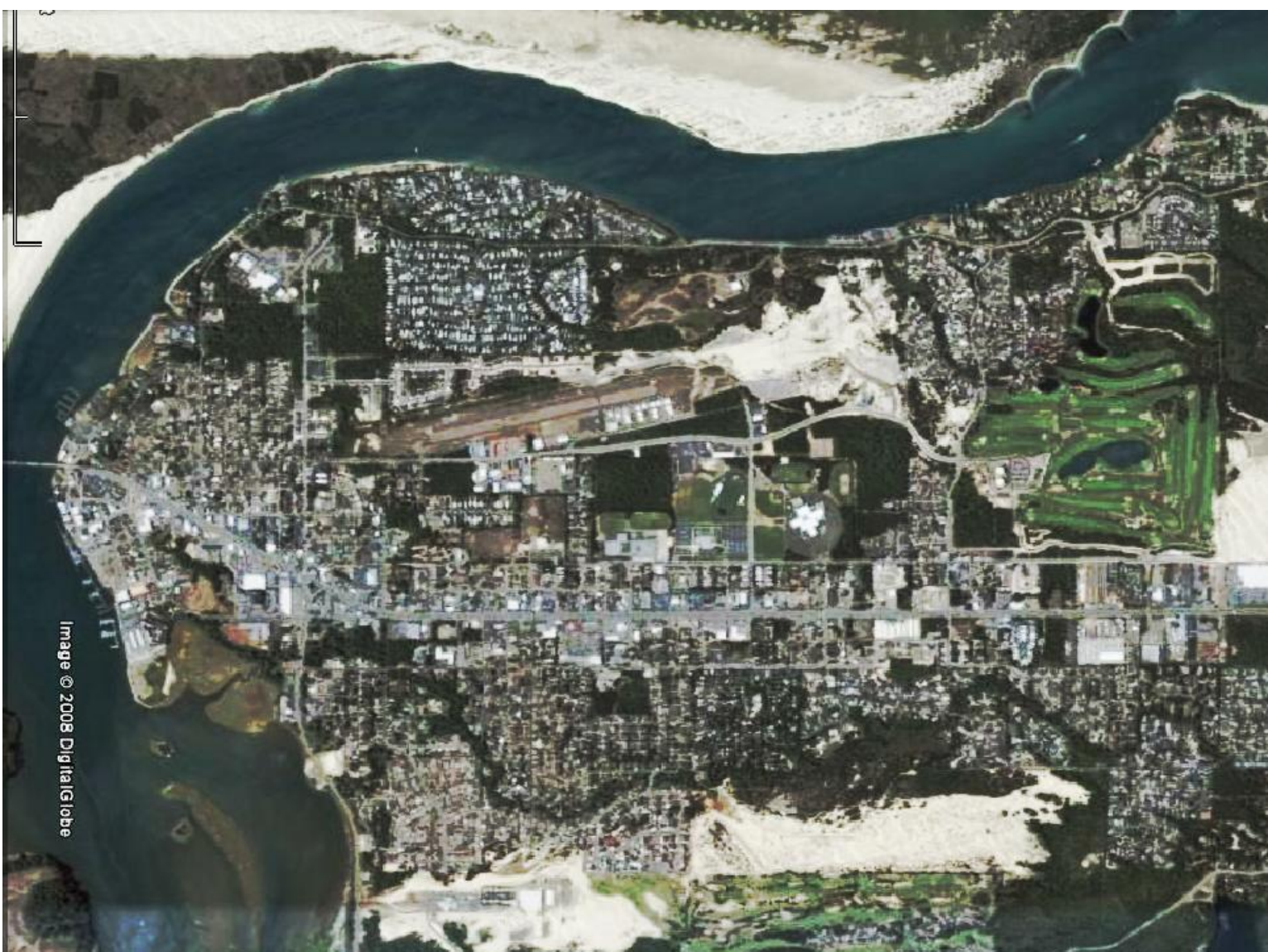




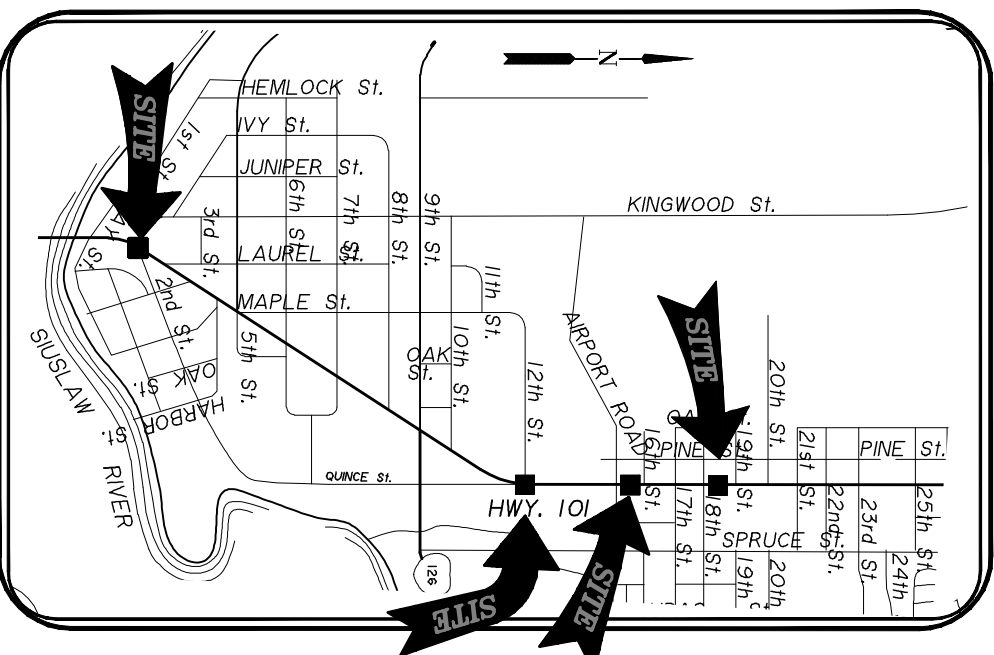
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**CITY OF FLORENCE  
PEDESTRIAN ISLANDS  
FOUR CROSSINGS  
HIGHWAY 101  
FLORENCE, OREGON**



**60%**



**VICINITY MAP**  
NOT TO SCALE

**REGISTERED PROFESSIONAL ENGINEER**  
DAMIEN GILBERT  
CONSULTANT  
EXPIRES: JUNE 30, 2009

CITY JOB NO. XXXX

|  |  |  |  |
|--|--|--|--|
| DATE: FEBRUARY 9, 2009<br>SCALE: 1" = 2000'<br>DRAWN BY: MLD<br>DESIGNER: DG<br>CHECKED BY: DG<br>PROJECT NUMBER: 08-01K<br>SHEET NO.: 1 | Branch Engineering, Inc.<br>310 Fifth Street<br>Springfield, Oregon 97477<br>(541)746-0637 FAX (541)746-0389<br>branchadmin@branchengineering.com<br>Civil • Structures • Transportation • Surveying | PROJECT TITLE:<br><b>PEDESTRIAN CROSSINGS<br/>FOUR INTERSECTIONS &amp; HWY 101<br/>FLORENCE, OREGO</b> | REVISIONS<br>DATE: REVISION DESCRIPTION: BY: |
|  |  | DESCRIPTION:<br><b>COVER SHEET</b>   |  |

**EROSION PREVENTION & SEDIMENT CONTROL NOTES**

**GENERAL NOTES**

1. THE EROSION CONTROL MEASURES DESCRIBED ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD THESE MEASURES SHALL BE UPGRADED AS NEEDED TO: (1) ENSURE THAT SEDIMENT DOES NOT LEAVE THE SITE, AND (2) ENSURE EXISTING VEGETATION ON SITE SHALL BE PRESERVED UNTIL ALL GRADING IS COMPLETE. THE INSTALLED MEASURES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED. ENHANCED AND/OR UPGRADED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
2. WHEN COMPLETED, EXPOSED SLOPES SHALL BE GIVEN APPROPRIATE PERMANENT PROTECTION AS SOON AS PRACTICAL, e.g. GRASS OR OTHER GROUND COVER, MULCHING, NETTING, OR STRAW MATS OR A COMBINATION OF THESE MAY BE USED TO ENSURE ROOTING AND PROTECTION OF NEW PLANTED GRASS OR OTHER APPROVED VEGETATION.
3. NO DEPOSIT OF MUD, SOIL, SEDIMENT, CONCRETE WASHOUT, TRASH OR OTHER SIMILAR CONSTRUCTION RELATED MATERIAL SHALL BE MADE ONTO PUBLIC RIGHT-OF-WAY OR PRIVATE STREETS OR INTO THE CITY'S STORMWATER SYSTEM AND RELATED NATURAL RESOURCES, EITHER BY DIRECT DEPOSIT, DROPPING, DISCHARGE, EROSION OR TRACKING BY CONSTRUCTION VEHICLES IN EXCESS OF THOSE THAT OCCUR THROUGH NATURAL PROCESSES. ANY SUCH DISCHARGE SHALL BE CLEANED UP AT THE END OF THE CURRENT WORK SHIFT DURING WHICH THE DEPOSIT OCCURRED, OR AT THE END OF THE CURRENT WORK DAY, WHICHEVER COMES FIRST.
- 3a. WASTE MATERIAL REMOVED AS REQUIRED BY THIS PROJECT OR DURING CONSTRUCTION ACTIVITIES SHALL BE PICKED UP AND DISPOSED OF ACCORDING TO APPLICABLE STATE, FEDERAL, AND LOCAL REGULATIONS. AT NO TIME SHALL WASTE MATERIALS BE ALLOWED TO ENTER PUBLIC STORMWATER SYSTEMS.
4. NO RELEASE SHALL BE MADE ONTO THE SITE OF HAZARDOUS SUBSTANCES SUCH AS PAINTS, THINNERS, FUELS, AND OTHER CHEMICALS.
5. SOILS (SAND) AND STOCKPILE AREAS SHALL NOT BE EXPOSED TO PRECIPITATION OR STORMWATER RUNOFF WITHOUT THE PROVISION OF CONTAINMENT. SOIL (SAND) WILL NOT BE STOCKPILED DURING THE WET WEATHER SEASON (OCTOBER 15 THROUGH APRIL 30) WITHOUT CONTAINMENT. ENERGY DISSIPATING AND OTHER MEASURES MAY BE REQUIRED TO SLOW RUNOFF.
6. STREET SWEEPING SHALL BE PERFORMED AS NEEDED OR WHEN DIRECTED BY THE CITY INSPECTOR TO ENSURE PUBLIC RIGHT-OF-WAYS ARE KEPT CLEAN AND FREE OF DEBRIS AND DUST.
7. TEMPORARY GRASS MEASURES, IF USED, MUST BE FULLY ESTABLISHED BY OCTOBER 15 OR ADDITIONAL COVER MEASURES WILL HAVE TO BE IMPLEMENTED UNTIL ADEQUATE GRASS COVERAGE IS ACHIEVED.
8. A SUPPLY OF MATERIALS NECESSARY TO MEET THE OUTCOMES AND IMPLEMENT THE CONSTRUCTION SITE MANAGEMENT PLAN OR OTHER BEST MANAGEMENT EROSION PRACTICES UNDER ALL WEATHER CONDITIONS SHALL BE MAINTAINED AT ALL TIMES ON THE CONSTRUCTION SITE.

**INSPECTION REQUIREMENTS FOR ACTIVE SITES**

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD.
  2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY DURING PERIODS WHEN STORM WATER RUNOFF OCCURS.
  3. STORM WATER RUNOFF DISCHARGE SHALL BE VISUALLY MONITORED AT THE ABOVE FREQUENCY TO EVALUATE THE EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL MEASURES. IF SIGNIFICANT AMOUNTS OF SEDIMENT ARE LEAVING THE WORK AREA, CORRECTIVE ACTION SHALL BE TAKEN TO REDUCE THE DISCHARGE OF SEDIMENTS.
- INSPECTION REQUIREMENTS FOR INACTIVE OR INACCESSIBLE SITES**
1. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, INSPECTIONS SHALL ONLY BE REQUIRED ONCE EVERY TWO (2) WEEKS.
  2. WHEN A SITE IS INACCESSIBLE DUE TO ADVERSE WEATHER CONDITIONS, INSPECTIONS SHALL NOT BE REQUIRED.
  3. PRIOR TO DISCONTINUING ACTIVITIES AT THE SITE, ANY EXPOSED AREA SHALL BE STABILIZED TO PREVENT EROSION. STABILIZATION MAY OCCUR BY APPLYING APPROPRIATE COVER (MULCH, EROSION CONTROL BLANKET, SOIL TACKLING, ETC.) OR BY ESTABLISHING ADEQUATE VEGETATIVE COVER.
  4. PRIOR TO LEAVING AN INACTIVE SITE OR IN ANTICIPATION OF SITE INACCESSIBILITY, EXISTING EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED TO ENSURE THEY ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE OR REPAIR SHALL BE MADE PRIOR TO LEAVING THE SITE.

**WRITTEN RECORDS**

1. A WRITTEN RECORD OF INSPECTIONS FOR AN ACTIVE SITE SHALL BE KEPT ON SITE AND MADE AVAILABLE UPON REQUEST TO D.E.G., ITS AGENT, OR LOCAL MUNICIPALITY.
- DESIGN STANDARD:**  
CONTRACTORS INSTALLATION AND MAINTENANCE SHALL CONFORM TO **DEQ EROSION AND SEDIMENT CONTROL MANUAL** DATED APRIL 2005.

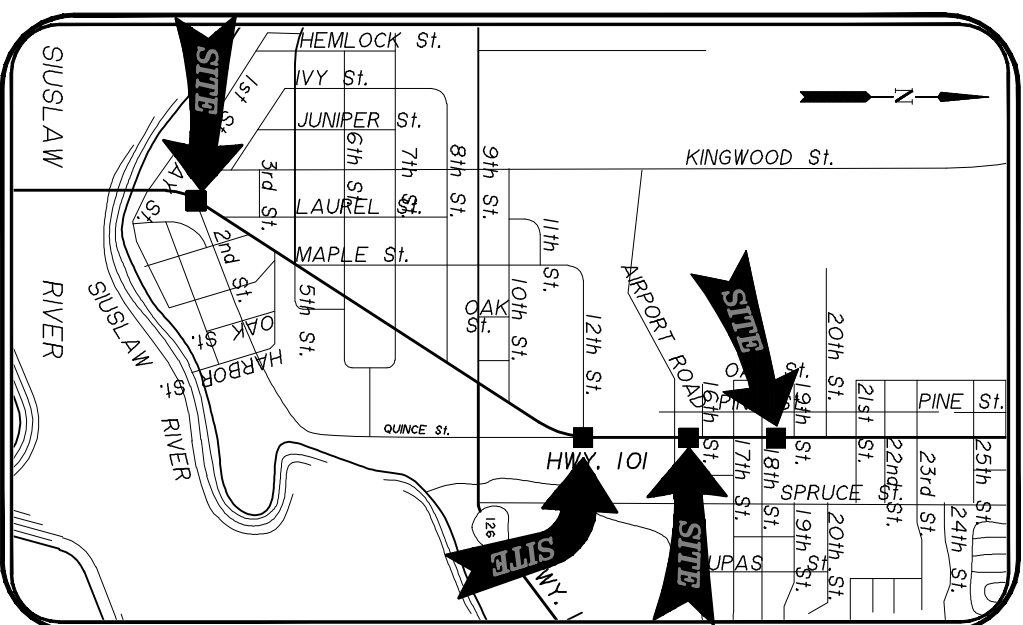
**GENERAL CONSTRUCTION NOTES**

**GENERAL NOTES**

- A. ALL MATERIALS AND WORKMANSHIP OF ITEMS TO BE MAINTAINED BY THE CITY OF FLORENCE WITHIN PUBLIC EASEMENTS OR STREET RIGHT-OF-WAYS SHALL MEET CITY OF FLORENCE PUBLIC WORKS SPECIFICATIONS 2008 OREGON STANDARD SPECIFICATIONS AND DRAWINGS. ALL MATERIALS AND WORKMANSHIP OF IMPROVEMENTS THAT WILL BE PRIVATELY OWNED AND MAINTAINED WILL BE BOUND BY THE CURRENT REQUIREMENTS OF THE STATE OF OREGON AMENDMENTS TO THE UNIFORM PLUMBING CODE CURRENT EDITION OR CITY OF FLORENCE BUILDING DIVISION REQUIREMENTS.
- B. THE LOCATION OF WATER LINES AND UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL CALL THE "ONE-CALL" UTILITY LOCATION NUMBER, 1-800-332-2344, FOR FIELD LOCATION AND DEPTH BEFORE EXCAVATING.
- C. OREGON LAW REQUIRES THE CONTRACTOR TO FOLLOW RULES ADOPTED BY OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OUR 932-004-0010 THROUGH OUR 932-004-0030. THE CONTRACTOR MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 639 232-1987).
- D. CONTRACTOR SHALL FIELD VERIFY UNDERGROUND FACILITIES DURING THE CONSTRUCTION PERIOD. CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE CONNECTION OF ANY UNDERGROUND UTILITY FACILITIES DAMAGED BY CONTRACTOR'S WORK.
- E. THE CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL DEVICES NECESSARY TO PROTECT AND SAFEGUARD THE PUBLIC AND WORKERS AGAINST INJURY AND PROTECT THE WORK AGAINST DAMAGE. ALL TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN PLACE PRIOR TO BEGINNING WORK. ALL TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD, CURRENT EDITION, AS SUPPLEMENTED AND AMENDED BY THE OREGON SUPPLEMENTS, FLAGGING, SHALL BE PERFORMED AS SHOWN IN THE OREGON TEMPORARY TRAFFIC CONTROL HANDBOOK, MAY 2005 EDITION, BY THE OREGON DEPARTMENT OF TRANSPORTATION. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL TRAFFIC CONTROL DEVICES AS FIELD CONDITIONS WARRANT. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN AT THE PRE-CONSTRUCTION CONFERENCE FOR CITY REVIEW AND APPROVAL.
- F. ALL ELEVATIONS SHOWN ARE ON NAD83 VERTICAL DATUM.
- G. THE LIMITS OF CONSTRUCTION SHALL BE STRICTLY ADHERED TO; NO WORK MAY OCCUR IN OR AFFECT WETLANDS.

**SPECIFIC CONSTRUCTION NOTES**

1. REPLACE ALL STRIPING DAMAGED BY CONSTRUCTION ACTIVITIES AT NO COST TO THE OWNER, EXCEPT AS SHOWN ON THE SIGNAL, SIGNING, AND STRIPING PLANS.
2. THE KEEP RIGHT, NO LEFT TURN, PEDESTRIAN CROSSING, AND ARROW SIGNS SHALL MEET THE 2003 EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SPECIFICATIONS AND ALL CURRENT UPDATES. THE STOP HERE FOR FEES SIGN SHALL MEET THE 0301 SIGN POLICY AND GUIDELINES AND ALL CURRENT UPDATES.



VICINITY MAP  
NOT TO SCALE

| REVISIONS |                       |     |
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| DATE:     | REVISION DESCRIPTION: | BY: |
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PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
FOUR INTERSECTIONS & HWY 101  
FLORENCE, OREGON**

DESCRIPTION:  
**GENERAL NOTES &  
EROSION CONTROL NOTES**

AGENCY APPROVALS

**Branch Engineering, Inc.**  
310 Fifth Street  
Springfield, Oregon 97477  
(541)746-0637 FAX (541)746-0389  
branchadmin@branchengineering.com  
Civil • Structures • Transportation • Surveying

|                |                  |
|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | NA               |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      |                  |

EC1  
OF 16 SHEET(S)

CITY JOB NO. XXXX

**60%**

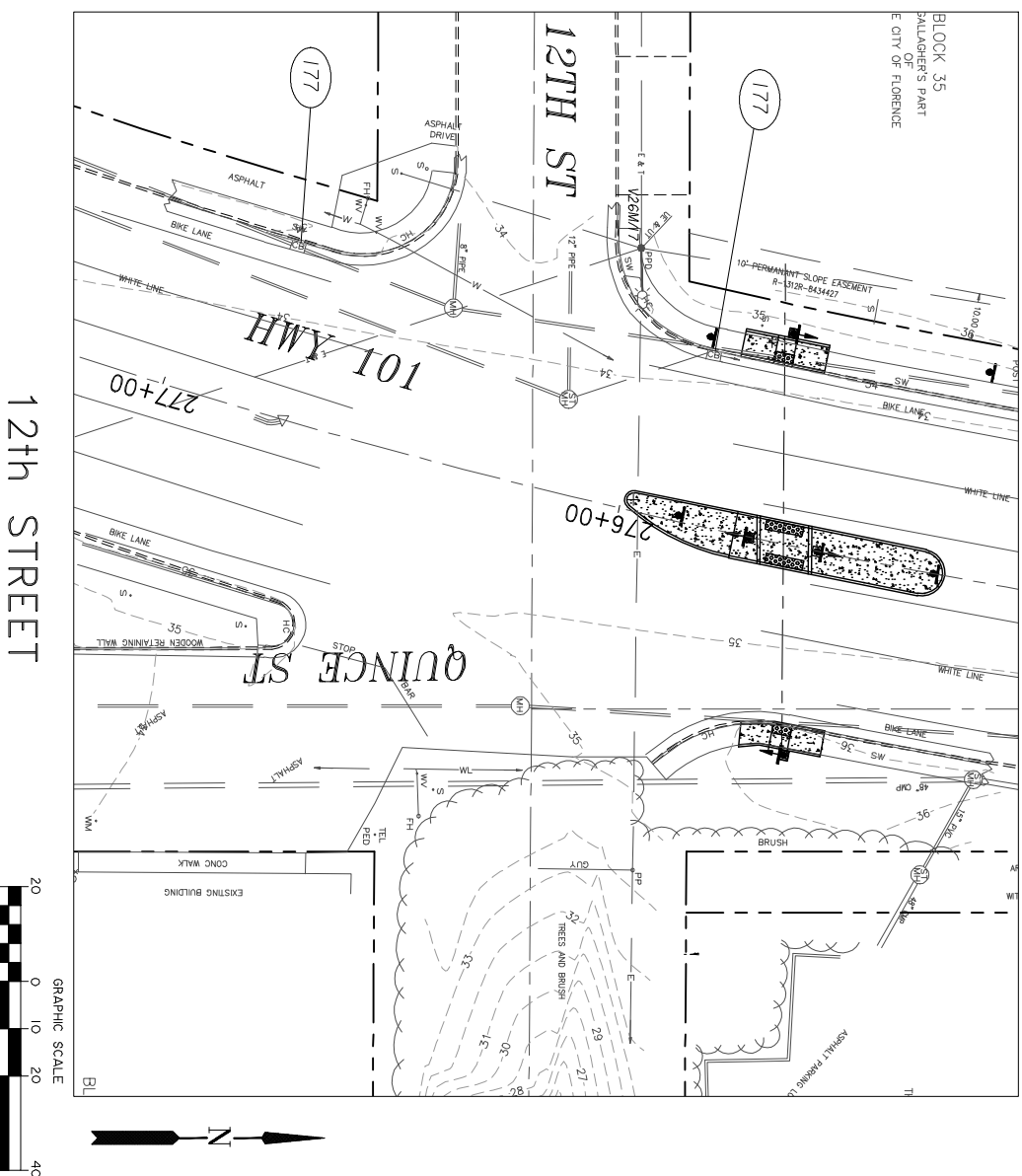
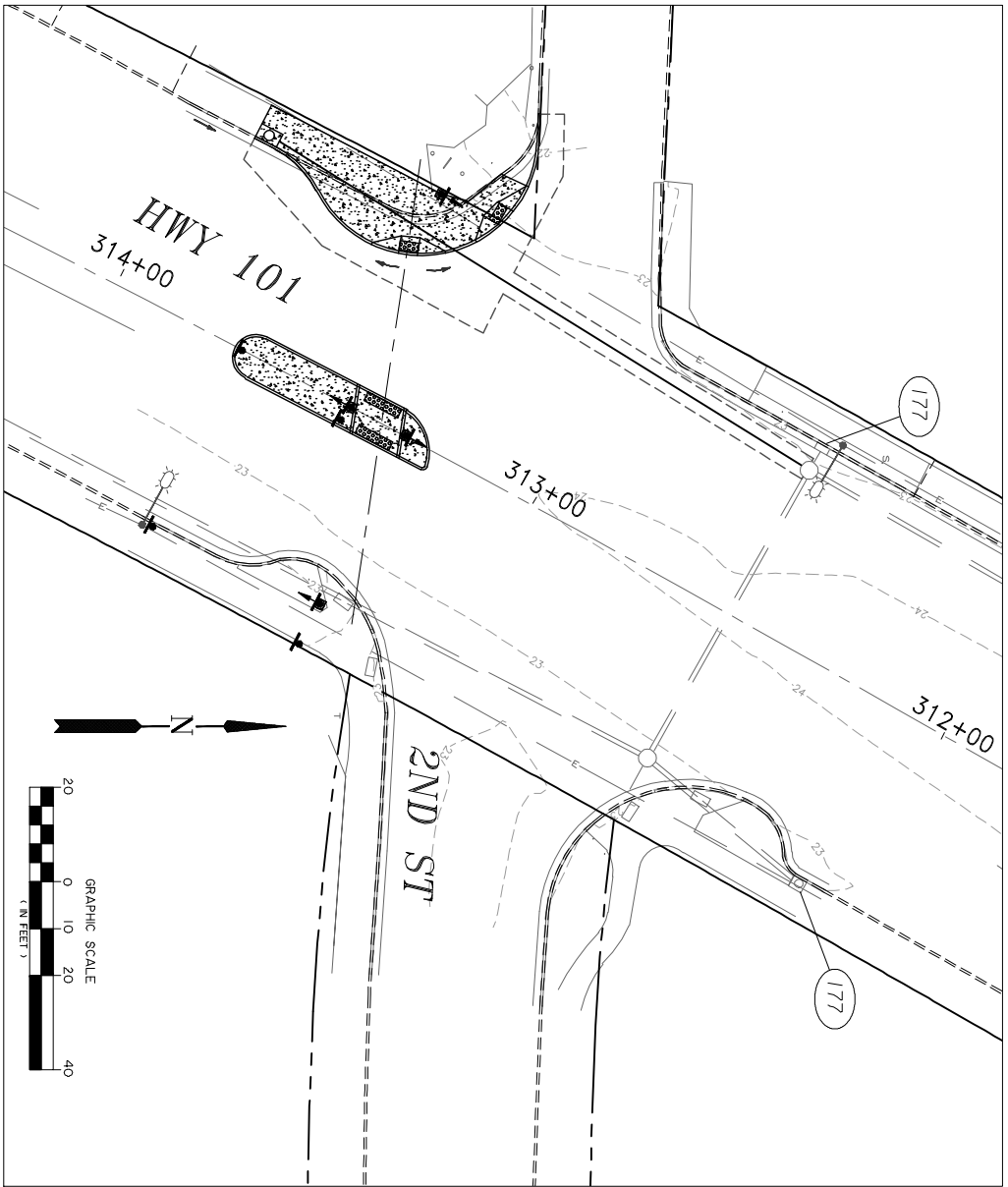
**NOT REPRODUCED PROFESSIONAL**

**DAMIAN GIBSON**

**CONSULTANT**

**EXPIRES: JUNE 30, 2009**

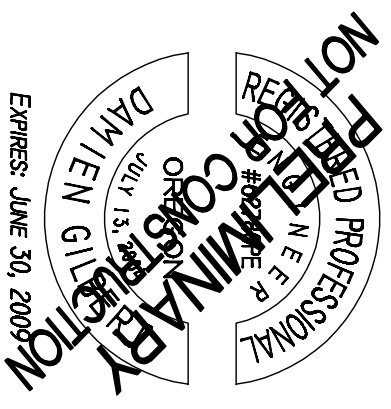




**EROSION CONTROL NOTES**

- 177 CONSTRUCT PREFABRICATED CATCH BASIN INSERT
- TEMPORARY STOCKPILES SHALL BE COVERED WITH PLASTIC WHEN REQUIRED BY THE SPECIFICATIONS.
- TEMPORARY STOCKPILE AND CONCRETE WASHOUT LOCATIONS CAN BE SELECTED WITH CONTRACTOR RECOMMENDATIONS.
- SEE SHEET ECI FOR GENERAL EROSION CONTROL NOTES.

60%



CITY JOB NO. XXXX

| REVISIONS |                       |     |
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| DATE:     | REVISION DESCRIPTION: | BY: |
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AGENCY APPROVALS

PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
 FOUR INTERSECTIONS & HWY 101  
 FLORENCE, OREGON**

DESCRIPTION:  
**EROSION CONTROL PLAN  
 2ND AND 12TH STREETS**

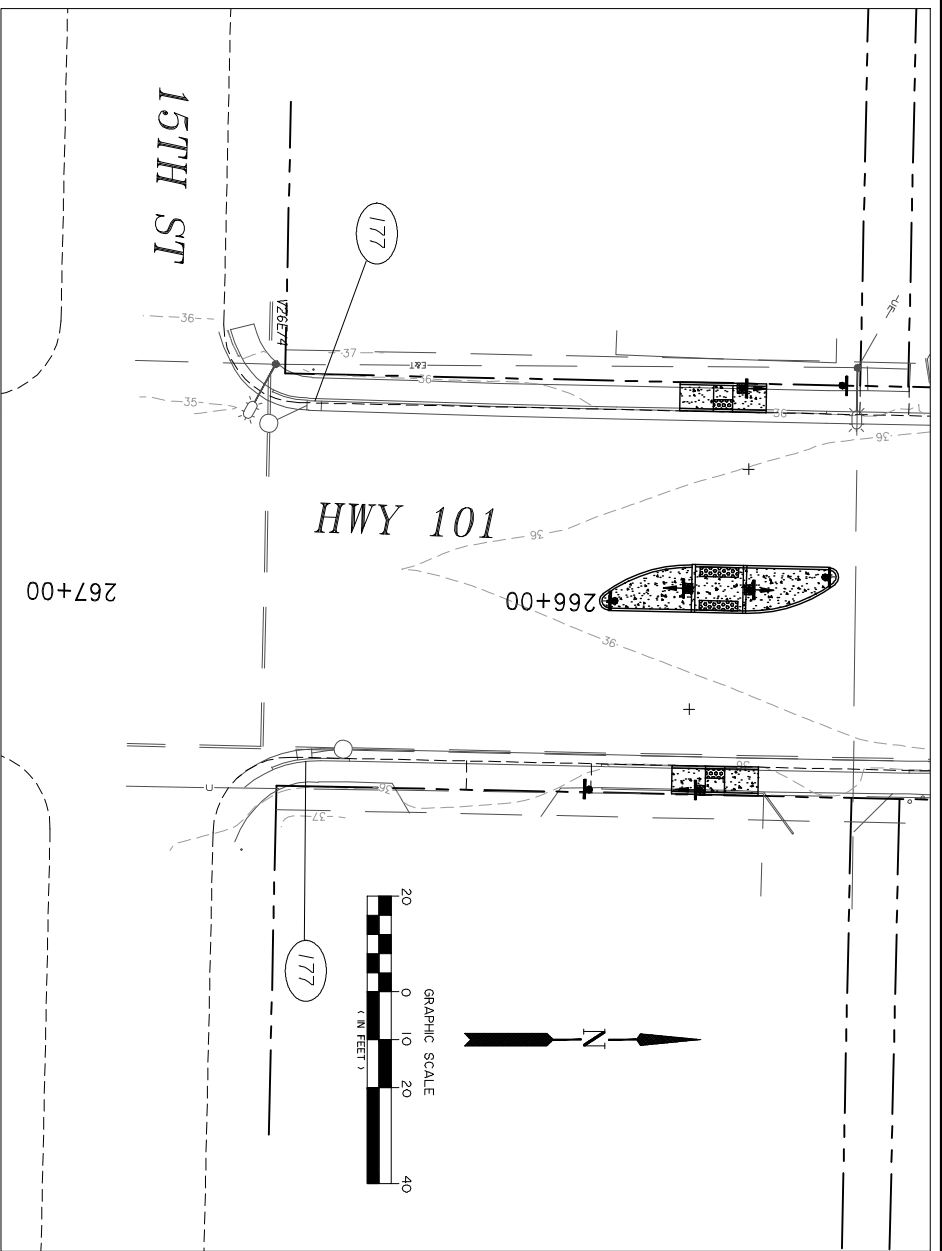
**Branch Engineering, Inc.**  
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 Springfield, Oregon 97477  
 (541)746-0637 FAX (541)746-0389  
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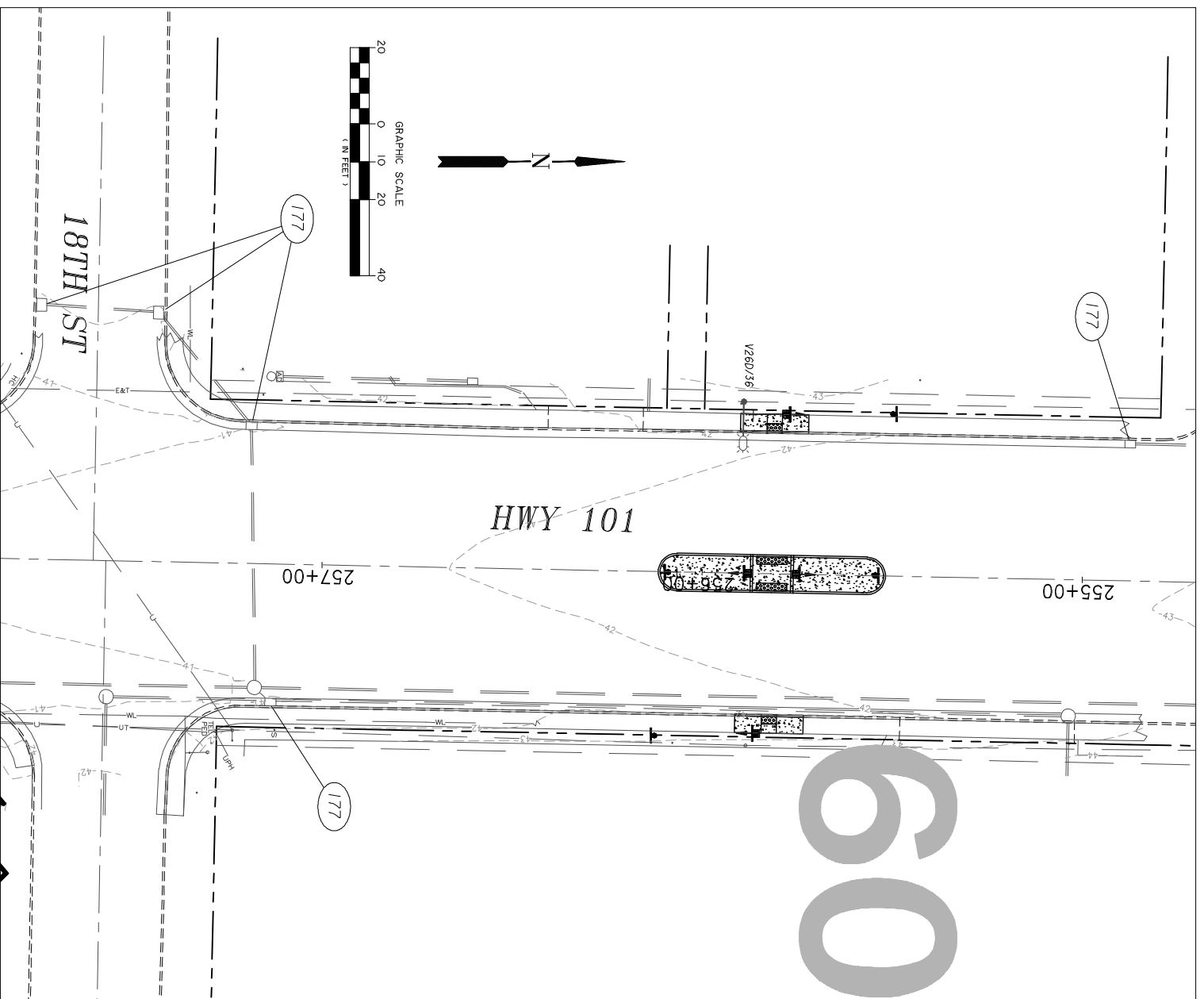
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| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 40'         |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      |                  |

EC2

OF 16 SHEET(S)



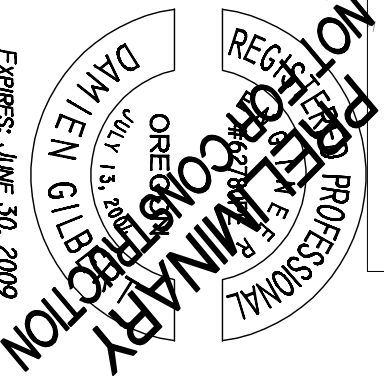
- EROSION CONTROL NOTES**
- 177 CONSTRUCT PREFABRICATED CATCH BASIN INSERT
  - TEMPORARY STOCKPILES SHALL BE COVERED WITH PLASTIC WHEN REQUIRED BY THE SPECIFICATIONS.
  - TEMPORARY STOCKPILE AND CONCRETE WASHOUT LOCATIONS CAN BE SELECTED WITH CONTRACTOR RECOMMENDATIONS.
  - SEE SHEET ECI FOR GENERAL EROSION CONTROL NOTES.



