

The inclusion of proposed projects and actions in this Transportation System Plan does not obligate or imply obligations of funds by any jurisdiction for project level planning or construction. The inclusion of proposed projects and actions does serve as an opportunity for the projects to be included, if appropriate, in the State Transportation Improvement Program (STIP) and the Seaside Capital Improvements Program (CIP), but such inclusion is not automatic. It is incumbent on the state, county, city, and general public to take action to encourage and support inclusion into the STIP or CIP at the appropriate time. Because a project must have actual identified funding to be included in the STIP or CIP, the ultimate number of projects that can be included in these documents is constrained by available funding.



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# 1 INTRODUCTION

## Purpose

The Seaside Transportation System Plan (TSP) puts forth a series of projects that address transportation-related deficiencies in Seaside, considering the needs of all users of the City’s transportation network. The TSP provides for a safe, efficient, multi-modal transportation network, analyzing both current and expected future needs. The TSP has been prepared to be compliant with requirements specified in the state Transportation Planning Rule (TPR), and to be consistent with state, regional, and local plans and policies, including the Oregon Highway Plan (OHP) and the City of Seaside Comprehensive Plan.

Preparation and adoption of the Seaside TSP provide the following:

- Adequate transportation facilities to support current and planned land uses
- Certainty and predictability for the siting of highway, local roadway, bicycle, pedestrian, and transit improvements, including new streets
- Maximum efficiency of public spending on transportation facilities and services through coordination of land use and transportation decisions

Seaside’s traffic congestion is seasonal in nature, which results in a wide variance of traffic volumes between summer and winter months (approximately 60 percent). For this reason, the Seaside TSP focuses on average annual weekday traffic needs, and not summertime peak. In addition, the Seaside TSP relies on the adoption of alternate mobility standards by the Oregon Transportation Commission (OTC) for four intersections along US 101.

This TSP was prepared by and for the community of Seaside, incorporating its vision while remaining consistent with state, regional, and local plans. This report provides the necessary elements to be adopted as the transportation element of the City’s Comprehensive Plan. The TSP includes plans for a transportation system that incorporates all appropriate modes of travel (including auto, bicycle, pedestrian, and public transportation), serves the urban area, and is coordinated with the state and county transportation network.

## Regulatory Requirements

The contents of the Seaside TSP are guided by Oregon Revised Statute (ORS) 197.712 and the TPR. These laws and rules require that jurisdictions develop the following:

- Network of arterial and collector roads
- Public transit plan
- Bicycle and pedestrian plan

- Air, rail, water, and pipeline plan
- Transportation financing (implementation) plan
- Policies and ordinances for implementing the TSP

The TPR requires that alternate travel modes be given equal consideration with the automobile, and that reasonable effort be applied to the development and enhancement of the alternate modes in providing the future transportation system. In addition, the TPR requires that local jurisdictions amend land use and subdivision ordinances to implement the provisions of the TSP, and that local communities coordinate their respective plans with the applicable county, regional, and state transportation plans. The Seaside TSP strongly ties transportation and land use, by preparing an overlay zone for development adjacent to US 101 to encourage walking and bicycling. The TSP also focuses investment on bicycle, pedestrian and transit improvements.

### **Organization of this TSP**

The Seaside TSP is organized into six chapters and nine appendixes, as follows:

- *Chapter 1 Introduction:* explains the purpose and benefits of the TSP, the regulatory requirements behind the plan, and the organization of the TSP.
- *Chapter 2 Planning Process:* provides an overview of the TSP development and public involvement process, and the goals, policies, and criteria used to evaluate alternatives.
- *Chapter 3 Modal Plans:* details the TSP projects. It is organized by mode, and includes a modal plan for roadway, transit, and pedestrian/bicycle. Rail, air, water, and pipeline modes are discussed but are not relevant for Seaside. Planning-level cost estimates are also included with the projects.
- *Chapter 4 Access Management Strategy:* describes the strategy for improving safety and reducing congestion through access management along US 101 between Lewis and Clark Road and Avenue U in Seaside.
- *Chapter 5 Implementation:* summarizes costs and potential funding sources for each of the TSP recommendations, including the identification of a lead agency and priority for implementation.
- *Chapter 6 Alternate Mobility Standards:* Alternate mobility standards are a central feature of the Seaside TSP. This chapter explains how and why alternate mobility standards for US 101 are included in the TSP.

- *Appendix A Plan and Policy Review:* summarizes relevant information from state, regional, and local planning and policy documents.
- *Appendix B Existing Conditions and Deficiencies:* describes the existing pedestrian, bicycle, transit, and roadway transportation network in Seaside. This section analyzes current traffic operations and safety conditions, and identifies existing deficiencies by mode.
- *Appendix C Future Conditions and Deficiencies:* forecasts future (2030) growth in Seaside and describes its resultant impact on the transportation network. It features an operations analysis of the future no-build network and a summary of future transportation needs.
- *Appendix D Alternatives Analysis Process:* describes the roadway, bicycle, and pedestrian alternatives that were evaluated, and depicts the evaluation process.
- *Appendix E Access Management Strategy:* summarizes current access spacing along US 101 in the study area, analyzes various access management treatments that go along with the TSP project network, and presents an access management strategy for US 101.
- *Appendix F Order-of-Magnitude Cost Estimates:* provides planning-level cost estimates for recommended projects, lists current funding sources used by the City, and identifies potential revenue sources to fund recommended projects.
- *Appendix G Implementing Ordinances:* contains language to assist the City in revising local codes and ordinances to implement the TSP.
- *Appendix H Public Involvement Summary:* contains information, agendas, and summaries of the various public involvement meetings and outreach, thereby documenting the process.
- *Appendix I Alternative Mobility Standards Support:* contains additional traffic analyses and findings from policy reviews that were completed to support the justification for alternative mobility standards.

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## 2 PLANNING PROCESS

### Study Area

The Seaside TSP study area is illustrated in Figure 2.1. It is the larger of two boundaries in Seaside – the Seaside city limits and the Urban Growth Boundary (UGB). As shown in Figure 2.1, the city limits extend beyond the UGB on the south end of the City, and the UGB extends beyond the city limits on the north and southwest ends of the City.

### Project Leadership

A project management team (PMT) consisting of staff from the City of Seaside, Clatsop County, the Oregon Department of Transportation (ODOT), and the Oregon Department of Land Conservation and Development (DLCD) provided regular guidance and policy direction for this plan. The PMT reviewed and provided comments on all materials, participated in agency and public meetings, held regular briefings with Seaside Planning Commission and City Council, and met with community members through a variety of forums to discuss elements of this plan. A dozen PMT meetings were held in Seaside through the TSP process. Agendas and summaries of all PMT meetings are provided in Appendix H, Public Involvement.

City leaders provided guidance to the PMT at key milestones during the planning process. A total of five joint work sessions were held with Seaside Planning Commission and City Council, in particular as ODOT and the City worked together to develop the details of alternate mobility standards for US 101. Dates and topics for these workshops are provided below:

1. March 31, 2008 – overview of plan
2. October 20, 2009 – discuss alternate mobility standards proposal and traffic operations under average annual conditions
3. November 30, 2009 – discuss US 101 access management strategy and proposed land use overlay zone
4. March 29, 2010 – discuss cost estimates, continue discussion of US 101 access management strategy and proposed land use overlay zone
5. May 13, 2010 – discuss implementation plan, funding, priorities

These work sessions with City decision-makers provided guidance to the project team in the development of alternate mobility standards, a key feature of the TSP (described in Chapter 6). All work sessions were advertised according to City requirements and open to the public.

Figure

**2.1 – Transportation System Plan Study Area**  
(Insert separate 8.5 x 11 figure)

## Public Involvement

The TSP planning process actively engaged the citizens of Seaside, from the identification of issues to the brainstorming of solutions, the evaluation of concepts to the selection of recommendations to go into the TSP. Much of the regular day-to-day interaction with the community was through the TSP Web site: [www.seasidetps.org](http://www.seasidetps.org). The TSP Web site was updated weekly throughout the project duration, with new deliverables, upcoming meetings, ways to get involved, questions for the community, and updates on what the team was doing. The website featured a weekly update, where the project team shared progress with the community and featured updated material. More than 2,000 people accessed the Web site through the duration of the project, and more than 200 people submitted comments online. All TSP information, including all technical deliverables, meeting advertisements, agendas, summaries, and material for open houses, was posted to the Web site to maintain an open and transparent process.

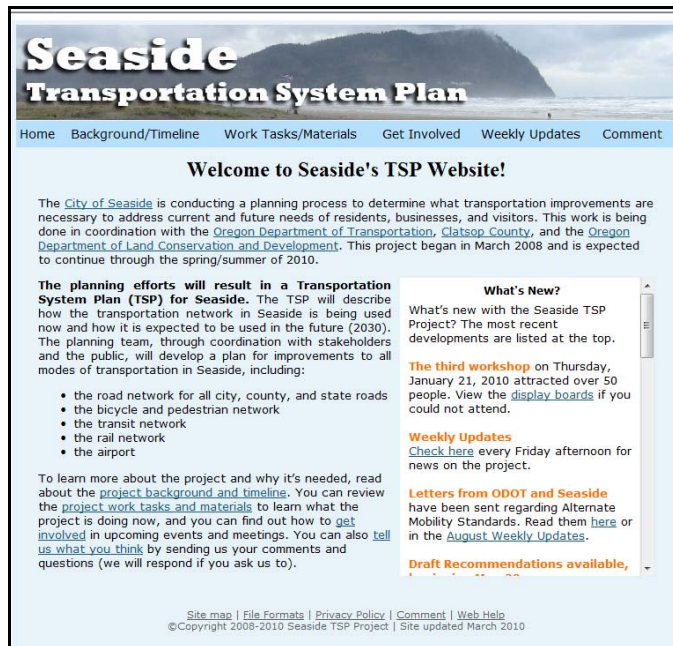


Figure 2.2 Seaside TSP Web Site

Also through the Web site, online surveys were conducted and periodic “assignments” for photos, input, and votes for recommendations were given to the community. Figure 2.2 displays the Seaside TSP main Web page.

In addition to the Web site, the Seaside TSP team organized three community workshops (where participants developed concepts and refined recommendations, as shown in Figure 2.3); two transportation summits; two rounds of in-person stakeholder interviews with community leaders; a dozen PMT meetings; and five joint work sessions with the Seaside City Council and the Seaside Planning Commission to discuss various components of the TSP recommendations. All public meetings were announced on the Web site; through the newspaper and local radio stations; through flyers sent home with students; through announcements at Chamber of Commerce, Seaside Downtown Development Association, and Rotary Club meetings; through e-mails to the interested parties list; and through flyers posted at City Hall and area businesses. All meetings, including elected official work sessions, and community meetings, were open to the general public.



Figure 2.3: Community Members at a Project Workshop

The workshops and transportation summits were held at critical points throughout the planning process to share information and gather feedback from the public. The first workshop introduced the community to the TSP process, to share goals and objectives, and discussed transportation needs and deficiencies. The second workshop provided input on early alternatives and brainstormed additional concepts. The third workshop provided input on draft roadway, bicycle, transit, and pedestrian recommendations and discussed alternate mobility standards for the highway, various highway alternatives, Wahanna Road options, and access management. The two summits capped these workshops. The first summit kicked off the TSP process. The second summit presented the full set of TSP recommendations with a focus on implementation and funding.

The transportation summits, public workshops, and comments made through the project Web site were very important to the development of the TSP. The TSP projects described in the Modal Plan chapter of the TSP are a direct result of these conversations with the community about needs, deficiencies, and potential solutions.

## Goals and Policies

Goals and objectives are an important component of any transportation planning process. The goals and objectives outlined in this section are based on discussions with the PMT, project stakeholders and decision makers, and the Seaside community. They were used to create an evaluation framework (described as Appendix D) to weight the tradeoffs of each of the transportation concepts considered in the process. The inclusion of goals and objectives into the Seaside TSP serves two purposes:



- (1) Goals and policies guide the development of the Seaside transportation system during the next 20 years.
- (2) Goals and policies demonstrate how the TSP relates to other county, regional, and state plans and policies.

A plan and policy review was conducted early in the TSP development process to determine relevant adopted policies, objectives, and projects that the TSP would need to be consistent with or recommend amendments to. This review is provided as Appendix A.

The goal statements are general statements of purpose to describe how the City, through the TSP, intends to address the broad elements of the transportation system. The policies include specific steps that illustrate how each goal will be carried out.

### *Goal 1: Safety for all modes*

Provide a transportation system that maintains adequate levels of safety for all users.

#### **Policies:**

- Address safety issues for automobiles at known problem locations.
- Address bicycle and pedestrian safety at known problem areas.

### *Goal 2: Access for all modes*

Provide a transportation system that allows all users to access destinations throughout Seaside.

#### **Policies:**

- Provide easy and clear access for visitors and residents to evacuation routes that increase in elevation out of the inundation zone.
- Reduce vehicle conflict points and move towards ODOT access standards.
- Allow for emergency vehicle reliability and timely access.

### *Goal 3: Mobility*

Provide a viable transportation system that meets the needs of local residents, visitors, and the freight industry. The transportation system would allow different users of the network a reliable means of getting from origins to destinations.

#### **Policies:**

- Provide a viable transportation system that accommodates future growth and addresses the regional and local travel needs of residents, businesses, and industries.
- Accommodate future and existing transit.

### *Goal 4: Connectivity*

Provide an interconnected transportation system that provides route choices for users.

### Policies:

- Improve street east-west connectivity and provide alternatives to US 101 for local trips (reducing the need to enter the highway for local uses).
- Improve bicycle and pedestrian connectivity by addressing gaps in the current network.
- Provide for and support a transit system that serves popular local and regional origins and destinations.

### *Goal 5: Cost*

Provide a list of transportation improvements that are “reasonably likely” to be funded within the 20-year planning horizon.

### Policies:

- Identify projects where the relative benefits outweigh the costs of the project, and are cost effective over the life cycle of the improvement.
- Provide several reasonable funding options for each TSP recommendation.

### *Goal 6: Livability*

Provide a transportation system that allows the City to maintain livability.

### Policies:

- Preserve parking to serve local residents and visitors, and maintain the viability of local businesses.
- Community support for the TSP is consistent with expectations of leaders and stakeholders.
- Support economic development consistent with the community’s vision for the future.

### *Goal 7: Environmental Resources*

Provide a transportation system that balances transportation services with the need to protect the environment and significant natural features.

### Policies:

- Minimize impacts to built environmental resources.
- Minimize impacts to areas of interest, including fish-bearing streams, floodplain, and wetlands.
- Provide consistency with the OHP Major Improvement Policy (Policy 1G).

## **Existing Conditions and Deficiencies**

The project team at the beginning of the TSP process surveyed existing conditions and deficiencies within Seaside’s transportation network. This analysis was important to establish a basis for the evaluation framework and the identification of project concepts – as recommendations ultimately need to address needs. Findings from this work are summarized in brief below. A more detailed analysis can be found as Appendix B.

### *Pedestrian Facilities and Deficiencies*

- ***Gaps in Sidewalk*** – The sidewalk network has important gaps along US 101, and the system is fragmented in most residential neighborhoods. Pedestrian destinations are not connected by a complete sidewalk network.
- ***Crossing US 101 and Neawanna Creek*** – Crossing US 101 is challenging due to traffic volumes and speeds, long crossing distance, and relatively long distances between signalized intersections and marked crossings. Crossing Neawanna Creek is challenging due to the limited number of crossings, and the lack of sufficient pedestrian accommodations along the existing crossings. The limited number of nonmotorized crossings over the creek affects the ease and attractiveness of walking and biking to downtown from east Seaside.
- ***Wahanna Road*** – Wahanna Road, the major north-south connector east of US 101, has only a paved shoulder of variable width (0-2 feet), with no other accommodations for pedestrians.
- ***Seasonal Variation*** – Seaside experiences substantial seasonal variation of pedestrian traffic. Seaside also has a busy event calendar throughout the summer, culminating in the Hood to Coast Relay Finish on the last weekend in August, when nearly 17,000 runners and walkers and numerous supporters descend on Seaside.
- ***Americans with Disabilities Act (ADA) Compliance*** – Apart from sidewalks downtown and in the newer residential areas, few sidewalks have ADA-compliant curb cuts and curb ramps. In addition, some streets have obstacles that leave a narrow area, less than 4 feet, for pedestrians to walk. Maintenance issues, such as vegetation and cracking, also provide real challenges to pedestrians with disabilities. Signalized intersections also lack audible pedestrian signals to facilitate safe crossings for the visually impaired.

### *Bicycle Facilities and Deficiencies*

- **Bicycle Parking** – Bicycle parking is not provided at most destinations or along most commercial streets in Seaside. Although bike racks are available at all the schools, these racks are both poorly located and poorly designed, according to accepted standards (Figure 2.4). The shortage of quality bicycle racks in high-demand locations means that cyclists secure their bikes to hand rails, street signs, light poles, trees, and other objects.



Figure 2.4: “Wheel Bender” Bicycle Racks

- **Wahanna Road** – Wahanna Road, the major north-south connector east of US 101, has only a paved shoulder of variable width (0-2 feet), with no other accommodations for bicyclists.
- **Wayfinding Signage** – Seaside’s bikeway system lacks signage to indicate to bicyclists and drivers that bicyclists may be found on the road. There are no wayfinding tools to direct riders to bikeways and to major destinations such as parks, schools, business districts, and neighboring communities.

- **Maintenance** – Gravel, glass, and other debris are routinely present on the bikeway system (Figure 2.5). This typically occurs when passing motor vehicles blow debris into the adjacent bicycle lane or shoulder. Sometimes impediments such as garbage cans are placed in a bike lane or wide shoulder.



Figure 2.5: US 101 Bicycle Lane with Gravel and Debris Stretching Down the Middle of the Lane

- **Traffic Calming** – The lack of roadway treatments designed to encourage and make possible bicycle use (e.g., signing, pavement markings, and traffic calming), is notable. Such roadway treatments are a necessary component in facilitating safe, comfortable, and convenient bicycle travel.
- **Education** – A number of local bicyclists were observed riding on sidewalks and against traffic. This may indicate the need for education about safe bicycling techniques in addition to improving facilities.

### *Roadway Deficiencies*

- **Congestion** – Traffic analysis was performed using and comparing information collected in April (average annual daily) and July (summer peak). In the summer peak, three of the 14 intersections analyzed do not meet mobility standards. These are:
  - US 101 and 24th Avenue
  - US 101 and 12th Avenue
  - US 101 and Broadway
- **Safety** – Rear-end crashes accounted for almost 75 percent of crashes in Seaside, using the most recent five years of available data (2002-2006). The high occurrence of rear-end crashes is often caused by driver inattention when vehicles follow too closely to one another. Rear-end crashes are common in areas with high traffic congestion where autos are closely following one another. In addition, ODOT has identified the 1/10-mile segment of US 101 at Avenue U as an area of special concern for safety. It is considered within the top 10 percent of ODOT’s Safety Priority Index System for a mixture of crash frequency and/or crash severity.

The intersection of US 101 and Lewis & Clark Road is also flagged for safety reasons. The curve of the roadway at the intersection limits sight distance for turning vehicles. This issue is compounded by the wide width of the turn lane; the angle at which the roads intersect; and the higher traffic speeds on US 101 as vehicles leave Seaside.

### *Transit Deficiencies*

- **Service Frequency** – A survey conducted for the TSP indicated that there is great interest in more frequent and additional transit service.
- **Convenience and Reliability** – When asked to rate the importance of various factors when taking public transportation, respondents to a survey conducted by the Sunset Empire Transportation District rated safe and competent drivers, reliable buses, and convenient service hours as the most important factors.

## **Future Deficiencies**

The following section summarizes the analysis of future-year (2030), no-build deficiencies within the TSP study area. A more detailed analysis can be found in Appendix C. This analysis is performed for the 30<sup>th</sup> Highest Hour (HH), literally the 30<sup>th</sup> busiest hour of the year. In Seaside the 30<sup>th</sup> HH is always during summer-time weekend afternoon.

### *Roadway Deficiencies*

- **Intersection Congestion** – Based on future (year 2030) 30<sup>th</sup> HH, intersection analysis, it is expected that all study intersections along US 101 will not meet mobility standards, including:

- US 101 and 24th Avenue
- US 101 and 12th Avenue
- US 101 and Broadway
- US 101 and Holladay Drive
- US 101 and Avenue S
- US 101 and Avenue U

These congestion issues are largely due to high volumes of traffic traveling north/south along the highway in Seaside, compounded by east-west traffic along each of the major local streets. The congestion is caused by traffic turning from local streets onto the highway that must wait for gaps in traffic.

- *Vehicle Queuing* – Vehicle queues are analyzed looking at “95th percentile” queues; these indicate the worst 5 percent of vehicle delay at intersections. Issues are flagged when the number of vehicles waiting at the intersection exceeds available storage. Issues in Seaside were noted at:
  - US 101 and Lewis & Clark Road (westbound left turn)
  - US 101 and 24th Avenue (eastbound left turn)
  - US 101 and Broadway (eastbound and westbound left turn)
  - US 101 and Holladay Drive (eastbound left turn)

### *Bicycle and Pedestrian Deficiencies*

As congestion for vehicular traffic increases, demand for use of other modes, such as bicycling, walking, and transit is also expected to increase. Consequently, bicycle, pedestrian, and transit deficiencies identified in the existing conditions analysis are expected to persist and worsen in the future no-build scenario.

Findings from existing and future no build conditions were used as the basis for alternatives development and evaluation. The recommendations resulting from that process are described in the next chapter.

This chapter outlines the transportation system recommendations for Seaside to be implemented over the next 20 years. The transportation improvements in this chapter are based on analysis of relevant plans and policies, identification of existing and future expected deficiencies, the evaluation of options against a set of evaluation criteria, and extensive input from the community. This chapter includes the following sections:

- Street System Plan
- Transit Plan
- Pedestrian and Bicycle Plan
- Rail Facilities Plan
- Air, Pipeline, and Water Transport Facilities Plans
- Transportation System Management (TSM) and Transportation Demand Management (TDM) Plan

## **Street System Plan**

The Seaside street system plan addresses anticipated operational and circulation needs through the year 2030. It consists of functional classification designations, street design standards, recommended capacity and connectivity improvements, access management strategies, and traffic operations standards.

The street system plan recommendations are based on analyzing average annual weekday traffic conditions rather than 30<sup>th</sup> HH conditions. Implementation of TSP recommendations and future system management activities based on using the average annual weekday analysis method assumes and is dependent on the OTC adopting an alternate mobility standard of a  $v/c$  of 1.0 at certain intersections along US 101, for varying durations. These assumptions are discussed in further detail in Chapter 6 and described in detail as Appendix I.

### *Functional Classification Plan*

The purpose of classifying streets within the TSP study area is to create a balanced system that facilitates mobility for vehicles, transit, pedestrians, and cyclists while also providing access to land uses. The functional classification defines a street's role and context in the overall transportation system and how it is used within the community. Street functional classification identifies the street's intended purpose, the amount and character of traffic, the degree to which non-auto traffic is emphasized, and the design standards. Certain roadway classifications are eligible for federal funds. Basic to the process of classifying streets by function and purpose is the recognition that individual roads and streets do not serve travel independently. Rather, most travel involves movement through a hierarchical network of roads. Access tends to increase as volumes and speeds decrease, as shown in Figure 3.1.

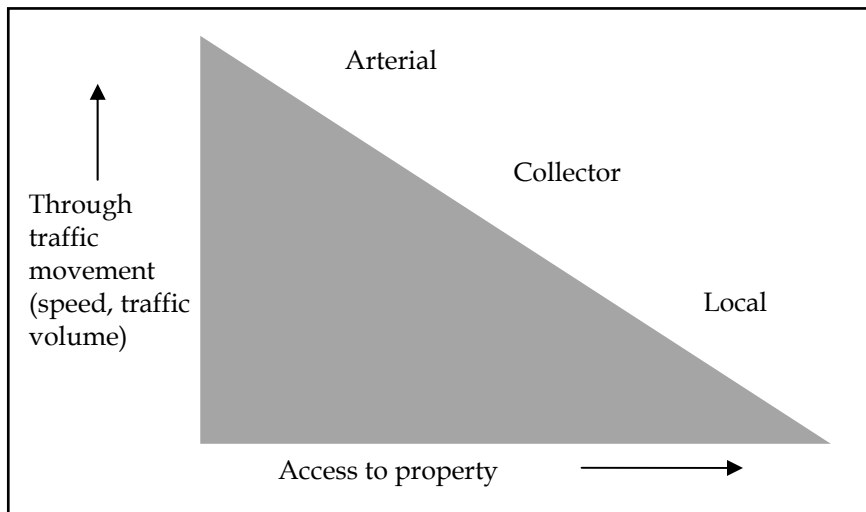


Figure 3.1 Road Hierarchy, Access, and Through Traffic

The functional classification designations are derived from guidance in ODOT's Transportation System Planning Guidelines (2008) and comply with policies within the adopted Transportation Planning Rule (TPR), Oregon Administrative Rule (OAR) 660-012.

Figure 3.2 shows existing and future street functional classifications throughout Seaside. Classification designations for Seaside are described below:

- Principal Arterial:* Primary functions are to serve local and through traffic as it enters and leaves the urban area, connect Seaside with other urban centers and regions, and provide connections to major activity centers within the TSP study area. In accordance with the OHP, emphasis should be on traffic flow and consider transit, pedestrian, and bicycle movements. Principal arterials should serve the major portion of trips entering and leaving the urban area, as well as the majority of through trips, and should carry a high proportion of total urban area travel with the least mileage. On-street bicycle lanes and sidewalks should be provided. Because of the nature of the travel served by the principal arterial system, access is controlled to emphasize traffic flow. Principal arterials often serve intra-urban and interurban bus routes. US 101 is the only principal arterial in Seaside. Table 3.1 provides design standards and lists minimum and maximum acceptable widths for US 101. Figure 3.3 illustrates the minimum and maximum street elements for the design of a principal arterial.
- Minor Arterial:* Primary functions are to connect major activity centers and neighborhoods within the TSP study area and to support the major arterial system. Minor arterials serve local traffic as it enters and leaves the urban area, connecting Seaside with other urban centers and regions. Minor arterials should have a higher degree of access, and lesser traffic volumes than major arterials. Like major arterials, emphasis should be on traffic flow and pedestrian and bicycle movements. On-street sidewalks and bicycle lanes or shared multi-use paths may carry pedestrian and



bicycle traffic. May carry local bus routes. Table 3.1 provides design standards and lists minimum and maximum acceptable widths for street elements. Figure 3.3 illustrates the minimum and maximum street elements for the design of a minor arterial.

- *Major Collector:* Primary function is to provide connections between neighborhoods and major activity centers and the arterial street system. Some degree of access is provided to adjacent properties, while maintaining circulation and mobility for all users. Major collectors carry lower traffic volumes at slower speeds than major and minor arterials. On-street bicycle lanes or shared lane markings (“sharrows”) and sidewalks should be provided. Parking is optional if adequate width exists. Table 3.1 provides design standards and lists minimum and maximum acceptable widths for street elements. Figure 3.3 illustrates the minimum and maximum street elements for a major collector.
- *Minor Collector:* Primary function is to connect residential neighborhoods with major collectors, major arterials, or minor arterials. On-street parking and access to adjacent properties is prevalent. Slower speeds should be provided to ensure community livability and safety for pedestrians and cyclists. In many cases, cyclists can “share the road” with motor vehicles through sharrows because of low traffic volumes and speeds. Sidewalks or pathways should be provided for pedestrians. Table 3.1 provides design standards and lists minimum and maximum acceptable widths for street elements. Figure 3.3 illustrates the minimum and maximum street elements for a minor collector.
- *Local Street:* Primary function is to provide direct access to adjacent land uses and higher order streets. Short roadway distances, slow speeds, and low traffic volumes characterize local streets. Cyclist can share the road with motor vehicles. Sidewalks or pathways should be provided for pedestrians. Travel lanes are not delineated, and on-street parking is allowed in the travelway. Table 3.1 provides design standards and lists minimum and maximum acceptable widths for street elements. Figure 3.3 illustrates the minimum and maximum street elements for a local road.

### 3 MODAL PLANS

TABLE 3.1  
Street Cross-Section Standards

Functional Classification	Cross-section Width <sup>1</sup>	Travel Lanes	Center Lanes	Bike Lanes	Sidewalks	On-street Parking	Planting Strip	Shoulder
Principal Arterial	68-92'	Two to four lanes at 12' each	16'	6' on both sides	6' standard	None	None	None
Minor Arterial	44-86' <sup>2</sup>	Two @ 10-14'	Optional 14'	6' on both sides <sup>2</sup>	6-8' on both sides <sup>2</sup>	None	Optional 4-8'	0-3'
Major Collector	36-80'	Two @ 11-14' If no bike lane, min 12' travel lane with sharrow <sup>3</sup>	None <sup>4</sup>	Required if no sharrow, <sup>3</sup> 6' on both sides	6' on both sides	Optional 8' on both sides	Optional 4-6'	If no parking or bike lanes, outside travel lane of 15'
Minor Collector	24-76'	Two @ 11-14' If no bike lane, min 12' travel lane with sharrow <sup>3</sup>	None <sup>2</sup>	Optional 6' on both sides	5-6' on both sides	Optional 8' on both sides	Optional 4'	If no parking or bike lanes, outside travel lane of 15'
Local Street	34-40'	Travelway of 24-30' (total)	None	None	If no shoulder, 5' on both sides	Allowed in travelway	None	Optional 5'

<sup>1</sup> Range of widths listed represent minimum and maximum acceptable widths.

<sup>2</sup> A 10' multi-use path on one or both sides of the roadway is an acceptable substitute for bicycle lanes and sidewalks. This could reduce minimum cross section to 30' on Wahanna Road, where a continuous multi-use path is recommended.

<sup>3</sup> A sharrow is a pavement marking that indicates a travel lane is a shared bicycle and vehicle facility.

<sup>4</sup> Unless required by a specific development.

Figure

**3.2 Street Functional Classification Plan**

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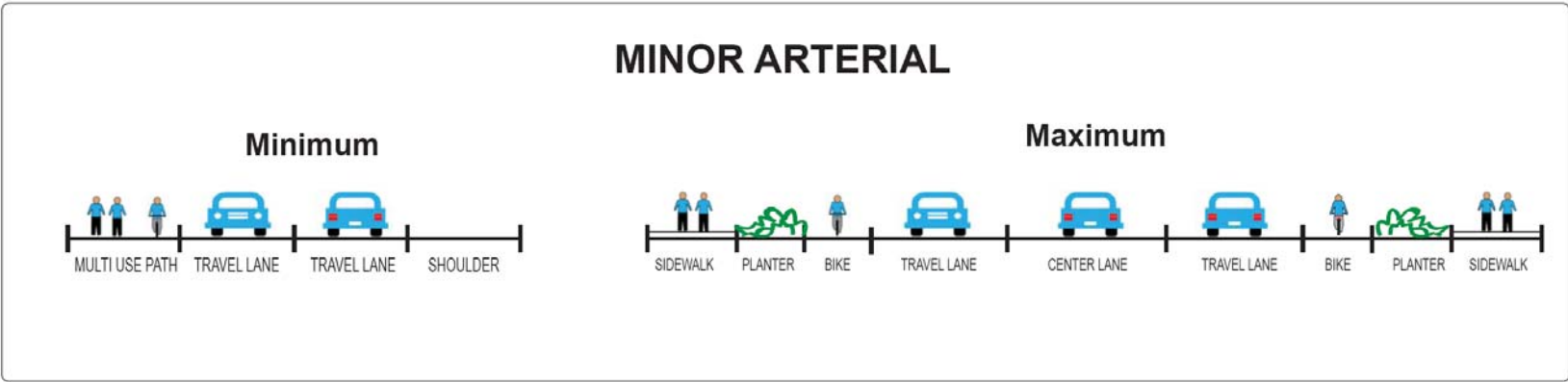


Figure 3.3 Functional Classification Design Standards

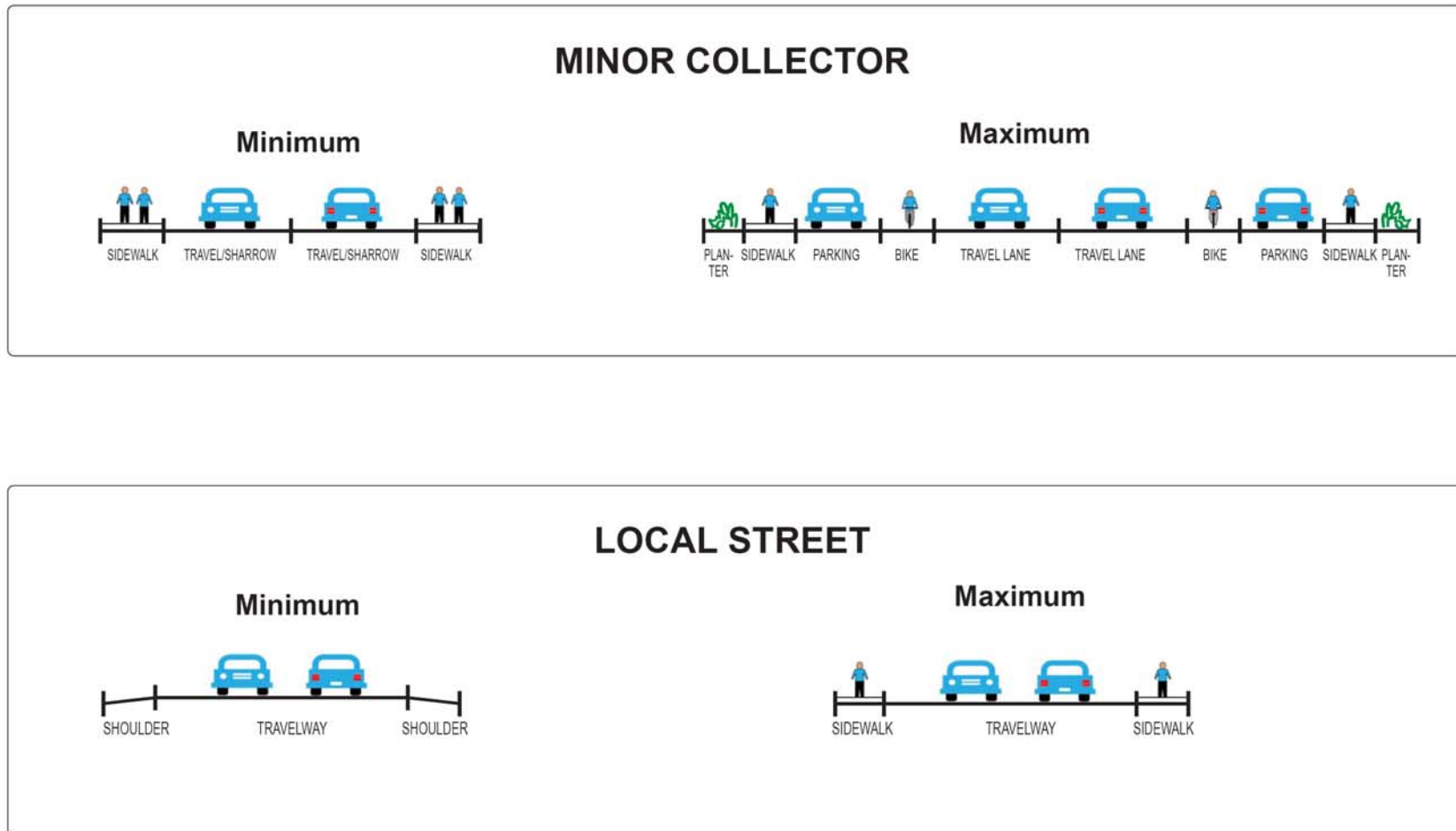


Figure 3.3 Functional Classification Design Standards (Continued)

## *Street Design Standards*

Street design standards are based on the desired functional and operational characteristics, such as vehicular volume, capacity, operating speed, safety, and level of pedestrian and bicycle use. The standards are necessary to ensure that the system of streets, as it continues to develop within Seaside, can safely and efficiently serve motorists, cyclists, and pedestrians while also accommodating the orderly development of adjacent lands. Standards address street characteristics including travel lanes, sidewalks, bicycle lanes, and on-street parking for each street classification.

The street cross-section standards are summarized in Table 3.1, and Figure 3.3 illustrates the typical cross-section range for the preferred design of each of the street classifications found in Table 3.1.

### Travel Lanes

Travel lanes will be between 10 and 14 feet wide depending on traffic volumes, percentage of trucks, speeds, and available right-of-way. A minimum of two travel lanes (or one 24-foot travelway) will be provided on each public street unless it is an otherwise authorized one-directional street. Streets will have a maximum of four travel lanes.

### Center Lanes

Center lanes are a minimum of 14 feet wide unless documented approval from the owning agency is received, and could consist of a two-way center-turn lane, a directional left-turn pocket, or a painted or raised center median.

### Parking Lanes

On-street parking lanes will be 8 feet wide and are an option on both major and minor collectors. No on-street parking is allowed on principal or minor arterials, and parking is allowed on local streets unless width is not sufficiently wide to allow safe parking.

### Bicycle Lanes

Bicycle lanes will be 6 feet wide on minor arterials if no alternate multi-use path exists. On major collectors if there is no sharrow, 6-foot-wide bicycle lanes are required on both sides. Six-foot-wide bicycle lanes are optional on minor collectors, and are not required on local streets. Lanes will be separated from travel lanes with striping and contain bicycle lane markings consistent with the Manual on Uniform Traffic Control Devices (MUTCD) standards.

### Sharrow

A sharrow is a lane marking on the pavement indicating that the roadway is a shared facility. Lanes with sharrow markings when possible will be wider than regular travel lanes to provide more room for both vehicles and bicycles. The standard is 12 feet. Sharrow markings are recommended on lower-volume or lower speed roadways.

#### Multi-Use Path

Multi-use paths will be between 10 and 14 feet wide, and are shared by bicyclists and pedestrians. They may be paved, gravel, or wood, and may be elevated or depressed from the adjacent lane depending on location constraints.

#### Shoulder

Roadway shoulders will be either gravel or paved adjacent to the side of the roadway. Standard widths vary between 3 and 5 feet. In the absence of parking and bike lanes, the outside lane should be widened to 15 feet to allow bicycles and pedestrians to travel safely alongside the roadway.

#### Sidewalk

Sidewalks will be between 5 and 8 feet wide depending on the type of roadway and in some cases, available right of way. On all roadways not classified as local streets except Wahanna Road, sidewalks are required on both sides of the highway. A 10 foot multi-use path could serve as an acceptable alternate facility to a sidewalk.

#### Planting Strip

Planting strips are optional on all roadway types, and may vary between 4-8 feet and be placed between the sidewalk and travelway. These provide a buffer for pedestrians on the sidewalk from the travel lanes and create a more pedestrian friendly environment.



## Street System Plan – North Segment

Roadway projects in the north segment of Seaside (Lewis and Clark Road to 12<sup>th</sup> Avenue) are described over the pages that follow.

### 1. US 101 and Lewis and Clark Road, 24<sup>th</sup> Avenue

As described in Chapter 2 and Appendixes B, C, and I, safety and congestion problems at the north end of Seaside exist and are projected to worsen over the 20-year TSP horizon. Left-turns onto the highway from Lewis and Clark Road and from 24<sup>th</sup> Avenue are difficult, as few gaps in the highway traffic exist and sight distance is poor. The bridge over the Neawanna Creek (Bridge No. 01035) between the two intersections is inside the 100-year floodplain, requires a seismic retrofit, and has deficient facilities for pedestrians and bicycles.

TSP recommendations at the north end of Seaside are broken into two phases. Phase 1 is a signal at US 101 and Lewis and Clark Road. Phase 2 (outside the 20-year timeframe of the TSP) is a new intersection at US 101 and 24<sup>th</sup> Avenue. Both are described below.

#### 1a. Add a Signal at US 101 and Lewis and Clark Road

This TSP recommendation installs a traffic signal at the three-leg intersection of US 101 and Lewis & Clark Road with a southbound left-turn pocket to better facilitate traffic flow both from US 101 onto Lewis and Clark Road and Wahanna Road, as well as traffic from Lewis and Clark Road onto US 101. No left turn pocket would be required in the northbound direction, as Lewis and Clark Road does not continue west of US 101. Operational analysis for this recommendation assumes that when the signal is installed, left turns from 24<sup>th</sup> Avenue onto US 101 are disallowed. Right turns to and from 24<sup>th</sup> Avenue would be retained, as would left turns onto 24<sup>th</sup> Avenue from US 101. This would be subject to further discussions between the City and ODOT as left turns from 24<sup>th</sup> Avenue could also be self-regulated, meaning that they could be discouraged but allowed unless causing safety concerns.

#### 1b. Combine 24<sup>th</sup> Avenue and Lewis & Clark Road via a New Intersection at US 101

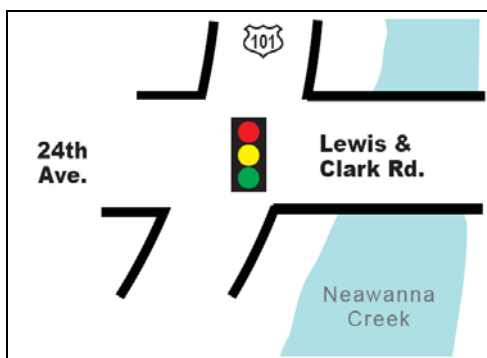


Figure 3.4. US 101, 24<sup>th</sup> Avenue, and Lewis & Clark Road Intersection Improvement

*Please note: The construction of Project 1b is assumed to be outside the 20-year timeframe of the TSP.*

The long-term recommendation for north Seaside is to create a new intersection in the vicinity of 24<sup>th</sup> Avenue that connects 24<sup>th</sup> Avenue with Lewis and Clark and Wahanna Roads on the east side of the Neawanna Creek (Figure 3.4). This project provides safety and mobility benefits, and provides great connectivity and emergency evacuation

benefit, by connecting residents northwest of central Seaside with Lewis and Clark Road, an important facility for Tsunami evacuation. The project requires a new structure over Neawanna Creek, a new traffic signal, and the reconstruction of the existing Bridge No. 01035 over Neawanna Creek to accommodate turn lanes and to bring the bridge deck above the 100-year flood plain. The resultant intersection would include two through lanes and one left-turn lane on US 101 in the northbound direction, and one through lane, one left-turn lane, and one right-turn lane on US 101 in the southbound direction. Intersection geometry on the local streets would consist of one through/right-turn lane and one left-turn lane, in both directions. With the ultimate buildout of this recommendation, the existing connection of US 101 and Lewis and Clark Road would be downgraded to right-in, right-out movements only.

The long-term project could be constructed in two phases. Phase one would reconstruct the existing US 101 Bridge No. 01035 over Neawanna Creek intersection. Phase two would construct the new intersection, including a new bridge over Neawanna Creek.

Table 3.2 presents the order-of-magnitude cost estimates for Projects 1a and 1b.

TABLE 3.2  
US 101, 24<sup>th</sup> Avenue, and Lewis & Clark Road Intersection Projects Cost Estimates

	Improvement	Estimated Cost (2010 \$)
1a. Signal at US 101 and Lewis and Clark Road	Build a signal at the intersection of US 101 and Lewis and Clark Road and modify US 101 and 24 <sup>th</sup> Avenue intersection	\$848,000
1b. Combine 24th Avenue and Lewis and Clark Road	Phase 1: New Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge 01035 outside of 100-year floodplain	\$15,741,000
	Phase 2: Construct new 24th Avenue intersection	\$6,663,000

2. Wahanna Road Cross Section

*Please note: the Wahanna Road Cross-Section project is described in the north Seaside section. However, Wahanna Road is a north-south facility that extends from Lewis and Clark Road at the north to Avenue S at the south – spanning all three segments of this modal plan. One cost estimate has been provided for all of Wahanna Road though the project improvements could be designed and constructed in phases.*

Available right-of-way varies along Wahanna due to the built and natural environment. The section north of 12<sup>th</sup> Avenue, currently maintained by Clatsop County, consists of two travel lanes and a shoulder that varies from 1-3’ in width (a total pavement width between 25’ and 26’). This cross section continues south to Shore Terrace Road, where a 5’ sidewalk begins on the east side of Wahanna Road and continues down to Broadway. Between Broadway and the Providence Hospital, Wahanna Road adds a center-turn lane. A 10’ sidewalk exists on Wahanna Road’s east side between Broadway and Spruce Drive. This sidewalk continues for a short segment south of Spruce Drive, as a 5’ facility on the west side of Wahanna Road.

The TSP project maintains a narrow travelway for automobiles to reflect the use of the facility for local trips and to encourage slow speeds. The TSP project assumes two 10' travel lanes and the construction of a continuous 10' multi-use path on the west side of Wahanna Road. This would be shared by bicycle and pedestrian users (including those pedestrians in wheelchairs), and would be a boardwalk concept (illustrated in Figure 3.5) that could be adjacent to the roadway as a sidewalk, elevated or depressed from the roadway to reflect the grade of adjacent land uses and minimize environmental impacts, or could in some segments leave Wahanna Road to travel closer to Neawanna Creek and avoid impacting homes located close to the roadway. The east side configuration will depend on the available right-of-way and vary from 1-3 foot shoulders to 10' curbed sidewalk.

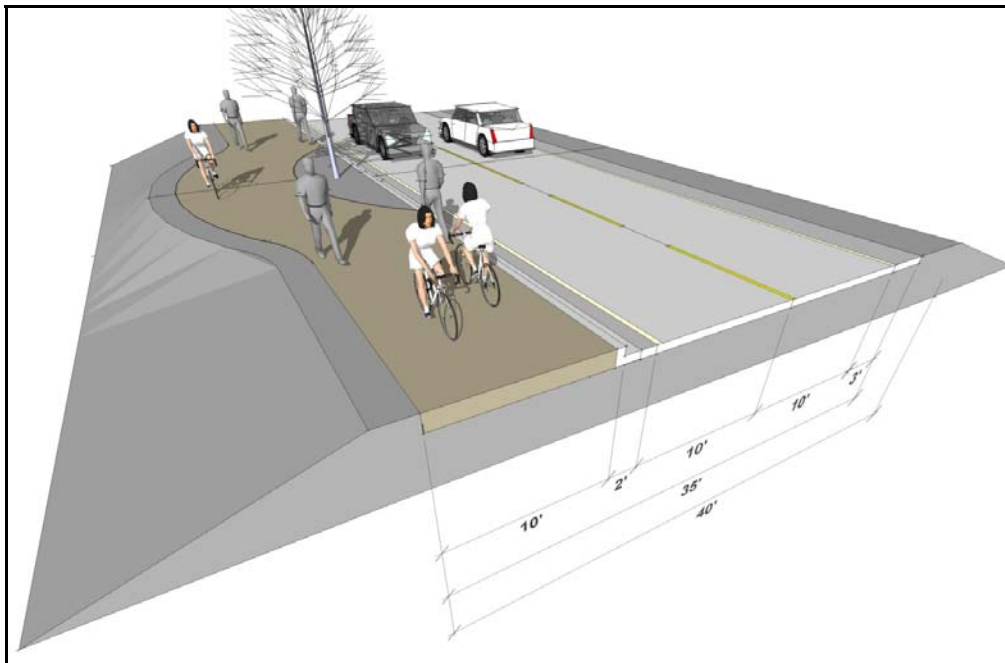


Figure 3.5 Wahanna Road Cross-section

Table 3.3 presents the Wahanna Road Cross-section cost estimate.

TABLE 3.3  
Wahanna Road Cross-section Cost Estimate

Improvement	Estimated Cost (2010 \$)
2. Wahanna Road Cross-section	\$6,678,000

3. US 101 and 12th Avenue Intersection

This project adds a left-turn pocket on 12th Avenue west of US 101. It also optimizes north-south movement while minimizing delay to local cross traffic on 12th Avenue (Figure 3.6). A westbound left turn lane on 12th Avenue currently exists.

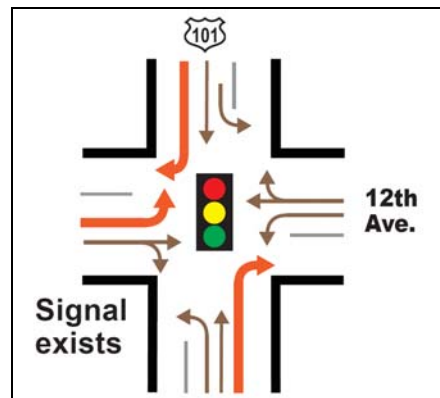


Figure 3.6 US 101 and 12th Avenue Intersection

On US 101, a right-turn pocket is added to both the north and the south approaches to the intersection. This is in addition to the existing through lane and existing left-turn lane in both directions. Table 3.4 presents the US 101 and 12th Avenue Intersection cost estimate.

TABLE 3.4  
US 101 and 12th Avenue Intersection Cost Estimate

Improvement	Estimated Cost (2010 \$)
3. Reconfigure the intersection of US 101 and 12th Avenue	\$1,314,000

4. 12th Avenue Cross-section (Wahanna Road to N. Franklin Street)

The upgrades to 12th Avenue would retain the existing 40-foot-wide total cross-section. In the short-term, the project restripes the roadway for shared auto and bicycle use with

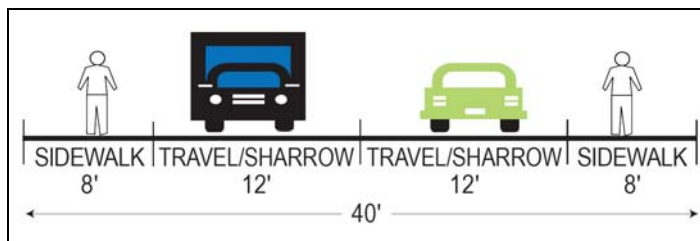


Figure 3.7 12th Avenue Cross-section

two 12-foot-wide travel lanes and sharrows (Figure 3.7). As redevelopment occurs, existing parking would be converted to 8-foot-wide sidewalks unless easements were provided to accommodate both sidewalks and on-street parking (such as exist now immediately west of the US

101/12th Avenue intersection). Table 3.5 presents the 12th Avenue Cross-section cost estimate.

TABLE 3.5  
12th Avenue Cross-section Cost Estimate

Improvement	Estimated Cost (2010 \$)
4. 12th Avenue Cross-section (Wahanna Road to N. Franklin Street)	\$506,000

Roadway projects in the north segment of Seaside are illustrated on Figure 3.8.

Figure

3.8 Roadway Recommendations – North

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## Street System Plan – Central Segment

### 5. Broadway Cross Section

Minor refinements to the Broadway cross-section are recommended between US 101 and Wahanna Road (see Figure 3.9). The cross-section retains two 12' sharrows (one in each direction) for shared auto and bicycle use, 8' on-street parking lanes on both sides, and 6' sidewalks on both sides of the roadway. It is understood that this cross-section would change where needed, such as in front of Broadway Middle School and the fire station, where parking would not be allowed.

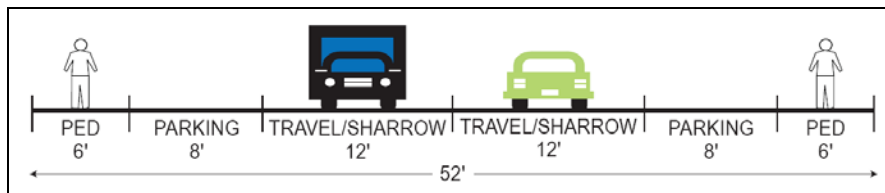


Figure 3.9 Broadway Cross-section

Table 3.6 presents the Broadway cross-section cost estimate.

TABLE 3.6  
Broadway Cross Section Cost Estimate

Improvement	Estimated Cost (2010 \$)
5. Broadway Cross Section	\$506,000

### 6. US 101 and Broadway Intersection

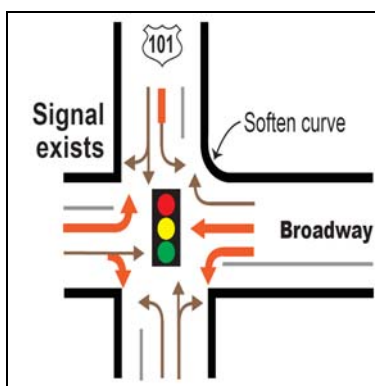


Figure 3.10 US 101 and Broadway Intersection

The project at US 101 and Broadway (Figure 3.10) extends the existing southbound left-turn pocket to allow storage for more vehicles turning onto Broadway without blocking traffic in the through travel lanes. Signal timing would be adjusted to optimize north-south movement while minimizing delay to local cross traffic on Broadway.

In the eastbound direction, the existing right-turn pocket on Broadway would be altered to become a left-turn pocket with a shared through/right turn lane. This better serves existing and projected traffic flows. In the westbound direction, Broadway would be widened to add a right-turn pocket in addition to the existing left-turn pocket. This better accommodates traffic movement, especially right-turning buses from the Broadway Middle School. The land use in the northeast quadrant of this intersection is the Seaside

Chamber of Commerce which has adequate setback to accommodate this widening. Table 3.7 presents the US 101 and Broadway Intersection cost estimate.

TABLE 3.7  
US 101 and Broadway Intersection Cost Estimate

Improvement	Estimated Cost (2010 \$)
6. Reconfigure the intersection of US 101 and Broadway	\$792,000

7. US 101 Cross-section – Five Lanes between Broadway and Avenue F/G

*Please note: The construction of Project 7 is assumed to be outside the 20-year timeframe of the TSP.*

US 101 would be expanded to two 12' through lanes in each direction between immediately north of Broadway and immediately south of Avenue G (Figure 3.11). North of Broadway and south of Avenue G, US 101 would remain one through lane in each direction. Through this section, a 16' raised median with breaks at Broadway, Avenue A, and Avenue F/G would be constructed. This would disallow left turns from US 101 to uses including the Broadway Middle School parking lot (north of Broadway) and the Safeway grocery store. Traffic would be circulated to these businesses through left turns allowed at specific intersections. On-street 6' bicycle lanes and 8' sidewalks would be provided on both sides of the highway. The total cross section width for this section is 92'. Available right-of-way through this section appears to vary between 95' and 110'.

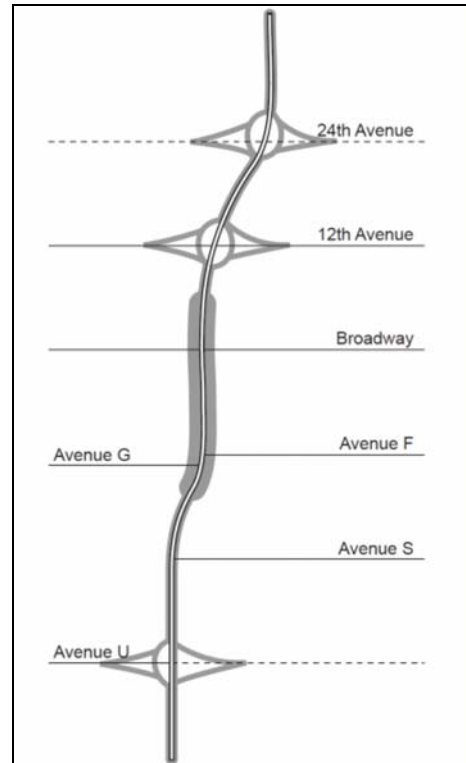


Figure 3.11 Extent of Recommended US 101 Widening

This cross-section for US 101 requires the adoption of alternate mobility standards by the Oregon Transportation Commission (OTC). Alternate mobility standards are described in Chapter 6. The US 101 cross-section as recommended by the TSP analyzes traffic conditions during the peak hour of the average annual daily traffic in Seaside, instead of 30<sup>th</sup> HH conditions.

Table 3.8 presents the cost estimate for the US 101 cross section between Broadway and Avenue G.

TABLE 3.8  
US 101 Cross-section Cost Estimate – Broadway to Avenue G

Improvement	Estimated Cost (2010 \$)
7. US 101 widening to five lanes between north of Broadway and Avenue G	\$5,456,000

8. US 101 Cross-section – Three Lanes between Avenue G and Holladay Drive

US 101 would be expanded to three lanes between Avenue G and Holladay Drive. This improvement will better match this highway segment with the highway cross-section to the north and south. The three lane cross section will promote safer and smoother traffic flow along US 101 by eliminating the queues that currently develop when vehicles stop in the travel lane to turn left. This cross section would consist of two travel lanes (one in each direction), two bicycle lanes, two sidewalks, and one center lane. With a couple of possible exceptions, the center lane will likely have to be developed as a continuous two-way center turn-lane.

While this type of turn lane is not generally favored by ODOT, the very short block lengths and limited opportunities for access to adjacent properties make developing separate adjacent left-turn pockets impractical, for the most part. The benefits of removing left turning vehicles from the main traffic stream on US 101 outweighs the potential negatives commonly associated with a continuous left-turn lane including northbound and southbound vehicles turning left competing for the same space and vehicles turning on to the highway using the center turn lane as an acceleration lane. The specific configuration of the center lane will be determined during the development of the access management plan recommended in this TSP (the access management plan will be a separate refinement plan to this TSP as provided for by OAR 660-0012-0025).

The highway expansion would be focused to the east to avoid or minimize impacts to businesses and buildings. It is recommended that ODOT and Seaside collaborate to develop a public information campaign to explain how to properly use a continuous turn lane.

Table 3.9 presents the cost estimate for the US 101 cross section between Avenue G and Holladay Drive.

TABLE 3.9  
US 101 Cross-section Cost Estimate – Avenue G to Holladay Drive

Improvement	Estimated Cost (2010 \$)
8. US 101 widening to three lanes between Avenue G and Holladay Drive	\$2,133,000



9. Realign US 101 and Avenue F / Avenue G Intersection

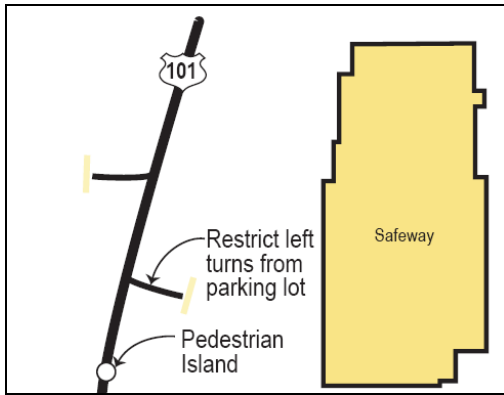


Figure 3.12 US 101 and Avenues F and G

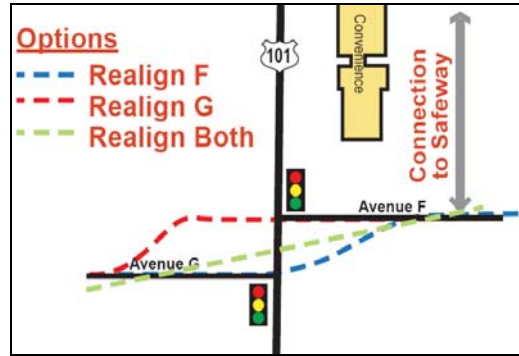


Figure 3.13 US 101 and Avenues F and G Alignment Options

This project combines Avenues F and G to create one intersection on US 101. This would restrict left turns out of the Safeway onto US 101 (as illustrated in Figure 3.12) and construct a pedestrian island to more safely facilitate pedestrian crossings at this location. The US 101 cross-section would add a signal at this intersection and a pedestrian island at the south end of the Safeway parking lot for pedestrian safety. The exact alignment of Avenues F and G would be subject to further review once the project moves into the design phase. Three options are carried through the planning phase (shown as Figure 3.13): Option 1: Realign Avenue F only; Option 2: Realign Avenue G only; and Option 3: Realign both Avenues F and G.

Table 3.10 presents the US 101 and Avenues F and G cost estimate.

TABLE 3.10  
US 101 and Avenues F and G Cost Estimate

Improvement	Estimated Cost (2010 \$)
9. Realign Avenues F and G to create a new signalized intersection	\$3,352,000

Wahanna Road

See the Street System Plan – North Segment for Wahanna Road pedestrian and bicycle improvement recommendations (description, illustration, and cost estimate).

The Central recommendations are illustrated as Figure 3.14 (Central).

Figure

**3.14 Roadway Recommendations – Central**

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## Street System Plan – South Segment

### 10. Avenue S Cross Section

Avenue S would be upgraded in two sections. From US 101 east to the bridge crossing Neawanna Creek, Avenue S would have two 6-foot sidewalks, two 6-foot bike lanes, and two 12-foot travel lanes (Figure 3.15).

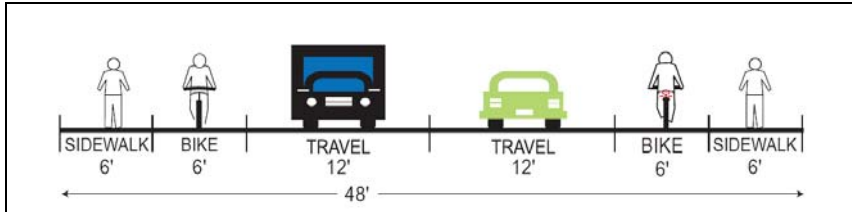


Figure 3.15. Avenue S Cross Section US 101 to Bridge

and two 12-foot travel lanes (Figure 3.15). Between the bridge and Wahanna Road to the east, the cross section would transition to the Wahanna Road cross section to retain

consistency with that corridor. This would consist of two 12-foot travel lanes, a 10-foot boardwalk on the north side of the roadway, and shoulder on the south side of the roadway to a minimum of 3 feet. This cross-section would be kept narrow to minimize impacts to sensitive habitats. Table 3.11 presents the Avenue S cross-section cost estimate.

TABLE 3.11  
Avenue S Cross Section Cost Estimate

Improvement	Estimated Cost (2010 \$)
10. Avenue S cross section: between US 101 and the bridge	\$3,459,000
Avenue S cross section: between the bridge and Wahanna Road	\$2,268,000

### 11. US 101 and Avenue U Intersection

This project adds a right-turn pocket onto Avenue U at the existing signal on US 101 (Figure 3.16). Because the Necanicum River is located directly west of the US 101 intersection, this project triggers a need to upgrade and widen the bridge structure. Construction cost estimates also assume a seismic retrofit to the bridge structure would be conducted. No southbound merge or transition lane on US 101 is included as part of this recommendation because of environmental sensitivities associated

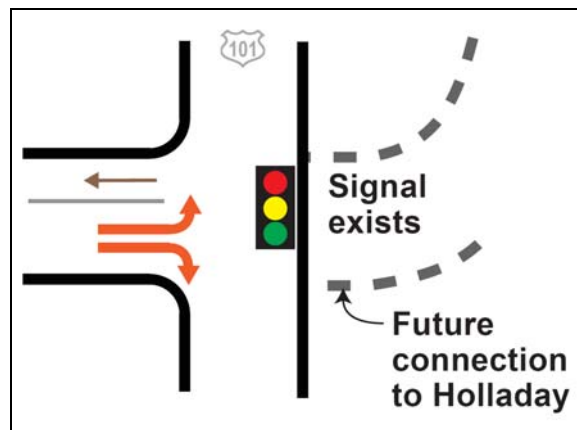


Figure 3.16 US 101 and Avenue U Intersection

with any additional fill in the vicinity of the Necanicum River.

Over the long term, Avenue U would become a four-leg intersection as Holladay Drive is extended southwards (see next section for a description of the Holladay Drive extension). Costs associated with the tie in of Holladay Drive extension are provided as part of that project (Project 12).

Table 3.12 presents the US 101 and Avenue U Intersection cost estimate.

TABLE 3.12  
US 101 and Avenue U Intersection Cost Estimate

Improvement	Estimated Cost (2010 \$)
11. Add a signal at the intersection of Avenue U and US 101	\$7,997,000

12. Extend S Holladay Drive to the South

This new street alignment and connection with Avenue U would extend S. Holladay Drive to the south as a local street along the former railroad right-of-way (Figure 3.17). As the railroad right-of-way has transitioned back to local property owners, this street extension involves acquisition of right-of-way. This element helps reduce local trips on US 101 by providing a local north-south connection on the east side of US 101, and helps alleviate congestion on the highway during peak hours and seasons.

With the extension of S. Holladay Drive, the function of the Avenue S and US 101 intersection would change. In the traffic modeling work drivers were observed to prefer to access US 101 via Avenue U. Traffic volumes at US 101 and Avenue S decreased, allowing this intersection to stay stop controlled and full access.

In conversations with the community about the intersection of S. Holladay Drive and Avenue S, two possible treatments were discussed: a roundabout and a four-way stop. At this planning level, considerable support was received for a roundabout at this location. Therefore, the cost estimate for extending S. Holladay Drive to the south (Table 3.13) assumes a roundabout at S. Holladay Drive and Avenue S.

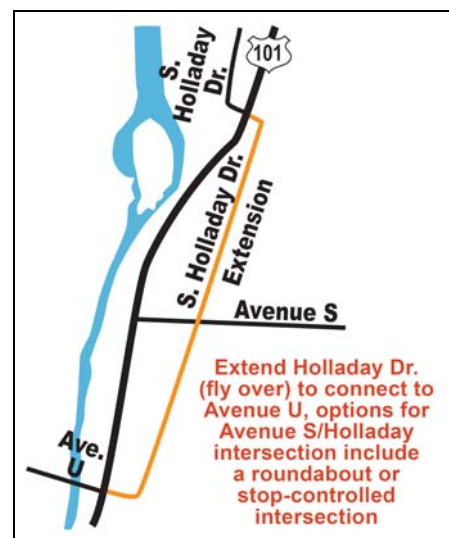


Figure 3.17 Holladay Drive Extension

TABLE 3.13  
Holladay Drive Extension Cost Estimate

Improvement	Estimated Cost (2010 \$)
12. Extend S. Holladay Drive to the South	\$7,406,000

### 13. US 101 and Holladay Drive

The intersection of US 101 and Holladay Drive is extremely skewed, as Holladay Drive (the original state highway through Seaside) also travels in a north-south direction parallel to US 101 and serves the historic core of the City. Traffic accessing the historic core turns left at this intersection, currently under two-way stop control. Sight distance is adequate for north and southbound traffic, but is poor due to skew and obstructions for left-turning traffic on Holladay Drive.

TSP recommendations at this location are broken into two phases. Phase 1 is a signal at US 101 and Holladay Drive, which could be built at the same time as the local project to extend Holladay Drive to the south. Phase 2 (outside the 20-year timeframe of the TSP) is a grade-separated flyover of Holladay Drive over US 101. Both are described below.

#### 13a. US 101 and Holladay Drive – New Signal

This TSP recommendation installs a traffic signal at the intersection of US 101 and Holladay Drive. The intersection geometry assumes left turn pockets and shared right/through pockets for all intersection approaches. As the anticipated US 101 cross section both north of the intersection (Project 8) and south of the intersection (existing) consists of three lanes, no widening of the highway itself is assumed to be needed for this project.

#### 13b. US 101 and Holladay Drive – Flyover

*Please note: The construction of Project 13b is assumed to be outside the 20-year timeframe of the TSP.*

In the long term, S. Holladay Drive would cross US 101 at a grade-separated flyover connecting with the S. Holladay Drive extension to the south. Southbound right turns would be allowed from Holladay Drive onto US 101 at this location. This flyover would essentially allow travelers to progress between 24th Avenue at the north to Avenue U at the south on Holladay Drive without accessing US 101.

Table 3.14 presents the US 101 and Holladay Drive Intersection area cost estimate (both projects 13a and 13b).

TABLE 3.14  
US 101 and Holladay Drive Cost Estimate

Improvement	Estimated Cost (2010 \$)
13a. Traffic Signal at US 101 and Holladay Drive	This project is included in the cost estimate for project 12: Extend S Holladay Drive to the South
13b. Flyover of S Holladay Drive at US 101	\$9,911,000

Wahanna Road

*See the Street System Plan – North Segment for Wahanna Road pedestrian and bicycle improvement recommendations (description, illustration, and cost estimate).*

The South recommendations are illustrated as Figure 3.18 (South).

Figure

3.18 Roadway Recommendations – South

Insert from separate file

### *Roadway Considerations outside the TSP Process*

This section briefly describes three items that are not included in the current Seaside TSP Roadway Plan – recommendations for Clatsop County considerations, recommendations for consideration in the next Seaside TSP update, and the Seaside bypass.

#### Recommendations for Clatsop County Consideration

Two projects were discussed in detail through the Seaside TSP but are outside the jurisdiction of the City of Seaside or ODOT to implement. These include an intersection project at the north end of Seaside in Clatsop County’s jurisdiction, and the extension of Wahanna Road to the south. These projects are described below and recommended for Clatsop County consideration through their next TSP update. Neither of these projects were critical for circulation, connectivity, or safety of travel within the City of Seaside.

##### 1. Intersection of Lewis & Clark and Wahanna Roads

This project would “T” the intersection of Wahanna Road and Lewis and Clark Road. This includes existing stop signs on Wahanna Road, and adding stop signs on both northbound and southbound Lewis & Clark Road (Figure 3.19). Care would need to be taken to accommodate left-turning trucks heading south on Wahanna Road from Lewis and Clark Road, as logging and other trucks regularly make this turn.

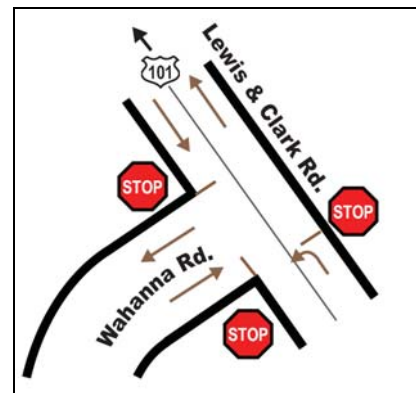


Figure 3.19 Lewis & Clark and Wahanna Road Intersection

##### 2. Extend Wahanna Road to Bearman Creek Road

Extending Wahanna Road to south of Seaside was discussed at various times during the TSP process. This project would provide an alternate route to US 101 for Seaside residents between Bearman Creek Road at the south and Lewis and Clark Road at the north. Lewis and Clark Road continues north to Astoria, meaning that with the extension of Wahanna Road an alternate route to US 101 would be provided for much of the north coast. Although this extension provided mobility benefit in summertime conditions, it was of minimal importance during average annual daily traffic conditions and therefore was not considered critical for the Seaside TSP. Further, south of Avenue S this project would be outside the City of Seaside, and beyond the City’s authority to construct.