60%

CITY JOB NO. XXXX

EXPIRES: JUNE 30, 2009



| REVISIONS |                       |     |
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| DATE:     | REVISION DESCRIPTION: | BY: |
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**PROJECT TITLE:**  
PEDESTRIAN CROSSINGS  
FOUR INTERSECTIONS & HWY 101  
FLORENCE, OREGON

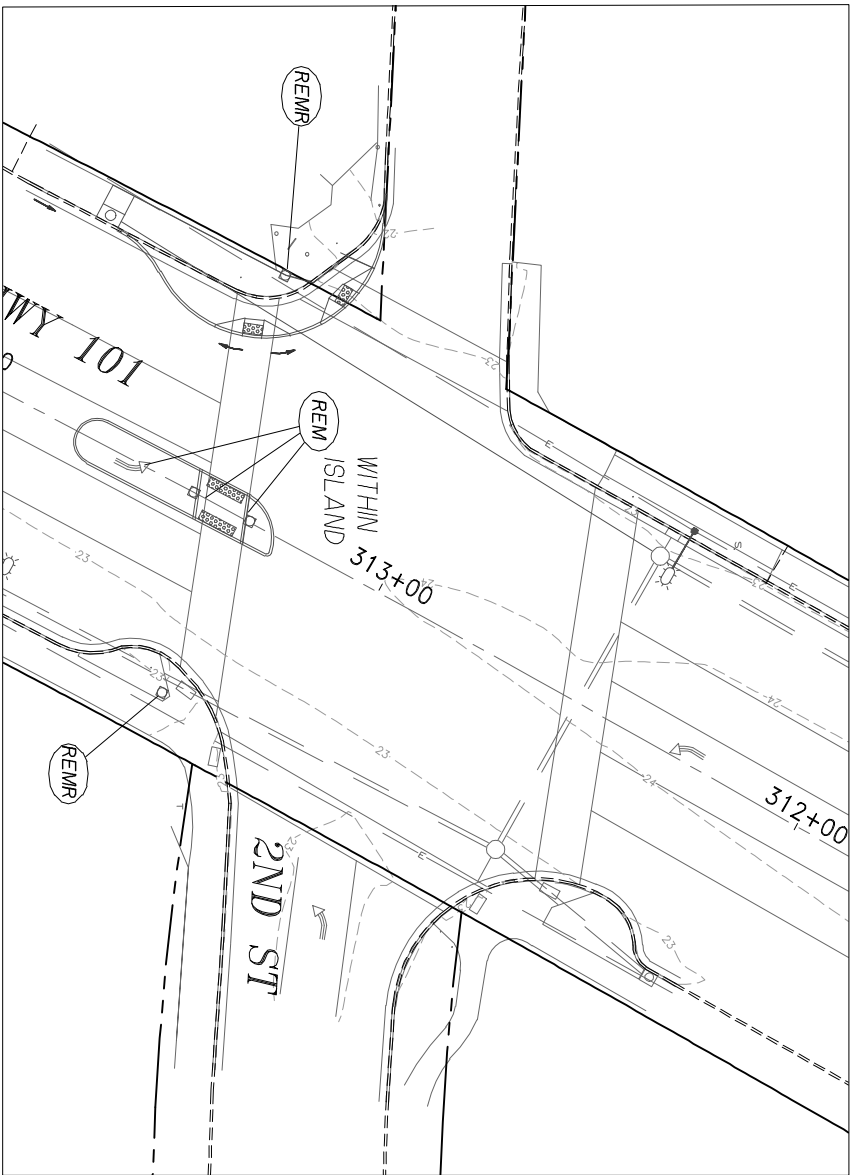
**DESCRIPTION:**  
EROSION CONTROL PLAN  
15TH AND 18TH STREETS

AGENCY APPROVALS

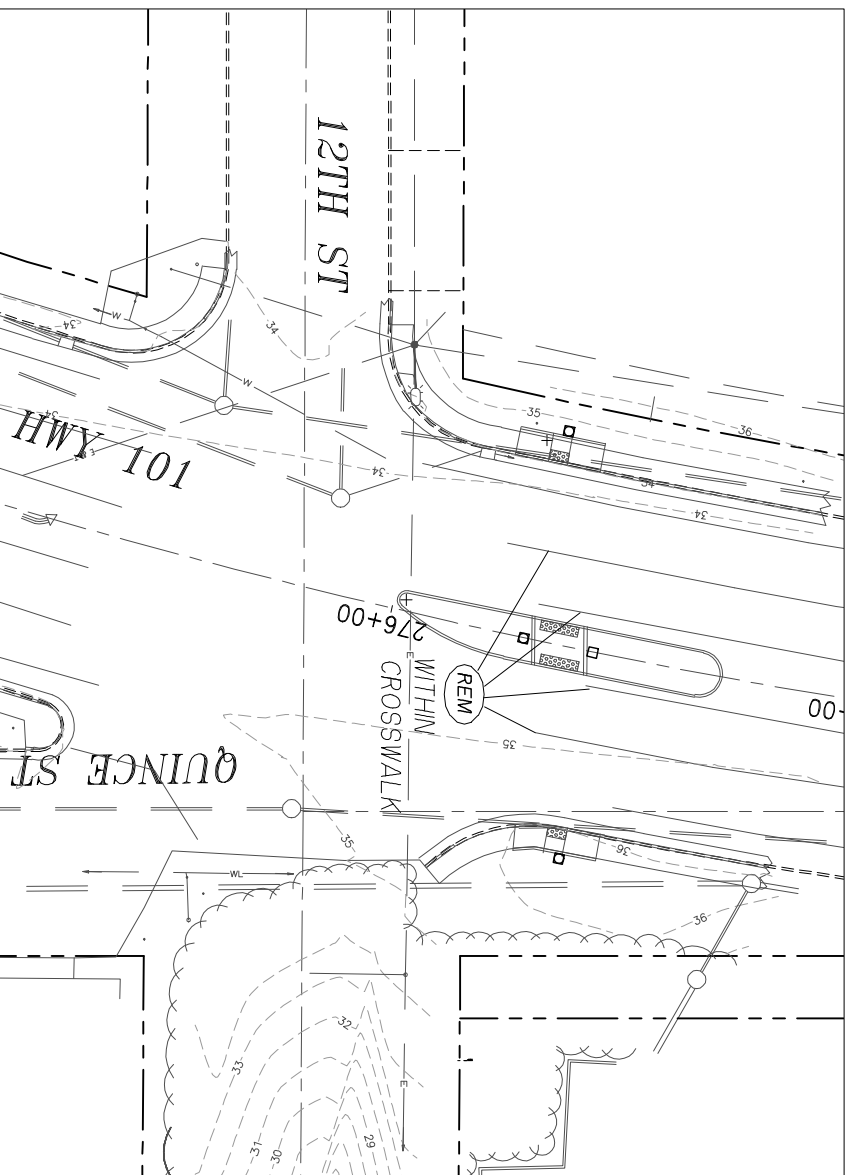
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| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      |                  |

of 16 SHEET(S)  
**EC3**



2ND STREET



12TH STREET

**REMOVAL NOTES**

- REM** REMOVE EXISTING STRIPING. METHOD SHALL BE APPROVED BY ODOT
- REMR** REMOVE SIGN AND POST AND REPLACE AS DIRECTED

60%

**REGISTERED PROFESSIONAL ENGINEER**  
 #62780PE  
 DAMIEN T. MURPHY  
 NOT FOR CONSTRUCTION  
 EXPIRES: JUNE 30, 2009

CITY JOB NO. XXXX

| REVISIONS |                       |     |
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AGENCY APPROVALS

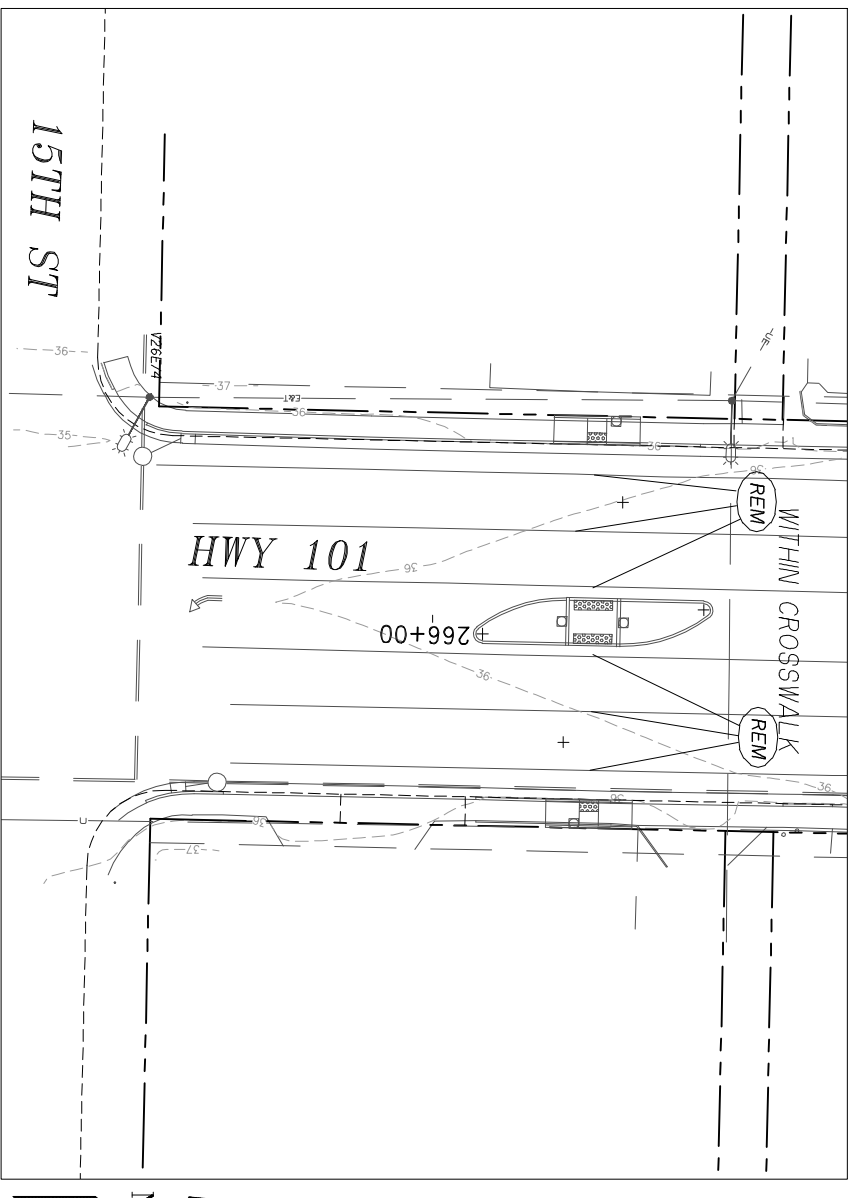
PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
 FOUR INTERSECTIONS & HWY 101  
 FLORENCE, OREGON**

DESCRIPTION:  
**EXISTING CONDITONS  
 SIGN AND STRIPING REMOVAL  
 2ND AND 12TH STREETS**

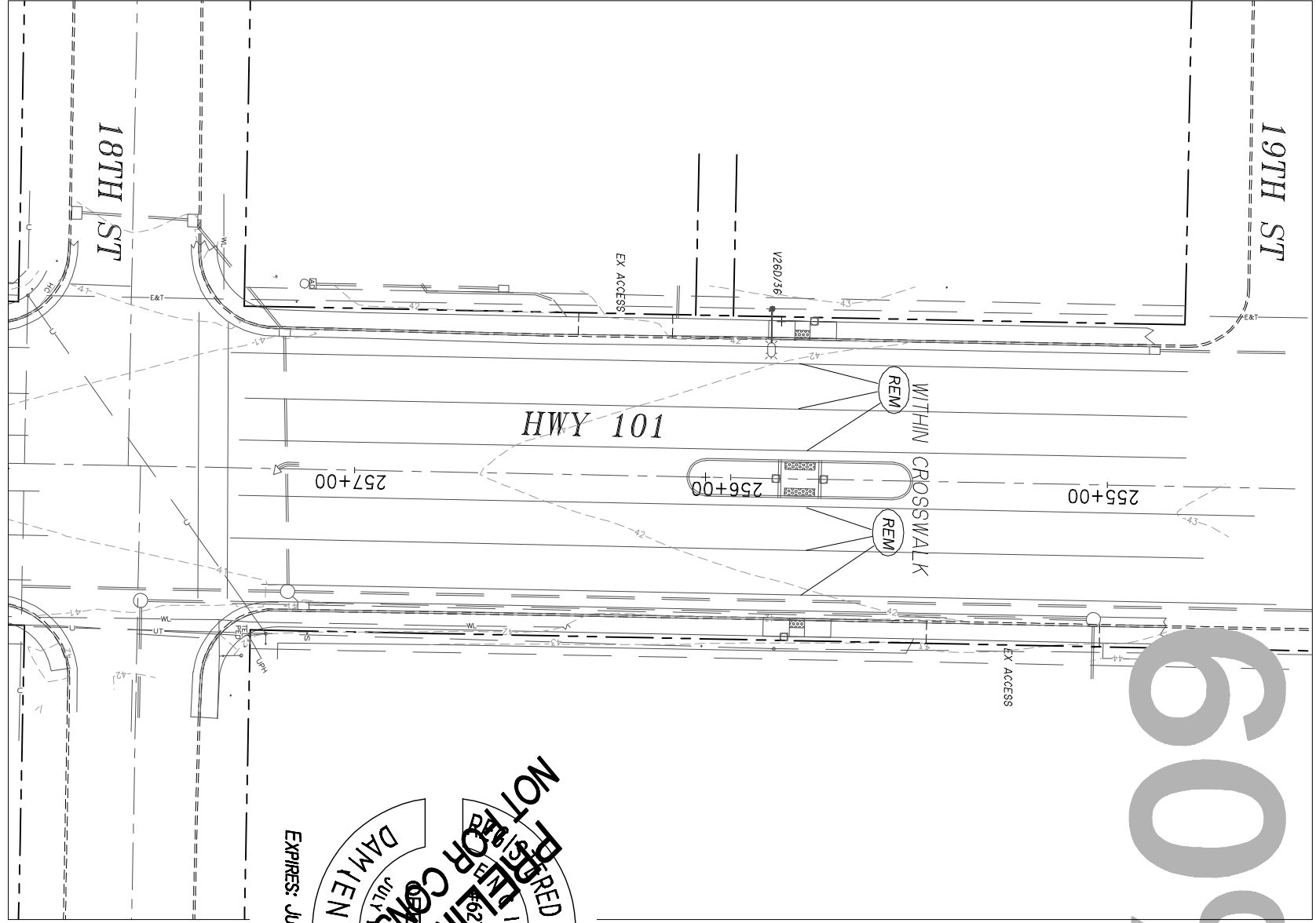
**Branch Engineering, Inc.**  
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 (541)746-0837 FAX (541)746-0389  
 branchadmin@branchengineering.com  
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|                |                  |
|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 40'         |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      | C1               |

of 16 SHEET(S)



15TH / 16TH ST. MIDDLEBLOCK



18TH / 19TH ST MIDDLEBLOCK

60%

**REGISTERED PROFESSIONAL ENGINEER**  
 DAMIEN GRIFFIN  
 JULY 13, 2009  
 EXPIRES: JUNE 30, 2010  
 NOT VALID FOR CONSTRUCTION

**REMOVAL NOTES**

(REM) REMOVE EXISTING STRIPING. METHOD SHALL BE APPROVED BY ODOT

CITY JOB NO. XXXX

| REVISIONS |                      |    |
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| DATE      | REVISION DESCRIPTION | BY |
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AGENCY APPROVALS

PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
 FOUR INTERSECTIONS & HWY 101  
 FLORENCE, OREGO**

DESCRIPTION:  
**EXISTING CONDITONS  
 SIGN AND STRIPING REMOVAL  
 15TH AND 18TH STREETS**

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 310 Fifth Street  
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|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 40'         |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      |                  |

of 16 SHEET(S)  
**C2**

**CONSTRUCTION NOTES**

- 1 CONST STANDARD ODOT CURB AND 24" GUTTER AS SHOWN ON STD DRAWING RD700. E VARIES
- 40 CONST 4" CONCRETE ON 1" COMPACTED CRUSHED ROCK OR SAND
- 58d CONST COMBINATION SIDEWALK RAMP PER ODOT STD DRAWING RD755
- 59 CONST PEDESTRIAN ISLAND PER DETAIL SHEET DI
- 80 SAWCUT ASPHALT PAVEMENT. UNKNOWN DEPTH
- 81 SAWCUT AND REMOVE CURB, GUTTER, WALK & ASPHALT TO 7" DEEP OR AS NECESSARY FOR NEW WALK AND CURB
- 82 CONST SAWCUT AND REMOVE SIDEWALK AT NEAREST CONTROL JOINT BEYOND LIMITS SHOWN
- 407 CUT INTO AND CONNECT TO EXISTING STORM DRAIN MH; FL EX 8" IN W 20.2, FL 8" IN S 19.5, FL EX 15" IN N 19.0, FL EX 15" OUT E 19.0
- 412 CONST CONCRETE INLET TYPE CG-3 W/ROUND TOP PER ODOT STANDARD DRAWINGS RD371 AND RD372; FL 8" OUT N 20.58
- 479 CONST 8" PVC STORM DRAIN PIPE
- 601 CONST CONC FOUNDATION & PAD 2' SQUARE (MIN) X 5' DEEP (MIN) BELOW FIN GRADE FOR PEDESTRIAN SIGNAL POLE AS SHOWN ON SHEET D2

STRIPING, SIGNING, AND SIGNAL CONST ON SHEET T1

|            |   |      |
|------------|---|------|
| FG BK WALK | 1 | 2314 |
|            | 2 | 2381 |
|            | 3 | 2400 |
|            | 4 | 2410 |
|            | 5 | 2380 |

SW CORNER

|                 |       |
|-----------------|-------|
| CURB GRADES     |       |
| TOP CURB GUTTER |       |
| A               | 23.69 |
| B               | 23.60 |
| C               | 23.78 |
| D               | 23.86 |
| E               | 23.65 |
| F               | 23.00 |
| G               | 21.72 |

MATCH EXIST

|   |          |
|---|----------|
| A | 3558'30" |
| R | 20'      |
| L | 12.56'   |

A CURVE DATA

|   |          |
|---|----------|
| Δ | 3558'30" |
| R | 20'      |
| L | 12.56'   |

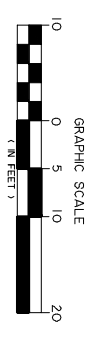
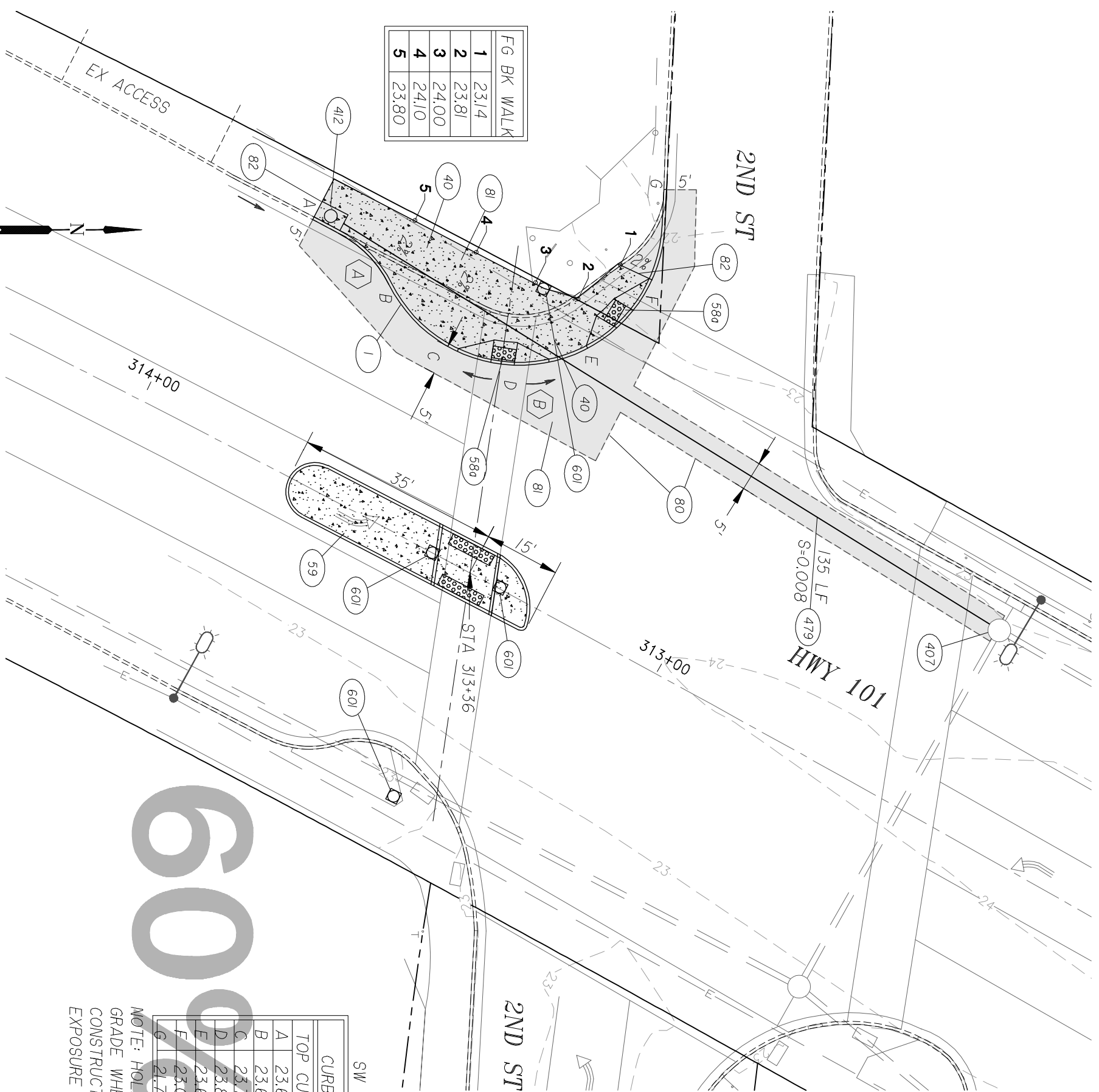
B CURVE DATA

|   |           |
|---|-----------|
| Δ | 15113'22" |
| R | 25'       |
| L | 65.98'    |

NOTE: HOLD GUTTER GRADE WHEN CONSTRUCTING CURB. CURB EXPOSURE VARIES.

**LEGEND**

- TRUNCATED DOME PANEL
- CONCRETE WALK OR ISLAND



| REVISIONS |                       |     |
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| DATE:     | REVISION DESCRIPTION: | BY: |
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AGENCY APPROVALS

PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
FOUR INTERSECTIONS & HWY 101  
FLORENCE, OREGON**

DESCRIPTION:  
**2ND STREET  
CONSTRUCTION**

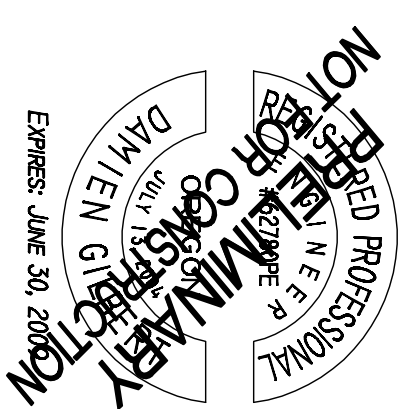
**Branch Engineering, Inc.**  
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Springfield, Oregon 97477  
(541)746-0697 FAX (541)746-0389  
branchadmin@branchengineering.com

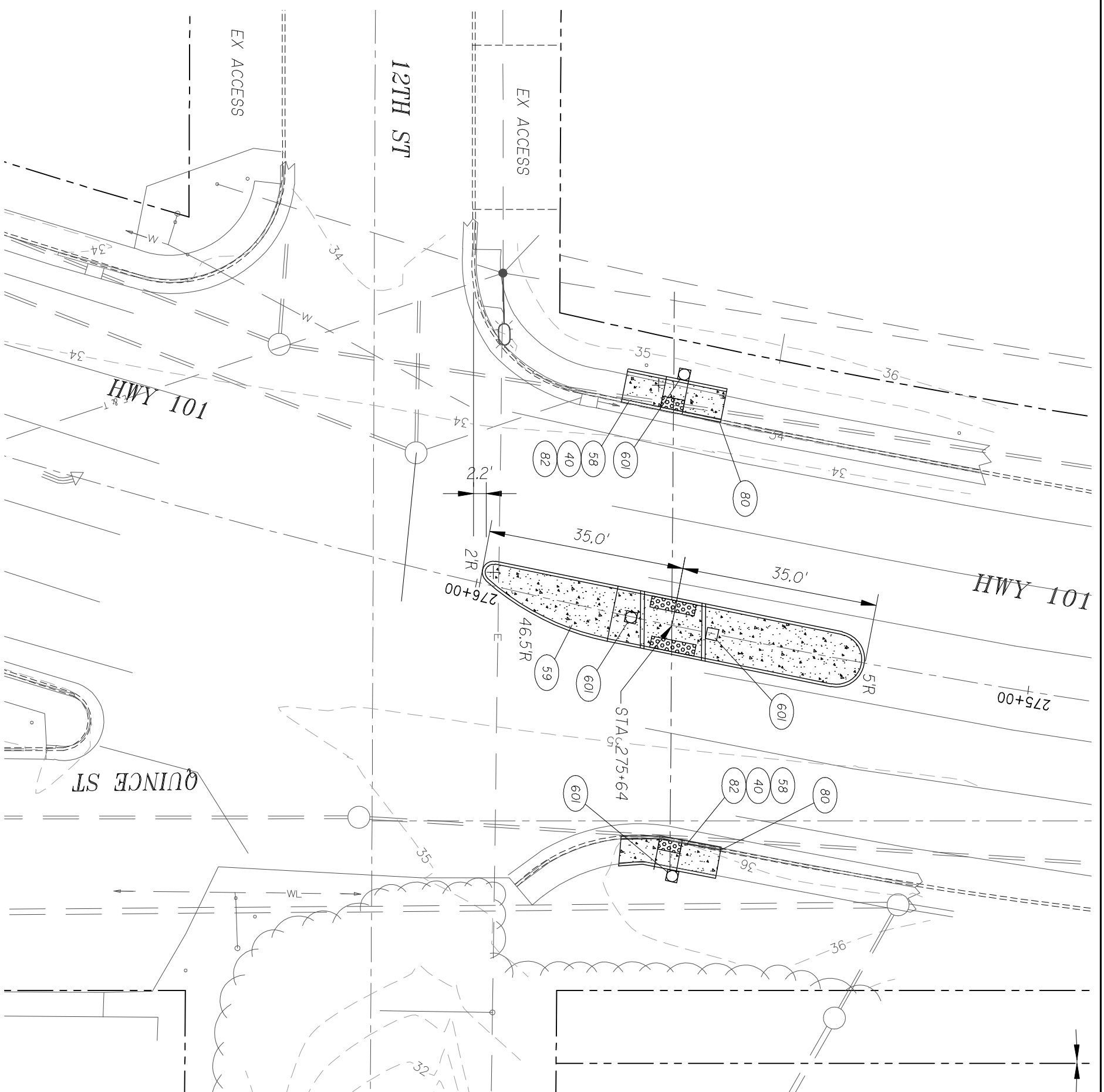
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DATE: FEBRUARY 9, 2009  
SCALE: 1" = 20'  
DRAWN BY: MLD  
DESIGNER BY: DG  
CHECKED BY: DG  
PROJECT NUMBER: 08-01K  
SHEET NO.:

CITY JOB NO. XXXX

of 16 SHEET(S)  
**C3**





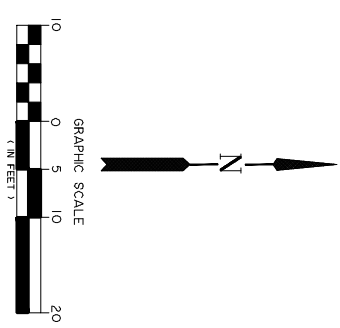
**CONSTRUCTION NOTES**

- 40 CONST 4" CONCRETE ON 1" COMPACTED CRUSHED ROCK OR SAND
- 58 CONST PARALLEL SIDEWALK RAMP PER ODOT STD DRAWING RD755
- 59 CONST PEDESTRIAN ISLAND PER DETAIL SHEET D1
- 80 SAWCUT AND REMOVE CURB FACE. LEAVE GUTTER
- 82 SAWCUT AND REMOVE SIDEWALK AT NEAREST CONTROL JOINT BEYOND LIMITS SHOWN
- 601 CONST CONC FOUNDATION & PAD 2' SQUARE (MIN) X 5' DEEP (MIN) BELOW FIN GRADE FOR PEDESTRIAN SIGNAL POLE AS SHOWN ON SHEET D2

STRIPING, SIGNING, AND SIGNAL CONST ON SHEET T3

**LEGEND**

- TRUNCATED DOME PANEL
- CONCRETE WALK OR ISLAND



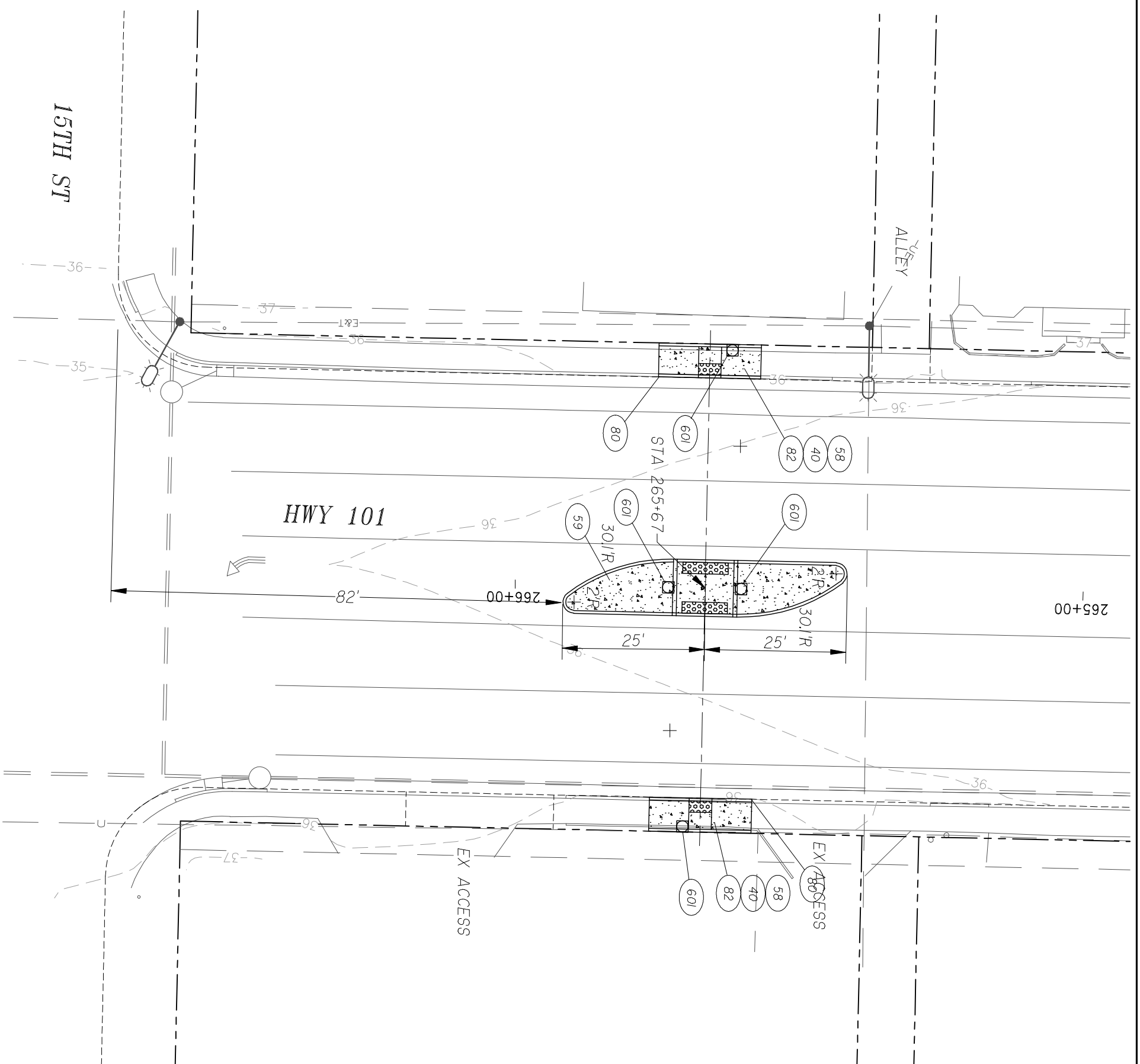
**60%**

**REGISTERED PROFESSIONAL ENGINEER**  
**DAMIAN GIBSON**  
 JULY 19, 2009  
 NOT FOR CONSTRUCTION  
 EXPIRES: JUNE 30, 2009

|   |   |                  |           |                       |     |
|---|---|------------------|-----------|-----------------------|-----|
| DATE: FEBRUARY 9, 2009<br>SCALE: 1" = 20'<br>DRAWN BY: MLD<br>DESIGNER BY: DG<br>CHECKED BY: DG<br>PROJECT NUMBER: 08-01K<br>SHEET NO.: C4<br>CITY JOB NO. XXXX | PROJECT TITLE:<br><b>PEDESTRIAN CROSSINGS<br/>         FOUR INTERSECTIONS &amp; HWY 101<br/>         FLORENCE, OREGON</b><br>DESCRIPTION:<br><b>12TH STREET<br/>         CONSTRUCTION</b> | AGENCY APPROVALS | REVISIONS |                       |     |
|   |   |                  | DATE:     | REVISION DESCRIPTION: | BY: |

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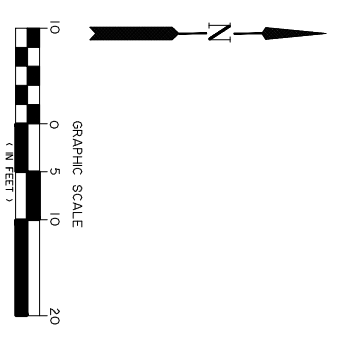
**CONSTRUCTION NOTES**

- 40 CONST 4" CONCRETE ON 1" COMPACTED CRUSHED ROCK OR SAND
- 58 CONST PARALLEL SIDEWALK RAMP PER ODOT STD DRAWING RD755
- 59 CONST PEDESTRIAN ISLAND PER DETAIL SHEET D1
- 80 SAWCUT AND REMOVE CURB FACE. LEAVE GUTTER
- 82 SAWCUT AND REMOVE SIDEWALK AT NEAREST CONTROL JOINT BEYOND LIMITS SHOWN
- 601 CONST CONC FOUNDATION & PAD 2' SQUARE (MIN) X 5' DEEP (MIN) BELOW FIN GRADE FOR PEDESTRIAN SIGNAL POLE AS SHOWN ON SHEET D2

STRIPING, SIGNING, AND SIGNAL CONST ON SHEET T4

**LEGEND**

- TRUNCATED DOME PANEL
- CONCRETE WALK OR ISLAND



60%

**NOTED FOR CONSTRUCTION**

**REGISTERED PROFESSIONAL ENGINEER**

**DAMIAN GILBERTSON**

JULY 13, 2007

EXPIRES: JUNE 30, 2009

CITY JOB NO. XXXX

| REVISIONS |                       |     |
|-----------|-----------------------|-----|
| DATE:     | REVISION DESCRIPTION: | BY: |
|           |                       |     |
|           |                       |     |
|           |                       |     |

AGENCY APPROVALS

PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
FOUR INTERSECTIONS & HWY 101  
FLORENCE, OREGON**

DESCRIPTION:  
**15TH STREET  
CONSTRUCTION**

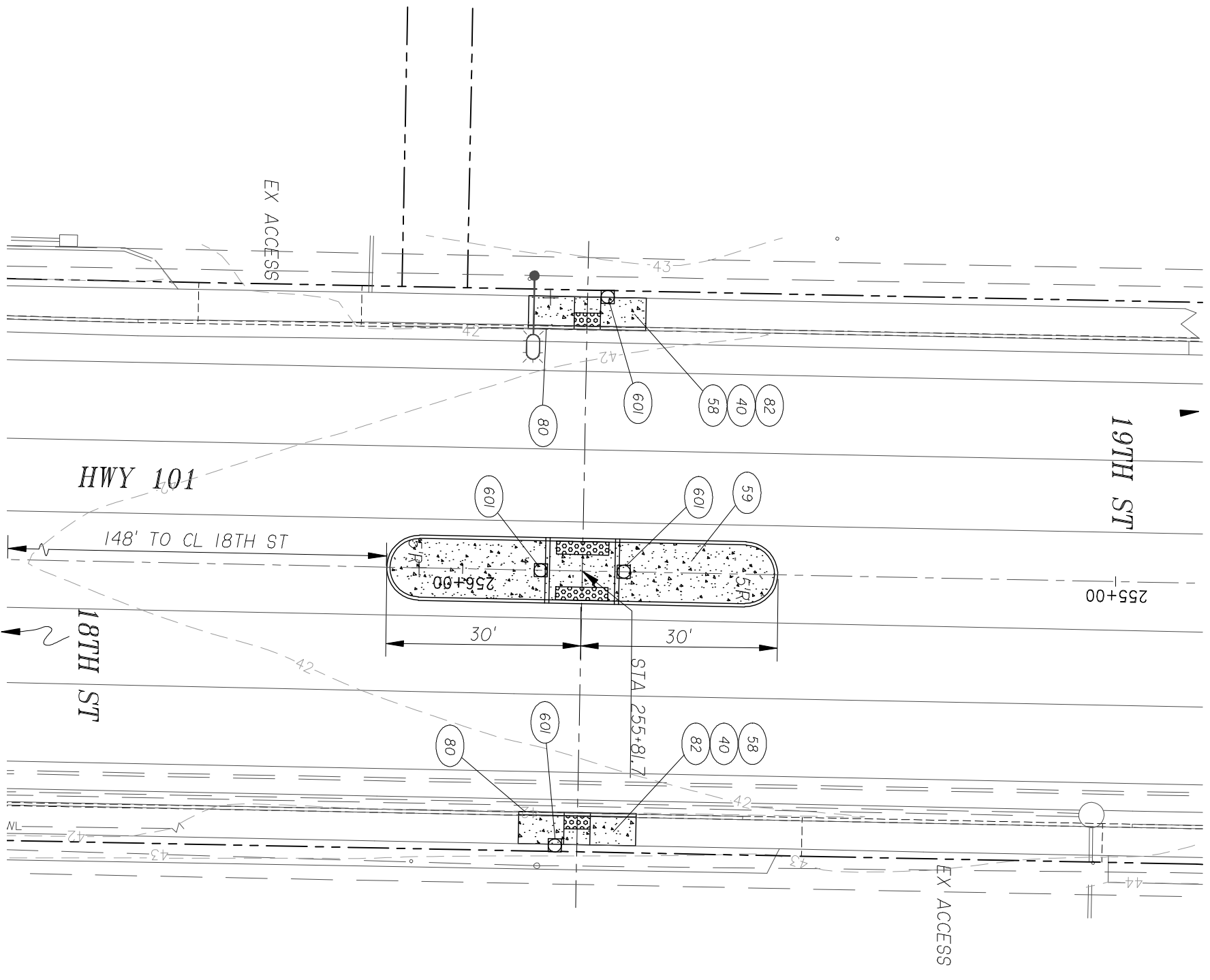
**Branch Engineering, Inc.**

310 Fifth Street  
Springfield, Oregon 97477  
(541)746-0837 FAX (541)746-0389  
branchadmin@branchengineering.com

Civil • Structures • Transportation • Surveying

|                |                  |
|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 20'         |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      |                  |

of 16 SHEET(S)  
**C5**



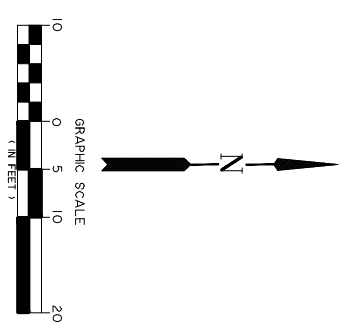
**CONSTRUCTION NOTES**

- 40 CONST 4" CONCRETE ON 1" COMPACTED CRUSHED ROCK OR SAND
- 58 CONST PARALLEL SIDEWALK RAMP PER ODOT STD DRAWING RD755
- 59 CONST PEDESTRIAN ISLAND PER DETAIL SHEET D1
- 80 SAWCUT AND REMOVE CURB FACE. LEAVE GUTTER
- 82 SAWCUT AND REMOVE SIDEWALK AT NEAREST CONTROL JOINT BEYOND LIMITS SHOWN
- 601 CONST CONC FOUNDATION & PAD 2' SQUARE (MIN) X 5' DEEP (MIN) BELOW FIN GRADE FOR PEDESTRIAN SIGNAL POLE AS SHOWN ON SHEET D2

STRIPING, SIGNING, AND SIGNAL CONST ON SHEET T5

**LEGEND**

- TRUNCATED DOME PANEL
- CONCRETE WALK OR ISLAND



**60%**

**PEPED PROFESSIONAL**  
**NOTED FOR CONSTRUCTION**  
**DAMIEN GIBSON**  
 JULY 13, 2009  
 EXPIRES: JUNE 30, 2009

CITY JOB NO. XXXX

| REVISIONS |                       |     |
|-----------|-----------------------|-----|
| DATE:     | REVISION DESCRIPTION: | BY: |
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AGENCY APPROVALS

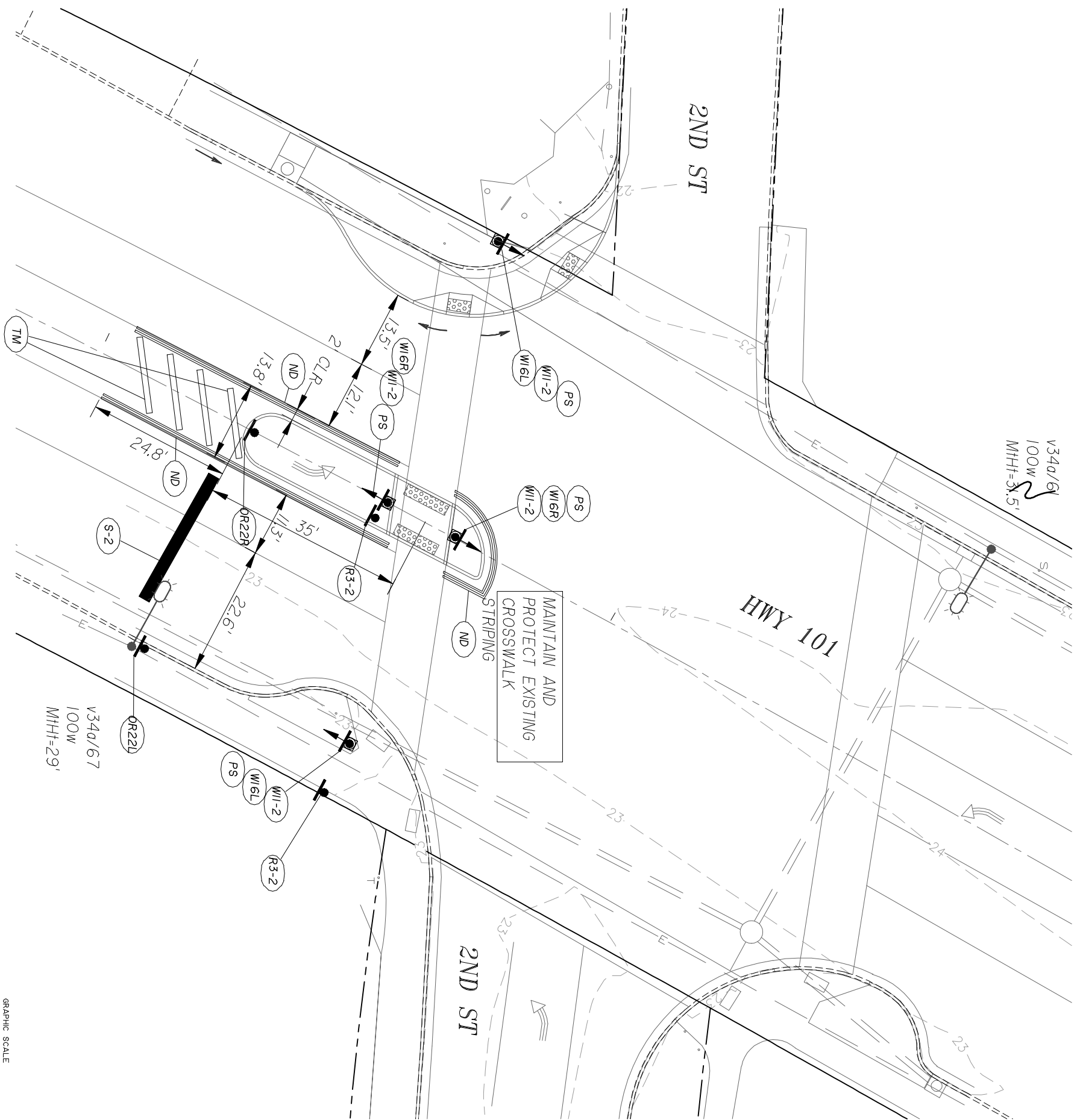
PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
 FOUR INTERSECTIONS & HWY 101  
 FLORENCE, OREGON**

DESCRIPTION:  
**18TH STREET  
 CONSTRUCTION**

**Branch Engineering, Inc.**  
 310 Fifth Street  
 Springfield, Oregon 97477  
 (541)746-0637 FAX (541)746-0389  
 branchadmin@branchengineering.com  
 Civil • Structures • Transportation • Surveying

|                |                  |
|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 20'         |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      |                  |

of 16 SHEET(S)  
**C6**



**STRIPING NOTES**

- (S-2) 24" STOP BAR PER ODOT STD DRAWING TM503
- (ND) NARROW DOUBLE NO-PASS 4" YELLOW LINES PER ODOT STD DRAWING TM500
- (TM) TRANSVERSE MEDIAN BARS 8' SPACING PER ODOT STD DRAWING TM500

**SIGNAL NOTES**

- (PS) INSTALL PEDESTRIAN SIGNAL, DETAILS SHEET D2

**SIGNING NOTES**

- (W11-2) PEDESTRIAN CROSSWALK
- (W6L) W6-7L(R) DIAGONAL ARROW
- (OR22L) OR22-25L(R) STOP HERE FOR PEDS
- (R3-2) NO LEFT TURN



R3-2, 36" x36"



W11-2, 36" x36"



W6-7P Lt (SHOWN), 30" x18"  
W6-7P Rt 30" x18"



OR22-25L (SHOWN), 24" x36"  
OR22-25R 24" x36"

**LEGEND**

- WARNING SIGN
- ◀ PEDESTRIAN CROSSING
- ▬ SIGNAL 24" WHITE THERMOPLASTIC STRIPING

**NOTED PROFESSIONAL**  
**SEAL**  
 DAMIEN GIBERTON  
 JULY 13, 2009  
 EXPIRES: JUNE 30, 2009

CITY JOB NO. XXXX

| REVISIONS |                       |     |
|-----------|-----------------------|-----|
| DATE:     | REVISION DESCRIPTION: | BY: |
|           |                       |     |
|           |                       |     |
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AGENCY APPROVALS

PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
 FOUR INTERSECTIONS & HWY 101  
 FLORENCE, OREGON**

DESCRIPTION:  
**2ND STREET  
 PERMANENT SIGNING, STRIPING,  
 AND SIGNALS PLAN**

**Branch Engineering, Inc.**  
 310 Fifth Street  
 Springfield, Oregon 97477  
 (541)746-0897 FAX (541)746-0389  
 branchadmin@branchengineering.com  
 Civil • Structures • Transportation • Surveying

|                |                  |
|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 20'         |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      | 71               |

of 16 SHEET(S)

**STRIPING NOTES**

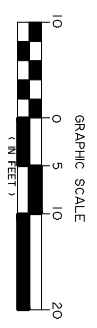
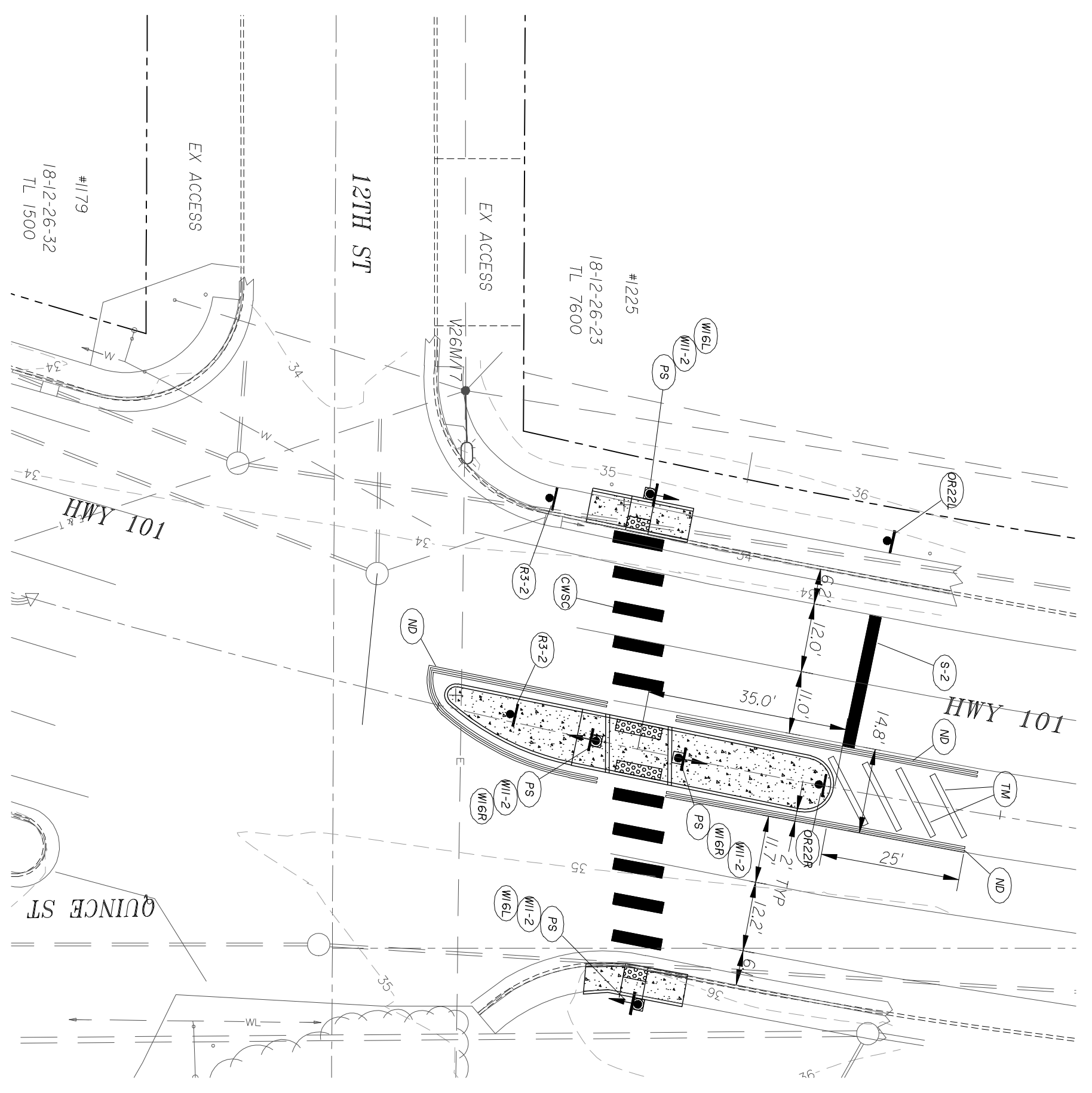
- (S-2) 24" STOP BAR PER ODOT STD DRAWING TM503
- (CWSC) STAGGERED CONTINENTAL CROSSWALK PER ODOT STD DRAWING TM503
- (ND) 4" YELLOW LINE PER ODOT STD DRAWING TM500
- (TM) TRANSVERSE MEDIAN BARS 8' SPACING PER ODOT STD DRAWING TM500

**SIGNAL NOTES**

- (PS) INSTALL PEDESTRIAN SIGNAL, DETAILS SHEET D2

**SIGNING NOTES**

- (W11-2) PEDESTRIAN CROSSWALK
- (W16L) W16-7L(R) DIAGONAL ARROW
- (OR22L) OR22-25L(R) STOP HERE FOR PEDS
- (R3-2) NO LEFT TURN



OR22-25L(R) 24" X36"



W16-7L(R), 30" X18"



W11-2, 36" X36"



R3-2, 36" X36"

**LEGEND**

- WARNING SIGN
- ➔ PEDESTRIAN ACTIVATE SIGNAL
- ▬ 24" WHITE THERMOPLASTIC STRIPING

COO%

NOT FOR CONSTRUCTION  
 PROFESSIONAL  
 DAMIEN GILBERT  
 JULY 13, 2009

CITY JOB NO. XXXX

| REVISIONS |                       |     |
|-----------|-----------------------|-----|
| DATE:     | REVISION DESCRIPTION: | BY: |
|           |                       |     |
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AGENCY APPROVALS

PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
 FOUR INTERSECTIONS & HWY 101  
 FLORENCE, OREGO**

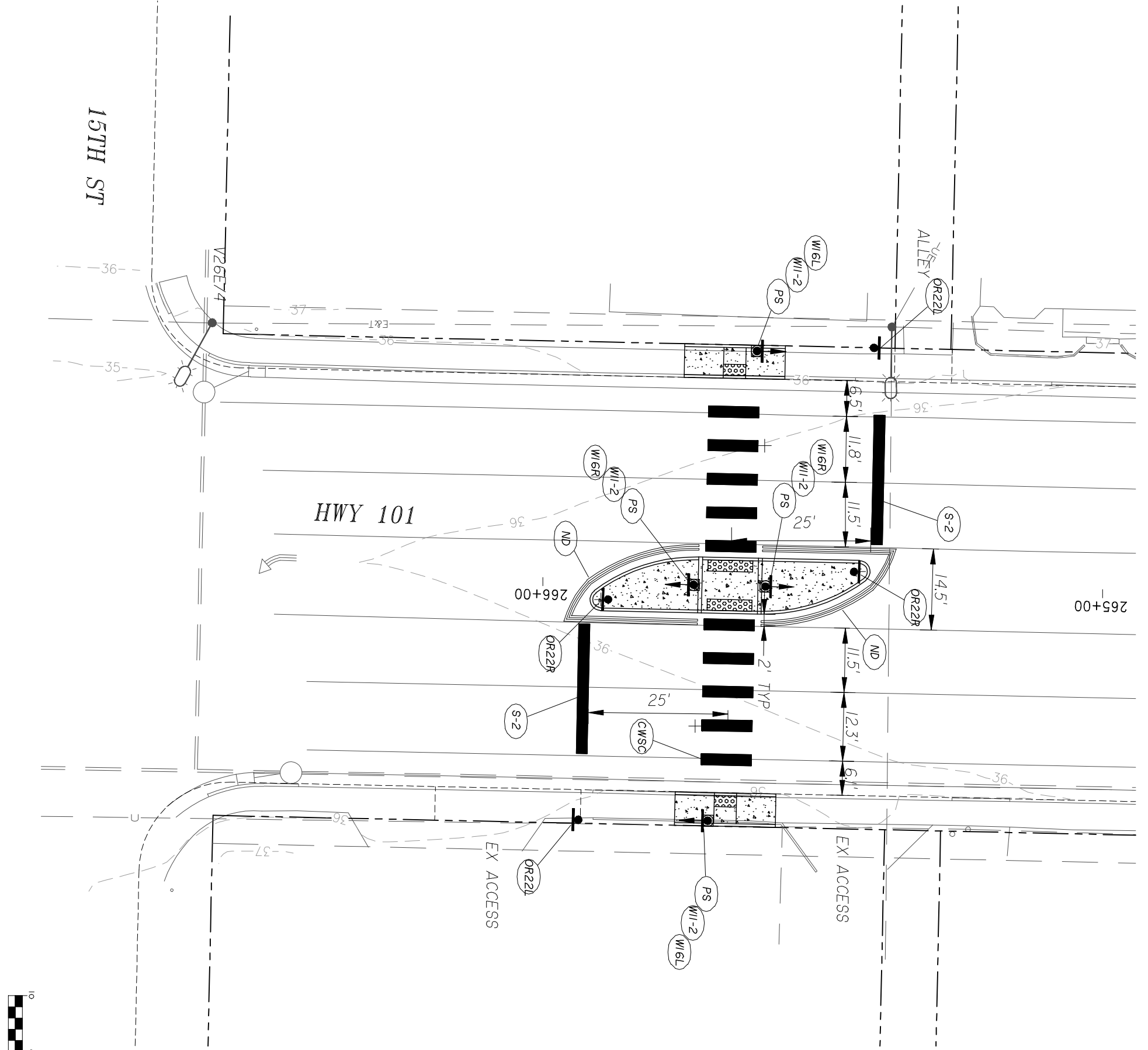
DESCRIPTION:  
**12TH STREET  
 PERMANENT SIGNING, STRIPING,  
 AND SIGNALS PLAN**

Branch Engineering, Inc.  
 310 Fifth Street  
 Springfield, Oregon 97477  
 (541)746-0837 FAX (541)746-0389  
 branchadmin@branchengineering.com  
 Civil • Structures • Transportation • Surveying

|                |                  |
|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 20'         |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      | 72               |

of 16 SHEET(S)

EXPIRES: JUNE 30, 2009



**STRIPING NOTES**

- (S-2) 24" STOP BAR PER ODOT STD DRAWING TM503
- (CWSC) STAGGERED CONTINENTAL CROSSWALK PER ODOT STD DRAWING TM503
- (ND) 4" YELLOW LINE PER ODOT STD DRAWING TM500

**SIGNAL NOTES**

- (PS) INSTALL PEDESTRIAN SIGNAL, DETAILS SHEET D2

**SIGNING NOTES**

- (W/1-2) PEDESTRIAN CROSSWALK, OFFSET MOUNTED, DETAILS SHEET D2
- (W/6L) W/6-7L(R) DIAGONAL ARROW, OFFSET MOUNTED, DETAILS SHEET D2
- (OR22L) OR22-25L(R) STOP HERE FOR PEDS

**LEGEND**

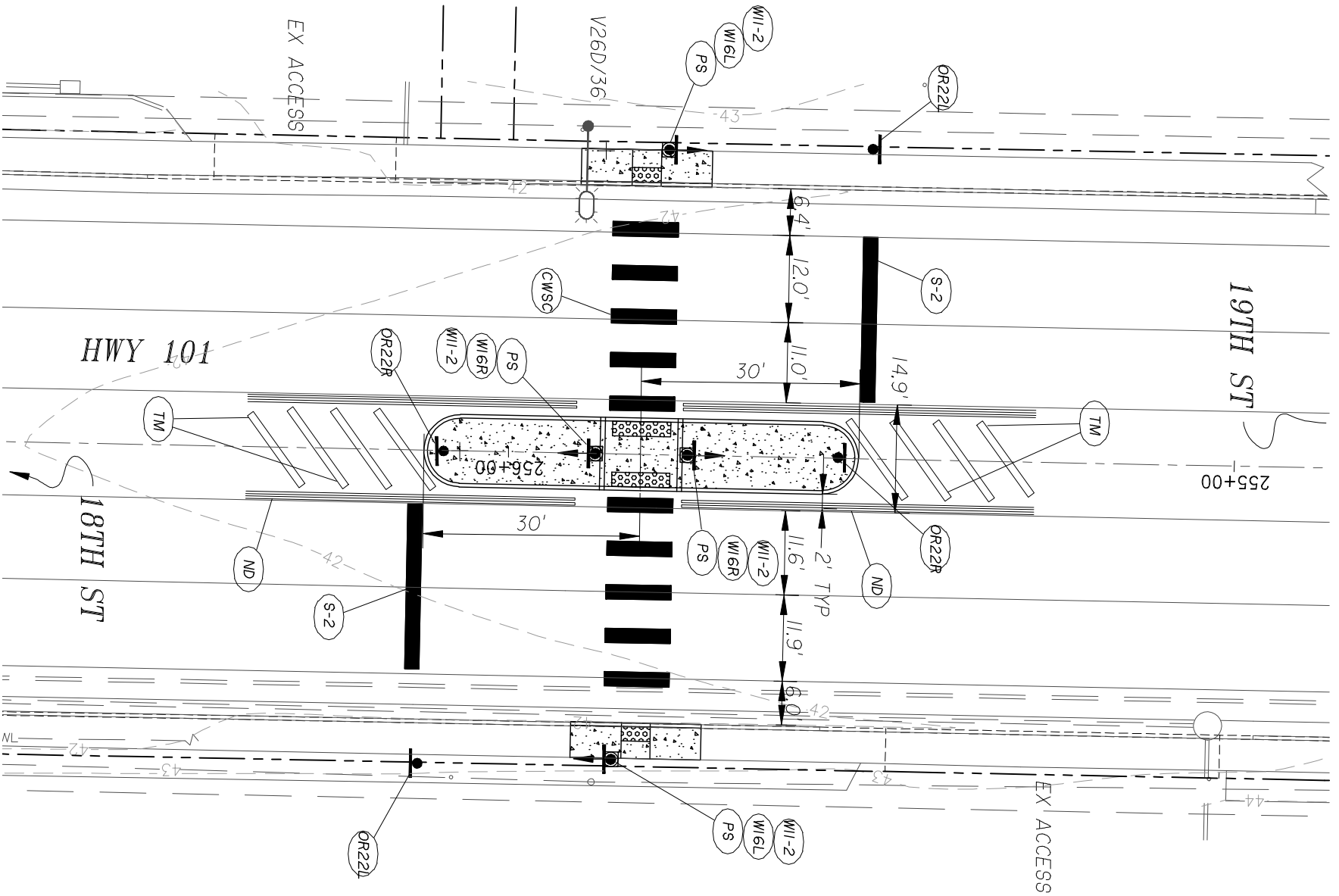
- WARNING SIGN
- PEDESTRIAN ACTIVATE SIGNAL
- 24" WHITE THERMOPLASTIC STRIPING

**GRAPHIC SCALE**  
1" = 20'  
0 5 10 15 20 FEET

**60%**

**REGISTERED PROFESSIONAL ENGINEER**  
DAMIEN GIBSON  
EXPIRES: JUNE 30, 2009

| <p>Branch Engineering, Inc.<br/>310 Fifth Street<br/>Springfield, Oregon 97477<br/>(541)746-0837 FAX (541)746-0389<br/>branchadmin@branchengineering.com<br/>Civil • Structures • Transportation • Surveying</p> | <p>PROJECT TITLE:<br/><b>PEDESTRIAN CROSSINGS<br/>FOUR INTERSECTIONS &amp; HWY 101<br/>FLORENCE, OREGON</b></p> | <p>AGENCY APPROVALS</p>                        | <p>REVISIONS</p> <table border="1"> <thead> <tr> <th>DATE:</th> <th>REVISION DESCRIPTION:</th> <th>BY:</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> |     | DATE: | REVISION DESCRIPTION: | BY: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|--|--|-----|-------|-----------------------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  | DATE:   |  | REVISION DESCRIPTION:  | BY: |       |                       |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |   |  |  |     |       |                       |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <p>DATE: FEBRUARY 9, 2009</p> <p>SCALE: 1" = 20'</p> <p>DRAWN BY: MLD</p> <p>DESIGNER: DG</p> <p>CHECKED BY: DG</p> <p>PROJECT NUMBER: 08-01K</p> <p>SHEET NO.: 73</p>   | <p>DESCRIPTION:<br/><b>15TH STREET<br/>PERMANENT SIGNING, STRIPING,<br/>AND SIGNALS PLAN</b></p>                | <p>CITY JOB NO. XXXX</p> <p>OF 16 SHEET(S)</p> |  |     |       |                       |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



**STRIPING NOTES**

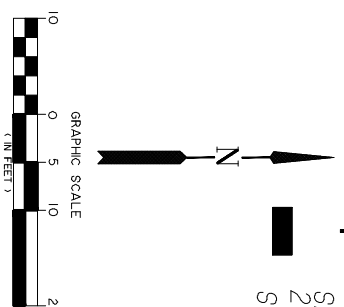
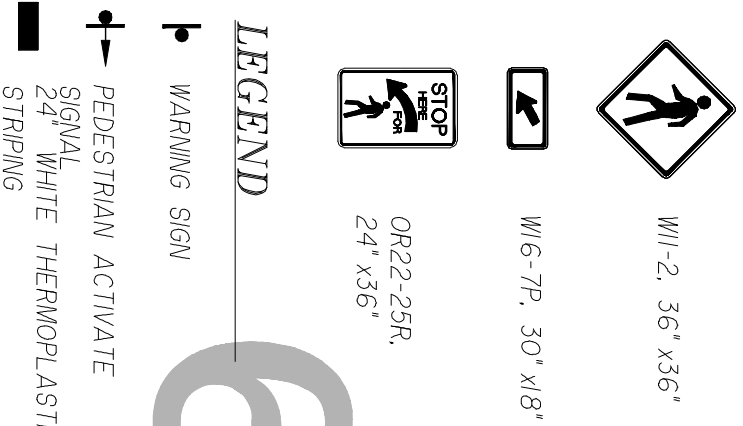
- (S-2) 24" STOP BAR PER ODOT STD DRAWING TM503
- (CWSC) STAGGERED CONTINENTAL CROSSWALK PER ODOT STD DRAWING TM503
- (ND) 4" YELLOW LINE PER ODOT STD DRAWING TM500 ON SHEET D4
- (TM) TRANSVERSE MEDIAN BARS 8' SPACING PER ODOT STD DRAWING TM500 ON SHEET D4

**SIGNAL NOTES**

- (PS) INSTALL PEDESTRIAN SIGNAL, DETAILS SHEET D2

**SIGNING NOTES**

- (W11-2) PEDESTRIAN CROSSWALK, OFFSET MOUNTED, DETAILS SHEET D2
- (W16) W16-7P DIAGONAL ARROW, OFFSET MOUNTED, DETAILS SHEET D2
- (OR22) OR22-25R STOP HERE FOR PEDS



60%

**NOTED PROFESSIONAL ENGINEER**  
**DAMIEN GIBERTON**  
 JULY 13, 2009  
 #42780PE  
 EXPIRES: JUNE 30, 2009

**NOTED PROFESSIONAL ENGINEER**  
**DAMIEN GIBERTON**  
 JULY 13, 2009  
 #42780PE  
 EXPIRES: JUNE 30, 2009

CITY JOB NO. XXXX

| REVISIONS |                       |     |
|-----------|-----------------------|-----|
| DATE:     | REVISION DESCRIPTION: | BY: |
|           |                       |     |
|           |                       |     |
|           |                       |     |

AGENCY APPROVALS

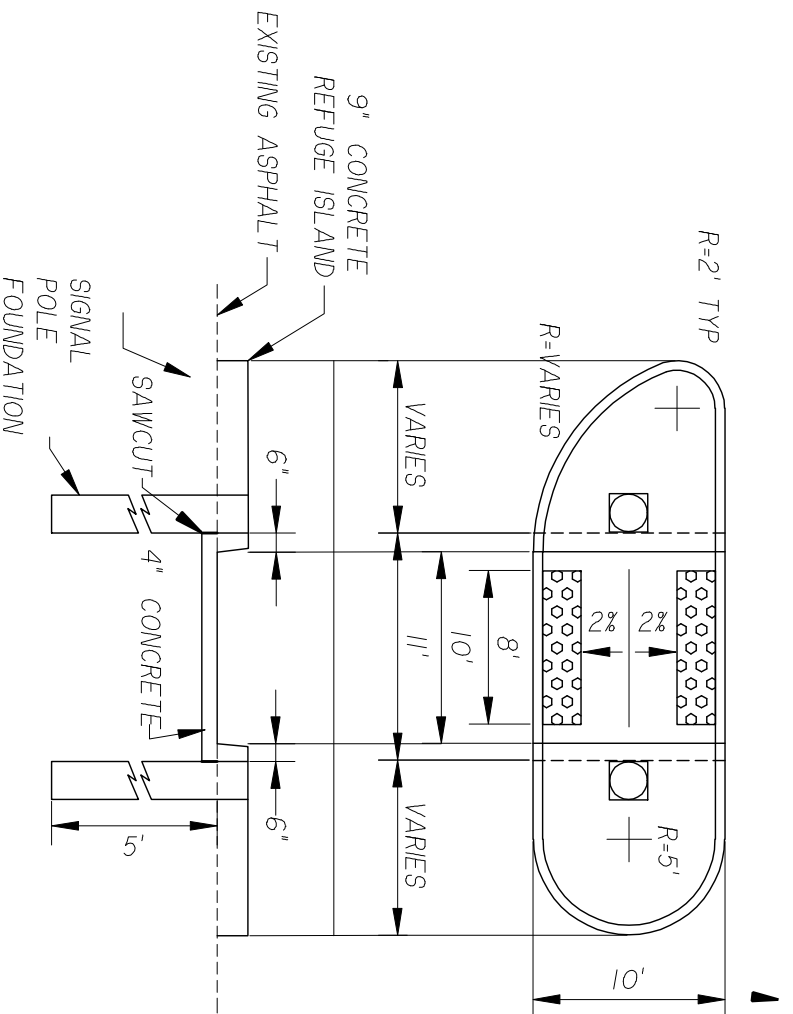
PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
 FOUR INTERSECTIONS & HWY 101  
 FLORENCE, OREGON**

DESCRIPTION:  
**18TH STREET  
 PERMANENT SIGNING, STRIPING,  
 AND SIGNALS PLAN**

**Branch Engineering, Inc.**  
 310 Fifth Street  
 Springfield, Oregon 97477  
 (541)746-0637 FAX (541)746-0389  
 branchadmin@branchengineering.com  
 Civil • Structures • Transportation • Surveying

|                |                  |
|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 20'         |
| DRAWN BY       | MLD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      | 74               |

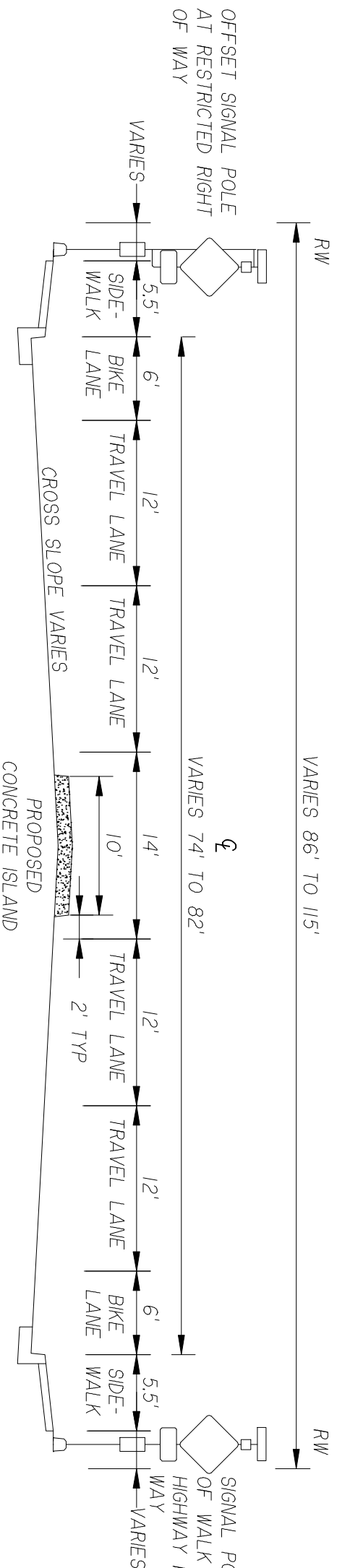
of 16 SHEET(S)



**TYPICAL PEDESTRIAN ISLAND  
PLAN AND ELEVATION VIEWS**  
NTS

**NOTES**

1. IN CROSSWALK, SAWCUT NEAT AND TRUE VERTICAL FACE IN EXISTING ASPHALT PAVEMENT TO A MINIMUM 4" DEEP. REMOVE INTERIOR ASPHALT.
  2. CROSSWALK PROFILE TO MATCH EXISTING ASPHALT PROFILE WITH MINIMUM 2% SLOPE; NO LANDING.
  3. CONST CONCRETE ISLAND W/9" CURB EXPOSURE AS SHOWN ON ODOT STANDARD DRAWING RD705, TYPE C, NON MOUNTABLE CURB, 3600 PSI CONCRETE.
  4. APPLY APPROVED SEALANT TO ALL JOINTS BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT OR CURB.
  5. INSTALL TRUNCATED DOME DETECTABLE WARNING TEXTURE AS SHOWN IN ODOT STANDARD DRAWING RD710.
- SEE CONSTRUCTION SHEETS FOR EACH ISLAND DIMENSIONS



**TYPICAL PEDESTRIAN ISLAND CROSS SECTION**  
NTS

60%

| REVISIONS |                       |     |
|-----------|-----------------------|-----|
| DATE:     | REVISION DESCRIPTION: | BY: |
|           |                       |     |
|           |                       |     |
|           |                       |     |

AGENCY APPROVALS

PROJECT TITLE:  
**PEDESTRIAN CROSSINGS  
FOUR INTERSECTIONS & HWY 101  
FLORENCE, OREGO**

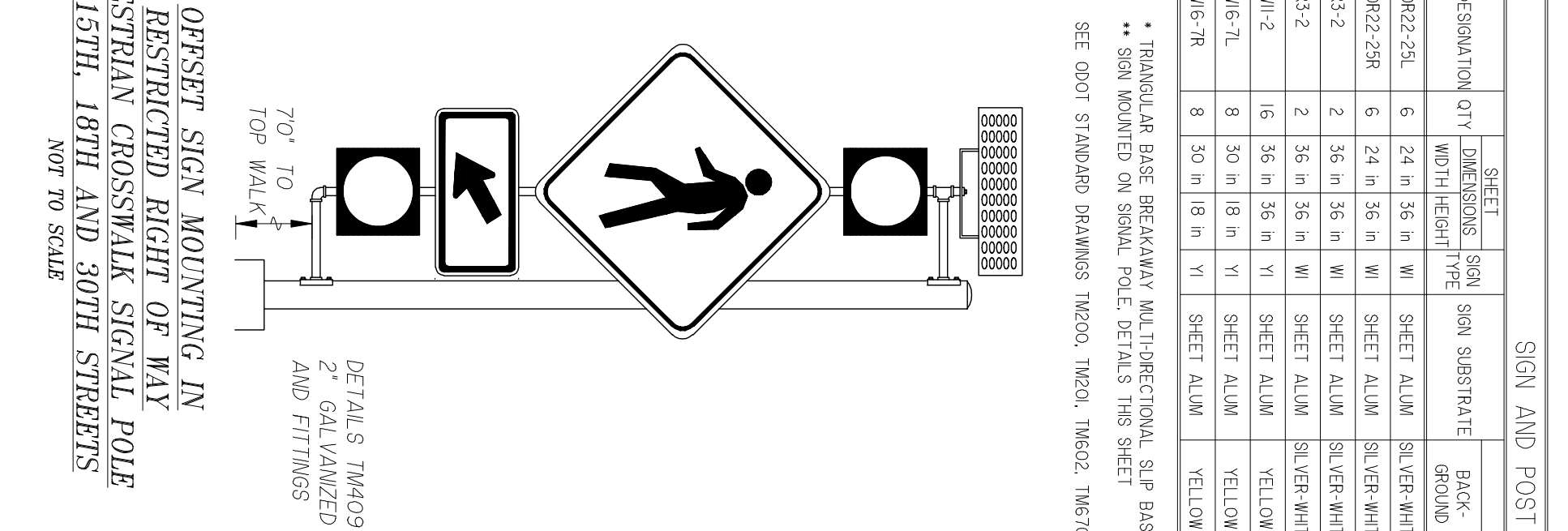
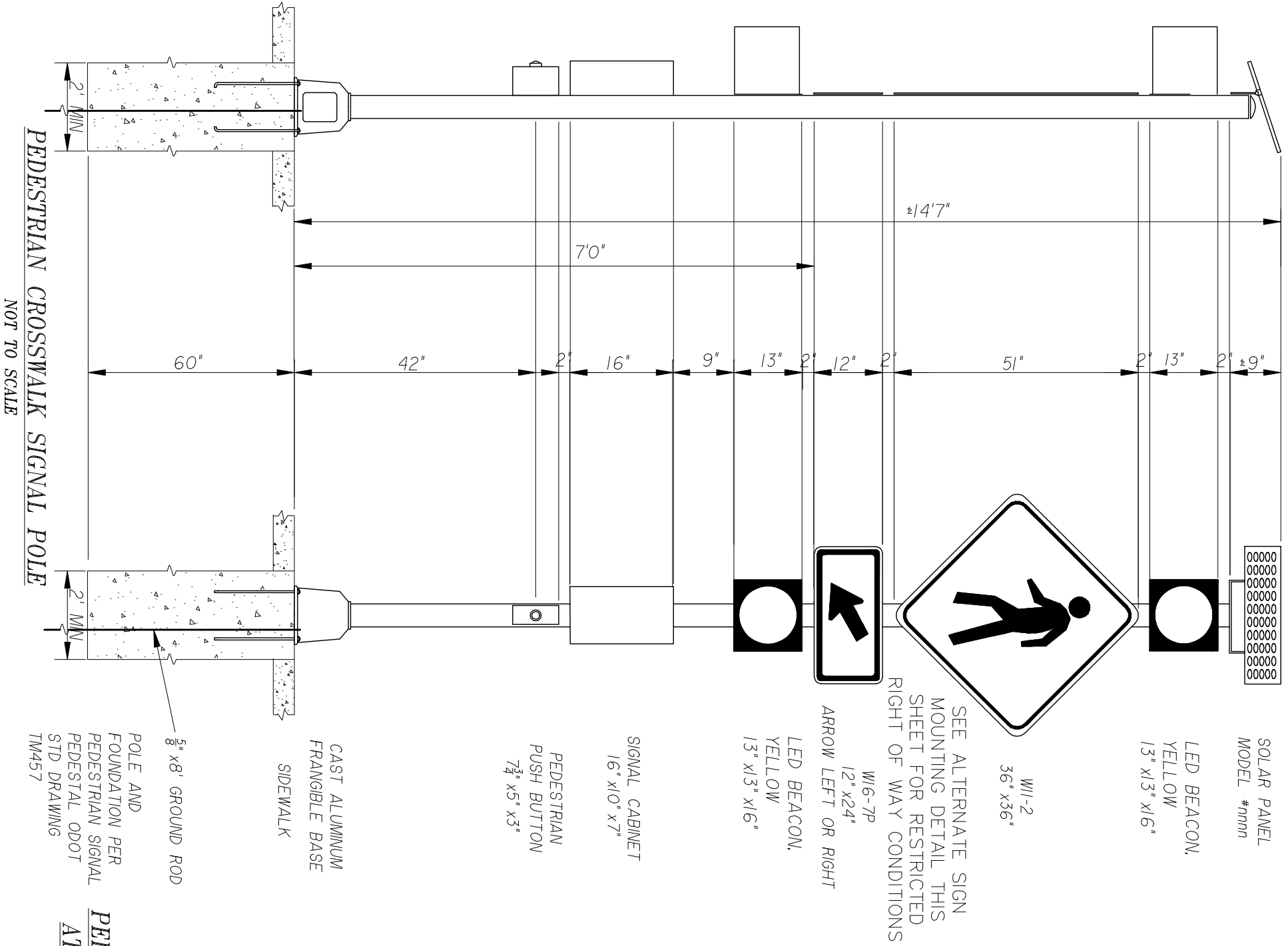
DESCRIPTION:  
**TYPICAL SECTION AND DETAILS**