#### Considerations for the Next TSP Update

The Seaside School District is leading an effort to move all facilities outside of the Tsunami inundation zone, to an elevation at or above 80’-90’. This impacts four facilities in Seaside:

- Seaside High School



- Broadway Middle School
- Two Seaside Elementary Schools

The hospital has also discussed moving to a location above the critical 80'-90' elevation line. If this occurred, the current hospital facility would be expected to transition to medical offices. Ability to obtain funding to move all facilities within a 20-year time period is uncertain and work continues to identify a feasible footprint for a future school and medical facility campus. Discussions regarding potential school and hospital relocations outside the current Seaside UGB are preliminary and have not gone through a public process. Furthermore, facilities above the 90' elevation line would be outside the Seaside Urban Growth Boundary, requiring an amendment process.

For the reasons above, the Seaside TSP defers the consideration of school and hospital relocation to the next Seaside TSP update, to allow for a public conversation about the move, the UGB amendment process, site development, and funding acquisition.

### Seaside Bypass

The concept of a US 101 bypass through Seaside has been considered numerous times in the past. The most thorough analysis took place as part of the 1991 Seaside Bypass Feasibility Study, which concluded that, though technically feasible, a bypass would be of high cost and relatively low benefit, as much traffic in the area was destined for Seaside. The subsequent 1995 Pacific Way - Dooley Bridge Draft Environmental Impact Statement (Pac-Dooley DEIS) considered the bypass as one of several early build alternatives, but it was dismissed for reasons of cost, benefit, and impact before publication of the Pac-Dooley DEIS. The bypass arose again as a concept as part of discussions leading to and following a May 2005 vote to not widen US 101.

The perceived benefits and key assumptions for the bypass are as follows:

- A bypass would provide an alternative to US 101 through Seaside, either as a reroute of the highway itself or as another state or local road.
- The bypass would, by necessity, be east of the current highway and east of Wahanna Road (currently the easternmost north/south road in Seaside).
- The bypass would need to follow *Oregon Highway Design Manual* (HDM) standards for a statewide highway, accommodating freight as well as passenger vehicles.
- With a bypass to serve as an alternate route for some regional and most statewide traffic, the existing US 101 alignment would be free to serve local traffic and travelers specifically destined for Seaside.

From the TSP's inception, the bypass's limitations have been clear and the process has focused on other priorities and recommendations that can be realistically addressed within the planning horizon. Below are the main reasons limiting the bypass from being a feasible priority for this Seaside TSP:

1. The bypass would be environmentally impactful.

Previous analyses have identified the area east of Wahanna Road (where a bypass would, by necessity, be placed) as being environmentally sensitive. The property is largely forest land with varied topography that would require substantial cut and fill to meet Highway Design Manual (HDM) standards and for freight vehicle use. The Pac-Dooley DEIS did not further the bypass option largely due to environmental constraints and the associated costs of mitigation.

2. The bypass would trigger the Statewide Goal Exception Process.

The likely bypass corridor is outside the City of Seaside UGB, which terminates approximately ¼ mile east of Wahanna Road. The land in the vicinity of the bypass is designated by Clatsop County as Conservation Forest Land. Building a road in designated forest land requires an exception to the Oregon Statewide Planning Goals. The goal exception process would require findings that another, less impactful option inside the Seaside UGB is not feasible. Given the fact that the Pac-Dooley project received a Record of Decision on the Environmental Impact Statement that did not support the bypass, justifying a goal exception at this time would be difficult.

3. The bypass is inconsistent with state policy.

The OHP establishes policies that must be followed for planning and designing all state-owned roads. Policy 1G, the Major Improvements Policy, Action 1G1, of the OHP establishes new highway construction as the lowest priority for state transportation funding, to be pursued only when lower cost management solutions or improvements to existing facilities are infeasible or ineffective. The Pac-Dooley DEIS and the Seaside TSP have both demonstrated that the US 101 problems in Seaside over the next 20-year planning horizon can be addressed through improvements to the existing US 101 alignment or through policy and management measures that are acceptable to ODOT and the City.

4. The bypass is not “reasonably likely.”

Based on changes to the Transportation Planning Rule (TPR, OAR 660-12) in 2006, it is necessary for ODOT to determine if a project proposed on a State facility in a local TSP, to be funded with State funds, is not “reasonably likely” to be funded within the 20-year planning horizon. All jurisdictions making TSP local project recommendations should also critically assess what projects can be built through their traditional funding revenue streams, and what other funding sources might be available to fund local project priorities. This work has been completed for the Seaside TSP, and the resulting list of projects considered implementable within the 20-year planning time frame is a smaller subset of the existing TSP recommendations. In fact, some projects with high levels of support and value, such as the new intersection at US 101 & 24<sup>th</sup> Avenue, are not considered for the 20-year TSP time frame due to cost. At this time, the state and the City are unable to move forward with those high-cost projects for which funding is uncertain.

### Consideration in Future TSP Updates

The bypass is recognized as an important project for some in the community. Further, it is recognized that the bypass aligns with some important state and community goals (e.g., tsunami evacuation, freight movement, and community livability). This TSP, as described in the preceding pages, has deferred consideration of the school relocations to higher elevation because of the steps required before any relocations are certain. The bypass is not considered a viable construction project in the 20-year timeframe of this TSP. Similarly, the bypass is a project that will initially require considerable pre-planning, and these planning efforts should begin during the course of this TSP.

A number of steps are required to forward a bypass:

1. Conduct a feasibility study
2. Prepare a refinement plan to define general alignment and cross-section
3. Prepare land use applications for UGB expansion and/or goal exception package
4. Obtain property owner authorization and environmental clearances through an Environmental Impact Study
5. Conduct construction design documents
6. Obtain funding for construction

### Other Considerations Outside of the TSP Process

During the needs identification phase of the project, much support was heard from the community for exploring ways to eliminate flooding of US 101 south of the City. This segment of the highway is reported to flood several times each winter. Whenever the highway floods, north/south movement between Seaside and Cannon Beach, as well as points north and south, is essentially stopped until flood waters recede. This has resulted in school closures and other difficulties, as individuals are not able to travel between Seaside and Cannon Beach. In 2009, the Cities of Astoria, Warrenton, Seaside, and Cannon Beach, along with Clatsop County and ODOT, agreed to pool resources for a hydraulic study. The results of this study would be used to identify projects that could eliminate the flooding issue. This work is ongoing outside of the TSP process.

## Transit Plan

The Sunset Empire Transit District (SETD) provides bus service in Seaside. Currently, there are two bus routes that serve Seaside:

- Route 20, which serves Wahanna Road, US 101, Holladay Drive, and Broadway, along with the hospital and theater. Service is generally every hour between 6:40 a.m. and 7:20 p.m.
- Route 101, which provides access to Clatsop Community College and has one station in Seaside at US 101 and 12th Avenue. Service is between 6:15 a.m. and 8:00 p.m.

The TSP recommends several transit-related improvements in Seaside. These are illustrated in Figure 3.20 and described in brief below:

- **Reestablish a Trolley Bus circulatory route** to serve visitors through the downtown core. This route would provide service to hotels and major destinations in Seaside. The market for the trolley bus would be largely visitors, though the service would also provide a benefit to employees working in the downtown core. A proposed trolley bus route with potential stop locations is provided as Figure 3.21.
- **Restore 30-minute peak headways on weekdays** on Routes 20 and 101. Headways are the time between arrivals at a given stop on the same route, or the time a transit passenger would need to wait between buses at a particular stop. During the peak hour, the time between buses during the peak rush hour in Seaside is recommended to be 30 minutes. This would provide better and more reliable service to transit patrons. New patrons would be likely to try service if there was confidence that wait time would be minimal. Surveys of current transit patrons pointed to increased service frequency as a major desired improvement.
- **Extend service on Route 101 later in the day** to better match up with class schedules for Clatsop Community College. Currently, many classes are held in the evenings and the last service on Route 101 ends before classes are over.
- **Provide service on Sundays.** Currently, no transit service is provided on Sundays. Yet regular patrons, as well as seasonal visitors, could use Sunday service to access work, the beach, shopping trips, religious institutions, and other services. Sunday service was noted as a desired improvement in a recent SETD survey.
- **Add bus pullouts at stops along US 101** where space allows. Bus pullouts have two primary benefits, safety and reduced congestion, associated with their ability to allow a bus to pull out of the travel lane to serve a stop. This reduces risk of rear-end crashes and allows autos to safely pass a bus while it is serving a stop. Bus pullouts would be constructed at existing stops along US 101 where right-of-way allows.

Additional discussions about the ability to move stops to locations where a bus pullout exists should occur before locations are defined and built. Any bus pullout would require signage for no parking.

- **Add shelters at select bus stops** identified by SETD as priority locations. Priority locations are those with higher ridership and/or a transfer to other local or regional transit service. These are generally in the downtown core or near a popular destination (such as outlet stores).
- **Relocate existing southbound bus stop on US 101 at Broadway** to avoid traffic backups into the intersection. The location of the current bus stop is immediately south of Broadway. When buses stop to serve passengers at this location, there is not sufficient room for autos to pass. Because of its close proximity to the US 101/Broadway intersection, vehicles are not able to progress through the intersection, causing safety and congestion concerns.
- **Build satellite parking areas on the north and south ends of Seaside**, with bus service into downtown. At the north end, this parking area would be located near the High School. At the south end, it would be located south of Avenue U. These facilities could be year-round, but it is assumed their greatest use would be in summertime, when employees and visitors would be encouraged to park once and walk or ride transit into the City core. Shared parking facilities with compatible uses should be explored first – the high school parking area, for example, or services with peak usage in morning or evening hours, outside the peak visitor and employee period. There are a couple of potential locations for parking areas south of Avenue U, including hotel/motel businesses or the Seaside Helicopter parking lot.
- **Construct a new transit center** to allow transit riders to better transfer between routes. The transit center would be centrally located to provide fast and convenient connections for transit patrons. It would be located near other attractions in the City so that it serves both as a transfer point and as a destination for riders.

Planning-level cost estimates for transit recommendations are provided in Table 3.15.

Figure

3.20 Transit Recommendations

Figure

3.21 Trolley Bus Route

TABLE 3.15  
Transit Recommendations Cost Estimates

Improvement Concept	Order-of-magnitude Cost Estimate (2010 \$)		Timeframe
	Startup Costs	Annual Operating Costs	
Re-establish Trolley Bus Circulatory Route	\$785,760	\$494,210	Medium
Increase existing bus service to peak 30-minute headways	\$1,680,000	\$343,200	Medium
Extend Route 101 service in the evenings	-	\$75,500	Short
Provide service on Sundays	-	\$92,660	Short
Construct bus pullouts on US 101	\$152,000	-	Short
Provide bus shelters at key locations	\$69,600	-	Short
Relocate existing bus stop at US 101 and Broadway	\$2,540	-	Medium
Build satellite parking areas		-	Medium
- Park and ride lot	\$36,000		
- Park and ride signage (using existing lots)	\$2,080		
Construct a new transit center	\$4,000,000		Short

## Pedestrian and Bicycle Plan

The recommended pedestrian and bicycle system closes existing gaps and provides safe, accessible facilities that link local destinations and connect to the Oregon Coast Bike Route. Pedestrian recommendations include completing the sidewalk network in high-pedestrian-use areas and corridors, as well as providing crossing treatments across US 101 and other major roadways. Bicycle improvements include a network of signed bicycle routes on selected low-traffic roadways, as well as bike lanes or shared lane markings on busier roadways. These facilities, along with shared use pathways, will serve all trip purposes, including commuting, recreational, and utilitarian trips.

### *Pedestrian Facilities*

According to the Oregon Bicycle and Pedestrian Plan (OBPP), pedestrian facilities are defined as any facilities utilized by a pedestrian or persons in wheelchairs. These types of facilities include walkways, traffic signals, crosswalks, curb ramps, and other features such as illumination or benches (Figure 3.22). It is important to note that surreys (pedal-operated cars) are, by ordinance, defined as a vehicle and therefore are not allowed on pedestrian facilities or the Promenade. Rental agencies generally limit use of surreys to west of US 101, in the historic downtown area.

Sidewalks, shared use paths, and roadway shoulders are recognized by the American Association of State Highway and Transportation Officials (AASHTO) and the OBPP as pedestrian facilities.



### Sidewalks

Sidewalks are located along roadways, are separated from the roadway with a curb and/or planting strip, and have a hard, smooth surface, such as concrete. The City of Seaside makes use of unofficial design standards from the unadopted 1997 TSP, which recommends sidewalk widths of between 5 and 6 feet for city streets. The ODOT standard for sidewalk travelway width is 6 feet, with a minimum travelway width of 5 feet acceptable on local streets. The unobstructed travelway for pedestrians should be clear of utility poles, sign posts, fire hydrants, vegetation, and other site furnishings.



Figure 3.22: Downtown Seaside with Pedestrian Amenities

### Shared Use Paths

Shared use paths are used by a variety of nonmotorized users, including pedestrians, cyclists, skaters, and runners. Shared use paths may be paved or unpaved and are often wider (i.e., 10–14 feet) than an average sidewalk (Figure 3.23). Where peak traffic is expected to be low, pedestrian traffic is not expected to be more than occasional, good passing opportunities can be provided, *and* maintenance vehicle loads are not expected to damage pavement, the width may be reduced to as little as 8 feet.



Figure 3.23: People Enjoying the Seaside Prom

### Roadway Shoulders

Roadway shoulders often serve as pedestrian routes in many rural Oregon communities. On roadways with low traffic volumes (less than 3,000 vehicles per day), roadway shoulders are often adequate for pedestrian travel. These roadways should have shoulders wide enough (usually 6 feet or greater) that both pedestrians and bicyclists can use them.

### *Bicycle Facilities*

According to AASHTO's 1999 Guide for the Development of Bicycle Facilities and the OBPP, there are several different types of bicycle facilities or "bikeways." Bikeways are distinguished as preferential roadways that have facilities to accommodate bicycles. Accommodation can be a bicycle route designation or bicycle lane striping (Figure 3.24). Shared use paths are facilities separated from a roadway for use by cyclists, pedestrians, skaters, runners, and others. Bicycles are allowed on all study area roadways.

AASHTO and the OBPP recognize bike lanes, shoulder bikeways, and shared roadways/signed shared roadways as bikeways.

#### Bike Lanes

Bike lanes are portions of the roadway designated specifically for bicycle travel via a striped lane and pavement stencils. The ODOT standard width for a bicycle lane is 6 feet. The minimum width of a bicycle lane against a curb or adjacent to a parking lane is 5 feet. A bike lane may be as narrow as 4 feet, but only in very constrained situations. Bike lanes are most appropriate on arterials and major collectors, where high traffic volumes and speeds warrant greater separation.

#### Shoulder Bikeway

These are paved roadways that have striped shoulders wide enough for bicycle travel (Figure 3.25). ODOT recommends a 6-foot-wide paved shoulder to adequately provide for bicyclists and a 4-foot-wide minimum in constrained areas. Roadways with shoulders less than 4 feet wide are considered shared roadways. Sometimes shoulder bikeways are signed to alert motorists to expect bicycle travel along the roadway.

#### Shared Roadway/Signed Shared Roadway

Shared roadways include roadways on which bicyclists and motorists share the same travel lane. This is the most common type of bikeway. The most suitable roadways for



Figure 3.24: US 101 Bike Lane with Stencil



Figure 3.25: Shoulder Bikeways Are Appropriate Along Wide Roads Where Vehicles can Avoid Passing Close to Bicyclists

shared bicycle use are those with low speeds (25 miles per hour [mph] or less) or low traffic volumes (3,000 vehicles per day or fewer). Signed shared roadways are shared roadways that are designated and signed as bicycle routes and provide continuity to other bicycle facilities (e.g., bicycle lanes) or designate a preferred route through the community. Common practice is to sign the route with standard MUTCD green bicycle route signs with directional arrows (Figure 3.26). The OBPP recommends against the use of bike route signs if they do not have directional arrows and/or information accompanying them. Signed shared roadways can also be signed with innovative signing that highlights special touring route (e.g., Oregon Coast Bike Route) or provides directional information in bicycling minutes or distance (e.g., “Library, 3 minutes, 1/2 mile”).

#### Shared Use Path

Shared use paths are used by a variety of nonmotorized users, including pedestrians, cyclists, skaters, and runners (Figure 3.30). Shared use paths may be paved or unpaved, and are often wider than an average sidewalk (10–14 feet). In rare circumstances where peak traffic is expected to be low, pedestrian traffic is not expected to be more than occasional, good passing opportunities can be provided, *and* maintenance vehicle loads are not expected to damage pavement, the width may be reduced to as little as 8 feet.

#### *Recommended Facility Upgrades*

The facility upgrades recommended in this TSP provide continuous safe and comfortable travel for pedestrians and bicyclists throughout Seaside. Figure 3.27 shows the bicycle and pedestrian improvement recommendations.

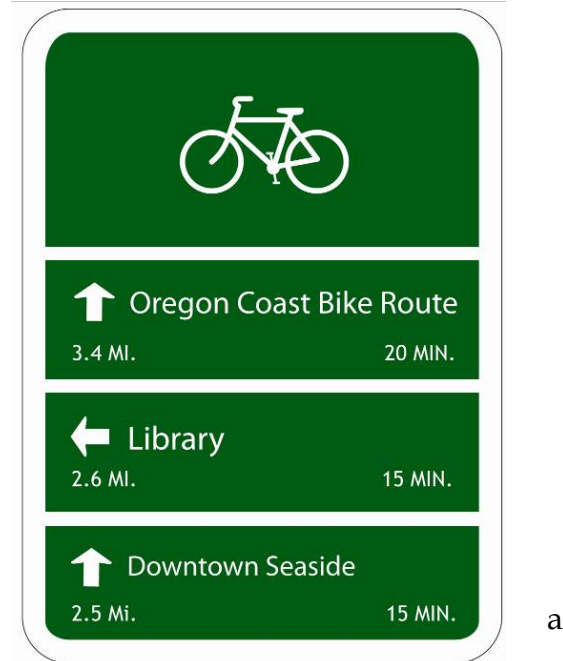


Figure 3.26: Sample Wayfinding Signage

a

Figure

**3.27 Bicycle and Pedestrian Improvement Recommendations**  
(Insert)

Recommended pedestrian facilities include completed sidewalks along key routes (identified in blue and green on the map), as well as crossing treatments at important intersections (highlighted with red circles). Intersection treatments range from striped crosswalks to upgrading signals with pedestrian push-buttons and minimizing crossing distance with pedestrian refuge islands.

Bicycle and pedestrian bridges and shared use pathways serve both types of nonmotorized users. Pathway recommendations connect into the local system and the regional Oregon Coast Bike Route, providing recreational and utilitarian trip opportunities.

Recommended bicycle facilities are categorized as improvements on low-traffic roadways and improvements on busier roadways. Roadways with lower traffic speeds and volumes generally provide good bicycling environments without extensive engineering. Recommended facilities are signed shared roadways, with wayfinding signage and pavement markings indicating that bikes share the road. Bicyclists on these streets will benefit from crossing treatments described earlier. Accommodating cyclists on busier roadways requires a higher level of separation, and bike lanes are recommended on these roadways.

The following text describes the recommendations under each facility type in greater detail. Recommendations for US 101 are presented first, followed by pedestrian recommendations throughout the rest of the City. Shared use pathways, bicycle/pedestrian bridges, and bikeways are presented at the end of the document.

### US 101 Upgrades

Pedestrian facilities recommended for US 101 include sidewalks and crossing treatments. In addition, a shared use pathway is recommended along US 101, connecting to an existing pathway on the east side of the road and completing a connection through Seaside.

#### Sidewalk Recommendations

As the major north-south thoroughfare with many destinations on both sides, US 101 should have complete sidewalks on both sides of the street through Seaside (Figure 3.28). Recommended sidewalks are between 6 and 8 feet in width and fill gaps in the existing sidewalk system. Table 3.16 presents the planning-level cost estimates for these sidewalks.



Figure 3.28: A Well-designed Sidewalk Provides Plenty of Pedestrian Space, as Well as Amenities Such as Street Trees and Bicycle Parking

TABLE 3.16  
Recommended Sidewalks on US 101—Cost Estimates

Street	Project Extent	Length (in feet)	Planning-level Cost Estimate* (2010 \$)
US 101	MP 22.76 to 21.54 (NB)	6,442	\$974,000
US 101	MP 20.42 to 20.25 (NB)	898	\$136,000
US 101	MP 20.13 to 19.75 (NB)	2,006	\$303,000
US 101	MP 19.38 to 21.90 (SB)	13,306	\$2,012,000
US 101	MP 22.00 to 22.33 (SB)	1,742	\$264,000

\* Includes curb, gutter, and half the cost of drainage, which consists of a sewer pipe and storm manholes running the length of the roadway in the center. Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are available in Appendix B.

### Crossing Treatments

At specific unsignalized crossings of US 101, the recommendation is to provide high-visibility crosswalks (Figure 3.29). Crossings selected for marked crosswalks provide key points of access for pedestrian travel to important destinations. For example, the crosswalk on 6th Avenue would facilitate pedestrian travel to the Nike store and retail area on the east side of US 101.



Figure 3.29: High-visibility Crossings Are Well Marked with Crosswalk Striping, and Can Include Signage and Pedestrian Refuge Islands

The majority of recommended crosswalk locations have existing curb ramps. While the City should seek to bring all sidewalks to ADA compliance with curb ramps, tactile warning devices, and landings, the corners where curb ramps are specifically recommended should be prioritized for improvements. At signalized crossings, pedestrian-activated push buttons are recommended. Table 3.17 presents cost estimates for recommended crossing treatments on US 101.

TABLE 3.17  
Recommended Crossing Treatments on US 101 Cost Estimates

Street	Crossing Distance* (in feet)	Improvement Type	Planning-level Cost Estimate** (2010 \$)
US 101 at Wahanna	154	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$14,000
24th Ave at US 101	100	High-visibility crosswalks	\$5,000
15th Ave at US 101	160	High-visibility crosswalks	\$8,000
12th Ave at US 101	206	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$14,000
9th Ave at US 101	160	High-visibility crosswalks	\$8,000
6th Ave at US 101	160	High-visibility crosswalks	\$8,000
3rd Ave at US 101	160	High-visibility crosswalks	\$8,000
1st Ave at US 101	160	High-visibility crosswalks	\$8,000
Broadway at US 101	220	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$15,000
Avenue B at US 101	160	High-visibility crosswalks	\$8,000
Avenue F at US 101	160	High-visibility crosswalks, pedestrian refuge island	\$21,000
Avenue M at US 101	160	High-visibility crosswalks	\$8,000
Holladay Dr at US 101	80	High-visibility crosswalks	\$4,000
Avenue S at US 101	160	High-visibility crosswalks	\$8,000
Avenue U at US 101	160	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$12,000

\* Crossing treatment lengths are based on roadway widths estimated from GoogleEarth aerials, assuming a crosswalk on both sides of the intersection with the major road.

\*\* Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are available in Appendix B.

Some of the projects above would be constructed as part of roadway intersection projects described in the street modal plan.

Shared Use Pathways

A shared use pathway (as illustrated in Figure 3.30) exists between 1<sup>st</sup> and 7<sup>th</sup> Avenues. The US 101 Path should be extended north to the city limits and North Gateway Park, as well as south to the city limits. The alignment south of Avenue P will continue on US 101 to Avenue U. Table 3.18 presents cost estimates for these shared use pathways.



Figure 3.30: Shared Use Pathways Can Serve Many Users, from Long-distance Recreational Riders, to Commuters, to Families Out for a Short Trip

TABLE 3.18  
Recommended Shared Use Pathways Adjacent to US 101 Cost Estimates

Street	Project Extent	Length	Planning-level Cost Estimate* (2010 \$)
US 101	North city limits to 7th Ave	7,377	\$381,000
US 101	1st Ave to Avenue G	2,055	\$106,000
US 101	Avenue M to Avenue U	2,050	\$106,000

\* Shared use pathway cost estimates include clear and grub, aggregate base, asphalt path, and a centerline stripe. Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are available in Appendix B.

### Crossing Treatments (Non-US 101)

Crossings recommended for marked crosswalks are along streets with higher traffic volumes and speeds, where a higher volume of pedestrian traffic is anticipated. The recommended crossings are primarily along 12<sup>th</sup> Avenue and Broadway, as well as at several locations along Wahanna Road. All improved crossing locations should include ADA-compliant curb ramps on all corners of the intersection. Table 3.19 presents cost estimates for these crossing treatments.

TABLE 3.19  
Recommended Crossing Treatments Cost Estimates

Street	Crossing Distance* (in feet)	Improvement Type	Planning-level Cost Estimate** (2010 \$)
Lewis & Clark Rd at Wahanna Rd	150	Marked crosswalks, ADA-compliant curb ramps (6)	\$17,000
15th Ave at Wahanna Rd	70	Marked crosswalks, ADA-compliant curb ramps (4)	\$10,000
12th Ave at Franklin St	60	Marked crosswalks, ADA-compliant curb ramps (4)	\$9,000
12th Ave at Holladay Dr	80	Marked crosswalks, ADA-compliant curb ramps (4)	\$10,000
12th Ave at Wahanna Rd	70	Marked crosswalks, ADA-compliant curb ramps (4)	\$10,000
Broadway at Holladay Dr	80	Marked crosswalks, ADA-compliant curb ramps (4)	\$10,000
Broadway at Lincoln St	60	Marked crosswalks, ADA-compliant curb ramps (4)	\$9,000
Broadway east of Lincoln St	30	Marked crosswalks, ADA-compliant curb ramps (2)	\$5,000
Broadway at Wahanna Rd	130	Marked crosswalks, ADA-compliant curb ramps (8)	\$19,000
Spruce at Wahanna Rd	80	Marked crosswalks, ADA-compliant curb ramps (4)	\$10,000
Avenue U at Columbia St	60	Marked crosswalks, ADA-compliant curb ramps (4)	\$9,000

\* Crossing treatment lengths are based on roadway widths estimated from GoogleEarth aerials, assuming a crosswalk on both sides of the intersection with the major road. Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are available in Appendix B.

\*\* Planning-level costs are rounded to the nearest \$1,000.



### Sidewalk Recommendations

The presence and condition of sidewalks in Seaside vary by location. Sidewalks are required in City Ordinance §95.02. Table 3.20 presents cost estimates for recommended sidewalks.

TABLE 3.20  
Recommended Sidewalks Cost Estimates

Street	Project Extent	Description	Length (in feet)	Planning-level Cost Estimate* (2010 \$)
Franklin St	19th Ave to Highland Lane	Both sides	1,613	\$488,000
Franklin St	Avenue C to Avenue G	West side	700	\$106,000
Lincoln St	Broadway to Avenue F	Both sides	575	\$174,000
17th Ave	Holladay Dr to US 101	Both sides	600	\$181,000
1st Ave	The Promenade to Downing St	North side	451	\$68,000
Broadway	West of bridge to community center entrance	South side	460	\$70,000
Avenue A/Avenue B	Holladay Dr to US 101	North side	440	\$67,000
Hilltop Dr/ Aldercrest St	Cedar St/pathway to multi-use path	Both sides	1,533	\$464,000
Avenue G	The Promenade to river	Both sides	1,238	\$374,000
Avenue G/Avenue F	River to US 101	Both sides	637	\$96,000
Avenue F	US 101 to Creek	Both sides	1,154	\$349,000
Cooper St/Alder Dr	Wahanna Rd to Reef Dr	Both sides	335	\$101,000
Lewis & Clark Rd	Beach Dr to Columbia St	Both sides	233	\$70,000
Avenue S	The Promenade to river	Both sides	1,150	\$348,000
24th Ave/Holladay Dr	US 101 to High School	Both sides	2,104	\$636,000
Holladay Dr	High School to 12th Ave	East side	2,205	\$333,000
Wahanna Rd	24th Ave/Lewis & Clark Rd 200' north of Broadway Rd	Both sides	6,438	\$1,947,000
Wahanna Rd	200' north of Broadway to Spruce Dr		3,005	\$454,000
Wahanna Rd	Spruce Dr to Avenue S	Both sides	967	\$292,000
12th Ave	Promenade to Necanicum Dr	Widen both sides	1,134	\$140,000
12th Ave	Necanicum Dr to US 101	Move power poles (2)	N/A	\$3,000
12th Ave	Queen St to Wahanna Rd	Both sides	445	\$135,000
Avenue S	US 101 to Wahanna Rd	Both sides	2,730	\$826,000
Necanicum Dr	12th Ave to 4th Ave	East side	1,892	\$286,000

\* Includes curb, gutter, and half the cost of drainage, which consists of a sewer pipe and storm manholes running the length of the roadway in the center. Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are available in Appendix B.

### Bicycle/Pedestrian Bridges

Bridges for exclusive bicycle and pedestrian travel significantly improve connectivity and can provide a positive experience for a resident or visitor in Seaside (Figure 3.31). Four bicycle/pedestrian bridges are recommended: two provide access over the Necanicum River, while two are routes over the creek. All bridges are located along recommended bicycle and pedestrian routes through the city. Table 3.21 presents cost estimates for recommended bicycle/pedestrian bridges.



Figure 3.31: Bicycle and Pedestrian Bridges Provide Exclusive Connectivity, Encouraging Walking and Bicycling Trips

TABLE 3.21  
Recommended Bicycle/Pedestrian Bridges Cost Estimates

Street	Length (in feet)	Planning-level Cost Estimate* (2010 \$)
Vicinity of 15th Ave at Neawanna Creek	3,900	\$954,000
Vicinity of 3rd Ave at Necanicum River	2,940	\$719,000
Vicinity of Avenue F at creek	2,640	\$645,000
Vicinity of Avenue S at Necanicum River	1,596	\$390,000

\* Assumes 12' width. Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are available in Appendix B.

### Bikeways on Low-traffic Roadways

Low-traffic roadways present a good bicycling experience without significant changes, as bicyclists and motor vehicles can share the same travel lane. The most suitable roadways for shared vehicle/bicycle use are those with low posted speeds of 25 mph or less or low traffic volumes of 3,000 average daily traffic or less, many of which are in urban and rural residential areas. These facilities may include traffic-calming devices to reduce vehicle speeds while limiting



Figure 3.32: Low-traffic Roadways Present a Good Bicycling Experience, Which Can Be Aided by Signage Reinforcing That Bicycles Are Allowed

conflicts between motorists and bicyclists. As illustrated in Figure 3.32, a common practice is to designate a system of shared roadways that are signed with bicycle route signs, directional arrows and other wayfinding information.

Proposed routes are located on streets that provide connectivity through the city, but that do not have significant traffic. Table 3.22 presents cost estimates for recommended signed bicycle routes.

TABLE 3.22  
Recommended Signed Bicycle Routes Cost Estimates

Street	Project Extent	Length* (in feet)	Planning-level Cost Estimate** (2010 \$)
Franklin St/9th Ave/Downing St/ Columbia St	19th Ave to Highland Dr	13,975	\$30,400
Franklin St	Broadway to Avenue G	1,368	\$3,000
Lincoln St	Broadway to Avenue F	1,195	\$2,600
17th Ave	Holladay Dr to US 101	959	\$2,100
15th Ave	Holladay Dr to US 101	650	\$1,400
1st Ave	The Promenade to US 101	2,519	\$5,500
Broadway	The Promenade to US 101	2,378	\$5,200
Avenue A/Avenue B	The Promenade to US 101	2,370	\$5,200
Hilltop Dr/Aldercrest St	Cedar St/pathway to multi-use path	1,572	\$3,400
Avenue G/Avenue F	The Promenade to creek	3,636	\$7,900
Cooper St/Alder Dr	Wahanna Rd to Spruce St	1,991	\$4,300
Lewis & Clark Rd	The Promenade to Columbia St	475	\$1,000
Avenue S	The Promenade to US 101	1,521	\$3,300
Ocean Vista Dr/Sunset Blvd	Beach Dr to Highland Dr	2,168	\$4,700

\* Includes warning signage (every 600' both directions) and pavement markings (every 200' both directions).  
\*\*Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are in Appendix B.

### Bikeways on Busier Roadways

Busier roadways require additional separation of bicycles from motor vehicles. Two treatments appropriate for busier roadways are bike lanes and shared lane markings (sharrows).

Designated exclusively for bicycle travel, bike lanes are separated from vehicle travel lanes with striping and also include pavement stencils (Figure 3.33). Bike lanes are most appropriate on arterial and collector streets in areas where higher traffic volumes and speeds



Figure 3.33: US 101 Existing Bike Lane

warrant greater separation. Bike lanes in Seaside would be implemented primarily through restriping the existing roadway and installing pavement markings and signage.

Shared lane markings (Figure 3.34) are appropriate facilities where traditional bike lanes would not fit, and where traffic speeds and volumes are low enough to warrant bicyclists sharing the roadway, but where traffic calming or reducing vehicle speeds is not appropriate. Shared lane markings are recommended on 12th Avenue, where there is insufficient width for bike lanes.

Most utilitarian bicyclists would argue that on-street facilities are the safest and most functional facilities for bicycle transportation. Bicyclists have stated their preference for marked on-street bicycle lanes in numerous national surveys. Many bicyclists, particularly less experienced riders, are far more comfortable riding on a busy street if it has a striped and signed bike lane. Providing marked facilities such as bike lanes and shared lane markings is one way of helping persuade residents and visitors to try bicycling. Table 3.23 presents cost estimates for recommended bike lanes and shared lane markings.



Figure 3.34: Shared Lane Markings Indicate Where a Bicyclist Should Ride in the Roadway

TABLE 3.23  
Recommended Bike Lanes and Shared Lane Markings Cost Estimates

Street	Project Extent	Length (in feet)	Facility Type	Planning-level Cost Estimate* (2010 \$)
24th Ave /Holladay Dr	US 101/Wahannah Rd to US 101/ Avenue S	10,340	Bike Lane	\$376,000
Wahanna Rd	24th Ave /Lewis & Clark Rd to Avenue S	6,407	Bike Lane	\$233,000
12th Ave	The Promenade to Wahanna Rd	3,903	Shared Lane Markings	\$28,000
Avenue S	US 101 to Wahanna Rd	3,813	Bike Lane	\$139,000
Avenue U	The Promenade to US 101	1,910	Bike Lane	\$70,000

\* Bike lane costs include striping removal, restriping, pavement markings (every 200' both directions), signage (every 600' both directions). Shared lane marking costs include pavement markings (every 100' both directions) and signage (every 600' both directions). Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are available in Appendix B.

### Shared Use Pathways

Shared use pathways are beneficial assets for a community, attracting tourism and providing comfortable and enjoyable routes through the city. Recommendations for

shared use pathways connect to the existing pathways on the Promenade and the US 101 Path. Pathways also serve as emergency routes during flooding; the high-ground connector pathway is located east of the City and would provide an emergency evacuation route for residents. Table 3.24 presents cost estimates for recommended shared use pathways.

TABLE 3.24  
Recommended Shared Use Pathways Cost Estimates

Street	Project Extent	Length* (in feet)	Planning-level Cost Estimate** (2010 \$)
The Promenade	Avenue U to Ocean Vista Dr	1,577	\$82,000
Wahanna Rd	Lewis & Clark Rd /US 101 pathway to Broadway	6,423	\$332,000
High ground connector pathway	Lewis & Clark Rd to Avenue S	13,295	\$687,000
15th Ave	US 101 to Wahanna Rd	1,117	\$58,000
12th Ave extension	Wahanna Rd to high ground connector pathway	1,881	\$97,000
Broadway extension/ Hilltop Dr	Wahanna Rd to Avenue F extension	2,563	\$133,000
Avenue F extension	Creek to high ground connector pathway	2,122	\$110,000
Avenue S/Wahanna Rd/ Spruce St	US 101 to high ground connector pathway	5,725	\$296,000

\* Shared use pathway cost estimates include clear and grub, aggregate base, asphalt path, and a centerline stripe.

\*\* Planning-level costs are rounded to the nearest \$1,000. Complete assumptions are available in Appendix B.

## Water, Pipeline, and Transmission Line Plan

Both the Necanicum River and the Neawanna Creek are considered navigable waterways, as defined by the Army Corps of Engineers. The Corps maintains these waterways primarily for recreational use, as both of these rivers are not major streams for commercial activity. Neither of these waterways provides direct access to the ocean. Paddle boats are rented for use on the Necanicum River near the bridge crossing at Broadway. It is not anticipated that any new waterway facilities will be needed within the 20-year planning horizon.

There are no major pipelines within Seaside's UGB. Natural gas is available to residential and commercial sites throughout the community on a regular service-line basis. One set of high-voltage power transmission lines exists in Seaside. This Bonneville Power Administration line enters the community near the northeast corner of the UGB and travels southwesterly to just south of Ocean Avenue, then turns west to a sub-station located near Wahanna Road. Easements protect this transmission line and sufficient power is provided via this line to adequately serve the Seaside area. It is not anticipated that any new pipelines will be constructed or needed in Seaside within the 20-year planning horizon.

## Rail Plan

There are no passenger or freight rail facilities within the City of Seaside. The former rail line that ran parallel to US 101 has been abandoned, with right-of-way provided to the City of Seaside or adjacent property owners. It is not anticipated that any new passenger or freight rail facilities will be constructed or needed in Seaside within the 20-year planning horizon.

## Air Plan

There is one airport in the Seaside area: Seaside Municipal Airport. It is located approximately one mile northeast of the City. It is a small, paved airstrip, generally usable by small aircraft. The airport is owned and operated by the City of Seaside, and is classified as a General Aviation/General Utility airport. There is no regularly scheduled commercial passenger service at this airport. Six aircraft currently are based at the field, and in 2008 airport operations averaged 50 flights per week. It is not anticipated that any new air facilities will be constructed or needed at the Seaside Municipal Airport to serve Seaside's specific transportation needs within the 20-year planning horizon. The nearest commercial passenger service to Seaside is located in Astoria.

## Transportation System Management (TSM) and Transportation Demand Management (TDM)

Because its population is under 25,000, Seaside is not required by state law to develop a TSM/TDM plan. For this reason, the modal plans do not specifically call out TSM and TDM projects. The terms TSM and TDM are defined below:

- **Transportation System Management:** "An integrated program to optimize the performance of existing infrastructure through the implementation of systems, services, and projects designed to preserve capacity and improve security, safety, and reliability."<sup>1</sup>
- **Transportation Demand Management:** "Programs designed to reduce demand for transportation through various means, such as the use of transit and of alternative work hours."<sup>2</sup>

It should be noted that TSM and TDM projects are actually central elements to the Seaside TSP. Many of the TSP projects identified earlier in this chapter are generally considered TSM or TDM projects. These include:

- Bicycle infrastructure improvements
- Pedestrian infrastructure improvements
- Establishment of park and ride facilities north and south of Seaside

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<sup>1</sup> Glossary, Planning for Operations, US Department of Transportation, <http://plan4operations.dot.gov/glossary.htm>

<sup>2</sup> Glossary, Planning for Operations, US Department of Transportation, <http://plan4operations.dot.gov/glossary.htm>

- Transit trolley services
- Transit station/stop improvements
- Traffic signal coordination
- Bicycle parking
- Local connectivity improvements

See the roadway, bicycle, pedestrian, and transit modal plans for more detail on individual TSP recommendations.

Policy-based TDM strategies can be important to reducing traffic congestion and maintaining a livable city where residents, employees, and visitors have several options for travel. Policies can help encourage the use of alternate modes and increase the effectiveness of bicycle, pedestrian, and transit infrastructure. Two example policies that would increase the effectiveness of the bicycle and transit modal plans are:

- **Employer incentives for use of perimeter park-and-ride lots.** During the summertime, commute-related congestion can be reduced within the downtown core of Seaside by encouraging employee use of perimeter park-and-ride lots. Many jobs in the downtown core are related to hotel, restaurant, and tourist-oriented retail. Commute hours often coincide with high peak traffic times. SETD serves the downtown core with regular service and the transit plan recommends future service improvements to better serve these job locations, at hours convenient for service industry employees. The park-and-ride lots would be most effective if there is both an employer incentive for use as well as convenient and reliable transit service.
- **Provision of bicycles at area hotels.** Seaside’s topography is relatively flat and the city is relatively compact. Between 24<sup>th</sup> Avenue at the north and the Cove at the south, between the Pacific Ocean at the west and Wahanna Road at the east, it is not difficult to travel by bicycle. The bicycle infrastructure recommended in the TSP will very much help improve bicycle mode share. However the use of walking paths and bicycle routes is of great potential to Seaside’s visitors. In addition to bicycle rental stores, a TDM-related encouragement discussed by the TSP team is funding to provide hotels with bicycles that can be signed out and used by guests. Guests could be encouraged to leave their car in the hotel parking lot (or a park-and-ride on the perimeter of town), and travel around the City by bicycle. Route maps and helmets would also help encourage this use.

Although the TSP does not provide specific TDM policies to be adopted by City Council these measures are encouraged as the TSP moves into implementation.

## Project Readiness

All of the projects included in the street, pedestrian, bicycle, and transit modal plans have been organized in Tables 3.25 through 3.27 below by priority level, likely timeframe, and champion agency. More detailed information can be found in Appendix F. The timelines for implementation are defined as short term (0–5 years); medium

term (5–10 years); and long term (10–20 years). Short-term projects are those that are considered important to the champion agency, have a more immediate need, and do not require much additional environmental work. Medium-term projects are generally not needed early the planning horizon, may be more complicated and/or of higher cost, with funding that could be harder to obtain, while long-term projects are more involved or expensive, with more complicated funding possibilities, and may not be needed until late in the planning horizon.

It should be noted that several projects in this section are labeled as “very long.” This designation is in recognition that some of the TSP recommendations are not reasonably likely to be funded within the 20-year planning horizon of the TSP. This does not mean that the project is not a priority if funding becomes available, it just means that funding is not reasonable to assume for the purpose of supporting land use changes or managing roadway operations. To address these financial limitations, Alternate Mobility Standards that define future US 101 performance expectations have been recommended for US 101 within Seaside. The operational analysis for the Alternate Mobility Standards does not assume construction of the “very long” term TSP recommendations.

See Section 6 for more information on Alternate Mobility Standards.

TABLE 3.25  
Roadway Recommendations Project Readiness

Project	Timeframe	Potential Funding Sources	Champion
New signal at intersection at Lewis and Clark Road and US 101	Medium	ODOT Statewide Transportation Improvement Program (STIP), Modernization, Safety, or Operations	ODOT
Intersection of 24th Avenue and US 101	Very Long	ODOT STIP Modernization City Urban Renewal Area (URA) City Tax Street Fund ( <i>for local match</i> )	ODOT
Intersection of 12th Ave. & Hwy 101	Medium	ODOT STIP Modernization, Safety, or Operations City Tax Street Fund ( <i>for local match</i> ) City Road District Fund City URA	ODOT
Intersection of Broadway & Hwy 101	Short	ODOT STIP Modernization, Safety, or Operations City Tax Street Fund ( <i>for local match</i> ) City Road District Fund City URA	ODOT
Realignment of Avenue F and Avenue G with new signal	Medium	ODOT STIP Modernization, Safety, or Operations Developer Contribution City Tax Street Fund ( <i>for local match</i> ) City Road District Fund City URA	ODOT City of Seaside
US 101 widening between north of Broadway and Avenue G	Very Long	ODOT STIP, Modernization	ODOT
US 101 widening between Avenue G and	Long	ODOT STIP, Modernization	ODOT



TABLE 3.25  
Roadway Recommendations Project Readiness

Project	Timeframe	Potential Funding Sources	Champion
<b>Holladay Drive</b>			
Intersection of Avenue U & Hwy 101	Short	ODOT STIP Modernization, Safety, or Operations ODOT Highway Bridge Rehabilitation and Replacement Program City Tax Street Fund ( <i>for local match</i> ) City Road District Fund City URA	ODOT
12th Avenue Cross-section	Medium	ODOT Bicycle and Pedestrian Program ODOT Transportation Enhancements (TE) Program City Road District Fund City Tax Street Fund ( <i>for local match</i> ) City URA	City of Seaside
Wahanna Road Cross-sections	Medium	Systems Development Charges (SDCs) ODOT TE Program ODOT Bicycle and Pedestrian Program City URA City Road District Fund	City of Seaside
Broadway Cross-section	Medium	ODOT Bicycle and Pedestrian Program ODOT TE Program City Tax Street Fund ( <i>for local match</i> ) City Road District Fund City URA	City of Seaside
<b>Avenue S Cross-section</b>			
<i>Between US 101 and the bridge</i>	Short	ODOT Bicycle and Pedestrian Program	City of Seaside
<i>Between the bridge and Wahanna Road</i>	Medium	ODOT TE Program City Road District Fund City Tax Street Fund ( <i>for local match</i> ) City Road District Fund City URA	
Extension of S. Holladay Drive to the south (tie in with US 101 at Avenue U)	Long	ODOT STIP, Modernization Local Improvement District (LID) Extended SDCs	ODOT City of Seaside
Intersection of Holladay Drive and US 101	Long	ODOT STIP, Modernization	ODOT
<i>Signal</i>			
<i>Flyover</i>	Very Long	ODOT STIP, Modernization	

TABLE 3.26  
Bicycle/Pedestrian Recommendations Project Readiness

Project	Timeframe	Potential Funding Sources	Champion
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15th Avenue	Long	LID Bond or Levy ODOT Bicycle and Pedestrian Program ODOT TE Program New Park SDC	City of Seaside
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3rd Avenue	Long	LID Bond or Levy ODOT Bicycle and Pedestrian Program ODOT TE Program City URA New Park SDC	City of Seaside
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of Avenue F	Short	ODOT Bicycle and Pedestrian Program ODOT TE Program LID Bond or Levy City URA	City of Seaside
Bicycle/pedestrian bridge over Necanicum River in vicinity of Avenue S	Medium	ODOT Bicycle and Pedestrian Program ODOT TE Program LID Bond or Levy City URA	City of Seaside
Pedestrian islands along US 101	Short	ODOT Bicycle and Pedestrian Program, Quick Fix ODOT TE Program City URA	ODOT
Pedestrian crosswalks and curb ramps off US 101	Short	ODOT Bicycle and Pedestrian Program ODOT TE Program City URA City Road District Fund	City of Seaside
Signed bicycle routes on low traffic roadways	Medium	ODOT Bicycle and Pedestrian Program ODOT TE Program City Tax Street Fund ( <i>for local match</i> )	City of Seaside
Bicycle lanes and shared roadway markings for busier roadways	Short	ODOT Bicycle and Pedestrian Program ODOT TE Program City Road District Fund City Tax Street Fund ( <i>for local match</i> )	City of Seaside
Sidewalk connectivity – along US 101	Short	ODOT Bicycle and Pedestrian Program, Sidewalk Improvement Program ODOT TE Program City URA	ODOT
Sidewalk connectivity – off of US 101	Long	ODOT Bicycle and Pedestrian Program ODOT TE Program City URA Extended SDCs City Road District Fund City Tax Street Fund ( <i>for local match</i> )	ODOT City of Seaside
Shared use path extending the Prom from Avenue U to Ocean Vista	Medium	LID	City of Seaside

TABLE 3.26  
Bicycle/Pedestrian Recommendations Project Readiness

Project	Timeframe	Potential Funding Sources	Champion
		Bond or Levy Prom Improvement Fund	
High ground connector pathway (north/south between Lewis & Clark and Avenue S)	Long	LID Bond or Levy ODOT Bicycle and Pedestrian Program ODOT TE Program New Park SDCs	City of Seaside
Connection to higher ground – east of Broadway	Medium	LID Bond or Levy	City of Seaside
Connection to higher ground – east of Neawanna Creek in vicinity of Avenue F	Short	ODOT Bicycle and Pedestrian Program ODOT TE Program LID Bond or Levy City URA	City of Seaside
Connection to higher ground – north/south between Broadway and Avenue F	Medium	LID Bond or Levy	City of Seaside
Connection to higher ground – east of Avenue S/ Wahanna Road	Medium	LID Bond or Levy ODOT Bicycle and Pedestrian Program ODOT TE Program	City of Seaside
Path connecting US 101 and Wahanna in vicinity of 15th Avenue	Long	LID Bond or Levy ODOT Bicycle and Pedestrian Program ODOT TE Program City URA New Park SDCs	City of Seaside
Extension of shared use path along US 101 from Avenue P to Avenue U	Short	LID Bond or Levy City URA	City of Seaside
Extension of shared use path along US 101 from north city limits to 12 <sup>th</sup> Avenue	Short	ODOT Bicycle and Pedestrian Program ODOT TE Program LID Bond or Levy City URA	City of Seaside

TABLE 3.27  
Transit Recommendations Project Readiness

Project	Timeframe	Potential Funding Sources	Champion
Re-establish Trolley Bus Circulatory Route	Medium	ODOT STIP, Public Transportation Programs (Job Access Reverse Commute (JARC), Capital Investment) Transit System Advertising Transit Center Space Lease Local Improvement District Urban Renewal Area Department of Energy Efficiency and Conservation Block Grant	Sunset Empire Transportation District (SETD)
Increase existing Bus service to 30 minute headways during the peak	Medium	ODOT STIP, Public Transportation Programs (JARC, New Freedom) Transit System Advertising Transit Center Space Lease	SETD
Extend Route 101 service in the evenings	Short	ODOT STIP, Public Transportation Programs (JARC, New Freedom) Transit System Advertising Transit Center Space Lease	SETD
Provide service on Sundays	Short	ODOT STIP, Public Transportation Programs (JARC, New Freedom) Transit System Advertising Transit Center Space Lease	SETD
Addition of Bus pullouts on US 101	Short	ODOT Modernization ODOT TE Program	SETD
Addition of Bus Shelters	Short	ODOT, Public Transportation Programs (Capital Investment) Livable Communities Grant Transit System Advertising Transit Center Space Lease	SETD
Relocate existing bus stop at US 101 and Broadway	Medium	Transit System Advertising Transit Center Space Lease	SETD

TABLE 3.27  
Transit Recommendations Project Readiness

Project	Timeframe	Potential Funding Sources	Champion
Satellite Parking Areas	Medium	ODOT STIP, Public Transportation Programs (JARC) ODOT Transportation Options Program City Tax Street Fund Department of Energy Efficiency and Conservation Block Grant	SETD
Transit Center	Short	ConnectOregon Program Transportation Housing and Community Development Grant Livable Communities Grant ODOT Public Transit Programs (Capital Investment) Transit Center Space Lease National Infrastructure Innovation and Finance Fund Greening Rural Oregon – Transit Consortium	SETD



Access management treatments are recommended along US 101 to help improve safety and reduce congestion along the highway. This is an integral part of maintaining a safe and viable facility with a smaller highway footprint. A framework for an access management strategy for US 101 through Seaside is depicted in Figures 4.1, 4.2, and 4.3, and described in Appendix E. The figures highlight several recommended actions. These actions would be considered when properties along the highway redevelop, or when a major highway improvement project occurs.

The main TSP access management elements are as follows:

- 1) Reduce number of accesses
  - a. Through relocation of access to local streets
  - b. Through driveway consolidation, shared parking, and/or frontage or backage roads
- 2) Restrict accesses
  - a. To right-in, right-out only (relevant when alternate north-south streets exist and when safety or congestion is of concern)
  - b. Raised median (relevant when alternate north-south streets exist and when safety or congestion is of acute concern)

Conditions that would trigger consideration of median control and restricted access would be evidence of chronic and/or severe safety conflicts, such as vehicle and pedestrian conflicts or vehicle turning movement conflicts that could be made safer with a raised median treatment.

A pedestrian island can also be considered separate from or in conjunction with a raised median. Pedestrian islands can improve safety conditions for pedestrians at unsignalized intersections, giving them a refuge between traffic lanes. These treatments are discussed further in the bicycle/pedestrian modal plan.

As funding allows, ODOT will work with the City to develop a more detailed access management plan as a follow-up TSP refinement plan and ODOT facility plan. This effort will involve ODOT and the City working with local residents and property owners to create a more specific set of implementation actions designed to reduce vehicular, transit, bicycle, and pedestrian conflicts and improve the safety and operational performance of US 101 and the local transportation network.

Figure

4.1 US 101 Access Management Elements—North

(Insert)



Figure

4.2 US 101 Access Management Elements—Central

(Insert)

Figure

**4.3 US 101 Access Management Elements—South**

# 5 IMPLEMENTATION PLAN

## Order-of-Magnitude Cost Estimates

Funding for any of the projects in this TSP cannot be guaranteed. However, a variety of relatively smaller projects for which either ODOT or Seaside will have primary funding responsibility are identified herein for implementation over the 20-year TSP planning horizon. The alternate mobility standards for US 101 are based on future operational performance forecasts that assume these actions can be completed within the planning horizon using some combination of federal, state, local, and private funds.

Order-of-magnitude cost estimates (also called planning-level cost estimates) were created for each of the TSP’s recommendations. This section provides a summary of these cost estimates, with tables organized by modal plan and approximate time frame. The recommendations are organized by approximate time frame: short term is assumed to be 0-5 years from plan adoption; medium-term is assumed to be 5-10 years; and long-term is assumed to be 10-20 years. These recommendations and time frames do not constitute a binding commitment for implementation within any time frame, but are simply a reflection of the time frame within which the need for the improvement becomes acute.

It should be noted that several projects in this section are labeled as “very long.” This designation is in recognition that some of the TSP recommendations are not reasonably likely to be funded within the 20-year planning horizon of the TSP. This does not mean that the project is not a priority if funding becomes available, it just means that funding is not reasonable to assume for the purpose of supporting land use changes or managing roadway operations. To address these financial limitations, Alternate Mobility Standards that define future US 101 performance expectations have been recommended for US 101 within Seaside. The operational analysis for the Alternate Mobility Standards does not assume construction of the “very long” term TSP recommendations.

Table 5-1 summarizes cost estimates for the roadway modal plan. Detailed assumptions used to prepare these cost estimates are provided in Appendix F.

TABLE 5.1  
Order-of-magnitude Cost Estimates for Seaside TSP Roadway Recommendations

	Improvement Concept	Order-of-magnitude Cost Estimate (2010\$)	Timeframe
1.	Intersection of Lewis and Clark Road, 24th Avenue and US 101		
1a.	a. Signal at US 101 and Lewis and Clark Road	\$848,000	Medium
1b.	b. New intersection at 24 <sup>th</sup> Avenue	\$15,741,000	Very Long
	Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark,		

TABLE 5.1  
Order-of-magnitude Cost Estimates for Seaside TSP Roadway Recommendations

	Improvement Concept	Order-of-magnitude Cost Estimate (2010\$)	Timeframe
	including reconstruction of existing bridge outside of 100-year floodplain		
	Phase 2: Construct new 24th Avenue intersection	\$6,663,000	Very long
2.	Wahanna Road Pedestrian Improvements	\$6,678,000	Medium
3.	Intersection of 12th Ave. & Hwy 101	\$1,314,000	Medium
4.	12 <sup>th</sup> Ave. Cross-section	\$506,000	Medium
5.	Broadway Cross-section	\$506,000	Medium
6.	Intersection of Broadway & Hwy 101	\$792,000	Medium
7.	US 101 widening between north of Broadway and Avenue G	\$5,456,000	Very Long
8.	US 101 widening between Avenue G and Holladay Drive		Medium
9.	Realignment of Avenue F and Avenue G with new signal	\$3,352,000	Medium
10.	Avenue S Cross-section		
	Between US 101 and the bridge	\$3,459,000	Short
	Between the bridge and Wahanna Road	\$2,268,000	Medium
11.	Intersection of Avenue U & Hwy 101	\$7,997,000	Short
12.	Extension of S. Holladay Drive to the south (tie in with US 101 at Avenue U)	\$7,406,000	Long
13.	Intersection of Holladay Drive and US 101		Long
	a. Signal at Holladay Drive	Included in cost estimate for Project 12	
	b. Flyover of S. Holladay Drive at US 101	\$9,911,000	Very Long

As shown in Table 5.1, the roadway projects in the TSP range in cost and time for implementation. Many of the projects are recommended for the medium or long term, although a few – the western segment of the Avenue S cross section and a right-turn pocket at Avenue U and US 101 – are recommended for short-term implementation.

Table 5.2 summarizes order-of-magnitude costs for the TSP’s bicycle and pedestrian recommendations.

TABLE 5.2  
Order-of-magnitude Cost Estimates for Seaside TSP Bicycle/Pedestrian Recommendations

	Improvement Concept	Order-of-magnitude Cost Estimate (2010\$)	Timeframe
<b>Bicycle/Pedestrian Bridges</b>			
1.	Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15th Avenue	\$954,000	Long
2.	Bicycle/pedestrian bridge over Necanicum River in vicinity of 3rd	\$719,000	Long

TABLE 5.2  
Order-of-magnitude Cost Estimates for Seaside TSP Bicycle/Pedestrian Recommendations

	Improvement Concept	Order-of-magnitude Cost Estimate (2010\$)	Timeframe
	<b>Avenue</b>		
3.	Bicycle/pedestrian bridge over Neawanna Creek in vicinity of Avenue F	\$645,000	Short
4.	Bicycle/pedestrian bridge over Necanicum River in vicinity of Avenue S	\$390,000	Medium
	<b>Pedestrian Treatments – Intersections</b>		
5.	Pedestrian islands along US 101 (Approximately every three blocks – assumed in vicinity of 15th, 9th, 6th, 3rd, 1st, and Avenue B)	Between \$4,000 and \$15,000 per intersection	Short to Medium
6.	Pedestrian crosswalks and curb ramps off US 101 (Assumed at 12th/Franklin, 12th/Holladay, Broadway/Lincoln; Broadway east of Lincoln; Broadway/Holladay, and Avenue U/ Columbia, 15th/Wahanna, Spruce/Wahanna)	Between \$5,000 and \$17,000 per intersection	Short to Medium
	<b>Pedestrian/Bicycle Treatments – Corridors</b>		
7.	Signed bicycle routes on low traffic roadways (Assumed for Franklin, Lincoln, 17th, 15th, 1st, Broadway west of US 101, Avenue A, Hilltop/Aldercrest, Avenue F/G, Cooper/Alder, Ocean Vista/Sunset Boulevard, and Avenue S west of US 101)	Between \$1,000 and \$30,000 depending on length of roadway	Medium
8.	Bicycle lanes and shared roadway markings for busier roadways (Assumed for Holladay, 12th, Avenue S, and Avenue U). NOTE: Roadway recommendations for 12th Avenue and Avenue S also include bicycle treatments.	Between \$28,000 and \$376,000 depending on length of roadway	Short
9.	Sidewalk connectivity – along US 101 (NB between MP 20.81 and 22.76; SB between MP 19.38 and 22.33)	\$1,935,000	Short
10.	Sidewalk connectivity – off of US 101	Between \$67,000 and \$488,000 per roadway segment	Long
	<b>Shared Use Paths</b>		
11.	Shared use path extending the Prom from Avenue U to Ocean Vista	\$82,000	Medium
12.	High ground connector pathway (north/south between Lewis & Clark and Avenue S)	\$687,000	Long
13.	Connection to higher ground – east of Broadway	\$125,000	Medium
14.	Connection to higher ground – east of Neawanna Creek in vicinity of Avenue F	\$110,000	Short
15.	Connection to higher ground – north/south between Broadway and Avenue F	\$133,000	Medium
16.	Connection to higher ground – east of Avenue S/Wahanna Road	\$296,000	Medium
17.	Path connecting US 101 and Wahanna in vicinity of 15th Avenue	\$58,000	Long
18.	Extension of shared use path along US 101 from Avenue P to Avenue U	\$220,000	Short
19.	Extension of shared use path along US 101 from north city limits to 12th Avenue	\$381,000	Short

Bicycle and pedestrian projects also vary in scale and cost. Many can be implemented in the short term and, in fact, the priority for implementing the Seaside TSP in the short term would be on these bicycle and pedestrian infrastructure projects. Those flagged as long-term projects are done so in sensitivity of potential business or resident concerns as well as potential cost.

Priorities include building bicycle and pedestrian bridges across the Necanicum River and Neawanna Creek south of Broadway (in the vicinity of Avenue S and Avenue F, respectively). These could be combined with the construction of pedestrian paths leading to higher ground for use in case of an emergency. Other, higher priority projects include bicycle- and pedestrian-friendly treatments along busier roadways, and crossing-safety projects along US 101 (pedestrian islands).

Bicycle and pedestrian treatments that are part of larger roadway projects are included in Table 5.1 estimates.

Table 5.3 provides order-of-magnitude cost estimates for the TSP’s transit recommendations. Detailed assumptions used to prepare these estimates are provided in Appendix F.

TABLE 5.3  
Order-of-magnitude Cost Estimates for Seaside TSP Transit Recommendations

	Improvement Concept	Order-of -magnitude Cost Estimate		Timeframe
		Start-up Cost	Annual Operating Cost	
1.	Re-establish Trolley Bus Circulatory Route	\$785,760	\$494,210	Medium
2.	Increase existing Bus service to 30-minute headways during the peak	\$1,680,000	\$343,200	Medium
3.	Extend Route 101 service in the evenings	—	\$75,500	Short
4.	Provide service on Sundays	—	\$92,660	Short
5.	Addition of Bus pullouts on US 101	\$152,000	—	Short
6.	Addition of Bus Shelters	\$69,600	—	Short
7.	Relocate existing bus stop at US 101 and Broadway	\$2,540	—	Medium
8.	Satellite Parking Areas			Medium
	Park and Ride Lot	\$36,000	—	
	Park and ride signage (Use existing lots)	\$2,080	—	
9.	Transit Center	\$4,000,000	—	Short

Transit recommendations are broken down into start-up costs and annual operating costs. Start-up costs include the purchase of additional transit vehicles, bus shelters, and/or the construction of capital improvements. Operating costs are reported annually and include ongoing labor, maintenance, and fuel costs to run the service.

Through conversations with the SETD, many of these projects could be implemented in the short term, and the district is actively seeking grants to further these recommendations.

## Potential Funding Sources

A variety of federal, state, and local funding sources may be available to fund transportation projects identified in the Seaside TSP. This section provides an overview of the existing and potential federal, state, and local funding sources for the projects, and discusses the applicability of the funding sources described. Funding sources described in this section are summarized in Table 5.4.

TABLE 5.4  
Summary of Existing and Potential Future Funding Sources

Entity Distributing Funds	Program Name
State	State Highway Fund  Statewide Transportation Improvement Program Relevant programs include: 1. Modernization Program 2. Operations Projects <ul style="list-style-type: none"> <li>• Signs, Signals, and Illumination Program</li> <li>• Transportation Options Program</li> </ul> 3. Special Programs <ul style="list-style-type: none"> <li>• Public Transit Programs</li> <li>• ODOT Bicycle and Pedestrian Program</li> <li>• Transportation Enhancement Program</li> <li>• Immediate Opportunity Fund</li> </ul> National Infrastructure Innovation and Finance Fund Department of Energy Efficiency and Conservation Block Grant Connect Oregon Business Energy Tax Credit (note changes pending to program)
County or Regional – Existing	County Roads Department Budget Transit System Advertising
County or Regional – Potential Future	Local Option Levy Transit Center Space Lease
Local – Existing	Tax Street Fund Gas Tax Refund Surface Transportation Program Funds Other/Miscellaneous Urban Renewal Funds Systems Development Charges – Roads Fund Special Transportation Fund

TABLE 5.4  
Summary of Existing and Potential Future Funding Sources

Entity Distributing Funds	Program Name
Local – Potential/Future	Park Systems Development Charges
	Tax Increment Financing
	Local Improvement District
	Parking Fees and Fines
	Revenue and General Obligation Bonds

## Ordinance Language

This TSP is consistent with the requirements set forth in OAR 660-012 (the TPR). Appendix G provides ~~striketrough~~ and underline language to specifically amend sections of Seaside’s ordinance to implement the TSP, consistent with OAR 660-012-0045 Implementation of Transportation System Plans. This includes modifications to permitted and conditional uses within specific zones, street design standards, access spacing, and the establishment of an overlay zone along US 101 that supports alternate mobility standards. The overlay zone provides guidance to developers and review authority to the City of Seaside and ODOT to encourage new development in a manner that encourages walking and bicycling. The overlay zone extends 200 feet on either side of US 101 from north to south in the City.



A central element of the Seaside TSP is the adoption by the OTC of an Alternate Mobility Standard of a  $v/c$  of 1.0 for average annual conditions at four specific intersections along US 101:

1. US 101 / Lewis and Clark Road
2. US 101 / 12<sup>th</sup> Avenue
3. US 101 / Broadway
4. US 101 / Avenue U

Appendix I provides a full description of the alternate mobility standards recommendation and justification.

Mobility standards exist to maintain safety and efficiency on the roadway. ODOT uses highway mobility standards to maintain acceptable and reliable levels of mobility on the state highway system. The standards are used to identify mobility performance expectations for planning, evaluate impacts of plans on state highways, and guide operational decisions to maintain acceptable highway performance. ODOT determines standards for different types of statewide facilities, and the City of Seaside maintains standards for local roadways and intersections.

The current mobility standards along US 101 vary, depending on the segment. In the northern part of the study area, where the speed limit is 40 mph, the  $v/c$  ratio standard is 0.80. South of 24<sup>th</sup> Avenue, where the speed limit is 35, the standard is 0.85. Existing conditions for the study area show that three of the seven study area intersections on US 101 do not meet the standard in the study year (2008). These intersections are located at US 101 and 12<sup>th</sup> Avenue, Broadway, and 24<sup>th</sup> Avenue.

In the future conditions with no upgrades to US 101, all intersections along US 101 exceed the mobility standards, in many cases showing a  $v/c$  ratio greater than 2.0. Limited funding and increasing project costs, right-of-way acquisition, and community impacts considerations limit potential improvements to US 101 within Seaside. Additionally, the seasonal nature of congestion in Seaside makes it difficult to plan for peak-hour traffic congestion.

The TSP recommends a set of projects described in Chapter 3 to address mobility, safety, connectivity, and livability needs. ODOT has determined that some of these projects along US 101 are not reasonably likely along to be funded within the 20-year TSP planning horizon. These projects (construction of a new intersection at 24<sup>th</sup> Avenue, widening of US 101 to five lanes between Broadway and Avenue G, and a flyover of Holladay Drive over US 101) are described as “very long” term and were removed from the operational analysis that was used to determine the Alternative Mobility Standards for US 101. This analysis showed that even with implementation of

the remaining short, medium, and long-term projects identified in Chapter 3, four intersections would still operate with a v/c of 1.0 during the peak hour based on average annual weekday peak conditions in Seaside.

In addition to a change in the analysis period from 30<sup>th</sup> Highest Hour (HH) to average annual weekday peak and a change in the numeric V/C threshold at the four intersections from the current OHP standard to a V/C of 1.0, the duration of delay at these intersections has been also calculated, and is part of the alternative standard through 2030.

In summary, the specifics of these Seaside Alternative Mobility Standards for US 101 are that (1) all subsequent operational analysis for US 101 will be for average annual weekday peak conditions instead of 30<sup>th</sup> HH, and (2) on this basis, the mobility standard for four intersections with US 101 would change to 1.0 for various durations, as shown in Table 6.1 below.

TABLE 6.1  
Alternate Mobility Standards for 2030 Average Annual Weekday in Seaside

Intersection	Current OHP Mobility Standard	Proposed Mobility Standard	Future (2030) Projected Average Annual Conditions*	Expected Duration of Delay
US 101 / Lewis and Clark Road	0.80	1.0	1.10	2 hours (3-5 pm)
US 101 / 12 <sup>th</sup> Avenue	0.85	1.0	1.05	1 hour (4-5 pm)
US 101 /Broadway	0.85	1.0	1.10	3 hours (3-6 pm)
US 101 / Avenue U	0.85	1.0	0.95	0 hours (does not exceed 1.0)

\* Future (2030) projected operations assume the construction of several improvements on both the local and state system consistent with TSP recommendations

All other study area intersections are below or meet the existing mobility standard for US 101 based on the existing adopted land use plan and when analyzed using average annual weekday peak conditions.

In order to maintain the new mobility standards and meet ODOT policy for Alternate Mobility Standards, the TSP must include provisions for:

1. **Investment in the local street network** - the City has committed to investing in improvements to alternate, parallel routes to US 101 (namely Wahanna Road) and major collectors that connect the highway to the local street network (namely 12<sup>th</sup> Avenue, Broadway, Avenue F/G, and Avenue U), to encourage local users to reduce their use of the highway. Local street investments are described in Chapter 3, as part of the Roadway Modal Plan.
2. **Investment in alternative modes** - the City of Seaside and the Sunset Empire Transportation District (SETD) have both committed to investing in

infrastructure and service to support bicycling, walking, and transit use. In fact, the vast majority of the City- or SETD-led TSP projects focus on bicycle, pedestrian, or transit improvements. Alternate mode investments are described in Chapter 3, as part of the Bicycle, Pedestrian, and Transit Modal Plans.

3. ***Strong access management measures*** – The City of Seaside and ODOT have included access management measures to improve safety and reduce congestion along US 101 by looking for opportunities through new development, redevelopment, or construction projects to: relocate driveways onto local streets; provide alternate access along the local street network to discourage left-turns onto the highway; consolidate multiple accesses; share accesses; and restrict side street access to right-in/right-out if dictated by safety or congestion problems. This is described in Chapter 4 Access Management Strategy.
4. ***Strong consideration of land use/future development along the highway*** – the fourth tenet of the alternate mobility standards material calls for a land use overlay for parcels directly adjacent to US 101. The purpose of the overlay zone is to promote walking and bicycling to uses along the highway. The overlay zone features review and check in with the Seaside Planning Commission for uses that attract more than 50 trips in the peak hour, and encourages development to the sidewalk with parking in the rear or side of the building. The land use overlay zone is described in Chapter 5 Implementation Plan.