**Branch Engineering, Inc.**  
310 Fifth Street  
Springfield, Oregon 97477  
(541)746-0637 FAX (541)746-0389  
branchadmin@branchengineering.com  
Civil • Structures • Transportation • Surveying

**REGISTERED PROFESSIONAL ENGINEER**  
DAMIEN GILBERT  
JULY 18, 2006  
EXPIRES: JUNE 30, 2009  
NOT BE USED FOR CONSTRUCTION

CITY JOB NO. XXXX

|                |                  |
|----------------|------------------|
| DATE           | FEBRUARY 9, 2009 |
| SCALE          | 1" = 10'         |
| DRAWN BY       | MJD              |
| DESIGNER       | DG               |
| CHECKED BY     | DG               |
| PROJECT NUMBER | 08-01K           |
| SHEET NO.      | D1               |



| SIGN AND POST DATA TABLE |     |                  |        |           |                |              |                |          |                |                    |
|--------------------------|-----|------------------|--------|-----------|----------------|--------------|----------------|----------|----------------|--------------------|
| DESIGNATION              | QTY | SHEET DIMENSIONS |        | SIGN TYPE | SIGN SUBSTRATE | COLOR        |                | SHEETING | POST           |                    |
|                          |     | WIDTH            | HEIGHT |           |                | BACK-GROUND  | TYPE           |          |                | PERMANENT          |
| OR22-25L                 | 6   | 24 in            | 36 in  | W1        | SHEET ALUM     | SILVER-WHITE | NON-REFLECTIVE | BLACK    | HIGH INTENSITY | *TS 3x3x 3/8       |
| OR22-25R                 | 6   | 24 in            | 36 in  | W1        | SHEET ALUM     | SILVER-WHITE | NON-REFLECTIVE | BLACK    | HIGH INTENSITY | *TS 3x3x 3/8       |
| R3-2                     | 2   | 36 in            | 36 in  | W1        | SHEET ALUM     | SILVER-WHITE | NON-REFLECTIVE | BLACK    | HIGH INTENSITY | *TS 3x3x 3/8       |
| R3-2                     | 2   | 36 in            | 36 in  | W1        | SHEET ALUM     | SILVER-WHITE | NON-REFLECTIVE | BLACK    | HIGH INTENSITY | WOOD 4" x 4" x 16' |
| W11-2                    | 16  | 36 in            | 36 in  | Y1        | SHEET ALUM     | YELLOW       | NON-REFLECTIVE | BLACK    | HIGH INTENSITY | **                 |
| W16-7L                   | 8   | 30 in            | 18 in  | Y1        | SHEET ALUM     | YELLOW       | NON-REFLECTIVE | BLACK    | HIGH INTENSITY | **                 |
| W16-7R                   | 8   | 30 in            | 18 in  | Y1        | SHEET ALUM     | YELLOW       | NON-REFLECTIVE | BLACK    | HIGH INTENSITY | **                 |

\* TRIANGULAR BASE BREAKAWAY MULTI-DIRECTIONAL SLIP BASE  
 \*\* SIGN MOUNTED ON SIGNAL POLE. DETAILS THIS SHEET  
 SEE ODOT STANDARD DRAWINGS TM200, TM201, TM202, TM602, TM670, TM677

60%

PEDESTRIAN CROSSWALK SIGNAL POLE  
 NOT TO SCALE  
 OFFSET SIGN MOUNTING IN  
 RESTRICTED RIGHT OF WAY  
 PEDESTRIAN CROSSWALK SIGNAL POLE  
 AT 15TH, 18TH AND 30TH STREETS  
 NOT TO SCALE

NOT FOR CONSTRUCTION  
 DAMIEN GLENNON  
 JULY 13, 2009  
 EXPIRES: JUNE 30, 2010  
 PEDESTRIAN CROSSWALK SIGNAL POLE  
 NOT FOR CONSTRUCTION  
 DAMIEN GLENNON  
 JULY 13, 2009  
 EXPIRES: JUNE 30, 2010

|  |   |  |  |
|--|---|--|--|
| PROJECT TITLE:<br><b>PEDESTRIAN CROSSINGS<br/>         FOUR INTERSECTIONS &amp; HWY 101<br/>         FLORENCE, OREGON</b>  | DESCRIPTION:<br><b>SIGNAL DETAILS<br/>         SIGN AND POST DATA TABLE</b> | AGENCY APPROVALS   |  |
|  |   | REVISIONS<br>DATE:      REVISION DESCRIPTION:      BY:   |  |
| PROJECT TITLE:<br><b>PEDESTRIAN CROSSINGS<br/>         FOUR INTERSECTIONS &amp; HWY 101<br/>         FLORENCE, OREGON</b>  |   | AGENCY APPROVALS   |  |
| DESCRIPTION:<br><b>SIGNAL DETAILS<br/>         SIGN AND POST DATA TABLE</b>  |   | REVISIONS<br>DATE:      REVISION DESCRIPTION:      BY:   |  |
| Branch Engineering, Inc.<br>310 Fifth Street<br>Springfield, Oregon 97477<br>(541)746-0637 FAX (541)746-0389<br>branchadmin@branchengineering.com<br>Civil • Structures • Transportation • Surveying |   | DATE: FEBRUARY 9, 2009<br>SCALE: 1" = 10'<br>DRAWN BY: MLD<br>DESIGNER: DG<br>CHECKED BY: DG<br>PROJECT NUMBER: 08-01K<br>SHEET NO.: |  |
| CITY JOB NO. XXXX<br>OF 16 SHEET(S)  |   | D2   |  |



**DRAFT – M E M O R A N D U M #6**  
**Pedestrian and Bicycle System**  
*Prepared by the City of Florence*  
*September 16, 2011*

**Purpose**

The purpose of this plan is to improve connectivity for pedestrians and bicyclists within the Urban Growth Boundary.

**Transportation Planning Rule**

The following are the key excerpts from the Transportation Planning Rule (Oregon Administrative Rule 660-12) pertaining to bicycles and pedestrians within a Transportation System Plan (TSP).

**Section 0020**

(2) The TSP shall include the following elements:

(b) A road plan for a system of arterials and collectors and standards for the layout of local streets and other important non-collector street connections. Functional classifications of roads in regional and local TSP's shall be consistent with functional classifications of roads in state and regional TSP's and shall provide for continuity between adjacent jurisdictions. The standards for the layout of local streets shall provide for safe and convenient bike and pedestrian circulation necessary to carry out OAR 660-012-0045(3)(b). New connections to arterials and state highways shall be consistent with designated access management categories. The intent of this requirement is to provide guidance on the spacing of future extensions and connections along existing and future streets which are needed to provide reasonably direct routes for bicycle and pedestrian travel. The standards for the layout of local streets shall address:

(A) Extensions of existing streets;

(B) Connections to existing or planned streets, including arterials and collectors;  
and

(C) Connections to neighborhood destinations.

(d) A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area. The network and list of facility improvements shall be consistent with the requirements of ORS 366.514;

**Section 0045**

(3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth below. The purposes of this section are to provide for safe and convenient pedestrian, bicycle and vehicular circulation consistent with access management standards and the function of affected streets, to ensure that new development provides on-site streets and accessways that provide reasonably direct routes for pedestrian and bicycle travel in areas where pedestrian and bicycle travel is likely if connections are provided, and which avoids wherever possible levels of automobile traffic which might interfere with or discourage pedestrian or bicycle travel.

(a) Bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park-and-ride lots;

(b) On-site facilities shall be provided which accommodate safe and convenient pedestrian and bicycle access from within new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts to adjacent

residential areas and transit stops, and to neighborhood activity centers within one-half mile of the development. Single-family residential developments shall generally include streets and accessways. Pedestrian circulation through parking lots should generally be provided in the form of accessways.

(6) In developing a bicycle and pedestrian circulation plan as required by 660-012-0020(2)(d), local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity centers (i.e., schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.

### **Parks and Recreation Policies, Recommendations and Projects**

In February 2011, the City adopted Comprehensive Plan policies and recommendations for Parks, Recreation and Open Space (Chapter 8). The City Council also acknowledged the Florence Parks and Recreation Master Plan. The following Comprehensive Plan policies and recommendations relate to bicycle and pedestrian travel and recreation in Florence.

#### ***Parks and Recreation Policies***

9. To provide a comprehensive trail plan that includes bicycle, pedestrian and boating facilities.
  
14. The City shall develop an interconnecting trail system, providing a full circular route around the Florence area and incorporating Rhododendron Drive, Munsel Lake, beaches, dunes, Old Town, Port and Siuslaw Estuary. The system shall also connect the various parks, residential areas, business, public places through the following actions:
  - a. Consider the potential to establish or maintain bikeways and/or walkways prior to vacating any public easement or right-of-way;.
  - b. Develop and adopt a Comprehensive Trail Plan that includes bicycle and pedestrian facilities and provides for park connections;
  - c. Develop the bike lanes and multi-use paths identified in the Florence Transportation System Plan to connect bicyclists and pedestrians to parks, commercial centers and nature areas;
  - d. Develop and adopt bike and pedestrian facility design standards; and
  - e. Develop a system of trails and pathways to provide a safe network that links neighborhoods, parks, natural open space, schools, employment centers, shopping locations, recreation facilities and other key community destinations.
  
16. The City shall support Federal, State, County and City efforts to develop bicycle paths, such as the Oregon Coast Trail, connecting the City to nearby recreation areas.
  
19. The City, in conjunction with the Port of Siuslaw, Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians and the Siuslaw Watershed Council, shall plan and provide estuary and aquatic trails and put in and take out points along the Siuslaw River.
  
21. In pursuing funding for parks and recreational facility maintenance and enhancement, the City shall give priority to the following, not necessarily in this order:

- c. pedestrian, bicycle, and multi-use trail and path development;
  - e. improved public access to existing public open space areas through public trails, signage and education in order to reconnect youth with nature and provide more close-to-home recreational opportunities that are free of cost, consistent with the State's recreational planning priorities;
  - f. acquisition of new park and open space areas in existing developed areas; *(could be connectors)*
22. The City shall explore parks and open space funding through sources such as grants, systems development charges, use of a special levy, proceeds from street and right-of-way vacations, maintenance fees, and other available funding mechanisms. Where desirable, partnerships with federal, state, county and regional agencies, non-profit organizations, and private interests shall be formed to help secure and possibly finance land acquisition and facility development and redevelopment and maintenance of existing and proposed facilities. (moved from Chapter 11, Policy #2)

### ***Recommendations***

- 4. The City should continue to apply for transportation enhancement funds, or other available funds to develop bicycle paths connecting the City to nearby recreation areas, particularly to:
  - a. implement the Rhododendron Drive Integrated Transportation Plan;
  - b. extend the Munsel Creek bike/pedestrian trail south to Gallagher Park and north to Munsel Lake;
  - c. develop a bike/pedestrian system in the West 9th Street area; and
  - d. improve linkages within the Oregon Coast Trail that connects the North Jetty area with the Oregon Dunes National Recreation Area.
- 5. The City should pursue establishment of an estuary trail connecting the Boardwalk with the Munsel Creek bike/pedestrian trail. ODOT has indicated a preference for an in-culvert pedestrian crossing under Highway 126. Absent that opportunity they prefer a surface crossing be located midblock between Redwood and Spruce Streets.
- 8. In order to provide the public with increased and unrestricted access to the Siuslaw River and its estuary, the City should develop its public street rights-of-way which terminate at the River as river access parks, which may include parking to meet Old Town parking needs as appropriate.

### **Definitions**

#### ***Bike Lane***

A separate lane adjacent to the vehicle travel lane for the exclusive use of bicyclists is a bike lane. Bike lanes are appropriate on arterials and collectors. Bike lanes must always be well marked to call attention to their use by bicyclists. Striped on-street bicycle lanes should be provided on all arterial and collectors streets in the following situations: collector streets that have daily volumes of more than 3,000 vehicles; where the collector street directly connects major residential areas with schools or parks; and where it may be necessary to ensure safe bicycle travel.

### ***Multi-use Path (Shared-use Path)***

A facility separated from the roadway by an open space or barrier, either within the roadway right-of-way or within an independent right-of-way. They are typically used by pedestrians, joggers, skaters and bicyclists as two-way facilities. Multi-use paths are appropriate in corridors not well served by the street system (if there are few intersecting roadways), to create short cuts that link destination and origin points, and as elements of a community trail plan.

### ***Sharrows***

A street on which bicyclists and motorists ride in the same travel lanes (like shared roadways) but where markings and/or signage indicate the likely presence of bicycles.

### ***Shared Roadway***

Bicyclists and motorists ride in the same travel lanes. The shared roadway facility is best used where there is minimal vehicle traffic to conflict with bicycle traffic.

### **Bicycle Projects**

*Note: The Florence population includes an older demographic that want to maintain their independence but may not be able/comfortable driving a motor vehicle. For many, a motorized scooter is a good option. A transportation system designed for bicyclists also serves people who want to get around in motorized scooters.*

### **Heceta Beach Road Bike Lanes**

This street is currently a narrow 26-28 foot roadway with no shoulders. Heavy vegetation adjacent to the street provides a scenic “feel” to the traveler, and also makes widening difficult. A five-foot striped bike lane should be provided on both sides, resulting in a 34-foot wide cross section. *From TSP*

### **Munsel Lake Road Bike Lanes**

Provide five foot bicycle lanes on both sides resulting in a 34-foot wide cross section. This bikepath provides an alternate connection of Highways 101/126 that avoids much of the developed section of Highway 101 within the City limits. Care must be taken to accommodate bicycles and pedestrians while maintaining scenic corridor feel.

### **4<sup>th</sup> Avenue Sharrows**

Although not listed in the text of the TSP, 4<sup>th</sup> Avenue is shown on Map 12I-1. This street would provide a connection from Heceta Beach Road and Rhododendron Drive north to the recreational opportunities on the land just north and east of the UGB owned by the US Forest Service and the Bureau of Land Management. With lower traffic volumes, the recommendation for accommodating bicycles on this street would be through Sharrows.

### **Bike Route as Scenic Alternative to Highway 101 – for Coastal Bicyclists**

Heceta Beach Road to Rhododendron Drive to Kingwood to connect to OldTown.

### **Kingwood Street**

Kingwood extends from 35<sup>th</sup> Street to 2<sup>nd</sup> Street. There are no bike lanes on Kingwood south of 10<sup>th</sup> Street. It is anticipated that this street will experience traffic volumes in excess of 3000 trips

per day by the year 2035. The right-of-way should be sufficient to provide for on-street parking on one side of the street. An alternative to bike lanes and one-side of curb-side parking is to keep on-street parking on both sides of the street and create Sharrows.

### **Spruce Street South – Bike Lanes**

There are no bike lanes on Spruce south of 25<sup>th</sup> Street. This street is an important north-south route east of Highway 101. There are few homes fronting on Spruce Street, so there is little need for on-street parking and bike lanes could be added relatively easily.

### **Spruce Street North - Sharrows**

There are no bike lanes on Spruce Street between 37<sup>th</sup> and 42<sup>nd</sup>, but this street is used as a major bike connection as both 35<sup>th</sup> and 42<sup>nd</sup> Streets have bicycle lanes. However, on this segment of Spruce Street, there are several homes fronting on Spruce. The traffic in this location is a little lower than that on the southern part of Spruce, so Sharrows would be a good solution.

### **Oak Street Bike Lanes**

There are no bike lanes on Oak Street south of 24<sup>th</sup> Street. In order to provide safe bicycling to the elementary school, bike lanes should be provided.

### **Quince Street Bike Lanes/2<sup>nd</sup> Street Sharrows**

Quince Street is currently wide enough to strip bike lanes. These should be striped from Highway 101 down to Harbor Street. At that point, travel speeds into Old Town are lower and traffic begins to disperse. From Harbor Street to Highway 101, bicycles could be accommodated with Sharrows in order to continue to provide on-street parking.

### **9<sup>th</sup> Street Sharrows**

Most of 9<sup>th</sup> Street has bicycle lanes, but the portion just west of Highway 101 does not due to a turn lane. For this section, the travel lanes should become Sharrows.

### **Highway 101 Bike Lanes between Bridge and Hwy. 126**

Currently, there are no bicycle lanes along the section of Hwy 101 between the 126/101 intersection and the Bridge. There is not enough right-of-way to accommodate standard bicycle lanes and on-street parking. Even if ODOT striped a reduced 11' outside lane width it would not provide the 14' needed for a standard 6' bike lane and 8' on street parking. One way to provide bike lanes is to do a “road diet” where all the lanes are narrower than the standard. ODOT would have to agree to the exceptions needed to the standard median, travel lane, bike lane and parking widths to narrow them all up and be very close to fitting all of them in. If the Highway Engineer approved the reduced widths it would require a full paving overlay project because the existing durable striping would need to be ground off to change the configuration.

Otherwise, eliminating on-street parking would be necessary to provide bike lanes.

A third option would be Sharrows.

## **Bicycle Programs**

### **Regular Street Sweeping of Highway 101**

Each year, especially in the summer, many bicyclists ride through Florence as they ride the Oregon Coast. When there is an accumulation of debris within the bicycle lanes, it becomes unpleasant and sometimes dangerous for bicyclists. Regular street sweeping would keep these bicycle lanes clear. In addition to the sweeping the streets, ODOT could post a schedule of street-sweeping.

### **Regular Enforcement of “No Parking in Bicycle Lanes”**

Regular enforcement of this requirement would ensure that the bicycle lanes are not blocked by parked vehicles that create a safety hazard for bicyclists. Problem areas identified are: 27<sup>th</sup> Street during football games; Spruce Street between 35<sup>th</sup> and 37<sup>th</sup>, and 42<sup>th</sup> Street.

### **Bicycle Parking**

The City currently requires the provision of bicycle parking as part of new development. The City could look at requiring or at least encouraging bicycle parking when new businesses go into existing buildings. The City could also institute a program of educating and encouraging existing businesses that are not already providing bicycle parking to do so. Perhaps this project could be performed in conjunction with the Chamber of Commerce as a way to create a more inviting community to the local bicycle community as well as all the bicyclists travelling through as they ride to or along the Oregon Coast.

### **Become a Bicycle-Friendly Community**

Work toward becoming a “Bicycle-Friendly Community.” The Bicycle Friendly Community Program (BFC) provides incentives, hands-on assistance, and award recognition for communities that actively support bicycling. A Bicycle Friendly Community welcomes cyclists by providing safe accommodation for cycling and encouraging people to bike for transportation and recreation. <http://www.bikeleague.org/programs/bicycleyfriendlyamerica/communities/>

### **Bicycle Map**

Create a map (available on paper and electronically) showing the designated bicycle routes through town (roads with bicycle lanes, shared-use paths, sharrows) with mileage indications. It could include traffic safety cautions as an educational opportunity. This map could feature tourist locations, bicycle-friendly shopping opportunities, parks and recreation sites, and/or scenic spots. It could also include business sponsorships/advertisements to pay for the printing. See Newport’s Bike Map as an example.

### **Partner with Port to Promote Bicycle Camping**

If some of the thousands of bicyclists that ride the Oregon Coast knew about camping opportunities at the Port, some may chose to overnight in Florence where they would have ready access to dining, shopping, and recreation opportunities in Old Town.

### **Educate Bicyclists about Rules of the Road**

Provide information about state law (see “Pedal Power – a Legal Guide for Oregon Bicyclists” at <http://www.stc-law.com/pdf/PP7thEdition.pdf>) as well as the City Code (Title 7 Chapter 1 Traffic Regulations, Section 4 General Driving Regulations).

### **Bike to Work/School Promotion**

Partner with Peace Health to promote Bike to Work/School month, week, day to promote bicycling and walking as a convenient, healthy, safe, and viable transportation modes.

### **Replace Dangerous Storm Drains**

Some storm drains are installed such that bicycle tires can get caught in them, a safety hazard. These storm drains should be replaced with drains that have cross-members going in opposite direction of bicycle tire with no gaps between pavement and metal grate.

### **Bicycle/Pedestrian Projects**

#### **Rhododendron Drive**

Recognizing the scenic value of this key transportation corridor, the City adopted the Rhododendron Drive Integrated Transportation Plan after extensive public involvement. This Plan divides Rhododendron Drive into segments as well as identifying several viewing waysides. In summary the Plan indicates the following improvements for bicycles and pedestrians within these segments:

Highway 101 to Hemlock – sidewalks and bike lanes both sides with parking on one side

Hemlock to 9<sup>th</sup> Street – bike lanes and sidewalks on both sides (no on-street parking)

(Due to limited development on southeast side, sidewalks may not be necessary on both sides of the street for this segment)

9<sup>th</sup> to 12<sup>th</sup> – transition segment – sidewalk on west side, bike lanes both sides, and wider path separated from road on east side

12<sup>th</sup> to City limits – pedestrians and bicyclists share path on east side of Rhododendron

Phil Farrington of Peace Health submitted comments on this plan, see attached letter dated July 30, 2010.

#### **Munsel Creek Path**

This shared-use path is developed between Quince Street on the south and 25<sup>th</sup> Street on the north. Between 16<sup>th</sup> and 25<sup>th</sup> Streets, the path follows Willow Loop and 23<sup>rd</sup> Street to connect to the stream corridor on Willow Street. It currently needs an overlay or to be repaved. Ultimately, it will connect across Highway 126 to the Estuary Trail. There should be more access points to this path, including a connection with Gallagher Park. The Munsel Lake Boat Launch and Lake Access Area on Munsel Lake Road is a logical destination for water habitat and related trails. The path is proposed to extend from its termination point west of the City wellfields through City lands to City owned overlook over the Florentine Estates wetland and then east across City land to the service road for the wellsites north of City lands. The last section from the service road to Munsel Lake Road will require dedication and development of shared-use path right-of-way and/or easements as the owner develops his property for residential uses.

#### **Estuary Trail**

Connect Boardwalk in Old Town to south end of Munsel Creek Path. (The Siuslaw Estuary Partnership is currently working on Recommended Trail Designs and Location Options.

## **12<sup>th</sup> Street Path**

This path between Kingwood and Rhododendron was recently developed into a bark path. The next stage is to cross the wetlands and then to pave the entire path.

## **12<sup>th</sup> Street Connection between Munsel Creek Path and Highway 101**

There is existing right-of-way that is undeveloped but would be a good location for a multi-use path between the Munsel Creek Path and Highway 101, south of the old Rite Aid store.

## **Oak Street between 15<sup>th</sup> and 10<sup>th</sup>**

This segment of existing right-of-way is not likely to be developed as a full street due to the topography and location of existing house that will prevent the necessary grading to achieve necessary slopes. However, paving a path from 15<sup>th</sup> to 10<sup>th</sup> would provide a continuous bicycle/pedestrian connection from 46<sup>th</sup> Street to Downtown.

## **Pedestrian Projects**

### **Pedestrian Access to Siuslaw River Bridge**

Add sidewalks along Highway 101 north of the Siuslaw River Bridge to connect to existing sidewalks that begin around 2<sup>nd</sup> Street. Also restore western stairs from Bay Street to Highway 101 Bridge over Siuslaw and construct interpretive overlook at northeast location of bridge.

### **Fill in Missing Sidewalk Segments within OldTown**

Old Town is one of the primary tourist areas within Florence developed with vibrant retail stores, quality restaurants, views of the Siuslaw Estuary and Historic Bridge, the Boardwalk, and the Port's docks and marina. This part of town is developed to a pedestrian scale with historic lighting. However, there are some segments without sidewalks that discourage walking or else result in people walking in the street. New and reconstructed sidewalks are to be a minimum of eight feet wide in Old Town Area A and a minimum of eight feet wide along Quince/2<sup>nd</sup> Street. Quince/2<sup>nd</sup> Street is the main connector between Highway 126 with Old Town. In addition to wide sidewalks, plantings and street trees are desirable to create a greenway effect.

### **12<sup>th</sup> Street Crossing of Highway 101**

With a planned path within the 12<sup>th</sup> Street right-of-way between the Munsel Creek Path and Highway, a good location for a safe crossing of Highway 101 is at 12<sup>th</sup> Street. This crossing is identified with potential design shown in the U.S. 101 Pedestrian Study by Alta and CHSMHill. Branch Engineering has developed plans for a pedestrian crossing (see attached designs). To provide for safe pedestrian connection to crossing, there is also a sidewalk needed on the south side of 12<sup>th</sup> Street on the west side of Highway 101.

### **15<sup>th</sup>/16<sup>th</sup> Mid-Block Crossing**

Branch Engineering also has 60% plans completed for this intersection (see attached designs).

### **27<sup>th</sup> Street Crossing**

The current TSP includes a traffic signal on Highway 101 at 30<sup>th</sup> Street. ODOT and the City of Florence constructed a pedestrian crossing at 30<sup>th</sup>. Part of this TSP update includes consideration of relocating the traffic signal back to 27<sup>th</sup> Street. If that does not happen, then a safe pedestrian crossing should be provided at 27<sup>th</sup> per the Alta Plan (p. 33). The multi-use path within 27<sup>th</sup>



Street right-of-way has already been constructed. There would need to be a new sidewalk on the south side of 27<sup>th</sup> Street to connect to existing sidewalks on Oak Street and provide a safer connection for pedestrians.

### **43<sup>rd</sup> Street Crossing and/or in Front of Fred Meyer**

The Alta Study includes a pedestrian crossing at 43<sup>rd</sup> Street. As Cannery Station was approved on the east side of Highway 101, it was then thought that a pedestrian crossing should be built between that development and Fred Meyer. The timing and priority of these pedestrian crossings will be based on actual development.

### **Pedestrian Crossing of Highway 126**

A pedestrian activated crossing similar to the others constructed in town is needed for Highway 126 if the Estuary Trail ends up with a surface crossing of Highway 126. This crossing would be somewhere between Quince and Spruce Street, perhaps at Redwood.

### **Pedestrian Crossing at 9<sup>th</sup> and Kingwood**

This intersection is problematic for motorists as well as pedestrians. It is on a primary emergency corridor and has been identified as an issue for bus drivers. A pedestrian signal and crosswalk should be added to any redesign of this intersection.

### **Pedestrian Crossing Study**

Now that the City and ODOT have installed four pedestrian crossings on Highway 101 (2<sup>nd</sup> Street, 7<sup>th</sup>/8<sup>th</sup> Street, 17<sup>th</sup>/18<sup>th</sup> Street, and 30<sup>th</sup> Street) it would be useful to determine if these pedestrian-activated crossings have altered people's habits in terms of crossing Highway 101. This study should include pedestrian counts at various intersections. With this additional information, the City could determine if additional locations are needed and how best to prioritize those needs. It has been noted that lots of kids coming from the 23<sup>rd</sup>/24<sup>th</sup> Street area and crossing in front of the former Dunham Motors and south of the Taco Bell during the lunch hour. So there may be a need for a crossing between 21<sup>st</sup> and 27<sup>th</sup> Streets.

### **Crosswalks on Maple and Kingwood Safe Routes to School**

A priority for providing safe pedestrian access to the schools in Florence include:

- 1 – Construction of sidewalks along the east side of Oak Street from 27<sup>th</sup> Street to 32<sup>nd</sup> Street
- 2 – Crosswalks at the 27<sup>th</sup> and Oak Street intersection.
- 3 – Crosswalks at the 30<sup>th</sup> and Oak Street intersection.
- 4 – Crosswalk across Oak Street in line with the pedestrian path between Oak Street and Myrtle Loop (just south of 34<sup>th</sup> Street)
- 5 – Crosswalk at 35<sup>th</sup> and Oak Street intersection.

### **Sidewalks along all Arterials and Collectors**

Of all the streets in the UGB, arterial and collector streets have the most traffic and vehicles travelling at higher speeds than local streets. As such, these types of streets need to accommodate pedestrians on sidewalks or multi-use paths. They also should allow for safe crossings through improvement such as crosswalks, pedestrian activated crossings, medians, curb-extensions. Where development occurs adjacent to these streets, sidewalks should be

required as part of development approval (or if immediate construction is impractical, have a commitment for construction in the form of a non-remonstrance agreement). However, in other cases where adjacent land uses are already developed, the State/City/County may need to create projects with identified funding sources in order to construct sidewalks. These projects could be funded through Local Improvement Districts, grants, and/or system development charges.

The following arterials and collectors have been identified through this planning process as being the most critical:

### **Kingwood Street**

With Kingwood a major north-south Street and expected traffic volumes exceeding 3000 trips per day by the year 2035, sidewalks are necessary for safe walking. Futhermore, Kingwood provides connections to the Senior Center, Singing Pines, the Airport, the 12<sup>th</sup> Street Path, Downtown. There is also a school bus stop between 9<sup>th</sup> and 10<sup>th</sup>. This project would construct sidewalks from approximately 20<sup>th</sup> Street south.

### **Highway 101**

All areas along Highway should have sidewalks to provide safe pedestrian travel and access to adjacent businesses.

### **Munsel Lake Road**

There are no sidewalks on Munsel Lake Road, a county road. It is projected to have traffic volumes exceeding 3000 trips per day by the year 2035. Part of the street is inside the City and part of it is outside the City. There is residential development around Ocean Dunes that in particular should be provided with sidewalks to provide access to the Morman Church, Munsel Road Park, and Ocean Dunes Golf Course.

### **Pedestrian Access to Parks**

There are various parks in town that lack sidewalks. These include:

Singing Pines Park – construct sidewalks along Airport/15<sup>th</sup> Street and Kingwood Street

Miller to Singing Pines – pave the path between these two parks

29<sup>th</sup> Street Path – reconstruct this path from Spruce Street to Munsel Greenway Park. This path needs to be regarded to allow for redesign of the barrier along Spruce Street. Include signage for path indicating access to Munsel Greenway Park.

### **Pedestrian Programs**

#### **Code Requirements and Enforcement to Ensure Safe, Passable Sidewalks** (from Alta Study)

1 – Require landscape material such as large bark chips and rocks be secured or kept away from the sidewalk. If landscaping rocks or chips blow or roll onto the sidewalk, they can become a trip hazard or an impediment to wheel chairs.

2 – Keep shrubs and other landscaping trimmed to prevent encroachment onto/over sidewalk and to maintain vision clearance areas.

3 – Where parking lots are adjacent to sidewalks, require curbs or wheelstops to keep the vehicles from overhanging the sidewalk.

4 – Request ODOT install Leading Pedestrian Interval (LPI) signals at all signal controlled intersections. These LPI signals provide the pedestrian a three- to four-second head start to begin crossing the intersection prior to release of turning vehicles. With the demographics of Florence weighted heavily towards those 55 and older, the additional crossing time provided by LPI would improve pedestrian safety and comfort.

### **Walking Map**

Create a map (available on paper and electronically) showing safe walking routes indicating mileage. The map could include traffic safety reminders. These could include walks to scenic vistas, parks and recreation opportunities, points of interest, and/or shopping opportunities. It could also include business sponsorships/advertisements to pay for the printing.

### **Educate Pedestrians about Rules of the Road**

Provide information about state law (see “Oregon Pedestrian Rights – A Legal Guide for Persons on Foot” at [http://www.stc-law.com/pdf/OPRlegal\\_guide.pdf](http://www.stc-law.com/pdf/OPRlegal_guide.pdf)) as well as the City Code (Title 7 Chapter 1 Traffic Regulations, Section 8 Pedestrians).

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.*

*The contents of this document do not necessarily reflect views or policies of the State of Oregon.*



## PROJECT MEMORANDUM #7

### Local Transit System

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**Date:** September 27, 2011 Project #: 10103.0

**To:** Sandra Belson  
Community Development Director – City of Florence  
250 Highway 101  
Florence, Oregon 97439

**From:** Chris Tiesler, P.E., Dan Seeman, and Paul Ryus

**Project:** City of Florence Transportation System Plan Update

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### INTRODUCTION

This memorandum is designed to serve as the basis for the transit element of the Florence Transportation System Plan. It contains two parts. The first part summarizes existing transit conditions and needs that were originally presented in Project Memorandum #4, Existing Conditions, Deficiencies, and Future Needs. This material provides background information that supports the second part of this memorandum, which presents recommendations for future transit service in Florence.

### SUMMARY OF EXISTING CONDITIONS AND NEEDS

#### *Local Bus Service*

The City of Florence, in collaboration with Lane Transit District (LTD), has an agreement with River Cities Taxi to operate the Rhody Express, a fixed-route bus system that loops through Florence hourly on weekdays between 10 a.m. and 6 p.m. One 16-seat bus is used to operate two routes, with the bus alternating service between the two routes:

- The *North Loop* serves areas north of 20<sup>th</sup> Street, along US 101, Spruce Street and Oak Street, between the Grocery Outlet and Fred Meyer.
- The *South Loop* serves areas south of 20<sup>th</sup> Street, along Spruce Street, US 101, 9<sup>th</sup> Street, Rhododendron Drive, Kingwood Street and Quince Street, circulating between Grocery Outlet, Safeway/Dunes Village Center, Peace Health Campus, and the Old Town District.

The Rhody Express operates under a flag stop system, with the bus stopping at any safe location along the route to pick up and drop off passengers. The bus will deviate up to two blocks to pick up and drop off passengers who have difficulty walking to a street with bus service; this service

must be requested in advance. The bus is equipped with a wheelchair lift. The fare is \$1 for a one-way trip, or \$2 for an all-day ticket.

Passengers with disabilities unable to use the regular fixed-route bus service may use the Rhody Dial-a-Ride service. This service is offered to eligible passengers weekdays between 10 a.m. and 6 p.m. between points located within  $\frac{3}{4}$  mile of the Rhody Express route. The fare is \$2 per one-way trip, and trips must be scheduled in advance. The service area, service hours, fare, and pre-scheduling requirement meet the minimum Americans with Disabilities Act (ADA) requirements for “complementary paratransit service.” In-person assessments to determine functional capability are conducted through the local Senior and Disabled Services (S&DS) office.

### ***Specialized Transit Services***

Several Florence-area organizations and programs provide transportation services to older adults and persons with disabilities with most trips being to and from medical services. These services include:

- Friends of Florence Van for individuals needing cancer treatment in Eugene,
- Medicaid Non-Emergency Medical Transportation (NEMT) for individuals that qualify for the Oregon Health Plan Plus,
- Veteran’s Transportation, and
- Florence S&DS Volunteer Escort and Senior Companion drivers serve older adults living independently without any other means of transportation.

Transportation is also provided by some retirement centers.

### ***Intercity Bus Service***

Porter Stage Lines operates a daily intercity service traveling from Coos Bay, through Reedsport and Florence to Eugene with an “on call” stop at the Eugene Amtrak Station. The route proceeds from Eugene through Sisters to Bend. Florence and Reedsport Stops are “drop off only” on the return trip. As an Amtrak Thruway bus it operates twice daily on weekdays (once daily on weekends) between Florence City Hall and the Amtrak and Greyhound stations in Eugene. The one-way fare is \$23 for those connections.

### ***Neighboring Public Transit Service***

Lane Transit District operates bus service from Eugene to Veneta, 48 miles east of Florence, seven times daily on weekdays and twice daily on Saturday. Lincoln County Transit operates bus service from Newport to Yachats, 25 miles north of Florence, four times daily on weekdays and Saturdays. Coos County Area Transit provides one round-trip from Reedsport, 22 miles south of Florence, to Coos Bay on Wednesdays only.

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## **Transit Needs**

As part of the development of the Transportation System Plan, the City of Florence conducted several surveys about the city's current transit service. These surveys consisted of a survey mailed to all residents with their city utility bill, an on-board survey of Rhody Express riders, and employee surveys at Fred Meyer, Grocery Outlet, and Peace Health. In addition, a survey of delivery services and public agency staff included questions about transit service.

Nearly all (95%) of respondents to the general survey were aware of Rhody Express service, but most (75%) had never used it. Service improvements most desired by this group were: expanded route coverage (52%), weekend service (39%), more frequent service (33%), and expanded AM/PM service hours (23%/26%). Respondents could pick multiple improvements; retirees were over-represented in the general survey responses. The most-requested service locations in or near Florence were Florentine Estates, Driftwood Shores/Heceta Beach, Sutton Lake, and the dunes area. The most-requested more-distant service locations were Eugene (primarily), with Yachats/Newport and Reedsport also requested.

The typical Rhody Express rider is a senior citizen or a person with a disability who uses the bus to go shopping and uses the service more than once a week. Rhody Express is most commonly used for shopping trips (80% of respondents use it this way), while about 25% of respondents use it for social trips and about 25% use it to get to and from medical appointments (respondents could pick multiple trip purposes). Riders' most-desired service improvement by far is weekend service (84%), with expanded AM service hours, more frequent service, and expanded route coverage desired by 25–30% of respondents, respectively (respondents could pick multiple improvements).

The employee survey found that most respondents do not use Rhody Express because it is not available when or where they need to travel, they need their car for personal errands or to save time, and/or (particularly for the retail employees) they have an irregular work schedule. More convenient service hours and a guaranteed ride home program were the actions that would be most likely to get some employees to switch travel modes.

Transit-related findings from the delivery service/public agency survey were: (1) there are many gaps in the sidewalk network and many sidewalks in disrepair (this makes it harder to access transit, particularly for seniors and persons with disabilities), and (2) a desire to keep the bus on public streets and not divert into parking lots (diverting tends to slow the bus down and creates more conflict opportunities with cars; on the other hand, good sidewalk connections from the street into sites are needed for passengers to safely access a site).

Detailed results from all four surveys were presented in Project Memorandum #4.

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## FUTURE TRANSIT SERVICE










### *Local Transit Routes*

The two existing transit routes (Figure 1) serve as much as Florence as possible, while maintaining hourly service with the use of a single bus. Expanding service would require operating a second bus, which would double the cost of operating the fixed-route component of the system and—to the extent that new areas within  $\frac{3}{4}$  mile of new service would be required to receive ADA complementary paratransit service—would also increase the cost of the demand-response component of the system. Given current funding constraints, no significant changes to the current routes are proposed. However, at locations where Rhody Express currently diverts into parking lots to serve businesses, consideration should be given to keeping the bus on the street, particularly where a sidewalk connection exists from the street across the parking lot to a business' front door. The City of Florence recently relocated an existing bus stop from the Safeway/Dunes Village Shopping Center on 8<sup>th</sup> Street to 8<sup>th</sup> Street itself, and has plans to transition other stops from internal parking fields out to the street. This action will help speed up bus service, providing some protection against increased traffic delays in the future, while also allowing Rhody Express to accommodate increased ridership in the future (i.e., additional stops to serve passengers) without shortening bus routes or requiring an additional bus to maintain the schedule.

Locations where keeping the bus on the street can be considered include:

- North Loop
  - Eliminate use of Fred Meyer property (south of Munsel Lake Road) for current bus stop location. A bus pull-out or stop/shelter could be constructed at 45<sup>th</sup> Street at the south end of Fred Meyer.
  - Eliminate the use of the Bi-Mart (south of Munsel Lake Road) parking area as current bus stop location. A bus pull-out or stop/shelter could be constructed along 42<sup>nd</sup> Street near Highway 101.
- South Loop
  - The diverted stop at the senior center located along Kingwood Street (north of 15<sup>th</sup> Street) near 17<sup>th</sup> Place could be eliminated.
  - The location at "Greentrees" is used primarily as a turnaround (located near the Rhododendron/Center Road intersection) and could be eliminated. This would require the bus route to turn south at the 9<sup>th</sup> Street/Rhododendron intersection.



-  Bus Stop
-  Rhody Express North Loop
-  Rhody Express South Loop
-  Highway / Major Arterial
-  Minor Arterial
-  Collector
-  Local Road
-  Multi-Use Trail
-  Public Park



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EXISTING TRANSIT SERVICE  
FLORENCE, OREGON

FIGURE  
1



Per conversations with City of Florence staff, it is recommended that the stop location within the Peace Harbor Hospital be maintained. This existing shelter serves a large complex consisting of a hospital and clinic land uses with limited access.

*Comments and notes from City of Florence staff have been provided on an existing transit route map as Attachment "A" of this memorandum.*

Locations where survey respondents requested new service be provided were generally located outside Florence's city limits (Florentine Estates being the exception), which raises the issue of how to pay for extended service. Unlike the counties to the north of Florence and the interior of Lane County, where service is funded throughout a large area and consequently provided over a large area, Rhody Express is a service of the City of Florence, with a portion of its funding coming from city residents. It is recommended that service not be expanded outside the city limits unless paid for by those benefiting from the service (for example, through a direct monetary contribution or by charging a premium fare).

### ***Transit Stops***

The Rhody Express currently operates on a flag-stop system with some designated stops. This type of system works fine for smaller transit systems and avoids the expense of installing and maintaining bus stop signs and other stop infrastructure. At the same time, designated stops serve as a form of advertising for the bus service, confirming that service is available at a location. Given that a large majority of Florence residents are aware that bus service exists, and given that present passenger volumes are not creating schedule reliability problems, it is recommended that the current system be maintained until ridership increases to the point where schedule reliability issues begin to occur. At that time, more designated stops could be installed to concentrate passenger pick-up and drop-off activity at specific locations.

Oregon's Transportation Planning Rule (TPR) requires Transportation System Plans to designate "major transit stops." In Florence's context, a major transit stop would be a stop with a relatively high ridership relative to most stops or a transfer location. The TPR (OAR 660-12-0045(4)(b)) requires local jurisdictions to adopt regulations that require new retail, office, and institutional uses located within 300 feet of major transit stops to provide reasonably direct pedestrian connections from the building to the stop and to adjacent properties. In addition, new uses located at a major transit stop should provide a paved ADA-compliant landing pad, an easement for a shelter (if requested by the transit agency), and lighting. Cities may go beyond these requirements; for example, by requiring new uses anywhere along a transit route to provide a reasonably direct pedestrian connection to the street. These locations should also receive the highest priority for stop improvements, particularly bus shelters. Based on the rider survey results, the following locations shown on Figure 1 are recommended for designation as "major transit stops":

- Fred Meyer (high-ridership location),
- Safeway/Dunes Village Shopping Center (high-ridership location),
- Peace Health Hospital (high-ridership location), and

- City Hall (transfer point to the Amtrak Thruway bus to Eugene).

Grocery Outlet is the location where the North Loop switches to the South Loop (and vice versa), but is not a transfer location *per se*, as passengers simply remain on the bus. As the rider survey did not indicate a high level of ridership at this location, relative to other locations, it is not recommended for designation as a major transit stop.

No park-and-ride facilities currently exist in Florence and none will be required unless intercity service is started in the future.

### **Service Levels**

The current hourly headway provided by Rhody Express provides a basic level of service to a large portion of Florence. Improving the headway would either require adding an additional bus (doubling fixed-route operating costs) or shortening the routes so that the bus could complete a round-trip in half the time. However, two other improvements were identified by survey respondents that could be implemented at a lower cost. In order of priority, these are:

- Providing Saturday service between 10 a.m. and 6 p.m., serving social and shopping trips on the weekend. The added service would increase fixed-route operating costs by approximately 20% from current levels.
- Adding weekday service between 6 a.m. and 10 a.m., making Rhody Express an option for those who wish to use it to commute to work or get to morning classes. The added service would increase fixed-route operating costs by approximately 50% from current levels.

### **Infrastructure Improvements**

Transit passengers are typically pedestrians before and after their transit trip. Therefore, a potential impediment to using transit service—particularly for seniors and persons with disabilities—is a poor sidewalk network. It is recommended that Florence prioritize filling sidewalk gaps along transit routes and take steps citywide to make sure that property owners fulfill their obligation to maintain public sidewalks in a state of good repair.

Bus shelters with ADA-compliant landing pads are recommended to be installed at all designated major transit stops. It is also recommended that the City periodically (e.g., annually) conduct a ridership check to identify the locations where passengers (generally) and lift users (specifically) are picked up and dropped off, to help prioritize locations for future shelter and landing pad projects.

### **Transportation Disadvantaged Needs**

Rhody Express currently fills an important transportation need in Florence, as evidenced by the rider survey results showing that Rhody Express is the only transportation option for 57% of its riders. The surveys did not identify any particular improvement needs for Rhody Express or

Rhody Dial-a-Ride targeted at the transportation disadvantaged, other than the need to improve Florence's sidewalk network generally. Several programs are available to provide medical transportation to cities outside Florence for those without other transportation options; however, the \$46 round-trip fare to Eugene using Porter Stage Lines is a barrier to travel for low-income residents of Florence.

### ***Intercity Transportation***

The need for lower-cost public transportation to and from Florence at convenient times was raised in the surveys. The current Amtrak Thruway bus schedule provides approximately 6 hours in Eugene, some of which would be used up traveling between the Amtrak or Greyhound station and one's final destination, which is not enough time to support work- or education-related commuting between Florence and Eugene.

Providing intercity public transit bus connections from Florence is not a far-fetched concept—Tillamook County, for example, operates a bus twice daily to Portland, while Sunset Empire Transit operates a bus 26 miles east to Westport, where connections can be made via Columbia County Rider to Kelso, Washington and Portland, Oregon. Furthermore, it is possible—slowly, over a period of several days—to travel the length of U.S. 101 from Yachats to Olympia, Washington using a combination of eight different connected public transit systems. The important difference is that all of those systems are county-wide systems, with broader funding bases, whereas Florence is a city-owned system. Lane County does not operate transit service itself: Lane Transit District (LTD) is a separate mass transit district serving most cities in the interior of the county, however, the portion of Lane County west of Veneta lies outside LTD's boundaries that are defined by participation in a Business Payroll Tax.

One option to provide intercity service to Eugene would be for the City to fund the cost of operating a second bus itself and to charge a premium fare for the trip (Tillamook County, for example, charges \$15 one-way to Portland, \$20 round-trip). The bus could run as far as Veneta, where a timed transfer could be made to LTD service continuing into Eugene. To be attractive to commuters and higher-education students, service would need to be offered early in the morning and in the evening, with at least one midday trip to serve shorter shopping and medical trips. A three-trip east-west schedule would also potentially offer two time windows (mid-morning and mid-afternoon) for an intercity trip either to the north or the south. Intercity bus grant funding to help operate an east-west route might be difficult to come by, given the existing Amtrak Thruway route; however, job access grant funding might be possible.

A second option would be to annex the Highway 126 corridor west of Veneta into the Lane Transit District. Such an annexation could occur through an ordinance passed by the LTD Board of Directors or through a ballot measure that would require a majority vote of the voters in the current district and the voters in the area proposed to be annexed (ORS 267.207). In this case, LTD would operate service to and within Florence. All employers and self-employed persons within the expanded district would be subject to LTD's payroll tax. LTD, like most other transit agencies, has seen its revenues drop as unemployment has risen in the wake of the financial crisis and might have reservations about annexing territory in order to provide potentially low-productivity

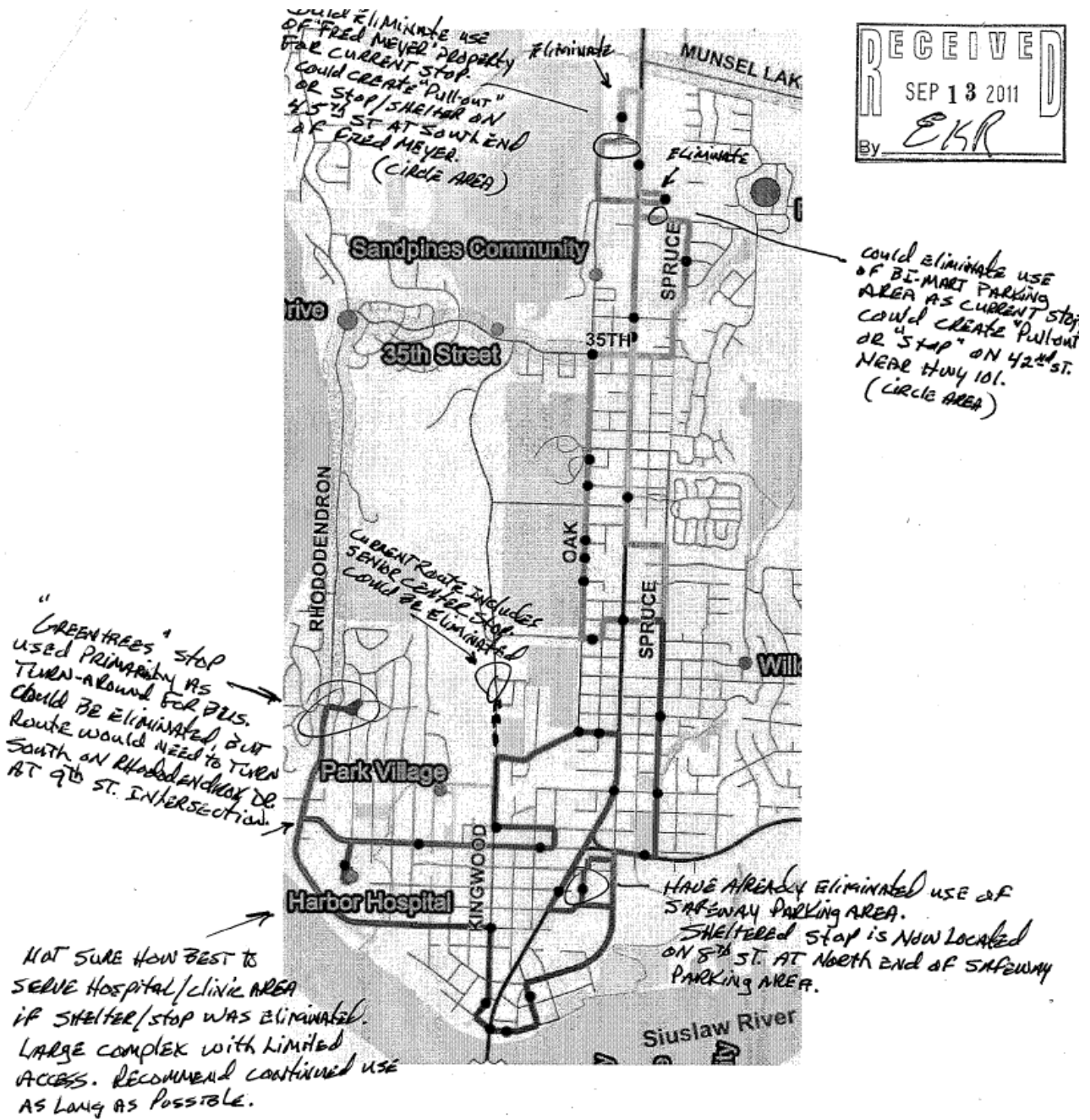
service to the coast. However, LTD already provides a number of longer-distance routes in Lane County, including up the McKenzie River as far east as McKenzie Bridge.

Determining the ridership potential, funding potential, and feasibility of possible intercity routes is beyond the scope of a transportation system plan, but could be the focus of a follow-up planning effort.

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.*

*The contents of this document do not necessarily reflect views or policies of the State of Oregon.*

## **Attachment "A" – City Comments for Bus Pullout Opportunities**





## PROJECT MEMORANDUM #8 – FACILITY STANDARDS

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**Date:** November 29, 2011 **Project #:** 10103

**To:** Sandra Belson  
Community Development Director – City of Florence  
250 US 101  
Florence, Oregon 97439

**From:** Chris Tiesler, P.E., Dan Seeman, and Diego Arguea

**Project:** City of Florence Transportation System Plan Update

**Subject:** Project Memorandum #8 – Facility Standards

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The purpose of this memorandum is to document recommended functional classifications of roadways in the City of Florence as well as facility standards for roadways, bicycle facilities, and pedestrian facilities compliant with Oregon Administrative Rule (OAR) 660-012-0045(7). This memorandum draws upon information from previous memoranda addressing the Local Street System (Project Memorandum #5) and the Local Pedestrian and Bicycle System (Project Memorandum #6) for inclusion in the City’s Transportation System Plan Update.

## **FACILITY STANDARDS**

Highways and streets are the primary means of mobility for Florence’s citizens, serving the majority of trips over multiple modes. Pedestrians, bicyclists and motorists all utilize public roads for the vast majority of their trips. These public facilities are controlled by multiple jurisdictions and are classified based on traffic loads, permitted speeds, and accessibility.

### **Jurisdiction**

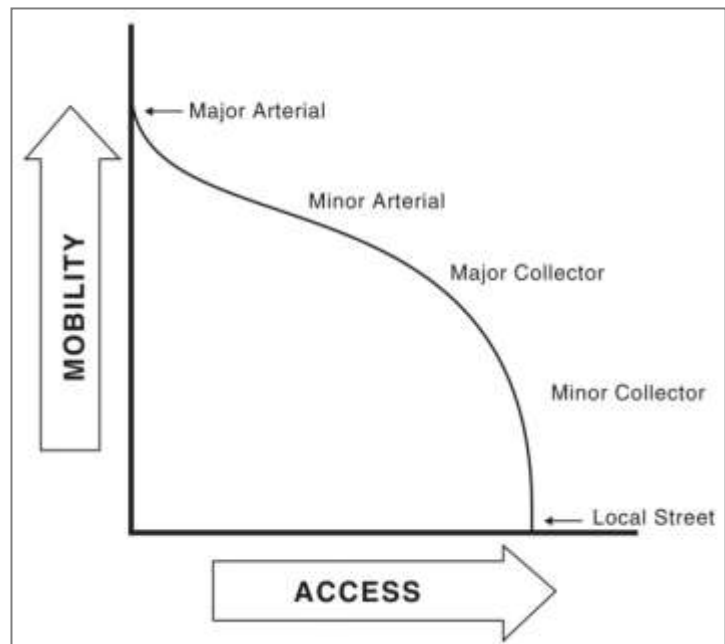
Public roads within the study area are operated by three different jurisdictions: the City of Florence, Lane County and the Oregon Department of Transportation (ODOT). Each jurisdiction is responsible for the following:

- Determining the road's functional classification;
- Defining the roadway's major design and multi-modal features;
- Maintenance; and,
- Approving construction and access permits.

Coordination is required among the jurisdictions to ensure that the transportation system is planned, maintained, and expanded to safely and efficiently meet the needs of travelers in the area. The jurisdiction of roadways is shown in Figure 8-1.

### Roadway Functional Classification

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation as well as access to adjacent land uses. A roadway's functional classification determines its intended purpose, the amount and character of traffic it is expected to carry, the degree to which non-auto travel is emphasized, and the roadway's design standards and overall management approach. It is imperative that a roadway's classification considers the



adjacent land uses and the transportation modes that should be accommodated. The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.

ODOT has a separate classification system for its highways, which guide the planning, management, and investment for state highways. ODOT's categories, from highest to lowest, are *Interstate*, *Statewide*, *Regional*, and *District* highways. According to the *Oregon Highway Plan* (OHP), both US 101 and OR 126 are classified as *Statewide Highways* on the National Highway System (NHS). The OHP defines *Statewide Highways* on the NHS as follows:

Statewide Highways (NHS) typically provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports, and major recreation areas that are not directly served by Interstate Highways.



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**ROADWAY JURISDICTION  
FLORENCE, OREGON**

**FIGURE  
8-1**



A secondary function is to provide connections for intra-urban and intra-regional trips. The management objective is to provide safe and efficient, high-speed, continuous-flow operation. In constrained and urban areas, interruptions to flow should be minimal. Inside Special Transportation Areas (STAs), local access may also be a priority.

The OHP designates the portion of US 101 between OR 126 and the Siuslaw River Bridge (MP 190.23 to 190.84) as a Freight Route and as a STA. The OHP defines a STA as a district of compact development where the need for appropriate local access outweighs the considerations of highway mobility except on designated Freight Routes where highway mobility has greater importance.

The OHP designates the portion of US 101 between 30<sup>th</sup> Street and OR 126 (MP 188.97 to 190.23) as an Urban Business Area, which is defined as an area where vehicular accessibility is important to continued economic viability. In areas with a posted speed above 35 miles per hour, the OHP states that a management plan is required to balance the needs for vehicular, pedestrian, bicycle, and transit accessibility in an Urban Business Area.

The Florence functional classification plan is shown in Figure 8-2.

## **Roadway Street Section Standards**

The current TSP also identifies roadway cross-section elements that should be included for each classification. Each classification allows some flexibility with respect to parking, bike lanes and lane width, and is subdivided into minimum, maximum and typical cross-sections. *The cross-section design elements from the original 2002 TSP are summarized and attached in Attachment "A."*

The existing Florence street standards have been redefined to complement the functional classification plan shown in Figure 8-2. A description of the changes made to the arterials and collectors is provided in subsequent sections. No changes are recommended to the current local street cross-sections.

The functional classification plan for the City of Florence is shown in Figure 8-2. The functional classification plan incorporates three functional categories: arterials, collectors, and local streets. Within these broad classifications are specific arterial treatments for the long range vision for Rhododendron Drive, 9<sup>th</sup> Street, Heceta Beach Road, and Munsel Lake Road.



**LEGEND**

- City Limits
- Highway / Major Arterial
- Minor Arterial
- Collector
- Collector (Proposed)
- Local
- Local (Proposed)
- Public & Open Space
- Urban Growth Boundary

**PROPOSED ROADWAY FUNCTIONAL CLASSIFICATIONS  
FLORENCE, OREGON**

**FIGURE  
8-2**

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## Minor Arterials

It should be noted that the major arterials in Florence are state highways (US 101 and OR 126). As such, they are subject to ODOT plans, policies, and standards, and improvements are to be undertaken according to ODOT approval and permitting processes.

Minor arterials provide a higher degree of access than major arterials. The primary function of minor arterials is to serve local and through traffic between neighborhoods and to community and regional facilities. Bicycle lanes (or equivalent adjacent facilities, such as multi-use paths) are recommended on minor arterials in most cases. Sidewalks are slightly wider on arterials (six feet as compared with five feet on collector and local streets), providing additional space for pedestrians and greater protection from higher speed traffic. Four roadways within the City of Florence have been identified as minor arterials and specific cross-sections have been developed for each. The cross-sections are shown in Figures 8-3 through 8-5.

As shown in Figure 8-3, Rhododendron Drive has a distinctive cross-section for the segment from 9<sup>th</sup> Street to Heceta Beach Road:

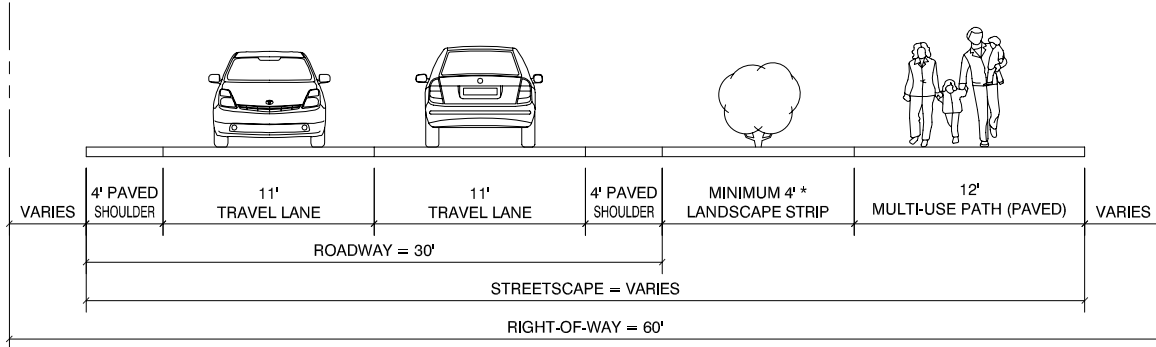
- *Scenic section: from 9<sup>th</sup> Street to Heceta Beach Road* – This section is recommended to be widened with two 11-foot travel lanes and 4-foot shoulder bike lanes, accompanied by a 12-foot meandering multi-use path on the east side.

In some section, particularly immediately north of 9<sup>th</sup> Street, there may be physical or built-environment impediments to facilitate the full cross-section on Rhododendron Drive to be constructed as shown in the “standard section” (top section) in Figure 8-3. Accordingly, the Rhododendron Drive Integrated Transportation Plan (January 2008) specifies an alternate section (middle section) in Figure 8-3 which separates the multi-use path from motor vehicles with a 1-foot sloped curb.

Munsel Lake Road and Heceta Beach Road should be constructed to standards as shown in Figure 8-3 (bottom section), to include a 6-foot sidewalk on the “town” side (where physical and built environments allow), and 6-foot bike lanes on both sides. Similar to Rhododendron Drive, these scenic minor arterials may be constructed with an alternate cross-section to include a 12-foot multi-use path on one side (town side), separated by a landscape strip where possible (see Figure 8-4 for Alternate Sections A and B).

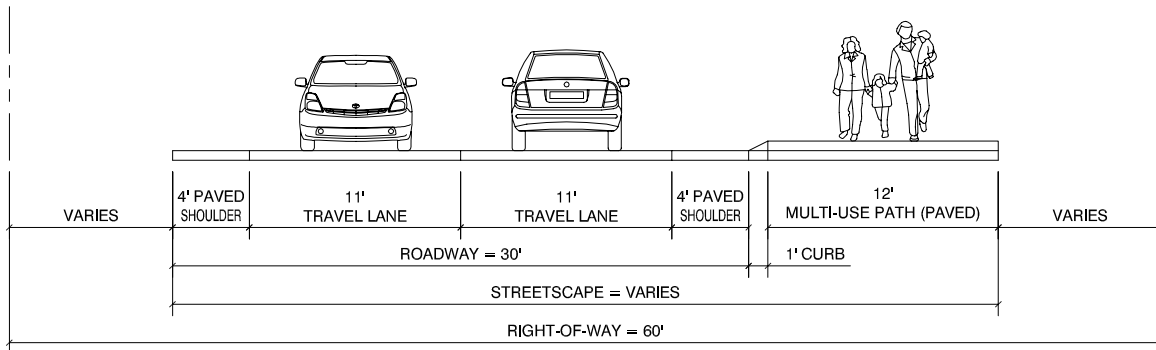
Munsel Lake Road, between US 101 and Spruce Street should be constructed to the cross-section prescribed in Figure 8-5. This section includes three travel lanes (including a center left turn lane), bike lanes, landscaping and bio-swale, sidewalk and multi-use path (see top cross-section on Figure 8-5).

Ninth Street should be constructed to the standard cross-section in Figure 8-5.



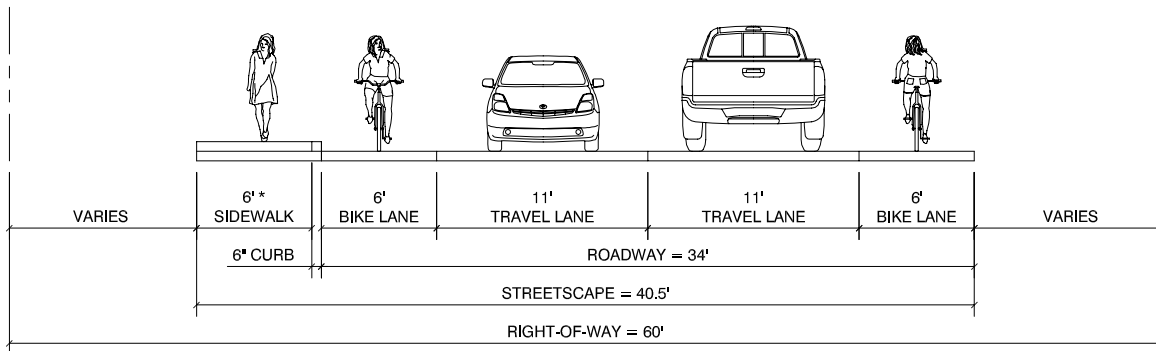
**RHODODENDRON DRIVE: 9TH STREET TO HECETA BEACH ROAD \*\*  
(STANDARD SECTION WITH SEPARATED PATH)**

\* WHERE PHYSICAL SPACE DOES NOT ALLOW A 4' SEPARATION, A VERTICAL CURB, BARRIER, OR RAIL SHOULD BE USED TO SEPARATE MOTOR VEHICLE TRAFFIC AND THE MULTI-USE PATH AS SHOWN IN ALTERNATE SECTION BELOW.  
 \*\* PER RHODODENDRON DRIVE INTEGRATED TRANSPORTATION PLAN (JAN 2008).



**RHODODENDRON DRIVE: 9TH STREET TO HECETA BEACH ROAD \*  
(ALTERNATE SECTION WITH RAISED PATH)**

\* PER RHODODENDRON DRIVE INTEGRATED TRANSPORTATION PLAN (JAN 2008).



**MUNSEL LAKE ROAD & HECETA BEACH ROAD \*\*  
(STANDARD SECTION)**

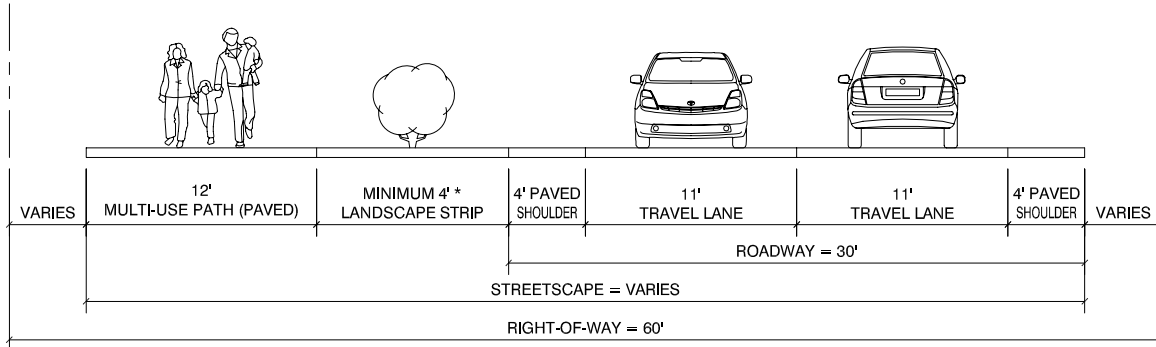
\* SIDEWALK LOCATION TO BE ON \*TOWN SIDE\* (SOUTH AND WEST SIDES OF STREET), AND MAY VARY AND IS TO BE DETERMINED BASED ON PHYSICAL AND BUILT ENVIRONMENT.  
 \*\* SEE ALTERNATE SECTION OF MUNSEL LAKE ROAD BETWEEN US 101 AND SPRUCE (FIGURE 8-5)

NOTES:

1. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED AS NEEDED FOR DRAINAGE SYSTEMS OR UTILITIES.

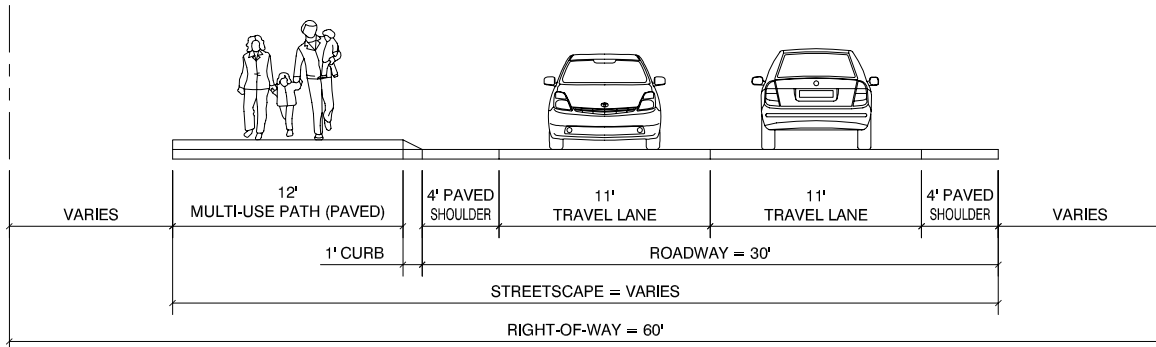
MINOR ARTERIAL ROADWAY CROSS-SECTIONS  
FLORENCE, OREGON

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**MUNSEL LAKE ROAD & HECETA BEACH ROAD  
(ALTERNATE SECTION A)**

\* WHERE PHYSICAL SPACE DOES NOT ALLOW A 4' SEPARATION, A VERTICAL CURB, BARRIER, OR RAIL SHOULD BE USED TO SEPARATE MOTOR VEHICLE TRAFFIC AND THE MULTI-USE PATH AS SHOWN IN ALTERNATE SECTION BELOW.

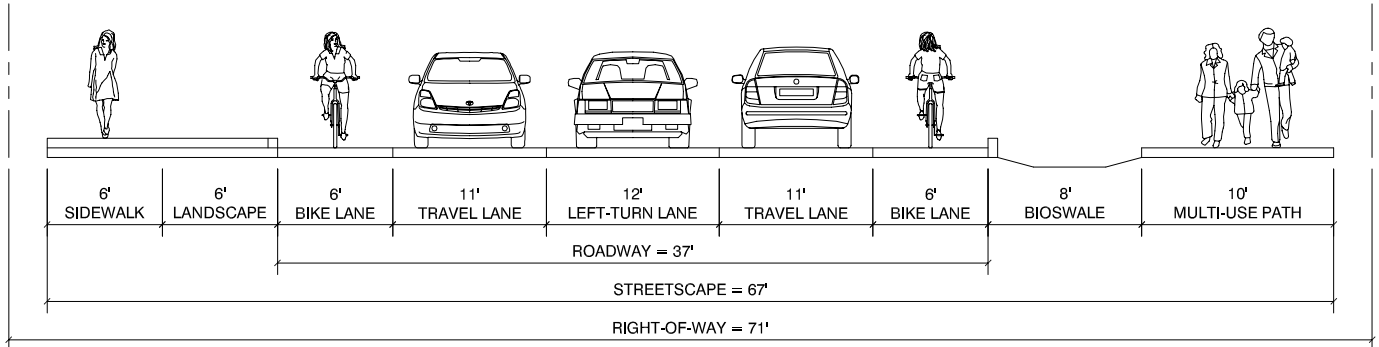


**MUNSEL LAKE ROAD & HECETA BEACH ROAD \*  
(ALTERNATE SECTION B)**

\* SLOPED CURB SAME AS FOR ALTERNATE SECTION ON RHODODENDRON DRIVE AND DOCUMENTED IN RHODODENDRON DRIVE TRANSPORTATION PLAN (JAN 2008).

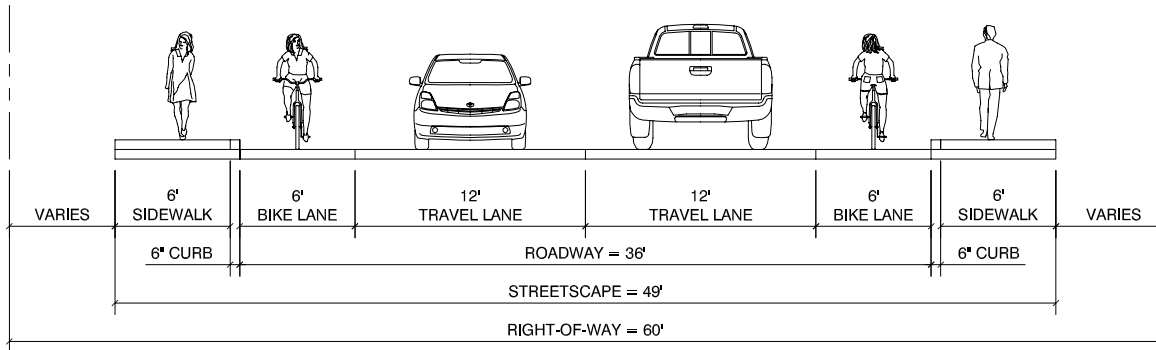
NOTES:

1. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED AS NEEDED FOR DRAINAGE SYSTEMS OR UTILITIES.



**MUNSEL LAKE ROAD: 101 TO SPRUCE ROAD**

SOURCE: JRH TRANSPORTATION ENGINEERING 4/27/09.



**9TH STREET**

NOTES:

1. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED AS NEEDED FOR DRAINAGE SYSTEMS OR UTILITIES.

**MINOR ARTERIAL ROADWAY CROSS-SECTIONS  
FLORENCE, OREGON**

**FIGURE  
8-5**

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## Collectors

Collector streets facilitate the movement of city traffic within the urban growth boundary of the city. Collectors provide some degree of access to adjacent properties, while maintaining circulation and mobility for all users. Sidewalks are slightly narrower on collectors (five feet plus ½ foot curb vs. arterial sidewalks of six feet), due to the slightly lower speeds on these facilities. Figure 8-6 illustrates the specific cross-sectional transition segment of Rhododendron Drive between Hemlock Street and 9<sup>th</sup> Street.

- *Transition section: from Hemlock Street to 9<sup>th</sup> Street* – This section is currently narrower, and its physical character and surrounding topography makes widening more difficult. In recognition of the physical challenges, it is recommended that the existing section be widened to two 12-foot travel lanes with two 5-foot bike lanes and a 5-foot sidewalk on the north side.