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**ORDINANCE NO. 2011-03**

**AN ORDINANCE OF THE CITY OF SEASIDE, OREGON, AMENDING THE SEASIDE ZONING ORDINANCE REFERENCED IN CODE OF SEASIDE ORDINANCE CHAPTER 158, ADOPTING REGULATION THAT WILL IMPLEMENT THE TRANSPORTATION SYSTEM PLAN (TSP).**

**WHEREAS**, the Planning Commission conducted a public hearing regarding proposed zone code amendment to the Seaside Zoning Ordinance that will adopt regulations in the Seaside Zoning Ordinance intended to implement the Transportation System Plan (TSP) for the area within the City of Seaside UGB.

**WHEREAS**, these amendments will create a new Highway 101 Overlay Zone, establish new transportation development standards, require a conditional use for significant transportation facility improvements, and promote pedestrian & bicycle improvements for certain uses; and

**WHEREAS**, the TSP will recognize the use of an alternative mobility standard for Seaside in an effort to promote transportation improvements that are appropriately scaled for the Seaside UGB over the next 20 years; and

**WHEREAS**, after careful consideration the Planning Commission recommended the City Council approve the zone code amendments based on the City's draft submittal, the staff report, public testimony, findings, justification, and conclusions that support the proposed amendments; and

**WHEREAS**, the City Council reviewed the Commission's recommendation on zone code amendment 10-045ZCA and conducted a public hearing on the proposed amendments; and

**WHEREAS**, after careful consideration the Council approved the final draft of the zone code amendments in the TSP based on a determination the proposed text amendments are justifiable, consistent with the provisions in the City's Comprehensive Plan, and maintain the Plan's compliance with Statewide Planning Goals and applicable Oregon Administrative Rules.

**NOW, THEREFORE, THE CITY OF SEASIDE ORDAINS AS FOLLOWS:**

**SECTION 1.** Amend City of Seaside Zoning Ordinance referenced in Code of Ordinance Chapter 158 by adopting the specific code changes identified in TSP APPENDIX G, Page G-8 through Page G-41.

**See TSP APPENDIX G, Page G-8 through Page G-41, Attached.**

**SECTION 2.** The Seaside Planning Commission did hold a public hearing on January 18, 2011, & February 1, 2011, during which the public was given an opportunity to testify in favor and in opposition to the proposed zoning code amendments in the draft TSP. Following the close of the public hearing, the Commission recommended the Seaside City Council approve the final draft of the proposed zone code amendments.

**SECTION 3.** The City Council hereby approves the zone code amendment (file reference #10-045ZCA) based on the adopted information in the Planning Commission's recommendation after consideration of the testimony offered during the Council's public hearing on April 11, 2011 & April 25, 2011.

**ADOPTED** by the City Council of the City of Seaside on this 27 day of June, 2011, by the following roll call vote:

YEAS:	TOLAN, LARSON, PHILLIPS, LYONS, JOHNSON, MONTERO, BARBER
NAYS:	NONE
ABSTAIN:	NONE
ABSENT:	NONE

**SUBMITTED** to and **APPROVED** by the Mayor on this 28 day of June, 2011.

ATTEST:

  
Mark J. Winstanley, City Manager

  
DON LARSON, MAYOR

**ORDINANCE NO. 2011-02**

**AN ORDINANCE OF THE CITY OF SEASIDE, OREGON, AMENDING THE COMPREHENSIVE PLAN REFERENCED IN CODE OF SEASIDE ORDINANCE CHAPTER 151 MODIFYING THE TRANSPORTATION ELEMENT AND ADOPTING THE TRANSPORTATION SYSTEM PLAN (TSP).**

**WHEREAS**, the Planning Commission conducted a public hearing regarding a proposed Comprehensive Plan text amendment that will amend the transportation element in the City of Seaside Comprehensive Plan and adopt a Transportation System Plan (TSP) for the area within the Seaside Urban Growth Boundary (UGB); and

**WHEREAS**, the TSP will recognize the use of an alternative mobility standard for Seaside in an effort to promote transportation improvements that are appropriately scaled for the Seaside UGB over the next 20 years; and

**WHEREAS**, after careful consideration the Planning Commission recommended the City Council approve the text amendment based on the City's draft submittal, the staff report, public testimony, findings, justification, and conclusions that support the proposed amendment; and

**WHEREAS**, the City Council reviewed the Commission's recommendation on Comprehensive Plan text amendment 10-044ACP and conducted a public hearing on the proposed amendments; and

**WHEREAS**, after careful consideration the Council approved the final draft of the TSP based on a determination the proposed text amendment was justifiable, consistent with the provisions in the City's Comprehensive Plan, and maintained the Plan's compliance with Statewide Planning Goals and applicable Oregon Administrative Rules.

**NOW, THEREFORE, THE CITY OF SEASIDE ORDAINS AS FOLLOWS:**

**SECTION 1.** Amend City of Seaside Comprehensive Plan Section 7.3 STREET SYSTEM, 8.0 TRANSPORTATION, and 8.1 TRANSPORTATION POLICIES referenced in Code of Ordinance Chapter 151 by adopting the Seaside Transportation System Plan (TSP) by reference and make the specific changes identified in TSP APPENDIX G, Page G-42 through Page G-45.

**See TSP APPENDIX G, Page G-42 through Page G-45, Attached.**

**SECTION 2.** The Seaside Planning Commission did hold a public hearing on January 18, 2011 & February 1, 2011, during which the public was given an opportunity to testify in favor and in opposition to the proposed draft of the Comprehensive Plan text amendment. Following the close of the public hearing, the Commission recommended the Seaside City Council approve the final draft of the proposed Comprehensive Plan text amendment.

**SECTION 3.** The City Council hereby approves the Comprehensive Plan text amendment (file reference #10-044ACP) based on the adopted information in the Planning Commission's recommendation after consideration of the testimony offered during the Council's public hearing on April 11, 2011 & April 25, 2011.

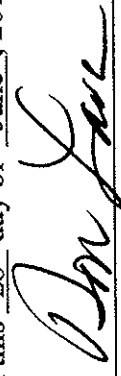
**ADOPTED** by the City Council of the City of Seaside on this 27 day of June, 2011, by the following roll call vote:

YEAS:	TOLAN, LARSON, PHILLIPS, LYONS, JOHNSON, MONTERO, BARBER
NAYS:	NONE
ABSTAIN:	NONE
ABSENT:	NONE

**SUBMITTED** to and **APPROVED** by the Mayor on this 28 day of June, 2011.

ATTEST.

  
Mark J. Winstanley, City Manager

  
DON LARSON, MAYOR

# Seaside Comprehensive Plan Amendments to Support the TSP

TO: Seaside TSP Project Management Team  
COPIES: Theresa Carr, CH2M HILL  
FROM: Terra Lingley, CH2M HILL  
DATE: July 29, 2010 (Updated October 2010)

## Comprehensive Plan and Zoning Ordinance Recommendations

Existing Seaside code language appears in plain text. Recommended additions to City of Seaside code are shown in. Recommended deletions to City of Seaside code are shown in City of Seaside Comprehensive Plan

### 7.3 STREET SYSTEM

The 2010 Seaside Transportation System Plan (TSP) is hereby adopted by reference as the transportation element of the Seaside Comprehensive Plan. The city has historically coordinated street improvements with water and sewer line installation. In 2010, the City wrote and adopted a TSP. The purpose of the TSP process was to develop a plan that addresses the transportation issues and needs for all users of Seaside's transportation network over a 20-year planning horizon. This TSP identifies short-, medium-, long-, and very long-term transportation improvements throughout the City of Seaside in a manner consistent with the TPR (Oregon Administrative Rule [OAR] 660-012) and the Oregon Transportation Plan (OTP). Refer to the Seaside TSP for further information on the transportation elements of the Seaside Comprehensive Plan.

~~There is a need to upgrade existing streets through the passage of a road district levy.~~

~~The Public Facilities Plan shows a need for \$938,000 in collector development and \$1,320,000 in residential street improvements over the five year period of 1989-1994.~~

New streets, if they are part of a new development, are the responsibility of the developer. If a new street is needed in a developed area, the street development is the responsibility of the benefiting property owners.

### 8.0 TRANSPORTATION

In September, 2010 the City of Seaside completed a Transportation System Plan (TSP) for areas within the Seaside urban growth boundary. The TSP considered future growth

prospects for the community, evaluated alternatives for access and circulation, and included specific recommendations for a balanced transportation system and system improvements.

The major part of the transportation plan is the street and highway system. The city's street system is illustrated on the Street Functional Classification Plan in Figure 3.2 of the TSP and its Transportation Element Map and includes the following classifications:

1. Principal Arterial: Primary functions are to serve local and through traffic and connects Seaside with other urban centers and regions, and provide connections to major activity centers within the city.
2. Minor Arterial: Primary functions are to connect major activity centers and neighborhoods within Seaside and to support the major arterial system.
3. Major Collector: Primary function is to provide connections between neighborhoods and major activity centers and the arterial street system.
4. Minor Collector: Primary function is to connect residential neighborhoods with major collectors, major arterials, or minor arterials.
5. Local Street: Primary function is to provide direct access to adjacent land uses and higher order streets.

In addition to establishing a classification of the street system based on their primary functions, the Public Facilities Plan recommends proposed street improvements that would facilitate circulation around and throughout the city.

The relocation of U.S. Highway 101 to Roosevelt Drive was accomplished during the 1960's, which relieved intolerable congestion on Holladay Drive. During the 1970's Roosevelt served well as a highway but there have been increasing local and regional needs which conflict with the through-traffic ~~and pattern.~~ ~~Now in the 1990's, strong evidence shows that the shift from Holladay to Roosevelt has been only a temporary solution.~~ Congestion continues to increase during the busy summer months. Solutions are constrained by well established development along the highway corridor and the City wants to minimize the impacts to these improvements because they contribute to the community's economic stability and sense of place. As development has moved eastward and regional traffic has become heavier, The City and the Oregon Department of Transportation agree that local street and intersection upgrades and alternate mobility standards are needed to address the issue of congestion on the highway while attempting to maintain much of the fabric of the community surrounding the highway corridor. an entirely new highway location is needed. ~~Such a major by pass should be far enough east to avoid conflict with anticipated city development.~~

~~Although a by pass would help alleviate the current inadequate separation of local and through traffic, ongoing congestion on the existing alignment will still be an urgent problem.~~

The streets shown on the plan as "Arterials" should have the right-of-way over other streets so the Street Functional Classification Plan ~~Public Facilities Plan~~ becomes a guide for placement of traffic control devices such as traffic signals and stop signs.



Pedestrian and bicycle improvements are an important part of the city's transportation system. They provide an alternative to conventional vehicular travel and they are commonly utilized more during the summer months when conventional traffic congestion peaks. Pedestrian and Bicycle Improvements are illustrated in the TSP.

Bike trails should be developed if they are feasible.

The City of Seaside owns and operates the Seaside State Airport. Additional property adjoining the airport has been obtained by the city to provide for expansion.

The Sunset Empire Transit District (SETD) provides bus service in Seaside. Currently, there are two bus routes that serve Seaside. They are described in the Transit Plan, TSP Chapter 3, and they are illustrated on the Transit Recommendations Figure 3.20 in the TSP. A mass transit system is not feasible in Seaside at the present time; however, there is a mini-van service for the elderly and handicapped. The TSP supports the existing transit service and if any effort is made to develop a county-wide or regional mass transit system, the City of Seaside will work with the SETD to facilitate future service expansion. Clatsop County on the development of such a system.

## 8.1 TRANSPORTATION POLICIES

1. The improvement of traffic flow on U.S. 101 would be best accomplished by specific intersection upgrades, widening US 101 to two lanes in each direction between Broadway and Avenue G, widening US 101 to one lane in each direction with a center lane between Avenue G and Holladay Drive, and encouraging those making local trips to use streets other than US 101 diverting as many vehicles as possible on a new by-pass route east of the city. Because of the lag time in construction, Attention must be given to the improvements cited within the 20 year TSP timeframe near term improvement of existing U.S. 101.
2. The Planning Commission will review all significant proposed development on or adjacent to U.S. 101 to consider impacts of the development on the traffic carrying capacity and safety of U.S. 101. This review will be in accordance with a newly established highway overlay zone based on ordinance changes suggested in the TSP.
3. The City of Seaside and the State Highway Department Division shall cooperate to reduce traffic congestion along U.S. 101, through:
  - a. Limitation of approach permits;
  - b. The requirement that new uses access onto side streets wherever possible; and
  - c. Widening or relocation of street right-of-ways, particularly in the south part of the city.
4. The city will participate in the two year Statewide Transportation Improvement Program (STIP) Six-Year Highway Improvement Plan process and will cooperate with the Northwest Area Commission on Transportation NWACT. CEDC subcommittee on transportation.
5. Seaside will discourage direct access from adjacent properties onto those highways designated as arterials wherever alternative access can be made.

6. The City of Seaside encourages the cooperation of private property owners in the development of a bike and trail system throughout Seaside for the use and enjoyment of the citizens of Seaside and visitors to the community.
7. The City of Seaside encourages the improvement and maintenance of the coastal Bike Route along U.S. 101 by the State Highway Department, and the Oregon Coast Trail, ~~Bicentennial Trail, and Oregon Loop Trail~~ and Clatsop Loop Trail by the State Parks and Recreation Department.
8. Future bike trails in the Seaside area shall be physically separated from vehicle lanes or on separate right-of-ways, if possible.
9. Energy conservation shall be achieved in Seaside by keeping future development within the Urban Growth Boundary in order to keep travel distance reasonable.
10. The city shall support the Partnership for Seniors ride program and Dial A Ride Area Agency on Aging's mini-van program which provides transportation for the elderly and physically handicapped.
11. The cities of Seaside and Gearhart, Clatsop County, the Port of Astoria, and the State Aeronautics Division should work together in retaining the Seaside Airport as a needed transportation facility.
12. The Seaside Airport clear-zone shall be protected from development that could conflict with aircraft approach safety or threaten surrounding development.
13. Land use compatibility with the air port clear zones shall be rated as follows:
  - Most Compatible: Open Space, Agriculture and Forest
    - Recreation (parks)
    - Industry
    - Commercial
  - Least Compatible: Residential and Tourist Accommodations
14. The City will include in its Public Facilities Plan the roadway, pedestrian, and bicycle improvements identified in the 20 year planning horizon of the Transportation System Plan (TSP).

## Seaside TSP Supporting Policies

TO: Seaside TSP Project Management Team

FROM: Terra Lingley, CH2M HILL

COPIES: Theresa Carr, CH2M HILL  
Michael Hoffmann, CH2M HILL

DATE: August 3, 2010

This memorandum describes policy recommendations to support alternate mobility standards along US 101 within the City of Seaside. The Seaside Transportation System Plan (TSP) must conform to Oregon's Statewide Planning Goals and the Transportation Planning Rule (TPR), as described in the Oregon Administrative Rules, (OAR 660-012), and coordinate with the state and county TSPs, and be consistent with the City and County Comprehensive Plan. Activities needed to adopt and implement the Seaside TSP by the City of Seaside, the Oregon Department of Transportation (ODOT), and Clatsop County are listed below.

### Background

Traffic forecasts for the future planning horizon (year 2030) show that congestion along US 101 will exceed existing Oregon Highway Plan (OHP) Mobility Standards under average annual weekday conditions. This condition is exacerbated during the summertime peak. Meeting the OHP mobility standards for the summertime peak would require a larger highway footprint than found to be acceptable by the community, and discussions of a bypass were dismissed during the 20-year planning horizon due to land use regulations, environmental impacts, and cost. The City and ODOT agreed to focus instead on using average annual weekday traffic conditions as the benchmark for measuring operational performance in order to maintain a smaller US 101 footprint through the City.

TSP projects were identified to meet or get as close as possible to OHP mobility standards on the highway under average annual weekday conditions, but funding limitations make it unlikely that ODOT or the City will be able to implement all the improvements needed to achieve that level of performance within the 20-year planning horizon. Therefore an alternate mobility standard of 1.0 for varying lengths of time at four intersections along US 101 is being requested from the Oregon Transportation Commission (OTC). The locations and proposed alternative standards are show in Table 1 below.

TABLE 1  
Alternate Mobility Standards and Duration of Delay

Intersection	Current OHP Mobility Standard	Proposed Alternate Mobility Standard	Future (2030) Projected Average Annual Conditions	Expected Duration of Delay
US 101/Lewis and Clark Road	0.80	1.0	1.10	2 hours (3-5 pm)
US 101/12 <sup>th</sup> Avenue	0.85	1.0	1.05	1 hour (4-5 pm)
US 101/Broadway	0.85	1.0	1.10	3 hours (3-6 pm)
US 101/Avenue U	0.85	1.0	0.95	0 hours (does not exceed 1.0)

As part of this request, the City and ODOT have committed to the following:

- Remove local trips from the highway by improving the local street network
- Encourage walk, bicycle, and transit trips by investing in infrastructure and policy devoted to these modes
- Improve safety and reduce congestion on the highway through a US 101 access management strategy
- Support new development and redevelopment along US 101 that is designed in a manner that reduces added trips on US 101 and encourages bicycle and pedestrian use, through a US 101 overlay zone

ODOT and the City have worked collaboratively to develop a range of focused transportation system investments and a supporting package of policies and management tools in Seaside to achieve the goals identified above. These are described over the following pages. Alternate mobility standards for US 101 are a key feature of a package of solutions that improves safety and livability and manages congestion along US 101 in a manner that is better than if no actions were taken.

## Policies and Actions

The following policies and actions are recommended to implement the Seaside TSP alternate mobility standards. Jurisdictional adoption responsibilities are identified with each recommended policy and action. The following actions are considered planned improvements to be funded in the 20 year planning horizon, and are considered in the determination of the alternate mobility standards. These improvements will be used as mitigation for compliance with OAR 660-12-0060.

1. The City of Seaside shall adopt the TSP, which includes recommended projects, policies, and zoning code language to maintain the proposed OHP alternate mobility standards for the projected length of delay.

2. The City of Seaside shall adopt the proposed US 101 Highway Overlay Zone and related provisions as Section 3.400 of the City Zoning Ordinance. The overlay zone extends 200 feet on either side of US 101, from Mill Creek on the northern end to Dooley Bridge at the southern City limits, and functions to implement access management measures, requires consideration of traffic impacts for new development, and links land use and future development along the highway. The overlay requires the City to coordinate with ODOT and require Traffic Impact Analyses (TIA) for development along the highway projected to exceed 5 peak and 30 average daily trips.
3. ODOT shall develop an access management study to determine specific facility management actions that will enhance safety and operational performance along US 101 between Mill Creek and the Dooley Bridge. This access management study will use the access strategy prepared for the TSP as a starting point for this effort. The work shall be coordinated with and actively engage the City of Seaside in its development and, to the extent that local land use or local public facility actions are recommended in the study, it may be adopted as a TSP Refinement Plan and an ODOT Facility Plan.
4. ODOT shall pursue funding for sidewalk improvements along US 101 as needed between Broadway and the High School, and for intersection improvements at US 101 and Broadway.
5. The City of Seaside shall pursue funding for Avenue S cross section improvements west of Neawanna Creek, construction of a bicycle and pedestrian bridge over the Neawanna Creek at Avenue F (including a pedestrian connection to higher ground east of Wahanna Road), bicycle infrastructure improvements along Holladay Drive, and a shared use path north of 12<sup>th</sup> Avenue.
6. ODOT and the City of Seaside together shall pursue funding for improvements at US 101 and Avenue U, and for a new signal and realignment at US 101 and Avenues F and G.
7. Once short term projects have been completed, ODOT and the City of Seaside shall consider pursuit of additional funding to construct recommended TSP projects from the list of medium- and long-term implementation actions, and will consider whether a TSP update is needed (due to planned relocation of schools and medical facilities or other reason).

It is expected that these improvements will be funded by a combination of City general funds, transportation system development charges, development exactions, urban renewal area funds, local improvement districts, levies, bonds, and/or state and federal funds.

## ODOT Implementing Actions

While funding for any of the projects in this TSP cannot be guaranteed, a variety of relatively smaller projects for which ODOT will have primary funding responsibility are identified herein for implementation over the 20-year TSP planning horizon. The alternate mobility standards for US 101 that are based on future operational performance forecasts were determined under the assumption that these actions could be implemented within the planning horizon using some combination of federal, state, local, and private funds.

The list of projects upon which the alternative mobility standards are based, and for which ODOT will have primary responsibility is organized by time frame: short term is assumed to be 0-5 years from plan adoption; medium-term is assumed to be 5-10 years; and long-term is assumed to be 10-20 years. These time frames do not constitute a commitment for implementation, but are simply a reflection of the time frame within which the need for the improvement becomes acute. Table 2 shows these projects by timeframe, mode, location, and order of magnitude costs. Table 2 also provides a short description for each project.

TABLE 2  
ODOT Implementing Actions

Time frame	Primary Mode	Location	Order-of-Magnitude Cost (2010 \$, 000's)	Project Description
Short	Pedestrian	US 101	\$1,935	Fill in sidewalk gaps along US 101 between 24 <sup>th</sup> and 1 <sup>st</sup> Avenues (southbound), between 12 <sup>th</sup> and 24 <sup>th</sup> Avenues (northbound).
	Auto	US 101 / Avenue U	\$7,997	Right turn pocket and new signal at Avenue U (project shared with City of Seaside)
	Auto	US 101 / Broadway	\$792	Intersection changes (right turn pocket for western approach on Broadway, restriping eastern approach)
Medium	Auto	US 101 / Avenues F & G	\$3,352	Realign Avenues F and G and add signal (project shared with City of Seaside)
	Auto	US 101 / 12 <sup>th</sup> Avenue	\$1,314	Intersection changes (left turn pocket for western approach on 12 <sup>th</sup> Avenue)
	Pedestrian	US 101	\$100	Pedestrian crossing improvements at select intersections between 15 <sup>th</sup> Avenue and Avenue S (see bicycle/ pedestrian plan for specific locations)
Long	Auto	US 101 / Holladay	Dependent on length of extension	Possible signal and partial extension

### City of Seaside Implementing Actions

While funding for any of the projects in this TSP cannot be guaranteed, a variety of relatively smaller projects for which The City of Seaside will have primary funding responsibility are identified herein for implementation over the 20-year TSP planning horizon. The alternate mobility standards for US 101 that are based on future operational performance forecasts were determined under the assumption that these actions could be implemented within the planning horizon using some combination of federal, state, local, and private funds.

The list of projects upon which the alternative mobility standards are based, and for which the City of Seaside will have primary responsibility, is organized by time frame: short term is assumed to be 0-5 years from plan adoption; medium-term is assumed to be 5-10 years; and long-term is assumed to be 10-20 years. These time frames do not constitute a commitment for implementation, but are simply a reflection of the time frame within which the need for the improvement becomes acute. Table 3 shows these projects by timeframe, mode, location, and order of magnitude costs. Table 3 also provides a short description for each project.

**TABLE 3**  
City of Seaside Implementing Actions

<b>Time frame</b>	<b>Primary Mode</b>	<b>Location</b>	<b>Order-of-Magnitude Cost (2010 \$, 000's)</b>	<b>Project Description</b>
Short	Bike/Pedestrian	Avenue F at Neawanna	\$645	Bicycle/pedestrian bridge over Neawanna Creek in the vicinity of Avenue F
	Auto/Bike/Ped	Avenue S Phase 1	\$3,459	Avenue S Cross Section between US 101 and the bridge
	Pedestrian	East of Neawanna/Ave F	\$110	Connection to high ground
	Bike	Holladay	\$80	Bicycle lanes and shared roadway markings
	Pedestrian	Ped Crosswalks/Curbs	\$5 to \$17/per	12th/Holladay, Broadway/Lincoln, Spruce/Wahanna
	Bike/Ped	North City Limits/12th	\$381	Extension shared path along US 101 from north city limits to 12th Avenue
Medium	Bike/Pedestrian	Avenue S at Necanicum	\$390	Bicycle/pedestrian bridge over Necanicum River in the vicinity of Avenue S
	Bike/Pedestrian	Wahanna Road	\$6,678	Wahanna Road pedestrian Improvements Sidewalks and Walking Paths
	Auto/Bike/Ped	Avenue F & G	\$3,352 <sup>1</sup>	Realignment of Ave F/Ave G from Holladay to Lincoln
	Auto/Bike/Ped	Avenue S Phase II	\$2,268	Avenue S Cross Section between bridge and Wahanna Sidewalk and park area from Ocean Vista to Highland Drive area along west side
	Pedestrian	Ocean Vista to Cove	\$800	
Long	Bike/Pedestrian	15th Avenue at Neawanna	\$954	Bicycle/pedestrian bridge over Neawanna River in the vicinity of 15th Avenue
	Auto/Bike/Ped	South Y to Avenue U	\$7,406 <sup>1</sup>	Extension of S. Holladay to Avenue U along railroad right-of-way
	Bike/Pedestrian	4th Avenue at Necanicum	\$719	Bicycle/pedestrian bridge over Necanicum River in the vicinity of 4th Avenue
	Pedestrian	Connector Path	\$687	High ground connector pathway

TABLE 3  
City of Seaside Implementing Actions

Time frame	Primary Mode	Location	Order-of-Magnitude Cost (2010 \$, 000's)	Project Description
Short	Bike/Pedestrian	Avenue F at Neawanna	\$645	Bicycle/pedestrian bridge over Neawanna Creek in the vicinity of Avenue F
	Auto/Bike/Ped	Avenue S Phase 1	\$3,459	Avenue S Cross Section between US 101 and the bridge
	Pedestrian	East of Neawanna/Ave F	\$110	Connection to high ground
	Bike	Holladay	\$80	Bicycle lanes and shared roadway markings
	Pedestrian	Ped Crosswalks/Curbs	\$5 to \$17/per	12th/Holladay, Broadway/Lincoln, Spruce/Wahanna
	Bike/Ped	North City Limits/12th	\$381	Extension shared path along US 101 from north city limits to 12th Avenue
				- North South between Lewis and Clark and Avenue S

<sup>1</sup>This project will be pursued by both ODOT and the City of Seaside

## Projects Identified by ODOT as Not Reasonably Likely

In addition to the projects listed in Table 2, this TSP also identifies a variety of higher cost projects on the state highway system that ODOT has determined are not reasonably likely to be funded during this 20-year planning horizon. As such, these projects cannot be considered as planned improvements upon which the TSP, local land use plan, or any subsequent land use decisions can be based. The alternative mobility standards for US 101 are predicated on the assumption that these projects will not be implemented during the 20-year planning horizon. These projects are listed in Table 4.

TABLE 4  
Projects Not Reasonably Likely in the 20 Year Planning Horizon

Primary Mode	Location	Order-of-Magnitude Cost (2010\$, 000's)	Project description
Auto	US 101/24 <sup>th</sup> Avenue	\$15,741	Intersection changes Phase 1
Auto	US 101/24 <sup>th</sup> Avenue	\$6,663	Intersection changes Phase 2
Auto/Bicycle/Pedestrian	US 101	\$5,456	US 101 widening between north of Broadway and Avenue G
Auto	US 101/Holladay	\$9,911	Flyover



## Local Adoption Process

Public hearings must be conducted prior to final adoption of the Seaside TSP by the City Council, in accordance with the City's formal adoption process. In addition to new policies, a variety other local code amendments are being recommended to support and implement the TSP. Recommended language for local code amendments is presented in Appendix G of the TSP.

## State Adoption Process

The Seaside TSP requires OTC adoption of alternate mobility standards. The timing of this adoption is flexible, though ideally would occur following the local public hearing process, prior to Seaside City Council's formal adoption of the TSP.



APPENDIX A

# Plan and Policy Review



# Plan and Policy Review

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Appendix A includes a list of the documents reviewed, the relevant sections, and their relevance to the TSP. Plans and policies were reviewed from the federal, state, regional, and local levels that directly influence transportation planning in Seaside. This appendix provides a policy framework for the TSP process, and serves as a basis for identifying policies that may be out-of-date or inconsistent with other policies and can serve as the basis for updating policies to reflect current conditions and to achieve consistency with other local, regional, state, and federal plans. Although each document reviewed contains many policies, only the most pertinent policies and information are presented to help focus the discussion.

## Documents Reviewed

- Safe, Accountable, Flexible, and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU)
- Oregon Statewide Planning Goals (1, 2, 12, 14, 16, 17, 18, and 19)
- Oregon Transportation Plan (2006)
- Oregon Highway Plan (1999)
- Oregon Bicycle and Pedestrian Plan (1995)
- Statewide Transportation Improvement Program
- Oregon Public Transportation Plan
- Access Management Rule
- Sustainability and Quality Development Executive Orders
- Clatsop County Comprehensive Plan (2007)
- Clatsop County Transportation System Plan (2003)
- Seaside Comprehensive Plan (revised 1996)
- Seaside Transportation Plan (1997)
- Seaside Parks Master Plan (2004)
- Seaside Roadway Design
- Pacific Way-Dooley Bridge Final Environmental Impact Statement (2005)
- Sunset Empire Transit District Comprehensive Plan (revised 2000)
- Sunset Empire Transit District Coordinated Human Services Transportation Plan

## Federal

### Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users

The Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), legislation that renews the nation’s surface transportation law (TEA-21) through fiscal year 2009<sup>1</sup> was signed into law in August 2005. Federal transportation planning requirements, such as those specified in SAFETEA-LU and its implementing regulations are addressed through state and local plans.

## State of Oregon

### Oregon Statewide Planning Goals (OAR 660-015)

The State of Oregon adopted 19 statewide planning goals that must be implemented in a comprehensive plan for each city (with a population over 2,500 individuals) and county in the state. In addition to identifying how land, air and water resources of each specific jurisdiction will be utilized, a review and needs analysis related to improving public facilities must be conducted.

The Oregon Statewide Planning Goals provide a foundation for expressing state policy on land use planning. The 19 goals for land use planning in the state are to be achieved through local comprehensive planning. Local comprehensive plans must be consistent with the Statewide Planning Goals. Local TSPs must in turn be consistent with the goals and objectives of associated city and county comprehensive plans.

The Goal most relevant to the preparation of a TSP is Goal 12 (Transportation). This Goal is discussed next, followed by a discussion of other statewide planning goals directly applicable to the TSP process. Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations will need to be prepared in conjunction with the adoption of the Seaside TSP.

### Statewide Planning Goal 12 (Oregon Transportation Planning Rule) (OAR 660-012)

The objective of the Transportation Goal (Goal 12) is a safe, convenient, multimodal and economic transportation system. Consideration of local and regional economies, social consequences, environmental impacts, energy, the needs of transportation disadvantaged, and over reliance on a single mode should be included in local plans. Guidelines for planning and implementation are included to support the Statewide Planning Goals.

In 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of the Oregon Department of Transportation (ODOT), adopted the Transportation Planning Rule (TPR), Oregon Administrative Rule (OAR) 660 Division 12, to implement Goal 12 (amended in May and September 1995, and March 2005). The TPR

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<sup>1</sup> See the Surface Transportation Policy Project, <http://www.istea.org/>, for current information on SAFETEA-LU; U.S. Department of Transportation, <http://www.fhwa.dot.gov/reauthorization/safetea.htm>

requires cities (with a population of 2,500 or greater) and counties to prepare and adopt a TSP.

The TPR requires local governments to adopt land use regulations consistent with county, state and federal requirements “to protect transportation facilities, corridors, and sites for their identified functions” (OAR 660-012-0045(2)).”

The TPR has three key elements that guide planning<sup>2</sup>:

1. TSPs to support comprehensive plans – these are multi-modal assessments of needs, options and priorities developed at a community level
2. Criteria for Comprehensive Plan/zone changes that would alter a TSP
3. Guidelines for rural areas that differentiate them from urban areas for transportation planning

The overarching goals to be accomplished by the TPR are to:

- Reduce dependence on the automobile and the number of people driving alone.
- Establish a stronger connection between land use and transportation planning.

To comply with the TPR, the City of Seaside must adopt a TSP that complies with the Oregon Transportation Plan (OTP). Per the TPR, the elements that must be contained in a TSP are dependent upon the size of the local jurisdiction and whether the jurisdictional agency preparing the TSP is a Metropolitan Planning Organization (MPO). The TSPs of metropolitan areas and MPOs are required to include more elements than smaller cities. Seaside is a city of approximately 6,400<sup>3</sup> and is not an MPO.

Per the TPR, elements that are required of the Seaside TSP include:

- A determination of transportation system needs, including needs of the transportation disadvantaged and for movement of goods and services to support industrial and commercial development planned for pursuant to OAR 660-009 and Goal 9 (Economic Development)
- A road plan for a system of arterials and collectors which includes/addresses:
  - Standards for the layout of local streets and other important non-collector street connections that must provide for safe and convenient bike and pedestrian circulation necessary to carry out OAR 660-012-0045(3)(b). Street standards must address: extensions of existing streets; connections to existing or planned streets, including arterials and collectors and; connections to neighborhood destinations
  - Functional classifications of all roadways
  - Access management

<sup>2</sup> *Oregon's Transportation Planning Rule Goes into the Shop for Repairs*, Ransford S. McCourt, August 2005

<sup>3</sup> Source: *2007 Oregon Population Report*, Portland State University Population Research Center: <  
[http://www.pdx.edu/media/p/r/PRC\\_Population\\_Report\\_2007.pdf](http://www.pdx.edu/media/p/r/PRC_Population_Report_2007.pdf)>

- A public transportation plan which describes public transportation services for the transportation disadvantaged and identifies service inadequacies and; describes intercity bus and passenger rail service and identifies the location of terminals
- A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area. The network and list of facility improvements must be in accordance with the requirements of ORS 366.514
- An air, rail, water and pipeline transportation plan which identifies where public use airports, mainline and branchline railroads and railroad facilities, port facilities, and major regional pipelines and terminals are located or planned within the planning area. For airports, the planning area shall include all areas within airport imaginary surfaces and other areas covered by state or federal regulations
- Policies and land use regulations for implementing the TSP as addressed in OAR 660-012-0045
- A transportation financing program as provided in OAR 660-012-0040

All of the above elements must contain an inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition

The Seaside TSP will need to include transportation financing information containing the following:

- A list of planned transportation facilities and major improvements;
- A general estimate of the timing for planned transportation facilities and major improvements;
- A determination of rough cost estimates for the transportation facilities and major improvements identified in the TSP

If the Seaside TSP proposes an alternative which entails improvements being made outside the city's UGB, the actions would either need to be accordance with requirements of 660-012-0065 (Transportation Improvements on Rural Lands) or would require an exception in accordance with the stipulations of 660-012-0070 (Exceptions for Transportation Improvements on Rural Land).

Preparation of the Seaside TSP will need to be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services. Seaside must amend its land use regulations to implement the TSP.

### **Statewide Planning Goal 1 (Citizen Involvement)**

Goal 1, Citizen Involvement, is to ensure "the opportunity for all citizens to be involved in all phases of the planning process." It requires development of a citizen involvement program that is widespread, allows two-way communications, continuous through all planning phases, understandable, responsive, and funded. The public involvement program developed for the Seaside TSP process must meet the Goal 1 standards.

## Statewide Planning Goal 2 (Land Use Planning)

Goal 2, Land Use Planning, requires that a land use planning process and policy framework be established as a basis for all decisions and actions relating to the use of land. Goal 2 requires planning coordination between those local governments and state agencies “which have programs, land ownerships, or responsibilities within the area included in the plan.” In regard to the Seaside TSP, Goal 2 requires that the City of Seaside coordinate planning efforts with Clatsop County, ODOT, and the Oregon Department of Land Conservation and Development (DLCD) as necessary.

Another important element of Goal 2 is its provision that land use decisions and actions are supported by an “adequate factual base.” This requirement applies to both legislative and quasi-judicial land use actions and requires that such actions be supported by “substantial evidence.” In essence, it requires that there is evidence that a reasonable person would find to be adequate to support findings of fact that a land use action complies with the applicable review standards.

Goal 2 requires that city, county, state, and special district plans and actions related to land use are “consistent with the comprehensive plans of cities and counties and regional plans adopted under Oregon Revised Statutes (ORS) Chapter 268.” This plan and policy review addresses relevant adopted plans in order to inform the TSP process and ensure that recommended projects are consistent with the goals, objectives, and previously recommended projects of adopted plans.

Goal 2 lays out a process by which local government may adopt an “exception” to a Statewide Planning Goal:

*A local government may adopt an exception to a goal when:*

- (a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal;*
- (b) The land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or*
- (c) The following standards are met:*
  - (1) Reasons justify why the state policy embodied in the applicable goals should not apply;*
  - (2) Areas which do not require a new exception cannot reasonably accommodate the use;*
  - (3) The long-term environmental, economic, social and energy consequences resulting from the use of the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and*
  - (4) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.*

The Goal 2 exceptions process is legally articulated in OAR 660, Division 4, which notes that “the exceptions process is generally applicable to all or part of those statewide goals which prescribe or restrict certain uses of resource land or limit the provision of certain public facilities and services.”



The relevance of the above description of Goal 2 to the Seaside TSP process would most likely come about if the TSP recommended a transportation improvement that would take place outside the UGB. In that event, OAR 660, Division 4 defers to the exception requirements of the TPR (of 660-012-0070 - Exceptions for Transportation Improvements on Rural Land).

### **Statewide Planning Goal 14 (Urbanization)**

Goal 14, Urbanization, requires an orderly and efficient transition from rural to urban land use. This is accomplished through the establishment of urban growth boundaries (UGBs). UGBs and unincorporated community boundaries separate urbanizable land from rural land. Land uses permitted within the urban areas are more urban in nature and higher intensity than in rural areas, which primarily include farm and forest uses.

Goal 14 is important because it focuses development within the relatively compact boundaries of the UGB and to a lesser degree in unincorporated communities. This compact development helps contain the costs of public facilities such as transportation by reducing the need for facilities further out and helping jurisdictions better anticipate where growth will occur. The location, type, and intensity of development within the management area will impact use of major facilities such as US 101 and could affect future use and operation of the highway.

### **Statewide Planning Goal 16 (Estuarine Resources)**

Goal 16 requires local governments to classify Oregon's 22 major estuaries in four categories: natural, conservation, shallow-draft development, and deep-draft development. It then describes types of land uses and activities that are permissible in those "management units."

Under Goal 16, the general priorities (from highest to lowest) for management and use of estuarine resources are:

1. Uses which maintain the integrity of the estuarine ecosystem;
2. Water-dependent uses requiring estuarine location, as consistent with the overall Oregon Estuary Classification;
3. Water-related uses which do not degrade or reduce the natural estuarine resources and values;
4. Nondependent, non-related uses which do not alter, reduce or degrade estuarine resources and values.

The majority of the Necanicum River estuary, one of the "major estuaries" noted above, is located inside the city limits of Seaside. The Necanicum River estuary is further classified as a "conservation estuary" in OAR 660, Division 17 (Classifying Oregon Estuaries), Section 10. OAR 660, Division 17 is the legislation that implements Goal 16.

As an estuarine city, the goals, policies and objectives of Seaside's TSP should encourage the protection of the estuarine resources within its jurisdiction. Any Seaside TSP recommended actions in the Necanicum River estuary must be in compliance with OAR 660-017-0025(2), which describes permissible development or alteration activities to land within a conservation estuary.

The planning process described in Goal 2, including the exceptions provisions described therein, apply to estuarine areas and implementation of Goal 16.

### **Statewide Planning Goal 17 (Coastal Shorelands)**

Goal 17 defines a planning area on the Oregon Coast bounded by the ocean beaches on the west and the coast highway (State Route 101) on the east. It specifies how certain types of land and resources inside this planning area are to be protected. Sites best suited for unique coastal land uses are reserved for “water-dependent” or “water related” uses.

Under Goal 17, general priorities for the overall use of coastal shorelands (from highest to lowest) are:

1. Promote uses which maintain the integrity of estuaries and coastal waters;
2. Provide for water-dependent uses;
3. Provide for water-related uses;
4. Provide for nondependent, non-related uses which retain flexibility of future use and do not prematurely or inalterably commit shorelands to more intensive uses;
5. Provide for development, including nondependent, non-related uses, in urban areas compatible with existing or committed uses;
6. Permit nondependent, non-related uses which cause a permanent or long-term change in the features of coastal shorelands only upon a demonstration of public need.

The goals, policies and objectives of Seaside’s TSP should encourage the protection of the estuarine resources within the city’s jurisdiction. Any Seaside TSP recommended actions in coastal shoreland areas must be in compliance with OAR 660, Division 37, which implements Goal 17 and describes requirements for the protection of coastal shorelands.

The planning process described in Goal 2, including the exceptions provisions described therein, apply to estuarine areas and implementation of Goal 17.

### **Statewide Planning Goal 18 (Beaches and Dunes)**

Goal 18 sets planning standards for development on various types of dunes. It prohibits residential development on beaches and active foredunes, but allows some other types of development if they meet key criteria. The goal also deals with dune grading, groundwater drawdown in dunal aquifers, and the breaching of foredunes.

The goals, policies, and objectives of Seaside’s TSP should encourage the protection of beaches within the city’s jurisdiction. Any TSP recommended actions with potential impact to beach areas must be done in accordance with the implementation requirements noted in Goal 18.

The planning process described in Goal 2, including the exceptions provisions described therein, apply to estuarine areas and implementation of Goal 18.

## Statewide Planning Goal 19 (Ocean Resources)

Goal 19 aims “to conserve the long-term values, benefits, and natural resources of the nearshore ocean and the continental shelf.” It deals with matters such as dumping of dredge spoils and discharging of waste products into the open sea. Goal 19's main requirements are for state agencies rather than cities and counties.

## Oregon Transportation Plan (2006)

The Oregon Transportation Plan (OTP) is a policy document developed by ODOT in response to federal and state mandates for systematic planning for the future of Oregon’s transportation system. The OTP is intended to meet statutory requirements (ORS 184.618(1)) to develop a state transportation policy and comprehensive long-range plan for a multi-modal transportation system that addresses economic efficiency, orderly economic development, safety, and environmental quality. The OTP is a long-range policy document that defines goals, policies and actions for the state for the next 40 years. The OTP’s goals, policies, and actions integrate all modes of transportation with the intention of encouraging the most appropriate mode for each type of travel. The Plan’s System Element identifies a coordinated multimodal transportation system to be developed over a 25-year horizon which is intended to implement the goals and policies of the Plan. The goals and policies of the OTP cover a broad range of issues.

The 2006 OTP is a major revision of the initial 1992 plan. The 2006 OTP provides a framework to further existing policy objectives with emphasis on maintaining the assets in place, optimizing the existing system performance through technology and better system integration, creating sustainable funding, and investing in strategic capacity enhancements.

The 2006 OTP addresses issues of population growth, economic development, sustainability, global warming, and transportation system funding among other challenges. It is the state’s 25-year multimodal state transportation plan for airports, bicycles and pedestrian facilities, highways and roadways, pipelines, ports, public transportation, rail and waterways.

Updated OTP work elements and products include:

- Trend analysis;
- Policy refinement;
- Inventory of system condition & needs;
- Financial forecast;
- Identification of system priorities;
- Identification of investment strategies;
- Public outreach program; and
- Plan implementation strategies.

The update of the OTP implementation element is focused on mitigating congestion, strengthening transportation’s role in economic development, serving the needs of an aging population, reducing traffic fatalities and serious injuries, increasing technology’s role in improving safety and efficiency, protecting and sustaining resources, prioritizing investments, and making the most strategic use of limited funding.

The goals and policies of the OTP most directly applicable to the Seaside TSP process are included in Attachment A of this appendix. The Seaside TSP will incorporate all relevant aspects of the OTP.

## **Oregon Highway Plan (1999)**

The 1999 OHP, an element and modal plan of the state's comprehensive transportation plan (OTP), guides the planning, operations, and financing of ODOT's Highway Division. The basic framework for the OHP is a refinement and application of the goals and policies stated in the OTP applied to the state highway system. The OHP gives policy and investment direction to large scale facility plans and TSPs, but is not intended to direct specific projects and modal alternatives. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems.

Specific OHP policies with direct bearing on transportation system planning in Seaside include the following:

### **Goal 1: System Definition**

#### ***Policy 1A: State Highway Classification System***

Policy 1A develops a state highway classification system to guide ODOT priorities for system investment and management. The state highway classification system includes five classifications: Interstate, Statewide, Regional, District, and Local Interest Roads. It also includes special provisions for roadways classified as an Expressway.

The Seaside TSP will analyze one statewide highway - US 101. US 101 inside Seaside is classified in the OHP as a Statewide Highway. Inside the city limits of Seaside, US 101 is functionally classified in the OHP as an Urban Principal Arterial. Statewide Highways are intended to provide inter-urban and inter-regional mobility and connections to larger urban areas, ports, and major recreation areas not directly served by Interstate Highways. The management objective for Statewide Highways is to provide safe and efficient, high-speed, continuous-flow operation along the corridor, with minimal interruptions to flow in constrained or urban areas. The Seaside TSP will need to balance the state's management objectives for US 101 with the local needs and objectives of Seaside in relation to US 101.

US 101 inside Seaside is also designated on the National Highway System (NHS).

#### ***Policy 1B: Land Use and Transportation***

This policy recognizes the role of both state and local governments regarding the state highway system and calls for a coordinated approach to land use and transportation planning. It calls for coordination between ODOT and local governments to develop plans that support compact development within commercial and community centers, and provides a definition for four highway segment designations which help guide the state's position on local land use planning and development standards. These designations are Special Transportation Areas (STAs), Commercial Centers, Urban Business Areas (UBAs), and Urban segments.

The only state-administered highway within the City of Seaside is US 101. The section of US 101 from mile point 24.04 north to the city limits is designated as an urban principal arterial. No section of US 101 inside Seaside is designated a STA, Commercial Center, or UBA. To assist in the development of the Seaside TSP, a Project Management Team has been established that includes the City of Seaside, Clatsop County, and ODOT.

In accordance with this policy, an analysis of planned future land uses will be performed for the TSP to identify the potential for minimizing or mitigating future capacity deficiencies through land use modifications.

***Policy 1C: State Highway Freight System***

There are no designated state freight routes inside the City of Seaside.

***Policy 1D: Byways***

This policy promotes the preservation and enhancement of scenic byways by considering aesthetic and design elements along with safety and performance considerations on designated byways.

US 101 in Seaside is designated as a National Scenic Byway and All-American Road. US 101 is the only state-designated Scenic Byway within the study area. The TSP alternatives evaluation process will need to assess potential impacts to the scenic qualities of US 101.

***Policy 1E: Lifeline Routes***

This policy calls for the provision of streets, highways, and bridges as response routes and as a means of rapid economic recovery after a disaster. Facilities designated as lifeline routes should also receive priority in state system management and investment decisions and in state coordination with local governments for transportation and land use planning.

The section of US 101 in Seaside is designated a Priority 1 Lifeline Route. US 101 is the only state-designated Lifeline Route within the study area.

***Policy 1F: Highway Mobility Standards Access Management Policy***

This policy provides specific mobility standards for state highway sections, signalized intersections, and interchanges. Alternative standards are provided for certain locations and under certain conditions.

There is no Special Transportation Area (STA) designated in the study area. Highway 101 is classified as a statewide highway, a scenic byway, part of the National Highway System, and a truck route for its entire length within the study area. The US 101 intersections are located within the City of Seaside Urban Growth Boundary (UGB), inside an area where the speed limit is 40 MPH or less. Applicable state mobility standards are listed in Table 2.

**TABLE 2**  
State Mobility Standards on Highway 101  
*Seaside Transportation System Plan*

<b>Mile Post</b>	<b>Study Intersections</b>	<b>Speed Limit (MPH)</b>	<b>Planning V/C Ratio<sup>1</sup></b>	<b>Design V/C Ratio<sup>2</sup></b>
18.80 – 20.41	Wahanna Road, 24 <sup>th</sup> Avenue, Holladay Drive	40	0.80	0.75
20.41 – 22.38	12 <sup>th</sup> Avenue, Broadway Street, Avenue U, Avenue S	35	0.85	0.75

1 – 1999 Oregon Highway Plan (2006). Applies to existing and future no build analysis.

2 – 2003 Highway Design Manual (2006). Applies to future build analysis.

### ***Policy 1G: Major Improvements***

This policy identifies the state’s priorities for responding to highway needs by directing agencies to make the fewest number of changes to a roadway system. The priority measures in order of implementation priority are:

1. Protect the existing system;
2. Improve efficiency and capacity of existing system;
3. Add capacity to existing system; and
4. Add new facilities to the system.

The above measures will be integrated into the criteria against which all potential alternatives will be evaluated. In this way, the TSP process will ensure that recommended projects have been prioritized in accordance with this OHP policy. In general, the TSP would recommend the addition of new facilities or capacity only when other, higher priority projects do not address the problem.

### ***Policy 1H: Bypasses***

Policy 1H describes the state’s guidelines related to planning and managing new and existing bypass facilities. Action 1H.1b states that impacts on land use patterns, the local roadway system, local businesses, and historic resources should be considered when planning new bypass facilities, as well as methods of managing land use impacts on communities and natural resources and minority and low-income populations. Action 1H.1c states that ODOT and local governments should develop agreements when a location for a bypass has been established, which addresses road connections; local street circulation, compatible land uses, and bypass termini protection.

The TSP will be analyzing a broad range of transportation system action possibilities. If a bypass alternative is identified through the process it will be analyzed in accordance with the Policy 1H Bypass policy.

## **Goal 2: System Management**

The focus of the System Management policies is on making the highway system operate more efficiently and safely through public, and private partnerships, intelligent transportation systems, better traffic safety, and rail-highway compatibility (where applicable).

There is the opportunity and need for the State and the City of Seaside to coordinate and work together to ensure that improvements are made in a most effective and efficient manner. The State recognizes that this often occurs by assisting cities with off-system improvements as a way to encourage local trips on the local street network instead of the state highway. The TSP will identify how off-system improvements in Seaside will improve mobility and safety along US 101.

### **Goal 3: Access Management**

#### ***Policy 3A: Classification and Spacing Standards***

Access management balances access to developed land while ensuring movement of traffic in a safe and efficient manner. This policy addresses the location, spacing, and type of road and street intersections and approach roads on state highways.

Goal 3 is critical in transportation planning efforts that involve state transportation facilities. This goal is implemented through the Access Management Rule (OAR 734-051), which was discussed earlier in this section.

### **Goal 4: Travel Alternatives**

#### ***Policy 4A: Efficiency of Freight Movement***

This policy addresses the need to move freight effectively using the state highway system, the need to provide sufficient access to intermodal connections, and the need to balance the needs of all freight movements with local transportation needs.

Although US 101 is not a designated freight route through Seaside, the highway is the sole source of access for through freight and vehicular traffic. Increasing the efficiency of freight movement and through traffic in Seaside will be a pivotal consideration during the preparation of the Seaside TSP.

### **Goal 5: Environmental and Scenic Resources**

The Environmental and Scenic Resources Policies recognize ODOT's responsibilities for maintaining and enhancing environmental and scenic resources in highway planning, construction, operation and maintenance.

TSP alternatives will be evaluated to determine potential impacts to environmental and scenic resources, such as the water quality and scenic resources of the Necanicum River and Neawanna Creek.

## **Oregon Bicycle and Pedestrian Plan (1995)**

The Oregon Bicycle and Pedestrian Plan provides guidance to regional and local jurisdictions for the development of safe, connected bicycle and pedestrian systems. The plan is a modal element of the OTP. It contains the standards used on state highway projects and provides guidance to cities in establishing facilities on local transportation systems.

The goal of the Plan is the provision of safe and accessible bicycling and walking facilities for the purposes of encouraging increased levels of bicycling and walking. The Plan provides actions that will assist local jurisdictions in understanding the principles and

policies that ODOT follows in providing bike and walkways along state highways. In order to reach the plan's objectives, the strategies for system design are outlined, including:

- Providing bikeway and walkway systems that are integrated with other transportation systems.
- Providing a safe and accessible biking and walking environment.
- Development of education programs that improve bicycle and pedestrian safety.

The document includes two sections, including the Policy & Action Plan and the Bikeway & Walkway Planning Design, Maintenance & Safety Plan. The first section contains background information, legal mandates and current conditions, goals, actions and implementation strategies ODOT proposes to improve bicycle and pedestrian transportation. The second section assists ODOT, cities and counties in designing, constructing and maintaining pedestrian and bicycle facilities. Design standards and information on safety is provided. These standards are recommended but are not required for use by local jurisdictions in Oregon.

The Oregon Bicycle and Pedestrian Plan also addresses the Oregon Bike Bill (ORS 366.514). This law requires ODOT, counties, and cities in Oregon to expend reasonable amounts of the highway fund to provide bikeways and walkways. It also requires the inclusion of bikeways whenever roadways are constructed, reconstructed, or relocated – except in the following situations:

- There would be no probable use
- Safety would be jeopardized
- The cost would be excessively disproportionate to the need or probable use

The Seaside TSP should integrate the guidance of the Oregon Bicycle and Pedestrian Plan and recommended actions should include bicycle/pedestrian elements in accordance with the Bike Bill.

## State Transportation Improvement Program (STIP)

The current adopted (2008-2011) Statewide Transportation Improvement Program (STIP) serves as ODOT's short term capital improvement program and provides funding and scheduling information for transportation projects for both ODOT and the metropolitan planning organizations in the state. Projects funded in the STIP reflect and advance the OTP for highways, public transportation, freight and passenger rail and bicycle and pedestrian facilities.

The following 2008-2011 STIP projects will have an impact on the Seaside transportation system:

- Rebuild/replace traffic signals and intersection improvements on US 101 at Broadway Street and Avenue U. Construction is scheduled to begin in 2010. (Total cost: \$1.6 million) (Key Number 14771).



- Widen US 101 bridge over Necanicum River (bridge #01481 at mile point 24.00 – 24.20); repair cracks in girders, caps and columns; perform scour protection. Construction is scheduled to begin in 2011. (Total cost: \$2.9 million) (Key Number 14802).

## Oregon Public Transportation Plan

The Oregon Public Transportation Plan develops transit, rideshare and transportation demand management services as well as implementing the public transportation system envisioned in the OTP. The plan describes the roles and responsibilities of key players, provides a financial investment strategy and identifies both short and long term implementation steps. The plan provides minimum levels of service standards for public transportation operations. These criteria include peak and off-peak frequencies, vehicle maintenance programs and replacement schedules, intermodal connections and ridesharing. The Seaside TSP will incorporate all relevant aspects of this plan.

## Access Management Rule (OAR 734-051)

OAR 734-051, commonly known as the Access Management Rule, defines the State's role in managing access to highway facilities in order to maintain functional use and safety and to preserve public investment. The Access Management Rule is the basis for providing improvements associated with development. The provisions in the Access Management Rule apply to all roadways under the state's jurisdiction. The Access Management Rule contains include spacing standards for varying types of state roadways and provisions for developments such as commercial centers. In Seaside the Access Management Rule is relevant to US 101.

The purpose of the Access Management Rule is to control the issuing of permits for access to state highways, state highway rights of way and other properties under the State's jurisdiction. In addition, the ability to close existing approaches, set spacing standards and establish a formal appeals process in relation to access issues is also identified. These rules enable the State to set policy and direct location and spacing of intersections and approaches on state highways, ensuring the relevance of the functional classification system and preserving the efficient operation of state routes. Regulating access can help achieve the following:

- Protection of resource lands
- Preservation of highway capacity
- Improved safety for segments of state routes with sharp curves, steep grades or obstructed sight distance.

The Access Management Rule establishes procedures and criteria used by ODOT to govern highway approaches, access control, spacing standards, medians and restriction of turning movements in compliance with statewide planning goals and in a manner compatible with acknowledged comprehensive plans and consistent with ORSs, OARs, and the Oregon Highway Plan (OHP).

Access Management Rule spacing standards will be used in the TSP to verify access spacing for any proposed highway approaches and to evaluate current access conditions. The TSP will provide access management recommendations for the improvement and/or maintenance of the existing system.

Any new access proposed on US 101 as part of TSP recommendations will need to comply with state spacing standards provided in OAR 734-051. These spacing standards vary depending on the posted speed of the facility, its location in an urban or rural area, and whether it has been designated as an expressway, UBA, or STA. Spacing standards applicable to US 101 within the city limits of Seaside are listed in Table 1:

TABLE 1  
 OAR 734-051 Spacing Standards Applicable to US 101 in Seaside

Urban/Rural	Speed	Spacing Standard (feet)
Urban	30 and 35 MPH	720
Urban	40 and 45 MPH	990

Source: Division 51 Tables

## ORS 374.305 - Control of Access to Public Highways

Any TSP recommended improvement entailing construction in the US 101 right of way will be subject to the restrictions and processes articulated in ORS 374.305, excerpted below.

### ***374.305 Necessity of permission to build on rights of way***

*(1) No person, firm or corporation may place, build or construct on the right of way of any state highway or county road, any approach road, structure, pipeline, ditch, cable or wire, or any other facility, thing or appurtenance, or substantially alter any such facility, thing or appurtenance or change the manner of using any such approach road without first obtaining written permission from the Department of Transportation with respect to state highways or the county court or board of county commissioners with respect to county roads.*

*(2) After written notice of not less than 10 days to the permittee and an opportunity for a hearing, the department with respect to crossings over a state highway and the county court or board of county commissioners with respect to crossings over a county road may abolish any crossing at grade by a private road or may alter or change any private road crossing when the public safety, public convenience and the general welfare require the alteration or change.*

*(3) As used in ORS 374.305 to 374.330:*

*(a) "Approach road" includes a private road that crosses a state highway or a county road.*

*(b) "Private road crossing" means a privately owned road designed for use by trucks which are prohibited by law from using state highways, county roads or other public highways.*

## Sustainability and Quality Development Executive Orders

Executive Orders related to sustainability have been issued in support of the Oregon Sustainability Act in 2000, 2003, and 2006. The 2000 Executive Order (EO-00-07) identified the goals and guidelines for sustainability in Oregon and adopted sustainability practices in state government operations. The 2003 Executive Order (EO-03-03) established sustainability planning within state agencies consistent with the goals identified in the Oregon Sustainability Act. The 2006 Executive Order (EO-06-02) supersedes the prior Executive Orders and identifies the roles of state agencies in carrying out sustainability goals.

Executive Order (EO-00-23) identifies objectives and implementation policy for quality development. Quality development objectives included mixed use development which encourages walking, biking, and transit use.

Evaluation and recommendation of alternatives in the Seaside TSP should incorporate the sustainability objectives noted above.

# Clatsop County

## Clatsop County Comprehensive Plan (2007)

The transportation element (Goal 12) of the Clatsop County Comprehensive Plan describes transportation related goals and objectives that are intended to “reflect the vision and character of Clatsop County as the community develops its transportation system” (p. 62). These goals and objectives were incorporated into the County’s TSP and are discussed under the Clatsop County TSP section in this appendix.

In accordance with statewide coordination objectives, compliance with Clatsop County Comprehensive Plan goals and objectives is demonstrated in the City of Seaside Comprehensive Plan. The Seaside TSP must be in accordance with the Seaside Comprehensive Plan, which, in turn, puts the Seaside TSP in accordance with the Clatsop County Comprehensive Plan.

Clatsop County Comprehensive Plan goals applicable to the Seaside TSP are provided below.

### Goal 1 – Citizen Involvement

Goal 1 policies will apply to the Seaside TSP process, particularly if a recommended alternative requires an amendment to the County’s TSP and Comprehensive Plan. In those cases “public notices will also be sent to affected residents.”

### Goal 2 – Land Use Planning

This goal directs the county to restrict development-related zoning to areas that can be “adequately served by existing or planned urban services and facilities.” Clatsop County and the City of Seaside have both adopted an Urban Growth Boundary Management Agreement. Under this agreement, Seaside administers and enforces land use regulations inside the Seaside UGB.

### Goal 5 – Open Space, Scenic, Historic, and Natural Resource

Goal 5 policies intend to protect cultural, habitat, and natural resources. Natural areas that might be affected by TSP alternatives include wetlands, floodplain, falconoid habitat, archeological resources, or sensitive bird habitat. Goal 5 policies state that the County will “establish a procedure for protecting sensitive nesting sites from incompatible uses and activities.” Similarly, the policies direct the County to protect freshwater wetlands that are not already surrounded by conflicting uses from being surrounded by incompatible uses.

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

Goal 6 requires that the County collaborate with the ODOT Highway Division to provide an efficient transportation system and to explore congestion and air pollution reduction strategies.

### Goal 7 – Natural Hazards

Goal 7 states that stream and river crossings must be designed to allow for clearance above flood levels, and that roads and bridges prone to flooding and wash-out must be identified

and mapped. Transportation projects constructed in floodplains must be designed so that they cause the least hydraulic effect and account for estimated flood flows and debris loads.

### **Goal 8 – Recreational Lands**

Goal 8 is intended to maintain and improve the county’s park and recreational resources and, among other objectives, establish a more integrated and connected system of parks and recreational resources within the county parks system and between the county and other public and private recreation providers. There are no exclusively county-owned parks within the City of Seaside, but the 58.9-acre Neawanna Natural History Park and Natural Resource area is jointly owned by the City of Seaside, Clatsop County, and the North Coast Land Conservancy. Seaside TSP transportation actions which affect access to this park would need to be done in close coordination with the County.

### **Goal 9 – Economy**

Goal 9 policies call for the siting of high intensity recreation/tourism activity within urban growth boundaries and rural service areas where public facilities can serve them at the lowest public cost.

### **Goal 10 – Population and Housing**

Goal 10 policies direct population to be located in established service areas and urban growth boundary areas where utility investments have already been made. If an alternative recommended by the Seaside TSP contains sections that fall outside the city’s UGB, urban growth should be restricted along the sections of the alternative that potentially fall outside urban growth boundary areas.

### **Goal 14 – Urbanization**

The County has adopted Seaside’s Comprehensive Plan, UGBs, and Zoning Ordinance, so that these plans and regulations take precedence when addressing sections of a transportation action that falls within Seaside’s jurisdiction.

## **Clatsop County Transportation System Plan (2003)**

The Clatsop County TSP guides the management and development of appropriate transportation facilities within Clatsop County, incorporating the community’s vision, while remaining consistent with State, regional, and other local plans. The Clatsop County TSP addresses ways to improve the transportation system to support anticipated growth throughout the unincorporated areas of Clatsop County. The goals and objectives relevant to the Seaside TSP include:

### **Goal 1: Mobility**

Develop a multimodal transportation system that serves the travel needs of Clatsop County residents, businesses, visitors, and freight transport.

- Provide a network of arterials and collectors that are interconnected, appropriately spaced, and reasonably direct.
- Balance the simultaneous needs to accommodate local traffic and through-travel.

- Safely, efficiently, and economically move motor vehicles, pedestrians, bicyclists, transit, trucks, and trains to and through the County.
- Recognize and balance freight needs with needs for local circulation, safety and access.
- Work to enhance the connection of the Port of Astoria and the Warrenton Harbor to the surrounding communities.

### Goal 2: Livability

Provide a transportation system that balances transportation system needs with the community's desire to maintain a pleasant, economically viable city.

- Minimize adverse social, economic, and environmental impacts created by the transportation system.
- Preserve and protect the County's significant natural features and historic sites.
- Promote a transportation system that is adequate to handle the truck, transit, and automobile traffic in such a way to encourage successful implementation of County economic goals and the preservation of existing residential neighborhoods.

**Goal 3: Coordination** Maintain a transportation system plan that is consistent with the goals and objectives of local communities, the County, and the State.

- Provide a transportation system that is consistent with other elements and objectives of the Clatsop County Comprehensive Plan.
- Coordinate land use and transportation decisions to efficiently use public infrastructure investments to:
  - Maintain the mobility and safety of the roadway system
  - Foster compact development patterns in incorporated and rural communities
  - Encourage the availability and use of transportation alternatives
  - Enhance livability and economic competitiveness

### Goal 4: Public Transportation

Work to improve cost-effective and safe public transportation throughout Clatsop County.

- Coordinate with the Sunset Empire Transportation District (SETD) to encourage commuter bus service to serve communities throughout Clatsop County.

### Goal 5: Pedestrian and Facilities

Provide for an interconnected system of pedestrian and bicycle facilities throughout Clatsop County to serve commuters and recreational users.

- Develop safe and convenient pedestrian and bicycle systems that link all land uses and provide access to publicly owned land intended for general public use.
- Protect and expand public access via pedestrian ways, bikeways, and trails for recreational purposes.

**Goal 6: Accessibility** Provide a transportation system that serves the needs of all members of the community.

- Coordinate with SETD to encourage programs that serve the needs of the transportation disadvantaged.
- Upgrade existing transportation facilities and work with public transportation providers to provide services that improve access for all users.

**Goal 7: Environment** Provide a transportation system that balances transportation services with the need to protect the environment and significant natural features.

- Provide a transportation system that encourages energy conservation, in terms of efficiency of the roadway network and the standards developed for street improvements.
- Encourage use of alternative modes of transportation and encourage development that minimizes reliance on the automobile.
- Work to balance transportation needs with the preservation of significant natural features and viewsheds.
- Work to minimize transportation impacts on beach/dune areas.
- Minimize transportation impacts on wetlands and wildlife.

**Goal 8: System** Work to ensure that development does not preclude the construction of identified future transportation improvements and that development mitigates the transportation impacts it generates.

- Consider transportation impacts when making land use decisions, and consider land use impacts (in terms of land use patterns, densities, and designated uses) when making transportation-related decisions.

**Goal 9: Capacity** Provide a transportation system that has sufficient capacity to serve the needs of all users.

- Protect capacity on existing and improved roads to provide acceptable service levels to accommodate anticipated demand.
- Limit access points on highways and major arterials, and use alternative access points when possible to protect existing capacity.
- Minimize direct access points onto arterial rights-of-way by encouraging common driveways or frontage roads.

#### **Goal 10: Transportation Funding**

Provide reasonable and effective funding mechanisms for City transportation improvements identified in the TSP.

- Identify funding opportunities for a range of projects, and coordinate with County, State, and Federal agencies.

### Goal 11: Safety

Provide a transportation system that maintains adequate levels of safety for all users.

- Undertake, as needed, special traffic studies in problem areas, especially around schools, to determine appropriate traffic controls to effectively and safely manage automobile and pedestrian traffic.
- Work to improve the safety of rail, bicycle, and pedestrian routes and crossings.
- Coordinate lifeline and tsunami evacuation routes with local, State, and private entities.

### Clatsop TSP Recommendations

The future conditions analysis performed in the Clatsop County TSP assumed that the Pacific Way-Dooley Bridge Project (commonly known as “Pac-Dooley” - discussed later in this appendix) would address most of the existing transportation system deficiencies identified in Seaside (p. 4-37). Based on this assumption, the Clatsop County TSP recommended the Pac-Dooley Project, but little else, to address the transportation problems in Seaside. The Clatsop County TSP acknowledges that a bypass or alternate US 101 route from US 26 north to Youngs Bay has been discussed in previous planning documents and notes that the concept of a bypass or alternate US 101 route could be further explored *after the construction of Pac-Dooley*. Given that the Pac-Dooley preferred alternative was never implemented, it will be important during the development of the Seaside TSP to re-examine the existing condition deficiencies in Seaside noted by the Clatsop County TSP to help inform the identification of potential alternatives that could solve or mitigate these deficiencies.

## City of Seaside

### Seaside Comprehensive Plan (1983, revised 1996)

The City of Seaside Comprehensive Plan acts as a policy guide for future growth and development decisions within the urban area using a framework of goals and policies.

The key goals and policies to consider during the Seaside TSP planning process will be those pertaining to transportation. Policies of particular interest include:

- the improvement of through traffic and congestion along US 101;
- the improvement of safety conditions along US 101;
- encouragement of private developers to aid the implementation of a bike and trail system throughout the city;
- physically separating bike trails from vehicle lanes or providing separate right-of-ways and;



- conserving energy by keeping future development within the UGB to keep travel distances reasonable.

In addition, the City of Seaside Comprehensive Plan and Zone Map show the type, location, and density of land development and redevelopment permitted in the future. The City of Seaside Zoning Ordinance, which was written to implement the comprehensive plan, provides descriptions of zone designations and allowable uses within those zones.

### **Seaside Transportation System Plan (1997, not adopted)**

A draft Seaside TSP was prepared in 1997, but was never finalized or adopted by the City. The 1997 Draft TSP addressed future conditions in Seaside to the horizon year of 2016. Given that the 1997 Draft TSP is eleven years old now, the existing and future data it contained will not be used for this TSP, although the document itself will likely be utilized as a reference for current TSP efforts. Transportation actions recommended by the 1997 Draft TSP will be revisited to determine whether any recommended actions should be considered for evaluation in the current TSP.

### **Seaside Parks Master Plan (2004)**

As described in the Executive Summary of the City of Seaside Parks Master Plan<sup>4</sup>, the purpose of the Plan is to “express a vision for the city’s parks system [and] ensure that the City will provide the type of parks the citizens and visitors of Seaside desire. More specifically, the purpose of the Plan is to:

- Inventory existing park facilities, including an analysis of appropriate park classifications and standards
- Identify current and future park needs based on technical data and extensive citizen input – including public workshops, a household survey, a park user survey, and a visitor survey
- Identify a level of service standard that meet’s the community’s needs
- Identify goals for the park system and a capital improvements program (CIP) that enables the City to achieve those goals. The CIP includes identified projects, estimated project costs, suggested funding sources and completion timeframes
- Identify short and long-term land acquisition strategies
- Identify key maintenance issues regarding existing parks
- Identify potential funding sources to execute the capital improvement program

Parks Master Plan goals and objectives applicable to the Seaside TSP include:

#### **Goal 4 – Ensure Adequate Access to Parks**

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<sup>4</sup> City of Seaside, Oregon Parks Master Plan, 2004 (p. i)

- Develop and improve trails, pathways, sidewalks, crosswalks, and connections from all neighborhoods to parks
- Develop multi-purpose trails and connections between developed parks and natural areas
- Ensure pedestrian and bike access to all parks within the community
- Provide sufficient directional signage that clearly guides residents and visitors to parks
- Provide bike racks at all city parks
- Work towards compliance with American Disability Act standards in relevant areas
- Ensure residents of all ages have access to parks throughout the City

As potential improvements to Seaside's transportation system are being identified and evaluated, it will be important to consider the safe and convenient facilitation of vehicles, bikes, and pedestrians to city parks, both on a regular year-round basis and for peak summer periods and special events.

#### **Goal 7 – Recognize and Protect Historic, Cultural and Natural Resources**

#### **Goal 8 – Integrate and Protect Seaside's Coastal, Estuarine, and Riparian Resources within the Parks System**

As potential improvements to Seaside's transportation system are being identified and evaluated, it will be important to consider the protection of Seaside's historic, cultural, terrestrial, and water resources.

Seaside is a resort destination, and safeguarding the resources that draw visitors to the city, while simultaneously providing a convenient, safe and reliable transportation system should be a focus of the TSP. Recommended changes to the transportation system will need to avoid negatively impacting Seaside's historic, cultural, terrestrial, and water resources.

### **Seaside Roadway Design Guidelines**

During the development of the 1997 Seaside TSP, a set of proposed street design recommendations was compiled. Although these street design recommendations were never codified into standards (because the 1997 TSP was never adopted), the proposed recommendations have been utilized by the City of Seaside as "Design Guidelines" for developers and for general planning purposes.

The roadway design guidelines are shown in Table 3.

Classification	Lanes	Minimum Right-of-Way (feet)	Turn Lanes	Travel Lanes (feet)	Bike Lane (feet)	On-Street Parking	Planter Strip	Sidewalks
Arterial	3-5	68-92	Yes	12	5	No	Yes	Yes
Major Collector	2-3	44-62	Yes	12	5	Option	Option	Yes
Neighborhood Collector	2	32-58	No	11	5	Option	Option	Yes
Local Street	2	30-46	No	10	5	Option	Option	Yes

## Other

### Pacific Way – Dooley Bridge Final Environmental Impact Statement (2005)

A summary of the proposed Pac-Dooley project is provided below<sup>6</sup>:

*The proposed project would reconstruct the 4 miles of US 101 between Pacific Way in the City of Gearhart on the north to the City of Seaside urban growth boundary (UGB) on the south. The existing highway has single northbound and southbound travel lanes; a center turn lane separates the travel lanes along 2.9 of the 4 miles. Most of the highway lacks curbs or sidewalks and 49 local streets and roads, eight alleys, and 165 driveways directly connect to the highway.*

*The Preferred Alternative would widen US 101 from Pacific Way to South Holladay Drive in Seaside and create a one-way couplet from South Holladay Drive to the project’s southern terminus. The widened segment would have two travel lanes in each direction, with a center median and, on each side of the highway, a shoulder/bikeway, planting strip and sidewalk, and curbs, gutters, and storm drains. In the couplet segment, the existing US 101 alignment would become the southbound leg and the northbound leg would be built to the east along an abandoned railroad right-of-way. Each one-way leg would have two travel lanes, shoulder/bikeway on the right side, a shoulder on the left side, planting strip and sidewalks on both sides, and curbs, gutters, and storm drains. Where necessary to avoid environmental or residential and business displacement impacts, widths would be narrowed or the planting strip eliminated. The project also includes two bridge replacements, a culvert extension, a major intersection reconfiguration, the creation of a new, signalized intersection, and new stormwater treatment swales and dry detention ponds.*

<sup>5</sup> Source: Draft 1997 Seaside Transportation System Plan, 1997 (p.91; Table 8)

<sup>6</sup> Pacific Way – Dooley Bridge Final Environmental Impact Statement and Final Section 4(f) Evaluation, ODOT, 2005. p.v

*An access management plan is part of the Preferred Alternative. The plan would forego construction of some raised median segments unless necessitated by increases in traffic volumes and accidents or insufficient access management measures taken in conjunction with roadside development. It would also close some street and alley intersections with US 101 and close or consolidate numerous driveways.*

The Preferred Alternative recommended by the Pac-Dooley Final Environmental Impact Statement (FEIS) was not approved by the City of Seaside and is therefore not scheduled for implementation. However, the Pac-Dooley FEIS contains information that will be useful in the preparation of the Seaside TSP, given that the transportation system needs associated with US 101 expressed in the FEIS are still in effect today. The goals and objectives of the FEIS can help inform the US 101-related goals and objectives of the Seaside TSP. Data collected for the FEIS process can serve as a reference during the development of the Seaside TSP.

Although the Preferred Alternative as a whole was ultimately rejected by the City, there may be discreet transportation system actions which were part of the preferred alternative package that would be worth considering for evaluation in the Seaside TSP process. There may also be actions that were *not* part of the FEIS preferred alternative package that may also warrant considering for evaluation in the TSP.

### **Sunset Empire Transportation District Comprehensive Transportation Plan (1995, revised 2000)**

The Sunset Empire Transportation District (SETD) is a public transit provider that serves all of Clatsop County. Currently the SETD provides both intra-city transit service to Seaside and intercity service between Seaside and other destinations throughout Clatsop County, including: Gearhart, Cannon Beach, the Astoria/Warrenton area, Jewell, Knappa/Svensen, and Westport. The SETD also provides county-wide demand response services (“Dial-a-Ride”) for the elderly, disabled and those living far from fixed routes.

Originally developed in 1995 and revised in 2000, the SETD Comprehensive Transportation Plan develops goals and strategies for the delivery of public transportation services throughout Clatsop County on a 10-year horizon. The goals and objectives relevant to the Seaside TSP include:

**Goal 1: Provide cost-effective and safe public transportation throughout Clatsop County.**

- Plan and maximize opportunities for special events.

**Goal 2: Ensure the full range of mobility needs of Clatsop County citizens are met within SETD budgetary constraints.**

- Improve the efficiency of the “Dial-a-Ride” service.
  - Improve the coordination of “Dial-a-Ride” with fixed-route service.
  - Establish certain times of day for non-medical or work trips from Seaside to Astoria.
  - Assign an additional vehicle to peak hours, if necessary.

- Develop an Americans with Disabilities Act (ADA) service plan that outlines how SETD services comply with the law.
- Coordinate with social service agencies to meet client needs.

**Goal 3: Promote and educate Clatsop County residents about SETD services and community benefits.**

- Improve marketing of SETD services by enhancing brochures, maps, and schedules.
- Enhance bus stop signs to include route specific information.

**Goal 4: Strengthen access to public transportation.**

- Explore vanpool, carpool, and park-and ride options within the region.
- Develop an Intermodal Transportation Center.
- Improve pedestrian access by working with jurisdictions to:
  - Identify transit corridors where higher densities and reduced parking are appropriate.
  - Develop parking maximums, unless the site is within 300 feet of a bus stop.
  - Improve pedestrian access to transit, involving SETD review of design standards where appropriate.

**Goal 5: Increase ridership.**

- Improve frequency and connectivity of fixed-route service.
  - Increase the frequency of service on Route 101.
  - Combine Route 20 into Route 101, creating continuous hourly service linking Cannon Beach, Seaside, Gearhart, Warrenton, and Astoria.
- Develop partnerships with transit agencies in adjacent regions to improve service connectivity.

### **Capital Improvement Projects**

Capital Improvement Projects identified by the SETD Comprehensive Transportation Plan include the development of an Intermodal Transportation Facility in Astoria, the replacement of SETD vehicles, and the installation of bus shelters. The 2000 plan does not mention specific funding sources or timelines. However, according to SETD staff, the Intermodal Transportation Facility was completed in 2004, and two more are currently planned for the cities of Warrenton and Seaside.

### **Sunset Empire Transportation Coordinated Human Services Transportation Plan**

Adopted in 2008, the Sunset Empire Transportation District (SETD) Coordinated Human Services Plan includes strategies to improve transportation services for people with low incomes, seniors, and people with disabilities.

Coordinated Human Services Transportation Plans are required under SAFETEA-LU for agencies receiving funding from FTA for projects under the New Freedom, JARC, and Elderly Individuals and Individuals with Disabilities programs. The plan aims to coordinate resources and services to minimize the duplication of efforts and to encourage the most cost-effective transportation system feasible.

Relevant sections of SETD's Coordinated Human Services Plan are addressed below.

**Demographics:**

Clatsop County has a higher share of seniors and people with disabilities than the state-wide average, with the greatest concentration of these populations living in Astoria and Seaside. Additionally, both per capita personal income and the average earnings per job are lower in Clatsop County than in the rest of the State (based on 2004 data from the Bureau of Economic Analysis).

**Inventory of current resources:**

The vast majority of transportation for low income populations, seniors, and people with disabilities in Clatsop County is provided by SETD. SETD provides a county-wide "Dial-a-Ride" (DAR) service and a three-county Medicaid brokerage. SETD coordinates services with the Oregon Motor Coachway to provide service to Portland and recently connected to the Tillamook County transportation system by offering twice-daily service from Cannon Beach to Manzanita. SETD also manages the Northwest Ride Center, which accommodates Title XIX Non-Medical ride requests, and ride requests from the Oregon Medical Assistance Program.

Additional transportation services in the Clatsop County area are available through churches, assisted living centers, and service agencies such as Coast Rehabilitation and Clatsop County Veterans Services. Higher cost transportation options in the County include private taxi and ambulance services. A complete matrix of current transportation providers in the Clatsop County area are shown in Table 4:

TABLE 4									
SETD Provider Matrix Guide <sup>7</sup>									
Provider Category <sup>8</sup>	Type of Service	Days/Hours of Service	Advance Reservations	Eligibility Requirement	Service Area	Service Constraints	Annual Trips	Number of Vehicles	Fare
Public Transit: Sunset Empire Transportation District	Fixed Route Demand Service  Dial-a-Ride	FR=Weekday 6:45a-6:00p  DAR=Weekday 7:00a – 5:30p	Demand=Yes, up to 1 week	None=Fixed route/demand  Dial-a-Ride=medical only	Clatsop County				
Medical Transportation (non-emergency)	Dial-a-Ride	Weekdays 8:00a – 5:00p	Up to 1 week	Medicaid only	Clatsop County				
Other non-emergency transportation: MEDIX	Fee for service	24/7 if scheduled ahead of time	Up to 2 weeks	None, fee for service	Virtually anywhere if fare is paid	None-all vehicles wheelchair lift equipped	4,800 one-way		\$25 base + mileage
Senior Centers: Astoria Seaside	Regular runs each week	Weekdays			Serve own community			1 van per center donated by SETD	
Developmentally Disabled Transportation: Coast Rehab Services	1 vehicle for each of their 9 facilities, plus 1 fourteen person bus	Most hours, if needed for client	Typically, prefer to schedule client rides	Primarily for developmentally disables	Clatsop County	Smaller vans are only equipped to handle 1 wheelchair		9 vehicles (full-size and mini-vans) 1 fourteen person	

<sup>7</sup> Source: Sunset Empire Transportation District Coordinated Human Services Transportation Plan (p.17-18; Table 4)

<sup>8</sup> No data were available for taxis or pupil transport contractors

TABLE 4									
SETD Provider Matrix Guide <sup>7</sup>									
Provider Category <sup>8</sup>	Type of Service	Days/Hours of Service	Advance Reservations	Eligibility Requirement	Service Area	Service Constraints	Annual Trips	Number of Vehicles	Fare
Churches: Bayview Baptist North Coast Fellowship								1 bus per church	
Assisted Living Facilities: Clatsop Retirement Village/ Clatsop Care (Astoria) Suzanne Elise Assisted Living (Seaside)	Regular trips each week	During the day			Own community	Own residents		1 vehicle per facility	



**Unmet Transportation Needs:**

Unmet transportation needs that are relevant to the Seaside TSP include:

- Demand for expanded Dial-a-Ride service hours (earlier am, later pm, and Saturdays).
- Demand for Dial-a-Ride service to Portland for medical appointments.
- People who don't qualify for Medicaid are slipping through the cracks, since they are still low-income and Med-Ex is expensive.
- Overall poor access to transit services.

**Improvement Strategies:**

Strategies to improve the efficiency of transportation services that are relevant to the Seaside TSP include:

- Implementing a regular same bus/limited stop bus route between Astoria and Seaside.
- Working with community agencies to streamline employment origin and destination locations for people with disabilities.
- Adding more bus shelters and new lighted bus stops along fixed bus-routes.
- Identifying safer stop locations along fixed routes.
- Creating a fixed route that serves Hwy 202.
- Working with public housing agencies to ensure that new facilities have adequate transportation amenities for special needs populations.
- Combining service with local school buses since they already serve outlying areas.
- Identifying concentrations of work-oriented destinations and common hours of need for public transportation.
  - Providing limited evening services to major places of employment and classes.
  - Working with employers and Clatsop Community College to provide vanpool services.
  - Coordinating a carpool system utilizing transit resources not being utilized during off-hours, such as the Seaside Trolley.

**Relative Priority of Strategies**

The 2008 SETD Coordinated Human Services Public Transportation Plan identifies several grant funding priorities from the Surface Transportation Funding (STF) Agency for FY 07/09. The STF Agency supports efforts of local transportation providers in meeting the needs of the elderly and disabled. Discretionary Grant funding priorities relevant to the Seaside TSP are shown in Table 5:

TABLE 5:	
FY 07/09 Discretionary Grant Priorities for Targeted Populations <sup>9</sup>	Impact on Special Needs Populations
Preventative maintenance for all Dial-a-Ride vehicles	Dial-a-ride vehicles primarily service special needs populations
Medicaid Match	Transportation for seniors
Five new handicapped accessible vans for use by the Clatsop County Transition Center, senior centers, respite centers, Meals-on-Wheels, and veterans services	Addresses the increasing need for handicapped accessible transportation
Demand response services for areas outside ADA ¼ mile radius of fixed routes and disabled access fixed routes	Will open up more transportation options to outlying special needs populations
Extension of operating hours for Dial-a-Ride services for Saturdays and to 6:00pm	Needed for employment and education of low-income and developmentally disabled populations
Development and funding of an administrative position for a transportation volunteer coordinator (Clatsop, Columbia, Tillamook)	Needed to augment limited funding for public transportation. Use of volunteers is especially effective with special needs populations

### Opportunities for Future Collaboration

Five immediate opportunities for future partnering and collaboration with adjacent counties are currently being explored by SETD:

- Coordinating transit planning with adjacent counties to allow for greater coordination of transit routes, schedules, and facilities.
- Coordinating volunteer programs to increase transportation services to special needs populations.
- Linking Sunset Empire and Columbia County Rider transit service along Hwy 30. (Note: Sunset Empire has received a planning grant to evaluate the feasibility of connecting with Columbia County Rider for service into Portland along Hwy 30.)
- Implementing a Community Connections Transportation program. The program would provide training and special “Ride Ambassadors” to new elderly and disabled transit riders, until they are comfortable riding by themselves.
- Develop a Tri-County coordinated Plan for Clatsop and adjacent counties.

<sup>9</sup> SETD Coordinated Human Services Public Transportation Plan (p.25; Table 5)



# Oregon Transportation Plan Goals and Policies Applicable to the Seaside TSP

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## Goal 1: Mobility and Accessibility

To enhance Oregon’s quality of life and economic vitality by providing a balanced, efficient, cost-effective and integrated multimodal transportation system that ensures appropriate access to all areas of the state, the nation and the world, with connectivity among modes and places.

### *Policy 1.1 – Development of an Integrated Multimodal System*

It is the policy of the State of Oregon to plan and develop a balanced, integrated transportation system with modal choices for the movement of people and goods.

#### Strategy 1.1.1

Plan and develop a multimodal transportation system that increases the efficient movement of people and goods for commerce and production of goods and services that is coordinated with regional and local plans.

#### Strategy 1.1.4

In developing transportation plans to respond to transportation needs, use the most cost-effective modes and solutions over the long term while considering changing conditions.

### *Policy 1.2 – Equity, Efficiency and Travel Choices*

#### Strategy 1.2.1

Develop and promote inter and intra-city public transportation.

#### Strategy 1.2.2

Better integrate, locate, and design passenger and freight multimodal transportation facilities and connections to expedite travel and provide travel options. Locate and design transportation facilities to connect with other modes.

## Goal 2: Management of the System

To improve the efficiency of the transportation system by optimizing the existing transportation infrastructure capacity with improved operations and management.

### *Policy 2.1 – Capacity and Operational Efficiency*

It is the policy of the State of Oregon to manage the transportation system to improve its capacity and operational efficiency for the long term benefit of people and goods movement.

### Strategy 2.1.1

Promote transportation demand management and other transportation system operations techniques that reduce peak period travel, help shift traffic volumes away from the peak period and improve traffic flow. Such techniques may include high occupancy vehicle lanes with express transit service, truck-only lanes, van/carpools, park-and-ride facilities, parking management programs, telework, flexible work schedules, peak period pricing, ramp metering, traveler information systems, traffic signal optimization, route diversion strategies, incident management and enhancement of rail, transit, bicycling and walking.

### Strategy 2.1.2

Protect the integrity of statewide transportation corridors and facilities from encroachment by such means as managing access to state highways, limiting interchanges, creating safe rail crossings and controlling incompatible land use around airports, ports, pipelines and other intermodal passenger and freight facilities.

### Strategy 2.1.3

Use advanced traveler information devices, incident management, speed management, improvements to signaling systems and other technologies to extend the efficiency, safety and capacity of transportation systems. Develop protocols and implement methods for alternate routing to respond to incidents.

### Strategy 2.1.4

Enhance efficiency and reduce conflicts among transportation users, for example, by reducing bottlenecks and geometric constraints, and improving or removing modal crossings. Provide for a network of arterials and highways to efficiently move goods and services while enhancing safety and community movements on local streets. Provide for signal prioritization and road patterns that support public transit. Support rail reconfiguration and additional tracks that benefit passenger and freight movements.

### Strategy 2.1.5

To increase efficiencies, use value engineering, that is, a systematic review process used to analyze a project's design and make recommendations to improve the design and reduce overall costs. Use other innovative techniques to deliver transportation projects more efficiently.

### *Policy 2.2 – Management of Assets*

It is the policy of the State of Oregon to manage transportation assets to extend their life and reduce maintenance costs.

### Strategy 2.1.1

Continue to provide and support a strong policy of size and weight enforcement including innovative technologies to protect and preserve the existing infrastructure. Use innovative technologies to route over-size and over-weight vehicles.

### Strategy 2.2.2

Develop, enhance and implement management systems for transportation assets including roadway pavement, bridges, right-of-way, public transportation facilities and equipment, safety features, congestion and other infrastructure. Promote new technologies and strategies to improve the way assets are maintained.

### Strategy 2.2.3

Work with local, state and federal governments and agencies to revise regulations and standards to improve the efficiency and reliability of goods and passenger movements consistent with environmental and safety goals and regulations.

## Goal 3: Economic Vitality

To promote the expansion and diversification of Oregon's economy through the efficient and effective movement of people, goods, services and information in a safe, energy efficient and environmentally sound manner.

### *Policy 3.1 – An Integrated and Efficient Freight System*

It is the policy of the State of Oregon to promote an integrated, efficient and reliable freight system involving air, barges, pipelines, rail, ships and trucks to provide Oregon a competitive advantage by moving goods faster and more reliably to regional, national and international markets.

#### Strategy 3.1.1

Develop coordinated state, regional and local transportation plans and master plans that address current and future freight needs, issues and economic strategies. Co-locate economic activities and appropriate transportation facilities with convenient and reliable access to freight transportation options.

#### Strategy 3.1.4

Encourage communication among shippers, transportation providers, government agencies and jurisdictions to address freight transportation issues, challenges and opportunities across modes.

#### Strategy 3.1.6

Systematically address barriers to efficient truck movements on roads and highways, including intermodal connectors, while balancing the needs and safe access of all modes.

### *Policy 3.2 – Moving People to Support Economic Vitality*

It is the policy of the State of Oregon to develop an integrated system of transportation facilities, services and information so that intrastate, interstate and international travelers can travel easily for business and recreation.

### Strategy 3.2.2

In regional and local transportation system plans, support options for traveling to employment, services and businesses. These include, but are not limited to, driving, walking, bicycling, ridesharing, public transportation and rail.

### Strategy 3.2.4

Address scenic values in state, regional and local planning, improvements and maintenance.

Support state and federal Scenic Byways and Tour Routes and connections to parks and recreation areas.

### Strategy 3.2.5

Promote tourism via air, bicycles, motor vehicles, rail and ships. Support connections to recreational trails.

### *Policy 3.3 – Downtowns and Economic Development*

It is the policy of the State of Oregon to provide transportation improvements to support downtowns and to coordinate transportation and economic development strategies.

### Strategy 3.3.1

Coordinate private and public resources to provide transportation improvements and services to help stimulate active and vital downtowns, economic centers and main streets.

### Strategy 3.3.2

Integrate transportation planning and investments with state and local economic development strategies and plans.

## **Goal 4: Sustainability**

To provide a transportation system that meets present needs without compromising the ability of future generations to meet their needs from the joint perspective of environmental, economic and community objectives. This system is consistent with, yet recognizes differences in, local and regional land use and economic development plans. It is efficient and offers choices among transportation modes. It distributes benefits and burdens fairly and is operated, maintained and improved to be sensitive to both the natural and built environments.

### *Policy 4.1 – Environmentally Responsible Transportation System*

It is the policy of the State of Oregon to provide a transportation system that is environmentally responsible and encourages conservation and protection of natural resources.

### Strategy 4.1.1

Practice stewardship of air, water, land, wildlife and botanical resources. Take into account the natural environments in the planning, design, construction, operation and maintenance of the transportation system. Create transportation systems compatible with native habitats and species and help restore ecological processes, considering such plans as the *Oregon Conservation Strategy* and the *Oregon Plan for Salmon and Watersheds*. Where adverse impacts cannot reasonably be avoided, minimize or mitigate their effects on the environment. Work with state and federal agencies and other stakeholders to integrate environmental solutions and goals into planning for infrastructure development and provide for an ecosystem-based mitigation process.

### Strategy 4.1.2

Encourage the development and use of technologies that reduce greenhouse gases.

### Strategy 4.1.3

Evaluate the impact of geological hazards and natural disasters including earthquakes, floods, landslides and rockfalls, on the efficiency and sustainability of the location and design of new or improved transportation facilities as appropriate.

### Strategy 4.1.4

Work collaboratively to streamline permit procedures and gain efficiencies to transportation system improvements while meeting or exceeding environmental benefits or regulations.

### Strategy 4.1.5

In the construction and maintenance of transportation infrastructure and facilities, reduce the consumption of non-renewable construction materials, promote their efficient use and reuse, and reduce other environmental impacts such as stormwater impacts where appropriate.

### Strategy 4.1.6

To determine the most cost-effective investments, consider using life-cycle costs in transportation maintenance, purchase of equipment, selection of materials, and design and engineering of infrastructure where appropriate.

### Strategy 4.1.7

To accomplish environmental stewardship and increase efficiencies, use environmental management systems.

### ***Policy 4.2 – Energy Supply***

It is the policy of the State of Oregon to support efforts to move to a diversified and cleaner energy supply, promote fuel efficiencies and prepare for possible fuel shortages.

### Strategy 4.2.1



Support efforts to develop a long range plan for moving toward a diversified and cleaner energy supply. Work with federal, state, regional and local jurisdictions and agencies as well as transportation providers, shippers and the general public.

### *Policy 4.3 – Creating Communities*

It is the policy of the State of Oregon to increase access to goods and services and promote health by encouraging development of compact communities and neighborhoods that integrate residential, commercial and employment land uses to help make shorter trips, transit, walking and bicycling feasible. Integrate features that support the use of transportation choices.

#### Strategy 4.3.1

Support the sustainable development of land with a mix of uses and a range of densities, land use intensities and transportation options in order to increase the efficiency of the transportation system. Support travel options that allow individuals to reduce vehicle use.

#### Strategy 4.3.2

Promote safe and convenient bicycling and walking networks in communities.

#### Strategy 4.3.4

Promote transportation facility design, including context sensitive design, which fits the physical setting, serves and responds to the scenic, aesthetic, historic and environmental resources, and maintains safety and mobility.

#### Strategy 4.3.5

Reduce transportation barriers to daily activities for those who rely on walking, biking, rideshare, car-sharing and public transportation by providing:

- Access to public transportation and the knowledge of how to use it.
- Facility designs that consider the needs of the mobility-challenged including seniors, people with disabilities, children and non-English speaking populations.

#### Strategy 4.3.6

Consider the proximity and availability of public transportation when siting public facilities and services.

## **Goal 5: Safety and Security**

To plan, build, operate and maintain the transportation system so that it is safe and secure.

### *Policy 5.1 – Safety*

It is the policy of the State of Oregon to continually improve the safety and security of all modes and transportation facilities for system users including operators, passengers, pedestrians, recipients of goods and services, and property owners.

### Strategy 5.1.1

Enhance the safety leadership group to provide for cooperation among federal, state and local governments, private enterprises, and user and advocacy groups in order to address safety issues strategically and implement more effective safety programs.

### Strategy 5.1.2

Develop a comprehensive Strategic Transportation Safety Action Plan addressing all modes of transportation based on risk analysis to reduce fatal, injury and property damage accidents among system users.

### Strategy 5.1.3

Ensure that safety and security issues are addressed in planning, design, construction, operation and maintenance of new and existing transportation systems, facilities and assets.

### Strategy 5.1.4

Support the further development and improvement of interoperable communication systems among safety and security-related agencies, jurisdictions and private entities. Ensure that clear communication protocols are established.

### Strategy 5.1.5

Ensure that laws and regulations are appropriate to meet multimodal safety and security goals. Coordinate enforcement of transportation safety and security laws and regulations intended to reduce injury and property damage. Use enforcement strategically to address the identified problems of each mode.

### Strategy 5.1.6

Ensure the development and delivery of coordinated and comprehensive safety and security awareness, education and training programs.

### Strategy 5.1.7

Support the delivery of timely emergency medical services to transportation-related incidents and crashes in urban and rural areas. Improve the transportation system to facilitate delivery of necessary supplies and services for non-transportation emergencies. Support incident response units on major facilities where warranted.

### Strategy 5.1.8

Support the safe and secure transport of hazardous materials in Oregon through driver education and screening, vehicle inspections, regulations and enforcement.

### Strategy 5.1.9

Develop and implement a reliable, comprehensive and coordinated multimodal transportation data, crashes and incidents reporting program to manage and evaluate

transportation safety with the goal of better data integration. The data should be timely, easy to use and accessible to all users to support analysis, effective response to safety problems and identification of projects.

*Policy 5.2 – Security*

It is the policy of the State of Oregon to provide transportation security consistent with the leadership of federal, state and local homeland security entities.

Strategy 5.2.1

Encourage the development of security plans for all modes of transportation encompassing prevention, detection and response. Security plans should provide for coordinated response across all entities and prioritize actions based on critical impact.

Strategy 5.2.2

Promote the development of cost-effective security measures for transportation facilities and infrastructure.

Strategy 5.2.3

Improve the evacuation and emergency response capabilities of the urban and rural transportation system.

Strategy 5.2.4

Address the potential impact of security measures on the management of transportation facilities in order to minimize delays in the movement of people, goods and services.

**Goal 6: Funding the Transportation System**

To create a transportation funding structure that will support a viable transportation system to achieve state and local goals today and in the future.

*Policy 6.2 – Achievement of State and Local Goals*

It is the policy of the State of Oregon to plan and manage the transportation finance structure to contribute to the accomplishment of state and local environmental, land use and economic goals and objectives.

Strategy 6.2.1

Give priority to funding those transportation needs identified in state, regional and local transportation system plans.

Strategy 6.2.2

Make strategic investments that respond to capacity, safety, operational and maintenance issues for airports, bicycle and pedestrian facilities, highways and roadways, intermodal connections, public transportation, ports and waterways and rail.

### Strategy 6.2.3

Give funding priority to programs and projects that use resources efficiently. Systematically examine the alternatives to major investments and consider the return on investment. Return on investment considers short and long-term benefits and includes not only direct benefits but also indirect benefits such as public safety, accessibility, mobility and the environment.

### Strategy 6.2.4

In funding decisions, balance the interests of beneficiaries, economic benefits and environmental and land use goals.

### Strategy 6.2.5

Fund projects through public/private partnerships that balance statewide environmental, land use and economic goals and state, regional and/or local plans.

#### *Policy 6.3 – Public Acceptability and Understanding*

It is the policy of the State of Oregon to use finance mechanisms that have broad public acceptance and are understandable to transportation system users.

### Strategy 6.3.1

Provide on-going public information and education about transportation needs and funding alternatives. Enhance public understanding about the benefits of transportation investments and the adverse consequences on the economy, livability, congestion and overall attractiveness of the state when investments are not sustained at an appropriate level.

### Strategy 6.3.2

Make all aspects of publicly-funded transportation investment decision-making transparent to the public.

#### *Policy 6.4 – Beneficiary Responsibilities*

It is the policy of the State of Oregon to examine mechanisms to expand the beneficiary pay concept to reflect the costs and benefits of uses of the transportation system and reinforce the relationship between benefiting from transportation facilities and paying for their benefit, but to retain essential fairness including cost responsibility. This policy recognizes some modes will continue to need subsidies to achieve overall transportation system goals and provide essential services.

### Strategy 6.4.4

Negotiate with the private sector to leverage funds, right-of-way contributions or off-system improvements when (1) transportation improvements benefit specific properties planned for development or transportation networks, (2) changes are proposed or have occurred to the relevant comprehensive plan, or (3) development has occurred or will occur that necessitate major transportation improvements.

### Strategy 6.4.5

Take advantage of public right-of-way ownership to lease space to produce revenue such as leasing for fiber optic cable.

#### *Policy 6.5 – Triage in the Event of Insufficient Revenue*

It is the policy of the State of Oregon to resolve revenue shortfalls by means that maximize public acceptance and that minimize undesirable long-term consequences to the overall transportation system in urban and rural areas.

### Strategy 6.5.1

In the event of inadequate revenue to meet system needs, support Oregonians’ most critical transportation needs, broadly considering return on investment and asset management.

### Strategy 6.5.2

Make transportation investment decisions with an increased emphasis on improving the economic condition of the state.

### Strategy 6.5.3

Increase the consideration of leveraged public and private funds and/or benefits when deciding where to make transportation investments.

### Strategy 6.5.4

Before making funding decisions, re-evaluate the costs and benefits of projects, including those from transportation system plans.

## **Goal 7: Coordination, Communication, and Cooperation**

To pursue coordination, communication and cooperation among transportation users, providers and those most affected by transportation activities to align interests, remove barriers and bring innovative solutions so the transportation system functions as one system.

#### *Policy 7.1 – A Coordinated Transportation System*

It is the policy of the State of Oregon to work collaboratively with other jurisdictions and agencies with the objective of removing barriers so the transportation system can function as one system.

### Strategy 7.1.1

Examine transportation functions among and within state and local agencies and providers in order to make the delivery of transportation services and facilities more efficient. Consider consolidation of functions where it can improve efficiency, accountability and service delivery.

### Strategy 7.1.2

Promote decision-making at the level most appropriate to operate the transportation system. Plan for system improvements in a regional or inter-regional context, and involve local governments, Metropolitan Planning Organizations and neighboring states where appropriate. Develop procedures to enable the state or other appropriate entity to consolidate decision-making authority for projects of statewide or regional significance.

### Strategy 7.1.3

Consult with federal and state agencies to achieve transportation goals. This may include linking state economic, energy, housing, human services, land use, natural resource and transportation policies and activities; collaborating on siting facilities like prisons and state office buildings; and working with federal and state natural resource agencies on environmental stewardship.

### Strategy 7.1.4

Develop state multimodal, modal and topic plans that are consistent with the OTP investment strategies and applicable goals, policies and strategies. In the multimodal, modal and topic plans, further refine the OTP goals, policies and strategies appropriate to the modes/topics. The purpose of these plans is to achieve system integration across all modes for passenger and goods movements.

### Strategy 7.1.5

Coordinate tribal, federal, state, regional and local planning to protect transportation facilities, corridors and sites for their identified functions and to facilitate community development. This includes adopting appropriate regulations.

### Strategy 7.1.6

Share information and integrate databases as appropriate to the level of operation being carried out. Promote the transfer of transportation technologies and planning and management practices to state, regional and local governments and the private sector.

### Strategy 7.1.7

Provide transportation planning assistance, including transportation finance and value capture information, especially to rural communities.

### *Policy 7.2 – Public/Private Partnerships*

It is the policy of the State of Oregon to maintain, expand and provide tools to encourage partnerships to improve efficiency in the delivery of transportation facilities and services benefiting the state transportation system and the state's citizens. Partners include transportation providers, public agencies and private businesses at all levels across jurisdictions and ownerships.

### Strategy 7.2.1

Identify and remove barriers in order to improve partnerships that promote a more efficient transportation system. Barriers may include legal, institutional or funding impediments between transportation providers, public agencies, private businesses, stakeholders and system users.

### Strategy 7.2.2

Take advantage of opportunities to participate in innovative approaches to efficient delivery of transportation projects while managing risks, protecting the public interest and carrying out projects and programs consistent with state and regional plans.

### *Policy 7.3 – Public Involvement and Consultation*

It is the policy of the State of Oregon to involve Oregonians to the fullest practical extent in transportation planning and implementation in order to deliver a transportation system that meets the diverse needs of the state.

### Strategy 7.3.1

In all phases of decision-making, provide affected Oregonians early, open, continuous, and meaningful opportunity to influence decisions about proposed transportation activities. When preparing and adopting a multimodal transportation plan, modal/topic plan, facility plan or transportation improvement program, conduct and publicize a program for citizen, business, and tribal, local, state and federal government involvement. Clearly define the procedures by which these groups will be involved.

### Strategy 7.3.2

Consult with federal and state agencies, Area Commissions on Transportation, Metropolitan Planning Organizations, affected non-metropolitan officials, tribal governments and other stakeholder groups in the development and implementation of the Oregon Transportation Plan.

### Strategy 7.3.3

Seek out and facilitate the involvement of those potentially affected including traditionally underserved populations.

### Strategy 7.3.4

Coordinate public outreach activities among local, regional and state agencies as appropriate.

### Strategy 7.3.5

Provide on-going communication to federal and state agencies, local governments and the public regarding the goals, policies and implementation of the OTP. Provide public information and education about financing transportation and construction, operations and maintenance activities.

*Policy 7.4 – Environmental Justice*

It is the policy of the State of Oregon to provide all Oregonians, regardless of race, culture or income, equal access to transportation decision-making so all Oregonians may fairly share in benefits and burdens and enjoy the same degree of protection from disproportionate adverse impacts.

*Strategy 7.4.1*

Provide equal access to public information and decision-making about transportation planning, financing, construction, operations and maintenance activities.





APPENDIX B

# Existing Conditions and Deficiencies



# Existing Conditions and Deficiencies

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This appendix documents the current (2008) roadway and land use conditions and identifies deficiencies. It also describes the study area, a brief inventory of current land uses, a description of existing transportation facilities within the UGB, and a traffic operations and safety analysis. Existing conditions are compared to the relevant mobility and operations standards.

This appendix will include discussion of the project study area, land use, bicycle and pedestrian facilities, transit analysis, roadway geometry and conditions, traffic analysis, safety analysis, water, pipeline, and transmission lines, rail, and Seaside Municipal Airport. Information used to describe the existing system and identify deficiencies came from the City of Seaside, Clatsop County, the Oregon Department of Transportation (ODOT), and from the consultant team through a site visit April 7, 2008.

## Study Area

The study area for the Seaside TSP is illustrated as Figure 1. The study area serves as the area for potential system improvements considered for the 20-year time horizon of the Seaside TSP. It is mainly the larger of two boundaries in Seaside – the Seaside city limits or the Urban Growth Boundary (UGB). As seen in the figure, the city limits extend beyond the UGB on the south end of the City, and the UGB extends beyond the city limits on the north and southwest ends of the City.

In addition, the study area extends beyond both the city limits and the UGB to the southeast. The Project Management Team (PMT) added an area south and west of the intersection of Wahanna Road and Avenue S to the study area because of this area's potential to develop and related future transportation needs. This area is an urban reserve at this point, and any recommendations for this area resulting from the Seaside TSP process would need to be coordinated with Clatsop County for their inclusion within their TSP, and with the Department of Land Conservation and Development (DLCD).

The Seaside TSP will focus its analysis on existing and potential future arterials and collector streets as well as pedestrian and bicycle facilities within the study area.

## Land Use

This section provides a cursory analysis of existing land uses and zoning to understand development patterns, traffic generators, and origins and destinations within Seaside. This is not intended to serve as a comprehensive land use inventory, but to inform the team as to how existing land uses (a) relate to current zoning designations and (b) affect transportation conditions.

Generally, existing land uses were found to be consistent with the City's zoning map, and few non-conforming uses were observed during site visits.

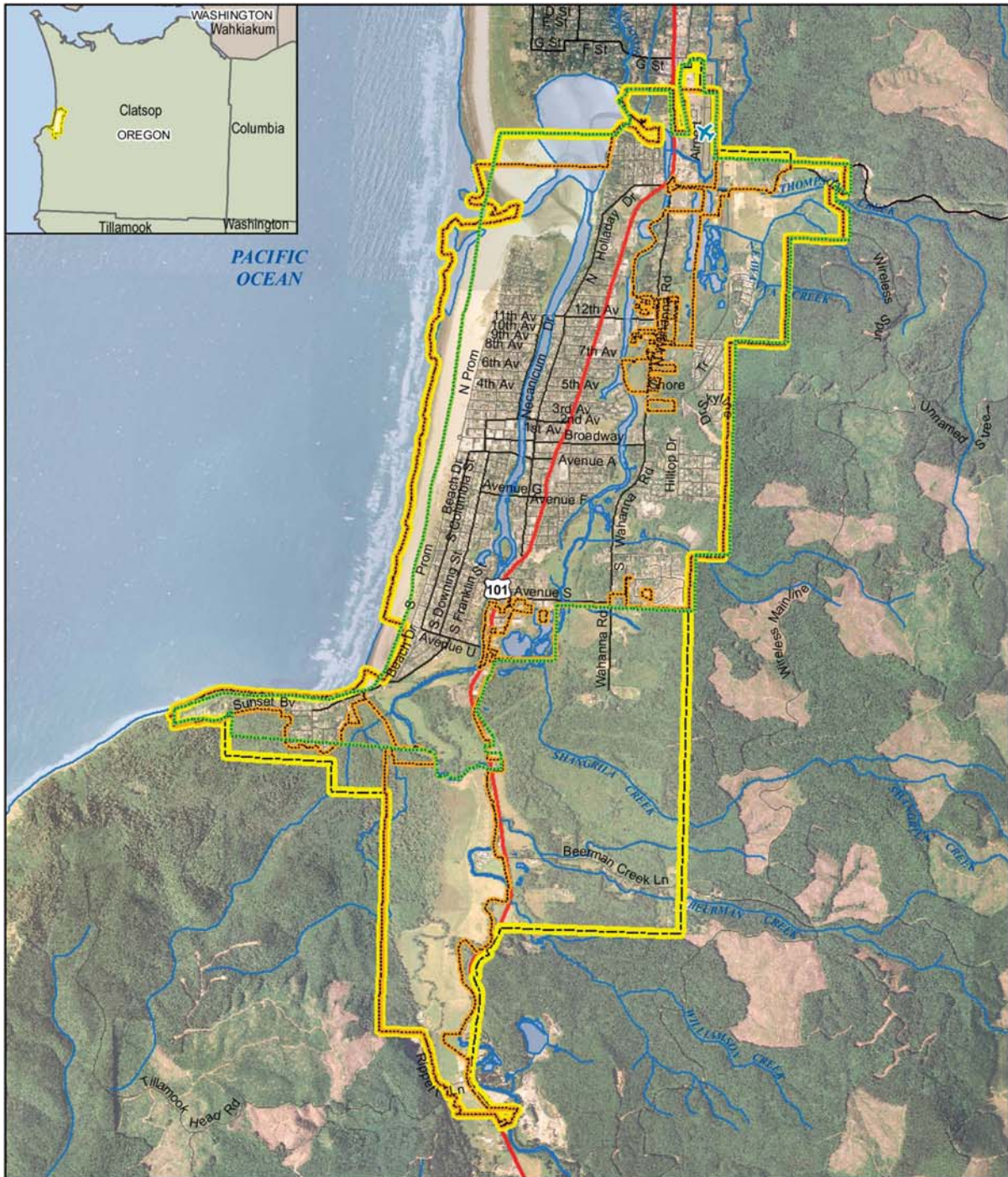
## **Land Use Focus Areas**











Five (5) focus areas were developed for the purposes of centering the land use analysis towards areas that have differing land uses and activity generation. These areas were selected in coordination with the City of Seaside. Figure 2 shows the location of these focus areas overlaid on the city zoning map. The focus areas are along US 101 and include Seaside's historic downtown, areas which are predominately commercial uses.

### **Focus Area #1 – US 101 Corridor: Avenue U north to Holladay Drive**

This focus area is zoned General Commercial, and uses are generally consistent with current zoning. The focus area has a mix of single story retail and food establishments. South of Avenue U, several hotels are located along the east side of the highway and a large senior living facility is located on the west side of the highway. Figure 3 illustrates the scale and character of Focus Area #1.

Figure 1: Seaside TSP Study Area



<b>LEGEND</b>		  Miles	<b>Figure 1</b> <b>Transportation System Plan</b> <b>Study Area</b> City of Seaside, Oregon Transportation System Plan 		
	Study Area				Major Collector
	Urban Growth Boundary				Minor Arterial
	City of Seaside Boundary				Local Road
			Highway 101		

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Figure 2: Seaside TSP Land Use Study Areas

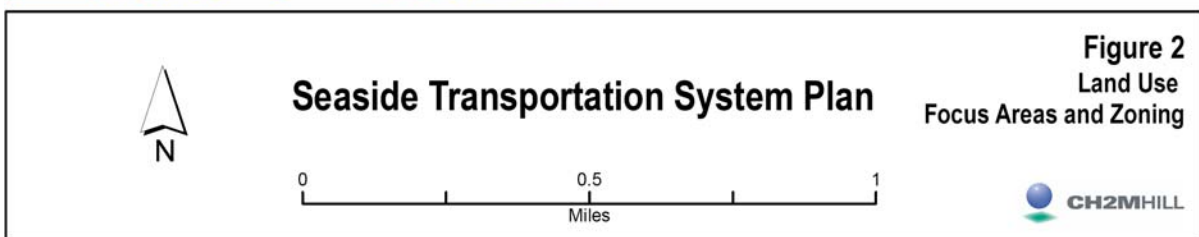
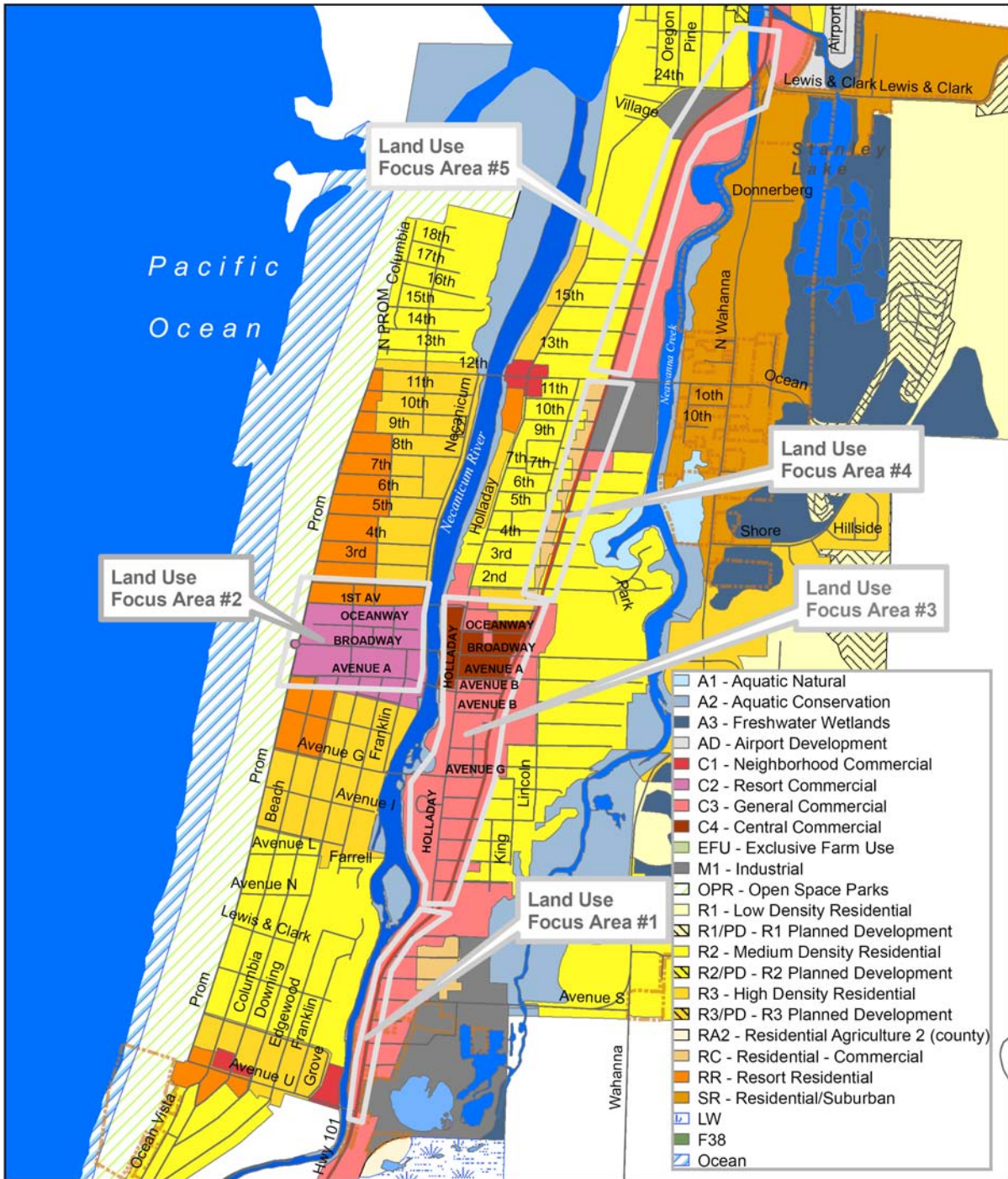




Figure 3: Land Uses in Vicinity of US 101 and Avenue U

### Focus Area #2 – Downtown Vicinity

The zoning in this area is Resort Commercial, and generally land uses are consistent with this designation. This focus area is considered Seaside’s historic downtown, and land uses in the area, including the Seaside Civic and Convention Center, are visitor-oriented. Broadway serves as a backbone for visitor-oriented businesses, including hotels, restaurants, retail, and arcade venues. The scale of buildings varies between one (mainly restaurants and retail businesses), and four stories (mainly hotels). Avenue A also contains a light mix of retail and eating establishments.

Inside this focus area, the Promenade (a 1.50-mile pedestrian plaza which fronts the beach between Avenue U and 12<sup>th</sup> Avenue), contains large hotel and condominium uses.

There is on-street parking in the downtown area, and a large parking structure located at the northwest corner of Avenue A and Columbia Street, a portion of which serves nearby retail establishments.

Downtown’s narrow streets and short blocks, coupled with the vibrant mix of land uses noted above, make the area pedestrian-friendly. Figures 4, 5, and 6 provide examples of the types of land uses found in Focus Area #2.



*Figure 4: Two-story Retail Example in Historic Downtown*



*Figure 5: One-story Retail Example in Historic Downtown*



*Figure 6: Hotels and Convention Center across the Necanicum River in Historic Downtown*

### **Focus Area #3 – US 101 Corridor: Holladay Drive north to 1<sup>st</sup> Avenue**

The zoning in this area is General Commercial and Central Commercial. Uses are largely consistent with zoning, and include a mix of uses, including strip retail, larger box retail (including Safeway and Rite Aid), and government/institutional (including the Broadway Middle School, Seaside City Hall, and the Seaside Chamber of Commerce). See Figure 7. This focus area also contains a grouping of older one- and two-story buildings serving retail/commercial uses.





Figure 7: Land Uses and Highway in Vicinity of US 101 and Broadway

#### Focus Area #4 – US 101 Corridor: 1<sup>st</sup> Avenue north to 12<sup>th</sup> Avenue

Zoning in this area is Residential-Commercial, General Commercial, and Industrial. This Focus Area contains some single-family residential homes mainly on the west side of US 101, and retail – most notably the Seaside Factory Outlet Center, which occupies three blocks on the east side of US 101 between 9<sup>th</sup> and 12<sup>th</sup> Avenues. The outlet mall is served by a large surface parking lot along the highway.

#### Focus Area #5 – US 101 Corridor: 12<sup>th</sup> Avenue north to Lewis and Clark Road

The zoning in this focus area is General Commercial, Industrial, and Medium Density Residential. The area contains a mix of uses including strip retail, with large parking lots fronting the highway, light industrial, small-scale retail, including restaurants, and apartments. The Seaside High School fronts the west side of US 101 in this area. Figure 8 illustrates land use at the north end of the study area.



Figure 8: Restaurant/Bar near Lewis and Clark Road, as Viewed from East Side of US 101

#### Other Traffic Generators

Throughout Seaside are several other major destinations that attract people by personal vehicle, bicycle, and foot, and therefore, generate a significant amount of traffic. These uses

attract both visitors outside of Seaside and residents within Seaside. These destinations include:

- Providence Seaside Hospital (South Wahanna Road; south of Broadway)
- Seaside Aquarium (2<sup>nd</sup> Avenue & South Prom)
- Parks (Broadway Park, Goodman Park, Cartwright Park, Quatat Park)
- Seaside Youth Center with Sunset Skate Park and Sunset Public Swimming Pool (Broadway & Lincoln Street)
- Seaside City Library (US 101 between Oceanway Street and 1<sup>st</sup> Avenue)
- Bob Chisholm Community Center, site for hosting classes, meetings, and events (Avenue A & Lincoln Street)
- Post Office (Avenue A & Downing Street)
- Movie Theater (US 101 & 12<sup>th</sup> Avenue and Broadway near Prom)
- Seaside Museum (Necanicum Drive & 6<sup>th</sup> Avenue)
- Schools & Colleges (Seaside High School, Broadway School, Seaside Heights Elementary School, Clatsop Community College South County Center)

## Demographic Analysis

As of the 2000 US Decennial Census (2000 Census), total population within Seaside was 5,900 persons, with an average household size of 2.17. Portland State University's Population Center, which serves as the State's Census office, estimates Seaside's population as 6,400 persons as of July 2007. Table 1 provides a snapshot of demographic statistics, based on the 2000 Census.

TABLE 1  
Select Demographic Characteristics for Seaside, OR

Demographic Characteristics	Number	Percent of Total Population (%)		
		City of Seaside	Clatsop County	Oregon
In labor force (population 16 years and over)	2,964	61.8	63.6	65.1
Persons aged 65 years and older	1,127	19.1	15.6	12.9
Presence of a physical disability	1,368	25.6	20.7	16.3
Speak a language other than English at home	547	9.9	7.1	14.2
Individuals below poverty level	883	15.6	13.2	13.3
Minority population*	286	4.9	4.5	10.9

Source: 2000 US Decennial Census

\* Total minority population based on those of one race either Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and some other race besides White.

Compared to the County and State, the City of Seaside has a higher percentage of people 65 years or older, and a lower percent of the population that is in the labor force. This indicates a higher retired population in the City of Seaside than in other places in the County and the State.

The City of Seaside also has a higher percent of persons with a physical disability (25.6 percent as compared to 20.7 percent in Clatsop County and 16.3 percent in the State of Oregon). Furthermore, the City has a slightly higher percent of persons living below the poverty line than the County and the State. The percent minority population in Seaside is slightly higher than Clatsop County as a whole, but substantially lower than the State average.

Identification of a higher retired population, a higher rate of presence of a physical disability, and higher poverty levels indicate a need to explore transportation improvements that would improve walking conditions, transit service, and safe roadways with clear signage.

Mean travel time to work is often used as an indicator for congestion levels and land use patterns. A higher mean travel time to work than a county or state average would indicate higher levels of congestion or more people living far away from their jobs. However, US Census data show that the mean travel time to work was 17.1 minutes. This is slightly lower than the Clatsop County mean travel time to work of 19.5 minutes, and the State of Oregon mean travel time to work, 21.8 minutes.

As a coastal town with many recreational amenities, Seaside has a great number of part-time residents and visitors. City staff has defined the following groups of people who are users of the Seaside transportation system.

- Residents that are full-time, permanent, year round, and Seaside is their primary residence.
- Residents that are part-time and Seaside is the place of their second home.
- People who live outside Seaside but work in Seaside.
- People who live and work outside Seaside, but come to Seaside to visit/recreate.

Outreach conducted as a part of the planning process will help clarify any differences in transportation needs for these different user groups.

Commercial fishing and lumbering are important in Clatsop County. Tourism plays a major economic role in Seaside, with the food services, drinking places and accommodations industries topping the list of industries with the most jobs in 2004. Food and beverage stores, general merchandise stores, and social assistance services were the remaining top five industries with the most jobs in 2004. Industries adding the greatest number of jobs were food services and bars/grills, accommodations, building material and garden supply stores, ambulatory health care services, and nursing and residential care facilities (Seaside Chamber of Commerce, 2007).

## Bicycle and Pedestrian Facilities

The following pages describe the bicycle facilities present in Seaside. Figure 9 displays existing bicycle and pedestrian facilities on higher order streets (arterials and major collectors, which are defined under City of Seaside Roadways section).

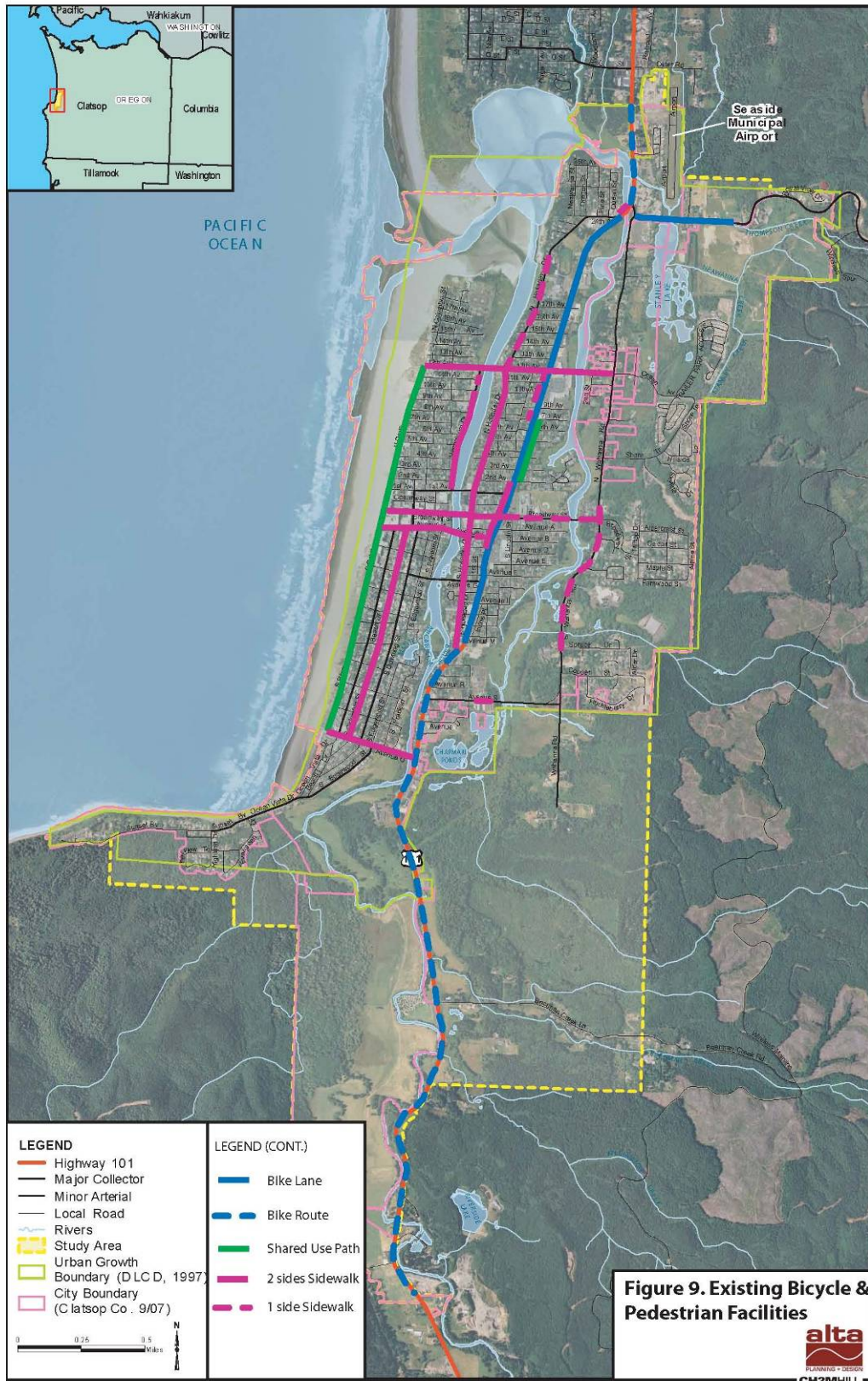
### Bicycle Facilities

According to the American Association of State Highway and Transportation Officials (AASHTO)'s Guide for the Development of Bicycle Facilities (1999) and the Oregon Bicycle and Pedestrian Plan (OBPP), there are several different types of bicycle facilities. Bikeways are distinguished as preferential roadways that have facilities to accommodate bicycles. Accommodation can be a bicycle route designation or bicycle lane striping. Shared use paths are facilities separated from a roadway for use by cyclists, pedestrians, skaters, runners, and others. Bicycles are allowed on all study area roadways.

The following types of bikeways are recognized by AASHTO and OBPP:

- **Shared Roadway / Signed Shared Roadway** – Shared roadways include roadways on which bicyclists and motorists share the same travel lane. This is the most common type of bikeway. The most suitable roadways for shared bicycle use are those with low speeds (25 mph or less) or low traffic volumes (3,000 vehicles per day or fewer). Signed shared roadways are shared roadways that are designated and signed as bicycle routes and serve to provide continuity to other bicycle facilities (i.e., bicycle lanes) or designate a preferred route through the community. Common practice is to sign the route with standard Manual on Uniform Traffic Control Devices (MUTCD) green bicycle route signs with directional arrows. The OBPP recommends against the use of bike route signs if they do not have directional arrows and/or information accompanying them. Signed shared roadways can also be signed with innovative signing that highlights a special touring route (i.e., Oregon Coast Bike Route) or provides directional information in bicycling minutes or distance (e.g., “Library, 3 minutes, 1/2 mile”).
- **Shoulder Bikeway** – These are paved roadways that have striped shoulders wide enough for bicycle travel. ODOT recommends a 6-foot paved shoulder to adequately provide for bicyclists, and a 4-foot minimum in constrained areas. Roadways with shoulders less than 4-feet are considered shared roadways. Sometimes shoulder bikeways are signed to alert motorists to expect bicycle travel along the roadway.
- **Bike Lane** - Bike lanes are portions of the roadway designated specifically for bicycle travel via a striped lane and pavement stencils. ODOT standard width for a bicycle lane is 6 feet. The minimum width of a bicycle lane against a curb or adjacent to a parking lane is 5 feet. A bicycle lane may be as narrow as 4 feet, but only in very constrained situations. Bike lanes are most appropriate on arterials and major collectors, where high traffic volumes and speeds warrant greater separation.

**Figure 9: Existing Bicycle and Pedestrian Facilities (Higher Order Streets)**



- **Shared Use Path** - Shared use paths are used by a variety of non-motorized users, including pedestrians, cyclists, skaters, and runners. Shared use paths may be paved or unpaved, and are often wider than an average sidewalk (i.e., 10 - 14 feet). In rare circumstances where peak traffic is expected to be low, pedestrian traffic is not expected to be more than occasional, good passing opportunities can be provided, and maintenance vehicle loads are not expected to damage pavement, the width may be reduced to as little as 8 feet.

**Bike Lanes / Shoulder Bikeways**

US 101 is designated and signed as the Oregon Coast Bike Route through the City of Seaside, and the highway generally has wide, well-maintained bike lanes or striped shoulders (Figure 10) that are used for bicycle travel through the City, with a few exceptions.



Figure 10: US 101 Bicycle Lane with Stencil

Table 2 summarizes the characteristics for bicycle travel along US 101 in Seaside. Along most of US 101 through Seaside, bike lanes or striped shoulders meet or exceed the 4' minimum recommended by the Oregon Highway Design Manual (HDM). There are two northbound sections and one southbound section with shoulder widths less than 4 feet.

TABLE 2  
US 101 Bicycle Facilities

Northbound Shoulder or Bike Lane		Southbound Shoulder or Bike Lane	
MP to MP	Width (feet)	MP to MP	Width (feet)
18.96 to 19.34	4	18.96 to 19.70	4
19.34 to 19.70	3	19.70 to 19.74	0
19.70 to 19.74	0	19.74 to 20.87	8
19.74 to 21.54	8	20.87 to 21.00	5
21.54 to 22.29	6	21.00 to 21.54	8
22.29 to 23.00	8	21.54 to 22.29	6
		22.29 to 23.00	8

The northbound US 101 bike lane begins at approximately milepost 21.5, near Avenue K. The bike lane continues until reaching the bridge at milepost 19.79. The southbound bike lane exists for the same section of US 101 / Roosevelt Street. Signage and stencils are inconsistent and difficult to see at times.

In addition to the bike lanes along US 101 through Seaside, Lewis & Clark Road has bike lanes from Wahanna Road to Elk Lane, where the roadway becomes a shared roadway as an alternative route into Astoria. The bike lanes are generally of sufficient width; however obstructions (see Figure 11) reduce the usefulness of the bike lane.

Driveways, right turn lanes and lack of access control in some segments of US 101 at the north and south ends of the city contribute to additional hazards on the bicycle facility including: gravel and debris, informal parking, and unpredictable vehicular movements.

### Shared Roadways / Signed Shared Roadways

Most local streets in Seaside are low speed/low volume roadways that could be classified as shared roadways. These streets can accommodate bicyclists of all ages and currently have little need for dedicated bicycle facilities (e.g., bicycle lanes). They generally have low vehicle volumes (3,000 ADT or less) and low posted speeds (25 MPH or less). Curb-to-curb widths range between 25 and 40 feet with typical street cross-sections including two vehicle travel lanes with parking on both sides. Visibility is often obstructed by parked vehicles.

Wahanna Road, the major north-south route east of US 101 has only a striped fog line of variable width (0-2 feet) with no signage or other accommodations for bicyclists (Figure 12).

### Shared Use Path

There are two shared use paths in Seaside – the Promenade and the US 101 Path. The Promenade is a 14-foot wide paved path that runs north-south along the beachfront from Avenue U to 18<sup>th</sup> Avenue, providing access to the beach, hotels, residential areas, and downtown Seaside for visitors and residents alike. The Promenade provides a motorized-traffic-free environment for pedestrians and bicyclists of all ages (Figure 13).



Figure 11: Narrow Bike Lane on Lewis and Clark Road with Trash Can Blocking Lane



Figure 12: Bicyclist Heading North on Wahanna Road while Riding on Fog Line



Figure 13: Young Bicyclist Riding on the Promenade

The US 101 Path is a paved, 7-foot wide path with pedestrian scale lighting that runs north-south parallel to and east of US 101 between 7<sup>th</sup> Avenue and 2<sup>nd</sup> Avenue . At 7-feet in width, the US 101 Path is well below the minimum recommended width for a shared use path. The path currently merges into the existing sidewalk at each terminus. The existing path is build on private property with a 10 foot easement granted for the sidewalk by the local property owners, on an old railroad right-of-way that parallels the existing US 101. The US 101 Path provides a location separated from the highway for bicyclists to reach numerous destinations along US 101. Users of this path still must be aware of cross-traffic at all the intersections and must make awkward transitions at each end of the path.

## Pedestrian Facilities

According to the OBPP, pedestrian facilities are defined as any facilities utilized by a pedestrian or persons in wheelchairs. These types of facilities include walkways, traffic signals, crosswalks, curb ramps, and other features such as illumination or benches. It is important to note that surreys are by ordinance defined as a vehicle; and therefore are not allowed on pedestrian facilities and the Promenade. Rental agencies generally limit use of surreys to west of US 101, in the historic downtown area.

The following types of pedestrian facilities are recognized by AASHTO and the OBPP:

- ***Sidewalks*** – Sidewalks are located along roadways, are separated from the roadway with a curb and/or planting strip, and have a hard, smooth surface, such as concrete. The City of Seaside makes use of unofficial design standards from the unadopted 1997 TSP, which recommends sidewalk widths for city streets between 5 and 6 feet. ODOT standard sidewalk width is 6 feet, with a minimum width of 5 feet acceptable on local streets.
- ***Shared Use Paths*** – Shared use paths are used by a variety of non-motorized users, including pedestrians, cyclists, skaters, and runners. Shared use paths may be paved or unpaved, and are often wider than an average sidewalk (i.e. 10 – 14 feet). In rare circumstances where peak traffic is expected to be low, pedestrian traffic is not expected to be more than occasional, good passing opportunities can be provided, and maintenance vehicle loads are not expected to damage pavement, the width may be reduced to as little as 8 feet.
- ***Roadway Shoulders*** – Roadway shoulders often serve as pedestrian routes in many rural Oregon communities. On roadways with low traffic volumes (i.e., less than 3,000 vehicles per day), roadway shoulders are often adequate for pedestrian travel. These roadways should have shoulders wide enough so that both pedestrians and bicyclists can use them, usually 6 feet or greater.

## Existing Pedestrian Facilities

The following paragraphs describe the bicycle facilities present in Seaside. Figure 9 illustrates existing pedestrian facilities for higher order streets (arterials and major collectors – see Roadway section for a discussion of street classifications).



## Sidewalks

The presence and condition of sidewalks in Seaside varies by location. Where they exist, sidewalks are curb-tight and in variable condition, depending upon age of construction. Sidewalk widths throughout the city measure 4 to 8 feet. The requirement for the construction of sidewalks in the City of Seaside is set forth in City Ordinance §95.02.

### *Facilities between the Promenade and Necanicum River*

A fairly complete sidewalk system (with sidewalks on both sides of streets) exists west of the Necanicum River and south of 12<sup>th</sup> Avenue in Seaside (Figure 14). The presence of sidewalks becomes less consistent on the local streets south of Avenue G, however Beach Drive provides a complete sidewalk network south to Avenue U. The sidewalk environment in the downtown core includes a variety of complementary pedestrian facilities such as Americans with Disabilities Act (ADA)-compliant curb ramps at intersections, sidewalk curb extensions, pedestrian-scale lighting, stamped crosswalk, trash cans – improves the pedestrian experience. Planter strips are rare in the downtown area of Seaside. Field observations indicated low vehicle volumes on local streets around downtown.



*Figure 14: Downtown Seaside with Pedestrian Amenities – Curb Extensions, Street Trees, Pedestrian-Scale Lighting, Stamped Crosswalk, Trash Cans – Improves the Pedestrian Experience*

### *Facilities between the Necanicum River and US 101*

All six of the available crossings of the Necanicum River (12<sup>th</sup> Avenue, 1<sup>st</sup> Avenue, Broadway, Avenue A, Avenue G, and Avenue U) have sidewalks with accessible curb ramps, and the sidewalks are continuous to the intersection with US 101. The presence of sidewalks is less consistent east of the river, with the major north-south connector, Holladay Drive (Figure 15), having a sidewalk on only one side in front of the high school, with newer sidewalk appearing on the opposite as parcels have redeveloped. Along the local streets, where sidewalks exist they are typically older and narrow, often less than 4 feet, and the usable pedestrian space is often narrowed further by vegetation, power poles, sign posts garbage cans, and parked cars (Figure 16).



*Figure 15: Holladay Drive Sidewalk on One Side of the Street Just South of Seaside High School*

US 101 is an obstacle to east-west non-motorized travel in Seaside, with only three signalized intersections providing sheltered access across US 101 through Seaside:

- 12<sup>th</sup> Avenue
- Broadway
- Avenue U

All three of these signalized intersections have marked crosswalks and pedestrian crossing signals. Table 3 below documents the inconsistent sidewalk network along US 101.



Figure 16: 17th Avenue Sidewalk with Reduced Pedestrian Zone due to Presence of Power Pole and Trash Can

TABLE 3  
US 101 Sidewalk Widths (in feet)

Northbound Sidewalk				Southbound Sidewalk			
Highway Section MP to MP	Width	Standard	Meets Standard	Highway Section MP to MP	Width	Standard	Meets Standard
20.18 to 21.90	0	6	No	19.38 to 21.90	0	6	No
20.93 to 21.24	6	6	Yes	20.95 to 21.00	6	6	Yes
22.00 to 22.65	0	6	No	21.03 to 21.06	6	6	Yes
22.68 to 22.76	0	6	No	21.14 to 21.18	6	6	Yes
				21.21 to 21.25	6	6	Yes
				22.00 to 22.33	0	6	No

Source: US 101 Mainline Conditions Report (2005)

### Facilities between US 101 and Eastern Study Boundaries



Figure 17: Spruce Drive Sidewalk on One Side of the Street Leading to Seaside Heights Elementary School

East of US 101, sidewalks have been implemented inconsistently, creating a patchwork network. The sidewalks are primarily located in the residential neighborhoods off of Spruce and Broadway, and along Wahanna Road between Spruce Drive and Broadway. A sidewalk along one side of the road along Spruce Drive provides a continuous pedestrian connection to Seaside Heights Elementary School from Wahanna Road (Figure 17).