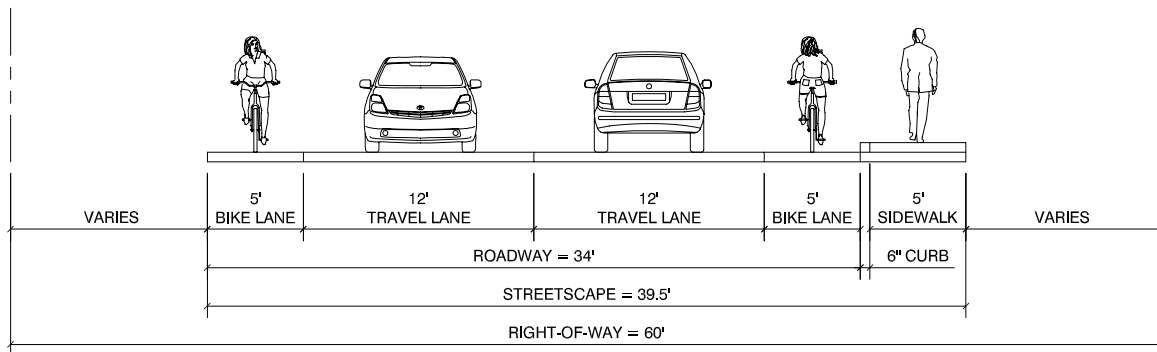
Figures 8-7 and 8-8 illustrate more generalized cross-sections for remaining collector facilities within the City to provide both flexibility and guidance when improving or constructing collector facilities. These collector cross-sections provide the City the ability to provide exclusive or shared bike lanes and/or on-street parking, as needed on a particular collector segment.

## Local Streets

Local streets are primarily intended to provide access to abutting land uses. Local street facilities offer the lowest level of mobility and consequently tend to be short, low-speed facilities. As such, local streets should primarily serve passenger cars, pedestrians, and bicyclists; heavy truck traffic is discouraged. On-street parking is common. Sidewalks are typically present (5 feet plus ½ foot curb), though the relatively low travel speeds and traffic volumes allow bicycles to share the vehicle travel lanes. The recommended local street cross-sections are shown in Figure 8-9. The narrower section shown on bottom of Figure 8-9, which allows parking on only one side, requires approval by the City engineer.



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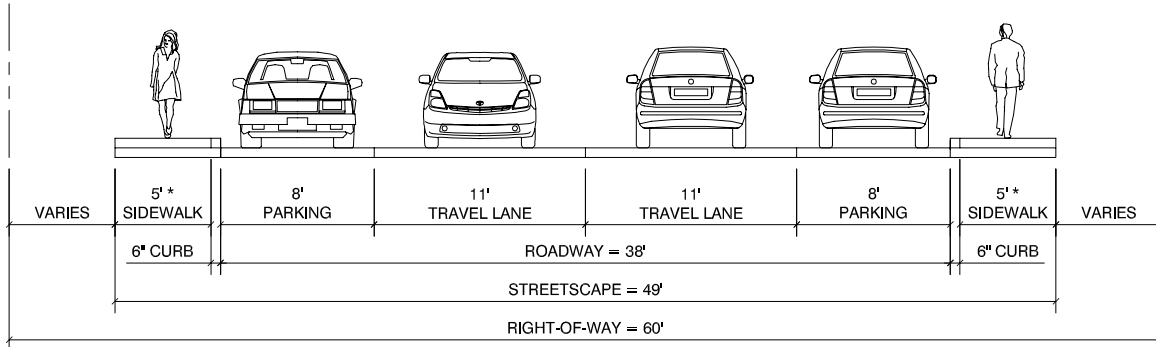
**RHODODENDRON DRIVE  
(HEMLOCK TO 9TH STREET)**

NOTES:

1. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED AS NEEDED FOR DRAINAGE SYSTEMS OR UTILITIES.

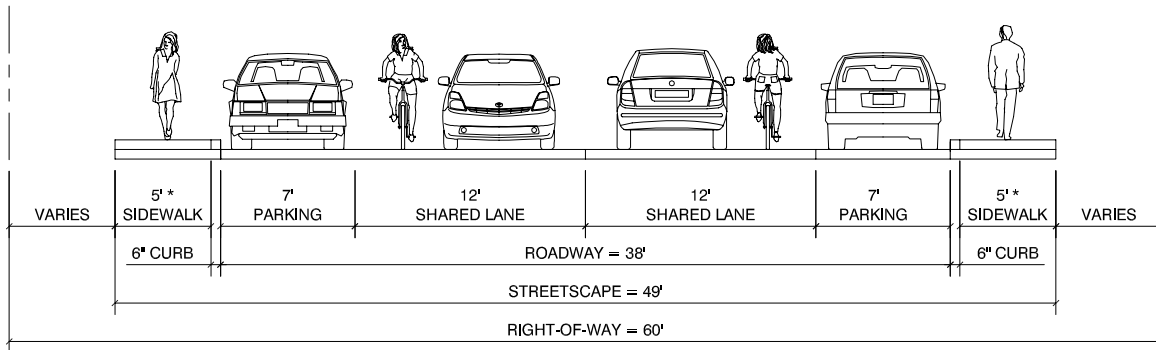
**COLLECTOR ROADWAY CROSS-SECTIONS  
RHODODENDRON DRIVE - TRANSITION SECTION  
FLORENCE, OREGON**

**FIGURE  
8-6**



**COLLECTOR  
(ON-STREET PARKING)**

\* ALL DOWNTOWN STREETS TO HAVE 8' SIDEWALKS WITH THE EXCEPTION OF COLLECTORS WITH NO ON-STREET PARKING AND HIGH TRAFFIC STREETS WHERE 6' AND 12' SIDEWALKS SHOULD BE INSTALLED, RESPECTIVELY.



**COLLECTOR  
(BIKE SHARROWS WITH ON-STREET PARKING)**

\* ALL DOWNTOWN STREETS TO HAVE 8' SIDEWALKS WITH THE EXCEPTION OF COLLECTORS WITH NO ON-STREET PARKING AND HIGH TRAFFIC STREETS WHERE 6' AND 12' SIDEWALKS SHOULD BE INSTALLED, RESPECTIVELY.

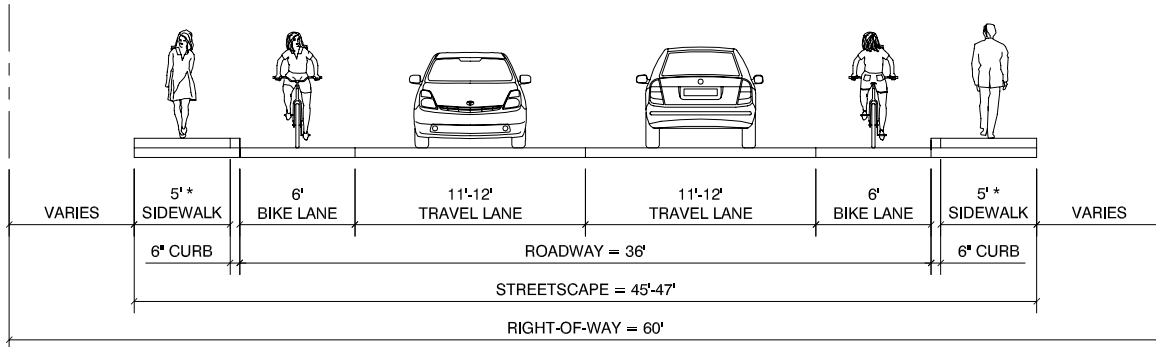
NOTES:

1. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED AS NEEDED FOR DRAINAGE SYSTEMS OR UTILITIES.

**COLLECTOR ROADWAY CROSS-SECTIONS  
NO BICYCLE LANE OPTION  
FLORENCE, OREGON**

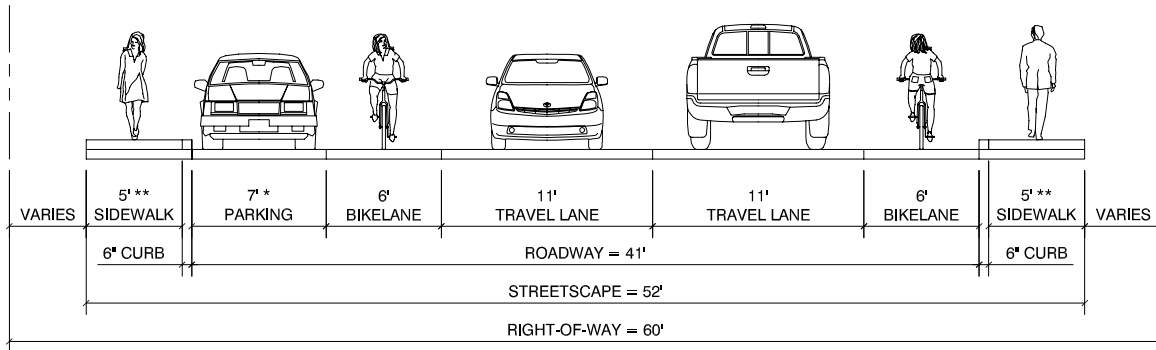
**FIGURE  
8-7**

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**COLLECTOR  
(NO PARKING)**

\* ALL DOWNTOWN STREETS TO HAVE 8' SIDEWALKS WITH THE EXCEPTION OF COLLECTORS WITH NO ON-STREET PARKING AND HIGH TRAFFIC STREETS WHERE 6' AND 12' SIDEWALKS SHOULD BE INSTALLED, RESPECTIVELY.



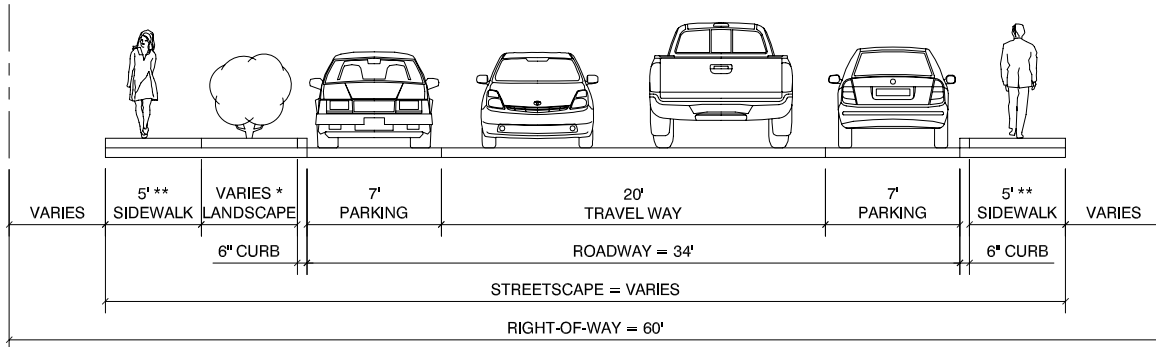
**COLLECTOR  
(BIKE LANES WITH ON-STREET PARKING)**

\* PARKING LOCATION MAY VARY AND IS TO BE DETERMINED BASED ON PHYSICAL AND BUILT ENVIRONMENT.  
 \*\* ALL DOWNTOWN STREETS TO HAVE 8' SIDEWALKS WITH THE EXCEPTION OF COLLECTORS WITH NO ON-STREET PARKING AND HIGH TRAFFIC STREETS WHERE 6' AND 12' SIDEWALKS SHOULD BE INSTALLED, RESPECTIVELY.

- NOTES:  
 1. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED AS NEEDED FOR DRAINAGE SYSTEMS OR UTILITIES.

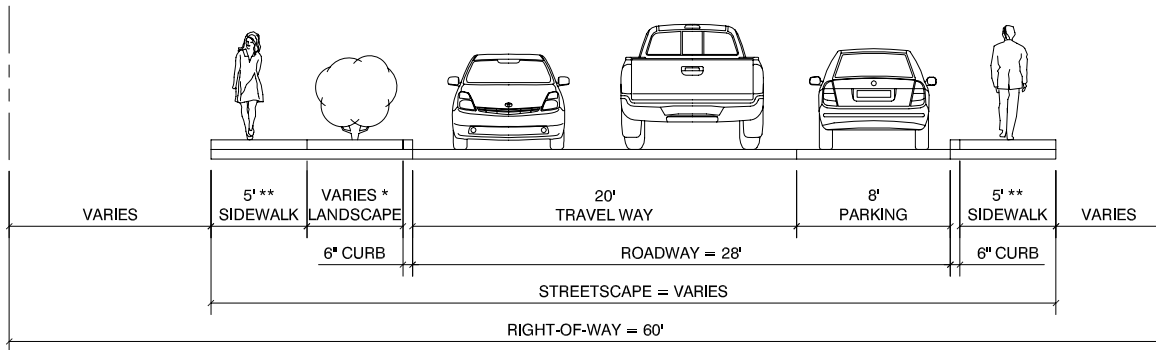
**COLLECTOR ROADWAY CROSS-SECTIONS  
 BICYCLE LANE OPTIONS  
 FLORENCE, OREGON**

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**LOCAL STREET  
(PARKING BOTH SIDES)**

\* OPTIONAL LANDSCAPE WIDTH AND LOCATION MAY VARY AND IS TO BE DETERMINED BASED ON PHYSICAL AND BUILT ENVIRONMENT.  
 \*\* ALL DOWNTOWN STREETS TO HAVE 8' SIDEWALKS WITH THE EXCEPTION OF COLLECTORS WITH NO ON-STREET PARKING AND HIGH TRAFFIC STREETS WHERE 6' AND 12' SIDEWALKS SHOULD BE INSTALLED, RESPECTIVELY.



**LOCAL STREET  
(PARKING ONE SIDE)\*\*\***

\* OPTIONAL LANDSCAPE WIDTH AND LOCATION MAY VARY AND IS TO BE DETERMINED BASED ON PHYSICAL AND BUILT ENVIRONMENT.  
 \*\* ALL DOWNTOWN STREETS TO HAVE 8' SIDEWALKS WITH THE EXCEPTION OF COLLECTORS WITH NO ON-STREET PARKING AND HIGH TRAFFIC STREETS WHERE 6' AND 12' SIDEWALKS SHOULD BE INSTALLED, RESPECTIVELY.  
 \*\*\* REQUIRES APPROVAL BY CITY TRAFFIC ENGINEER.

NOTES:  
 1. ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED AS NEEDED FOR DRAINAGE SYSTEMS OR UTILITIES.

**LOCAL ROADWAY CROSS-SECTIONS  
BICYCLE LANE OPTIONS  
FLORENCE, OREGON**

**FIGURE  
8-9**

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## Bicycle Facilities

Similar to pedestrian facilities, bicycle facilities (dedicated bicycle lanes in the paved roadway, multi-use paths shared with pedestrians, etc.) may serve a variety of trips. These include:

- Trips to major attractors, such as schools, parks and open spaces, retail centers, and public facilities;
- Commute trips, where changing and showering facilities are provided at the workplace;
- Recreational trips; and,
- Access to transit, where bicycle storage facilities are available at the stop, or where space is available on bus-mounted bicycle racks.

As this list suggests, supporting bicycling as a viable alternative to the automobile requires more than simply providing bicycle lanes. Support facilities, such as secure parking and worksite changing facilities, are also needed before many potential users will consider choosing a bicycle as a practical alternative.

The City categorizes bicycle facilities into the following four major classifications:

***Bike Lane*** - A portion of the roadway designed for preferential use by bicyclists. Bike lanes are appropriate on arterials and collectors. Bike lanes must always be well marked to call attention to their preferential use by bicyclists. Striped on-street bicycle lanes should be provided on all arterial and collectors streets in the following situations: collector streets that have daily volumes of more than 3,000 vehicles; where the collector street directly connects major residential areas with schools or parks; and where it may be necessary to ensure safe bicycle travel.

***Shared-use Path (Multi-use Path)*** - A facility separated from motor vehicle traffic by an open space or barrier, either within the roadway right-of-way or within an independent right-of-way. They are typically used by pedestrians, joggers, skaters and bicyclists as two-way facilities. Shared-use paths are appropriate in corridors not well served by the street system (if there are few intersecting roadways), to create short cuts that link destination and origin points, and as elements of a community trail plan.

***Sharrows*** - A street on which bicyclists and motorists ride in the same travel lanes (like shared roadways) but where markings and/or signage indicate the likely presence of bicycles.

***Shared Roadway*** - Bicyclists and motorists ride in the same travel lanes. There are no specific dimensions for shared roadways. They are usually narrow, so a motorist has to cross over into the adjacent lane to pass a cyclist. Shared roadways are common on neighborhood residential streets.

Dedicated bicycle facilities should be provided along major streets where automobile traffic speeds are significantly higher than bicycle speeds. Bicycle facilities should connect residential neighborhoods to schools, retail centers, and employment areas. However, allowing bicycle traffic to mix with automobile traffic is acceptable where the average daily traffic (ADT) on a roadway is less than 3,000 vehicles per day, according to the *Oregon Bicycle and Pedestrian Plan* (Reference 1). Lower volume roadways should be considered for bike shoulders or lanes if anticipated to be used by children as part of Safe Routes to School as described in the following sections. In areas where no street connection currently exists or where substantial out-of-direction travel would otherwise be required, a multi-use path may be appropriate to provide adequate facilities for bicyclists.

There is currently no separate bicycle plan for City of Florence. The original 2002 TSP indicated that local bicycle system improvements should be consistent with the *State of Oregon Bicycle Facilities Master Plan*. The following additional issues were identified through general review of the bicycle network and in consultation with City of Florence staff:

- The City's bicycle and pedestrian facilities are discontinuous, thereby discouraging travel via these modes;
- Heceta Beach Road, Munsel Lake Road, and a large portion of Rhododendron Drive currently lack facilities for bicycles and pedestrians, and travel speeds have been observed to be high; and,
- US 101 south of OR 126 lacks bicycle lanes near and on the bridge.

## **Pedestrian Facilities**

Pedestrian facilities serve a variety of needs, including:

- Relatively short trips (under a mile) to major pedestrian attractors, such as schools, parks, and public facilities;
- Recreational trips—for example, jogging or hiking—and circulation within parklands;
- Access to transit (generally trips under ½-mile to bus stops); and,
- Commute trips, where mixed-use development is provided and people have chosen to live near where they work.

Pedestrian facilities should be integrated with transit stops and effectively separate pedestrians from vehicular traffic. Furthermore, pedestrian facilities should provide continuous connections among neighborhoods, employment areas, and nearby pedestrian attractors. Pedestrian facilities usually refer to sidewalks or paths, but also include pedestrian crossings for high volume roadways.

The majority of the arterial and collector roadways in Florence provide sidewalks, though there are some gaps in the pedestrian network. These identified gaps include:

- On US 101 from Siuslaw River Bridge to 2<sup>nd</sup> Street
- Missing sidewalk segments in Old Town
- Kingwood Street – 9<sup>th</sup> to 20<sup>th</sup> Streets
- US 101 – north of about 37<sup>th</sup>, complete sidewalks on both sides
- Safe Routes to School:
  - Along the east side of Oak Street from 27<sup>th</sup> Street to 32<sup>nd</sup> Street
  - Crosswalks at the 27<sup>th</sup> Street/Oak Street intersection
  - Crosswalks at the 30<sup>th</sup> Street/Oak Street intersection
  - Crosswalks across Oak Street in line with the pedestrian path between Oak Street and Myrtle Loop (just south of 34<sup>th</sup> Street)
- Pedestrian Access to Parks:
  - Singing Pines Park – along Airport/15<sup>th</sup> Street and Kingwood Street
  - Miller to Singing Pines – pave the path between these two parks
  - 29<sup>th</sup> Street Path – reconstruct path from Spruce Street to Munsel Greenway Park

## Pedestrian Crossings

In the state of Oregon, all unsignalized intersections are considered legal crosswalks and motor vehicles are required to yield the right-of-way to pedestrians to allow them to cross. However, compliance is not consistent and pedestrians may have difficulty crossing high volume roadways.

The City recently installed signalized pedestrian crossings of US 101 at the following locations:

- US 101/2<sup>nd</sup> Street
- US 101/7<sup>th</sup>-8<sup>th</sup> Street (mid-block)
- US 101/17<sup>th</sup>-18<sup>th</sup> Street (mid-block)
- US 101/30<sup>th</sup> Street

These crossings use Rapid Rectangular Flashing Beacons (RRFBs) that are push-button activated by pedestrians, with striped crosswalks and a central pedestrian refuge on US 101. The City is also considering similar installations at the following locations:

- US 101/12<sup>th</sup> Street

- US 101/15<sup>th</sup>-16<sup>th</sup> Street (mid-block)
- US 101/27<sup>th</sup> Street (if traffic signal warrants are not met in the near-term)

It would be useful to conduct a study of existing pedestrian-activated crossings to establish if these RRFB installations have altered pedestrian behavior. Information gathered through such a study can be used to identify and/or confirm additional crossing locations where such a treatment is appropriate as well as prioritize such efforts.

### Multi-Use Paths

Multi-use paths should be paved asphalt and provide a minimum of ten feet in width with a two-foot gravel, bark, or earthen shoulder and a maximum 1:6 slope. The full paved width and shoulders should be clear of obstructions. In no case should the multi-use path be less than 8 feet wide at pinch points.

The City has adopted the Rhododendron Drive Corridor Plan, which prescribes a ten-foot multi-use path on the east side of this street. Accordingly, rights-of-way designated for both Munsel Lake Road and Heceta Beach Road include sufficient width in addition to the prescribed street cross-section to add a multi-use path on one side, as the City is able. Future multi-use paths on these facilities should be located as the topography, physical and built environment allow.

### Sidewalks

As shown in the street section figures, sidewalks should be five feet wide (plus a ½ foot curb) on local and collector streets, and six (6) feet wide on arterials, constructed in concrete (see Figures 8-3 through 8-7). The full sidewalk width should be clear of obstructions. Downtown street are to have 8-foot sidewalks, with the exception of collectors with no on-street parking (6-foot) and high traffic streets (12-foot sidewalks).

Please refer to the *Oregon Bicycle and Pedestrian Plan* for more details regarding design details for bicycles, multi-use paths, and sidewalks.

## NEXT STEPS

This memorandum presents recommended functional classifications and street standards to address the challenges that the City of Florence transportation system is expected to face in the future. Final recommendations will be based on PAC feedback, project cost estimates, and anticipated future



funding levels. The final project recommendations will be synthesized with those projects identified for other modes and proposed policies in future memoranda and will be documented and summarized in the Draft TSP.

## References

1. Oregon Department of Transportation. *Oregon Pedestrian and Bicycle Plan*. 2011.

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.*

*The contents of this document do not necessarily reflect views or policies of the State of Oregon.*



## PROJECT MEMORANDUM #9 – COSTS AND PRIORITIES

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**Date:** December 20, 2011 **Project #:** 10103

**To:** Sandra Belson  
Community Development Director – City of Florence  
250 US 101  
Florence, Oregon 97439

**From:** Chris Tiesler, P.E., Dan Seeman, and Diego Arguea

**Project:** City of Florence Transportation System Plan Update

**Subject:** Project Memorandum #9 – Costs and Priorities

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The purpose of this memorandum is to present planning-level cost estimates for recommended improvements for the City of Florence Transportation System Plan (TSP) Update. Previous project memoranda documented existing and future conditions and also identified existing and anticipated future system deficiencies. The improvements to the local street system, pedestrian and bicycle system, and local transit services are identified in Project Memoranda 5, 6, and 7, and are highlighted herein. Identified projects have been refined to a level commensurate with the level of detail appropriate for future incorporation into the City’s Capital Improvement Plan. The level of funding available from existing and potential future sources for transportation improvements has helped to drive the prioritization of projects as described within this memorandum.

Transportation projects and policies have been recommended and prioritized to address the City of Florence goals. The goals and policies were documented in more detail in *Project Memorandum #2: Goals, Policies, and Performance Measures* and will be referenced throughout this memorandum. Planning level cost estimates were developed for the recommended projects to inform a realistic plan based on the City’s financial constraints.

The City currently lacks the necessary funding to maintain its existing transportation system, and there are no readily-available funds in its current budget to construct new capital projects. Aside from transportation infrastructure projects that may be funded and constructed in conjunction with new developments, any new capital projects that the City plans to build will need to be funded

through grants that will be sought from federal, state, or county sources. Hence, as a part of this transportation funding analysis, a list of high priority projects has been developed, based on:

- An immediate need to address capacity or safety deficiencies;
- A value-driven project that has been identified as desirable and provides above-average benefit;
- A project that is likely to be funded by identifiable grant monies or urban renewal funds, and;
- A project that is relatively low cost, and may be easily implemented with limited City funds.

This memorandum is organized into the following sections:

- **Recommended Projects:** The recommended projects are identified and prioritized.
- **Funding Sources and Strategy:** An overview of available funding as provided by the City in Project Memorandum #3 is presented herein to establish a base for prioritization. A project funding strategy is presented that includes local, state, federal, and private funding sources.
- **Prioritization of City Projects:** This subset of projects is prioritized for potential inclusion in the City’s Capital Improvement Plan.

## Recommended Projects

Projects recommended for inclusion in the City’s TSP are summarized below in Tables 1 through 5 and Table 7. The projects are organized by project type and provide planning level cost estimates, general implementation time frames, and likely funding source information.

Table 1 Arterial and Collector Roadway and Intersection Projects

| Project Number | Name                         | Description   | Estimated Cost | Time Frame (years) | Primary Funding Source     |
|----------------|------------------------------|---|----------------|--------------------|----------------------------|
| PRJ-1          | Pacific View Drive Extension | Construct Pacific View Drive west from its current terminus to connect to N Rhododendron Drive at New Hope Way.   | \$1,613,000    | 2026-2035          | Development                |
| PRJ-2          | Munsel Lake Road Extension   | Construct Munsel Lake Road from US 101 west to N Rhododendron Drive at the Shelter Cove Way/N Rhododendron Drive intersection.                                    | \$5,755,000    | 2026-2035          | Partial Development/ Other |
| PRJ-3          | Willow Loop Extension        | Construct Willow Loop from the eastern terminus of Regal Street at the southwest corner of the Ocean Dunes Golf Course northeast and connect to Munsel Lake Road. | \$3,651,000    | 2026-2035          | Development                |

|         |  |   |             |           |                              |
|---------|--|---|-------------|-----------|------------------------------|
| PRJ-4   | 8 <sup>th</sup> Street Extension   | Construct 8 <sup>th</sup> Street east from Quince Street to cross Munsel Creek and connect at the OR 126/Spruce Street intersection.  | \$2,915,000 | 2017-2025 | ODOT                         |
| PRJ-5   | Oak Street South   | Construct Oak Street as a continuous Collector from 15 <sup>th</sup> Street to 20 <sup>th</sup> Street.   | \$1,501,000 | 2017-2025 | City                         |
| PRJ-6   | Oak Street North   | Extend Oak Street north from 46 <sup>th</sup> Street to Heceta Beach Road.  | \$3,715,000 | 2026-2035 | Development                  |
| PRJ-7   | 20 <sup>th</sup> Street Extension  | Extend 20 <sup>th</sup> Street west to Kingwood Street.   | \$234,000   | 2011-2016 | City                         |
| PRJ-8   | Spruce Street Extension  | Construct a new section of Spruce Street north from Munsel Lake Road to Heceta Beach Road.  | \$3,494,000 | 2026-2035 | Development                  |
| PRJ-9   | US 101/Munsel Lake Road Intersection   | Install traffic signal when warranted.  | \$490,000   | 2017-2025 | Partial Development/ODOT     |
| PRJ-10  | US 101/27 <sup>th</sup> Street   | Install traffic signal when warranted.  | \$490,000   | 2026-2035 | ODOT                         |
| PRJ-11  | US 101/15 <sup>th</sup> Street   | Install traffic signal when warranted.  | \$490,000   | 2026-2035 | ODOT                         |
| PRJ-12  | 9 <sup>th</sup> Street/<br>Kingwood Street   | Install a roundabout or traffic signal.   | \$700,000   | 2017-2025 | Partial Development/<br>City |
| PRJ-13  | OR 126/Quince Street   | Restrict movements (prohibit all movements except right-in/right-out for northbound and southbound approaches). Westbound left-turns from OR 126 to Quince Street would be retained until such time that the 8 <sup>th</sup> Street Extension (PRJ-4) is constructed. | \$350,000   | 2017-2025 | ODOT                         |
| PRJ-14  | OR 126/Spruce Street   | Install a roundabout or traffic signal.   | \$1,400,000 | 2017-2025 | ODOT                         |
| PRJ-15  | US 101 Widening  | Widen US 101 to provide two northbound travel lanes from 42 <sup>nd</sup> Street to Munsel Lake Road.   | \$1,617,000 | 2026-2035 | Partial ODOT/City            |
| PRJ-16  | 27 <sup>th</sup> Street Widening   | Widen 27 <sup>th</sup> to a three-lane cross-section (12-foot center turn lane) with bike lanes and sidewalks between Oak Street and US 101.  | \$166,000   | 2026-2035 | City                         |
| PRJ-17A | Rhododendron Drive Roadway Improvements – US 101 to Hemlock Street                 | Construct the full Collector (Bike Sharrows with On-Street Parking) cross-section for this segment.   | \$26,000    | 2017-2025 | City                         |
| PRJ-17B | Rhododendron Drive Roadway Improvements – Hemlock Street to 9 <sup>th</sup> Street | Construct the Transition Collector cross-section for Rhododendron Drive for this segment.   | \$698,000   | 2017-2025 | City                         |

|         |   |   |           |           |      |
|---------|---|---|-----------|-----------|------|
| PRJ-17C | Rhododendron Drive Roadway Improvements – 9 <sup>th</sup> Street to 35 <sup>th</sup> Street | Construct the Rhododendron Drive standard arterial cross-section for this segment. In sections where right-of-way, topography, or other constraints preclude the construction of the standard cross-section, the alternative cross-section may be used. | \$752,000 | 2011-2016 | City |
| PRJ-17D | Rhododendron Drive Roadway Improvements – 35 <sup>th</sup> Street to N Jetty Road           | Construct the Rhododendron Drive standard arterial cross-section for this segment. In sections where right-of-way, topography, or other constraints preclude the construction of the standard cross-section, the alternative cross-section may be used. | \$336,000 | 2017-2025 | City |
| PRJ-17E | Rhododendron Drive Roadway Improvements – N Jetty Road to Heceta Beach Road                 | Construct the Rhododendron Drive standard arterial cross-section for this segment. In sections where right-of-way, topography, or other constraints preclude the construction of the standard cross-section, the alternative cross-section may be used. | \$301,000 | 2026-2035 | City |

Note: PRJ = Existing Roadway Project

Shading in Primary Funding Source column indicates: Yellow = City; Blue = Development; Green = ODOT; Orange = Other.

Table 2 Local Street Projects

| Project Number | Name                    | Description  | Cost        | Time Frame (years) | Primary Funding Source   |
|----------------|-------------------------|--|-------------|--------------------|--------------------------|
| R-1            | 11 <sup>th</sup> Street | Construct 11 <sup>th</sup> Street between Hemlock Street and Fir Street.   | \$594,000   | 2017-2025          | Development              |
| R-2            | 10 <sup>th</sup> Street | Construct 10 <sup>th</sup> Street between Greenwood and 9 <sup>th</sup> Street (at Peace Health access).   | \$1,189,000 | 2017-2025          | Development              |
| R-3            | 8 <sup>th</sup> Street  | Extend 8 <sup>th</sup> Street west from Greenwood Street to Elm Street.  | \$594,000   | 2017-2025          | Development              |
| R-4            | 7 <sup>th</sup> Street  | Extend 7 <sup>th</sup> Street west from Greenwood Street to Elm Street.  | \$594,000   | 2017-2025          | Development              |
| R-5            | 6 <sup>th</sup> Street  | Extend 6 <sup>th</sup> Street west from Greenwood Street to Elm Street.  | \$594,000   | 2017-2025          | Development              |
| R-6            | Greenwood Street        | Construct Greenwood Street between 11 <sup>th</sup> Street and 12 <sup>th</sup> Street. Extend Greenwood Street south from 9 <sup>th</sup> Street to 6 <sup>th</sup> Street. | \$891,000   | 2017-2025          | Development              |
| R-7            | Fir Street              | Construct Fir Street between 8 <sup>th</sup> Street and 11 <sup>th</sup> Street.   | \$891,000   | 2017-2025          | Development              |
| R-8            | Cloudcroft Lane         | Construct Cloudcroft Lane from current eastern terminus to Sandrift Street.  | \$637,000   | 2017-2025          | Development              |
| R-9            | Oceana Drive            | Construct Oceana Drive from current eastern terminus to Kelsey Way.  | \$849,000   | 2017-2025          | Development              |
| R-10           | Vine Street             | Construct Vine Street between 11 <sup>th</sup> Street and 12 <sup>th</sup> Street.   | \$297,000   | 2017-2025          | Development              |
| R-11           | Xylo Street             | Connect Xylo Street from current terminus at 12 <sup>th</sup> Street south to connect to OR 126.   | \$467,000   | 2026-2035          | Partial Development/City |
| R-12           | Elm Street              | Construct Elm Street between 9 <sup>th</sup> Street and 8 <sup>th</sup> Street.  | \$297,000   | 2026-2035          | Development              |

Note: R = New Roadway Project

Table 3 Bicycle Projects

| Project Number | Name   | Description   | Cost        | Time Frame (years) | Primary Funding Source   |
|----------------|--|---|-------------|--------------------|--------------------------|
| B-1            | Heceta Beach Road Bike Lanes                     | Construct 6-foot bike lanes along the entire length of Heceta Beach Road (see Heceta Beach Road standard cross-section). In sections where right-of-way, topography, or other constraints preclude the construction of the standard cross-section, the alternative cross-section may be used. | \$3,720,000 | 2017-2025          | Partial ODOT/City        |
| B-2            | Munsel Lake Road Bike Lanes                      | Construct 6-foot bike lanes along the entire length of Munsel Lake Road (see Munsel Lake Road standard cross-section). In sections where right-of-way, topography, or other constraints preclude the construction of the standard cross-section, the alternative cross-section may be used.   | \$4,055,000 | 2017-2025          | Partial Development/City |
| B-3            | 4 <sup>th</sup> Avenue                           | Provide bike sharrows.  | \$30,000    | 2011-2016          | City                     |
| B-4            | US 101 Alternative Bike Route                    | Provide alternative bike route for US 101 bicyclists and local residents via Heceta Beach Road and Rhododendron Drive/9 <sup>th</sup> Street.   | \$185,000   | 2017-2025          | Partial ODOT/City        |
| B-5            | Kingwood Street south of 10 <sup>th</sup> Street | Provide bike sharrows and/or bicycle lanes as appropriate. <sup>1</sup>   | \$16,000    | 2011-2016          | City                     |
| B-6            | Spruce Street South Bike Lanes                   | Construct minimum 5-foot bike lanes from 25 <sup>th</sup> Street south to OR 126.   | \$51,000    | 2017-2025          | City                     |
| B-7            | Spruce Street North Bike Sharrows                | Provide bike sharrows north of 25 <sup>th</sup> Street.   | \$17,000    | 2011-2016          | City                     |
| B-8            | Oak Street Bike Lanes                            | Construct minimum 5-foot bike lanes south of 24 <sup>th</sup> Street to 15 <sup>th</sup> Street.  | \$515,000   | 2011-2016          | City                     |
| B-9            | Quince Street Bike Lanes                         | Provide minimum 5-foot bike lane striping from OR 126 to Harbor Street.   | \$19,000    | 2011-2016          | City                     |
| B-10           | 2 <sup>nd</sup> Street Bike Sharrows             | Provide bike sharrows on 2 <sup>nd</sup> Street from Harbor Street to US 101.   | \$7,000     | 2011-2016          | City                     |
| B-11           | US 101 Bike Lanes                                | Provide bike lanes between the Siuslaw River Bridge and OR 126.   | \$46,000    | 2017-2025          | ODOT                     |
| B-12           | 9 <sup>th</sup> Street Bike Lane at US 101       | Develop minimum 5-foot bike lanes on 9 <sup>th</sup> Street between Nopal Street and US 101. <sup>2</sup>   | \$105,000   | 2017-2025          | City                     |

Note: B = Bicycle Project

<sup>1</sup> Eliminate parking on one side of Kingwood between 9<sup>th</sup> and 10<sup>th</sup>. Install sharrows initially given lower traffic volumes anticipated - can be modified to full bike lanes if/when needed. Continuous sidewalks a priority.

<sup>2</sup> More ROW needed in this area to develop full bike lanes due to lane configuration at US 101. Interim solution could include bike sharrows.