The Neawanna Creek is another barrier to east-west travel, with only four roads (US 101/Lewis & Clark Road, 12<sup>th</sup> Avenue, Broadway, and Avenue S) providing connectivity to the eastern portion of town, with only Broadway and 12<sup>th</sup> Avenue providing sidewalks for pedestrian accommodation (Figure 18).



Figure 18: Wide Broadway Drive Sidewalk Connecting Across Neawanna Creek

### Shared Use Paths

Seaside currently has two shared-use paths – The Promenade and the US 101 Path. The Promenade is a 14-foot wide paved path that runs north-south along the beachfront from Avenue U to 18<sup>th</sup> Avenue (Figure 19). The Promenade provides access to the beach, hotels, residential areas, and downtown Seaside for visitors and residents alike.



Figure 19: People Enjoying the Seaside Promenade

The US 101 Path is a paved, 7-foot wide path with pedestrian scale lighting that runs north-south parallel to and east of US 101 between 7<sup>th</sup> Avenue and 2<sup>nd</sup> Avenue. The 7-foot width of the path is well under the recommended width for a shared-use path. The path currently merges into the existing sidewalk at each terminus. The existing path is built on private property with a 10 foot easement granted for the sidewalk by the local property owners, on an old railroad right-of-way that parallels the existing US 101.

## Transit Analysis

### Bus

The Sunset Empire Transportation District (SETD) provides bus transit service to Seaside. Two routes serve Seaside, and are described below. Service for both routes is Monday through Saturday and no service is offered Memorial Day, Labor Day, Thanksgiving, Christmas, and New Years Day. The Seaside Cinema serves as the Transit Center for both routes.

- Route 20 Gray Sea Gull (Gearhart-Seaside-Cannon Beach) is the main route serving Seaside. It serves Wahanna Road, US 101, Holladay Drive, and Broadway, as well as Providence Hospital and Cannes Theater. Service frequency is every hour between approximately 6:40AM and 7:20PM, Monday through Saturday.
- Route 101 Express Pink Salmon Route (Warrenton - Gearhart - Seaside) has one station in Seaside at US 101 and 12<sup>th</sup> Avenue, and is routed north on US 101. Service is hourly at

Seaside Cinema arriving from the north 35 minutes after the hour and departing back north at 40 minutes after the hour. Service is between approximately 6:15AM and 8:00PM, Monday through Saturday.

SETD coordinates services with Oregon Coachways, a charter motor coach company, to provide service to Portland<sup>10</sup>. The bus departs daily from Seaside at 8:40 am, and returns from Portland at 6:20pm. The trip takes 2 hours and 50 minutes and costs approximately \$15 - \$17 dollars, one-way (from Astoria).

SETD operates a Dial-a-Ride service for all the residents of Clatsop County. It is curb-to-curb service provided by appointment on a shared-ride basis using small buses. Advance reservations are required at least 48 hours and up to 14 days in advance to schedule a ride. Priority is given to serving senior citizens and the disabled. Dial-A-Ride is offered Monday through Friday, 8AM to 5PM.

SETD also manages a three-county Medicaid brokerage and the Northwest Ride Center, which accommodates Title XIX Non-Medical ride requests, and ride requests from the Oregon Medical Assistance Program. Higher cost transportation options in the County include private taxi and ambulance services.

Additional transportation services for low income residents, seniors, and people with disabilities are available through churches, assisted living centers, and service agencies such as Coast Rehabilitation and Clatsop County Veterans Services.

SETD also recently connected to the Tillamook County transportation system by offering twice-daily service from Cannon Beach to Manzanita. Efforts are currently underway to further coordinate SETD transit service with adjacent counties. SETD has received a planning grant from ODOT to evaluate the feasibility of an intercity transit route connecting Astoria and Portland via Hwy 30 by connecting with Columbia County Rider. Additionally, the development of a Tri-County Coordinated Services Plan is being discussed.

## Ridership Surveys

Three different transit surveys recently conducted are summarized in this section, SETD on-board survey, Clatsop County Community College survey, and the SETD Coordinated Human Services Public Transportation Plan survey of seniors, people with disabilities, and low-income residents. A summary of each survey is described separately.

Since July 2007, ridership on Route 20 (Gray Sea Gull – Gearhart-Seaside-Cannon Beach) has averaged 3,000 riders per month. In the summer of 2007, SETD administered an on-board rider survey and received 100 completed surveys. Surveys were administered to riders on all routes at different times of day to try to get a good mix of responses. Riders reported riding the bus an average of 3.3 days per week and 12.9 per month. When asked to indicate why they ride the bus, 44 percent of respondents said they take transit because they don't have a car available, 26 percent said they ride because they can't/don't know how to drive, and 18.4 percent said they ride because they prefer to take the bus. The primary trip purposes reported were to go to/from work (31 percent), recreation (5 percent), shopping (21 percent), to visit friends/relatives (15 percent), and school (8 percent). Sixty eight

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<sup>10</sup> <http://www.ridethebus.org/oregoncoachways.html>

percent of respondents said they would definitely continue riding the bus in the future, and none of them said they would stop taking the bus in the future. This result speaks to the high percentage of transit riders in the district that are transit dependent, rather than those who take transit by choice. This is confirmed by Cindy Howe, executive director of the Sunset Empire Transportation District when she explained that their “primary rider for the last 10 years has been the college student who doesn’t have a car, the senior, or the disable person<sup>11</sup>.”

A survey of Clatsop County Community College users was recently conducted (2008) to determine transit ridership patterns amongst the College’s students, faculty and staff. While the main campus of Clatsop Community College is located in Astoria, the city of Seaside hosts the College’s South County Center, which draws students from Seaside, Gearhart, and Cannon Beach. Eighty completed surveys were received (out of over 7,000 Clatsop Community College users), representing an estimated 1 percent of college users. Approximately 13 percent of survey respondents lived in Seaside. Survey results revealed that 31 percent of faculty, students, and staff are currently using the local bus system, whereas 63 percent are not. Of those who did report using the local bus system, 54 percent said they use it one or more times per day, 27 percent said they use it one or more times per week, and 19 percent said they use it one or more times per month. When asked if they would be in favor of receiving a term pass that would allow travel anywhere within the transit system for \$2 - \$4 per term, 94 percent of respondents replied favorably. While survey results were not broken down by campus location, such a college-wide program could have implications for increasing the transit mode share of Seaside students, faculty, and staff.

Seniors, people with disabilities, and low-income residents throughout Clatsop County were also surveyed for the SETD Coordinated Human Services Public Transportation Plan. During the summer of 2007, SETD distributed 700 surveys and received 92 completed surveys in return (a 13 percent response rate). Twenty four percent of survey respondents lived in Seaside. SETD survey results cited in the Coordinated Human Services Public Transportation Plan relevant to the Seaside TSP are summarized below<sup>12</sup>:

- Of the approximately 6,800 Clatsop County residents with the potential for special needs transportation, only about 30 percent actually use public transit.
- Nearly two-thirds of survey respondents (63 percent) either still drive or have access to transportation through family or friends. Of the 37 percent of respondents that do regularly take transit, Dial-a-Ride was used more often than fixed-route bus service.
- Vouchers and volunteer drivers represent less than 5 percent of the transportation options used by these residents.
- Trips are primarily for medical visits, shopping, and job-related classes/trainings or work searches.

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<sup>11</sup> Coast River Business Journal, July 2008

<sup>12</sup> Results cited are directly from the Sunset Empire Transportation District coordinated Human Services Public Transportation Plan. Survey responses represent 1.4 percent of Clatsop County’s population of 6,800 people, which is not statistically representative.

- Two-thirds (65 percent) of respondents rated their overall public transit experience as excellent or good.
- Fifty three percent of respondents rated the NW Ride Center as excellent or good; however, 30 percent of respondents were unfamiliar with the service.

## Roadway Geometry and Conditions

This section describes the current roadway network in Seaside, including geometry and conditions. It is organized into three sections – the state highway, the local roadway network (arterials and collectors), and County owned roadways within the study area.

### State Highway (US 101)

US 101 is a north-south highway that runs up and down the west coast between California and Washington. The highway runs through the City of Seaside. US 101 is the only state-owned highway within the study area. Roadway geometry data for the state highway are discussed below, comparing the existing conditions against state highway standards as described in the HDM, 2003. Three roadway elements are described in this section – travel lanes, shoulders, and medians.

#### Travel Lanes

US 101 carries two through travel lanes with a center left-turn lane through much of Seaside. The standard width for travel lanes is 12' and for center turn lanes is 14' – for the majority of the study area the lanes meet this standard. A summary of the travel lane widths is shown in Table 4:

TABLE 4  
US 101 Travel Lane Widths (in feet)

Highway Section (MP to MP)	Lane 2	Lane 1	Standard	Meets Standard?	TWLTL/LTB	Standard	Meets Standard?
19.00 to 19.70	12	12	12	Yes	14-15	14	Yes
19.70 to 19.74	13	13	12	Yes	LTB (varies)		Yes
19.74 to 20.87	12	12	12	Yes	14/LTB (varies)	14	Yes
20.87 to 21.00	12	13	12	Yes	12	14	No
21.00 to 21.08	13	11	12	No	LTB(varies)		Yes
21.08 to 21.12	13	12	12	Yes	14	14	Yes
21.12 to 21.23	12	13	12	Yes	12	14	No
21.23 to 21.54	12	13	12	Yes	0		Yes
21.54 to 21.59	12	12	12	Yes	14	14	Yes
21.59 to 21.81	12	11	12	No	14	14	Yes
21.81 to 22.13	12	12	12	Yes	14	14	Yes
22.13 to 22.21	12	11	12	No	12 LTB (varies)	14	No Yes
22.21 to 22.29	11	13	12	No	10	14	No
22.29 to 22.48	15	13	12	Yes	0		Yes
22.48 to 23.00	12	12	12	Yes	0		Yes

Source: US 101 Mainline Conditions Report (2005)

TWLTL= Two-way left turn lane

LTB=Left turn bay

The center-turn lane runs through much of Seaside, disappearing most often when it transitions into a left-turn pocket at signalized intersections. There are short locations where the width of the turn lane narrows to 12' or 10'. Additionally there are two locations where the center turn lane disappears; 1) between Avenue C and Avenue M, and 2) south of Avenue U at the south end of the study area.

### Shoulders

Shoulder widths vary from 0' to 8' on US 101 inside Seaside. The sections with shoulder widths that do not meet the standards are between MP 19.00 and MP 19.74 (roughly between 24<sup>th</sup> Avenue and the north end of the City) in the northbound direction, and MP 19.00 to MP 19.74 and MP 20.87 to MP 21.00 (between 3<sup>rd</sup> Avenue and Ocean Way) in the southbound direction. HDM standards call for a shoulder width of 8 feet on highways with ADT above 12,000 ADT for two-lanes, which is the case for US 101 segments within the study area. Table 5 summarizes widths of shoulders on US 101 inside Seaside.

TABLE 5  
US 101 Roadway Shoulder Width (in feet)

MP to MP	Northbound			MP to MP	Southbound		
	Width	HDM Standard	Meets Standard		Width	HDM Standard	Meets Standard
19.00 to 19.34	4	8	No	19.00 to 19.70	4	8	No
19.34 to 19.70	3	8	No	19.70 to 19.74	0	8	No
19.70 to 19.74	0	8	No	19.74 to 20.87	8	8	Yes
19.74 to 21.54	8	8	Yes	20.87 to 21.00	5	8	No
21.54 to 22.29	6	8	No	21.00 to 21.54	8	8	Yes
22.29 to 23.00	8	8	Yes	21.54 to 22.29	6	8	No
				22.29 to 23.00	8	8	Yes

Source: US 101 Mainline Conditions Report (2005)

### Medians

US 101 is classified by ODOT as a statewide highway with a standard for median width of four feet through the majority of the City. Presently there is a center-turn lane through most of the city, with left-turn lanes at signalized intersections.

### City of Seaside Roadways

Presently the City of Seaside does not have adopted design standards. A set of proposed street design recommendations was compiled during the development of the 1997 Seaside TSP, but were not adopted. Although these street design recommendations were never codified into standards, the proposed recommendations are used by the City as design guidelines for developers and for general planning purposes. These roadway design guidelines are shown in Table 6.

TABLE 6  
City of Seaside Roadway Design Guidelines (in feet)

Classification	Lanes	Right-of-Way (feet)	Turn Lanes	Travel Lanes (feet)	Bike Lane (feet)	On-Street Parking	Planter Strip	Sidewalks
Arterial	3-5	68-92	Yes	12	5	No	Yes	Yes
Major Collector	2-3	44-62	Yes	12	5	Optional	Optional	Yes
Neighborhood Collector	2	32-58	No	11	5	Optional	Optional	Yes
Local Street	2	30-46	No	10	5	Optional	Optional	Yes

Source: Draft 1997 Seaside Transportation System Plan, 1997 (p.91; Table 8)

City design standards call for arterials to have a 5 foot bike lane; however, the only current arterial is Roosevelt Drive, which is us 101 and an ODOT facility, therefore, the ODOT standard of a 6 foot bike lane takes precedence over the city standards. If other arterials are



developed within the city, the city standard of a 5 foot bike lane would apply. A 6 foot bike lane is more desirable than a 5 foot bike lane from a safety and user perspective.

### Functional Classification

The purpose of classifying streets is to provide a balanced transportation system that provides both mobility for all modes at acceptable levels of service and reasonable access to land uses. The functional classification defines a street's role and context in the overall transportation system and how it is used within the community. In addition, the classification defines desirable roadway width, right-of-way needs, access spacing, and pedestrian and bicycle facilities. Seaside does not have an adopted street classification system. However, City staff generally identifies several streets as arterials, major collectors, or neighborhood collectors.

Functional classifications balance the need for mobility, getting from point A to B quickly, with access, the need to get to land uses. As access points increase, mobility tends to decrease because traffic slows to allow for turns onto and off of the roadway. Drivers slow down to make turns off a roadway, and accelerate after making a turn onto a roadway. The differences in travel speed caused by accelerating and decelerating vehicles interrupt the overall flow of traffic. As illustrated in Figure 20 below, functional classifications balance mobility with access.

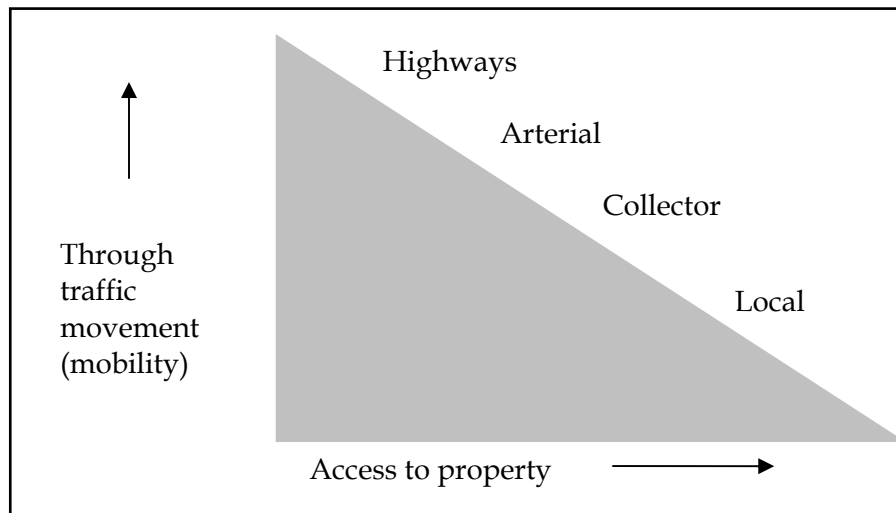


Figure 20: The Balance of Through Traffic Movement versus Access to Property

Since functional classifications define the role of a roadway in the transportation system and overall community, those roadways that have a greater emphasis on mobility, highways and arterials, limit the number of access points to provide for better traffic flow.

This section compares streets based on their functional classification to the corresponding design standards generally. Design standards represent the ideal, and are applied to new streets. Retrofitting an existing system of streets to meet design standards is often impracticable; therefore, deficiencies in the system are defined instead through other means such as safety analysis, future traffic demand analysis, bicycle and pedestrian needs analysis, and public input. Design standards aid in defining potential improvements, but alone do not prompt improvement on existing roadways.

### *Arterials*

Arterial streets are generally defined as providing a high degree of mobility and serving longer trips to, from, and within urban areas. The arterial system often connects urban elements with suburban and rural areas. City staff identifies Roosevelt Drive (US 101) as the city's only arterial street. Generally Roosevelt Drive has either striped bike lanes or a wide shoulder for bicycles. Sections of Roosevelt Drive have sidewalks, but they are not continuous. More information on US 101 is provided in the previous section.

### *Major Collectors*

Major collectors are an intermediate class of street that typically serve as the most direct link between local roadways and arterials. Mobility is balanced with access to and from the roadway on Major Collectors. City staff identifies the following streets as Major Collectors:

- 12<sup>th</sup> Avenue (east of Necanicum Drive)
- Wahanna Road
- Holladay Drive
- Necanicum Drive
- Avenue U
- Avenue S (east of Roosevelt Drive)
- Avenue A/Avenue B
- Broadway (west of Wahanna Road)
- Columbia (between Avenue A and 1<sup>st</sup> Avenue)

Most major collectors are not fully built up to the unofficial, unapproved City standards, but generally meet travel lane width standards. Many major collectors have sidewalks on both sides of the street, though there are several exceptions, listed below. Major collectors do not currently have bicycle facilities.

- 12<sup>th</sup> Avenue (east of Necanicum Drive) – sidewalks complete between Promenade and Necanicum Drive, but non ADA compliant; between Necanicum Drive and US 101, sidewalks are complete, but narrow in some sections; no sidewalks exist east of Queen Street.
- Wahanna Road – on the west side of Wahanna Road a few sidewalks exist in front of newer developments, but are largely absent. The narrow right-of-way of 30 feet is a constraint.
- Holladay Drive – sidewalk on east side only between 12<sup>th</sup> Street and high school; no sidewalk on either side between high school and US 101 (northern end).
- Necanicum Drive – sidewalks are nearly complete on the west side, with the exception of undeveloped parcels and the two blocks south of 12<sup>th</sup> Avenue.
- Avenue U – complete sidewalks on both sides.

- Avenue S (east of Roosevelt Drive/ US 101) – no sidewalks except two short sections in front of new development.
- Avenue A/ Avenue B – sidewalks on both sides between Prom and Holladay Drive; sidewalk existing on north side only between Holladay Drive and US 101.
- Broadway (west of Wahanna Road) – sidewalk complete on both sides between Wahanna Road and US 101, except on south side between US 101 and Lincoln Street; sidewalks on both sides between Prom and US 101.
- Columbia (between Avenue A and 1<sup>st</sup> Avenue) – complete sidewalks on both sides.

### *Neighborhood Collectors*

Neighborhood Collectors have a similar role to Major Collectors in the transportation system; however, they are expected to carry lower traffic volumes. The function of Neighborhood Collectors is to provide a connection within neighborhoods between higher order streets, Major Collectors and Arterials, and Local Streets. These types of Collectors generally have slower posted speeds than Major Collectors. The unique feature of Neighborhood Collectors is that turn lanes at intersections are not provided and stop signs are used for traffic control. City staff identifies the following streets as neighborhood collectors:

- Franklin Street
- Beach Drive (between Avenue A and Avenue U)
- Downing Street (between 1<sup>st</sup> Avenue and 9<sup>th</sup> Avenue)
- Spruce Drive
- Broadway (east of Wahanna)
- Shore Terrace
- Edgewood Drive (south of Avenue U)
- Lincoln Street (south of Broadway)
- 12<sup>th</sup> Avenue (east of Holladay Drive)
- 12<sup>th</sup> Avenue and 11<sup>th</sup> Avenue as a one-way couplet (between North Prom and Necanicum Drive)

Most neighborhood collectors are not currently built to unofficial, unapproved City standards, but generally meet travel lane width standards. Most neighborhood collectors have sidewalks on both sides of the street, though there are several exceptions, as listed below. Neighborhood collectors do not currently have bicycle facilities.

- Franklin Street – no sidewalks
- Downing Street – no sidewalks
- Spruce Drive – few sidewalks in front of newer development only

- Broadway – sidewalk on one side west of Wahanna Road
- Shore Terrace – sidewalk on one side only
- Edgewood Drive – few sidewalks in front of new development only
- Lincoln Street – no sidewalks

### *Local Streets*

The purpose of local streets is to provide direct access to land uses, mainly residences. Local streets carry lower volume of traffic than collectors and arterials. Local streets generally feed into neighborhood collectors. Access is the most important role for local streets. Local streets primarily serve personal vehicles, pedestrians, and cyclists from residences, and generally do not carry truck traffic. All streets, not otherwise defined as an arterial or collector are local streets.

Local streets are not analyzed as part of this TSP.

## **Clatsop County Roadways**

Clatsop County roadways within the study area are listed below. The functional classification for each roadway as defined Clatsop County Transportation System Plan (2003) is also listed:

- Wahanna Road south of Avenue S – minor arterial
- Wahanna Road north of 13th Avenue – minor arterial
- Lewis and Clark Road east of US 101 – minor arterial
- Beerman Creek Lane east of US 101 – local roadway

Clatsop County owned roadways were identified using Clatsop County GIS data. The Clatsop County Transportation System Plan (2003) does not define design standards for County Roadways; however does state that there are no County facilities with more than two travel lanes.

## **Traffic Analysis**

The existing conditions traffic analysis describes the motor vehicle operations for the existing (2008) P.M. peak hour conditions based on existing roadway geometry and lane configuration. This information provides the project team with an understanding of mobility level and length of delay on the roadway network within the City of Seaside.

A traffic operations model network was constructed in Synchro for the Seaside TSP study area, based on field observations and signal timing data provided by ODOT and the City of Seaside.

The Synchro model uses methodology defined in the 2000 Highway Capacity Manual (HCM 2000) to analyze both signalized and stop-controlled intersections. The model computes the volume-to-capacity (V/C) ratio necessary to determine whether the

intersection meets the applicable mobility standards established by the Oregon Highway Plan (OHP) or City of Seaside.

## Study Intersections and Traffic Counts

The 14 study intersections included in the Seaside TSP are listed below and illustrated in Figure 21:

### Signalized Intersections

1. Highway 101 and 12th Avenue
2. Highway 101 and Broadway
3. Highway 101 and Avenue U
4. Broadway and Columbia Street

### Unsignalized (Stop-Controlled) Intersections

5. Highway 101 and Lewis and Clark Road
6. Highway 101 and 24th Avenue
7. Broadway and Holladay
8. Broadway and Wahanna Road
9. Highway 101 and Holladay
10. Highway 101 and Avenue S
11. 12th Avenue and Holladay Drive
12. 12th Avenue and Wahanna Road
13. Wahanna Road & Cooper Road
14. Avenue U and Edgewood Street

The operational analysis examined four signalized intersections and ten unsignalized intersections. Traffic counts for each of the intersections were conducted in April 2008. In response to a request from the Seaside City Council and the Seaside Planning Commission, additional traffic counts for those intersections along US 101 were collected in July 2008 to ensure capture of peak summertime conditions. All counts were collected between 6:00 AM and 9:00 PM.

## Traffic Analysis Method

A peak hourly volume for the study area was identified from the 16-hour counts collected for each of the study intersections. The peak hour is the single hour of the day that has the highest hourly volume. The individual intersection peak hour volumes are depicted in Figures 21 through 25 at the end of this section. These individual peak hour volumes were compared with the peak hour volumes at other study intersections to determine a common peak hour for analysis. These common hour volumes were used as the basis for the calculation of the 30th Highest Hour traffic volume (30 HV) for all the of the study intersections. The intersection volumes during the common peak hour, determined to be 4:15 to 5:15 PM, are shown in Figures 21 through 25.

To obtain the 30 HV it is necessary to apply a seasonal adjustment factor to the traffic counts. The factors were obtained from Automated Traffic Recorder (ATR) stations that collect hourly traffic volumes for every day of the year. There were no ATR stations located in the immediate study area, but one is located in Gearhart, north of the study area. Table 7

below presents the five most recent years of seasonal adjustment factors at the Gearhart ATR station. A seasonal adjustment factor used of 1.34 for April counts was calculated. All intersections were adjusted using the same seasonal adjustment factor. Figures 21 through 25 present the seasonally adjusted intersection peak hour volumes.

TABLE 7  
Summary of ATR Sites Used for Seasonal Adjustment

Station Name	Station Number	Highway Route Number	2006 AADT	Peak Month	Count Month		Seasonal Adj. Factor (April/July)
					APRIL	JULY	
Gearhart	04-001	OR 9	13,800	<i>2006: 1.27</i>	<i>1.00</i>	1.25	1.34 / 1.04
				2005: 1.30	0.97	1.25	
				2004: 1.30	0.96	1.27	
				2003: 1.31	0.97	1.25	
				<i>2002: 1.31</i>	0.97	1.25	

Gray italicized numbers are the high and low monthly count factors removed before calculating the seasonal adjustment factor.

The seasonally adjusted peak hour volumes were then balanced between local intersections only (see Figures 21 through 25). From the analysis methodology, the volumes along Highway 101 were not balanced due to the presence of multiple driveways along the mainline, where significant vehicle volumes can enter and exit the highway between study intersections. Local city streets were balanced because driveway volumes were not as significant.

### Mobility Standards and Designations

State Highway Mobility Standards were developed for the 1999 Oregon Highway Plan (OHP) as a method to gauge reasonable and consistent standards for traffic flow along state highways. Within the study area, seven of the 14 study intersections are located along US 101. The maximum allowable V/C ratios are outlined in Table 8 below.

TABLE 8  
Relevant State Mobility Standards on Highway 101 within City of Seaside

Mile Post	Study Intersections	Speed Limit (MPH)	Planning V/C Ratio
18.80 – 20.41	Wahanna Road, 24 <sup>th</sup> Avenue	40	0.80
20.41 – 22.38	12 <sup>th</sup> Avenue, Broadway, Avenue U, Avenue S, Holladay Drive	35	0.85

### Operational Analysis of Existing Conditions (30th Highest Hour)

Table 9 presents the intersection V/C ratios for each of the study intersections under existing (2008) 30th Highest Hour design volumes. Three of the study intersections currently do not meet applicable operational standards (Highway 101 and 12th Avenue, Highway 101 and Broadway and Highway 101 and 24th Avenue).

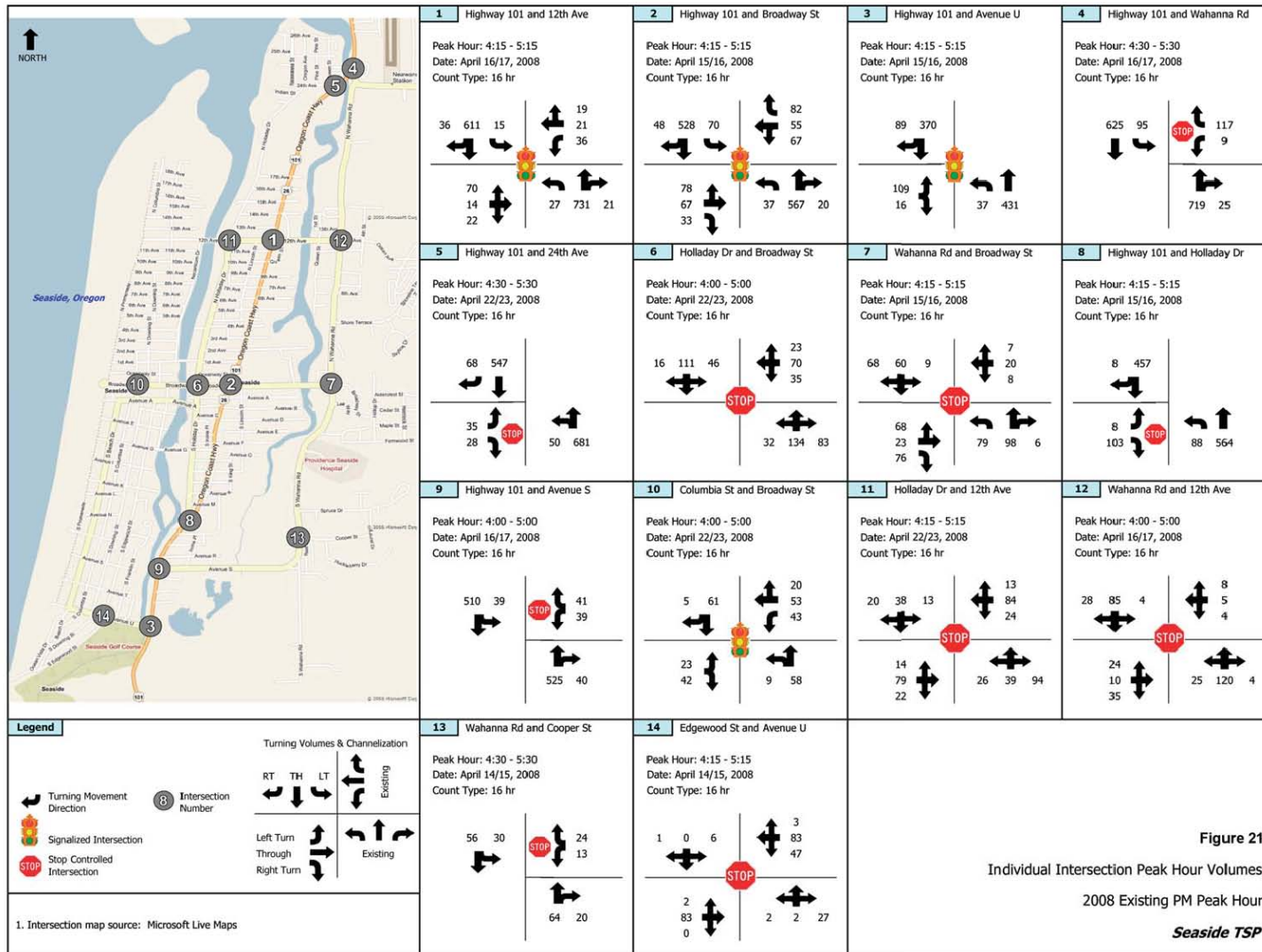
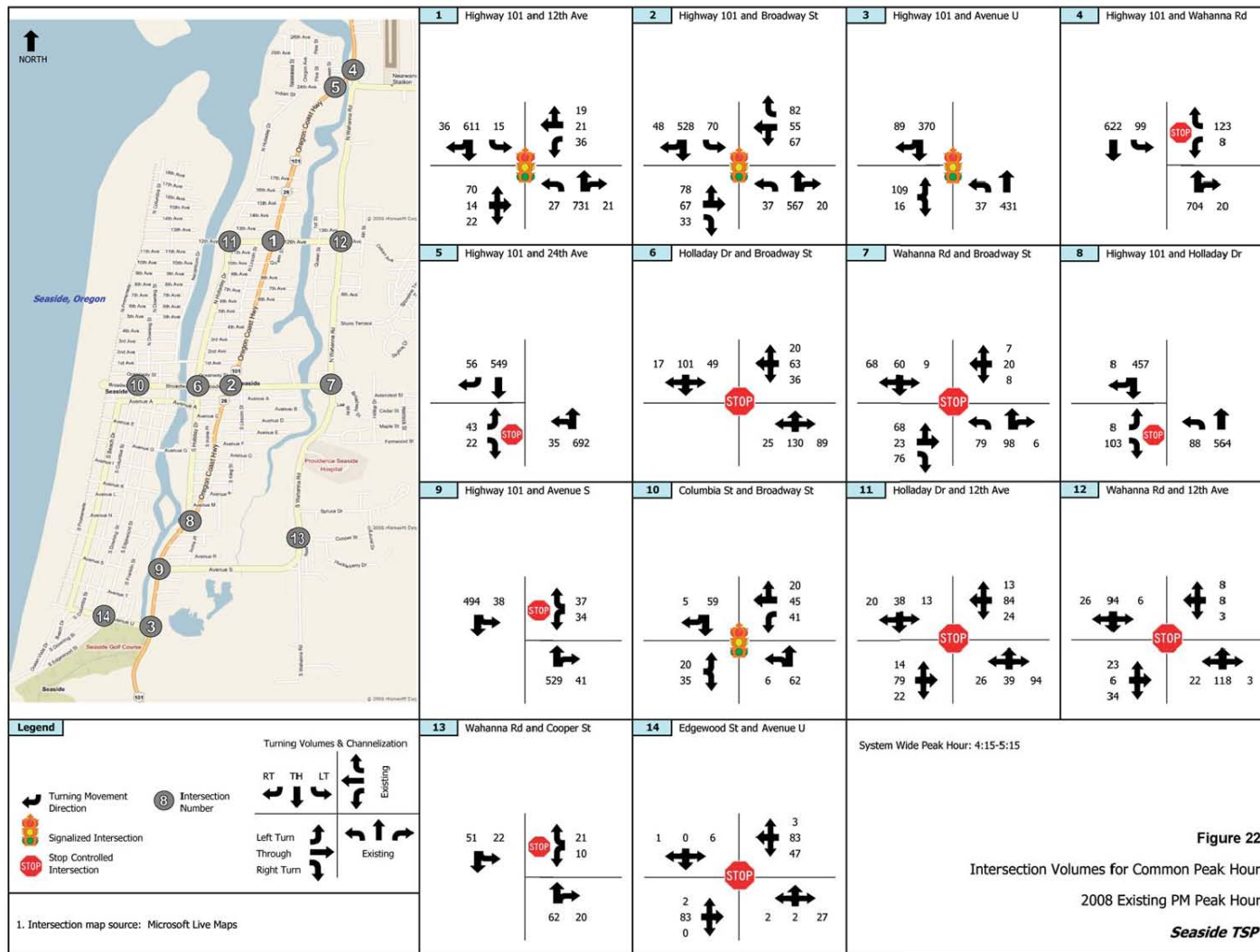
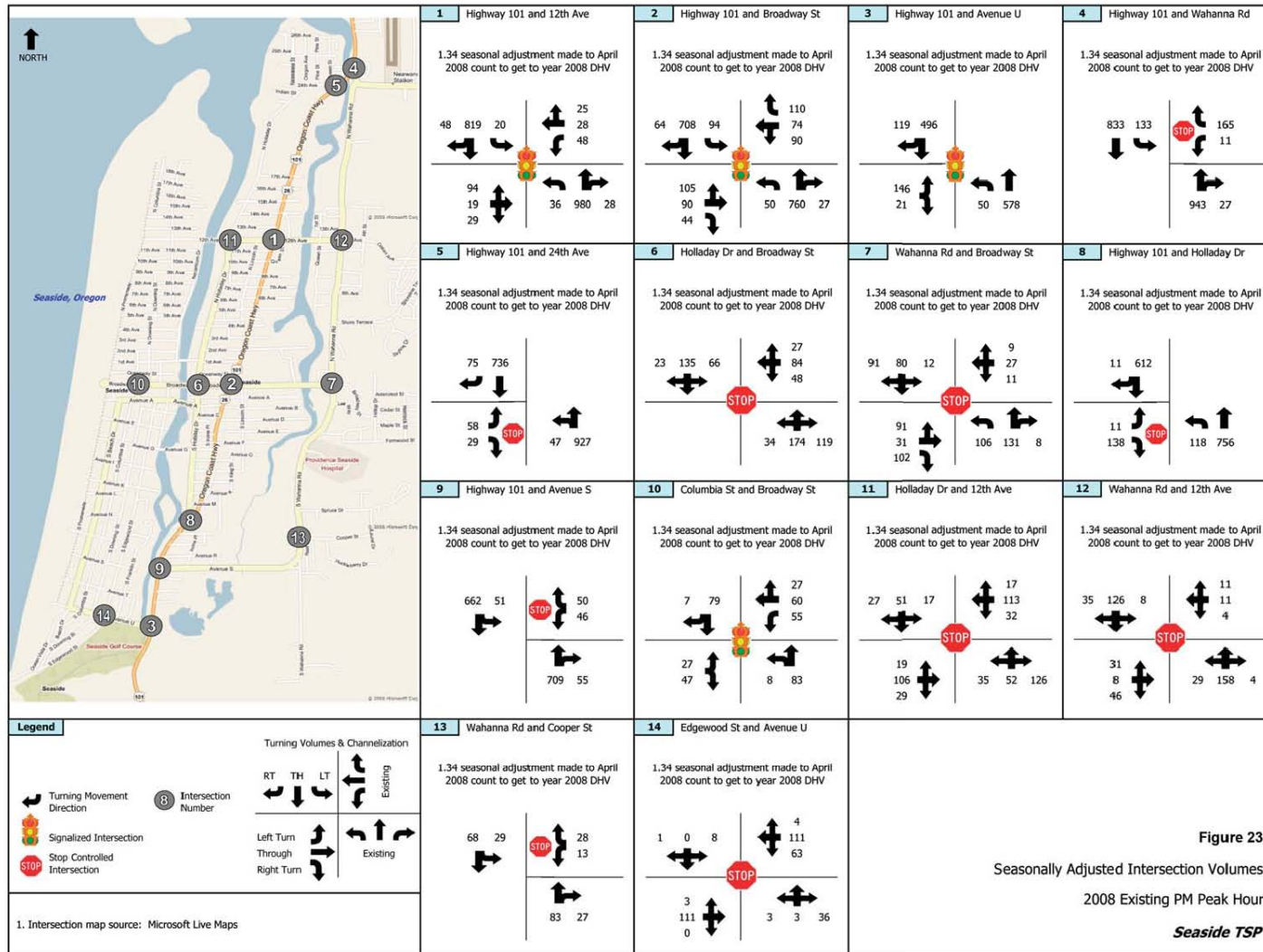


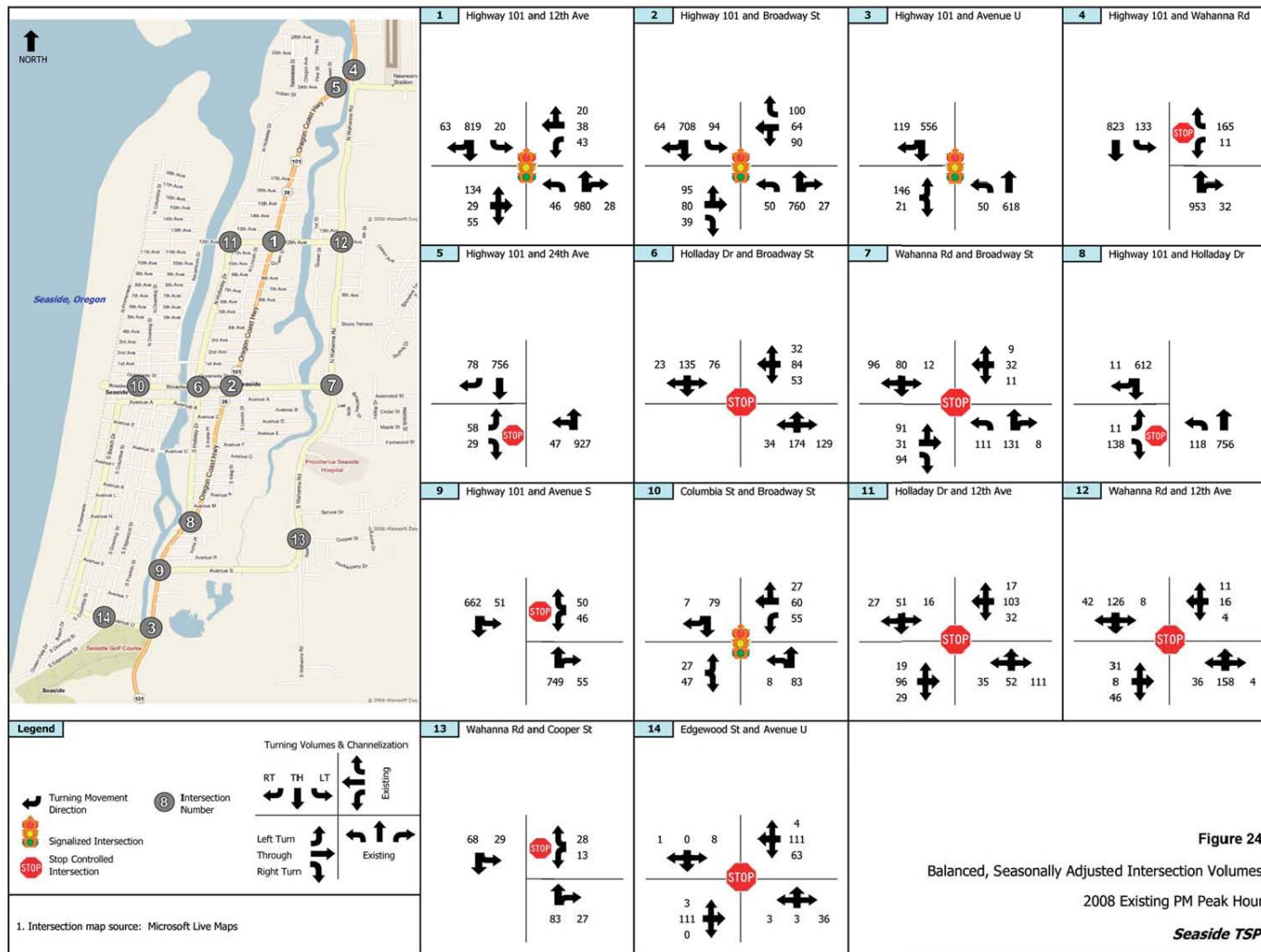
Figure 21  
Individual Intersection Peak Hour Volumes  
2008 Existing PM Peak Hour  
Seaside TSP

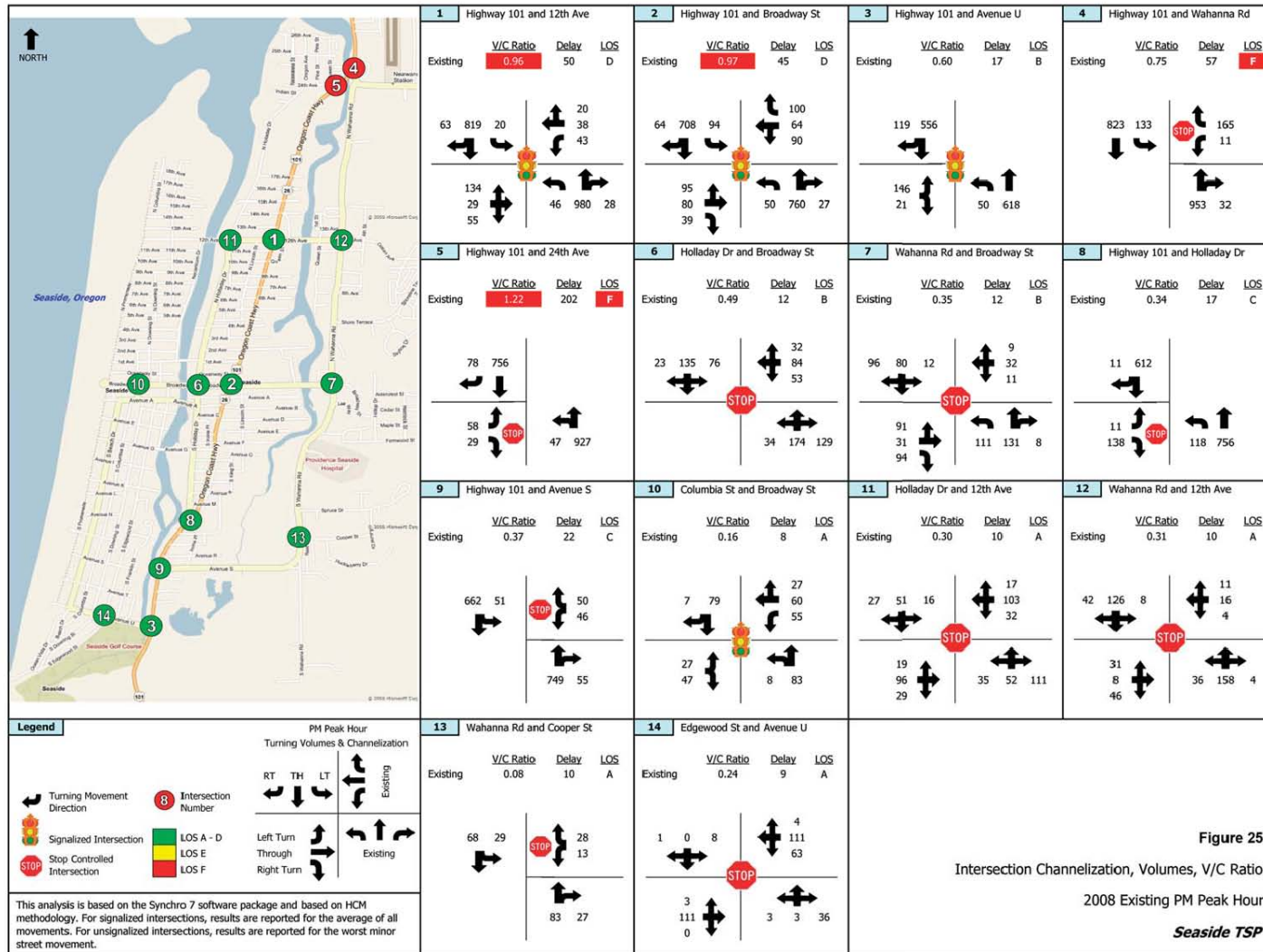






**Figure 23**  
Seasonally Adjusted Intersection Volumes  
2008 Existing PM Peak Hour  
*Seaside TSP*





**Figure 25**  
Intersection Channelization, Volumes, V/C Ratio  
2008 Existing PM Peak Hour  
*Seaside TSP*

Figure 21 presents the study intersection channelization and control, as well as the existing condition level of service, delay, and V/C ratios.

V/C ratios that exceed mobility standards indicate that the intersection experiences congestion and operates fairly poorly on at least one approach during the peak period. Intersection V/C ratios lower than the mobility standards indicate that intersections are likely operating at acceptable levels of mobility.

As shown in Table 9, three of the 14 intersections analyzed do not meet the OHP or City of Seaside V/C thresholds, Highway 101 and 12th Avenue, Highway 101 and Broadway, and Highway 101 and 24th Avenue. City of Seaside V/C existing mobility standards are based on 1999 Oregon Highway Plan Policy Element (Table 6: Maximum Volume to Capacity Ratios for Peak Hour Operations). The highest V/C ratio of a signalized intersection (0.97) is experienced at Highway 101 and Broadway. Each approach experiences V/C ratios that exceed the mobility standard. Highway 101 and 12th Avenue operates similarly (V/C of 0.96). Both streets (Broadway and 12th Avenue) are used as primary east-west connections across Highway 101 within the City of Seaside. The approach volumes on these cross streets are nearing the roadway capacity, and motorists are likely to experience high delay times as they wait for opportunities to cross the highway. The highest V/C ratio of a stop-controlled intersection occurs at the intersection of Highway 101 and 24th Avenue. The minor approach (24th Avenue) is stop controlled while the major approaches are uncontrolled (free movements). Similar to Broadway and 12th Avenue, vehicles on 24th Avenue have long delays as they wait for a gap in traffic to enter Highway 101.

Additionally, summer weekend counts were conducted at each intersection along US 101 on the Saturdays of July 19th and 26th, 2008. These counts were collected by ODOT, and were analyzed in order to present a comparison between the April weekday analyses. The July count data also shows that the seasonal adjustment factor applied to the April weekday counts was reasonable, as the v/c results are similar between the two months. The seasonal adjustment factor used for the July counts was 1.04 compared with 1.34 for the April counts.

Overall, seasonally adjusted July vehicle volumes were slightly lower than the adjusted April counts. See Figure A-1 in Attachment A for a graphical comparison of the raw count volumes in April and July. These raw count volumes are presented for the respective common system peak hour. Figure A-2 presents the seasonally adjusted traffic volumes in April and July that were analyzed in Synchro. Travel patterns remained fairly consistent with some differences in minor approach street travel patterns. All intersections studied in July met the applicable mobility standard, except Highway 101 and Broadway, which operates at a v/c ratio of 0.90. The intersections of Highway 101 and 12th Avenue and Highway 101 and 24th Avenue operate near the mobility standard.

**TABLE 9**  
Seaside TSP Traffic Analysis Results

ID	Intersection	Control Type	Existing Mobility Standard	April Intersection Performance		July Intersection Performance	
				Average Vehicle Delay (sec)	V/C Ratio	Average Vehicle Delay (sec)	V/C Ratio
1	Highway 101 and 12th Avenue	Signal	0.85	<b>50.2</b>	<b>0.96</b>	33.5	0.80
2	Highway 101 and Broadway	Signal	0.85	<b>45.3</b>	<b>0.97</b>	<b>32.9</b>	<b>0.90</b>
3	Highway 101 and Avenue U	Signal	0.85	16.6	0.60	18.2	0.79
4	Highway 101 and Wahanna Road	TWSC	0.80	56.6	0.75	24.3	0.52
5	Highway 101 and 24th Avenue	TWSC	0.80	<b>201.9</b>	<b>1.22</b>	68.4	0.67
6	Broadway and Holladay Drive	AWSC	0.90	12.2	0.49	N/A	N/A
7	Broadway and Wahanna Road	AWSC	0.90	11.6	0.35	N/A	N/A
8	Highway 101 and Holladay Drive	TWSC	0.85	17.2	0.34	21.1	0.59
9	Highway 101 and Avenue S	TWSC	0.85	22.4	0.37	30.4	0.67
10	Broadway and Columbia Street	Signal	0.90	7.7	0.16	N/A	N/A
11	12th Avenue and Holladay Drive	AWSC	0.90	9.7	0.30	N/A	N/A
12	12th Avenue and Wahanna Road	AWSC	0.90	9.8	0.31	N/A	N/A
13	Wahanna Road and Cooper Road	TWSC	0.90	9.6	0.08	N/A	N/A
14	Avenue U and Edgewood Street	AWSC	0.90	8.7	0.24	N/A	N/A

Note: **Bold** type indicates intersections with one or more approach operating worse than Oregon Highway Plan mobility standards.

TWSC: Two-way stop-controlled

AWSC: All-way stop-controlled

Existing mobility standards for local intersections (those not along US 101) are established from 1999 Oregon Highway Plan, Policy Element, Table 6: Maximum volume to capacity ratios for peak hour operating conditions.

Table 10 below indicates intersection operation results based on the July counts.

TABLE 10  
Seaside TSP July Count Traffic Analysis Results

ID	Intersection	Control Type	Existing Mobility Standard	Intersection Performance	
				Average Vehicle Delay (sec)	V/C Ratio
1	Highway 101 and 12th Avenue	Signal	0.85	33.5	0.80
2	Highway 101 and Broadway	Signal	0.85	<b>32.9</b>	<b>0.90</b>
3	Highway 101 and Avenue U	Signal	0.85	18.2	0.79
4	Highway 101 and Wahanna Road	TWSC	0.80	24.3	0.52
5	Highway 101 and 24th Avenue	TWSC	0.80	68.4	0.67
6	Broadway and Holladay Drive	N/A	N/A	N/A	N/A
7	Broadway and Wahanna Road	N/A	N/A	N/A	N/A
8	Highway 101 and Holladay Drive	TWSC	0.85	21.1	0.59
9	Highway 101 and Avenue S	TWSC	0.85	30.4	0.67
10	Broadway and Columbia Street	N/A	N/A	N/A	N/A
11	12th Avenue and Holladay Drive	N/A	N/A	N/A	N/A
12	12th Avenue and Wahanna Road	N/A	N/A	N/A	N/A
13	Wahanna Road and Cooper Road	N/A	N/A	N/A	N/A
14	Avenue U and Edgewood Street	N/A	N/A	N/A	N/A

Note: **Bold** text indicates intersections with one or more approach operating worse than Oregon Highway Plan mobility standards.

July count data was conducted for intersections on Highway 101 only. No July weekend counts were taken at local intersections.

TWSC: Two-way stop-controlled

AWSC: All-way stop-controlled

Existing mobility standards for local intersections (those not along US 101) are established from 1999 Oregon Highway Plan, Policy Element, Table 6: Maximum volume to capacity ratios for peak hour operating conditions.

## Safety Analysis

A segment and intersection safety analysis was performed to identify any unsafe existing conditions in Seaside. Unsafe conditions are often indicated by level of severity or patterns in the type of crash that occurs. This analysis is based on crashes that have occurred and were recorded. This information is considered along with observations from the site visit and feedback from the public to prepare recommendations to improve driver, bicyclist, and pedestrian safety within the study area.

### US 101

Vehicle crash rates for study intersections and corridor segments were analyzed for the most recent five years of available data (January 1, 2002 to December 31, 2006). Crash data were provided by ODOT for the 14 study intersections and 4.83 miles of US 101 (MP 19.58 to

24.41) within the study area. In addition, crash patterns for any other intersections experiencing five or more crashes during this period are described. The crash data were analyzed for type, severity and location of crashes. The following discussion summarizes the crash rates and the important patterns that emerged from the analysis.

Crash rates, expressed in “crashes per million vehicle-miles traveled,” are used to compare the crash experience of one roadway segment to another. This rate expresses how many crashes might be expected of vehicles traveling through a particular section of roadway for a cumulative total of one million miles.

This analysis is organized into three sections – segment crash rates, which consider the US101 corridor; intersection crash rates, which analyze each study intersection; and Safety Priority Index System (SPIS) sites, which highlight any areas within the study area which have been flagged by the state for crash frequency and/or severity.

### Segment Crash Rates

A total of 168 crashes were reported for the five-year period within the study area. Of this total, 83 crashes (or 49 percent) resulted in an injury<sup>13</sup> and 85 crashes (or 51 percent) resulted in property damage only. No fatalities were reported along US 101 within Seaside during this period.

The predominant crash type along US 101 was rear-end collisions. A total of 116 rear-end collisions (69 percent of all segment crashes) occurred during January 1, 2002 to December 31, 2006, the most recent five years of available data. Crashes involving vehicles colliding at angles or while turning accounted for 21 percent of the total reported crashes (remaining were rear-end, head-on, fixed object, and miscellaneous).

Three separate segments along US 101 through Seaside were analyzed within the study area. These segments are listed below.

- Segment 1: Seaside North City Limits to 12<sup>th</sup> Avenue (MP 19.58 to MP 21.01)
- Segment 2: 12<sup>th</sup> Avenue to Broadway (MP 21.09 to MP 22.12)
- Segment 3: Broadway to Seaside South City Limits (MP 22.19 to MP 24.41)

US 101 was broken into these segments according to location of signalized intersections and average annual daily traffic volumes. Segments 1 and 2 are both classified as urban principal arterials by ODOT, but the average daily traffic volume for Segment 1 in 2006 (17,100 vehicles) was over 1,000 vehicles greater than the average in Segment 2 (16,000 vehicles). Segment 3 is also classified as an urban principal arterial by ODOT, but the average daily volume in 2006 (14,600 vehicles) was lower than the other two segments.

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<sup>13</sup> ODOT Statewide Crash Data System Motor Vehicle Traffic Crash Analysis and Code Manual (2007) defines severity of crash categories in the following way:

- a) Fatal crash is a motor vehicle crash that results in fatal injuries to one or more persons.
  - b) Non-fatal injury (injury) crash is a motor vehicle crash that results in any injury, but not resulting in death.
  - c) Property damage crash (PDO) is a motor vehicle crash in which there is no injury to any person, but only damage to a motor vehicle, other road vehicle, or to other property, including injury to domestic animal
- These categories are distinct and do not overlap.

A minimum segment length of 1 mile was analyzed (as recommended by TPAU’s Analysis Procedures Manual, Chapter 5.2). Table 11 below summarizes the collision severity and types for crashes on US 101 through the study area.

TABLE 11  
US 101 5-year Crash Severity and Type

Segment	Crash Severity			Total Crashes	Type of Crash				
	PDO	INJ	FAT		Rear End	Head-On	Angle/Turning	Fixed Object	Other
MP 19.58 – 21.01	30	31	0	61	46	0	12	1	2
MP 21.09 – 22.12	35	21	0	56	43	1	9	0	3
MP 22.16 – 24.41	4	11	0	15	5	0	5	4	1
<b>Total</b>	<b>69</b>	<b>63</b>	<b>0</b>	<b>132</b>	<b>94</b>	<b>1</b>	<b>26</b>	<b>5</b>	<b>6</b>

Source: 2006 State Highway Crash Rate Tables, ODOT  
 PDO: Property Damage Only  
 INJ: Injury  
 FAT: Fatality

The crash rate was computed for each segment based on reported crashes between 2002 and 2006, as shown in Table 12 below.

TABLE 12  
Crash Rates along US 101 in Seaside

Segment Mileposts	Year 2006 Crash Rate	Year 2006 Statewide Average Crash Rate <sup>1</sup>	5-Year Average Crash Rate	5-Year Statewide Average Crash Rate <sup>1</sup>
Segment 1: MP 19.58 – 21.01 (1.43 mi.)	2.13	2.24	2.02	2.51
Segment 2: MP 21.09 – 22.12 (1.03 mi.)	1.83	2.24	2.09	2.51
Segment 3: MP 22.19 – 24.41 (2.22 mi.)	0.84	1.45	0.25	1.36

Note: Crashes are reported in number of crashes per million vehicle-miles (mvm).

<sup>1</sup> Source: 2006 State Highway Crash Rate Tables, ODOT. All segments are part of the urban highway system. Segments 1 & 2 are considered non-freeway (combined) urban segments. Segment 3 is considered a non-freeway (combined) suburban segment.

All segments had lower crash rates than the statewide average, both for 2006 and for the five year average, although segments 1 and 2 had a high proportion of rear-end type crashes. There were no fatal crashes along these segments during the time period analyzed. Crash rates along these segments may be lower than the statewide average due to the high percentage of through trips.

### Intersection Crash Rates

To provide direct comparison between locations, crash rates were computed for the study area intersections. Intersection crash rates are calculated in the same way as corridor crashes, but do not include a segment distance because they occur at a single location. Intersection crash rates are reported as the number of accidents that occur per million entering vehicle-miles (mevm). Two non-study intersections within the City of Seaside had



five or more crashes from 2002 to 2006. Seven crashes occurred at the intersection of South Holladay Drive and Avenue A, none resulting in a fatality. Five crashes occurred at the intersection of Necanicum Drive and 1st Avenue, none resulting in a fatality. At each intersection a majority of the crashes involved turning vehicles which is a common type of crash at two-way stop-controlled intersections. A summary of intersection crash rates is provided in Table 13.

TABLE 13  
Seaside Intersection Crash Rates

Intersection	ADT	Average Annual Number of Crashes (2002-2006) <sup>1</sup>			Yearly Crash Avg.	Crash Rate (crashes/MEV)
		PDO	INJ	FAT		
Highway 101 and 12 <sup>th</sup> Avenue	19605	2.8	2	0	4.8	0.67
Highway 101 and Broadway	19465	2.6	0.6	0	3.2	0.45
Highway 101 and Avenue U	13960	2.2	1.4	0	3.6	0.71
Highway 101 and Wahanna Road	19440	0.8	1.2	0	2	0.28
Highway 101 and 24 <sup>th</sup> Avenue	16775	0	0	0	0	0
Broadway and Holladay Drive	6775	0.4	0	0	0.4	0.16
Broadway and Wahanna Road	6310	0.4	0.6	0	1	0.43
Highway 101 and Holladay Drive	14940	0.4	0.4	0	0.8	0.15
Highway 101 and Avenue S	15770	0.2	0.4	0	0.6	0.10
Broadway and Columbia Street	3470	0.2	0	0	0.2	0.16
12 <sup>th</sup> Avenue and Holladay Drive	5195	0	0	0	0	0
12 <sup>th</sup> Avenue and Wahanna Road	4430	0.2	0.6	0	0.8	0.49
Wahanna Road and Cooper Road	2250	0	0	0	0	0
Avenue U and Edgewood Street	3205	0	0.4	0	0.4	0.34

Source: 2006 State Highway Crash Rate Tables, ODOT

<sup>1</sup> Average annual number of crashes is equal to the total number of recorded crashes between 2002 and 2006, divided by 5 years.

ADT - Average Daily Traffic (entering only)

PDO - Property Damage Only

INJ - Injury crash

FAT - Fatality crash

MEV - million entering vehicles

N/A - not applicable; no recorded crashes during study period

Source: ODOT, 2002 -2006

City of Seaside, 2002-2006

A crash rate of approximately 1.00 or greater is typically considered a notably high crash rate. No intersection has a crash rate of greater than 1.00 crashes per mevm. The two sites with the highest crash rates are Highway 101 and 12<sup>th</sup> Avenue, which had an average crash rate of 0.67, and Highway 101 and Avenue U, which had a crash rate of 0.71 crashes per mevm. No crashes at study intersections resulted in a fatality.

From January 1, 2002 to December 31, 2006 a total of eighty-nine crashes were recorded at the study intersections. Of those 89 crashes, 75 occurred along intersections on Highway 101 where rear-end crashes accounted for 47 crashes (63 percent of Highway 101 intersection crashes). The high proportion of rear-end crashes may be due to the proximity and number of access points and driveways. Along portions of Highway 101, access to adjacent businesses is fairly unrestricted with open-frontage parking lots surrounding many intersections. Drivers are able to turn onto and off of the highway at these approaches, which could introduce unexpected braking or stops in the mainline of the highway. These unexpected stops could contribute to the high occurrence of rear-end type crashes on Highway 101.

Study intersections not located along Highway 101 accounted for 14 crashes over the 5 year study period. Of these crashes, three crash types were most common; rear-end collisions, crashes with fixed objects, and crashes at right angles. Three crashes of each type occurred at non-Highway 101 intersections. For additional detailed information on crash types at intersections, see Tables 14 and 15.

### SPIS

In addition to crash rates, ODOT also assesses roadway safety via the Safety Priority Index System (SPIS). The SPIS system can be used to calculate a relative score that takes into account crash frequency, crash rate, and crash severity. SPIS scores are computed for roadway segments that are one tenth of a mile in length. The scores for different roadway segments can be compared with one another to determine where safety improvement funds might best be spent. Typically, ODOT places the highest priority locations where SPIS scores fall within the top 10 percent for the entire state.

One location within the study area along US 101 appeared in the top 10 percent of SPIS scoring for three years. Between 2004 and 2006, the same location appeared in the top 10 percent of all SPIS locations for the state. The location is listed below.

- US 101 MP 22.16 to MP 22.26 (in the vicinity of US 101 & Avenue U)

Of the sixteen crashes reported on this segment between 2004 and 2006, nine were rear-end. The signal at Avenue U is currently scheduled to be replaced along with the signal at Broadway in 2010. (It should be noted that this may change as the project was not fully funded. This signal may be eliminated from the project if it is determined there is insufficient funding.) This project is expected to enhance the visibility of vehicles further upstream as they approach from the south, which should improve safety at this location.

Table 14  
**Five Year Accident History: January 1, 2002 through December 31, 2006**  
*Seaside Transportation System Plan: Existing Conditions and Deficiencies*

Intersections on Highway 101	Highway 101 and 12th Avenue		Highway 101 and Broadway Street		Highway 101 and Avenue U		Highway 101 and Wahanna Road		Highway 101 and 24th Avenue		Highway 101 and Holladay Drive		Highway 101 and Avenue S	
	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total
<b>Collision Type</b>														
Rear End	19	79%	10	63%	12	67%	3	30%	0	n/a	1	25%	2	67%
Sideswipe	0	0%	2	13%	0	0%	0	0%	0	n/a	0	0%	0	0%
Fixed Object	0	0%	0	0%	2	11%	0	0%	0	n/a	0	0%	0	0%
Right Angle	3	13%	2	13%	1	6%	1	10%	0	n/a	0	0%	0	0%
Pedestrian/Bicycle	0	0%	0	0%	0	0%	0	0%	0	n/a	0	0%	0	0%
Turning	2	8%	2	13%	2	11%	6	60%	0	n/a	3	75%	0	0%
Head On	0	0%	0	0%	0	0%	0	0%	0	n/a	0	0%	0	0%
Other	0	0%	0	0%	1	6%	0	0%	0	n/a	0	0%	1	33%
<b>Severity</b>														
Property Damage Only	14	58%	13	81%	11	61%	4	40%	0	n/a	2	50%	1	33%
Injury Only	10	42%	3	19%	7	39%	6	60%	0	n/a	2	50%	2	67%
Fatality	0	0%	0	0%	0	0%	0	0%	0	n/a	0	0%	0	0%
<b>TOTAL</b>	<b>24</b>	<b>n/a</b>	<b>16</b>	<b>n/a</b>	<b>18</b>	<b>n/a</b>	<b>10</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>4</b>	<b>n/a</b>	<b>3</b>	<b>n/a</b>

Table 15

Other study intersections	Broadway Street and Holladay Drive		Broadway Street and Wahanna Road		Broadway Street and Columbia Street		12th Avenue and Holladay Drive		12th Avenue and Wahanna Road		Wahanna Road and Cooper Road		Avenue U and Edgewood Street	
	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total	Number of Accidents	Percentage of Total
<b>Collision Type</b>														
Rear End	0	0%	2	40%	0	0%	0	n/a	1	25%	0	n/a	0	0%
Sideswipe	0	0%	0	0%	0	0%	0	n/a	0	0%	0	n/a	0	0%
Fixed Object	0	0%	1	20%	0	0%	0	n/a	1	25%	0	n/a	1	50%
Right Angle	0	0%	1	20%	0	0%	0	n/a	2	50%	0	n/a	0	0%
Pedestrian/Bicycle	0	0%	0	0%	0	0%	0	n/a	0	0%	0	n/a	0	0%
Turning	1	50%	0	0%	0	0%	0	n/a	0	0%	0	n/a	0	0%
Head On	0	0%	0	0%	0	0%	0	n/a	0	0%	0	n/a	0	0%
Other	1	50%	1	20%	1	100%	0	n/a	0	0%	0	n/a	1	50%
<b>Severity</b>														
Property Damage Only	2	100%	2	40%	1	100%	0	n/a	1	25%	0	n/a	0	0%
Injury Only	0	0%	3	60%	0	0%	0	n/a	3	75%	0	n/a	2	100%
Fatality	0	0%	0	0%	0	0%	0	n/a	0	0%	0	n/a	0	0%
<b>TOTAL</b>	<b>2</b>	<b>n/a</b>	<b>5</b>	<b>n/a</b>	<b>1</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>4</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>2</b>	<b>n/a</b>

## Water, Pipeline, and Transmission Lines

Both the Necanicum River and the Neawanna Creek are considered navigable waterways, as defined by the Army Corps of Engineers. The Corps maintains these waterways primarily for recreational use, as both of these rivers are not major streams for commercial activity. Neither of these waterways provides direct access to the ocean. Paddle boats are rented for use on the Necanicum River near the bridge crossing at Broadway.

No major pipeline transportation services lie within Seaside's UGB. Natural gas is available to residential and commercial sites throughout the community on a regular service-line basis. One set of high-voltage power transmission lines exists in Seaside. This Bonneville Power Administration line enters the community near the northeast corner of the UGB and travels southwesterly to just south of Ocean Avenue, then turns west to a sub-station located near Wahanna Road. Easements protect this transmission line and sufficient power is provided via this line to adequately serve the Seaside area.

## Rail

There is no direct rail service to Seaside. Existing industries in Seaside are not dependant on freight rail service and do not generate sufficient demand to warrant improved access. The closest freight rail service is to Clatskanie, Oregon. Portland & Western began freight rail service in April 2008 to Clatskanie, but its purpose is to support Cascade Grain.

The nearest passenger rail terminal is located in Portland, approximately 80 miles to the east. Connection to the passenger rail service in Portland is provided by Greyhound Bus, with daily service between the two cities. Although service is limited, it is considered adequate because public involvement efforts to date and conversations with City staff have not revealed a need for increased freight or passenger rail service.

## Seaside Municipal Airport

Seaside's airport is a small airstrip, generally useable by light single engine and twin aircraft only. Commercial air service is not currently offered. On-demand charter service into Astoria, 10 miles to the north, is available. At present Seaside is primarily accessible only by private aircraft, namely visitors and private business flights. The airport's busiest times are mainly sunny weekends during the summer (Seaside Municipal Airport Website, 2008).

## Summary of Deficiencies

The following summarizes the deficiencies identified within the existing transportation network in Seaside.

### Pedestrian Facilities Deficiencies

- The sidewalk network has important gaps along US 101, and the system is fragmented in most residential neighborhoods. Sidewalks have been implemented on a lot-by-lot basis. Many pedestrian destinations are not connected by a complete sidewalk network.

Spruce Drive and Wahanna Road by Seaside Heights Elementary School and Holladay Drive by Seaside High School have sidewalks on one side of the street only. Broadway Park/Skate Park has sidewalks leading directly to it along Broadway; however the surrounding streets all have sidewalk gaps.