Table 4 Multi-Use Path/Trail Projects

| Project Number | Name  | Description  | Cost <sup>1</sup> | Time Frame (years) | Primary Funding Source |
|----------------|---|--|-------------------|--------------------|------------------------|
| MU-1A          | Rhododendron Drive Multi-Use Path – 9 <sup>th</sup> Street to 35 <sup>th</sup> Street | Provide a separated 12-foot multi-use path north of 9 <sup>th</sup> Street to 35 <sup>th</sup> Street (see Rhododendron Drive standard cross-section from 9 <sup>th</sup> Street to Heceta Beach Road).  | \$852,000         | 2011-2016          | City                   |
| MU-1B          | Rhododendron Drive Multi-Use Path – 35 <sup>th</sup> Street to N Jetty Road           | Provide a separated 12-foot multi-use path from 35 <sup>th</sup> Street to N Jetty Road (see Rhododendron Drive standard cross-section from 9 <sup>th</sup> Street to Heceta Beach Road).  | \$721,000         | 2017-2025          | City                   |
| MU-1C          | Rhododendron Drive Multi-Use Path – N Jetty Road to Heceta Beach Road                 | Provide a separated 12-foot multi-use path from N Jetty Road to Heceta Beach Road (see Rhododendron Drive standard cross-section from 9 <sup>th</sup> Street to Heceta Beach Road).  | \$645,000         | 2026-2035          | City                   |
| MU-2           | Munsel Creek Multi-Use Path   | Construct/improve and pave the segments of the Munsel Creek Trail between Quince Street and 16 <sup>th</sup> Street and between 25 <sup>th</sup> Street and 29 <sup>th</sup> Street. Between 16 <sup>th</sup> and 25 <sup>th</sup> Streets, the path uses the existing West Park Drive, 18 <sup>th</sup> Street, Willow Loop, 23 <sup>rd</sup> Street, and Willow Street roadway alignments. | \$640,000         | 2017-2025          | City                   |
| MU-3           | Estuary Trail   | Connect the Boardwalk in Old Town to the south end of the Munsel Creek Path.   | \$684,000         | 2017-2025          | City                   |
| MU-4           | 12 <sup>th</sup> Street Multi-Use Path (Kingwood to Rhododendron)                     | Pave the existing bark multi-use path between Kingwood Street and Rhododendron Drive.  | \$224,000         | 2017-2025          | City                   |
| MU-5           | 12 <sup>th</sup> Street Multi-Use Path (Munsel Creek Path to US 101)                  | Construct a multi-use path from US 101 to Spruce Street to connect to the Estuary Trail and Munsel Creek Path.   | \$60,000          | 2017-2025          | City                   |
| MU-6           | Oak Street Multi-Use Path   | Construct a multi-use path between 15 <sup>th</sup> Street and 10 <sup>th</sup> Street.  | \$161,000         | 2011-2016          | City                   |
| MU-7           | Ivy Street Multi-Use Path   | Construct a multi-use path in the existing Ivy Street right-of-way between 12 <sup>th</sup> Street and 8 <sup>th</sup> Street.   | \$136,000         | 2011-2016          | City                   |
| MU-8           | Elm Street Multi-Use Path   | Construct a multi-use path in the existing Elm Street right-of-way between 8 <sup>th</sup> Street and Rhododendron Drive.  | \$101,000         | 2011-2016          | City                   |
| MU-9           | Driftwood Street Multi-Use Path   | Construct a multi-use path in the existing Driftwood Street right-of-way between 12 <sup>th</sup> Street and 11 <sup>th</sup> Street.  | \$35,000          | 2011-2016          | City                   |



|       |   |  |           |           |       |
|-------|---|--|-----------|-----------|-------|
| MU-10 | North Florence County Park Multi-Use Path | Construct a network of multi-use paths within the County Park in the North Florence Area (see Figure 5-12 for a conceptual network). | \$151,000 | 2026-2035 | Other |
| MU-11 | Vine Street Multi-Use Path                | Construct a multi-use path in the existing Vine Street right-of-way between 11 <sup>th</sup> Street and OR 126.                      | \$96,000  | 2011-2016 | City  |

Note: MU = Multi-Use/Trail Project

<sup>1</sup> Assumes paved multi-use path. Determination of surface material will be made at the time of project development. Costs range from approximately \$15/LF for dirt, to \$36/LF for bark/gravel, to \$72/LF for asphalt, to \$105/LF for permeable asphalt for a 12-foot path.

## MULTI-USE PATHS/TRAILS

Multi-use paths may be constructed from a variety of materials, depending on factors such as accessibility, expected volume/type of use, topography, and other considerations. To remain conservative, the costs shown in Table 4 assume a 12-foot asphalt paved path; however, costs can vary widely depending on the surface material chosen. Table 5 summarizes costs for a 12-foot path (per lineal foot) for a variety of surface materials.

Table 5 Multi-Use Path/Trail Surface Construction Costs<sup>1</sup>

| Surface Type              | Per Square Foot (SF) | 12-Foot Path (LF) | Annual Maintenance Cost (SF) |
|---------------------------|----------------------|-------------------|------------------------------|
| Native Soil               | \$1.25               | \$15.00           | \$0.70                       |
| Bark/Mulch                | \$2.50               | \$30.00           | \$0.42                       |
| Gravel/Decomposed Granite | \$3.00               | \$36.00           | \$0.50                       |
| Asphalt                   | \$6.00               | \$72.00           | \$0.35                       |
| Permeable Asphalt         | \$8.75               | \$105.00          | \$0.75                       |

<sup>1</sup> Costs are unburdened (do not include contingencies) and are based on recent trail projects in Oregon and indexed to inflation.

It should also be noted that there may be cost savings if a path/trail is first constructed as a bark or gravel path and then later paved (assuming an appropriate base depth of gravel was installed to begin with).

Table 6 Pedestrian Projects

| Project Number | Name  | Description  | Cost      | Time Frame (years) | Primary Funding Source |
|----------------|---|--|-----------|--------------------|------------------------|
| P-1            | US 101 Sidewalk near Bridge                                     | Construct sidewalks on US 101 north of the Siuslaw River Bridge to connect to 2 <sup>nd</sup> Street. Restore western stairs from Bay Street to US 101 bridge.                         | \$76,000  | 2011-2016          | Partial City/ODOT      |
| P-2            | Old Town Sidewalks  | Fill in missing sidewalk segments within Old Town area. Sidewalks in downtown area should be at least 8 feet wide.   | \$168,000 | 2011-2016          | City                   |
| P-3            | Kingwood Street Sidewalks                                       | Construct sidewalks on Kingwood Street from 20 <sup>th</sup> Street south to Bay Street.   | \$473,000 | 2011-2016          | City                   |
| P-4            | US 101 Pedestrian RRFB Crossing at 12th Street                  | Construct a signalized RRFB pedestrian crossing of US 101 at 12 <sup>th</sup> Street, and construct sidewalks on the south side of 12 <sup>th</sup> Street on the west side of US 101. | \$140,000 | 2017-2025          | Partial City/ODOT      |
| P-5            | Mid-block US 101 Pedestrian RRFB Crossing between 15th and 16th | Construct a mid-block signalized RRFB pedestrian crossing of US 101 between 15 <sup>th</sup> Street and 16 <sup>th</sup> Street.   | \$140,000 | 2011-2016          | Partial City/ODOT      |
| P-6            | US 101 Pedestrian RRFB Crossing at 43rd Street                  | Construct a signalized RRFB pedestrian crossing of US 101 at 43 <sup>rd</sup> Street. Timing to be determined by approved Cannery Station development.                                 | \$140,000 | 2017-2025          | Partial City/ODOT      |
| P-7            | OR 126 Pedestrian RRFB Crossing at Redwood Street               | Construct a signalized RRFB pedestrian crossing of OR 126 at Redwood Street. Timing to be determined by approval of ODOT flex funds.   | \$140,000 | 2011-2016          | Partial City/ODOT      |
| P-8            | US 101 Sidewalks  | Fill in missing sidewalk segments along US 101 north to the Urban Growth Boundary.   | \$266,000 | 2011-2016          | City                   |
| P-9            | Oak Street Sidewalks  | Construct sidewalks on east side of Oak Street between 27 <sup>th</sup> Street and 32 <sup>nd</sup> Street and marked crosswalks at 27 <sup>th</sup> Street and 30th Street.           | \$60,000  | 2011-2016          | City                   |
| P-10           | Bay Street/Nopal Street Mid-Block Marked Pedestrian Crossing    | Construct a marked mid-block crosswalk across Bay Street at Nopal Street including ADA-compliant ramps.  | \$9,000   | 2011-2016          | City                   |
| P-11           | Pedestrian Crossing Study                                       | Conduct a study of existing pedestrian crossings on US 101 and OR 126 and evaluate potential future crossing locations.  | \$35,000  | 2011-2016          | City                   |

Note: P = Pedestrian Project

<sup>1</sup> Assumes 4 full blocks of new sidewalk

<sup>2</sup> Provide reflective painting on curb bulb-outs. Bulb-outs can be difficult for bicyclists to see at night when no cars are present in the parking lane.

<sup>3</sup> RRFB = Rectangular Rapid Flashing Beacon

Table 7 Transit Projects

| Project Number | Name                               | Description  | Cost             | Time Frame (years) | Primary Funding Source |
|----------------|------------------------------------|--|------------------|--------------------|------------------------|
| TR-1           | New Bus for Rhody Express Service  | Add second bus to expand existing transit service within Florence. | \$100,000        | 2026-2035          | City                   |
| TR-2           | Extend transit service to Saturday | Add Saturday transit service to Rhody Express.                     | \$0 <sup>1</sup> | 2017-2025          | City                   |

Note: TR = Transit Project

<sup>1</sup> This is an Operations and Maintenance Project, not a Capital Improvement Project

Additional details regarding each individual project is provided in project summary sheets (prospectus sheets) that are included as Attachment “A” to this memorandum.

It is important to note that no projects have been identified as a result of existing measured safety or capacity issues. In fact, all of the study intersections and major roadways have been found to operate acceptably under existing conditions and are likely to do so for some time. Still, several intersections have identified concerns, and some are likely to exceed acceptable performance standards by the end of the planning horizon (year 2035).

Recognizing current financial constraints and the limited/sporadic availability of funds for capital improvements, it is essential to develop a flexible and strategic approach for prioritizing projects that can work to improve the transportation system as a whole while remaining responsive to any future issues that may arise.

A majority of the identified projects are geared toward addressing general connectivity issues and improved connectivity for all modes. Many projects are relatively small in scale, and lend themselves to being combined in several ways to maximize their benefit. Therefore, in many cases the desired flexibility and adaptability is already inherently built into the projects.

## Funding Sources and Strategy

The City of Florence has identified existing and future potential sources to secure funding. Funding sources have been categorized into State/Federal Funding for Roadway, Pedestrian, and Bicycle Improvements, and Transit Funding. It should also be noted that at this time, Lane County has not been identified to receive federal funds from either Oregon Transportation Investment Act (OTIA) or Secure Rural Schools (timber payments) to fund any capital improvement projects. As such, the 2012-2016 CIP reflects this funding scenario and no capital improvements are proposed for the next five years. While the full and optimal implementation of the recommended projects are important to

realize over time, the total cost for these projects exceeds the current available and projected funding, and additional funding sources should be identified/pursued.

A summary of historical revenues, anticipated expenditures, and future projects are summarized below in Table 8.

Table 8 City of Florence Current Funding Summary

| Historical Revenue Sources   | Historical State/Federally Funded Projects  | Reasonable Assumptions for Anticipated State/Federal Funding   | New Street Fees Assumptions   |
|--|---|--|---|
| <ul style="list-style-type: none"> <li>• State Fuel Tax</li> <li>• Street Light Fee</li> <li>• Street LID Assessments</li> <li>• Grant Revenue</li> <li>• Intergovernmental<sup>1</sup></li> <li>• System Development Charges</li> </ul> | <ul style="list-style-type: none"> <li>• 9<sup>th</sup> Street Inlay (ARRA Project)</li> <li>• 30<sup>th</sup> Street Pedestrian Crossing of Highway 101</li> <li>• 2<sup>nd</sup>, 7<sup>th</sup>/8<sup>th</sup>, 18<sup>th</sup>/19<sup>th</sup> Pedestrian Crossings</li> <li>• Rhododendron Drive/6<sup>th</sup> Street intersections with Highway 101</li> <li>• Siuslaw River Bridge Interpretive Wayside</li> <li>• 12<sup>th</sup> Street Multi-Use Path</li> </ul> | <ul style="list-style-type: none"> <li>• ODOT to continue maintenance of US 101 and OR 126 in Florence</li> <li>• ODOT responsible for improvements of OR 126 from Spruce Street east to the City’s Urban Growth Boundary.</li> <li>• ODOT responsible for improvements to US 101 and OR 126.</li> <li>• ODOT to fund highway-related improvements to address safety.</li> <li>• Developments affecting traffic conditions on state highways may be required to contribute funding for measures to mitigate traffic impacts.</li> <li>• The City of Florence should continue to pursue funding available from grant programs administered by ODOT and other Federal and State agencies.</li> </ul> | <ul style="list-style-type: none"> <li>• The Street Fee will increase annually by 2%.</li> <li>• System Development Charges are projected to increase annually by 2% but actual increases will depend on level of development activity.</li> <li>• Forecasted grant/Urban Renewal revenues and expenses will remain at same levels as they have over past ten years.</li> <li>• Major capital improvements would likely be funded through debt. In general, for every \$1,000,000 that is borrowed, the annual cost for debt service is \$100,000 over a 20 year term.</li> <li>• Operating expenses provide the staff, materials, and services needed for minor maintenance such as crack seals. Microseals and overlays would be paid for as capital projects.</li> <li>• The City will continue to receive a portion of State Highway Fund revenue. It is expected that that annual revenue will be about \$220,000 in FY 2012 and increase to around \$550,000 by FY 2035.</li> </ul> |

<sup>1</sup> Intergovernmental funds have historically included Lane County Partnership Payments. Since 2007, the County no longer shares the federal money received with the City.

Additional details, as well as specific dollar amounts that have already been secured are provided in Project Memorandum #3, *Funding for Roadway, Pedestrian, Bicycle, and Transit Improvements*.

As described in the City’s Project Memorandum #3, there is the potential to develop a Street Fee (to be voted on November 2012) of \$3.50/month/household. This fee is expected to be sufficient to cover only the maintenance of existing facilities (assuming a 2% annual increase to account for

inflation). As such, the only reasonable source of capital improvement projects will be grant funding (federal and state sources) with local matching. Over time, and as development occurs, Florence will be increasing the pool of SDC funds, from which the City will then be able to use that money to provide the match necessary for grants and fund improvement through debt. Below in Table 9 are additional potential funding sources at the federal, state, and local level that could be sought for further improving the existing street system beyond only maintenance of existing facilities.

Table 9 Potential Funding Sources

| Federal Sources  | State Sources (ODOT and Development)   | Local Sources (City and Development)  |
|--|--|---|
| <ul style="list-style-type: none"> <li>• SAFETEA-LU</li> <li>• Highway Safety Improvement Program</li> <li>• Transportation Enhancements</li> <li>• Congestion Mitigation/Air Quality Program</li> <li>• Recreational Trails Program</li> <li>• Safe Routes to School (SR2S)</li> <li>• New Freedom Initiative</li> <li>• Community Development Block Grants</li> <li>• Rivers, Trails, and Conservation Assistance Program</li> <li>• Land and Water Conservation Fund</li> <li>• Transportation, Community, and System Preservation Program</li> </ul> | <ul style="list-style-type: none"> <li>• Statewide Transportation Improvement Program</li> <li>• Oregon Revised Statute 366.514</li> <li>• Oregon Transportation Infrastructure Bank</li> <li>• Measure 66 Funds – Oregon State Lottery</li> <li>• Special Transportation Fund</li> <li>• Bicycle and Pedestrian Program Grants</li> <li>• Bicyclist Safety Mini-Grant Program</li> <li>• Pedestrian Safety Mini Grant Program</li> <li>• Connect Oregon Fund</li> </ul> | <ul style="list-style-type: none"> <li>• Local Bond Measures</li> <li>• Tax Increment Financing/Urban Renewal Funds</li> <li>• System Development Charges/Developer Impact Fees</li> <li>• Street User Fees</li> <li>• Local Improvement Districts (LIDs)</li> <li>• Other Local Sources (volunteers, community groups, local schools)</li> <li>• Urban Renewal District</li> </ul> |

The recommended funding strategy is to initiate strategic high-priority project improvements using a combination of funding sources and attempt to leverage grants for City-related improvements. All funding options assume that the City of Florence begins to consider holistic funding requirements. Existing and future local, state, and federal funding sources should all be explored. The ability to obtain funding from multiple program sources typically enhances a project's chances for funding. It can enable some programs to fund worthy projects that might otherwise be beyond their financial capacity. Conversely, it also can reduce the liability to a program and, thereby, enable additional projects to be financed. This is demonstrated by the fact that ODOT project selection criteria typically reward local government for "over matching."

The likelihood of state and federal participation in City-related projects may be expected to vary by the attributes of particular elements of the improvement program. These include the following: current eligibility for state funding, the ability to leverage funding from multiple sources, and regional

prioritization. These factors should be the focus of the City of Florence's efforts to obtain state contributions.

While the City may also make use of state financing sources such as the Oregon Infrastructure Bank to pay for improvements, this memorandum focuses primarily on funding sources, not financing sources.

The funding strategies with the greatest chance of near term success likely include: local SDC updates, creation of new Local Improvement Districts or Reimbursement Districts, and developer exactions. These could go a long way toward filling in the funding gap for needed improvements.

In light of the increasing number of high-cost local projects competing for limited state funding, the City of Florence must be firm on its priorities and expectations for state contributions. This more complex and less predictable funding climate creates challenges for local government. Jurisdictions need to keep current on the type of selection criteria ODOT is likely to adopt for managing project competitions. The roles of regional and special purpose decision-making bodies are factors to consider as the Oregon Transportation Commission (OTC) tries to increase local participation in project selection. Less obvious may be the benefits from proactive participation in developing future funding packages.

#### URBAN RENEWAL DISTRICT

The purpose of the Urban Renewal District is to revitalize the Downtown Area as the primary cultural, tourist, commercial and community core to serve all Florence's citizens and visitors, encouraging continuing growth, development and enhancement consistent with Florence's small-town ambiance and character.

The District is roughly bounded by the Siuslaw River to the south, Kingwood Street to the west, 12<sup>th</sup> Street to the north, and Spruce Street to the east.

The Florence Urban Renewal Plan consists of activities and actions which help prevent and correct the cause of blight and deterioration in the Florence Urban Renewal Area. Project activities are intended to implement the vision and guiding principles of the Florence Downtown Implementation Plan, while providing incentives to new public and private building investments and facilitating repair of inadequate infrastructure, pedestrian safety, streetscape, and public facilities. To this end, projects identified by the Transportation System Plan within the district may be eligible for funding.

## Prioritization of Key City-Funded Projects

Overall, the 72 projects recommended for inclusion in the TSP total nearly \$53.4 Million in improvement costs. Of these 72 projects, 46 have been identified as being either solely or partially City-funded projects (roughly 64% of all projects), and total approximately \$17.9 Million (34% of the total estimated cost of all improvements).

Recognizing the limited capital funds and funding sources available, 14 key projects have been identified as high priority. Transportation projects were assigned to this high priority list based on the criteria identified below. Accordingly, the 14 high priority projects meet one or more of the following criteria:

- An immediate need to address capacity or safety deficiencies;
- A value-driven project that has been identified as desirable and provides above-average benefit;
- A project that is likely to be funded by identifiable grant monies or urban renewal funds, and;
- A project that is relatively low cost, and may be easily implemented with limited City funds.

All projects within the Urban Renewal District boundary are also included recognizing their qualification for urban renewal funding. Table 10 summarizes both the key prioritized projects as well as those projects that fall within the Urban Renewal District.

Table 10 Prioritized Key City-Funded Projects & Urban Renewal Projects

| Project Number | Name  | Description   | Priority Rank | Estimated Cost | Key Objective(s)   |
|----------------|---|---|---------------|----------------|--|
| P-9            | Oak Street Sidewalks  | Construct sidewalks on east side of Oak Street between 27 <sup>th</sup> Street and 32 <sup>nd</sup> Street and marked crosswalks at 27 <sup>th</sup> Street and 30 <sup>th</sup> Street.  | 1             | \$60,000       | <ul style="list-style-type: none"> <li>Enhance pedestrian safety and accessibility in the vicinity of schools</li> </ul>   |
| P-3            | Kingwood Street Sidewalks south of 20 <sup>th</sup> Street                            | Construct sidewalks on Kingwood Street south of 20 <sup>th</sup> Street.  | 2             | \$473,000      | <ul style="list-style-type: none"> <li>Enhance pedestrian safety and accessibility</li> </ul>  |
| MU-1A          | Rhododendron Drive Multi-Use Path – 9 <sup>th</sup> Street to 35 <sup>th</sup> Street | Provide a minimum 12-foot multi-use path north of 9th Street to 35th Street (see Rhododendron Drive standard cross-section from 9 <sup>th</sup> Street to Heceta Beach Road).   | 3             | \$852,000      | <ul style="list-style-type: none"> <li>Enhance non-motorized safety and accessibility</li> <li>Connect to existing bike system at 35<sup>th</sup> Street</li> <li>Enhance recreational and scenic amenities of the Rhody corridor</li> </ul> |
| PRJ-12         | Kingwood Street/9 <sup>th</sup> Avenue Intersection                                   | Install a single-lane roundabout at this location. <sup>1</sup>   | 4             | \$700,000      | <ul style="list-style-type: none"> <li>Improve operations and safety at intersection</li> <li>Provide opportunity for aesthetic improvements</li> </ul>  |
| B-8            | Oak Street Bike Lanes   | Construct minimum 5-foot bike lanes south of 24 <sup>th</sup> Street to 15 <sup>th</sup> Street.  | 5             | \$515,000      | <ul style="list-style-type: none"> <li>Enhance bicycle connectivity and driver awareness</li> </ul>  |
| B-6            | Spruce Street South Bike Lanes  | Construct minimum 5-foot bike lanes from 25 <sup>th</sup> Street south to OR 126.   | 6             | \$51,000       | <ul style="list-style-type: none"> <li>Enhance bicycle connectivity and driver awareness</li> </ul>  |
| B-7            | Spruce Street North Bike Sharrows   | Provide bike sharrows north of 37 <sup>th</sup> Street.   | 7             | \$17,000       | <ul style="list-style-type: none"> <li>Enhance bicycle connectivity and driver awareness</li> </ul>  |
| PRJ-13         | OR 126/Quince Street Intersection   | Restrict movements (prohibit all movements except right-in/right-out for northbound and southbound approaches). Westbound left-turns from OR 126 to Quince Street would be retained until such time that the 8 <sup>th</sup> Street Extension (PRJ-4) is constructed. | 8             | \$350,000      | <ul style="list-style-type: none"> <li>Address operational deficiencies of minor street movements</li> <li>Address safety issues associated with driver gap selection and long delays for minor street movements</li> </ul>                  |



Table 10 (continued)

| Project Number | Name  | Description  | Priority Rank | Estimated Cost     | Key Objective(s)  |
|----------------|---|--|---------------|--------------------|---|
| P-2            | Old Town Sidewalks  | Fill in missing sidewalk segments within Old Town area. Sidewalks in downtown area should be at least 8 feet wide.                               | 9             | \$168,000          | <ul style="list-style-type: none"> <li>Enhance pedestrian connectivity and downtown walkability</li> </ul>  |
| P-10           | Bay Street/Nopal Street Mid-Block Marked Pedestrian Crossing  | Construct a marked mid-block crosswalk across Bay Street at Nopal Street including ADA-compliant ramps.  | 10            | \$9,000            | <ul style="list-style-type: none"> <li>Heighten driver awareness of pedestrian presence</li> <li>Focus pedestrian movements to/from boardwalk area to a marked crossing location</li> </ul> |
| P-7            | OR 126 Pedestrian RRF <sup>B</sup> Crossing at Redwood Street                                       | Construct a signalized RRF <sup>B</sup> pedestrian crossing of OR 126 at Redwood Street. Timing to be determined by approval of ODOT flex funds. | 11            | \$140,000          | <ul style="list-style-type: none"> <li>Heighten driver awareness of pedestrian presence</li> <li>Focus pedestrian movements to/from boardwalk area to a marked crossing location</li> </ul> |
| P-5            | Mid-block US 101 Pedestrian RRF <sup>B</sup> Crossing between 15 <sup>th</sup> and 16 <sup>th</sup> | Construct a mid-block signalized RRF <sup>B</sup> pedestrian crossing of US 101 between 15 <sup>th</sup> Street and 16 <sup>th</sup> Street.     | 12            | \$140,000          | <ul style="list-style-type: none"> <li>Heighten driver awareness of pedestrian presence</li> <li>Focus pedestrian movements to/from boardwalk area to a marked crossing location</li> </ul> |
| B-9            | Quince Street Bike Lanes  | Provide minimum 5-foot bike lane striping from OR 126 to Harbor Street.  | 13            | \$19,000           | <ul style="list-style-type: none"> <li>Enhance bicycle connectivity and driver awareness</li> </ul>   |
| B-10           | 2 <sup>nd</sup> Street Bike Sharrows  | Provide bike sharrows on 2 <sup>nd</sup> Street from Harbor Street to US 101.  | 14            | \$7,000            | <ul style="list-style-type: none"> <li>Enhance bicycle connectivity and driver awareness</li> </ul>   |
| <b>TOTAL</b>   |   |  |               | <b>\$3,501,000</b> |   |

Table 10 (continued)

| Project Number                         | Name   | Description  | Priority Rank | Estimated Cost     | Key Objective(s)  |
|--|--|--|---------------|--------------------|---|
| <b>Urban Renewal District Projects</b> |  |  |               |                    |   |
| PRJ-4                                  | 8 <sup>th</sup> Street Extension                                     | Construct 8 <sup>th</sup> Street east from Quince Street to cross Munsel Creek and connect at the OR 126/Spruce Street intersection.                           | N/A           | \$2,915,000        | <ul style="list-style-type: none"> <li>Enhance access to Old Town and reduce pressure on US 101 and the OR 126/Quince Street intersections</li> </ul>                       |
| PRJ-14                                 | OR 126/Spruce Street Intersection                                    | Install a roundabout or traffic signal.  | N/A           | \$1,400,000        | <ul style="list-style-type: none"> <li>Improve operations and safety at intersection</li> <li>Roundabout provides greater opportunity for aesthetic improvements</li> </ul> |
| B-12                                   | 9 <sup>th</sup> Street Bike Lane at US 101                           | Develop minimum 5-foot bike lanes on 9 <sup>th</sup> Street between Nopal Street and US 101.   | N/A           | \$105,000          | <ul style="list-style-type: none"> <li>Enhance bicycle connectivity and driver awareness</li> </ul>   |
| B-5                                    | Kingwood Street south of 10 <sup>th</sup> Street Bike Treatment      | Provide bike sharrows and/or bicycle lanes as appropriate.   | N/A           | \$16,000           | <ul style="list-style-type: none"> <li>Enhance bicycle connectivity and driver awareness</li> </ul>   |
| MU-3                                   | Estuary Trail  | Connect the Boardwalk in Old Town to the south end of the Munsel Creek Path.   | N/A           | \$684,000          | <ul style="list-style-type: none"> <li>Enhance non-motorized safety and accessibility</li> <li>Enhance recreational and scenic experience for users</li> </ul>              |
| MU-5                                   | 12 <sup>th</sup> Street Multi-Use Path (Munsel Creek Path to US 101) | Construct a multi-use path from US 101 to Spruce Street to connect to the Estuary Trail and Munsel Creek Path.   | N/A           | \$60,000           | <ul style="list-style-type: none"> <li>Enhance non-motorized connectivity and accessibility</li> </ul>  |
| MU-11                                  | Vine Street Multi-Use Path   | Construct a multi-use path in the existing Vine Street right-of-way between 11 <sup>th</sup> Street and OR 126.  | N/A           | \$96,000           | <ul style="list-style-type: none"> <li>Enhance non-motorized connectivity and accessibility</li> </ul>  |
| P-1                                    | US 101 Sidewalk near Siuslaw River Bridge                            | Construct sidewalks on US 101 north of the Siuslaw River Bridge to connect to 2 <sup>nd</sup> Street. Restore western stairs from Bay Street to US 101 bridge. | N/A           | \$76,000           | <ul style="list-style-type: none"> <li>Enhance pedestrian connectivity and accessibility to Old Town</li> </ul>   |
| <b>TOTAL</b>                           |  |  |               | <b>\$5,352,000</b> |   |

<sup>1</sup> A traffic signal could be constructed in lieu of a roundabout if determined a roundabout is not feasible.

<sup>2</sup> RRFB = Rectangular Rapid-Flashing Beacon.

As shown in Table 10, the 14 high priority projects would total \$3,501,000, roughly 20% of the combined total cost of all City-funded projects. Eight additional projects are located within the Urban Renewal District, and represent an additional \$5,352,000 (30% of the total cost of all City-funded projects).

Generally, the 14 high priority projects meet current needs to improve multi-modal mobility in the City. Many of the projects are relatively low cost, and thus may be implemented in the short term. There are six pedestrian-related improvements (sidewalks, crosswalks), five bicycle-related projects (bike lanes and sharrows), and a multi-use path (on Rhododendron Drive). These projects will cost-effectively improve current missing links in the pedestrian and bicycle network within the City. In addition, there are two intersection improvement projects (Kingwood/9<sup>th</sup> and OR 126/Spruce) that address existing and/or short-term capacity deficiencies.

Excluding the two most expensive Urban Renewal project (PRJ-4, PRJ-14), the remaining six projects total \$1,037,000, or less than 6% of the combined total cost of all City-funded projects.

It is recommended that the City pursue funding of these high priority and urban renewal projects in the immediate future.

## NEXT STEPS

This memorandum presents a summary of final recommended transportation improvements for inclusion in the TSP. Planning-level cost estimates have been considered along with anticipated future funding levels to prioritize key projects. The final project recommendations will be synthesized with proposed policies in a future project memorandum and will be documented and summarized in the Draft TSP.

## Attachments

### Attachment “A” – Project Prospectus Sheets

*This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.*

*The contents of this document do not necessarily reflect views or policies of the State of Oregon.*

Attachment "A"  
Prospectus Sheets

(REFER TO TSP  
APPENDIX VOLUME I)

**DRAFT – M E M O R A N D U M # 10**  
**Plan Policies and Development Code Amendments**  
*Prepared by the City of Florence with assistance from Angelo & Associates*  
*January 6, 2012*

Proposed Comprehensive Plan Policy Amendments

**Background**

The Transportation System Plan (TSP) is a part of the Florence Realization 2020 Comprehensive Plan and is physically located in Appendix 12. The Goals and Policies that are part of the Transportation System Plan will be included in Chapter 12 of the Florence Realization 2020 Comprehensive Plan. While some chapters of the Comprehensive Plan include goals, objectives, policies, and recommendations; currently Chapter 12: Transportation includes only goals and policies.

**Definitions from Comprehensive Plan**

The following terms, as used in this Comprehensive Plan, are defined as stated below.

**GOALS.** *Goals are general statements of intent. They describe the kind of community and environment desired by the City. Generally a goal reflects an ideal that will not change or be invalidated as a result of future developments. In many cases, a stated goal may seem unachievable, but is intended to indicate a direction for continuing effort rather than a point to be reached.*

**OBJECTIVES.** *Objectives are specific ends or targets which would aid in achieving the Goals. Objectives also describe more specific directions in which the City wishes to progress.*

**POLICIES.** *Policies are the positions the City will take in order to reach the Goals. Policies are more specific and are subject to interpretation by the Planning Commission and City Council. They are intended to be used on a day-to-day basis and deal with particular aspects or ramifications of the broad goal stated for each category.*

**RECOMMENDATIONS.** *Recommendations are particular actions that should be initiated and implemented to assist in achieving the goals and policies set forth.*

**SHALL.** *Shall is used in laws, regulations and directives to express what is mandatory.*

**SHOULD.** *Should is used to express what is probable or expected.”*

Policies are statements that provide a specific course of action moving the community toward the attainment of its goals and objectives. Policies have the force of law. Each new capital improvement project, land use application, or implementation measure must be consistent with the policies.

The attached Exhibit B shows proposed amendments to the Goals and Policies of the Comprehensive Plan. The changes are shown in legislative format with the strike-out indicating

proposed deletion and double underline indicating proposed insertion. Explanations are shown in brackets and with italic font. There have been no suggested changes to the Goals.

### Proposed Amendments to the Rhododendron Drive Integrated Transportation Plan

As per the decision of the Project Advisory Committee in previous meetings, amendments to this Plan would change the planned improvements for the Segment of Hemlock to 9<sup>th</sup> Street would change from bicycle lanes and sidewalks on both sides to a separated multi-use path on the northeast side of the street.

The segment from 9<sup>th</sup> Street to 12<sup>th</sup> Street would no longer be one of transition between the multi-use path at 12<sup>th</sup> Street and the sidewalks and bicycle lanes to the south of 9<sup>th</sup> Street. Rather, it too would consist of a separated multi-use path on the east side of the street.

Priorities listed in Table 4-1 for the various segments of Rhododendron Drive improvements would be changed so that the highest priority project would be from 9<sup>th</sup> Street to the north, each segment to the north decreasing in priority until the intersection with North Jetty Road. At that point, the priority would then shift back to the segments of Rhododendron Drive south of 9<sup>th</sup> Street.

### Proposed Amendments to Florence City Code

Exhibit C shows the proposed code amendments in legislative format with the strike-out indicating proposed deletion and double underline indicating proposed insertion. Explanations are shown in brackets and with italic font.

Key chapters in the Florence City Code that implement the transportation policies in the Comprehensive Plan are found in Title 10: Zoning Regulations. The following Chapters and Sections are most relevant:

#### **Chapter 1: Zoning Administration, Section 1: Administrative Regulations**

In FCC 10-1-1-4-D, Traffic Impact Studies, the proposed amendment implements the proposed new policy (after Policy 8) and ensures that amendments to the Comprehensive Plan, Zoning Map, and Zoning regulations are consistent with the function, capacities and levels of service of facilities designated in the Transportation System Plan.

The proposed amendments to the notice requirements ensure that the City provides notice to affected transportation facility and service providers, including ODOT.

#### **Chapter 2: General Zoning Provisions, Section 12: Uses and Activities Permitted in All Zones**

These proposed amendments ensures compliance with Transportation Planning Rule TPR 660-012-0045(1) that requires local governments to implement the Transportation System Plan through its land use regulations. The proposed code specifies that in most cases, the construction, operation, maintenance, and repair of transportation facilities does not necessitate land use approval.

### **Chapter 3: Off-Street Parking and Loading**

The proposed amendments to this chapter call out options for use of transit and carpool/vanpool to reduce the amount of on-site parking that would be required. The amendments also require carpool/vanpool parking for large employers.

### **Chapter 21: Public Use Airport Zone**

As part of the adoption of an updated Transportation System Plan, the City Council will also adopt portions of the Florence Municipal Airport, Airport Master Plan Update. The proposed code amendments reference this new plan and implement recommendations 13 and 14 in Chapter One of that Plan with regard to use of FAA Form 7460-1 – Notice of Proposed Construction or Alteration. Paragraph D in Section 2-6: Procedures includes language as requested by the Oregon Department of Aviation in a letter to the City dated October 10, 2011.

### **Chapter 35: Access and Circulation**

While the city has required traffic studies for some types of development (see Chapter 1), the proposed code language in Section 2-5: Traffic Study Requirements, explains what is required by the analysis.

Proposed code language for sidewalks is shown as Section 3-1: Sidewalk Requirements. The proposed code amendments in Exhibit C are based on the approaches listed in options 2 and 4, below, with a requirement for non-remonstrance agreements in situations where it is impracticable to construct sidewalks concurrent with the building. There are various options of ways to deal with sidewalks and some are explored here.

#### ***Issue for Discussion: Constructing sidewalks in developed neighborhoods***

Currently, FCC 10-35-3 stipulates that “All new development shall be required to install sidewalks along the street frontage, unless the City has a planned street improvement, which would require a non-remonstrance agreement.” There are different directions that the city could go in terms of best providing for pedestrian access in neighborhoods that have already been developed without sidewalks.

#### ***Option 1 - Maintain current code.***

This approach is based on the idea that over time, as vacant lots develop and old houses are torn down and replaced with new houses, that sidewalks will be constructed and eventually creating a connected pedestrian system. Implementation of this approach is easy in that it applies equally to all new construction.

#### ***Option 2 – Allow for alternate pedestrian improvements.***

Another option that would provide more immediate benefits to pedestrians would be to allow a developer/builder to construct or rebuild a segment of sidewalk or multi-use path of equivalent cost to the sidewalk that would otherwise be required along the street frontage of the proposed development. For example, if there was a collector street, transit stop, or path nearby that was missing a segment of sidewalk, then it would benefit from the construction of a house on a local street in an existing neighborhood. This approach would be more complex to administer in that there would need to be an evaluation of where a sidewalk or path segment could be constructed that would be a fair



exchange. There may also be legal issues in terms of the fairness of this approach. However, it may be a way to pay for sidewalks on primary pedestrian corridors that may be difficult to fund otherwise.

*Option 3 – Do not require sidewalk construction in areas without sidewalks.*

A third option is to not require sidewalks for houses built in neighborhoods where there are no sidewalks. This approach would reduce the construction cost of infill housing, but would be based on the understanding that there would never be sidewalks in that neighborhood unless there were constructed through the formation of a local improvement district (LID). If sidewalks are not required at the time of construction, the City could require a non-remonstrance agreement that would mean that the property owner would not oppose the formation of a LID. At such time as there were enough neighborhood interest and/or non-remonstrance agreements, the City could then go forward with the LID.

*Option 4 – Require construction of sidewalks in conjunction with certain additions and remodels.*

Instead of just requiring sidewalks for new construction, the city could require sidewalks for major construction projects as well. This approach would help fill in gaps on the sidewalk system sooner than relying solely on new construction. This requirement could apply to bringing sidewalks up to meet current standards for all areas of the city, not just residential neighborhoods.

The proposed new section, Section 4: Transit Facilities implements transit-supportive policies and requires that new development at or near transit stops provide convenient pedestrian access to transit and in some cases provide or accommodate transit facilities.

### **Chapter 36: Public Facilities**

The proposed change in Section 2: Street Standards changes approach from a minimum right-of-way and street section to one referencing the standards illustrated in Technical Memo #8: Facility Standards.

The proposed amendments to Section 2-10: Block Length and Block Perimeter promote pedestrian connectivity, reduce vehicle miles travelled by providing shorter routes, and promote public safety by increase the number of alternate routes available in case of accidents or closures.

The proposed amendments to Section 2-16: Sidewalks, Planter Strips, Bicycle Lanes, reflect the street standards in Technical Memo #8: Facility Standards, which allow for five foot bicycle lanes in some cases. They also clarify that sidewalks are required on both sides of the street.

### **Proposed Community Transit Plan Amendments**

Chapter Six in the Community Transit Plan identifies Transit Goals. Exhibit D shows the existing goals and proposed amendments in legislative format. The goals were not numbered in the Community Transit Plan, but they have been reordered and numbered for ease of discussion. The Goals shown as Long Term Goals 12-14 are the ones worthy of discussion. Tourism, conferences at the Florence Event Center, and after-hours service were not major topics of

discussion for the Project Advisory Committee and warrant consideration as to whether they should continue to be included as Transit Goals.