- Crossing US 101 is challenging due to traffic volumes and speeds, long crossing distance (across 3/4 vehicle lanes), and relatively long distances between signalized intersections and marked crossings. This discourages pedestrians from walking to services along the roadway, especially when traffic volumes are high on the highway. Although pedestrians can cross at any intersection, it can be intimidating to pedestrians to cross the highway when there are shorter gaps between the vehicles. Crossing Neawanna Creek is challenging due to the limited number of crossings, and the lack of sufficient pedestrian accommodations along the existing crossings. The limited number of non-motorized crossings over the creek impacts the ease and attractiveness of walking and biking to downtown from east Seaside.
- Seaside experiences substantial seasonal variation of pedestrian traffic. On a given day in the summer, a significant portion of motor vehicle traffic traveling US 101 stops in Seaside (based on field observations), creating many temporary, non-resident pedestrians. In addition to the normal influx of summer seasonal travelers, Seaside also has a busy event calendar throughout the summer, culminating in the Hood to Coast Relay Finish, where nearly 17,000 runners and walkers and countless other friends and family descend on Seaside the last weekend in August. This seasonal congestion contributes to a negative perception that traveling through Seaside during the summer creates unnecessarily stressful conditions for travelers using all modes.
- Apart from sidewalks downtown and in the newer residential areas, few sidewalks have ADA-compliant curb cuts and curb ramps. In addition, some streets have obstacles that leave a narrow area, less than 4 feet, for pedestrians to walk. Maintenance issues, such as vegetation and cracking also provide real challenges to pedestrians with disabilities. Missing sidewalks and curb ramps makes traveling by wheelchair or motorized mobility device challenging, if not impossible. Signalized intersections also lack audible pedestrian signals to facilitate safe crossings for the visually impaired.

## Bicycle Facilities Deficiencies

- Bicycle parking is not provided at most destinations or along most commercial streets in Seaside. Bike racks are available at all the schools; however these racks are poorly located and designed poorly according to accepted standards. Figure 26 shows “wheel bender” bicycle racks at Seaside High School, which are considered a poor form of bike parking because they provide support primarily for the front or back wheel and provide little



Figure 26: Poorly Designed Bike Racks at Seaside High School

support and locking opportunity for the bike frame itself. The shortage of quality bicycle racks in high-demand locations means cyclists secure their bikes to hand rails, street signs, light poles, trees and other objects.

- Wahanna Road, the major north-south connector east of US 101 has only a paved shoulder of variable width (0-2 feet) with no signage or other accommodations for bicyclists. Wahanna Road has a right-of-way width of 30 feet, which is too narrow to accommodate a bicycle lane without acquiring additional right-of-way.
- Seaside’s bikeway system lacks signage to indicate to bicyclists and drivers that bicyclists may be found on the road. There are no wayfinding tools to direct riders to bikeways and to major destinations such as parks, schools, business districts, and neighboring communities.

- Gravel, glass and other debris are routinely present on the bikeway system, Figure 27. This typically occurs when passing motor vehicles blow debris into the adjacent bicycle lane or shoulder. Sometimes impediments such as garbage cans are placed in a bike lane or wide shoulder.



*Figure 27: US 101 Bike Lane with Gravel and Debris Stretching down the Middle of the Lane – will Require Bicyclist to Ride too far Inside Near Pavement Edge or Far outside Near Moving Vehicles*

- The complicated intersection at US 101/Lewis & Clark/ North Wahanna Road is of particular concern to cyclists. It is difficult to cross the highway, and cyclists traveling along the highway are at risk from distracted motorists and vehicles turning on or off the highway to a side street.
- The lack of roadway treatments designed to encourage and make possible bicycle use (e.g., signing, pavement markings, and traffic calming), was notable and are a necessary component in facilitating safe, comfortable and convenient bicycle travel.
- A number of local bicyclists were observed riding on sidewalks and against traffic. This may indicate the need for education about safe bicycling techniques in addition to improving facilities.

## Roadway Deficiencies

- Based on intersection analysis, three of the fourteen intersections analyzed do not meet the OHP or City of Seaside V/C thresholds, Highway 101 and 12th Avenue (signalized), Highway 101 and Broadway (signalized), and Highway 101 and 24th Avenue (unsignalized). Broadway and 12th Avenue are used as primary east-west connections across Highway 101 within the City of Seaside. The approach volumes on these cross streets are nearing the roadway capacity, and motorists are likely to experience high delay times as they wait for opportunities to cross the highway. The highest V/C ratio of a stop-controlled intersection occurs at the intersection of Highway 101 and 24th

Avenue. The minor approach (24th Avenue) is stop controlled while the major approaches were free. Similar to Broadway and 12th Avenue, vehicles on 24th Avenue have long delays as they wait for a gap in traffic to enter Highway 101.

## Safety Deficiencies

- Rear-end crashes accounted for over 70 percent of all crashes during the most recent five years of available data. The high occurrence of rear-end crashes is likely caused by driver inattention when vehicles follow too closely to one another. Such collisions usually occur when drivers are distracted by sights along the roadway and/or fail to pay attention to the road ahead. In Seaside, this could likely occur during the summer or peak seasons when tourists, who are unfamiliar with the traffic patterns, visit the city. Roadside tourist attractions, increased pedestrian traffic, and numerous driveways and cross streets where vehicles must slow down to turn, could provide multiple distractions for unfamiliar drivers.
- ODOT has identified the 0.10 mile segment of US 101 at Avenue U (MP 22.16 to MP 22.26) as a top 10 percent SPIS location. This location has rated in the top 10 percent of safety-deficient statewide locations for the past 3 years of recorded SPIS data, and has a relatively high crash frequency, crash rate, and/or crash severity compared to other roadways. The existing signal at Avenue U is scheduled to be replaced in the future, which could enhance the visibility for vehicles further upstream as they approach from the south. This increased visibility could be expected to improve safety at this location.
- The intersection of US 101 and Lewis & Clark Road is challenging due to the existing curve of the roadway, limiting sight distance; the wide width of the turn lane; the angle at which roads intersect; and the higher traffic speeds as vehicles leave Seaside.

## Transit Deficiencies

- A recent survey conducted for the TSP development indicated that residents would like more frequent service and additional transit service. These findings are confirmed by the SETD on-board rider survey, the Clatsop Community College survey, and the SETD survey of low income residents, seniors, and people with disabilities.
- When asked to rate the importance of various factors when taking public transportation, respondents to the SETD's on-board rider survey rated safe and competent drivers, reliable buses that come on time, and convenient service hours as the most important factors to them. The top four areas of dissatisfaction were with SETD's service hours (31 percent), bus reliability (15 percent), bus temperature (12 percent), and bus fares (12 percent). When commenting on SETD's service hours, respondents specifically requested extended transit service into the evenings and service on Sundays.
- Of the surveyed Clatsop Community College faculty, students, and staff that reported not using the transit system, many indicated that long trip times, inconvenient schedules, and inconvenient bus stop locations were their primary barriers to using transit.
- The reasons that the surveyed low income residents, seniors, and people with disabilities gave for not using public transit were also typically service-related. Other

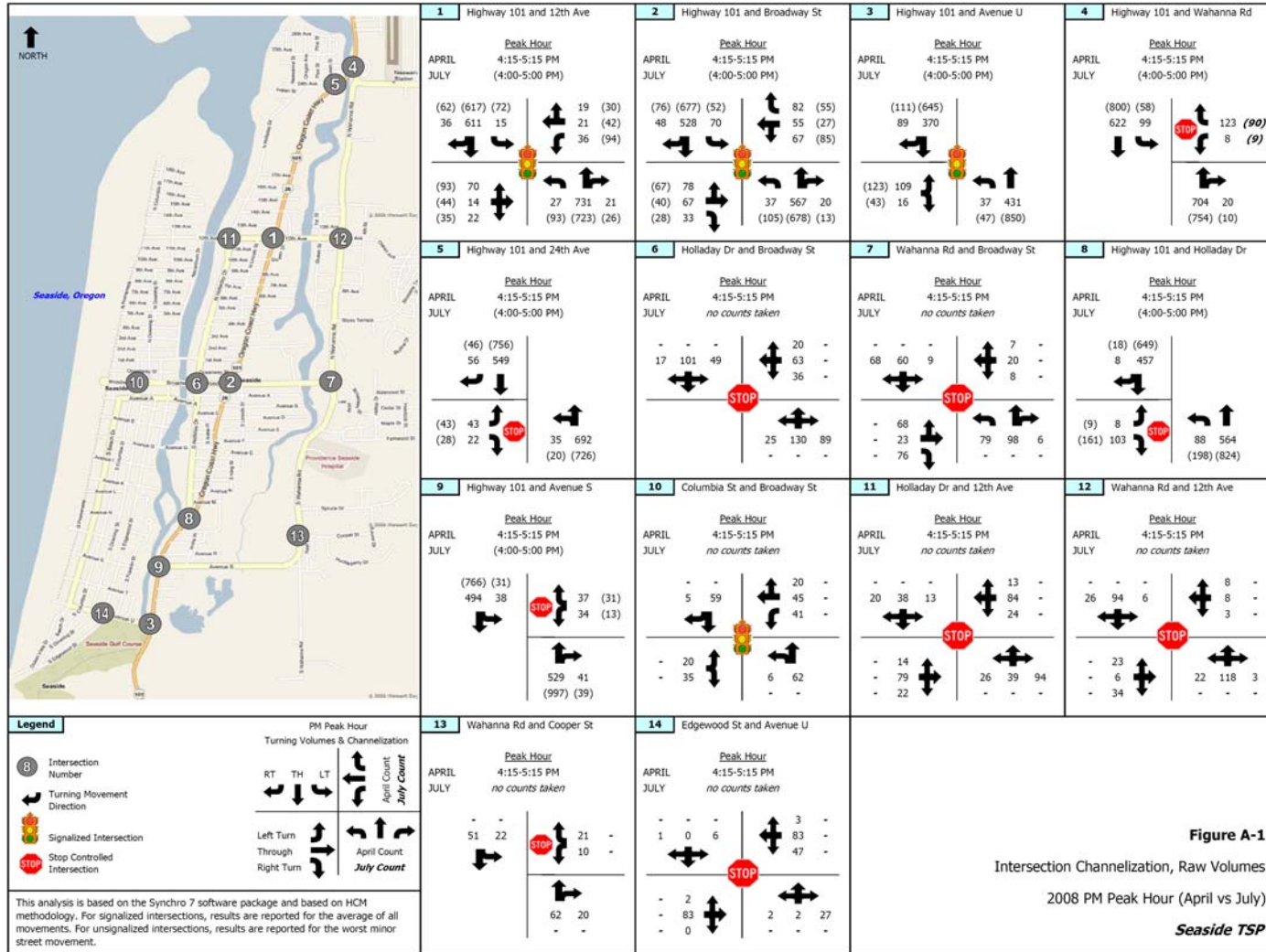
than not having access to alternatives, their reasons included inconvenient stop locations (27 percent), the inability to use the bus due to disability (16 percent), the length of time it takes to ride the bus due to transfers and infrequent service (12 percent), the expense of fares (9 percent), the inconvenience of existing routes (4 percent), and a lack of familiarity with the bus system (3 percent). Over half (53 percent) of the special needs populations surveyed reported missing going someplace due to a lack of transportation. This indicates the presence of an unmet need among these residents.

- The surveyed low income, senior, and disabled populations made the following recommendations to improve SETD service: lowering prices (19 percent), adding more stops/routes (17 percent), expanding service hours into the evenings and early mornings (11 percent), adding more stops in outlying areas (11 percent), providing bus service on Sundays (11 percent), and including more direct/non-stop routes between Astoria, Seaside, and Cannon Beach (10 percent). These suggestions can be seen as perceived deficiencies of the system.

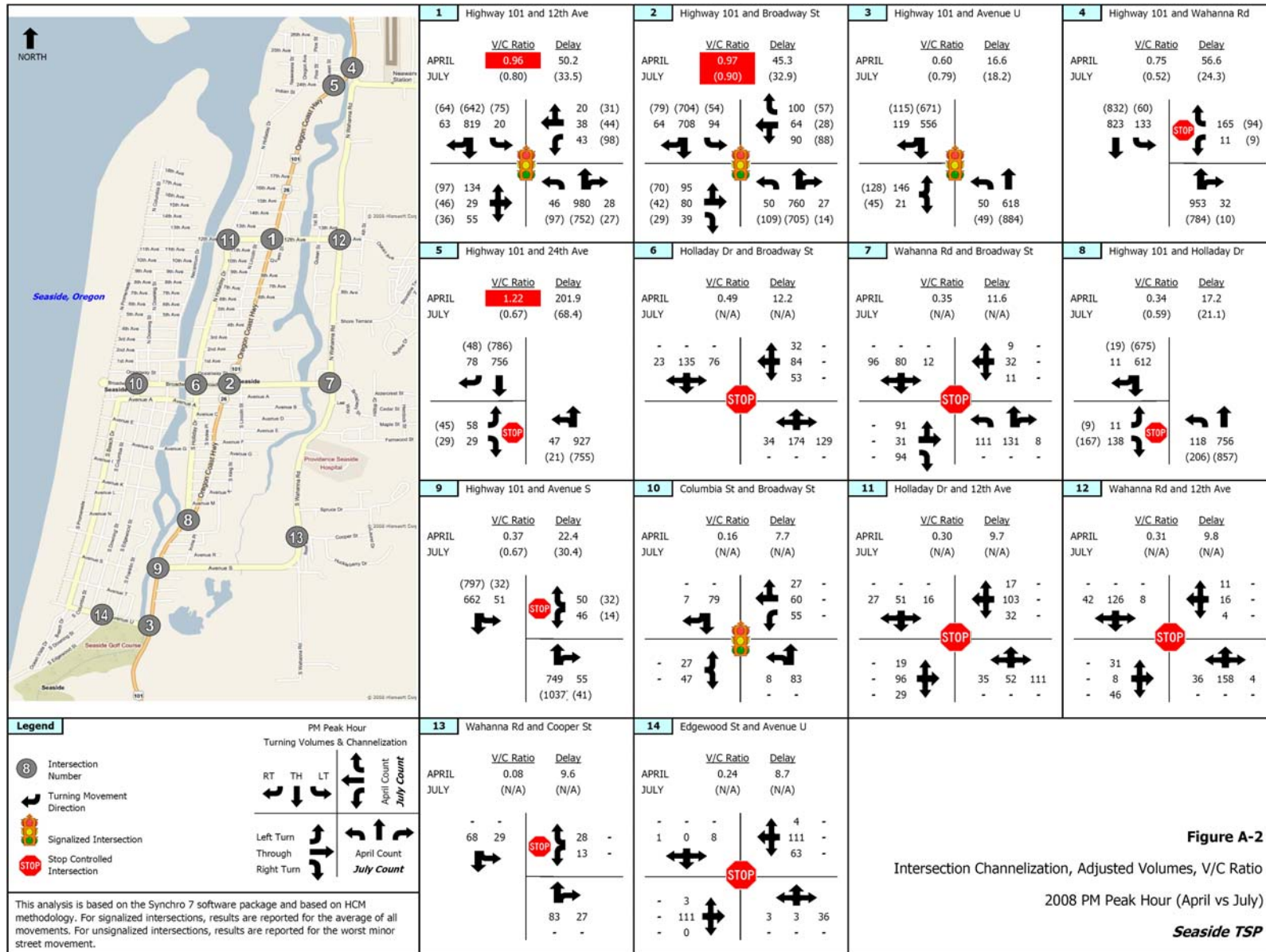


ATTACHMENT A

# April to June Traffic Volume Comparison Figures



**Figure A-1**  
Intersection Channelization, Raw Volumes  
2008 PM Peak Hour (April vs July)  
*Seaside TSP*







# Future Transportation Conditions, Deficiencies, and Needs

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This appendix provides an analysis of future year 2030 to determine the No Build transportation deficiencies. The no build analysis assumes existing roadway geometry and traffic control with future volumes. Population growth, cumulative analysis description, expected future development, future conditions traffic analysis, bicycle, pedestrian, and transit modes, and future transportation system deficiencies are included in this section.

The analysis performed for this section entails future operational assessment of each of the 14 study intersections using the cumulative analysis method. The cumulative analysis method projects future traffic volumes based on expected land use development in the study area and historic growth. This analysis method is described in more detail over the following pages. Projected future conditions deficiencies are identified in this section.

## Population Growth

In 2005, a buildable lands inventory was conducted for areas within the Seaside Urban Growth Boundary (UGB) and City of Seaside city limits.. Although not adopted, the City uses the buildable lands inventory as a basis for demographic and development projections. Future population estimates and for 2025 and projected growth rates are listed in Table 1. The growth rates from the buildable lands inventory have been extrapolated to identify project area population for the TSP planning horizon year of 2030.

**TABLE 1**  
Population Projections for Seaside, Oregon

Location	2025 Population Projection	2005-2025 Average Annual Growth Rate (%)	2030 Population Projection <sup>1</sup>
Seaside UGB	7,903	0.89	8,261
City of Seaside	7,678	1.14	8,126

Source: Buildable Lands Inventory and Land Needs Analysis prepared for City of Seaside (2006)

1) Based on 2005-2025 average annual growth rate

## Cumulative Analysis

There is no available transportation model for the study area; consequently, a cumulative analysis method was used to project future traffic volumes in the study area. The cumulative analysis method considers traffic generated by two sources: 1)expected development in study area; and 2)historical traffic growth not associated with the development of land uses. Projected future volumes are distributed onto the study network

based on proximity to study intersections, and are used to evaluate future deficiencies and identify potential transportation system improvements.

## Expected Future Development

The basis for projected land use demand and supply is the Buildable Lands Inventory and Land Needs Analysis Final Draft (2006, not adopted) supplied by the City of Seaside. The buildable lands inventory has been updated by City staff to reflect best known environmental constraints. Available gross acreage was determined by summing all acreage identified as vacant or redevelopable by land use. Available developable acreage was determined by subtracting areas for roads and right-of-way (assumed to be 25 percent of gross acreage) and environmentally constrained areas – defined as locations within the FEMA-defined floodway or along very steep slopes (25 percent grade or higher).

For the purposes of forecasting transportation needs and differentiating areas with potential for significant growth above historic growth rates, the following criteria were applied to identify parcels with significant development and redevelopment potential.

### Development Potential Criteria

- Parcels are  $\geq 4,000$  square feet (over 0.09 acres)
- The improvement value is  $\leq \$10,000$
- Can be vacant land
- NOT land owned by North Coast Land Conservancy (a land trust)
- NOT owned by a People's Utility District (PUD).

### Redevelopment Potential Criteria

- Parcels  $\geq 0.5$  acres
- Value  $< \$50,000$
- Land value  $\geq$  improvement value
- NOT land owned by North Coast Land Conservancy (a land trust)
- NOT owned by the Peoples Utility District

Table 2 provides a summary of projected land demand and availability by land use category. In all instances, demand is greater than supply. To address limitations in land supply, the City is applying for a UGB expansion, which is a separate process from the planning process for the TSP. The UGB expansion process will be negotiated with the State's Department of Land Conservation and Development (DLCD). Development of the TSP is limited to consideration of lands already within the adopted UGB; therefore, the future conditions analysis makes use of available developable acres, and not projected demand for land. The application for a UGB expansion is being prepared in concurrence with the development of the TSP. If the UGB expansion is approved by DLCD during the development of the TSP, future conditions analysis will be updated to incorporate this change.

**TABLE 2**

Projected Land Use Demand and Supply

Land Use	Projected Demand (acres) <sup>1</sup>	Available Gross Land (acres) <sup>2</sup>	Available Developable (acres)	Acreage Assigned
Commercial	16*	9	8	8
Industrial	20	0	0	19.8**
Multi-Family Residential	22	5	4	4
Single-Family Residential	53	57	47	47
Vacation Rental	40	1	1	1

\* Needs assessment includes both office and retail

\*\* Currently zoned Residential/Suburban; however, City staff have indicated the parcels will be rezoned Industrial

1) Source: Buildable Lands Inventory and Land Needs Analysis Final Draft (2006)

2) Source: Buildable Lands Inventory and Land Needs Analysis Final Draft (2006) as updated by City staff and after application of developable and redevelopable parcel criteria

Since demand exceeded available buildable acres in all cases, expected future development was assessed based on available developable acres. After application of the development and redevelopment criteria to buildable parcels, remaining buildable parcels were used to identify six areas with clustered development potential, which could generate trips above the historic growth rate. These areas, referred to as “development zones”, are depicted in Figure 1.

The project management team analyzed the six Development Zones. Some general observations emerged:

- *Commercial Development* – Available parcels with commercial zoning, or parcels that City staff expect to be rezoned commercial, are concentrated around Lewis and Clark Road (Development Zone #1), along the northern end of Wahanna Road (Development Zone #2), and east of US 101 in the southern part of the city (Development Zone #5).
- *Industrial Development* – Industrial growth is expected to occur along Lewis and Clark Road (Development Zone #1). This area is currently zoned for residential development, but the City intends to change zoning on the large parcels to allow industrial development.
- *Multi-Family Residential Development* – Generally, the potential for multi-family residential development is focused along the southern end of Wahanna Road (Development Zone #3) and east of US 101 in the southern part of the city (Development Zone #5). Other areas allow residential medium density development, which based on existing development patterns, are assumed to develop with mainly single family residential homes.

- *Vacation Home Development* – Based on conversations with City staff, vacation homes in the form of single family residential units are expected to develop primarily in Development Zone #1, in the vicinity of Lewis and Clark Road
- *Single-Family Residential Development* – Single-Family Residential has the greatest development potential in Seaside. Single-Family-Residential units are expected to develop primarily along Wahanna Road South (Development Zone #3), East of US 101 (Development Zone #5), and in the vicinity of Sunset Boulevard (Development Zone #6).

The cumulative analysis is organized into these six Development Zones, where land use is expected to impact the overall transportation network at a greater rate than historical trends. Land uses were defined according to land use categories listed in the Institute for Transportation Engineers (ITE) Trip Generation Manual (7<sup>th</sup> Edition), and associated vehicle trips were identified for each Development Zone. Estimated trip generation is described in more detail for each Development Zone below.

### Development Zone #1 – Lewis and Clark Road

All developable property was assumed for buildout by 2030. Parcels in this area are zoned either Residential Low Density (R1), Suburban Residential (SR), or Commercial (C3). Based on conversations with City staff, some of the parcels zoned residential are expected to be rezoned Industrial (M1). Based on observations of current development within the area and conversations with City staff, the land uses listed in Table 3 are expected to develop by 2030.

**TABLE 3**

Trips Generated for Projected Development in #1 Lewis & Clark Road Development Zone, by Land Use Category

Zoning	Land Use Category/ITE Code	Developable Acres	PM Peak-Hour Trips Generated
Industrial*	General Light Industrial (110), Manufacturing (140), Warehousing (150)**	19.8	249
Residential	Single-Family Detached Housing (210)	3.5	49
Commercial	Mini-warehouse (151)	0.3	46

Used peak hour of adjacent street traffic, one hour between 4:00 p.m. and 6:00 p.m.

\* Currently zoned Residential/Suburban; however, City staff have indicated it will be rezoned Industrial.

\*\* Assume a blend of uses will develop.

### Development Zone #2 – Wahanna Road North

Parcels in this area are zoned either Suburban Residential (SR) or Commercial General (C3). Future land uses assumptions were based on the existing character of the area and conversations with City staff. Table 4 provides details of the land use assumptions.



**TABLE 4**

Trips Generated for Projected Development in #2 Wahanna Road North Development Zone, by Land Use Category

Zoning	Land Use Category/ITE Code	Developable Acres	PM Peak-Hour Trips Generated
Residential	Single-Family Detached Housing (210)	5.8	29
Commercial	Specialty Retail Center (814), General Office Building (710)*	2.0	221
Commercial	Automobile Parts Sales (843), High-Turnover (Sit-Down) Restaurant (932)*	1.4	62

Used peak hour of adjacent street traffic, one hour between 4:00 p.m. and 6:00 p.m.

\*multiple codes listed assume a blend of uses to develop.

### Development Zone #3 – Wahanna Road South

Parcels within this area are zoned Residential Low Density (R1) or Multi-Family Residential (R3). No re-zoning is anticipated in this area over the next 20 years, therefore residential uses were assumed to develop in this area. Table 5 lists specific land use assumptions.

**TABLE 5**

Trips Generated for Projected Development in #3 Wahanna Road South Development Zone, by Land Use Category

Zoning	Land Use Category/ITE Code	Developable Acres	PM Peak-Hour Trips Generated
Residential	Single-Family Detached Housing (210)	4.9	76
Residential	Mid-Rise Apartment (223)	0.6	24

Used peak hour of adjacent street traffic, one hour between 4:00 p.m. and 6:00 p.m.

### Development Zone #4 – West of Necanicum River

Parcels within this area are zoned Residential Medium Density (R2), Residential High Density (R3), and Residential Resort (RR). Specific types of projected residential development were based on the existing pattern of development in the area and consultation with City staff. Table 6 lists specific land use assumptions.

**TABLE 6**

Trips Generated for Projected Development in #4 West of Necanicum River Development Zone, by Land Use Category

Zoning	Land Use Category/ITE Code	Developable Acres	PM Peak-Hour Trips Generated
Residential Medium Density	Single-Family Detached Housing (210), Residential Condominium/Townhouse (230)*	1.9	24
Residential High Density	Mid-Rise Apartment (223)	1.2	22
Resort Residential	Mid-Rise Apartment (223)	0.6	20

Used peak hour of adjacent street traffic, one hour between 4:00 p.m. and 6:00 p.m.  
 \*Multiple codes listed assume a blend of uses to develop

### Development Zone #5 – East of US 101

Parcels within this area are zoned Residential Medium Density (R2), Residential Commercial (RC), and Commercial General (CG). Specific types of projected residential development were based on the existing pattern of development in the area and consultation with City staff. Table 7 lists specific land use assumptions.

**TABLE 7**

Trips Generated for Projected Development in #5 East of US 101 Development Zone, by Land Use Category

Zoning	Land Use Category/ITE Code	Developable Acres	PM Peak-Hour Trips Generated
Residential Medium Density	Single-Family Detached Housing (210), Residential Condominium/Townhouse (230)*	5.8	111
Residential – Commercial	Single-Family Detached Housing (210), Specialty Retail Center (814)*	0.5	26
Commercial	High-Turnover (Sit-Down) Restaurant (932), Video Rental Store (896), Specialty Retail Center (814), Apparel Store (870)*	4.0	265

Used peak hour of adjacent street traffic, one hour between 4:00 p.m. and 6:00 p.m.  
 \*Multiple codes listed assume a blend of uses to develop

### Development Zone #6 – Sunset Boulevard

Parcels within this area are zoned Residential Medium Density (R2). Based on existing land use patterns in the area, the majority of development is assumed to be single-family detached housing. City staff suggested that clustered development would likely occur here to avoid environmental constraints and incorporate natural areas into development. Table 8 lists specific land use assumptions.

**TABLE 8**

Trips Generated for Projected Development in #6 Sunset Boulevard Development Zone, by Land Use Category

Zoning	Land Use Category/ITE Code	Developable Acres	PM Peak-Hour Trips Generated
Residential Medium Density	Single-Family Detached Housing (210), Residential Condominium/Townhouse (230)*	4.8	51
Residential Medium Density	Single-Family Detached Housing (210)	6.0	67

Used peak hour of adjacent street traffic, one hour between 4:00 p.m. and 6:00 p.m.

\* Multiple codes listed assume a blend of uses to develop

Trip generation assumptions for the six Development Zones, where land use is expected to generate trips greater than the historic average, were used in subsequent traffic projection steps.

## Future Conditions Analysis

### Future Planned Infrastructure Projects

No planned transportation infrastructure projects on the state highway system were identified within the City of Seaside by the 2030 future analysis year. A review of the Statewide Transportation Improvement Program (STIP) for 2008 through 2011 identified no projects that would be constructed or reasonably funded within the study area. Therefore, no capacity or infrastructure improvement projects were included in the future traffic analysis network.

The nearest transportation improvement project to the study area was identified north of the City of Seaside along US 101 between Camp Rilea (milepost 10) and Surf Pines (milepost 16). The project is currently only funded for an environmental assessment and has been classified as a modernization project, where proposed improvements included roadway widening, dedicated turn lanes and access management. It should be noted that while this project is not within the study area, and was not included in the analysis network, it could influence traffic through Seaside by providing improved capacity on US 101.

No capacity improvement projects were identified on the local roadway system by the City of Seaside within the 20-year horizon.

### Future Year Analysis Volume Development

Existing year (2008) analysis volumes were grown to reach future year (2030) land use scenario analysis volumes. Future volumes were reached using a combination of the historical trends method (to account for background trip growth), and the cumulative analysis method (to account for trips generated by future potential land use developments).

The existing volumes were counted in April 2008, seasonally adjusted to the peak month for the study area (August) and then balanced between local intersections. The historical trends growth rate was then applied to these turning movement volumes. This growth rate was

obtained using the most current version of the ODOT Future Transportation Volume Table<sup>14</sup>. This table projects average annual daily traffic volumes roughly 20 years into the future for highways throughout the state. Each forecasted volume is given an R-squared value, which measures the relationship between the historical counts over time. Forecasted volumes with an R-squared value of greater than 0.75 are typically considered acceptable for use in growth rate calculations. Eight forecasted locations along US 101 in Seaside were considered valid and resulted in an average 20-year growth factor of 1.37 or an annual growth factor of 1.86 percent. The existing turning movements were grown at this rate over 22 years to reach 2030 background growth turning movement volumes.

The ODOT cumulative analysis method (Analysis Procedure Manual, Chapter 4: Developing Design Hour Volumes) accounts for identified development in addition to expected growth. See the Cumulative Analysis Method section for a detailed discussion of this method.

### Future Year Traffic Analysis

Future year (2030) PM peak hour turning movements were analyzed using the Synchro 7 microsimulation software. In general, all seven intersections along US 101 are not expected to meet OHP mobility standards in 2030 under the land use scenario. Intersections that are not located along US 101 are expected to meet their respective OHP mobility standards. The intersections of Broadway and Holladay Drive, and 12th Avenue and Wahanna Road are expected to have V/C ratios approaching their mobility standard. Intersections operation results can be found in Figure 2 and in Table 9 below.

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<sup>14</sup> (<http://www.oregon.gov/ODOT/TD/TDATA/tsm/volumetables.shtml>)

**TABLE 9**  
Seaside TSP Future (2030) Traffic Analysis Results

ID	Intersection	Control Type	Future Mobility Standard	Intersection Performance	
				Average Vehicle Delay (sec)	V/C Ratio
1	US 101 and 12th Avenue	Signal	0.85	> 150	1.91
2	US 101 and Broadway	Signal	0.85	> 150	1.75
3	US 101 and Avenue U	Signal	0.85	108.6	1.72
4	US 101 and Wahanna Road	TWSC	0.80	> 150	> 2.0
5	US 101 and 24th Avenue	TWSC	0.80	> 150	> 2.0
6	Broadway and Holladay Drive	AWSC	0.90	21.9	0.81
7	Broadway and Wahanna Road	AWSC	0.90	17.0	0.67
8	US 101 and Holladay Drive	TWSC	0.85	121.4	1.40
9	US 101 and Avenue S	TWSC	0.85	> 150	> 2.0
10	Broadway and Columbia Street	Signal	0.90	7.6	0.25
11	12th Avenue and Holladay Drive	AWSC	0.90	14.8	0.56
12	12th Avenue and Wahanna Road	AWSC	0.90	32.2	0.88
13	Wahanna Road and Cooper Road	TWSC	0.90	28.5	0.68
14	Avenue U and Edgewood Street	AWSC	0.90	11.5	0.53

Note: Highlighted text indicates intersections with one or more approach operating worse than Oregon Highway Plan mobility standards.

TWSC: Two-way stop-controlled

AWSC: All-way stop-controlled

Mobility standards for intersections not along US 101 established from 1999 Oregon Highway Plan, Policy Element, Table 6: Maximum volume to capacity ratios for peak hour operating conditions.

Intersections along US 101 are anticipated to fail in the future 2030 land use scenario due to increases in traffic volume. Local intersections (those not along US 101) are also expected to see increases in volume, but most would continue to operate below capacity in the future.

The study intersections along US 101 are expected to fail primarily due to the large increase in north-south traffic volume associated with vehicles traveling through Seaside, as well as vehicles traveling from inside the study area to a location outside, or from outside the study area to a location inside. Vehicles using US 101 for internal trips within the study area also contribute to the increase in delay, but would not be considered significant compared to the types of trips identified above.

The increase in north-south vehicle volume also contributes to east-west cross street vehicle delays. Vehicles approaching from the east or west at stop-controlled intersections may have long delays due to difficulty in finding safe gaps in traffic on US 101. Especially long wait times could be anticipated for stop-controlled vehicles turning left from a cross street

onto the highway, since a safe gap would need to occur in both directions of US 101. At signalized intersections, vehicles turning right onto US 101 (on a red signal) may also have difficulty finding safe gaps in vehicle traffic to perform the turning movement.

Traffic operations are expected to fail at these intersections under the No Build scenario due to a lack of north-south vehicle capacity. While volumes increase, the existing infrastructure remains as is, with no additional lane capacity assumed. Existing turn pocket storage lengths may be exceeded with future volumes, and turn lane queues may spillback into the mainline of the highway. This spillback could cause additional congestion and delay times for north-south through traffic.

### Queuing Analysis

The 2030 No-build scenario was analyzed using SimTraffic. Five runs of SimTraffic were averaged to report the 95<sup>th</sup> percentile queues of both turn pockets and through lanes. These queues are expected to occur less than five percent of the time during the peak hour of the day. Table 10 presents the expected queue lengths for through lanes, as well as queue lengths compared with the existing storage capacity at turn pockets. The percent of time that turn pocket queues would extend beyond their storage capacity is also provided.

TABLE 10  
Queuing Analysis – 2030 No Build

ID	Intersection	Approach	Lane Group	95 <sup>th</sup> % Queue Length (feet)	Storage Length (feet)	Percent Time Blocking
1	12 <sup>th</sup> Avenue and US 101	Southbound	Left	150	110	4
			Through/Right	1950	---	
		Northbound	Left	100	110	
			Through/Right	1275	---	
		Westbound	Left	100	50	25
Through/Right	400		---			
		Eastbound	Left/Through/Right	975	---	
2	Broadway and US 101	Southbound	Left	150	80	43
			Through/Right	1850	---	
		Northbound	Left	90	90	1
			Through/Right	1625	---	
		Westbound	Left/Through	2475	---	
			Right	100	50	14
		Eastbound	Left/Through	675	---	
			Right	100	50	9
3	Avenue U and US 101	Southbound	Through/Right	520	---	
		Northbound	Left	75	45	6
			Through	925	---	
		Eastbound	Left/Right	1075	---	
4	US 101 and Wahanna Road	Southbound	Left	125	75	19
			Through	1375	---	
		Northbound	Through/Right	50	---	
		Westbound	Left	50	20	100
Right	275		---			
5	24 <sup>th</sup> Avenue and US 101	Southbound	Through	500	---	
			Right	75	50	< 1
		Northbound	Left/Through	1325	---	
		Eastbound	Left	125	75	87
Right	625		---			
6	Broadway and Holladay Drive	Southbound	Left/Through/Right	400	---	
		Northbound	Left/Through/Right	925	---	
		Westbound	Left/Through/Right	100	---	
7	Broadway and Wahanna Rd	Southbound	Left/Through/Right	650	---	
		Northbound	Left	150	100	17
			Through/Right	300	---	
		Westbound	Left/Through/Right	150	---	
		Eastbound	Left/Through	100	---	
Right	75		100			

TABLE 10  
 Queuing Analysis – 2030 No Build

ID	Intersection	Approach	Lane Group	95 <sup>th</sup> % Queue Length (feet)	Storage Length (feet)	Percent Time Blocking
8	Holladay Drive and US 101	Southbound	Through/Right	1275	---	
		Northbound	Left	125	70	7
			Through	1350	---	
		Eastbound	Left	50	15	44
Right	750		---			
9	Avenue S and US 101	Southbound	Left/Through	1350	---	
		Northbound	Through/Right	1400	---	
		Westbound	Left/Right	3225	---	
10	Broadway and Columbia Street	Southbound	Through/Right	75	---	
		Northbound	Left/Through	75	---	
		Westbound	Left	50	100	
			Through/Right	50	---	
Eastbound	Left/Right	75	---			
11	12 <sup>th</sup> Avenue and Holladay Drive	Southbound	Left/Through/Right	150	---	
		Northbound	Left/Through/Right	625	---	
		Westbound	Left/Through/Right	75	---	
		Eastbound	Left/Through/Right	975	---	
12	12 <sup>th</sup> Avenue and Wahanna Rd	Southbound	Left/Through/Right	125	---	
		Northbound	Left/Through/Right	125	---	
		Westbound	Left/Through/Right	75	---	
		Eastbound	Left/Through/Right	100	---	
13	Cooper Street and Wahanna Rd	Southbound	Left/Through	1025	---	
		Westbound	Left/Right	1050	---	
14	Avenue U and Edgewood St	Southbound	Left/Through/Right	75	---	
		Northbound	Left/Through/Right	450	---	
		Westbound	Left/Through/Right	75	---	
		Eastbound	Left/Through/Right	875	---	

Notes:

Queuing analysis performed using SimTraffic.

95th Percentile queues are reported, movements where queues were not calculated are not reported.

' - ' indicates effectively unlimited storage length, shaded cells indicate queues that exceed storage length.

Queue lengths rounded up to the nearest 25-feet, as directed by TPAU APM, page 7-74.

In the 2030 No-build condition, most queues would be accommodated by existing storage length. Other queues, while showing calculated queue lengths significantly longer than the available storage length, are not expected to block mainline operations for a significant amount of time, and would not be likely to affect adjacent vehicle lane operations.

However, the 95<sup>th</sup> percentile queues at some intersections would not be accommodated by the existing turn lane storage capacity, and may spillback to affect through traffic.



At US 101 and Broadway, the southbound left turn queue could be expected to reach 150 feet. This may spill back into the mainline and block the southbound through lanes of US 101. Southbound queues at the traffic signal at Broadway could extend back 1850 feet on US 101, or approximately one third of a mile to 6<sup>th</sup> Avenue. In the northbound direction at the Broadway traffic signal the through lane queues on US 101 could extend back 1625 feet, or approximately to Avenue H.

Similar mainline queuing could occur at US 101 and 12<sup>th</sup> Avenue. In the northbound direction, the through lanes could queue back 1950 feet or approximately to 6<sup>th</sup> Avenue. The southbound through lane queues could extend to almost 1300 feet, or back to just north of 17<sup>th</sup> Avenue.

Other northbound and southbound queues at intersections along US 101 would be approximately 1000 feet to 1500 feet in length, with some queues being shorter depending on lane configuration. Driveways to businesses along US 101 may be blocked by queues temporarily, but access is not expected to be impeded significantly as right-turning traffic into and out of businesses is typically allowed by vehicles waiting in the mainline queue.

Eastbound and westbound queuing at cross streets along US 101 could also be significant. On the eastbound approach at 12<sup>th</sup> Avenue and US 101, queues could extend back approximately 975 feet (almost to the bridge), and may block traffic from Lincoln Street and Holladay Drive.

The westbound queue at Broadway and US 101 may extend back almost half a mile. This queue would extend through the intersection with Wahanna Road and may affect local traffic on Broadway east of Wahanna.

At the intersection of US 101 and Avenue S, westbound left and right turning vehicles could be expected to queue back approximately 3000 feet. This long queue is likely due to wait times while vehicles wait for a safe gap in traffic on US 101. This queue could also extend back onto Wahanna Road and affect turning traffic from Cooper Road.

## Bicycle, Pedestrian, and Transit Modes

As congestion for vehicular traffic increases, more people are expected to switch to other modes for some trips, such as bicycling, walking and transit. Consequently, future demand for alternative modes is expected to increase. Bicycle, pedestrian, and transit deficiencies have been identified within Appendix B: Existing Conditions, and are expected to persist in the future No Build scenario. Latent demand for bicycle, pedestrian, and transit is documented through the community survey and transit ridership surveys described in the aforementioned appendix. Increased demand due to congestion and latent demand are expected to persist under future conditions.

Please see Appendix B: Existing Conditions for specific bicycle, pedestrian, and transit deficiencies.

# Summary of Future Transportation System Deficiencies

## Vehicle Traffic Deficiencies

Based on intersection analysis, study intersections along US 101 are expected to fail primarily due to the large amount of north-south traffic volume growth from vehicles traveling through Seaside, as well as vehicles with either an origin or destination outside of the study area. The increase in north-south vehicle volume also contributes to east-west cross street vehicle delays. Vehicles approaching from the east or west at stop-controlled intersections may have long delays due to difficulty in finding safe gaps in traffic on US 101. Especially long wait times could be anticipated for stop-controlled vehicles turning left from a cross street onto the highway, since a safe gap would need occur in both directions of US 101. At signalized intersections, vehicles turning right onto US 101 (on a red signal) may also have difficulty finding safe gaps in vehicle traffic to perform the turning movement. The operations are expected to fail at these intersections under the No Build scenario due to a lack of north-south vehicle capacity.

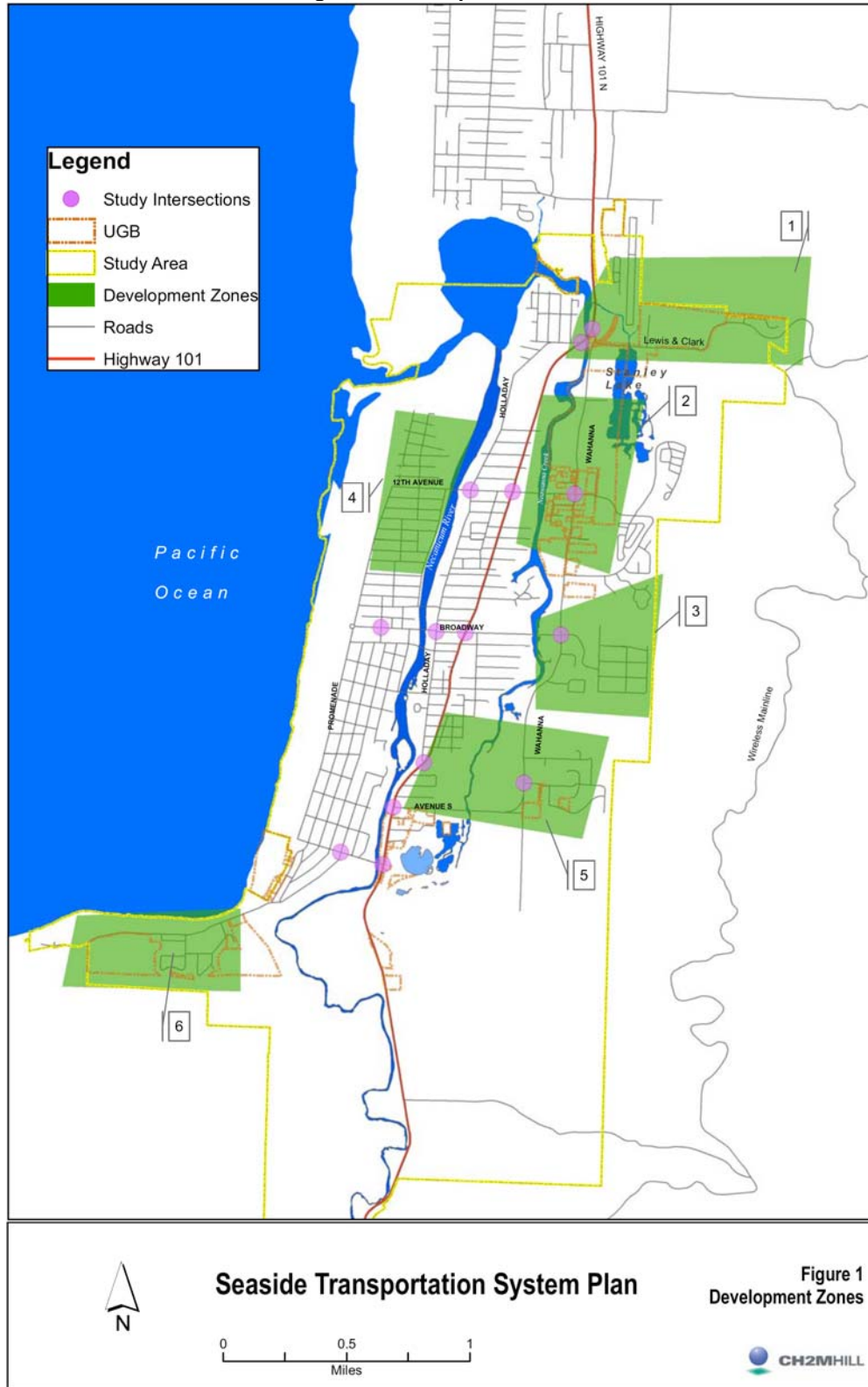
The 95<sup>th</sup> percentile westbound left turn queue at US 101 and Wahanna Road, the eastbound left turn queue at US 101 and Holladay Drive, and the eastbound left turn queue at US 101 and 24<sup>th</sup> Avenue are anticipated to exceed the existing storage length for a duration significant enough to cause a spillback that could block through vehicles, and may result in congestion on the mainline of US 101.

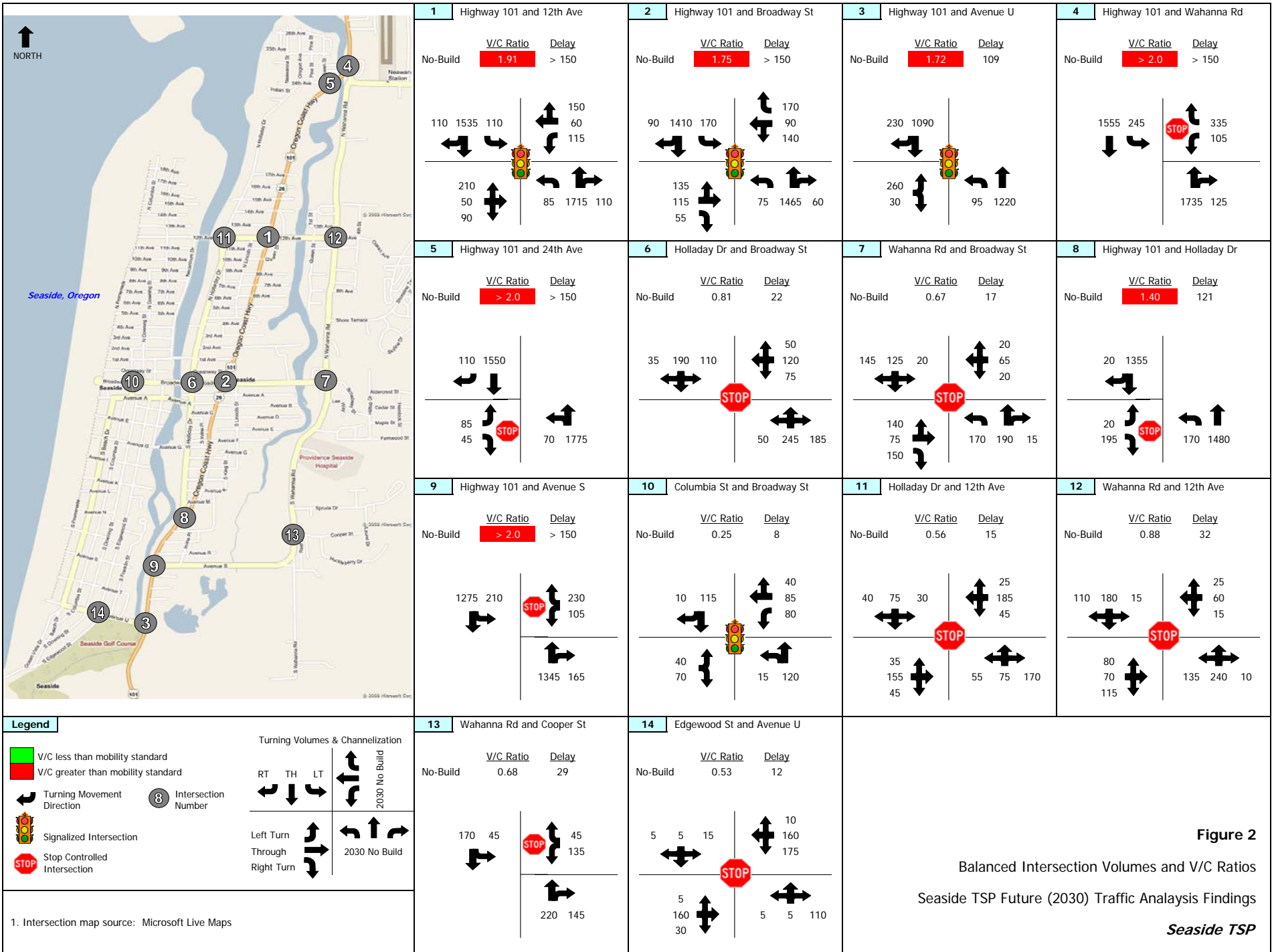
At US 101 and Broadway, southbound left turn queue volumes are anticipated to exceed available storage length for a significant amount of time, resulting in adverse impacts to through-movement travel in adjacent lanes.

## Bicycle, Pedestrian, and Transit Mode Deficiencies

As congestion for vehicular traffic increases, more people will switch to other modes for some trips, such as bicycling, walking, and transit. Consequently, future demand is expected to increase, and bicycle, pedestrian, and transit deficiencies that have been identified in Appendix B: Existing Conditions are expected to persist and worsen in the future No Build scenario. Please see Appendix B: Existing Conditions for specific bicycle, pedestrian, and transit deficiencies.

Figure 1: Development Zones





**Figure 2**  
Balanced Intersection Volumes and V/C Ratios  
Seaside TSP Future (2030) Traffic Analysis Findings  
*Seaside TSP*





# Alternative Analysis

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This section documents the transportation improvement concepts, the Evaluation Framework and the alternatives evaluation process. Standards used to evaluate and select transportation alternatives are identified in OAR 660-012-0035. The process for decision-making will be described in this section including documentation of discussions and meetings where decisions were made. The subsections for the alternatives analysis will include: bicycle and pedestrian concepts, transit concepts, local roadway concepts, and highway concepts.

## Evaluation Framework

This evaluation framework is based on project goals as identified by the TSP's Project Management Team (PMT) at the outset of the TSP process. This group first translated project goals into evaluation criteria, and then identified performance measures to determine how each potential improvement functioned in relation to the project goals. The evaluation framework was developed prior to the development of potential improvements to encourage an open and unbiased evaluation process.

The general evaluation rating method is included in the table below. The scale is a 'consumer-reports style' scale used to show which alternatives meet the criteria, which alternatives partially meet the criteria, and which alternatives do not meet the criteria. Additionally, a N/A designation will be used where the criteria do not apply.

Rating	Description
●	Alternative directly and positively addresses the project goal
◐	Alternative partially meets the goal, addressing some but not all of the goal's objectives
○	Alternative does not support the intent of, or negatively impacts, the goal
N/A	Alternative is not applicable to the goal

The table below lays out the evaluation framework used for the Seaside TSP.

Goal	Rating	Performance Measure
<b>1. Safety for all modes</b>		
<p>Addresses safety issues for automobiles at known problem areas such as:</p> <p>Crossing US Highway 101</p> <p>Between Mile Post 19.58-22.12 along US Highway 101</p> <p>The intersection of US Highway 101 and Lewis and Clark</p>	<p>●</p> <p>◐</p> <p>○</p>	<p>Addresses known safety issue(s), and does not add new operational safety concerns. Moves towards design standards and does not require an exception.</p> <p>Addresses some known safety issue(s), and may decrease other operational safety concerns.</p> <p>Does not address known safety issue(s), and adds operational safety concerns, and may require an exception</p>
<p>Addresses bicycle and pedestrian safety at known (community identified) problem areas.</p>	<p>●</p> <p>◐</p> <p>○</p>	<p>Addresses known safety issue(s) and allows for safer walking and biking through facilities or strategies along and across US 101.</p> <p>Does not address known safety issue(s), but acknowledges the need for some shelter.</p> <p>Does not address known safety issue(s) and does not improve the safety for those walking along or across US 101.</p>
<b>2. Access for all modes</b>		
<p>Provides easy and clear access for visitors and residents to evacuation routes that increase in elevation out of the inundation zone</p>	<p>●</p> <p>◐</p> <p>○</p>	<p>Provides multiple alternatives, especially east-west connections to tsunami and other hazard evacuation routes. Clarifies routes for most residents and visitors in case of an emergency.</p> <p>Provides some additional alternatives, and may not clarify routes for some residents and visitors in case of an emergency.</p> <p>Does not address access to evacuation routes by providing alternate routes, does not provide east-west routes, and does not clarify routes for residents and visitors in case of an emergency</p>
<p>Reduces vehicle conflict points and moves towards ODOT access standards</p>	<p>●</p> <p>◐</p>	<p>Adds no new private access to US 101 and includes specific strategies for improving access spacing to improve compliance with access spacing standards.</p> <p>Adds no new private access to US 101, though does not include specific strategies for improving access spacing.</p>



Goal	Rating	Performance Measure
	○	Adds new private access to US 101, and does not include access spacing strategies.
Allows for emergency vehicle reliability and timely access	●	Reduces travel time for emergency vehicles, provides multiple routes, and minimizes out of direction travel.
	◐	Reduces travel time for emergency vehicles, provides multiple routes, or minimum out of direction travel.
	○	Does not change or increases travel time for emergency vehicles, does not provide multiple routes and increases out of direction travel.
<b>3. Mobility</b>		
Provides a viable transportation system that accommodates future growth, meeting appropriate mobility standards for the Highway, and addresses the regional and local travel needs of residents, businesses, and industries.	●	Volume/capacity ratio for traffic along US 101 and all but one of the study area intersections meets or exceeds ODOT standards.
	◐	Volume/capacity ratio for traffic along US 101 is improved compared to future no-build scenarios, and moves towards ODOT mobility standards.
	○	Volume/capacity ratio for traffic along US 101 and at three or more study area intersections is worse than acceptable OHP mobility standards.
Accommodates future and existing transit	●	Accommodates existing and future transit service, which may include bus pull-outs, shelters, timed transfers, and moving people to destinations in a timely manner, with schedules and routes reflecting known demands.
	◐	Accommodates some existing and future transit service and stops, which may include bus pull-outs, shelters, timed transfers, and moving people to destinations the study area.
	○	Does not accommodate future and hinders current transit service and stops, and leaves no area for future bus-pull outs and shelters.
<b>4. Connectivity</b>		
Improve street east-west connectivity and provides an alternative to US 101 for local trips	●	Provides new and/or improved east-west connections to local and regional destinations. Allows for local circulation with minimal out of direction travel, and reduces distance traveled along US 101 for local trips.

Goal	Rating	Performance Measure
	<ul style="list-style-type: none"> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Provides some limited east-west connections to local and regional destinations, allows for limited local circulation with some out of direction travel, and may reduce distance traveled along US 101 for local trips.</p> <p>Does not provide new connection and/or reduces connectivity. Increases out of direction travel and distance traveled along US 101 for local trips.</p>
<p>Improves bicycle and pedestrian connectivity by addressing gaps in the current network</p>	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Greatly increases connections for bicycles and pedestrians and moves towards an interconnected system throughout the study area and addresses gaps in the bicycle and pedestrian network allowing bicyclists and pedestrians access to local destinations</p> <p>Slightly increases connections for bicycles and pedestrians and moves towards an interconnected system in some of the study area allowing bicyclists and pedestrians access to some local destinations. Some gaps remain in the existing system.</p> <p>Does not address bicycle and pedestrian connectivity.</p>
<p>Provides for and supports a transit system that serves popular local and regional origins and destinations</p>	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Allows for improved transit service and future development of an interconnected transit system that serves important local employment, residential, medical or social areas.</p> <p>Allows for development of a somewhat interconnected transit system that serves some important local employment, residential, medical or social areas.</p> <p>Does not allow for future transit service development, does not allow for a connected transit system.</p>
<p>5. Cost</p>		
<p>The relative benefits outweigh the costs of the project, and are cost effective over the life cycle of the improvement</p>	<ul style="list-style-type: none"> <li><input checked="" type="radio"/></li> <li><input type="radio"/></li> </ul>	<p>Provides a solution that is cost effective to design and construct, and maintains cost effectiveness over the life of the improvement.</p> <p>Provides a solution that is initially cost effective, but may require more funding over the life cycle of the facility which may not be cost-effective.</p>

Goal	Rating	Performance Measure
	○	Does not provide a solution that is cost effective to design and construct, costs exceed benefits, even over the life cycle of the improvement.
Alternative meets criteria for identified funding options	<ul style="list-style-type: none"> <li>●</li> <li>◐</li> <li>○</li> </ul>	<p>Likely meets funding criteria and identifies readily available funding sources at the local, state, and/or federal level.</p> <p>Few funding options exist to cover the cost of the alternative, may meet some funding criteria.</p> <p>Does not provide any funding options at any level for the alternative.</p>
<b>6. Livability</b>		
Preserves current parking to serve local residents and visitors, as well as maintain the viability of local businesses	<ul style="list-style-type: none"> <li>●</li> <li>◐</li> <li>○</li> </ul>	<p>Does not affect current parking amounts or totals, and maintains the viability of downtown businesses.</p> <p>Impacts some parking amounts or totals, though not expected to jeopardize the viability of downtown businesses.</p> <p>Has a large impact on parking amounts or totals, and may jeopardize the viability of downtown businesses.</p>
The community supports the alternative and it is line with future expectations of community stakeholders and leaders	<ul style="list-style-type: none"> <li>●</li> <li>◐</li> <li>○</li> </ul>	<p>Expected to garner broad and/or strong support from community stakeholders and leaders.</p> <p>Support from community stakeholders and leaders is not expected to be strong, and/or is uncertain.</p> <p>Expected to receive limited or no support from community stakeholders and leaders.</p>
Supports economic development consistent with the community's vision for the future	<ul style="list-style-type: none"> <li>●</li> <li>◐</li> <li>○</li> </ul>	<p>Creates an attractive, cohesive identity that preserves the vibrant nature of downtown and remains attractive and easily navigable to visitors. Allows for development and redevelopment supporting the community vision, identified in the community survey.</p> <p>Supports elements of an attractive, cohesive identity which may be confusing for visitors and allows for some development and redevelopment but may not be consistent with the community's vision.</p> <p>Does not create a cohesive identity or maintain a vibrant downtown. Does not allow for</p>

Goal	Rating	Performance Measure
		development and redevelopment consistent with the community's vision.
<b>7. Environmental Resources</b>		
Minimizes impacts to built environment resources	<ul style="list-style-type: none"> <li>●</li> <li>◐</li> <li>○</li> </ul>	<p>Does not displace private property.</p> <p>Less than three displacements to private property.</p> <p>More than three displacements to private property.</p>
Minimize impacts to areas of interest including fish-bearing streams, floodplain, and wetlands.	<ul style="list-style-type: none"> <li>●</li> <li>◐</li> <li>○</li> </ul>	<p>Benefits areas of interest/ does not have any negative impacts to areas of interest. May have minor impacts that can be mitigated.</p> <p>Creates minor impacts to some areas of interest that cannot be mitigated, or has major impacts that can be mitigated.</p> <p>Creates a major impact to areas of interest, which can not be mitigated.</p>
Consistency with OHP major improvement policy	<ul style="list-style-type: none"> <li>●</li> <li>○</li> </ul>	<p>Consistent with the OHP major improvement policy, including protecting the existing system, improving efficiency and capacity of existing highway facilities, adding capacity to the existing system, and adding new facilities to the system.</p> <p>Is not consistent with any actions and policies in the OHP major improvement policy.</p>

## Transportation Improvement Range of Alternatives

This subsection documents the transportation improvement concepts that were considered by the Seaside Transportation System Plan (TSP) technical team. The basis for these concepts came from three sources:

1. A design charrette involving the technical team held at CH2M HILL on October 15, 2008
2. Suggestions from the Project Management Team (PMT) provided during the last two weeks of October, 2008
3. Suggestions from the Seaside community as collected at and following a public workshop held November 7, 2008

The concepts described in this section are organized into sub-several sections: bicycle/pedestrian; transit; local roadway; highway; and other/policy. A set of improvement ideas submitted by a community member following the November workshop is included as attachment A. These concepts were also considered by the project team.

## Bicycle/Pedestrian Concepts

This section is organized into four types of treatments – on-street improvements, off-street paths, crossings, and bicycle parking.

### On-Street Improvements

1. Continuous bicycle lanes and sidewalks along US 101 between Avenue U and Lewis & Clark Road
2. Bicycle lanes, and/or sidewalks as room allows to improve north-south and east-west connectivity, on some or all of the following:
  - a. Holladay
  - b. Wahanna
  - c. Lewis & Clark
  - d. 15<sup>th</sup>
  - e. 12<sup>th</sup>
  - f. Broadway
  - g. Avenue A/B
  - h. Avenue F
  - i. Avenue G
  - j. Avenue S
  - k. Avenue U
  - l. Others (including Franklin, Downing, Columbia, Spruce)
3. Slow street or pedestrian only street, even if during the day only on Broadway west of Holladay
4. Boardwalk on Wahanna. If you can not do it on the street, go off street with an elevated board walk

### Off-Street Paths

5. Extend multi-use path parallel to US 101
6. Bike ped loop connecting park areas in Seaside
7. High ground path along eastern edge of UGB
8. Connection to bike paths to north (Gearhart) and south (Cannon Beach)

### Crossings

9. Consider crosswalks at:
  - a. US 101 at Lewis & Clark
  - b. US 101 at 12<sup>th</sup>
  - c. US 101 at 6<sup>th</sup>
  - d. US 101 at Safeway
  - e. US 101 at Broadway
  - f. US 101 at A
  - g. US 101 at Holladay
  - h. US 101 at Avenue S
  - i. US 101 at Avenue U
  - j. The new library (on Broadway)
10. Consider bike/ped bridges at:
  - a. Necanicum River
    - i. North end of town, corresponding to new creek crossing south of 24<sup>th</sup>

- ii. 4<sup>th</sup>
- iii. 6<sup>th</sup>
- iv. Avenue L
- v. Avenue P
- vi. Avenue S
- b. US 101
  - i. Between Broadway and the Safeway
  - ii. At high school
  - iii. Avenue U
  - iv. Avenue S
- c. Neawanna Creek
  - i. South of 24<sup>th</sup>
  - ii. 15<sup>th</sup>
  - iii. Avenue F

### **Bicycle Parking**

11. Identify locations for additional bicycle parking
12. Consider metered bike parking

### **Transit Concepts**

This section is organized into four types of improvements – routing, stop locations, service frequency, and new service.

#### **Transit Routing**

1. SETD – Extended express route S. to Broadway. NET to 12<sup>th</sup> via Wahanna
2. Route bus down Downing instead
3. Run bus line to North Gateway Park

#### **Transit Stop Locations**

4. US 101 express, add a stop at Broadway instead or in addition to current stop locations
5. The US 101/Broadway stop is too close to the intersection and blocks up traffic
6. Park-and-rides on north and south ends of town with shuttle bus service in summertime

#### **Service Frequency**

7. Weekday peak
8. Weekday off-peak
9. Weekend service

#### **Additional Service**

10. Shuttle buses
11. Trolley loop
12. Park-and-rides on north and south ends of town with shuttle bus service in summertime

### **Local Roadway Concepts**

Local roadway concepts are organized into three sections – intersection concepts, cross section concepts, and other/policy.

## Intersections

1. US 101 / Lewis & Clark Road
  - a. Signal and right turn pocket
  - b. Combine intersection with 24<sup>th</sup> Avenue
    - i. Roundabout
    - ii. Signal
2. Lewis & Clark Road / Wahanna Road
  - a. Roundabout
  - b. T-intersection (three-way stop)
3. US 101 / 24<sup>th</sup> Street
  - a. Restrict left turns out
  - b. Signal
  - c. Combine intersection with Lewis and Clark
    - i. Roundabout
    - ii. Signal
4. New intersection south of 24<sup>th</sup> Street
  - a. Roundabout
  - b. Signal
5. US 101 / 12<sup>th</sup> Street
  - a. EB right turn pocket
  - b. EB left turn pocket
  - c. Both left and right turn lanes
  - d. WB right turn pocket
6. US 101 / Broadway
  - a. Eastbound change right turn pocket to left turn pocket, and westbound add left turn pocket
  - b. Extend southbound left turn pocket (on US 101)
  - c. Adjust signal timing to flush out highway traffic
7. US 101 / Safeway Parking Lot
  - a. Restrict left turns from Safeway
  - b. Signal at Safeway
  - c. Channelized left turns and sheltered pedestrian movement
  - d. Remove highway access at Safeway and have U turns at Broadway and Ave F and G
8. US 101 / Avenue F / Avenue G
  - a. Combine Avenues F and G by realigning Avenue G to meet US 101 at Avenue F
  - b. Combine Avenues F and G by realigning Avenue F to meet US 101 at Avenue G
  - c. Combine Avenues F and G by realigning both
  - d. Add traffic signal at both Avenue F and Avenue G (do not realign either) and operate as one signal
9. US 101 / Holladay Drive
  - a. Extend northbound left turn lane pocket on US 101
  - b. Roundabout (or landscape island)
  - c. Realign intersection and add a signal
  - d. Restrict left turns from Holladay

10. Avenue S/US 101:
  - a. Separate the right- and left-turn lanes (no signal)
  - b. Separate the right- and left-turn lanes and add a signal
11. Avenue U/US 101:
  - a. Add a southbound right turn pocket on US 101
  - b. Adjust signal timing to allow more time for cars on US 101

### Street Cross Sections

12. 12<sup>th</sup> Street Cross Section
  - a. On-street parking and bike/ped
  - b. On-street parking one side with bike lane one side and sidewalk both sides
  - c. Analyze extent of wider cross section both east and west of highway (east to Wahanna, beyond? West to Holladay, Prom?)
13. Wahanna Rd Cross-Sections
  - a. Bicycle lanes both sides, sidewalk east side
  - b. Shared use shoulder both sides
  - c. Shared use shoulder west side
  - d. Shared use shoulder east side
  - e. Analyze extent of cross section (Lewis & Clark to Avenue S), does it need to be consistent for entire extension? Identify phasing.
  - f. Extend Wahanna Road to Beerman to Highway 26 and on US 101
14. Broadway Cross Section
  - a. On-street parking and bike/ped
  - b. On-street parking one side with bike lane one side and sidewalk both sides
15. Broadway/Downtown
  - a. Consider circulation issues with Broadway as a slow-street or as a pedestrian-only street
16. Avenue S Cross-section:
  - a. Bicycle lanes and sidewalks
  - b. Bicycle lanes, sidewalks, and parking on one side

### Other

17. Improved school zone signage
18. Consistency in placement of school zones
19. Motorcycle parking
20. Make Avenue B a one-way street

### Highway Concepts

Three alternatives will be explored along US 101 – a three-lane section; a five-lane section; and a modified five-lane section. Each alternative will consider variations between concrete median, landscape median, and pedestrian islands in the center lane.

#### 1. Alternative 1: Three Lane Section

- a) Three-lane section with concrete median and left turns at intersections, u-turns allowed at certain intersections
- a) Three-lane section with landscaped median and left turns at intersections, u-turns allowed at certain intersections



- b) Three-lane section with pedestrian islands at regular intersections, u-turns allowed at certain intersections
- 2. Alternative 2: Five Lane Section**
  - a) Five-lane section with concrete median and left turns at intersections, u-turns allowed at certain intersections
  - c) Five-lane section with landscaped median and left turns at intersections, u-turns allowed at certain intersections
  - d) Five-lane section with pedestrian islands at regular intersections, u-turns allowed at certain intersections
- 3. Alternative 3: Modified Five Lane Section**
  - a) Modified five-lane section with narrower travel lanes, narrower median, and consideration of available ROW for on-street parking, bicycle lanes, and sidewalks. This alternative consists of a concrete median and left turns at intersections, u-turns allowed at certain intersections
  - e) Modified five-lane section with narrower travel lanes, narrower median, and consideration of available ROW for bicycle lanes and sidewalks. This alternative consists of a landscaped median and left turns at intersections, u-turns allowed at certain intersections
  - f) Modified five-lane section with narrower travel lanes, narrower median, and consideration of available ROW for on-street parking, bicycle lanes, and sidewalks. This alternative consists of pedestrian islands at regular intersections, u-turns allowed at certain intersections

#### Other

1. Look at a bypass for long-long-range plan – what steps to consider in TSP within 20-year timeframe
2. Look at elevating US 101 south of Seaside and putting in culverts
3. Interconnect signals along the highway to minimize slowdowns for traffic moving through town.

## Alternatives Evaluation

The previous section documented the range of project alternatives that were identified to address transportation needs in Seaside. The team refined these concepts into alternatives based on feedback from the public. These concepts were further refined following a meeting with various technical disciplines from the Oregon Department of Transportation (ODOT). Recommendations and alternatives presented in this section reflect this refinement process.

This section is organized into four improvement types:

1. US 101 Cross Sections
2. Intersections and Local Roadway Concepts
3. Bicycle and Pedestrian Concepts
4. Transit Concepts

## US 101 Cross Sections

This section addresses three potential cross sections for US 101, which are illustrated in Figure 1 and evaluated in Table 1:

- *Standard Three-Lane*: Three-lane cross section designed to meet ODOT standards, with a center median (landscaped, concrete, or pedestrian island). Median treatment would allow left turns at intersections and U-turns at select intersections.
- *Standard Five-Lane*: Five-lane cross section designed to meet ODOT standards, with a center median (landscaped, concrete, or pedestrian island). Median treatment would allow left turns at intersections and U-turns at select intersections.
- *Modified Five-Lane*: Five-lane cross section designed to be narrower than ODOT standards, attempting to gain the advantages of a five lane section while minimizing impacts. This alternative also assumes that the center lane would be a landscaped or concrete median, or a system of pedestrian islands. Median width would be narrower than standard.

Of the US 101 cross sections, the five-lane cross section, standard or modified, provides the greatest safety and mobility benefits and would address community concerns about congestion. However, no alternatives meet ODOT mobility standards, and a five-lane cross section, even the modified version, would require acquisition of property and would likely contain moderate impacts to businesses on US 101. The modified five lane would require multiple deviations from ODOT design standards.

It is anticipated that the discussion of the highway cross section is not complete. Several other factors should be considered along with US 101 cross sections:

1. The need for one or two travel lanes in each direction varies depending on the location along US 101. The PMT could consider a hybrid cross section varying between three and five lanes.
2. Meeting ODOT mobility standards will be difficult regardless of cross section width. The team could analyze duration of traffic congestion, and consider applying for alternate mobility standards.
3. Developments along the highway create added trips on the highway. The team could consider focusing new development off the highway, into the historic downtown Seaside and/or other growth nodes.
4. Extending Wahanna Road to the south improved conditions along US 101 tremendously. If this improvement does not move forward, it will require another look at highway improvements.
5. Seaside's size and topography lends itself well to walking and bicycling. Investment in infrastructure to benefit these alternate modes is likely to further improve travel conditions along the highway.

**TABLE 1**  
US 101 Cross Section Alternatives

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Major Findings
1) Standard Three Lane Cross Section	◐	●	◐	○	N/A	○	●	●	<ul style="list-style-type: none"> <li>• Safety improved for pedestrians due to shorter crossing distance than other alternatives, and designed to meet HDM standards; slow speeds decrease severity of auto crashes, however automobile congestion related crash hazards still exist</li> <li>• Decreases travel time for emergency vehicles compared to no build</li> <li>• Mobility substantially improved over no build, but not close to meeting standards; five intersections on US 101 have v/c ratios higher than 1.0.</li> <li>• Construction staging could be difficult due to space constraints</li> <li>• Generally fits within existing right-of-way (ROW), with some exceptions south of Avenue G</li> </ul>
2) Standard Five Lane Cross Section	●	◐	◐	●	N/A	●	○	○	<ul style="list-style-type: none"> <li>• Safety improved for automobiles, because congested related hazards would be reduced; however, pedestrians would need to cross a longer distance with greater auto travel speeds</li> <li>• Reduces travel time for emergency vehicles compared to no build and three lane alternative</li> <li>• Mobility is most improved with a 5-lane cross section (substantial improvements over no build, all intersections under 1.0 v/c)</li> <li>• Potential ROW acquisition greatest under this alternative</li> <li>• Alternative allows more room for construction staging</li> </ul>
3) Modified Five Lane Cross Section	◐	◐	◐	●	N/A	◐	◐	◐	<ul style="list-style-type: none"> <li>• Safety improved for automobiles, because congested related hazards would be reduced; longer crossing distance for pedestrians</li> <li>• Reduces travel time for emergency vehicles compared to no build and three lane alternative</li> <li>• Mobility is most improved with a 5-lane cross section (substantial improvements over no build, all intersections under 1.0 v/c)</li> <li>• ROW acquisition less than Alternative 2: Standard Five Lane Cross Section; this alternative would allow for room for staging</li> </ul>

<sup>1</sup> V/C = Volume-to-capacity ratio. A value of 1.0 means that traffic volumes are at capacity, and congested conditions would occur in the 30th highest hour.

## Intersections and Local Roadway Concepts

This section addresses intersections both on US 101 and local streets and other roadway improvement concepts off the highway. Alternatives are organized into three segments – the North Segment (Lewis & Clark Road to 12<sup>th</sup> Avenue); the Central Segment (12<sup>th</sup> Avenue to Avenue G); and the South Segment (Avenue G to Avenue U). Concepts are depicted in three figures, Figures 2, 3, and 4, and are evaluated in three tables, Tables 2, 3, and 4.

### North Segment

Alternatives considered at the north segment include:

- Vicinity of Lewis & Clark and 24<sup>th</sup> Avenues
- Lewis & Clark and Wahanna Road
- US 101 and 12<sup>th</sup> Street
- 12<sup>th</sup> Street Cross Section
- Wahanna Road Cross Section

**TABLE 2**  
Intersections and Local Roadway Alternatives (North Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
<b>1. 24<sup>th</sup> Ave./Lewis &amp; Clark/US 101</b>									
Alt. A: Signal at Lewis & Clark (restrict access at 24 <sup>th</sup> )	●	●	◐	◐	◐	◐	◐	●	<ul style="list-style-type: none"> <li>Addresses safety issues related to safety for all modes</li> <li>Improves mobility at intersection (v/c of 1.04)</li> <li>Does not provide easy and clear east-west connectivity compared to other options for evacuation routes and daily bicycle, pedestrian, and auto traffic. Access restrictions at 24<sup>th</sup> reroute traffic west of highway down to 12<sup>th</sup>.</li> </ul>
Alt. B: Combine 24 <sup>th</sup> and Lewis & Clark Intersections: Roundabout (restrict access at current Lewis & Clark)	●	◐	●	○	●	○	◐	◐	<ul style="list-style-type: none"> <li>Improved safety for autos associated with reduced conflict points and slower speeds at roundabouts</li> <li>Reduced safety for bikes/peds associated with potential conflicts with turning vehicles</li> <li>Mobility is poor compared to signal option (v/c of 1.86)</li> <li>Combining 24<sup>th</sup> and Lewis and Clark intersections greatly improves east-west connectivity at north end of town</li> <li>Roundabout structure at or very close to creek challenging for both design and construction</li> <li>Could serve as a gateway to Seaside from the north</li> <li>Structure would need to span Neawanna Creek to avoid impact to fish bearing stream</li> <li>Property impacts associated with this option are higher than other options at north end</li> </ul>
Alt. C: Combine 24 <sup>th</sup> and Lewis & Clark Intersections: Signal (restrict access at current Lewis & Clark)	●	●	●	●	●	●	●	◐	<ul style="list-style-type: none"> <li>Addresses safety issues related to safety for all modes</li> <li>Improved mobility compared to other options (v/c of 0.78)</li> <li>Provides clear and direct east-west connectivity compared to other options for evacuation routes and daily bicycle, pedestrian, and auto traffic.</li> <li>Some right of way would be required.</li> <li>Structure would need to span Neawanna Creek to avoid impact to fish bearing stream</li> </ul>

**TABLE 2**  
Intersections and Local Roadway Alternatives (North Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
Alt. D: New Road at High School Connecting Holladay and Wahanna (Restrict access at current 24 <sup>th</sup> , Lewis & Clark)	●	●	●	●	●	○	●	○	<ul style="list-style-type: none"> <li>• Would only be done in conjunction with high school relocation. Connection could serve property redevelopment efforts.</li> <li>• Provides clear and direct east-west connectivity and improves safety for auto traffic and emergency access</li> <li>• Improved mobility, but additional queues at signal could impact overall mobility on US 101</li> <li>• Structure would need to span Neawanna Creek to avoid impact to fish bearing stream. Creek is wider at this location than it is at 24<sup>th</sup></li> <li>• More property acquisitions needed as compared to other options at north end</li> </ul>
<b>2. Lewis &amp; Clark Rd./Wahanna Rd.</b>									
Alt. A: Roundabout	●	◐	◐	*	◐	◐	●	○	<ul style="list-style-type: none"> <li>• Improved safety for autos associated with related to sight distance, geometric deficiencies, and reduced conflict points/slower speeds at roundabouts</li> <li>• Reduced safety for bikes/peds associated with potential conflicts with turning vehicles</li> <li>• Minimal improvement to emergency response times</li> <li>• Not a study intersection – unable to assess mobility impacts</li> <li>• Facilitates easier connection between Wahanna and Lewis &amp; Clark Road though no new connection. Improves neighborhood access to US 101</li> <li>• Minor parking impacts would occur to North County Fellowship Church</li> <li>• Potential right of way impacts to mobile home park</li> </ul>

**TABLE 2**  
Intersections and Local Roadway Alternatives (North Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
Alt. B: T-intersection	●	●	◐	*	◐	◐	◐	◐	<ul style="list-style-type: none"> <li>Addresses safety issues related to sight distance and geometric deficiencies for all modes</li> <li>Minimal improvement to emergency response times</li> <li>Not a study intersection – unable to assess mobility</li> <li>Facilitates easier connection between Wahanna and Lewis &amp; Clark Road though no new connection. Would improve neighborhood access to US 101</li> </ul>
<b>3. 12<sup>th</sup> St. Cross Sections</b>									
Alt. A: On-street parking and “sharrow,” shared lane marking for bicycles	◐	◐	◐	*	◐	●	●	◐	<ul style="list-style-type: none"> <li>Better-defined space for bicycles and autos than existing condition, though facilities are still shared.</li> <li>Improves an existing east-west connection and minor improvements to emergency service travel times</li> <li>Provides sidewalks on both sides</li> <li>Added width and improved definition of space expected to improve mobility</li> <li>Relatively low cost improvement</li> <li>Could require additional easement to construct</li> </ul>
Alt. B: Bicycle lanes	●	●	◐	*	◐	●	●	◐	<ul style="list-style-type: none"> <li>Better-defined space for bicycles and autos than existing condition, with separated facilities for autos, bicycles, and pedestrians.</li> <li>A bicycle lane on 12th Avenue creates an important east-west connection at the north end of Seaside. This street is selected because it connects all of the major north-south routes, including Wahanna, US 101, Holladay, Franklin and the Promenade.</li> <li>Added width and improved definition of space expected to improve mobility</li> <li>Improves an existing east-west connection and minor improvements to emergency service travel times</li> <li>Relatively low cost improvement</li> <li>Could require additional easement to construct</li> </ul>

**TABLE 2**  
Intersections and Local Roadway Alternatives (North Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
<b>4. Wahanna Rd. Cross Sections</b>									
Alt. A: Bike lanes and sidewalk one side	◐	◐	●	*	◐	●	◐	◐	<ul style="list-style-type: none"> <li>Provides bicycle and pedestrian facilities for identified deficient route; however pedestrians must cross because sidewalk is one side only</li> <li>Added width and improved definition of space expected to improve mobility</li> <li>Improvements to an important alternate access route to US 101, and route to higher ground during emergencies</li> <li>Some right of way would need to be acquired</li> <li>Greater width provides better emergency vehicle access</li> </ul>
Alt. B: Shared use shoulder both sides	◐	○	◐	*	◐	◐	◐	◐	<ul style="list-style-type: none"> <li>Some right of way would need to be acquired</li> <li>Added width and improved definition of space expected to improve mobility</li> <li>Does not provide standard bike/ped facilities, requiring bikes and peds to share a shoulder with disabled vehicles. With increased traffic along this roadway in future this was flagged as a safety issue for bikes and peds.</li> </ul>
Alt. C: Bike lanes and sidewalks on both sides	●	●	●	*	●	●	◐	◐	<ul style="list-style-type: none"> <li>Provides bicycle and pedestrian facilities for identified deficient route; separated facilities on both sides of the street, improving safety over other options</li> <li>Improvements to an important alternate access route to US 101, and route to higher ground during emergencies</li> <li>Added width and improved definition of space expected to improve mobility</li> <li>Greater amount of curb, gutter, and sidewalk increases costs; however this option was considered an effective long-term solution</li> <li>Some right of way would need to be acquired</li> </ul>



**TABLE 2**  
Intersections and Local Roadway Alternatives (North Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
<b>5. 12<sup>th</sup> Ave./US 101</b>									
Alt. A: Right turn pocket	●	◐	●	◐	◐	◐	●	●	<ul style="list-style-type: none"> <li>Option retains safety at this intersection for autos. Right turn pocket for autos could create a conflict with bicyclists and pedestrians crossing US 101.</li> <li>Important emergency evacuation route and east-west connection for all modes</li> <li>Mobility improved substantially over no build; does not meet mobility standards and little differential between alternatives at 12<sup>th</sup>.</li> <li>Potential to fit within current right of way or with little impact on adjacent properties.</li> </ul>
Alt. B: Left Turn Pocket	●	●	●	◐	◐	◐	●	●	<ul style="list-style-type: none"> <li>Important emergency evacuation route and east-west connection for all modes</li> <li>Mobility improved substantially over no build; does not meet mobility standards and little differential between alternatives at 12<sup>th</sup>.</li> <li>Potential to fit within current right of way or with little impact on adjacent properties.</li> </ul>
Alt. C: Right and left turn pocket	●	◐	●	●	◐	●	●	◐	<ul style="list-style-type: none"> <li>Option retains safety at this intersection for autos. Right turn pocket for autos could create a conflict with bicyclists and pedestrians crossing US 101.</li> <li>Important emergency evacuation route and east-west connection for all modes</li> <li>Mobility improved; slightly greater mobility than with the addition of left or right turn pockets individually</li> <li>Limited ROW at west side of intersection; structures are a constraint. This alternative is wider than others at this location and property acquisitions would occur</li> <li>Although property acquisition would occur, this better meets future needs and is more cost-effective</li> </ul>

### Central Segment

Alternatives considered at the central segment include: combining Avenues F and G; the US 101 and Broadway intersection; and the cross section of Broadway.

**TABLE 3**  
Intersections and Local Roadway Alternatives (Central Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
<b>6. Combine F&amp;G</b>									
Alt. A: Realign F	●	●	●	*	●	●	◐	○	<ul style="list-style-type: none"> <li>Combining streets and adding a signal near Safeway provides clearer definition of traffic flow and direction, improving safety for autos, bikes, and peds.</li> <li>Combining streets creates a new east-west connection, and better serves emergency vehicles as well as pedestrians during emergency evacuation</li> <li>Not a study intersection – unable to assess mobility</li> <li>Additional traffic queues at signal could impact overall mobility on US 101</li> <li>Property impacts and displacements would occur</li> </ul>
Alt. B: Realign G	●	●	●	*	●	●	◐	○	<ul style="list-style-type: none"> <li>Combining streets and adding a signal near Safeway provides clearer definition of traffic flow and direction, improving safety for autos, bikes, and peds.</li> <li>Combining streets creates a new east-west connection, and better serves emergency vehicles as well as pedestrians during emergency evacuation</li> <li>Not a study intersection – unable to assess mobility</li> <li>Additional traffic queues at signal could impact overall mobility on US 101</li> <li>Property impacts and displacements would occur</li> </ul>

**TABLE 3**  
Intersections and Local Roadway Alternatives (Central Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
Alt. C: Realign Both	●	●	●	*	●	●	◐	◐	<ul style="list-style-type: none"> <li>Combining streets and adding a signal near Safeway provides clearer definition of traffic flow and direction, improving safety for autos, bikes, and peds.</li> <li>Combining streets creates a new east-west connection, and better serves emergency vehicles as well as pedestrians during emergency evacuation</li> <li>Not a study intersection – unable to assess mobility</li> <li>Additional traffic queues at signal could impact overall mobility on US 101</li> <li>Property impacts would occur though displacements could be avoided</li> </ul>
Alt. D: Operate as one intersection	◐	◐	●	*	●	◐	◐	●	<ul style="list-style-type: none"> <li>Would create a long intersection requiring access control on US 101 between Avenue F and Avenue G</li> <li>No right on red from US 101 onto Avenue F and G would be needed to realize improved safety for bikes and pedestrians</li> <li>Additional traffic queues at signal could impact overall mobility on US 101</li> <li>Does not impact property</li> <li>Does not address need in long run and defers the cost to acquire property</li> </ul>
7. Broadway as slow street	●	●	●	*	●	●	◐	●	<ul style="list-style-type: none"> <li>Broadway in this section already attracts many pedestrians and functions as a lower traffic volume street</li> <li>Acceptability of concept from local businesses is uncertain</li> </ul>
8. Broadway/US 101	◐	◐	◐	●	◐	●	●	●	<ul style="list-style-type: none"> <li>Slight safety improvements to autos, bikes, peds, and emergency vehicles recognized due to decreased congestion</li> <li>Mobility would improve for eastbound and westbound traffic though intersection still does not meet mobility standard (v/c 1.01)</li> <li>Minor property impacts likely (no displacements)</li> </ul>
9. Broadway St. Cross sections									

**TABLE 3**  
Intersections and Local Roadway Alternatives (Central Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
Alt. A: On-street parking and sharrows	◐	◐	◐	*	◐	●	●	◐	<ul style="list-style-type: none"> <li>Better-defined space for bicycles and autos than existing condition, though facilities are still shared.</li> <li>Improves an existing east-west connection and minor improvements to emergency service travel times</li> <li>Provides sidewalks on both sides</li> <li>Added width and improved definition of space expected to improve mobility</li> <li>Relatively low cost improvement</li> <li>Could require additional easement to construct</li> </ul>
Alt. B: Bicycle lanes	●	●	◐	*	◐	●	●	◐	<ul style="list-style-type: none"> <li>Better-defined space for bicycles and autos than existing condition, with separated facilities for autos, bicycles, and pedestrians.</li> <li>A bicycle lane on 12th Avenue creates an important east-west connection at the north end of Seaside. This street is selected because it connects all of the major north-south routes, including Wahanna, US 101, Holladay, Franklin and the Promenade.</li> <li>Improves an existing east-west connection and minor improvements to emergency service travel times</li> <li>Added width and improved definition of space expected to improve mobility</li> <li>Relatively low cost improvement</li> <li>Could require additional easement to construct</li> </ul>

### South Segment

Alternatives considered at the south segment included two main scenarios at Holladay Drive - improvements to the existing intersection, and a flyover. Associated with each scenario are concepts at US 101 / Holladay Drive; US 101 / Avenue S, and US 101 / Avenue U. In addition, this segment includes concepts for the Avenue S cross section and a southerly extension of Wahanna Road.

**TABLE 4**  
Intersections and Local Roadway Alternatives (South Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
<b>Scenario 1: No Flyover at Holladay</b>									
10. Holladay Dr./US 101									
Alt. A: Extend left turn pocket on US 101	◐	N/A	◐	◐	N/A	◐	●	●	<ul style="list-style-type: none"> <li>Provides space for more left-turning vehicles to pull out of travel lane, moderately improving safety for vehicles</li> <li>Does not change conditions for bikes and peds</li> <li>More space provided for emergency vehicles to pull around left-turning or through vehicles</li> <li>Mobility on US 101 could improve with additional northbound left turn storage distance (queues would not block northbound through traffic),</li> <li>As demand increases, would likely require additional improvements to meet needs</li> <li>Does not impact adjacent properties</li> </ul>
Alt. B: Roundabout	●	◐	◐	○	N/A	○	◐	○	<ul style="list-style-type: none"> <li>Improved safety for autos associated with reduced conflict points/slower speeds at roundabouts</li> <li>Reduced safety for southbound bikes/peds associated with potential conflicts with turning vehicles</li> <li>Minimal improvement to emergency response times</li> <li>Mobility on US 101 not improved</li> <li>Potential gateway to Seaside for northbound travelers</li> <li>Requires greater property impacts than other options and would potentially impact access for several businesses</li> </ul>

**TABLE 4**  
Intersections and Local Roadway Alternatives (South Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
Alt. C: T-intersection and signal	●	●	◐	◐	N/A	◐	●	○	<ul style="list-style-type: none"> <li>Signal better defines traffic movements, improving safety for autos, bikes, and peds as compared to no build</li> <li>Traffic signal should have a leading pedestrian phase for crossing US 101 to realize bike and ped safety benefits</li> <li>Minimal improvement to emergency response times</li> <li>Mobility improves for eastbound traffic though does not meet mobility standards (v/c 0.99)</li> <li>Displaces gas station, which is likely to require substantial environmental cleanup.</li> </ul>
11. Avenue S/US 101: Add signal	●	●	◐	◐	N/A	◐	◐	●	<ul style="list-style-type: none"> <li>Signal better defines traffic movements, improving safety for autos, bikes, and peds as compared to no build</li> <li>Minimal improvement to emergency response times</li> <li>Mobility improves for westbound traffic though does not meet mobility standards. Concern about close signal spacing between Avenue U, Avenue S, and Holladay.</li> <li>Support for signal at this location is uncertain</li> <li>Property impacts are minor</li> </ul>
12. Avenue U/US 101 Right turn pocket on Avenue U and adjust signal timing	●	◐	◐	●	N/A	●	◐	●	<ul style="list-style-type: none"> <li>Safety benefits for autos associated with reduced congestion. Right turn pocket could make crossing highway more difficult for bikes and peds</li> <li>Minimal improvement to emergency response times</li> <li>Mobility improves for eastbound traffic. Overall v/c of intersection meets standards (v/c 0.7).</li> <li>Construction staging may be difficult due to need to keep road open during construction.</li> <li>Property impacts are minor.</li> </ul>

**TABLE 4**  
Intersections and Local Roadway Alternatives (South Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
<b>Scenario 2: Flyover at Holladay</b>									
10. Holladay Dr. / US 101	●	●	●	●	●	◐	◐	○	<ul style="list-style-type: none"> <li>Provides new east-west connection point and improves connection north-south and addresses safety issues for all modes and emergency access at intersection</li> <li>Moderate improvements to travel times for emergency vehicles between highway and Holladay</li> <li>Removes at grade connection, reducing congestion</li> <li>Cost is high</li> <li>Property impacts and displacements would occur, greater ROW acquisition costs</li> </ul>
11. Avenue S/US 101: Restrict Access	●	●	◐	◐	N/A	●	●	●	<ul style="list-style-type: none"> <li>Restricting left turns from Avenue S reduces potential conflicts for autos, bikes, and peds</li> <li>Emergency response times unaffected</li> <li>Southbound trips are diverted away from Avenue S. This intersection operates well within standard (V/C 0.49)</li> </ul>
12. Avenue U/US 101 Create a four way intersection with signal	●	●	●	◐	●	◐	◐	○	<ul style="list-style-type: none"> <li>Signal better defines traffic movements, improving safety for autos, bikes, and peds as compared to no build</li> <li>Provides new connection between Avenue U and points east (including indirect new connection to Wahanna).</li> <li>Emergency response times moderately improved.</li> <li>Mobility is still of concern. Trips from Holladay and Avenue S are diverted to Avenue U and signal operates well above standard (v/c 1.08)</li> <li>Construction staging may be difficult due to need to keep road open during construction.</li> <li>Substantial property impacts assumed.</li> </ul>

**TABLE 4**  
Intersections and Local Roadway Alternatives (South Segment)

Alternative	Safety for Autos	Safety for Ped/Bikes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Notes/Major Findings
<b>Other South Segment Concepts</b>									
13. Avenue S Cross section	●	●	●	*	●	●	●	◐	<ul style="list-style-type: none"> <li>• Better-defined space for bicycles and autos than existing condition, with separated facilities for autos, bicycles, and pedestrians.</li> <li>• A bicycle lane on Avenue S creates an important east-west connection at the south end of Seaside.</li> <li>• Improves an existing east-west connection and minor to moderate improvements to emergency service travel times</li> <li>• Important emergency evacuation route and east-west connection for all modes</li> <li>• Added width and improved definition of space expected to improve mobility</li> <li>• Acquisition of property minor, though environmental unknown</li> </ul>
14. Extend Wahanna Rd. to south	●	●	●	●	●	◐	◐	○	<ul style="list-style-type: none"> <li>• Safety benefits associated with reduced congestion on US 101, new facilities on Wahanna Road that serve autos, bikes, and peds</li> <li>• New route for emergency service providers</li> <li>• Mobility benefits realized on US 101 associated with allowing local trips to use Wahanna</li> <li>• Would require a Urban Growth Boundary expansion and potential natural resources impact</li> <li>• Provides an alternate route in southern end of study area to US 101, especially in the event of flooding</li> <li>• High cost</li> </ul>



## Bicycle and Pedestrian Improvements

This section evaluates a network of potential bicycle and pedestrian improvements throughout the study area, both on US 101 and along city streets. Alternatives are depicted in Figure 5, and are evaluated in Table 5 below.

**TABLE 5**  
Bicycle and Pedestrian Improvement Concepts

Alternative	Safety for All Modes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Major Findings
16. Holladay: A bicycle lane on Holladay	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Provides an alternative to traveling on US 101</li> <li>Could be signed a scenic route, encouraging bicycle travelers to diver from US 101</li> </ul>
17. Avenue U: A bicycle lane on Avenue U	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Provides an east-west connection at the south end of town between the Promenade and US 101</li> </ul>
18. Franklin, 9th Avenue, Downing, Columbia, and Ocean Vista: Signed Bicycle/Pedestrian Route	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Creates a north-south route for bicycles and pedestrians on the west side of town</li> </ul>
19. 15th Avenue and 17th Avenue: Signed Bicycle/Pedestrian Route	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Provides a signed connection between Holladay and US 101</li> </ul>
20. 1st Avenue, Broadway, Avenue A/B, Avenue F, Avenue G, Avenue S (west of US 101) and Lewis and Clark Way: Signed Bicycle/Pedestrian Route	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Provides signed connections as part of a comprehensive bicycle and pedestrian network</li> </ul>
21. Lincoln, Cooper, Alder, Hilltop and Aldercrest: Signed Bicycle/Pedestrian Route	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Provides connections between US 101 and proposed high ground pathway</li> </ul>
22. High ground pathway along eastern edge of UGB	●	●	●	●	●	●	○	<ul style="list-style-type: none"> <li>Provides a north-south connection on the east end of town, out of the Tsunami zone</li> <li>Easements needed and environmental impacts could be minor but unknown</li> </ul>

**TABLE 5**  
**Bicycle and Pedestrian Improvement Concepts**

Alternative	Safety for All Modes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Major Findings
23. Shared use pathway creating connections between Wahanna and high ground pathway	●	●	●	●	●	●	○	<ul style="list-style-type: none"> <li>Provides connections between US 101 and proposed high ground pathway</li> <li>Easements needed and environmental impacts could be minor but unknown</li> </ul>
24. Bike and pedestrian loop connecting parks areas in Seaside	●	●	●	◐	○	●	○	<ul style="list-style-type: none"> <li>This is not recommended as an end in itself</li> <li>The comprehensive recommended bicycle and pedestrian network will provide good access to Seaside parks as well as other destinations</li> </ul>
25. Connection to bike paths to north (Gearhart) and south (Cannon Beach)	●	●	●	○	○	●	○	<ul style="list-style-type: none"> <li>Would provide safer connections to neighboring towns, but could be extremely costly to implement</li> </ul>
26. US 101 at Lewis & Clark: Crosswalks	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Provides a safer crossing environment at this complicated intersection. Recommend trying to whichever roadway improvement is recommended at this end.</li> </ul>
27. US 101 at 17th Avenue, 15th Avenue, 9th Avenue, 6th Avenue, 3rd Avenue: Crosswalks	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Provides frequent pedestrian crossings, approximately every three blocks</li> <li>A crosswalk serving Safeway is particularly important to improve pedestrian safety at this very busy intersection</li> </ul>
28. US 101 at 12th Avenue, 1st Avenue, Avenue A, Avenue F, Avenue S, and Avenue U: Crosswalks	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>These intersections are part of the network of frequent crossings of US 101</li> <li>Crosswalks at these intersections connect to bicycle/pedestrian routes originating at the beach.</li> <li>Construct as part of roadway improvement projects in these areas</li> </ul>
29. US 101 at Holladay: Crosswalks	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>If Holladay is signalized, crosswalks are recommended</li> </ul>
30. The new library (on Broadway): A mid-block crossing on Broadway	●	●	◐	●	●	●	●	<ul style="list-style-type: none"> <li>Provide for safer pedestrian travel between the new library and Broadway Middle School, the Parks Department, the skate park and the community center</li> <li>May cause auto-traffic delays on Broadway east of US 101; however proximity of school and library make this an important pedestrian crossing point</li> </ul>

**TABLE 5**  
Bicycle and Pedestrian Improvement Concepts

Alternative	Safety for All Modes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Major Findings
31. Necanicum River at Avenue S: Bicycle/Pedestrian Bridge	●	●	●	●	●	●	◐	<ul style="list-style-type: none"> <li>In combination with recommended improvements (22 &amp; 28), would provide a continuous non-motorized connection from the beach and Promenade all the way to high ground</li> </ul>
32. Neawanna Creek at 15th Avenue: Bicycle/Pedestrian Bridge	●	●	●	●	●	●	◐	<ul style="list-style-type: none"> <li>Provides a connection to Seaside High School</li> <li>Provides an additional route to access high ground by way of Wahanna and a proposed shared use pathway</li> </ul>
33. Neawanna Creek at Avenue F: Bicycle/Pedestrian Bridge	●	●	●	●	●	●	◐	<ul style="list-style-type: none"> <li>In combination with recommended improvements (22 &amp; 28), will provide a continuous non-motorized connection from the beach and Promenade all the way to high ground</li> </ul>
34. Neawanna Creek, south of 24th Avenue: Bicycle/Pedestrian Bridge	◐	◐	●	○	○	●	◐	<ul style="list-style-type: none"> <li>Not recommended as it will not create an evacuation route to high ground</li> </ul>
35. Necanicum River at north end of town, corresponding to new pedestrian creek crossing south of 24th Avenue: Bicycle/Pedestrian Bridge	◐	◐	●	○	○	●	◐	<ul style="list-style-type: none"> <li>Not recommended as it will not create an evacuation route to high ground</li> </ul>
36. Identify locations for additional bicycle parking	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Bicycle parking is an essential element of a bicycle network</li> <li>Concern about theft is one of the reasons most frequently cited by people that do not bicycle</li> </ul>
16. Holladay: A bicycle lane on Holladay	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>Provides an alternative to traveling on US 101</li> <li>Could be signed a scenic route, encouraging bicycle travelers to diver from US 101</li> </ul>

## Transit Service Improvements

This section evaluates potential transit improvements throughout the study area. Alternatives are depicted in Figure 6, and are evaluated in Table 6 below. Most improvements would be implemented by Sunset Empire Transit District (SETD). These potential transit improvements were developed in coordination with SETD.

**TABLE 6**  
Transit Improvement Concepts

Alternative	Safety for All Modes	Access for All Modes	Mobility	Connectivity	Cost Effectiveness	Livability	Environmental Resources	Major Findings
Route bus down Downing Street	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>• SETD has been exploring this, and will likely change route</li> <li>• Greater ridership potential than existing route</li> </ul>
Move current US 101/Broadway stop away from intersection	●	●	●	●	●	●	●	<ul style="list-style-type: none"> <li>• Current bus stop location causes traffic queues at US 101/Broadway</li> </ul>
Park-and-rides on north and south ends of town with shuttle bus service in summertime	●	●	●	●	◐	●	●	<ul style="list-style-type: none"> <li>• Depending on funding, SETD could implement within a few years</li> </ul>
Increase weekday service frequency	●	●	●	●	◐	●	●	<ul style="list-style-type: none"> <li>• SETD will consider depending on ridership demand</li> </ul>
Weekend/Sunday service	●	●	●	●	○	●	●	<ul style="list-style-type: none"> <li>• Funding and ridership are limited; SETD may be able to implement in five years or later</li> </ul>
Trolley loop	●	●	●	●	○	●	●	<ul style="list-style-type: none"> <li>• SETD will consider depending on availability of funding; would require public-private partnership</li> </ul>

## Next Steps

The evaluation conducted to date is preliminary and will be modified by the PMT to reflect the common understanding of that group. Benefits and tradeoffs of the various roadway, bicycle, pedestrian, and transit concepts will be discussed with the community at a series of two workshops in winter 2010. This process will allow for new concepts, modifications of existing concepts, and hybrids of concepts. Recommendations of projects to include in the TSP will be made by the PMT following these workshops.



ATTACHMENT A

# Project Ideas Received From Community Members

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## PEDESTRIAN MODE

- COMPLETE SIDEWALKS ON HWY 101 THROUGH ENTIRE CITY
- COMPLETE SIDEWALK ALONG SUNSET ON INLAND SIDE FROM HIGHLAND TO AVE U
- IN CONJUNCTION WITH STATE ON THE OCEAN SIDE OF SUNSET CREATE NEW SIDEWALK AND ACCESS STEPS TO THE BEACH IN THE PUBLIC USE AREA OF THE COVE
- EXTEND FROM SOUTH FROM AVE U TO PUBLIC USE AREA OF THE COVE

## BICYCLE MODE

- CREATE TWO NEW BIKEWAYS THROUGH THE CITY, ONE ALONG THE RIVER AND ONE ALONG THE CREEK
- COMPLETE BIKEWAY ALONG HWY 101 THROUGH THE ENTIRE CITY
- IN CONJUNCTION WITH THE STATE, CREATE NEW BIKEWAY FROM THE SOUTH END OF SUNSET TO CANNON BEACH
- IDENTIFY EXISTING BIKEWAY ALONG SUNSET AND COMPLETE BETWEEN AVE U AND THE END OF SUNSET

## MOPEDS/ELECTRIC CARTS

- CREATE CAPABILITY FOR RESIDENTS TO USE THESE ON PUBLIC STREETS
- CREATE PARKING AND ACCESS FOR RESIDENTS TO USE THESE VEHICLES FOR SHOPPING AT SAFEWAY/RITE AIDE SITE

## AUTO MODE

- IMPROVE SIGNALIZED INTERSECTIONS ON 101 TO DESIGN IDENTIFIED BY ODOT PLAN TO INCREASE TRAFFIC FLOW
- COMPLETE 101 TURNING LANE THROUGH CITY
- ELIMINATE LEFT TURNS TO AND FROM SAFEWAY/RITE AIDE AND 101 AND REPLACE WITH NEW STREET BEHIND STRIP COMMERCIAL ON 101 SOUTH TO AVE F. ELIMINATE LEFT TURN AND ACROSS ACCESS TO 101 FROM 1<sup>ST</sup> AVE, AVE A, AVE B, AND AVE C BUT CONTINUE TO ALLOW RIGHT TURN ACCESS FROM 101 TO THOSE TO/FROM THOSE STREETS. CONSTRUCT LANDSCAPED MEDIAN ON 101 TO PREVENT LEFT TURNS AND ACROSS TRAFFIC IN THIS AREA.
- REBUILD NORTH END OF 101 BRIDGE OVER CREEK TO IMPROVE SAFETY BY INCREASING WIDTH
- APPLY PRESSURE TO POST OFFICE TO RELOCATE TO WEST SIDE OF HWY 101 BETWEEN AVE B AND BROADWAY USING OLD LIBRARY /BANK SITES

### AUTO MODE (CONTINUED)

- IMPROVE LINE OF SIGHT BETWEEN EDGEWOOD AND OCEAN VISTA, BEACH, AND COLUMBIA BY EXPANDING EDGEWOOD TO ITS FULL RIGHT-OF-WAY WIDTH AND RESTRIPIING IN THAT AREA
- CREATE EMERGENCY EGRESS FOR SOUTH PART OF CITY BY EXTENDING HIGHLAND (GRAVEL) TO RIPPERT WITH A BREAKAWAY BARRIER TO ALLOW USE ONLY IN EMERGENCY
- INSTALL A REFUELING SYSTEM FOR ELECTRIC/ HYDROGEN VEHICLES

### TRUCK MODE

- MAKE SEASIDE TRAFFIC BYPASS SHOWN IN CITY AND COUNTY MASTER PLAN MANDATORY ONLY FOR TRUCKS AND ROUTE ALONG WAHANNA ROAD, LIMIT SPEED TO 30 MPH.
- INSTALL A COMPRESSED NATURAL GAS TRUCK REFUELING STATION ALONG TRUCK ROUTE.

### BUS MODE

- PROVIDE CONNECTION TO HILLSBOROUGH MAX STATION AND 185<sup>TH</sup> ST SHOPPING CENTER THREE ROUND TRIPS A DAY
- PROVIDE CONNECTION TO ASTORIA AIRPORT FOR SEATTLE AND PORTLAND SERVICE

### WATER MODE

- RESTORE OCEAN PIER AT AVE U TO ALLOW FISHING/PLEASURE AND CRUISE BOAT ACCESS TO VISITORS AND RESIDENTS. USE AS LOCATION FOR OCEAN VIEW DINING ESTABLISHMENTS AND BOAT TOURS TO ASTORIA OVER THE BAR.
- PROMOTE KAYAK RENTALS AND PLEASURE BOAT MOORING AT RIVER/CREEK/ OCEAN ESTUARY
- PROMOTE BOAT LAUNCH AND UPRIVER ACCESS TO AVE U

### AIR MODE

- CENTRALIZE HELICOPTER AND FIXED WING SIGHTSEEING FLIGHTS AT SEASIDE AIRPORT
- ESTABLISH A FLY-IN RESTAURANT, HOTEL SHUTTLE, AND CAR RENTAL AT AIRPORT





APPENDIX E

# Access Management



# Access Management

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## Recommended Access Management Language

This section provides guidance for the consideration of access management tools along US 101. Specific access management techniques for a given location will be determined during a future Access Management Plan planning process. Until location specific access management techniques are determined the following guidelines can be used to aid the permitting process and Planning Commission approvals.

Access management guidelines would be triggered by the following:

- 1) **In the event of redevelopment within the US 101 overlay zone<sup>15</sup>**, which is defined as a proposed new building or structure, or the reconstruction, rehabilitation or expansion of an existing site; proposed land division, subdivision or site project; proposed construction or expansion of a parking lot; and/or any other circumstances where a building permit, other construction permit, or zoning or occupancy certificate is sought for use, site upgrade, or change of use for any land<sup>16</sup>, buildings, or structures.
- 2) **In the event of major improvement of US 101**, which is defined as a highway or intersection construction or modernization project or other roadway or intersection project determined by the Region Manager, the project will improve safety factors related to access by considering the following access management techniques.

Definition of a “major improvement” is adapted from Oregon Administrative Rules (OAR) Division 51 Highway Approaches, Access Control, Spacing Standards and Medians.

Access management techniques to be considered prior to issuance of any permits of approvals fall into one of the three following categories:

- 1) Segments to consider consolidating access, with or without a frontage road<sup>17</sup>,
- 2) Segments to consider consolidation, and relocation of access to local streets,
- 3) Segments to consider consolidation, relocation to local streets, and median control with right-in, right-out only. Left-turns in and left-turns out can be considered on a case-by-

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<sup>15</sup> Definition of redevelopment from OAR 734-051-0010 Division 51 is the act or process of changing an existing development including replacement, remodeling, or reuse of existing structures to accommodate new development that is consistent with current zoning. The definition of redevelopment in this document is narrower than the definition within OAR 734-051-0010.

<sup>16</sup> OAR 734-051-0010 states that a “Change of Use of an Approach,” which applies to private approaches existing under a valid permit and grandfathered approaches, occurs and an application must be submitted under the following circumstances: zoning or plan amendment designation changes; construction of new buildings; floors pace of existing buildings increase; changes in the character of traffic using the approach; internal cite design or inter-parcel circulation changes; or reestablishment of a property’s use after discontinuance for two years or more.

<sup>17</sup> US 101 overlay zone ordinance language includes the ability to set up permissive easements that would allow future neighboring re-development to use a consolidated access.

case basis. Median control could be continuous or could provide full access at key public streets.

Highway segments where consideration of these access management techniques are recommended are depicted in Figures 1, 2, and 3. The figures highlight actions for consideration. The actions for consideration depicted in the figures do not preclude ODOT from implementing other actions in response to a development proposal. ODOT, with the authority granted in OAR 734-051-0010 Division 51, can require other actions.

Following are definitions of the access management categories and the conditions considered when designating segments of US 101 in one of these three categories.

## 1) Reduce number of accesses

### a. Through relocation of access to local streets

In these areas, approaches onto US 101 could be relocated to the local street network because parcels have at least one side that abuts the local street network. Approaches directly onto US 101 could be modified or relocated to increase the use of local street network and access to the highway would be limited where possible to public street approaches. This concept may be most relevant along US 101 between 16<sup>th</sup> Avenue on the north (west of the highway only) to Holladay Drive to the south. There is more limited feasibility of this concept on the east side of US 101.

### b. Through driveway consolidation, shared parking, and/or frontage or backage roads

These are areas where north-south, local streets that could be alternate routes to US 101 do not exist and are not planned; therefore, the access management tool of relocating accesses to local streets is not viable given the absence of local street alternates to US 101. In these segments, consolidating access through consolidating driveways and/or shared driveways with adjacent businesses or establishing cross easements through parking lots and/or permissive designs that facilitate connections to local east-west streets could be considered (with or without shared parking areas). In some cases, existing right-of-way or present building orientation may allow sufficient room for the development of cross easements that could provide benefits similar to a frontage or backage road. These access management tools are described in detail in section 4.030 of the draft recommended ordinances for the Seaside Zoning Code. Approaches would remain full access, meaning right and left turns would be allowed.

## 2) Restrict accesses

### a. To right-in, right-out only (painted median, flexible traffic delineator post, or truncated dome – see Figure 2)

Approaches directly onto the highway could be restricted to right-in, right-out only with left turns allowed at the nearest signalized intersection. This treatment is to be considered primarily for public roads at unsignalized intersections in conjunction with a no-left turn sign (Figure 2). The following conditions would need to be present for this concept to be recommended:

- i. Alternate, north-south local streets exist AND
- ii. US 101 congestion at nearest intersection is above a v/c of 1.0 OR
- iii. Segment crash rate is above the statewide average rate for a similar facility (urban, major arterial)

Upon further development of the local street network additional opportunities for restricting access to the highway could be made. Drivers would use local, north-south streets, such as Holladay Drive on the west side of US 101 or Lincoln Street on the east side of US 101 to access signalized intersections where they could make left turns onto the US 101. The existence of or plans for parallel, north-south local streets and present or planned traffic signals would require little to no out-of-direction travel for drivers.

Median treatments for consideration vary. Medians could be simply painted with a double yellow stripe, marked with a flexible traffic delineator post (typically used in temporary situations), or delineated with truncated domes, which are mountable obstacles.

**b. Raised median**

In these areas, approaches onto US 101 would be restricted to right-in, right-out and a raised median control would be added. Drivers could make left turns at signalized intersections which allow full access. The following conditions should be present for this concept to be recommended:

- i. Alternate, north-south local streets exist AND
- ii. US 101 congestion at nearest intersection is above a v/c of 1.0 OR
- iii. Segment crash rate is above the statewide average rate for a similar facility (urban, major arterial)

Conditions that would trigger consideration of median control and restricted access would be a history of safety conflicts, such as vehicle and pedestrian conflicts or vehicle turning movement conflicts that could be made safer with a raised median treatment.

A pedestrian island can also be considered in conjunction with a raised median. Raised medians with pedestrian islands are proposed in Figures 1, 2, and 3 in areas where east-west pedestrian connections are being improved. Due to high volumes and posted speed, pedestrian islands can improve safety conditions for pedestrians at unsignalized intersections, giving them a refuge between traffic lanes. Pedestrian islands at signalized intersections can also improve safety conditions for pedestrians and for automobiles by eliminating left turns at key intersection locations.





Consider a pedestrian island and median to provide a safe pedestrian crossing at U.S. 101. Specific location could vary. Island should be placed to connect with the recommended bicycle/pedestrian bridge across Neawanna Creek in vicinity of 15th Ave.

Additional access restrictions may be required at signals.




No north-south street is proposed between U.S. 101 and Neawanna Creek.


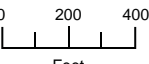
Explore ways to reduce highway access points through shared driveways, access along local streets, or a minimal access lane/frontage/backstage road.

Drivers can use Holladay to go north and south. They can turn onto U.S. 101 at 12th Ave or the planned signal at 24th Ave.

Additional access restrictions may be required at signals.








**Legend**

-  = existing traffic signal
-  = planned traffic signal
-  = streets

**Access Management Tools**

Consider the following access management tools in the event of redevelopment or major improvement of US 101.\*

-  = consolidate access
-  = explore crossover easements or access lane (at front or rear of property)
-  = consolidate, and/or relocate access to local streets
-  = modify access to right-in, right-out with median
-  = potential local street extensions
-  = potential local street extensions in areas with public right of way available
-  = potential pedestrian island

\* These tools do not preclude ODOT from considering other improvements.

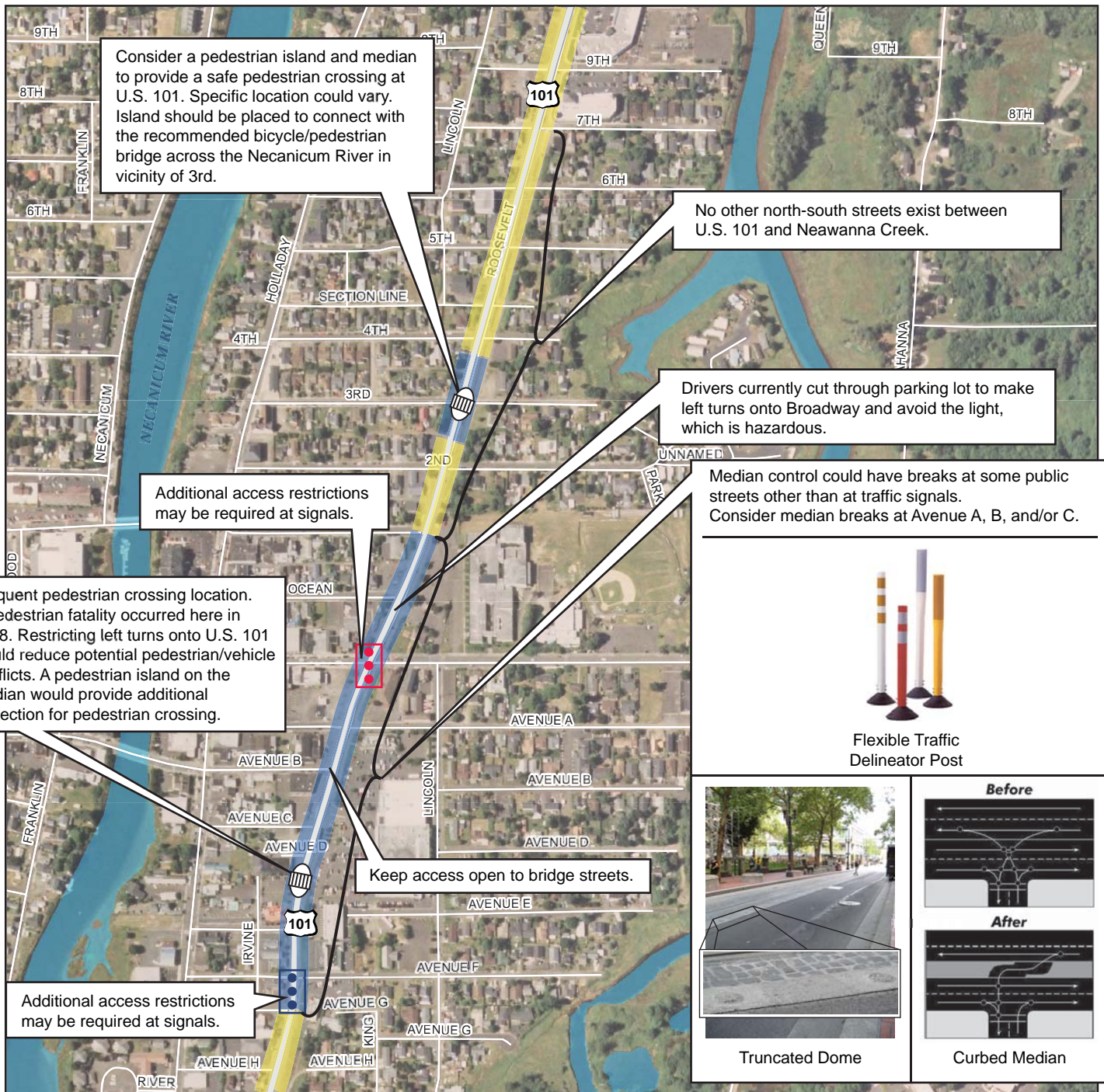
**Draft US 101 Access Management Tools for Consideration**

**NORTH**

SEASIDE TRANSPORTATION SYSTEM PLAN



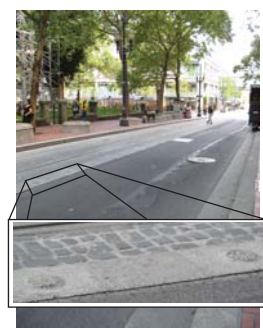




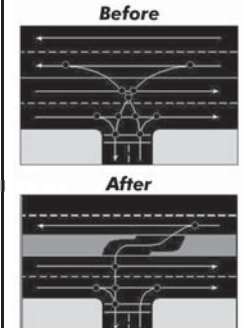
Median control could have breaks at some public streets other than at traffic signals. Consider median breaks at Avenue A, B, and/or C.



Flexible Traffic Delineator Post







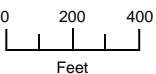
Truncated Dome



Curbed Median








**Legend**

-  = existing traffic signal
-  = planned traffic signal
-  = streets

**Access Management Tools**

Consider the following access management tools in the event of redevelopment or major improvement of US 101.\*

-  = consolidate access
-  = explore crossover easements or access lane (at front or rear of property)
-  = consolidate, and/or relocate access to local streets
-  = modify access to right-in, right-out with median
-  = potential local street extensions
-  = potential local street extensions in areas with public right of way available
-  = potential pedestrian island

\* These tools do not preclude ODOT from considering other improvements.

**Draft US 101 Access Management Tools for Consideration**



Consider a pedestrian island and median to provide a safe pedestrian crossing at U.S. 101. Specific location could vary. Island should be placed to connect with the recommended extension of Holladay Drive as a local street to the south.

Consider a pedestrian island and median to provide a safe pedestrian crossing at U.S. 101. Specific location could vary. Island should be placed to connect with the recommended bicycle/pedestrian bridge across the Necanicum River in vicinity of Avenue S.

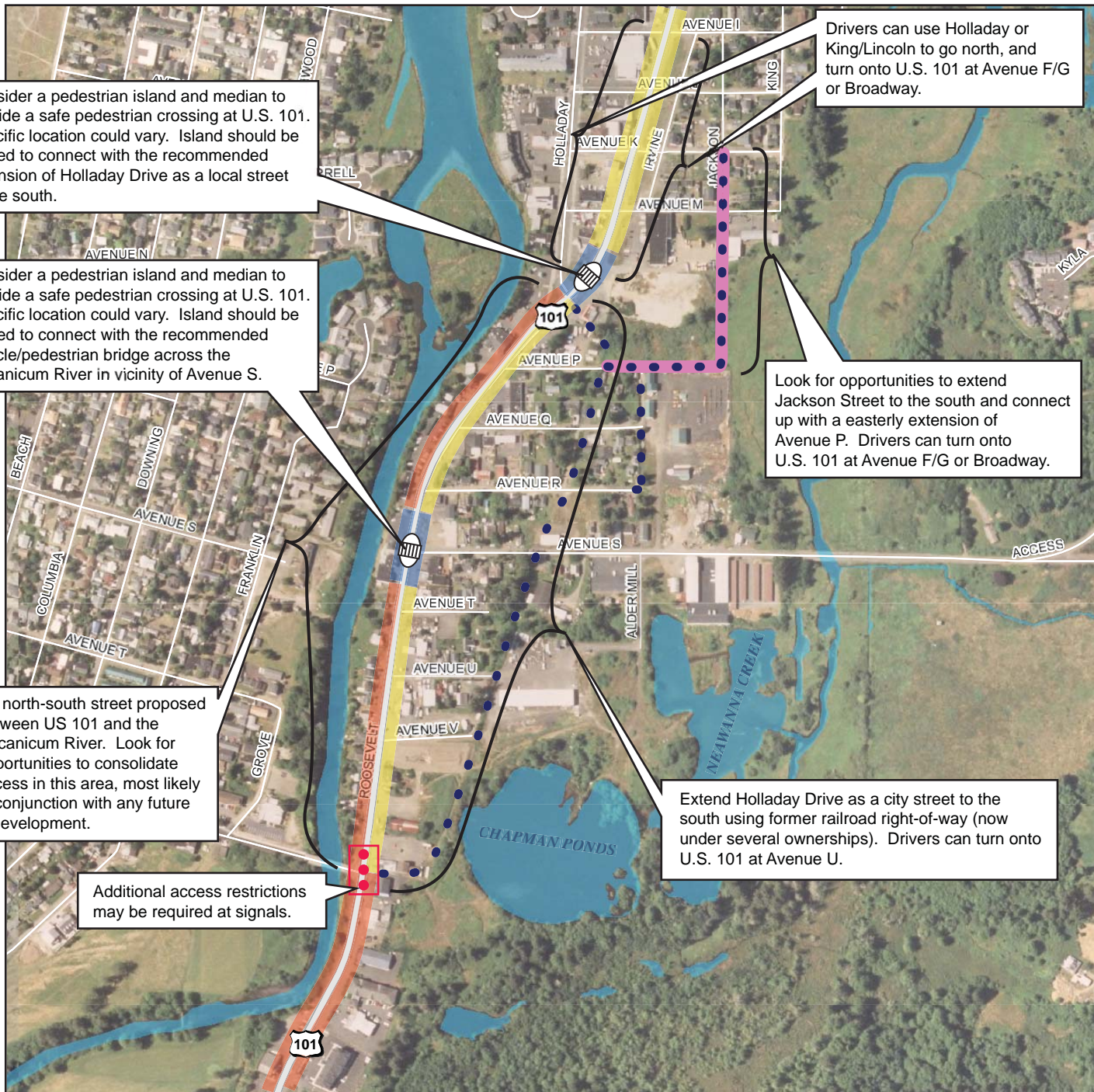
No north-south street proposed between US 101 and the Necanicum River. Look for opportunities to consolidate access in this area, most likely in conjunction with any future redevelopment.

Additional access restrictions may be required at signals.




Drivers can use Holladay or King/Lincoln to go north, and turn onto U.S. 101 at Avenue F/G or Broadway.


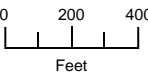
Look for opportunities to extend Jackson Street to the south and connect up with an easterly extension of Avenue P. Drivers can turn onto U.S. 101 at Avenue F/G or Broadway.

Extend Holladay Drive as a city street to the south using former railroad right-of-way (now under several ownerships). Drivers can turn onto U.S. 101 at Avenue U.










**Legend**

-  = existing traffic signal
-  = planned traffic signal
-  = streets

**Access Management Tools**

Consider the following access management tools in the event of redevelopment or major improvement of US 101.\*

-  = consolidate access
-  = explore crossover easements or access lane (at front or rear of property)
-  = consolidate, and/or relocate access to local streets
-  = modify access to right-in, right-out with median
-  = potential local street extensions
-  = potential local street extensions in areas with public right of way available
-  = potential pedestrian island

\* These tools do not preclude ODOT from considering other improvements.

**Draft US 101 Access Management Tools for Consideration**



# General Access Management Techniques and Principles Applicable to Seaside TSP

## Introduction

The purpose of this memorandum is to discuss potential access management measures that could be refined and implemented at locations along US 101 in Seaside to improve mobility and safety conditions. The access management concepts summarized in this memo are intended to support the City of Seaside, the Oregon Department of Transportation (ODOT), and Clatsop County in the preservation of the US 101 corridor's function and operation over the 20-year planning horizon, while considering the land use context of the corridor.

This memorandum is intended to serve as a starting point for discussion about access management concepts that might be beneficially applied on US 101 in Seaside. The memorandum provides examples of where particular access management concepts have been applied as part of other highway projects and transportation plans within Oregon. Future phases of the project will refine these concepts, and specifically identify appropriate application of the concepts for the US 101 corridor in Seaside.

## Potential Access Management Framework

Access Management techniques relevant for the Seaside TSP are explored over the following pages.

A TSP is a long-range (20 year) plan that establishes a system of transportation facilities, services, and policies to meet local transportation system needs. The TSP will serve as the transportation element of the City's Comprehensive Plan.

The Oregon Highway Plan (OHP) identifies several classifications of state facilities, which all have specific guidelines and/or standards. US 101 is classified by the OHP as a statewide highway, a scenic byway, and as a truck route. Statewide highways 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.

## Access Management

According to ODOT's Access Management Unit's website<sup>18</sup>, the goals of access management are to:

- Reduce congestion
- Improve safety
- Lessen the need for highway widening
- Conserve energy
- Reduce air pollution

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<sup>18</sup> [http://www.oregon.gov/ODOT/HWY/ACCESSMGT/about\\_us.shtml](http://www.oregon.gov/ODOT/HWY/ACCESSMGT/about_us.shtml) (accessed 8/2/06)

Access management improves safety and traffic flow by reducing the number of turns onto and off of the highway. Drivers slow down to make turns off the highway, and accelerate after making a turn onto the highway. The differences in travel speed caused by accelerating and decelerating vehicles interrupt the overall flow of traffic and increase the frequency and severity of crashes.

As illustrated in Figure 1 below, access management balances mobility with access, and varies by roadway classification.

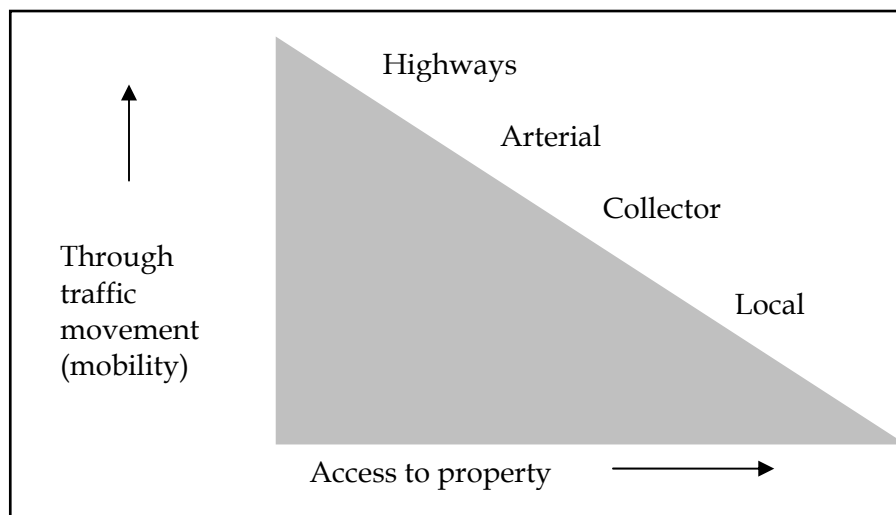


Figure 1: Through traffic movement versus access to property

Access management can also promote economic development by improving safety and reducing congestion. Accidents create unexpected delays for the persons involved, and also for vehicles traveling on the roadway behind the crash site. Cars involved in an accident often block part of the roadway, and even if this does not occur, travel lanes may be used for emergency vehicles to access a crash site. This creates a bottleneck, limiting the ability for other vehicles to continue at normal speeds. Lower accident rates mean fewer unexpected delays, which equate to greater travel time reliability. This reliability is paramount to the movement of goods and travelers through a city or through the region. Similarly, congestion increases vehicle delay, which impacts overall travel times. Reduced congestion achieved through access management concepts leads to reduced travel times – trucks and people get to their destination faster. For businesses, this equates to lower costs and greater productivity.

Access management offers a set of mechanisms to protect the long-term functionality of infrastructure investments, and an opportunity to coordinate land use and transportation decisions that could affect the function of a highway or interchange. Controlled, consolidated access points in the vicinity of an interchange, for example, channel traffic through fewer approach points in a more organized and consistent manner than if access points consisted of individual driveways.

ODOT and local governments have the authority to control access to transportation facilities to preserve the function of a facility – ensuring that it is not overly congested – making access management an important tool.

## Access Management Plans

An access management plan is an agreement between ODOT and local governments on how to manage access along state transportation facilities. To implement state access management standards and policies, ODOT works with local governments to develop an access management plan or an access management component in comprehensive plans, corridor plans and/or transportation system plans involving the state and local system.

## Access Management Concepts

Access management plans typically include combinations of access management concepts to balance traffic movement needs, property rights and property access. Local jurisdictions are part of the team that produces access management plans, often as part of city code or plans or by reference. This section describes specific access management concepts that could be employed at access locations along the US 101 corridor.

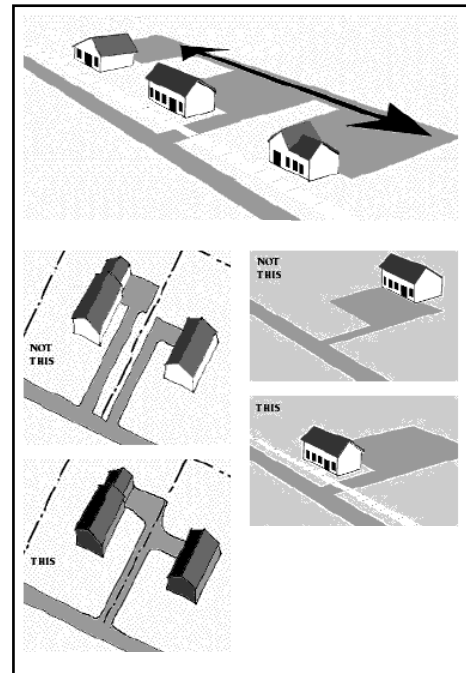


Figure 2: Examples of methods to consolidate approaches.

### Concept 1. Close or Relocate Approaches

This concept terminates or relocates direct access to and from a particular property and either a state highway or a local street. Access termination is generally obtained either through purchase of the approach (relocation of access) or purchase of the property. Purchase of the approach alone is generally more desirable, and is accomplished when reasonable alternate access is available via the local road network. The approach is then relocated from the state highway or local arterial to the local road network. Turns that were originally made directly to and from the highway are now made to and from a local road. Approach closures where alternate access is available are often a type of short-term access decision for a highway improvement project.

In areas where reasonable alternate access is not available, the property can be purchased in order to close approaches. Because property acquisition can be sensitive, this action is typically a long-term access decision, reserved for cases where the closure of the approach is critical and alternate solutions are not able to be identified. One alternate long-term action is construction of a frontage road (see item 4 below).

**Example:** The H.B. Van Duzer Forest Corridor to Steel Bridge Road Corridor Refinement Plan recommended the closure of the Spirit Mountain Casino connection to OR18 in order to remove conflicts between traffic attempting to enter and exit OR18 in a relatively short distance. The closure was recommended in conjunction with a new jug handle interchange and overpass bridge that connects to the casino's internal road network to the south. The recommendation was included as part of a strategy to reduce the number of approach roads on OR18 by 50 percent.

### Concept 2. Consolidate Approaches

Consolidating approaches reduces the number of driveways used to serve one or several parcels. This concept is typically employed when one parcel has multiple driveways, or when two or more parcels are closely spaced and each have separate driveways. Figure 2 illustrates this concept.

**Example:** Several residential parcels along OR 218 in Dallas, OR have multiple driveways. The access management plan prepared for the Dallas Transportation System Plan (TSP) recommended consolidating these driveways so that only one access to and from each individual property was allowed.

### Concept 3. Restrict Approach Access

One option to managing access, typically employed when no alternate access is available to a particular parcel through the local roadway network, is to restrict access to right-in, right-out, disallowing left turns to and from the highway or interchange crossroad. Restricting access reduces the number of potential conflict points for a given area, leading to improved safety. This concept is sometimes, though not always, employed in conjunction with the construction of a non-traversable median (see Concept # 7). However, access can also be restricted to right-in and right-out only using right-only or no left turn signage, or through use of a driveway channelizing island. A driveway channelizing island, illustrated in Figure 3, is a triangular raised island placed in a driveway or roadway to channelize traffic and discourage left-turns. Channelizing islands are more prevalent on local or collector streets, though are sometime employed on arterials in conjunction with a non-traversable median.

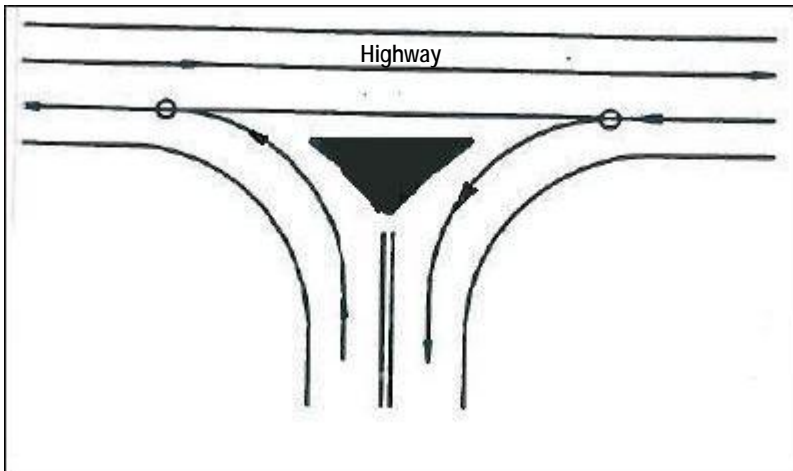


Figure 3: Example of a channelizing island designed to discourage left-turns in and out.

**Example:** The Greater Astoria/Warrenton Area Regional Transportation System Refinement Plan included the recommendation to restrict Franklin Avenue to right-in/right-out only access at the intersection with US 30. The Refinement Plan recommends modifying Franklin Avenue to one-way (eastbound) between US 30 and 33<sup>rd</sup> Street and rerouting westbound vehicles to the signalized intersection at US 30 and 33<sup>rd</sup> Street to help improve traffic flow.

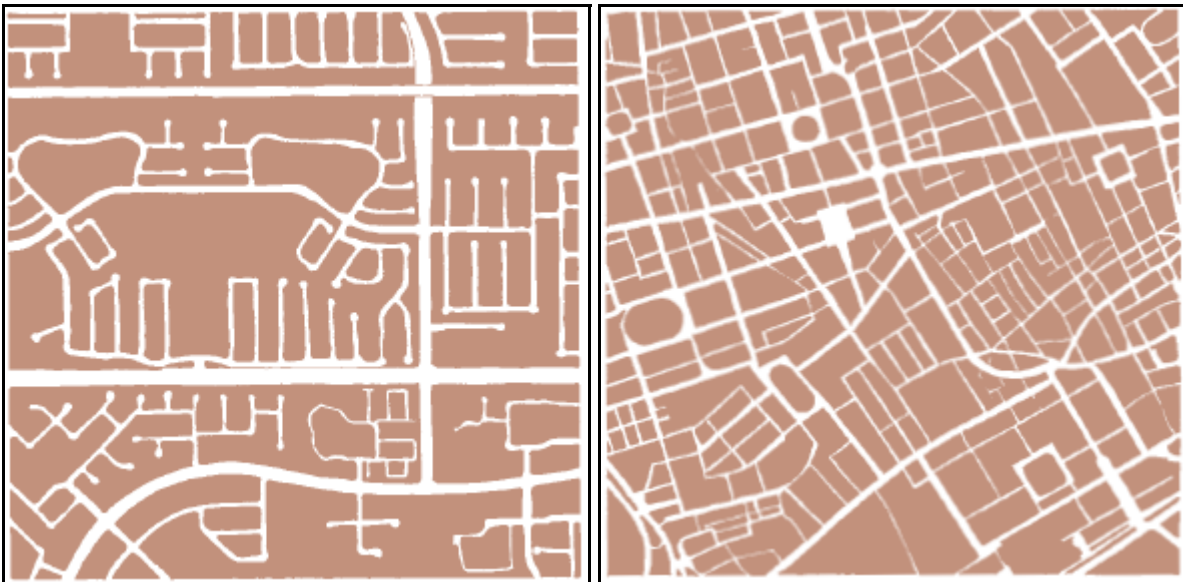
### Concept 4. Improve Local Roadway Circulation

The primary purpose of a local street network is to serve short-distance trips made within a neighborhood or city. One way to increase the effectiveness of improvements made along a highway is to make improvements to the local arterial and collector grid network.



Improvements to the local grid network could include improvements to existing intersections, improvements to existing local roads, extending local roads to connect with other local roads or regional highways, and constructing new local arterials and collectors. ODOT and local jurisdictions work with each other to identify improvements to the local street network that would protect the design life of a state/local roadway system.

**Example:** The H.B. Van Duzer Forest Corridor to Steel Bridge Road Corridor Refinement Plan relies heavily on improving local service roads to manage access along OR18. These include: an extension of Jahn Road and use of the abandoned railroad right-of-way between Valley Junction and Grand Ronde; an extension of Andy Riggs Road and South Street west of Grand Ronde to connect to A.R. Ford Road; and a new county road north of OR18 east of the Fort Hill Road/South Yamhill River Road Interchange.



*Figure 4 A street network with few intersections (left) concentrates trips onto the main arterial or highway, whereas a local street grid with more intersections (right) allows local trips to avoid using the highway (Photo and caption from ODOT Transportation and Growth Management Program).*

### Concept 5. Frontage or Backage Roads

Frontage and backage roads provide alternate access for public and private approaches through one or more consolidated access points, usually a cross road (see Figure 5). Creating frontage and backage roads for property access to the highway or interchange crossroad reduces the number of conflict points and travel times on the highway or interchange crossroad. ODOT and local jurisdictions will often coordinate together to identify the appropriateness of frontage or backage roads.

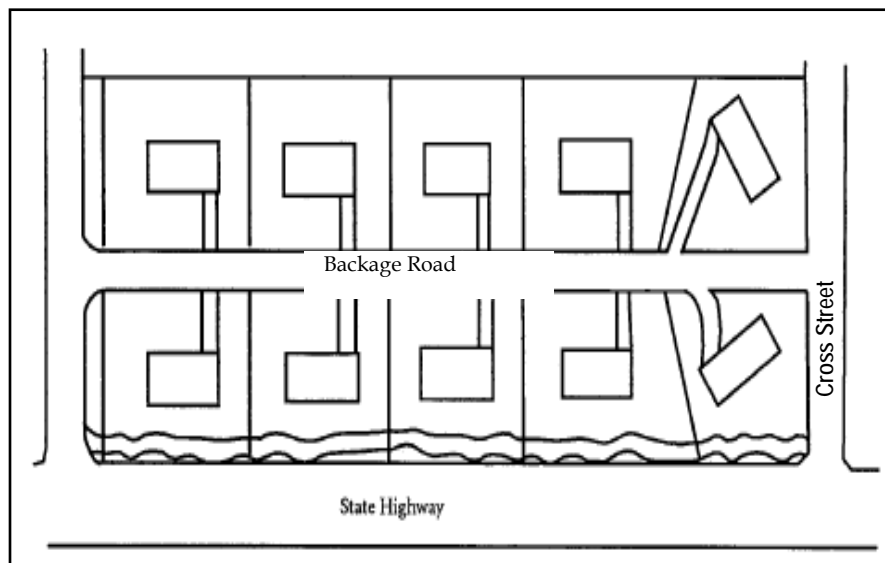


Figure 5: Backage roads provide an alternative to direct roadway access, improve safety and reduce travel times on the highway.