### Exhibits to Memo #10

Exhibit A – Proposed Findings (*to be prepared prior to first public hearing*)

Exhibit B – Proposed Comprehensive Plan Amendments

Exhibit C – Proposed Code Amendments

Exhibit D – Proposed Community Transit Plan Amendments

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**Exhibit B**  
**Proposed Amendments Chapter 12 of the Comprehensive Plan**  
*(Amendments to Goals and Policies as Proposed by the  
Transportation Project Advisory Committee)*

**Goals**

1. To create a safe transportation system.
2. To operate transportation facilities at a level of service that is cost-effective and appropriate for the area served.
3. To develop systematic annual maintenance plans for streets, bike, pedestrian and air facilities.
4. To create a transportation network to support existing and proposed land uses.
5. To meet the needs of land development while protecting public safety, transportation operations and mobility of all transportation modes.
6. To provide a balanced transportation system that provides options for meeting the travel needs of all modes of transportation.
7. To enhance the quality of life for citizens and visitors by providing adequate access to residences, employers, services, social and recreational opportunities.
8. To minimize transportation-related energy consumption by using energy efficient modes of transportation for movement of goods, services and people where possible.
9. To provide economic health and diversity through the efficient and effective movement of goods, services and people.
10. To minimize the impacts on natural and cultural resources when constructing transportation facilities and should encourage non-polluting transportation alternatives.
11. To choose transportation facilities which balance the requirements of other transportation goals with the need to minimize air, water and noise pollution.
12. To provide for adequate parking facilities in conjunction with other transportation facilities, as appropriate.
13. To collaborate and coordinate with state, county and other agencies during long range planning efforts, development review, design and construction of transportation projects.

## Policies

1. City street standards shall promote street design which provides for adequate lane widths, curvature and grades to create a street network which provides safe transportation at all seasons of the year.
2. Vision clearance provisions shall be maintained and enforced.
3. The City shall continue to work with ODOT to improve safe pedestrian crossing of state highways, and to cooperate in the location of additional crosswalks in safe locations.
- \*. The City shall utilize the mobility standards in the Oregon Highway Plan for the state highways. Elsewhere within the city, the minimum operating standards at intersections are as follows:
  - LOS “D” is considered acceptable at signalized and all-way stop controlled intersections if the V/C (volume/capacity) ratio is not higher than 1.0 for the sum of critical movements.
  - LOS “E” is considered acceptable for the poorest operating approach at two-way stop intersections. LOS “F” is allowed in situations where a traffic signal is not warranted.

Where a facility is maintained by the County, the more restrictive of the City or County standards apply.

*[With this policy, the City would establish a level of service standard (LOS). By establishing this standard, the City is making it known how much congestion it will tolerate on its roadways.]*

4. The City shall develop systematic annual maintenance plans for streets, bike, pedestrian and air facilities.
5. The City shall continue to pursue grant and loan funds to supplement local transportation facility funds.
6. The City shall continue to require new development to pay its share of costs of development of, or improvements to, transportation facilities which will serve the proposed development.

*[This policy is a repeat of policy 5.]*

7. Development within a City right-of-way, including but not limited to excavation, clearing, grading, utility placement, culvert placement or replacement, other stormwater facilities, and construction or reconstruction of road or driveway approaches, is allowed only upon approval of a city permit.  
*[This policy makes it clear that the City is responsible for managing the public rights-of-way and will utilize a permit system to be aware of and prevent conflicts between the various uses of that right-of-way.]*

8. The City shall protect the function of existing and planned transportation systems as identified in this Plan through application of appropriate land use and access management techniques.
- \*. Pursuant to the State Transportation Planning rule, any land use decisions which significantly affect a transportation facility shall ensure that allowed land uses are consistent with the function, capacity, level of service of the facility.  
*[This policy helps the City comply with the State Transportation Planning Rule 660-012-0045(2)(g) by ensuring that land use changes are based on findings of consistency with the planned transportation system as adopted in the City's Transportation System Plan.]*
9. At the time of land development or land division, the City shall require dedication of adequate right-of-way or easements consistent with the adopted TSP in order to achieve connectivity; maintain adequate street widths, bikeways and walkways; and to accommodate transit facilities.
- \*. The City Council will consider opportunities to purchase land for extensions of right-of-way where connectivity is needed to promote efficient traffic flow.  
*[With connectivity lacking in many parts of Florence, this policy prompts the City to look for opportunities to build a connected road system through acquisition instead of relying completing on dedication of rights-of-way.]*
- \*. New development and redevelopment shall accommodate on-site traffic circulation on the site. For new development and redevelopment, "backing out" maneuvers onto all streets shall be avoided for uses other than single-family and duplex homes. "Backing out" maneuvers shall also be avoided for new single-family and duplexes accessing arterial or collector streets.  
*[This policy limits the complication of turning and backing movements onto streets that add confusion and compromise safety.]*
10. New development shall gain access primarily from local streets. Where access is available from more than one street, access shall be taken from the street with the lower functional classification unless otherwise approved by the City. Driveway access onto arterials and collectors shall be evaluated based on access options, street classifications and the effects of new access on the function, operation and safety of surrounding streets and intersections.  
*[Protecting the function of collector and arterial streets for through traffic reduces congestion on those streets.]*  
  
Land development shall not encroach within setbacks required for future expansion of transportation facilities. *[This policy is part of policy 10, but should be a separate policy.]*
11. The City shall provide an inter-connected trail system as directed in Comprehensive Plan Chapter 8 policy and shown in the TSP Map.

The City shall consider the potential to establish or maintain bikeways and/or walkways or provide access to coastal waters (ocean, estuary, and lakes) prior to vacating any public easement or right-of-way. *[This policy is part of policy 11, but should be a separate policy. The addition of access to coastal waters ensures compliance with Statewide Planning Goal 17, implementation measure #6.]*

12. Convenient access for motor vehicles, transit, bicycles and pedestrians shall be provided to major activity centers, including public buildings and schools, the hospital, shopping areas, parks, and places of employment.
13. Streets, bikeways and walkways shall be designed to meet the needs of pedestrians and cyclists to promote safe and convenient bicycle and pedestrian circulation within the community. To promote bicycling and walking,, marked bicycle lanes and sidewalks are required on all arterial and collector streets (other than those collectors identified as scenic drives) when those streets are newly constructed, reconstructed, or widened to provide additional vehicular capacity. For collector streets that are identified as scenic drives, provision shall be made to adequately accommodate bicycles and pedestrians when those streets are newly constructed, reconstructed, or widened to provide additional vehicular capacity.  
*[This policy amendment provides for bicycles and pedestrians as part of the street system not just when new collector and arterial streets are constructed, but also when they are being improved for vehicles. It also recognizes that scenic drives may handle bicycles and pedestrians in a different manner than standard urban streets.]*
- \* Development shall provide adequate on-site circulation and off-site transportation facilities for vehicles (including transit), bicycles, and pedestrians (such as those in the adjacent right-of-way and beyond) as long as the improvements are proportional and related to the impact of the development.  
*[This policy ensures that development provides for alternate modes of transportation.]*
14. Streets shall be designed to efficiently and safely accommodate emergency service vehicles.
- \*. In partnership with the School District, the City shall work towards a safe and convenient transportation system that accommodates school buses; children walking to and waiting at a bus stop; and walking and riding their bicycles to school.  
*[Children should be able to get to school safely whether they are walking, riding a bicycle, or riding the bus.]*
- \*. City shall accommodate local freight traffic accessing the industrial areas along Kingwood Avenue via 9<sup>th</sup>, 27<sup>th</sup>, and 35<sup>th</sup> Streets by maintaining adequate clear street widths (unimpeded by parking or overhanging signs/trees), adequate turning radii, and visibility.  
*[To support economic development, this policy establishes local freight routes.]*
15. The North, South and East Gateways shall be pursued as soon as funding can be obtained.
16. City policies shall discourage the placement of streets serving primarily commercial or industrial development from negatively impacting adjoining residential development.

17. The City shall encourage placement of streets that minimizes negative impacts in residential development.
18. The City shall encourage demand management programs such as park-and-ride facilities and vanpools to reduce single occupancy vehicle trips, especially to and from Eugene.
19. The City shall promote the use of telecommunications, transit and rail facilities as energy efficient alternatives to vehicular transport.
20. The City shall coordinate with the Port of Siuslaw regarding transportation projects that may affect facilities which are operated by the Port or which affect the Port's operations. *[Recognizing that the Siuslaw River offers a viable means of transportation, this policy recognizes the Port's role in supporting water-borne transportation.]*  
  
*[The Port of Coos Bay now owns the railroad and there are more issues for its ongoing operation besides the rail overpass in Cushman. It does not seem appropriate to call out that one project in Florence's Comprehensive Plan.]*  
  
*[This policy does not fit in this chapter, but shall be moved section Telephone Services in Chapter 11 of the Comprehensive Plan.]*
22. The City shall continue to pursue the cooperative effort of coastal cities and counties to bring a natural gas pipeline north on the coast to Florence and other communities.
23. Design and construction of transportation facilities shall be responsive to topography and should minimize impacts on natural resources such as streams, wetlands and wildlife corridors.
24. Stormwater runoff from transportation facilities shall be required to have appropriate pre-treatment prior to discharge. *[The original policy as written belonged in the Stormwater section of Chapter 11. It has been changed to apply to transportation facilities and thus retain its place in Chapter 12 as a reminder that the design of transportation facilities needs to consider water quality.]*  
  
*[This policy does not belong in the Transportation chapter as Historic and Cultural Resources are addressed in Chapter 5.]*
26. As the use of the airport increases, and night operations become a reality, the City shall work with neighboring residential uses to resolve issues of noise and vibration.
27. The City shall continue to discourage new residential uses, schools, hospitals, and similar facilities in the approach zones of the airport.
- \*. The City shall protect current and future viability of the airport and compatibility of land uses through the Public Airport Safety and Compatibility Overlay Zone and coordination with the Oregon Department of Aviation and the Federal Aviation Administration.

*[This policy recognizes the importance of preventing incompatible uses in proximity of the airport and supports intergovernmental coordination.]*

28. On-site parking for motor vehicles and bicycles shall continue to be provided, unless another adopted City plan expressly provides otherwise.
29. The policies and direction of Downtown Implementation Plan regarding the provision of on-street parking shall be implemented.
30. Appropriate bicycle parking facilities shall be provided at places of employment, at business and at public buildings.
31. The City shall notify ODOT of all project proposals and development applications adjacent to state highways. The City should notify Lane County of all project proposals and development applications adjacent to county roads.
32. The City shall notify ODOT and Lane County of all major development proposals which will generate more than 50 trips during an average peak hour or which require a traffic study.
33. The City shall notify ODOT, DLCD and Lane County of any proposed changes or amendments to this Transportation System Plan.

## **Background**

The City of Florence, in conjunction with the Oregon Department of Transportation (ODOT), initiated an update of the urban area's Transportation System Plan (TSP) in 2010. This TSP is intended to guide the management and implementation of the transportation facilities, policies, and programs, within the urban area over the next 25 years. It represents the vision of the City as it relates to the future of the transportation system while remaining consistent with state and other local plans and policies. The plan also provides the necessary elements for adoption by the governing bodies into the City's Comprehensive Plan. The adopted TSP is incorporated into this Comprehensive Plan and is physically located in Appendix 12. The TSP summarizes the technical analyses that have been performed in the development of the TSP, including coordination with the affected agencies.

The City of Florence's location on the Oregon Coast makes it an attractive destination for tourists and summer vacationers with the associated traffic impacts. In addition, Florence is experiencing growth pressures from both development and increasing traffic. To address these issues, the TSP is based on an evaluation of future growth and includes recommendations for appropriate transportation improvements to serve that growth while maintaining and enhancing the character of the city. The TSP recognizes that state roadways must be used efficiently and an effective facilities management plan must be developed to allow the City's street system to operate effectively as in-fill development continues within the Urban Growth Boundary.



The City of Florence recognizes the importance of the five existing transportation gateways to the community:

- East Highway 126 Gateway
- North Florence Highway 101 Gateway
- Siuslaw River Bridge/South Highway 101 Gateway
- Florence Airport Gateway
- Siuslaw River/Port of Siuslaw Gateway.

A Comprehensive Plan that embraces coordinated and systematic development of all gateways is vital to achieving an efficient transportation system.

State of Oregon planning rules require that the TSP be based on the current comprehensive plan land use map and must provide a transportation system that accommodates the expected 20-year growth in population and employment that will result from implementation of the land use plan. The contents of this TSP update are guided by Oregon Revised Statute (ORS) 197.712 and the Department of Land Conservation and Development (DLCD) administrative rule known as the Oregon Transportation Planning Rule (TPR). These laws and rules require that jurisdictions develop the following:

- a road plan for a network of arterial and collector streets;
- a bicycle and pedestrian plan;
- an air, rail, water, and pipeline plan;
- a transportation financing plan; and
- policies and ordinances for implementing the TSP.

The TPR requires that the transportation system plan incorporates the needs of all users and abilities.

In addition, the TPR requires that local jurisdictions adopt land use and land division ordinance amendments to protect transportation facilities and to provide bicycle and pedestrian facilities between residential, commercial, and employment/institutional areas. It is further required that local communities coordinate their respective plans with the applicable county, regional, and state transportation plans.

Development of the TSP began with the preparation of transportation goals and objectives to guide development of the TSP and the long-term vision for the transportation system. These goals and objectives are presented in Section 2 of this plan. Section 3 summarizes a review of existing and historic funding sources for transportation improvements, as well as forecast future funds.

Section 4 provides an overview of existing transportation conditions and future forecast deficiencies. Section 5, Section 6, Section 7, and Section 8 present the Local Street Plan, Pedestrian & Bicycle Plan, Transit Plan, and Rail, Pipeline, Air & Surface Water Plans, respectively. These sections discuss the future conditions (year 2035) analysis (where applicable), and any relative plan elements that have been included in the TSP.

Section 9 presents the Facilities Plan and functional classification of streets with detailed cross-sections for arterials, collectors, and local streets.

Section 10, Transportation Funding Plan, provides an analysis and summary of funding sources to finance the identified transportation system improvements as well as a subset of high-priority projects recognizing the limited capital funds and funding sources available.

Finally, Section 11, Plan Policies and Development Code Amendments, presents the adoption ordinances required for the adopting agencies to formally adopt the TSP, including specific changes in local zoning policies to implement the TSP and to achieve compliance with the Oregon TPR (OAR 660 Division 12).

Sections 1 through 11, in combination with Appendices A through E, comprise Volume I of the TSP and provide the main substance of the plan. These are supplemented by Technical Appendices in Volume II that contain the Technical Memoranda documenting the existing conditions analysis, forecast needs, alternatives analysis, and the sub-area plans that informed the TSP update.

The TSP includes proposed improvements to non-City facilities. Without additional action by the governmental entity that owns the subject facility or land (i.e., Lane County or the State of Oregon), any project in this Plan that involves a non-City facility is merely a recommendation for connecting the pedestrian and bicycle network. As in most facility planning efforts, moving towards, and planning for, a well-connected network depends on the cooperation of multiple jurisdictions; the TSP is intended to facilitate discussions between the City and its governmental partners as they work together to achieve a well-connected network. The TSP does not, however, obligate its governmental partners to take any action or construct any projects.

**Exhibit C**  
**Proposed Amendments to Florence City Code Title 10**  
*As Proposed by the Transportation Project Advisory Committee*

**CHAPTER 1: ZONING ADMINISTRATION**

**10-1-1-4: APPLICATION**

**D. Traffic Impact Studies:** The City may require a Traffic Impact Study (TIS) as part of an application for development; a proposed amendment to the Comprehensive Plan, zoning map, or zoning regulations; a change in use, or a change in access in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities and to implement Section 660-012-0045 (2) (e) of the State Transportation Planning Rule. A road authority with jurisdiction within the City may also require a TIS under their own regulations and requirements. All traffic impact studies shall be prepared by a professional engineer in accordance with the requirements of the road authority. A TIS shall be required when a land use application involves one or more of the following actions:

1. A change in zoning or a plan amendment designation where there is an increase in traffic or a change in peak-hour traffic impact.
2. Any proposed development or land use action that may have operational or safety concerns along its facility(s).
3. The addition of twenty-five (25) or more single family dwellings, or an intensification or change in land use that is estimated to increase traffic volume by 250 Average Daily Trips (ADT) or more, per the ITE Trip Generation Manual.
4. A change in land use that may cause an increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 10 vehicles trips or more per day.
5. The location of the access driveway does not meet minimum sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles queue or hesitate on the State highway, creating a safety hazard.
6. A change in internal traffic patterns that may cause safety problems, such as backed up onto a street or greater potential for traffic accidents. (Amended Ord. No. 9, Series 2009)

**10-1-1-5: LAND USE HEARINGS:**

**B. Notification of Hearing:**

1. At least twenty (20) days prior to a quasi-judicial hearing, notice of hearing shall be posted on the subject property and shall be provided to the applicant and to all owners of record of property within 100 feet of the subject property, except in the case of hearings for Conditional Use Permits, Variance, Planned Unit Development and Zone Change, which notice shall be sent to all owners of record of property within 300 feet of the subject property.
  - a. Notice shall also be provided to the airport as required by ORS 227.175 and FCC 10-21-2-4 and any governmental agency that is entitled to notice under an intergovernmental agreement with the City or that is potentially affected by the proposal. For proposals located adjacent to a state roadway or where proposals are expected to have an impact on a state transportation facility, notice of the hearing shall be sent to the Oregon Department of Transportation.
  - b. For a zone change application with two or more evidentiary hearings, notice of hearing shall be mailed no less than ten (10) days prior to the date of the Planning Commission hearing and no less than ten (10) days prior to the date of the City Council hearing.
  - c. For an ordinance that proposes to rezone property, a notice shall be prepared in conformance with ORS 227.186 and ORS 227.175(8).
2. Prior to a quasi-judicial hearing, notice shall be published one (1) time in a newspaper of general circulation.

**10-1-1-6: ADMINISTRATIVE REVIEW**

**D. Notice - Information:**

1. Administrative Decisions: The City will post a notice on the subject property and provide Notice of Application to owners of property within 100 feet of the entire contiguous site for which the application is made. The list of property owners will be compiled from the most recent property tax assessment roll.
  - a. Notice shall also be provided to the airport as required by ORS 227.175 and FCC 10-21-2-4 and any governmental agency that is entitled to notice under an intergovernmental agreement with the City or that is potentially affected by the proposal. For proposals located adjacent to a state roadway or where proposals are expected to have an impact on a state transportation facility, notice of the

application shall be sent to the Oregon Department of Transportation..

2. Property Owner Notice shall:
  - a. Provide a 14 day period of submission of written comments prior to the decision;
  - b. List applicable criteria for the decision;
  - c. Set forth the street address or other easily understood geographical reference to the subject property;
  - d. State the place, date and time that comments are due;
  - e. State that copies of all evidence relied upon by the applicant are available for review at no cost, and that copies can be obtained at a reasonable cost;
  - f. Include the name and phone number of local government representative to contact and the telephone number where additional information may be obtained.

## **CHAPTER 2: GENERAL ZONING PROVISIONS**

**10-2-12: USES AND ACTIVITIES PERMITTED IN ALL ZONES:** The following uses and activities are permitted in all zones without review unless specifically required otherwise:

- A. Operation, maintenance, repair or preservation of public roads and highway facilities, including, but not limited to sewer, water line, electrical power, or telephone or television cable system;
- B. Operation, maintenance, and repair of existing transportation facilities identified in the Transportation System Plan, such as bicycle, pedestrian, port, airport and rail facilities, and major regional pipelines and terminals;
- C. Authorization of construction and the construction of facilities and improvements identified in the Transportation System Plan, where the improvements are consistent with clear and objective dimensional standards; and
- D. Changes to the frequency of transit or airport service.
- E. Exceptions: The following uses and activities require land use approval:

1. Reconstruction or modification of an historic building or other historic structure.
2. Development that requires acquisition of additional property other than the following widening of a public road or highway right-of-way.
  - (a) Right-of-way identified for acquisition on an official map or that is consistent with an established special setback.
  - (b) A minor right-of-way acquisition to permit public road or highway safety improvement or modernization that complies with Section 10-2-12.
3. Temporary location of industrial activities, such as sand and gravel extraction or processing and asphalt or concrete batch plants in, or adjacent to, residential development or sensitive resource areas.
4. Development or activities involving reconstruction or modernization in a location identified as environmentally or culturally sensitive, such as floodplains, estuarine areas, wetlands, and archeological sites.

### **CHAPTER 3: OFF-STREET PARKING AND LOADING**

**10-3-3: MINIMUM STANDARDS BY USE:** The number of required off-street vehicle parking spaces shall be determined in accordance with the standards in Table 10-3-1. Where a use is not specifically listed in this table, parking requirements are determined by finding that a use is similar to one of those listed in terms of parking needs, or by estimating parking needs individually using the demand analysis option described above.

- A. Parking that counts toward the minimum requirement is parking in garages, carports, parking lots, bays along driveways, and shared parking. Parking in driveways does not count toward required minimum parking.
- B. The minimum number of parking spaces may also be determined through a parking demand analysis prepared by the applicant and approved by the Design Review Board/Planning Commission. This parking demand analysis may include an acceptable proposal for alternate modes of transportation, including a description of existing and proposed facilities and assurances that the use of the alternate modes of transportation will continue to reduce the need for on-site parking on an on-going basis. Examples of alternate modes include but are not limited to:
  1. Transit-related parking reduction. The number of minimum parking spaces may be reduced by up to 10% if:

- a. The proposal is located within a ¼ mile of an existing or planned transit route, and;
  - b. Transit-related amenities such as transit stops, pull-outs, shelters, park-and-ride lots, transit-oriented development, and transit service on an adjacent street are present or will be provided by the applicant.
2. Carpool and Vanpool Parking. The number of minimum required parking spaces may be reduced by up to three spaces for each carpool/vanpool space created pursuant to 10-3-12.

**10-3-12: CARPOOL AND VANPOOL PARKING:** Large employers (those with 50 employees or more working the same hours or shift) shall dedicate parking spaces for carpools and vanpools with the following standards.

- A. These designated spaces shall be the closest parking spaces to the building entrance normally used by employees, with the exception of disabled/handicap accessible parking spaces.
- B. Carpool and vanpool spaces shall be clearly marked “Reserved – Carpool/Vanpool Only” along with specific hours of use. The employer shall also enforce proper usage of these spaces on an on-going basis.
- C. The minimum number of vanpool/carpool spaces provided shall be equal to 10% of the number of employees working the same hours or shift (for example, a business with 50 employees would provide 5 carpool/vanpool spaces).
- D. Any other use establishing carpool and vanpool spaces may reduce the minimum parking requirement by up to three spaces for each carpool/vanpool space created per 10-3-3-B.

## **CHAPTER 21: PUBLIC USE AIRPORT ZONE**

### **10-21-1: PUBLIC USE AIRPORT ZONE**

**10-21-1-5: USES PERMITTED OUTRIGHT:** The following uses and activities are permitted outright in the Public Use Airport District. Such uses should be in conformance with the Florence Municipal Airport, Airport Master Plan Update Final Report, February 2010. All structures require Design Review approval by the Planning Commission/Design Review Board. Applicant shall complete FAA Form 7460 -1 – Notice of Proposed Construction or Alteration prior to approval of ground lease.

**10-21-1-6: Uses Permitted subject to the Acceptance of the Airport Sponsor.** The following uses and activities and their associated facilities and accessory structures are permitted in the Public Use Airport Zone upon demonstration of acceptance by the

airport sponsor and approval of related structures by the Planning Commission/Design Review Board. Applicant shall complete FAA Form 7460 -1 – Notice of Proposed Construction or Alteration prior to approval of ground lease.

**10-21-1-7: Uses Permitted Under Prescribed Conditions:** The following uses and activities and their associated facilities are permitted in the Public Use Airport Zone upon approval by the airport sponsor, the Department of Aviation and the City of Florence Design Review Board. Such uses shall be compatible with the Florence Realization 2020 Comprehensive Plan, the Florence Municipal Airport, Airport Master Plan Update Final Report, February 2010, FCC Title 10, Chapter 6 – Design Review, and shall not create a safety hazard or otherwise limit approved airport uses. Applicant shall complete FAA Form 7460 -1 – Notice of Proposed Construction or Alteration prior to approval of ground lease.

## **10-21-2: PUBLIC USE AIRPORT SAFETY AND COMPATIBILITY OVERLAY ZONE**

### **10-21-2-2: DEFINITIONS**

**AIRPORT IMAGINARY SURFACES.** Imaginary areas in space and on the ground that are established in relation to the airport and its runways. Imaginary areas are defined by the primary surface, runway protection zone, approach surface, horizontal surface, conical surface and transitional surface, and are delineated in Federal Air Regulations (FAR) Part 77 shown in Florence Municipal Airport, Airport Master Plan Update Final Report, February 2010 and summarized in Figures 4-4 and 4-5 of that Plan on file in the Florence Community Development Department.

### **10-21-2-3: IMAGINARY SURFACE AND NOISE IMPACT BOUNDARY**

**DELINEATION:** The airport elevation, the airport noise impact boundary, and the location and dimensions of the runway, primary surface, runway protection zone, approach surface, horizontal surface, conical surface and transitional surface are delineated in the Florence Municipal Airport, Airport Master Plan Update Final Report, February 2010 and shall be made part of the Official Zoning Map. All lands, waters and airspace, or portions thereof, that are located within these boundaries or surfaces shall be subject to the requirements of this overlay zone.

### **10-21-2-4: NOTICE OF LAND USE AND PERMIT APPLICATIONS WITHIN OVERLAY**

**ZONE AREA:** Except as otherwise provided herein, written notice of applications for land use or limited land use decisions, including comprehensive plan or zoning amendments, in an area within this overlay zone, shall be provided to the airport sponsor and the Department of Aviation in the same manner as notice is provided to property owners entitled by law to written notice of land use or limited land use applications.

**10-21-2-6: PROCEDURES:** An applicant seeking a land use or limited land use approval in an area within this overlay zone shall provide the following information in addition to any other information required in the permit application:



- A. A map or drawing showing the location of the property in relation to the airport imaginary surfaces. The Planning Department shall provide the applicant with appropriate base maps upon which to locate the property.
- B. Elevation profiles and a site plan, both drawn to scale, including the location and height of all existing and proposed structures, measured in feet above mean sea level.
- C. If a height variance is requested, letters of support from the airport sponsor the Department of Aviation and the FAA.
- D. Applicant must submit a written “Determination of No Hazard” from both the Department of Aviation and the FAA as part of the application.

**10-21-2-7: LAND USE COMPATIBILITY REQUIREMENTS:** Applications for land use or building permits for properties within the boundaries of this overlay zone shall comply with the requirements of this chapter as provided herein.

- A. Noise. The Noise Contour Map for the Florence Municipal Airport is included in the Florence Municipal Airport, Airport Master Plan Update Final Report, February 2010 – Figure 8-1: Noise Contours, which is incorporated herein, and which shall remain on file in the Florence Community Development Department. Within the airport noise impact boundaries, land uses shall be established consistent with the levels identified in OAR 660, Division 13, Exhibit 5. A declaration of anticipated noise levels shall be attached to any subdivision or partition approval or other land use approval or building permit affecting land within airport noise impact boundaries. In areas where the noise level is anticipated to be at or above 55 DNL, prior to issuance of a building permit for construction of a noise sensitive land use (real property normally used for sleeping or as a school, church, hospital, public library or similar use), the permit applicant shall be required to demonstrate that a noise abatement strategy will be incorporated into the building design that will achieve an indoor noise level equal to or less than 55 DNL.
- H. FAA Form 7460-1. Prior to Design Review approval, applicant shall consult with the FAA Seattle Airports District Office to determine if completion of FAA Form 7460-1 – Notice of Proposed Construction or Alteration is required. If so, it shall be completed and submitted prior to approval of ground leases and issuance of building permits.

## **CHAPTER 35: ACCESS AND CIRCULATION**

### **10-35-2: VEHICULAR ACCESS AND CIRCULATION**

**10-35-2-5: Traffic Study Requirements.** The City may require a traffic study prepared by an Oregon registered professional engineer with transportation expertise to determine access, circulation, and other transportation requirements in conformance with FCC 10-1-1-4-D, Traffic Impact Studies.

- A. The Traffic Impact Analysis shall:

1. Evaluate all streets where direct access is proposed, including proposed access points, nearby intersections, and impacted intersections with the state highway system.
  2. Utilize the analysis procedures of the Highway Capacity Manual, latest edition.
  3. Document compliance with Florence City Code, the goals and policies of the Transportation System Plan, and any other applicable standards.
  4. Be coordinated with other affected jurisdictions and agencies such as Lane County, the Port of Siuslaw, and the Oregon Department of Transportation.
  5. Identify mitigation measures that resolve the identified traffic safety problems, address the anticipated impacts from the proposed land use, and meet the city's adopted Level-of-Service standards. The study shall also propose funding for the proposed mitigation measures.
- B. The applicant shall consult with City staff to determine the content and level of analysis that must be included in the TIA. A pre-application conference is encouraged.
- C. Conditions of Approval: The City may deny, approve, or approve a development proposal with appropriate conditions needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. Conditions of approval should be evaluated as part of the land division and site development reviews, and may include but are not limited to:
1. Crossover or reciprocal easement agreements for all adjoining parcels to facilitate future access between parcels.
  2. Access adjustments, where proposed access points do not meet the designated access spacing standards and/or have the ability to align with opposing access driveways.
  3. Right-of-way dedications for future improvements.
  4. Street improvements.

**10-35-3: PEDESTRIAN ACCESS AND CIRCULATION:** All new development shall be required to install sidewalks along the street frontage, unless the City has a planned street improvement, which would require a non-remonstrance agreement.

### **10-35-3-1: Sidewalk Requirements.**

- A. Requirements: Sidewalks shall be newly constructed or brought up to current standards concurrently with development under any of the following conditions:
1. Upon any new development of property.
  2. Upon any redevelopment of property that expands the building square footage by 25% or more, or involves a building permit the value of which is \$30,000 or more.
  3. Upon any change of use that requires more than five additional parking spaces.
- B. Exceptions: The Public Works Director may issue a permit and certificate allowing noncompliance with the provisions of subsection (A) of this section and obtain instead a non-remonstrance agreement for future improvements when, in the Public Works Director's opinion, the construction of a sidewalk is impractical for one or more of the following reasons:
1. Sidewalk grades have not and cannot be established for the property in question within a reasonable period of time.
  2. Future installation of public utilities or street paving would, of necessity, cause severe damage to existing sidewalks.
  3. Topography or contours make the construction of a sidewalk impractical.
  4. Physical improvements are present along the existing street that prevents a reasonable installation within the right-of-way.
  5. If the proposed development is in a residential zoning district and there are no sidewalks within 400 linear feet; and
- C. Appeals: If the owner, builder or contractor considers any of the requirements impractical for any reason, s/he may appeal the decision to the Planning Commission.
- D. Timing: Sidewalks shall be constructed and approved by the Public Works Department prior to final inspection for the associated building permit. No certificate of occupancy may be issued until the required sidewalks are constructed or financially secured.

**10-35-4: TRANSIT FACILITIES:** Proposed uses other than single-family residences and duplexes must provide for transit riders and uses pursuant to the following:

- A. If proposed uses are located on a site within ¼ mile of an existing or planned transit stop, the proposed pedestrian circulation system must demonstrate a safe and direct pedestrian route from building entrances to the transit stop or to a public right-of-way that provides access to the transit stop.
- B. Proposed development must accommodate on site any existing or planned transit facility, if identified in the Community Transit Plan, through one or more of the following:
  - 1. Provide a transit passenger landing pad accessible to disabled persons.
  - 2. Provide an easement or dedication of land to accommodate passenger seating or shelter if requested by the transit provider.
  - 3. Provide lighting at the transit facility.

## CHAPTER 36: PUBLIC FACILITIES

### 10-36-2: STREET STANDARDS

**10-36-2-5: Rights-of-Way and Street Sections.** Street rights-of-way and improvements shall be consistent with the Transportation System Plan and standards specified in Title 8 Chapter 2.

- A. Street right-of-way and pavement widths shall be based on the following cross section standards. See individual zoning chapters for additional requirements regarding sidewalk width (for sidewalks wider than the standard 5 feet).

*(insert cross sections for the various functional classification of streets from Technical Memo #8)*

- B. Modifications to the street standards identified in section A, above, may be made pursuant to Title 11 Chapter 7. Considerations based on the existing conditions along with the following factors would be reviewed as part of determining a hardship or meeting the purpose of Title 11:
  - 1. Street classification in the Transportation System Plan
  - 2. Anticipated traffic generation
  - 3. On-street parking needs
  - 4. Pedestrian and bicycle requirements based on anticipated level of use
  - 5. Requirements for placement of utilities
  - 6. Street lighting
  - 7. Minimize drainage, slope, and sensitive lands impacts
  - 8. Street tree location, when provided

9. Protection of significant vegetation, as provided for in Chapter 34
  10. Safety and comfort for motorists, bicyclists, and pedestrians
  11. Street furnishings (e.g., benches, lighting, bus shelters, etc.), when provided
  12. Access needs for emergency vehicles
  13. Transition between different street widths (i.e., existing streets and new streets).
  14. Driveway Off-sets
  15. Curve Radii
  16. Queuing Factors
- C. Partial street improvements may be accepted only in the case of a collector or arterial street and only when requiring a full-width street improvement can not be justified based on the proportionate impact of the development on the transportation system. Where a less than full street is allowed, the minimum total paved width shall provide for two travel lanes, and for bicycle lanes if warranted.

**10-36-2-10: Block Length and Block Perimeter.** In order to promote efficient vehicular and pedestrian circulation throughout the city, subdivisions and site developments shall be served by a connecting network of public streets and/or accessways, in accordance with the following standards (minimum and maximum distances between two streets or a street and its nearest accessway):

- A. Residential Districts: Minimum of 100-foot block length and maximum 600-foot length; maximum 1400-foot block perimeter
- B. Old Town and Main Street Districts: Block lengths shall be consistent with the existing town plat, as of June 2009.
- C. General Commercial, North Commercial and Highway Commercial Districts: Minimum of 100-foot block length and maximum 600-foot length; maximum 1,400-foot block perimeter
- D. Not applicable to the Industrial Districts

**10-36-2-16: Sidewalks, Planter Strips, Bicycle Lanes.** Sidewalks, planter strips, and bicycle lanes shall be installed in conformance with applicable provisions of the Florence Transportation System Plan, Comprehensive Plan, adopted street plans, City of Florence Standards and Specifications and the following standards:

- A. Sidewalks may be placed adjacent to the street or at the property line with planter strips where practicable, or as otherwise directed by the Public Works Director.
- C. In areas with high pedestrian volumes, the City may approve a minimum 12-foot wide sidewalk area, curb tight, with street trees in tree wells and / or landscape planters.

- D. Bicycle lanes shall be constructed on all arterial streets and all collectors as indicated in the TSP, unless otherwise designated.
- E. Sidewalks shall be provided on both sides of the street, but are not required on T-courts (hammer-head).
- F. In no instance shall a planter strip be wider than 7-feet at the intersection. This may require the sidewalk to taper from the property line alignment to within 7-feet of the curb.
- G. Where practical, sidewalks shall be allowed to meander around existing trees if in conformance with the requirements of the Americans with Disabilities Act.
- H. Maintenance of sidewalks and planter strips in the right-of-way is the continuing obligation of the adjacent property owner.

## **Exhibit D**

# **Proposed Amendments to Transit Goals in Community Transit Plan**

*As Proposed by the Transportation Project Advisory Committee*

The following Goals come from Chapter Six of the Community Transit Plan.

### ***Mission***

Provide safe, reliable and cost effective transit services that meet the widest possible range of community needs.

### ***Foundation Goals***

1. Provide transit service that meets the widest possible range of community needs within funding constraints.
  - Establish a visible and accessible transit service open to the general public that also targets the needs of people who are older or have disabilities;
  - Provide for vehicle accessibility; full ADA compliance
  - Maintain an advertising and marketing program to inform Florence residents of transit availability.
2. Do not displace existing transportation services that are efficient and effective.
3. Meet existing and future transit demand; expand transit service over time to meet increasing needs.
4. Respond to and modify service as necessary to effectively meet the needs of seniors and the disabled.
5. Provide effective service to the general public in Florence.
6. Maintain a high level of customer service and good rider and community relations.
7. Provide stable and consistent operation and service within a local transit environment.
8. Maximize service efficiency while maintaining standards for safety and reliability
  - Provide reliable service: good availability, short wait times.
  - Provide safe service: low/no vehicular accidents, no passenger loading accidents.
9. Manage and provide local transit services in an efficient and cost-effective way.
  - Maintain current levels of public funding (at a minimum).
  - Adhere to an operations plan realistic to existing community resources.
  - Minimize operating costs: (costs per mile, costs per passenger).
  - Maintain vehicles for safety and reliability.
  - Provide for a productive transit service: (passengers per vehicle mile).
  - Minimize subsidy requirements: (fares and agency fees)
  - Balance costs and revenues: (avoid significant cost overruns)
  - Pursue a financing strategy to take advantage of state and federal funding opportunities.

10. Plan for the long term (ten years).
11. Design a transit system to be attractive to future riders.
12. Address seasonal transportation needs.

*[These goals no longer apply with the Rhody Express in operation.]*

***Long-Term Goals***

1. At a minimum, continue the current fixed-route bus service (with limited deviations) that provides hourly service between 10 am and 6 pm five days a week.
2. Continue to meet ADA requirements for complementary paratransit by providing Dial-A-Ride Service (door to door).
3. Maintain current schedule as ridership increases by minimizing diversions onto private property such as shopping centers and creating designated bus stops (instead of allowing flag stops).
4. As resources are available, expand Rhody Express service to include Saturday service first, then expanded morning hours (starting earlier in the day).
5. In the longer term future and in response to growth, obtain a second bus in order to expand the service area and provide more frequent service.
6. Establish major transit stops at Fred Meyer, Safeway/Dunes Village Shopping Center, Peace Harbor Hospital, and City Hall (Old Town and transfer point to Porter Stage) that include a paved ADA-compliant landing pad, a shelter, and lighting.
7. Conduct periodic transit surveys to determine ridership preferences in order to make route adjustments and prioritize locations for landing pads and bus shelters.
- 8.
9. *[moved part of policy to bullet below]*
10. Work collaboratively with other entities to establish regional transit connections north to Yachats to complete the coastal link..
11. Determine feasibility of forming an independent transportation district, or establishing a local-based subsidiary of Lane Transit District in order to provide a public transit service connection to Eugene.
12. Meet the City's long-term economic development goals (by serving tourists and the visiting population).
13. Provide transportation services for conferences at the Florence Events Center.



14. Provide for after-hours and/or evening transit service.