A frontage road provides access to the front side of properties located along a roadway, and is located between the property and the roadway. Care must be taken to ensure adequate separation between the roadway in question and the intersection of the frontage road and the cross road. If the frontage road is set back from the roadway by only a few car lengths, cars exiting the frontage road enter the functional area of the roadway intersection, creating conflict points with other vehicles.

A backage road provides access to the rear side of properties located along a highway or interchange crossroad, and can also provide access to properties located on the opposite side of the backage road. Generally backage roads allow for a greater distance between the highway and the intersection of the cross street and the backage road. Backage roads can also allow for development to occur closer to a highway or interchange crossroad, in some cases creating a more pedestrian-friendly environment or promoting visibility of businesses.

**Example:** The Astoria Port/Uniontown Waterfront District Transportation Refinement Plan recommends the use of a frontage road to provide access for nine adjacent driveways belonging to duplexes, fourplexes, single-family homes, and small commercial businesses on the south side of Marine Drive. Motorists using these driveways are required to either back-in or back-out onto Marine Drive in order to access the highway. The frontage road is recommended in conjunction with a realignment of Marine Drive to the north.

### Concept 6. Shared Parking Lots/Joint Access

Sharing access with adjacent businesses and connecting parking lots can help to ease traffic conflicts and improve pedestrian safety. This concept is similar to driveway consolidation, but is specific to non-residential uses where many users (customers, visitors) are accessing a business or service. Furthermore, the local access to a specific use is provided within the parking lot area, and not via the highway or interchange crossroad.

Typically, requirements for connected parking lots are found in local development code and standards.

**Example:** The City of Lake Oswego's *Lake Grove Village Center Plan* calls for the provision of rear alley access to parking lots, where appropriate, in conjunction with consolidated access, which is expected to reduce turning movements onto and off of Boones Ferry Road and create a more pedestrian friendly environment. For rear alley access and shared driveways to provide access to all businesses, connections between parking lots and crossover easements will be required.

### Concept 7. Construct Medians

The construction of non-traversable medians, as illustrated in Figure 6, is typically done for the purpose of disallowing left turns and restricting access to right-in, right-out. An analysis of crash data in seven states found that raised medians reduced crashes by over 40 percent in urban areas.<sup>19</sup>

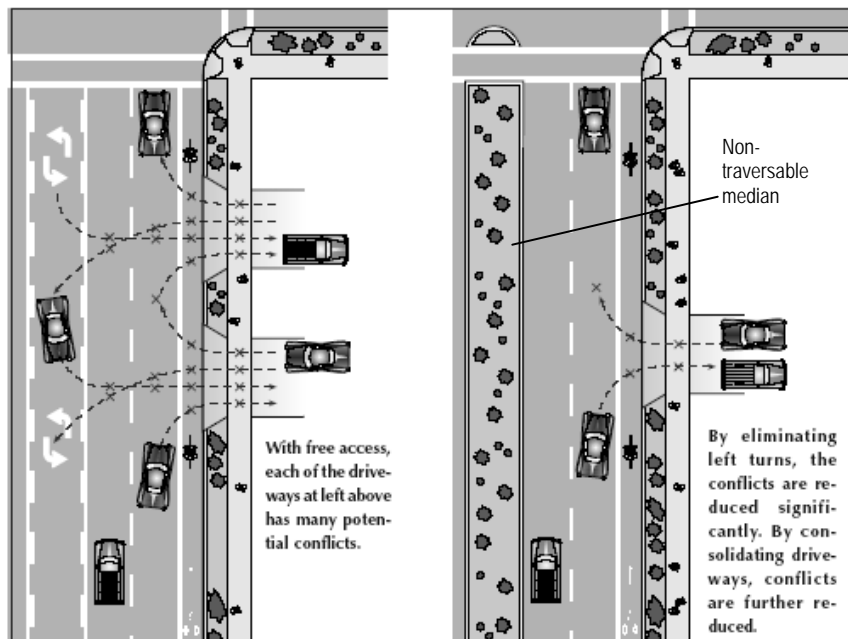


Figure 6: Right-in, right-out only consolidated access with a non-traversable median

**Example:** The I-5/Woodburn IAMP calls for the construction of full median control along OR 214 for a segment of ¼ mile to the east and west of the I-5 interchange. The construction of a median would reduce the number of driver attempts of mid-block U-turns, eliminate all private road approaches, and allow right-in only turn movements to one local road.

### Concept 8. Narrow Driveway Width

Occasionally, driveway width can be wider than necessary with no discernable boundaries or curbs. Driveways can also sometimes be too narrow for the safe entry and exit of more than one vehicle at the same time. Both situations create operational and safety concerns. A properly designed driveway helps turning traffic move off the roadway more quickly and reduces the likelihood of crashes and congestion backups.

<sup>19</sup> *Benefits of Access Management*, U.S. Department of Transportation, Federal Highway Administration, FHWA-OP-03-066.

The more a turning vehicle must slow to enter a driveway, the greater the speed differential (the difference between the speeds of vehicles continuing along the highway versus those turning onto driveways). As the speed differential increases, the likelihood of crashes involving faster-moving vehicles on the highway and turning vehicles increases. Driveways that are too wide may create confusion for motorists who may have a hard time deciding where to enter, and make pedestrians more vulnerable, due to the longer crossing distance, increasing the risk of a crash with an entering vehicle. Figure 7 illustrates examples of acceptable driveways.

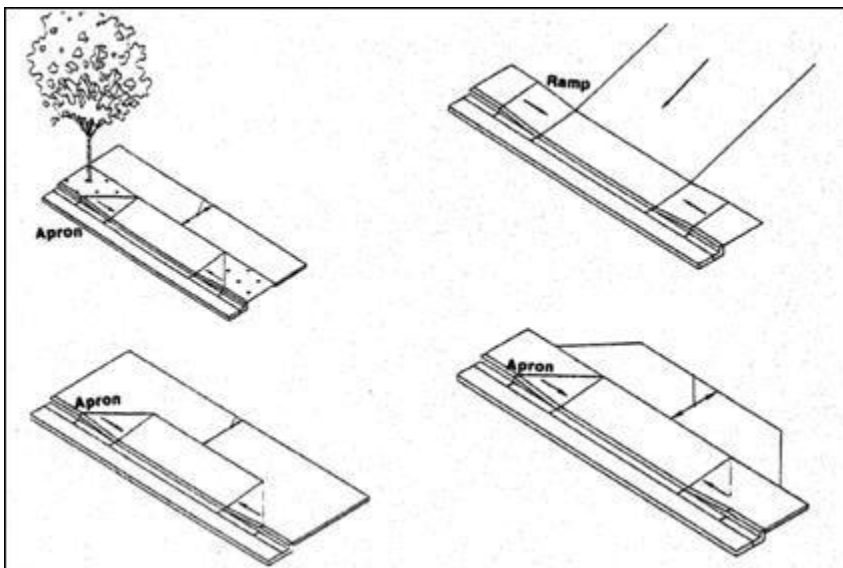


Figure 7: Examples of acceptable driveway openings next to sidewalks

**Example:** The City of Springfield Development Code stipulates both minimum and maximum driveway widths to allow safe and efficient vehicle access based on adjacent land use. For single family and duplex residential, the minimum driveway width is 12 feet and the maximum is 24 feet. For industrial uses, the minimum driveway width is 24 feet and the maximum is 35 feet.

## References

1. City of Dallas. *Transportation System Plan*, June 2005, Oregon.
2. City of Lake Oswego. *Lake Grove Village Center Plan*, 2005, Oregon.
3. City of Springfield. *Springfield Development Code*, 2006, Oregon.
4. Federal Highway Administration. *Benefits of Access Management*. FHWA Document FHWA-OP-03-066 (2003), Washington D.C.
5. Maze, Tom; Plazak, David, et. al. *Access Management Handbook*, Center for Transportation Research and Education, Iowa State University Research Park, 2000, Iowa.
6. Oregon Administrative Rule 734-051 (Division 51). *Highway Approaches, Access Control, Spacing Standards and Medians*, 2004, Oregon.

7. Oregon Department of Transportation, Transportation Development Division. *Oregon Highway Plan, 1999 (amendments through 2006), Oregon.*
8. Oregon Department of Transportation, *Astoria Port/Uniontown Waterfront District Transportation Refinement Plan, 2006, Oregon.*
9. Oregon Department of Transportation. *Greater Astoria/Warrenton Area Regional Transportation System Refinement Plan, 2007, Oregon.*
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11. Oregon Department of Transportation. *Woodburn Interchange Area Management Plan, 2005, Oregon.*

# Local Access Management Requirements and Procedures

## Background/Purpose

Oregon Administrative Rules Chapter 660, known as the Transportation Planning Rule (TPR), requires local governments to amend their land use regulations to implement their Transportation System Plans (TSP's). In regard to protecting the functionality of transportation facilities by way of access management, the TPR requires that local governments adopt land use regulations that include:

*Access control measures, for example, driveway and public road spacing, median control and signal spacing standards, which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities*  
(OAR 660-012-0045(2))

The TPR does not prescribe the explicit access management measures that a local government must incorporate into its local code, only that related measures must be included. Consequently, local governments across Oregon have adopted various access management-related requirements into their local codes and TSP's to address this section of the TPR.

This memorandum provides examples of existing local access management requirements and policies (e.g. driveway spacing standards, development regulations) from municipal codes and TSP's of Oregon cities proportionate in size to Seaside. The intent of this memorandum is to provide a basis for determining the feasibility of implementing similar access management requirements, procedures, and policies on local roads in Seaside so as to address the TPR section noted earlier. "Local" roads include functionally-classified 'local' streets as well as collector roads that are jurisdictionally owned by the City of Seaside (the only functionally classified arterial in Seaside, US 101, is owned by the Oregon Department of Transportation (ODOT)).

It is anticipated that the City will consider the implementation of local access management standards later in the TSP planning process in conjunction with the adoption of TSP policies and preferred alternative packages.

Access management requirements such as driveway spacing are generally not intended to eliminate existing driveways or intersections. Rather, access management restrictions should be implemented by integrating them into the land use permitting process and applying them as new development, redevelopment, or major construction occurs (such as roadway reconstruction or modification projects).

Currently, development proposals in Seaside are analyzed for their access-related impacts, and these impacts are subsequently addressed via conditions attached to land use permits. It is envisioned that, in tandem with the incorporation of access management-related policies/objectives into the Seaside TSP, new ordinance language will be inserted into Seaside's municipal code to implement those policies/objectives by providing fair, rational, and efficient access management-related requirements. Currently, City of Seaside access-related requirements for City roadways are limited to the requirement that all parcels must abut upon a street other than an alley for a width of at least 25 feet; this requirement is found in both the Zoning and Land Division Ordinances.

## Examples of Local Access Standards

### City of Stayton

The City of Stayton had a 2007 population of 7,700 people, which is slightly higher than Seaside's 2007 population of 6,165. It is located just south of OR 22 along the Santiam River. Stayton is approximately 16 miles southeast of Salem.

The Stayton Land Use and Development Code states that access permits are required for any projects that result in additional trip generation, or that require a change in use (land use change, expansion of existing use, remodel of use that results in additional traffic). Requirements for acquiring an access permit may include closing or consolidating existing driveways, recording of shared driveways, developing a frontage street, and/or installing traffic control devices. Existing accesses not meeting standards are required to perform mitigation when a change in use or application for new access is submitted.

The number of allowed accesses varies depending on the type of land use. For single family lots, up to two driveways are allowed on a local street (subject to spacing standards). Up to one driveway is allowed on any other classification of street. Multi-family lots are allowed one driveway for up to 1,000 daily trips generated. A maximum of two driveways is allowed if proven through a Traffic Impact Analysis (TIA) that a limitation of one creates a significant traffic operations hardship. Non-residential lots are allowed one driveway for up to 2,500 daily trips generated with a maximum of two accesses. Exceptions are allowed if need is proved through a TIA.

Developing an access management policy is a stated goal of the Stayton TSP. The access management goal directs commercial development to access local streets wherever possible. Another goal of the City's is to encourage alternative methods to conventional property access, such as the use of alleys and shared driveways. Access management-related excerpts from the City of Stayton TSP are found in Attachment A.

### City of Tillamook

The City of Tillamook had a 2007 population of 4,675 people, which is slightly less than Seaside's 2007 population of 6,165. It is located at the junction of US 101 and OR 6 in Tillamook County.

The Tillamook Zoning Ordinance states that to ensure safe and efficient street and highway operation, the City may require the closing or consolidation of existing driveways, recording of shared driveways, and/or development of frontage streets. Access to off-street parking is not allowed if it requires backing onto a public street. In cases of new development, approaches are required to be a minimum of 10 feet wide. In cases where a parcel has frontage on two or more streets, it is required that the approach be connected to the street with the lower classification. Single family, two-family, and three-family housing developments are permitted one driveway per lot. Two-family and three-family housing on corner lots may have one driveway per frontage street. The number of access points allowed for multiple family, commercial, industrial, public/institutional developments are decided by the City on a case by case basis, and shared access may be required.

The Tillamook TSP encourages the consolidation of driveways and shared access. Access management-related excerpts from the TSP are found in Attachment B.

## City of Sutherlin

The City of Sutherlin had a 2007 population of 7,610 people, which is slightly higher than Seaside's 2007 population of 6,165. It is located along I-5 and OR 138. Sutherlin is approximately 13 miles north of Roseburg.

The Sutherlin Development Code states that permits are required for access to all public streets. City staff review access permits involving City-owned streets (ODOT staff review access permits for state highways; Douglas County staff for county highways). City of Sutherlin access permit requirements can include consolidation or closing of existing access points, recording of shared driveways, and/or development of frontage streets. Access to off-street parking is not allowed if it requires backing onto a public street, except for access to and from residential developments with one to two dwellings. Approaches are required to be a minimum of 10 feet wide. Single family, two-family, and three-family housing developments are permitted one driveway per lot. Two-family and three-family housing on corner lots may have one driveway per frontage street. The number of access points allowed for multiple family, commercial, industrial, and public/institutional developments are determined on a case by case basis, and shared access may be required.

The Sutherlin TSP has limited mention of access control. It states that access from collector streets should be discouraged and generally limited on principal highways. Access management-related excerpts from the City of Sutherlin Development TSP are found in Attachment C.

## City of Hood River

The City of Hood River had a 2007 population of 6,580 people, which is slightly higher than Seaside's 2007 population of 6,165. It is located just south of the Columbia River, approximately 62 miles east of Portland.

The Hood River Planning Code states that an access permit is required for any approach to a public street. Permits for access to City streets are subject to City Engineer approval. Access to ODOT facilities are subject to ODOT approval unless ODOT delegates approval to the City or County. Access to County facilities is subject to County approval unless they delegate approval to the City.

Approaches to City streets are required to be a minimum of 10 feet in width. Access to off-street parking is not allowed if it requires a vehicle to back onto a public street. Upon the proposal of a new access to a particular street, the City may require that the property's existing access be closed or that accesses be consolidated. A frontage road is required for new residential land divisions fronting onto an arterial street. If topographic constraints limit the constructability of a frontage road, consolidation of driveways is required.

The Hood River TSP states that its access management guidelines are for arterial and collector streets and generally do not apply to local streets. The TSP encourages shared driveways in lieu of separate driveways to reduce conflicts. The TSP recommends designating the maximum number of driveways a particular parcel is allowed to a particular street and then limiting the parcel to that number of accesses, even if the property is subdivided in the future. The TSP requires that, whenever possible, approaches are to be connected to the lowest functionally classified street feasible. The TSP also encourages property-to-property access (i.e. connection between parking lots). Access management-



related excerpts from the City of Hood River Municipal Code and TSP are found in Attachment D.

Functional Roadway Classification**	Minimum Spacing Driveway-to-Driveway and Driveway-to-Street		Minimum Spacing Street-to-Street	
	Distance (feet)	Comment	Distance (feet)	Comment
<b>City of Stayton</b>				
Major Collector	150'	Distance measured center-to-center	260 Distance measured center-to-center	
Neighborhood Collector	50'	Driveway-to-driveway measured perpendicular near edge-to-perpendicular near edge. Driveway-to-street measured perpendicular near edge-to-start of tangent for intersecting street.		
Local Streets	50'	Driveway-to-driveway measured from the perpendicular near edge to the perpendicular near edge. Street-to-driveway measured from the perpendicular near edge of the driveway to the start of the tangent for the intersecting street. Standard only applies to a corner residential lot driveway spacing from the adjacent street.		
<b>City of Tillamook</b>				
Major Collector	50'	Distance measured side of driveway-to-side of driveway/street	--	--
Neighborhood Collector			--	--
Local Streets	10"		--	--
<b>City of Sutherlin</b>				
Major Collector	--	The Sutherlin Development Code notes that collector standards are based on policies and standards contained in the City's TSP. However, Sutherlin TSP does not provide minimum collector spacing standards between driveways.	250	Distance measured center-to-center
Neighborhood Collector				
Local Streets	25'	Distance measured side of driveway-to-side of driveway/street	--	--
<b>City of Hood River</b>				
Major Collector	100'	Distance measured side of driveway-to-side of driveway/street	220	--
Neighborhood Collector	--	--	--	--
Local Streets	22'	Distance measured side of driveway-to-side of driveway/street	--	--

\*\*Functional Roadway Classification uses City of Seaside nomenclature, taken from the City's Roadway Design Guidelines. Equivalent classifications from other jurisdictions are arranged using Seaside's nomenclature. Arterial spacing standards not included in table because the one arterial in Seaside (Roosevelt Drive/US 101) is subject to State access management standards and is therefore not relevant to this discussion.

Sources: City of Stayton, City of Tillamook, City of Sutherlin and City of Hood River TSPs and Development Codes

## Conclusion/Recommendations

The Seaside Development Code currently does not contain guidelines for access management. In accordance with OAR 660-012-0045(2), it is recommended that a new section be created within the Development Code to include access management guidelines spacing standards (for the currently used Seaside functional classifications).

Based on a review of the access management requirements contained in the four cities' development codes and TSP's, and in consideration of the existing compact street system in Seaside, the below additions to the Seaside Development Code are recommended. These changes would implement anticipated access management-related goals and objectives of the Seaside TSP:

- The City shall have access permit jurisdiction on all City-owned streets and may require any of the following as a condition to granting an access permit:
  - the closing or consolidation of existing curb cuts or other vehicle access points
  - recording of reciprocal access easements (i.e. for shared driveways)
  - development of a frontage street
  - installation of traffic control devices; and/or
  - other mitigation as necessary
- Access to an off-street parking area that requires backing onto a public street is prohibited
- Access shall be provided by one of the following methods:
  - Access is from an existing or proposed alley/mid-block lane.
  - Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e. "shared driveway"). In this case, a public access easement covering the driveway shall be recorded to assure access to the closest public street for all users of the street/drive.
  - Access is from a public street adjacent to the parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the city's access spacing standards.
- When a lot has frontage onto two or more streets, access shall be provided first from the street with the lowest classification (e.g. access shall be provided from a local street before a collector or arterial street).
- Except for corner lots, the creation of new double-frontage lots shall be prohibited, except where topographic or physical constraints require the formation of such lots
- Driveway accesses shall be separated from other driveways and street intersections in accordance with the following standards and procedures:
  - Local Streets: A minimum of 10 feet separation shall be required (as measured from the sides of the driveway/street)
  - Neighborhood Collectors/Major Collectors: A minimum of 50 feet separation shall be required (as measured from the sides of the driveway/street)

- Access to State Highway 101 shall be subject to the applicable standards and policies contained in the Oregon Highway Plan/Division 51 Tables.
- Where alley access cannot be provided, one public street access point shall be permitted per residential lot; except for two or three-family developments on corner lots, where one access point per public street is permitted.
- The number of public street access points for multi-family, commercial, industrial, and institutional developments shall be minimized to the greatest extent possible to protect the function, safety and operation of the public street. The City may require shared access in order to maintain access spacing standards and minimize the number of access points to a particular public street.

## Attachments

- A. City of Stayton Transportation System Plan: Access Management-Related Excerpts
- B. City of Tillamook Transportation System Plan: Access Management-Related Excerpts
- C. City of Sutherlin Transportation System Plan: Access Management-Related Excerpts
- D. City of Hood River Transportation System Plan: Access Management-Related Excerpts

# Attachment A City of Stayton Transportation System Plan: Access Management-Related Excerpts

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## **Section 3.0 Transportation Goals and Policies**

This section establishes broad policy objectives that provide the context to guide future transportation investment decisions and the development of the future transportation system within the City of Stayton urban growth boundary.

### **3.1. GOAL 1 – MOBILITY**

**It is the goal of the City of Stayton to provide a multi-modal transportation system that maximizes the mobility of Stayton residents and businesses.**

The policies to be used to implement Goal 1 – Mobility are as follows:

- 1.1. Establish a transportation system that can accommodate a wide variety of travel modes and minimizes the reliance on any one single mode of travel.
- 1.2. Properly plan transportation infrastructure to meet the level of service set for each type of facility.
- 1.3. Maintain a minimum level of service standard of LOS D for signalized intersections. Maintain a minimum level of service standard of LOS D for all way stop controlled intersections and roundabouts. Maintain a minimum level of service standard of LOS E or F with a volume-to-capacity ratio of 0.95 or better for two-way stop controlled intersections.

For Oregon Department of Transportation (ODOT) facilities, the City of Stayton shall defer to ODOT mobility standards described in the most recent version of the *Oregon Highway Plan*.

- 1.4. Develop a local street plan to preserve future rights-of-way for future streets and to maintain adequate local circulation in a manner consistent with Stayton's existing street grid system.
- 1.5. Require developments to construct their accesses consistent with the local street plan.
- 1.6. Develop an access management policy for the local arterial system and direct commercial development access to local streets wherever possible.
- 1.7. Identify local traffic problems and recommend solutions.
- 1.8. Review and revise, if necessary, street cross section standards for local, collector,

### **3.7. GOAL 7 – MAINTAIN MULTI-JURISDICTION COORDINATION**

**Maintain coordination between the City of Stayton, Marion County, and the Oregon Department of Transportation (ODOT).**

The policies to be used to implement Goal 7 – Maintain Multi-Jurisdictional Coordination are as follows:

- 7.1. Cooperate with ODOT in the implementation of the Statewide Transportation Improvement Program (STIP).
- 7.2. Encourage improvement of state highways, especially Highway 22 in the vicinity of Golf Club Road, Cascade Highway, Fern Ridge Road, and Stayton Road.
- 7.3. Work with Marion and Linn Counties ODOT, and the City of Sublimity in establishing cooperative road improvement programs and schedules.
- 7.4. Work to establish the right-of-way needed for new roads identified in the TSP.
- 7.5. Take advantage of federal and state highway funding programs.
- 7.6. Coordinate with ODOT to complete Phase 2 of the ORE 22, Joesph Street to Stayton project.

### **3.8. GOAL 8 – ROADWAY FUNCTIONAL CLASSIFICATION**

**It is the goal of the City of Stayton to properly plan and maintain its transportation system based on a roadway functional classification system. The street and access standards are based on this roadway functional classification system.**

The policies to be used to implement Goal 8 – Roadway Functional Classification are as follows:

- 8.1. The transportation system plan (TSP) shall classify roadways throughout the city's transportation system. Both an arterial and local street classification shall be identified in the TSP.
- 8.2. The street and access standards shall employ the roadway functional classification system.
- 8.3. Encourage use of alternative methods, such as alleys, shared driveways, etc., i.e. smart development techniques, to provide property access.
- 8.4. The roadway functional classification system represents a continuum in which through traffic increases and access provisions decrease in the higher



# Attachment B: City of Tillamook Transportation System Plan: Access Management-Related Excerpts

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The posted speed along U.S. 101 from the northern city limits to Goodspeed Road is 45 mph. Between Goodspeed Road and the downtown area, the speed limit on U.S. 101 reduces to 35 mph. In downtown, U.S. 101 (Main and Pacific Avenues) is posted at 20 mph. Just south of the city limits, the speed limit on U.S. 101 increases to 55 mph.

## Intersection Control

In Tillamook, traffic signals are located along U.S. 101 at the following locations:

- U.S. 101 and Wilson River Loop
- Main Avenue and Oregon 6 (1st Street)
- Pacific Avenue and Oregon 6 (1st Street)
- Main Avenue and 3rd Street
- Pacific Avenue and 3rd Street
- Main Avenue and 4th Street
- Pacific Avenue and 4th Street

All other intersections in Tillamook are stop-controlled. There are two four-way, stop-controlled intersections in the project limits:

- 3rd Street and Trask/Olsen Road
- Stillwell Avenue and 4th Street

There is a two-way stop at the “T” intersection of 12th Street and Evergreen Drive. All other intersections within the project limits are either two-way, stop-controlled (four approach intersections) or one-way, stop-controlled (three approach intersections).

## Access Management

According to the OHP, access management means “balancing access to developed land while ensuring movement of traffic in a safe and efficient manner.” The OHP states that the purposes of access management strategies include ensuring safe and efficient roadways consistent with their determined function; ensuring the statewide movement of goods and service; enhancing community livability; supporting planned development patterns; and recognizing the needs of motor vehicles, transit, pedestrians and bicyclists.

The TPR requires that local governments adopt land use or subdivision ordinance regulations to protect transportation facilities for their identified functions, such as access control (OAR Section 660-12-0045(2)). The TSP process will address the state requirement for Tillamook access control standards.

Several collectors in Tillamook have multiple vehicle access points for access to local roads or private streets or driveways. Examples of roadways with frequent vehicle access points include U.S. 101 (north of Oregon 6) and the Netarts Highway (131) (3rd Street). Multiple access points can lead to increased opportunities for vehicle-vehicle conflicts as well as conflicts with vehicles and bicyclists or pedestrians. The TSP will examine where access control issues may affect the integrity of the transportation system in Tillamook.

with other modes and livability issues. Several street extensions, and pedestrian and bicycle improvements are identified to improve connectivity.

### **Goal 5: Capacity**

Provide a transportation system that has sufficient capacity to serve the needs of all users.

#### **Objectives**

1. Enhance capacity at the intersection of Oregon 6 and U.S. 101, and west toward the Hoquarten Slough Bridge.
2. Protect capacity on existing and improved roads to provide acceptable service levels to accommodate anticipated demand.
3. Limit access points on highways and major arterials, and use techniques such as alternative access points when possible to protect existing capacity.
4. Minimize direct access points on to arterial rights-of-way.
5. Update and maintain required access management standards for new development and work toward modifications of existing development to preserve the safe and efficient operation of roadways, consistent with functional classification.

#### **Implementation Strategies**

Capacity needs in Tillamook were studied as part of the existing and future conditions analysis. Capacity improvements at the Oregon 6 and U.S. 101 intersection are included in the state roadway section of the TSP, as are access management improvements on U.S. 101 north of downtown. City code has been reviewed to identify potential changes to access management provisions.

### **Goal 6: System Preservation**

Work to ensure that development does not preclude the construction of identified future transportation improvements, and that development mitigates the transportation impacts it generates when appropriate.

#### **Objectives**

1. Identify and preserve locations for potential future street connections.
2. Require developers to aid in the development of the transportation system by dedicating or reserving needed rights-of-way, by constructing half or full street improvements and by constructing off-street pedestrian, bicycle and transit facilities when appropriate and needed to serve new development.
3. Consider transportation impacts when making land use decisions, and consider land use impacts (in terms of land use patterns, densities, and designated uses) when making transportation-related decisions.
4. Ensure that development does not preclude the construction of identified future transportation improvements.

# Attachment C: City of Sutherlin Transportation System Plan: Access Management-Related Excerpt

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## **Chapter 2: TSP Goals and Objectives**

The TSP goals and objectives serve as the basis for the TSP for needs analysis, policy and ordinance development and project selection. These goals and objectives reflect the transportation goals of the City and the overall transportation vision for the Sutherlin area. The goals and objectives will maximize mobility, safety, efficiency and accessibility to the transportation system and will address the requirements of the Oregon Transportation Planning Rule (TPR) and the Oregon Transportation Plan (OTP). Figure 2-1 illustrates the relationship between the Sutherlin TSP goals and objectives, actions, and implementation.

### **Goal 1. Overall Transportation System**

*Provide a transportation system for the Sutherlin area that supports safe, efficient and accessible movement.*

#### **Objectives**

- A. Manage projected travel demand consistent with community, land use, environmental, economic and livability goals.
- B. Use the Transportation System Plan as the legal basis and policy foundation for decisions involving transportation issues.
- C. Ensure that adequate access for emergency services vehicles is provided throughout the City.
- D. Promote transportation safety through a comprehensive program of engineering, education, and enforcement.
- E. Enhance safety by prioritizing and mitigating high collision locations within the City.
- F. Designate safe routes from residential areas to schools, and identify transportation improvements needed to ensure the safety of Sutherlin's school children.
- G. Provide satisfactory levels of maintenance to the transportation system in order to preserve user safety, facility aesthetics, and the integrity of the system as a whole.
- H. Maintain access management standards for streets consistent with City, County, and State requirements to reduce conflicts between vehicles and trucks, and between vehicles, bicycles, and pedestrians. Develop access management strategies for Central Avenue.

### **Goal 2. Transportation and Land Use**

*Maximize the efficiency of Sutherlin's transportation system through effective land use planning.*

#### **Objectives**

- A. Facilitate development or redevelopment on sites that are best supported by the overall transportation system and that reduce motor vehicle dependency by promoting walking, bicycling, transit and personal electric vehicle use. This may include altering land use patterns through changes to type, density, and design.
- B. Plan land uses to increase opportunities for multi-purpose trips.
- C. Support mixed-use development where zoning allows.
- D. Integrate transportation and land use into development ordinances.

### ***Access Management***

Access management is important, particularly on high volume roadways, for maintaining traffic flows, mobility, and safety. Whereas local and neighborhood streets primarily function to provide access, collector and arterial streets typically serve greater traffic volumes. Numerous driveways or street intersections increase the number of conflicts and potential for accidents, and decrease mobility and traffic flow. Sutherlin needs a balance of streets that provide access and streets that provide mobility.

Following are several access management strategies that the city could implement to ensure that access and mobility are both considered and maintained:

- Prohibit new single family access to arterials and collectors
- Establish new city access management standards for all routes on new development using maximums and minimums
- Work with land use development applications to consolidate driveways
- Use medians on arterial routes to limit access
- Provide right in, right out driveways on arterials or collectors where appropriate
- Pedestrian refuge islands on arterials and collectors
- Consolidate access points within 1,320 feet of freeway interchanges, as possible
- Allow no new access within 1,320 feet of freeway interchange ramps
- Develop minimum traffic signal spacing on arterials and collectors in coordination with Douglas County and ODOT

In particular, these strategies should be considered for Central Avenue.

Access spacing standards for freeways and state highways are specified in the Oregon Highway Plan and Oregon Administrative Rules (Chapter 734, Division 51). The amount of access and how it is allowed to a state highway is a critical factor in determining how long the facility can remain functional and safe. Driveways located too close to highway intersections, or an uncontrolled number of driveways or connecting public roads, for instance, can impede smooth traffic flows and reduce a highway's capacity to safely carry people and freight. Thus, access standards were developed to manage the location, spacing, and type of road intersections and approach roads.

State highways are classified as statewide, regional or district highways, and these highways can also be designated as expressways. Oregon Highway 138 is classified as a regional highway, but not an expressway. Expressways are intended to provide links to regions within the state, and between small urbanized areas and large population centers. Other highways provide links to expressways, statewide highways, and freeways. Table 7-3 and Table 7-4 show the minimal allowable distances between driveways and approach roads along regional and district highways<sup>19</sup>.

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<sup>19</sup> Refer to the Oregon Highway Plan for additional notes pertaining to exceptions, approach roads consolidation, and potentially landlocked properties.



**Table 7-3. Access Management Spacing Standards for Regional Highways (Feet<sup>a</sup>)**

Posted Speed	Rural		Urban			
	Expressway <sup>b</sup>	Other	Expressway <sup>b</sup>	Other	UBA <sup>c</sup>	STA <sup>d</sup>
≥55	5280	990	2640	990		
50	5280	830	2640	830		
40 & 45	5280	750	2640	750		
30 & 35		600		600	425	Note 1
≤25		450		450	350	Note 1

a - Measurement of the approach road spacing is from center to center on the same side of the roadway.

b - Spacing for at-grade intersections only.

c - Urban Business Area

d - Special Transportation Area

**Table 7-4. Access Management Spacing Standards for District Highways (Feet<sup>a</sup>)**

Posted Speed	Rural		Urban			
	Expressway <sup>b</sup>	Other	Expressway <sup>b</sup>	Other	UBA <sup>c</sup>	STA <sup>d</sup>
≥55	5280	700	2640	700		
50	5280	550	2640	550		
40 & 45	5280	500	2640	500		
30 & 35		400		400	350	Note 1
≤25		400		400	350	Note 1

a - Measurement of the approach road spacing is from center to center on the same side of the roadway.

b - Spacing for at-grade intersections only.

c - Urban Business Area

d - Special Transportation Area

Douglas County does not have adopted roadway spacing standards. Instead, each new proposed roadway or driveway is evaluated individually, and design changes are implemented as necessary based on professional judgment so that general traffic safety principles are followed.

Table 7-5 shows proposed access management spacing standards (minimum) for roadway segments under jurisdiction of the City of Sutherlin.

**Table 7-5. Proposed City of Sutherlin Access Management – Minimum Spacing Standards**

<b>Functional Class</b>	<b>Minimum Spacing (Feet)</b>
Arterial	500
Parkway	400
Collector	250
Local	25

***Neighborhood Traffic Management/Traffic Calming***

Neighborhood traffic management is used to describe traffic control devices typically used in residential neighborhoods to slow and “calm” traffic. The City does not have a formalized neighborhood traffic management program.

The following are examples of neighborhood traffic management/traffic calming measures:

- ◆ Speed humps
- ◆ Chokers
- ◆ Pavement texturing
- ◆ Chicanes
- ◆ Curb extensions
- ◆ Traffic circles
- ◆ Medians
- ◆ Landscaping
- ◆ Narrow streets
- ◆ Photo radar
- ◆ On-street parking
- ◆ Selective enforcement
- ◆ Neighborhood watch
- ◆ Speed wagon

Photo 7-3 shows two examples of curb extensions, and Photo 7-4 shows an example of a chicane used as a traffic calming measure.

**Photo 7-3. Example of Curb Extensions**



# Attachment D: City of Hood River Transportation System Plan: Access Management-Related Excerpts

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**GOAL 4:** An efficient transportation system that reduces the number of trips and limits congestion.

**POLICIES:**

1. Support trip reduction strategies developed regionally, including employment, tourist and recreational trip programs.
2. Adopt the highest applicable (most restrictive) access management categories consistent with existing or planned adjacent land uses, to reduce congestion and intermodal conflicts.
3. A minimum level of service (LOS) C on transportation systems serving new developments is desired on streets and signalized and unsignalized intersections. Level of service shall be based on the most recent edition of the Highway Capacity Manual. Where a facility is maintained by the County or ODOT, the more restrictive of the standards should apply.
4. Improve local transit services to increase transit ridership potential.

***Action:*** Bus service improvements are needed to meet this policy and other policies recommended in this plan.

**GOAL 5:** Transportation facilities, which are accessible to all member of the community and reduce trip length.

**POLICIES:**

1. Construct transportation facilities to meet the requirements of the American with Disabilities Act.
2. Develop neighborhoods and local connections to provide adequate circulation in and out of the neighborhoods.

***Action:*** Work toward the eventual connection of streets identified in the TSP as funds are available and opportunities arise. As a planning guideline, the City should require streets to have connections every 400 to 600 feet for local and neighborhood streets.

## 9. TRANSPORTATION SYSTEM MANAGEMENT

Transportation System Management (TSM) focuses on low cost strategies to enhance operational performance of the transportation system. Measures that optimize performance of the transportation system include signal improvements; intersection channelization, access management, and programs that increase transit operation efficiency. Access Management being the primary TSM.

### *ACCESS MANAGEMENT*

Access management is the process of managing vehicular access to adjacent land use while simultaneously preserving the flow of traffic on the surrounding road system. Management is achieved by providing standards for accessing the roadway via driveways or curb cuts. On high volume arterials or highways, frequent driveways can reduce the capacity and safety of the roadway. Access management strategies and guidelines are therefore needed for arterial and collector streets. Local streets primarily serve as access streets and the access guidelines in this report generally do not apply on local streets.

Access management is essential to preserving the 'functional integrity' of the street system by reserving the high speed and high capacity roads for longer distance trips, and assigning the lowest restriction of access to local roads. Additional driveways along arterial streets lead to an increased number of potential conflict points between those vehicles entering and exiting a driveway and those vehicles traveling through on arterial streets. This not only leads to increased vehicle delay and a deterioration in the level of service on the arterial, but also leads to a reduction in safety. Thus, it is essential that all levels of government try to maintain the efficiency of existing arterial streets through better access management, by reserving the high speed and high capacity roads for longer distance and higher speed travel, and assigning the lowest restriction of access to local roads.

Access management is best implemented by integrating it into the land development and permitting process. The problem of applying access management to a developed major arterial poses a much greater challenge due to right-of-way limitations and concerns by the owners of the adjacent properties and the affected businesses. In such cases, access management can be implemented as part of roadway improvement plans, as part of roadway retrofit plans, or as a condition of land development and/or redevelopment.

### *CURRENT ACCESS CONDITIONS*

Four state highways were evaluated for access conditions: Interstate 84, Historic Columbia River Highway, OR 35/Mt. Hood Highway, and Hood River Highway.

*Interstate 84* runs east west through the City of Hood River. It consists of three full interchanges. The average spacing is about 2.8 miles between interchanges. The following table summarizes the spacing between the midpoints of each interchange in the City of Hood River.

***The Historic Columbia River Highway*** from MP 48 to MP 57.5 runs through the City of Hood River with a total of 124 access points. The average spacing is about 12 access points per mile.

***OR 35*** runs north south in Hood River with low-density access (less than 10 access points per mile).

***Hood River Highway*** from MP 0.00 to MP 20.00, starts in the City of Hood River and ends in Ziba Dimmick Wayside Park. A total of 434 access points were recorded. The average spacing is about 20 access points per mile.

None of the highways exceed the rule of thumb for high-density access of over 60 access points per mile. The access locations summary figure shows the access densities.

**Interstate 84 Interchange Spacing in Hood River**

Interchange Location	MP	Spacing From Previous Interchange (mile)
West Hood River Interchange	62.06	6.02
Hood River 2nd Street Interchange	63.92	1.86
East Hood River Interchange	64.44	0.52
Average Spacing		2.80

***ACCESS MANAGEMENT STRATEGIES***

The main goals of an access management program are enhanced mobility and improved safety. This is achieved by limiting the number of traffic conflicts. A traffic conflict point occurs where the paths of two traffic movements intersect. Vehicle maneuvers on the street system in the order of increasing severity of conflict are diverge, merge, and cross. In each case, drivers of one or more vehicles may need to take appropriate action in order to avoid a collision.

***Optimize Traffic Signal Installation, Spacing, and Coordination***

Traffic signals should be appropriately placed and coordinated to enhance the progressive movement of traffic along the highway. If properly designed, installed, and maintained, traffic signals tend to reduce right-angle collisions, vehicular-pedestrian collisions, and opposing left-turn collisions. However, rear-end collisions commonly increase. Delay to the driveway traffic will be decreased; however, total delay at the intersection will be increased if the signal interferes with progression. Moreover, if the signal system has poor progression, the resulting traffic backups can block upstream access from driveways. Also, improperly located signals will increase total traffic delays throughout the system, cause a deterioration in the speed and efficiency of progression and seriously increase fuel consumption and vehicular emissions.

The higher the efficiency of traffic progression (progression band width divided by cycle length), the higher is the capacity of the major arterial highway. Moreover, at high efficiencies, fewer vehicles are required to come to a stop, deceleration noise is reduced, and vehicle emissions, fuel consumption, and delay are minimized. Since highway capacity is always an issue along major urban arterials, the signal spacing should be selected such that it leads to very high progression efficiencies.

### *Application*

A driveway should be considered for signalization only if installation of the signal does not interfere with traffic progression on the major arterial or will not interfere when the major street system reaches capacity conditions when the area becomes fully urbanized. This normally means that signalization should be limited to driveways meeting the uniform signalized intersection spacing (described in the next strategy). This will provide maximum progression efficiency at the desired speed and at the longest cycle length, which is expected to be utilized during the peak periods when the area becomes fully urbanized. When the high volume access drive does not conform to the selected uniform spacing criteria, consideration of signalization should be based upon a traffic engineering study, which demonstrates that the signal will not interfere with efficient traffic progression during peak and off-peak conditions.

Progression at reasonable speeds can be achieved at a short signal spacing such as 1/4 mile only if the traffic volumes are very low and short cycles can be used. For example, a progression speed of 30 mph can be achieved with a 60-second cycle length at a signal spacing of 1/4 mile. However, as major arterial and cross-street volumes increase, longer cycle lengths must be used in order to increase capacity by minimizing lost time. With a longer 90-second cycle length, signal spacing of 1/4 mile will result in a progression speed of 20 mph along the major arterial.

The following table illustrates the optimum signalized intersection spacing in feet needed to achieve efficient traffic progression at various speeds and cycle lengths. For example, a major arterial spacing of 2,050 feet (0.39 miles) will enable traffic flow at 35 mph with the use of an 80-second cycle length.



**Optimum Signalized Intersection Spacing  
for Efficient Traffic Progression**

Cycle Length (seconds)	Speed (miles per hour)						
	25	30	35	40	45	50	55
60	1,100'	1,320'	1,540'	1,760'	1,980'	2,200'	2,430'
70	1,280'	1,540'	1,800'	2,050'	2,310'	2,500'	2,820'
80	1,470'	1,760'	2,050'	2,350'	2,640'	2,930'	3,220'
90	1,630'	1,980'	2,310'	2,640'	2,970'	3,300'	3,630'
120	2,200'	2,640'	3,080'	3,520'	3,960'	4,400'	4,840'
150	2,750'	3,300'	3,850'	4,400'	4,950'	5,500'	6,050'

Source: *Technical Guidelines for the Control of Direct Access to Arterial Highways* - Volumes I and II, Federal Highway Administration (FHWA-RD-76-86).

***Regulate Minimum Spacing of Driveways***

The minimum spacing of driveways is a regulatory method used by many agencies to regulate the frequency of access points along highways. This technique can be implemented at existing locations or during the driveway permit authorization stage. Strategies for achieving this objective at existing driveways include closing driveways or relocating driveways.

This technique reduces the frequency of conflict by separating adjacent, basic conflict areas and limiting the number of basic conflict points per length of highway. The technique is expected to reduce the severity of rear-end collisions as it allows more deceleration distance and perception time for motorists. Some tradeoffs may be realized by increasing average delay and the potential for rear-end collisions at driveways as a result of increasing the average volume per access point.

*Application*

This access control technique is generally applicable for all types of arterials where conflict area overlap and delays are excessive. Highways with volumes greater than 5,000 vpd and speed greater than 25 mph are candidates for consideration.

The minimum allowable spacing of non-signalized intersections for various speeds is shown in the following table.

### Minimum Allowable Driveway Spacing

Posted Speed Limit	Minimum Allowable Driveway Spacing
30 mph	100 feet
35 mph	150 feet
40 mph	200 feet
45 mph	300 feet

Source: *Technical Guidelines for the Control of Direct Access to Arterial Highways* - Volumes I and II, Federal Highway Administration (FHWA-RD-76-86).

The optimization of driveway spacing in the permit authorization stage would indirectly reduce the frequency of conflicts by separating adjacent conflict areas and limiting the number of basic conflict points per length of highway. The implementation of this technique is also expected to reduce the severity of conflicts as it allows more deceleration distance and perception time between driveways.

#### ***Consolidate Access for Adjacent Properties***

This general operating practice encourages adjacent property owners to construct joint-use driveways in lieu of separate driveways. Strategies for implementing this technique include closing existing driveways or encouraging joint-use driveways.

The feasibility of this technique is viewed primarily at the permit-authorization stage. The joint driveway will cause a reduction in the concentration of driveways along an arterial. The reduction in driveway concentrations is expected to be accompanied by a reduction in the frequency and severity of conflicts.

#### ***Application***

This technique is applicable on all major roadways. Driveway pairs with more than 50 vehicles using each driveway per hour will be good candidates for this technique.

The physical means by which access can be consolidated between two adjacent properties involves construction of joint use driveway between the two properties. It is recommended that both owners have property rights in a joint-use driveway. That is, the driveway should be located straddling the property line with each having a permanent easement on the other. This practice will not enable either owner the opportunity to deny or restrict access to the neighboring property. The resulting parking area should have an efficient internal circulation plan.

***Consolidate Existing Access Whenever Separate Parcels Are Assembled under One Purpose, Plan Entity or Usage***

This is a general operating practice that requires specific changes on commercial sites when they are assembled for development or redevelopment. The consolidation is accomplished by voiding existing driveway permits upon alteration of the property functions. The new permit authorization depends on the developer's plans to use some existing driveways and close or relocate other driveways.

The objective of this technique is to increase average spacing of access points along the highway. The consolidation of driveways reduces the number of access points, thereby increasing the driveway spacing. The increase in driveway spacing provides motorists of turning vehicles more time and distance to properly execute their maneuvers. The severity of conflicts should decrease because deceleration requirements are reduced.

***Designate the Number of Driveways to Each Existing Property and Deny Additional Driveways Regardless of Future Subdivision of That Property***

This is a general regulatory policy, which designates the maximum number of driveways permitted to each existing property before development. The implementation of this technique requires an advance planning policy with a formal planning document made readily available to abutting property owners. Such policy denies additional driveways regardless of future subdivision of that property.

The objective of this technique is to maintain average spacing of access points along the highway. This objective is achieved by regulating the maximum number of driveways per property frontage. The increase in average driveway spacing provides motorists turning into driveways with more time and distance to properly execute their maneuvers.

This access control measure increases the minimum spacing of access points. This results in a reduction in the frequency of conflicts. The severity of conflicts should also decrease because deceleration requirements are reduced.

***Restrict Parking on Roadway Adjacent to Driveways to Increase Driveway Turning Speeds***

This technique increases turning speeds by removing parked vehicles, from areas adjacent to driveways. Parked vehicles may indirectly contribute to driveway accidents by limiting the sight distance or influencing the turning paths of driveway vehicles. This technique is intended as a point measure, although route applications are also feasible.

This technique will reduce the severity and frequency of conflicts. Severity is reduced because the speed differential between turning and through vehicles is reduced. Conflict frequency also benefits from the increase in turning velocity. One trade-off is a reduction in parking capacity.

### *Application*

This technique is applicable at any driveway location where parking is permitted. Drivers in the outside through traffic lane must have adequate stopping sight distance. Driveway traffic must have adequate intersection sight distance to safely select a gap and to accelerate to the speed of through traffic.

### ***Provide Direct Access on Lower Functional Class Street when available***

This driveway location technique is aimed at removing turning vehicles or queues from sections of the through lanes. The strategy for achieving this objective is to provide supplementary access to a single property at a collector street location. The technique provides an additional access point for vehicles to use when entering or exiting a property.

The average volume of all driveways to a property will decrease after the supplementary driveway absorbs some of the total volume. Conflict frequency will be reduced on the highway, and total conflict severity should be reduced by moving some of the conflicts to the lower speed collector. Delay to arterial and driveway vehicles will be reduced because the individual driveway volumes are smaller.

### *Application*

This technique is applicable at all corner parcels having frontage on a major roadway and a collector.

### ***Encourage Connections Between Adjacent Properties***

This driveway operation technique is aimed at removing turning vehicles or queues from the through lanes by encouraging adjacent property owners to permit property-to-property movements away from the highway.

A prime example of this access control measure is the neighborhood shopping center where several adjacent properties are served by one open parking lot area. The patrons frequenting nearby establishments do not need to exit onto highway and then enter the neighboring driveway.

Highway conflicts will be reduced because the highway will no longer be used in traversing from one property to the next.

### *Application*

This technique is applicable on all highway types. It is intended to serve adjacent properties with small frontage widths through use of common access points. Thought must be given to internal circulation and storage space for driveway vehicles as well as geometric layout and existing highway operation.

### ***Require Adequate Internal Design and Circulation Plan***

This is a general access control policy that may be applied on existing facilities or during the driveway permit stage. An adequate internal design and circulation plan is intended to ensure harmony between highway, driveway and internal operations. Driveway and internal operations will be improved by providing adequate internal property design and controls. Through traffic will experience a decrease in interference because the internal design will minimize queuing on the highway and vehicles searching for parking places are able to circulate internally. Conflict frequency and severity are expected to decrease because deceleration requirements are reduced.

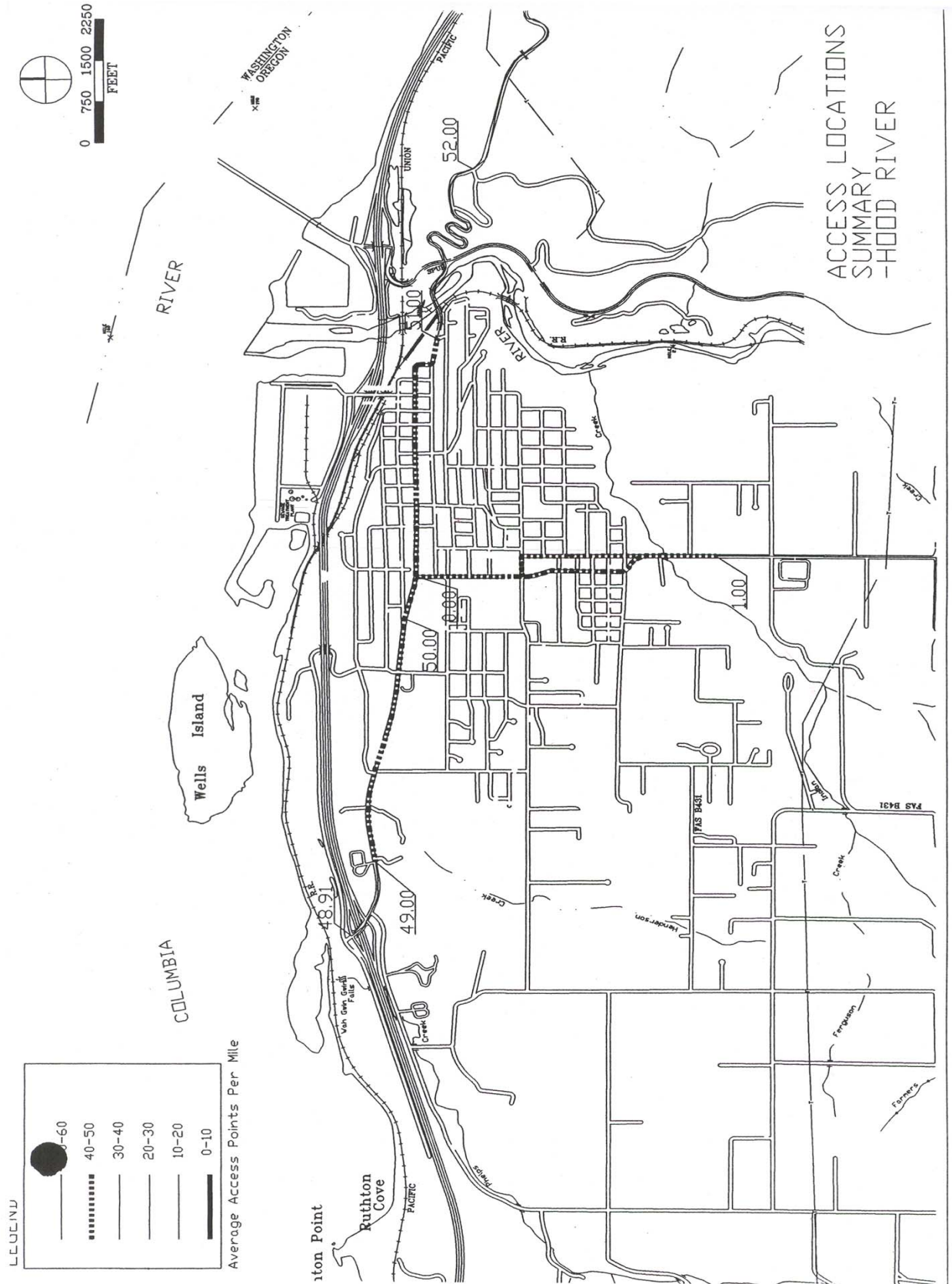
#### *Application*

This technique is applicable to all types of highways. Implementation is feasible on existing facilities, but primary consideration should be given to this policy during site plan approval.

Internal circulation designs should provide adequate handling of limited parking and maneuvering areas, minimize internal interference by supplying storage areas to egress movements, and distribute ingress vehicles into the main circulation patterns with minimal hesitation and confusion. The following list reflects recommendations by which this technique can be properly applied.

- General location of driveway entrances should be approved by code authorities.
- Wherever possible, the long sides of parking areas should be parallel.
- Curved, triangular and other irregularly shaped parking areas should be avoided.
- Driveway throats should be designed long enough to allow free movement on and off of the highway.

# Access Location Summary Map



## **GENERAL ACCESS MANAGEMENT GUIDELINES FOR COLLECTOR AND LOCAL STREETS**

Access management is hierarchical, ranging from complete access control on freeways to increasing the use of streets for access purposes, parking and loading at the local streets and minor collector level. The following table describes general access management guidelines by roadway functional classification and appropriate adjacent land use type for collector and local streets.

These access management restrictions are not intended to eliminate existing intersections or driveways. Rather, they are best implemented by instituting them into the land use permitting process and applying them as new development and redevelopment occur.

The challenge is greater in applying access management guidelines to a developed major arterial due to right-of-way limitations and concerns by the owners of the adjacent properties and the affected businesses. In such cases, access management can be implemented as part of roadway improvement plans or as part of roadway retrofit plans.

To summarize, access management strategies consist of managing the number of access points and/or providing traffic and facility improvements. The solution is a balanced, comprehensive program which provides reasonable access while maintaining the safety and efficiency of traffic movement.

### General Access Management Guidelines

Street Classification	Minimum Posted Speed	Minimum Spacing Between Driveways and/or Streets <sup>2</sup>	Minimum Spacing Between Intersections (Min-Max)	Appropriate Adjacent Land Use Type
Arterial	35-45	300 feet	660-1000	light industry/office and buffered medium or low density residential
Collector Street	25-35 mph	100 feet	220-440 feet	neighborhood commercial near some major intersections
Local Street	25 mph	Access to each lot permitted	200 feet	primary residential
OR 35 from 1-84 to Historic Columbia	25 mph	1,320 feet	500 feet	Commercial

Research has shown a direct correlation between the number of access points and collision rates. In addition, the wider arterial streets that can ultimately result from poor access management can diminish the livability of a community.

The access points to an arterial can be restricted through the following techniques:

- Restricting spacing between access points (driveways) based on the type of development and the speed along the arterial.
- Sharing of access points between adjacent properties.
- Providing access via collector or local streets where possible.
- Constructing frontage roads to separate local traffic from through traffic.

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<sup>2</sup> Desirable design spacing (existing spacing will vary).



- Providing service drives to prevent spillover of vehicle queues onto the adjoining roadways.
- Providing acceleration, deceleration, and right turn only lanes.
- Offsetting driveways to produce T-intersections to minimize the number of conflict points between traffic using the driveways and through traffic.
- Installing median barriers to control conflicts associated with left turn movements.
- Installing side barriers to the property along the arterial to restrict access width to a minimum.

These access management restrictions are generally not intended to eliminate existing intersections or driveways. Rather, they should be applied as new development, redevelopment, or major construction occurs. Over time, as land is developed and redeveloped or the roadway is modernized, the access to roadways will meet these guidelines. However, where there is a recognized problem, such as an unusual number of collisions, these techniques and standards can be applied to retrofit existing roadways.

## **RECOMMENDED ACCESS/MANAGEMENT TECHNIQUES**

Based upon public and TAC review, a variety of potential access management techniques were reviewed. The following techniques are identified as key strategies for access management. Other techniques will be applied, as appropriate, to meet access management goals. These techniques will be applied to arterials and collectors, not local streets.

- Optimize traffic signal installation, spacing and coordination;
- Regulate minimum spacing of driveways;
- Regulate maximum number of driveways per property frontage;
- Consolidate access for adjacent properties;
- Restrict parking on roadway adjacent to driveways to increase driveway turning speeds;
- Provide direct access on lower functional class street when available;
- Encourage connections between adjacent properties; and
- Require adequate internal design and circulation plan.

### *Special Access Management Areas*

Access management is important to promoting safe and efficient travel for both local and long distance users within the planning area. The 1999 Oregon Highway Plan (OHP) classifies I-84 as an interstate facility, OR 35 as a highway of statewide importance, and the Historic Columbia River Highway and Highways 281 and 282 as district highways. These highways are to be managed to ensure that each will continue to serve its intended function by maintaining the capacity and condition of each facility. The OHP establishes access management categories ranging from full control for freeways to partial control for regional or district highways. Generally, the highest potential access category is assigned, corresponding to existing or planned adjacent land uses.

Access management category I applies to I-84, which is fully access-controlled (access only at interchanges). Highway 35 is a category 4 facility. This means that for the urban portions of the highway, the roadway improvements will provide for a minimum distance of  $\frac{1}{2}$  mile between public roadway intersections, and a minimum distance of 500 feet between private driveways. Traffic signals are permitted at a minimum of one-half mile spacing. These requirements are similar to the general access management guidelines specified for major arterial roadways. Access management category 6 applies to US 30 and Highway 281, which are district highways. This means that in urban areas, intersection spacing for future improvements is limited to 500 feet, with a distance between driveways of at least 250 feet. Some of these spacings are not practical to meet in the next 20 years, particularly in the highly developed areas.







APPENDIX F

# Cost Estimates



# Transportation Funding and Improvement Costs

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## Seaside Transportation System Plan: Order-of-Magnitude Cost Estimates and Funding Options

This appendix provides order-of-magnitude cost estimates for the transportation improvements recommended in the Seaside Transportation System Plan (TSP), and outlines potential sources that could be explored to fund these improvements. This memorandum is split into two main sections: (1) Cost Estimates and (2) Funding Sources.

### Order-of-Magnitude Cost Estimates

Order-of-magnitude level cost estimates (also called planning-level cost estimates) were created for each of the TSP's recommendations. This section provides a summary of these cost estimates, with tables organized by modal plan. The detailed assumptions used to prepare the cost estimates are provided at the end of this memo as attachments. The tables in this section also provide an estimate of timeframe for implementation. These are defined as short-term (0-5 years); medium-term (5-10 years); long-term (10-20 years); and very long term, which falls outside of the 20 year planning horizon, but the project recognizes the importance of these projects to the local street system within the City of Seaside.

Table 1 below summarizes cost estimates for the roadway modal plan. Detailed assumptions used to prepare these cost estimates are provided as Attachment A.

**TABLE 1**  
*Order-of-Magnitude Cost Estimates for  
Seaside TSP Roadway Recommendations*

	<b>Improvement Concept</b>	<b>Order of Magnitude Cost Estimate (2010 \$)</b>	<b>Time Frame</b>
1.	US 101 widening between north of Broadway and Avenue G	\$5,456,000	Very Long
2.	Intersection of 24 <sup>th</sup> Avenue and US 101		
	Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge outside of 100-year floodplain	\$15,741,000	Very Long
	Phase 2: Construct new 24 <sup>th</sup> Avenue intersection	\$6,663,000	Very long
3.	Intersection of 12th Ave. & Hwy 101	\$1,314,000	Medium
4.	Intersection of Broadway & Hwy 101	\$792,000	Medium
5.	Realignment of Avenue F and Avenue G with new signal	\$3,352,000	Medium
6.	Intersection of Avenue U & Hwy 101	\$7,997,000	Short
7.	12 <sup>th</sup> Ave. Cross Section	\$506,000	Medium
8.	Wahanna Road Pedestrian Improvements	\$6,678,000	Medium
9.	Broadway Cross Section	\$506,000	Medium
10.	Avenue S Cross Section		
	Between US 101 and the bridge	\$3,459,000	Short
	Between the bridge and Wahanna Road	\$2,268,000	Medium
11.	a. Extension of S. Holladay Drive to the south (tie in with US 101 at Avenue U)	\$7,406,000	Long
	b. Flyover of S. Holladay Drive at US 101	\$9,911,000	Very Long
12.	US 101 widening between north of Broadway and Avenue G	\$5,456,000	Very Long

As shown in Table 1, the roadway projects in the TSP range in cost from \$500,000 to over \$15 million. Many of the projects are recommended for the medium or long term though a few – a three-way stop at Lewis & Clark and Wahanna Road; the right turn pocket at Avenue U and US 101, and the Avenue S cross section between US 101 and the bridge – are recommended for short-term implementation.

The cost estimates provide two phases for the US 101 and 24<sup>th</sup> Avenue intersection, recognizing that reconstructing the bridge would be expensive and complicated. The first phase reconstructs the intersection and the existing bridge, and the second phase includes constructing a new 24<sup>th</sup> Avenue intersection. As an interim solution, a light is proposed at this location.

Additionally, the Avenue S cross section is broken up into two parts, recognizing that the available right of way and other constraints make sense to separate this project into two, with different time frame and priorities. Finally, the extension of Holladay Drive



south and connecting to US 101 will also be a two part project, as the flyover is outside of the 20 year TSP planning horizon.

Table 2 on the following page summarizes order-of-magnitude costs for the TSP's bicycle and pedestrian recommendations. Detailed assumptions used to prepare these cost estimates are provided as Attachment B.

**TABLE 2**  
*Order-of-Magnitude Cost Estimates for  
Seaside TSP Bicycle/Pedestrian Recommendations*

	<b>Improvement Concept</b>	<b>Order of Magnitude Cost (2010 \$)</b>	<b>Time Frame</b>
<b>Bicycle/Pedestrian Bridges</b>			
1.	Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 <sup>th</sup> Avenue	\$954,000	Long
2.	Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 <sup>rd</sup> Avenue	\$719,000	Long
3.	Bicycle/pedestrian bridge over Neawanna Creek in vicinity of Avenue F	\$645,000	Short
4.	Bicycle/pedestrian bridge over Necanicum River in vicinity of Avenue S	\$390,000	Medium
<b>Pedestrian Treatments - Intersections</b>			
5.	Pedestrian islands along US 101 (Approximately every three blocks – assumed in vicinity of 17 <sup>th</sup> , 15 <sup>th</sup> , 9 <sup>th</sup> , 6 <sup>th</sup> , 3 <sup>rd</sup> , Avenue B, and Avenue P)	Between \$8,000 and \$10,000 per intersection	Short to Medium
6.	Pedestrian crosswalks and curb ramps off US 101 (Assumed at 12 <sup>th</sup> /Franklin, 12 <sup>th</sup> /Holladay, Broadway/Lincoln; Broadway east of Lincoln; and Avenue U/Columbia)	Between \$5,000 and \$10,000 per intersection	Short to Medium
<b>Pedestrian/Bicycle Treatments - Corridors</b>			
7.	Improvements on Low Traffic Roadways (Assumed for Franklin, Lincoln, 17 <sup>th</sup> , 15 <sup>th</sup> , 1 <sup>st</sup> , Broadway west of US 101, Avenue A, Hilltop/Aldercrest, Avenue F/G, Cooper/Alder, and Avenue S west of US 101)	Between \$500 and \$5,400 depending on length of roadway	Medium
8.	Improvements on Busier Roadways (Assumed for Holladay, 12 <sup>th</sup> , Avenue S, and Avenue U)	Between \$5,000 and \$59,000 depending on length of roadway	Short
9.	Sidewalk connectivity – along US 101 (NB between MP 20.81 and 22.76; SB between MP 19.38 and 22.33)	\$1,935,000	Short
10.	Sidewalk connectivity – off of US 101	Between \$67,000 and \$488,000 per roadway segment	Long
<b>Shared Use Paths</b>			
11.	Shared use path extending the Prom from Avenue U to Ocean Vista	\$82,000	Medium

**TABLE 2**  
*Order-of-Magnitude Cost Estimates for  
Seaside TSP Bicycle/Pedestrian Recommendations*

	<b>Improvement Concept</b>	<b>Order of Magnitude Cost (2010 \$)</b>	<b>Time Frame</b>
12.	High ground connector pathway (north/south between Lewis & Clark and Avenue S)	\$687,000	Long
13.	Connection to higher ground – east of Broadway	\$125,000	Medium
14.	Connection to higher ground – east of Neawanna Creek in vicinity of Avenue F	\$110,000	Short
15.	Connection to higher ground – north/south between Broadway and Avenue F	\$133,000	Medium
16.	Connection to higher ground – east of Avenue S/Wahanna Road	\$296,000	Medium
17.	Path connecting US 101 and Wahanna in vicinity of 15 <sup>th</sup> Avenue	\$58,000	Long

Bicycle and pedestrian projects vary in scale and cost. Many can be implemented in the short-term. Those flagged as long term projects are done so in sensitivity of potential business or resident concerns as well as potential cost. Priorities include building bicycle and pedestrian bridges across the Necanicum River and Neawanna Creek south of Broadway (in vicinity of Avenue F and in vicinity of Avenue S). These could be combined with the construction of pedestrian paths leading to higher ground for use in case of an emergency. Other higher priority projects include bicycle and pedestrian friendly treatments along busier roadways, and crossing safety projects along US 101 (pedestrian islands).

Please note that bicycle and pedestrian treatments that are part of larger roadway projects are included in Table 1 estimates.

Table 3 below provides order-of-magnitude cost estimates for the TSP’s transit recommendations. Detailed assumptions used to prepare these estimates are included as Attachment C.

**TABLE 3**  
*Order-of-Magnitude Cost Estimates for  
Seaside TSP Transit Recommendations*

	<b>Improvement Concept</b>	<b>Order of Magnitude Cost Estimate (2010 \$)</b>		<b>Time Frame</b>
		<b>Start up costs</b>	<b>Annual Operating Costs</b>	
1.	Re-establish Trolley Bus Circulatory Route	\$785,760	\$494,210	Medium
2.	Increase existing Bus service to 30 minute headways during the peak	\$1,680,000	\$343,200	Medium
3.	Extend Route 101 service in the evenings	-	\$75,500	Short
4.	Provide service on Sundays	-	\$92,660	Short
5.	Addition of Bus pullouts on US 101	\$152,000	-	Short
6.	Provide Bus Shelters at key locations	\$69,600	-	Short
7.	Relocate existing bus stop at US 101 and Broadway	\$2,540	-	Medium
8.	Build Satellite Parking Areas		-	Medium
	- Park and Ride Lot	\$36,000		
	- Park and Ride signage (using existing lots)	\$2,080		
9.	Construct a new transit center	\$4,000,000		Short

Transit recommendations are broken down into start-up costs and annual operating costs. Start up costs include the purchase of additional transit vehicles, bus shelters, and/or the construction of capital improvements. Operating costs include ongoing labor, maintenance, and fuel costs to run the service, and are reported on an annual basis.

Through conversations with the Sunset Empire Transportation District, many of these projects could be implemented in the short-term, and the district is actively seeking grants to further these recommendations.

## Potential Funding Sources

A variety of federal, state, and local funding sources may be available to fund transportation projects identified in the Seaside TSP. This section provides an overview of the existing and potential federal, state, and local funding sources for the projects, and discusses the applicability of the funding sources described. Funding sources described in this section are summarized in Table 4 below.

**TABLE 4**  
 Summary of Existing and Potential Future Funding Sources

<b>Entity Distributing Funds</b>	<b>Program Name</b>
Federal	National Infrastructure Innovation and Finance Fund Department of Energy Efficiency and Conservation Block Grant Livable Communities Grant Transportation Housing and Urban Development Grant
State	State Highway Fund Statewide Transportation Improvement Program (STIP) Relevant programs include: 1. Bridge Rehabilitation and Replacement Program - State Bridge Program 2. Modernization Program 3. Operations Projects - Signs, Signals, and Illumination Program - Transportation Options Program 4. Safety 5. Special Programs - Public Transit Programs - ODOT Bicycle and Pedestrian Program - Sidewalk Improvement Program - Quick Fix - Grants - Transportation Enhancement Program - Immediate Opportunity Fund Connect Oregon Business Energy Tax Credit (note changes pending to program)
County or Regional – Existing	County Roads Department Budget Transit System Advertising
County or Regional – Potential Future	Local Option Levy Transit Center Space Lease
Local – Existing	Tax Street Fund - Gas Tax Refund - Surface Transportation Program Funds - Other/Miscellaneous Urban Renewal Funds Systems Development Charges – Roads Fund Road District Special Transportation Fund

**TABLE 4**  
Summary of Existing and Potential Future Funding Sources

<b>Entity Distributing Funds</b>	<b>Program Name</b>
Local – Potential/Future	Additional Transportation System Development Charges and Developer Fees
	Park Systems Development Charges
	Tax Increment Financing
	Local Improvement District
	Parking Fees and Fines
	Revenue and General Obligation Bonds

## Existing Federal Funding Sources

Currently, federal funding accounts for approximately 20 percent of funding for projects within the state of Oregon. Because the City of Seaside is outside the boundary of an MPO, federal funding is predominantly made available through state or county programs via the Northwest Area Commission on Transportation (NWACT), though some funding is made available directly to the City.

The most significant source of federal revenue is the Federal Highway Trust Fund.

### Federal Highway Trust Fund

Revenues comprising the Federal Highway Trust Fund come from motor vehicle fuel taxes, sales taxes for heavy trucks and trailers, tire taxes, and annual heavy truck use taxes. Revenues are split into two accounts – the highway account and the transit account. Funds are appropriated to individual states on an annual basis under the current surface transportation legislation (currently the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – a Legacy for Users, referred to as SAFETEA-LU). Authorization to use the Federal Highway Trust Fund, under SAFETEA-LU, originally expired on September 29, 2009. However with direction from the U.S. Legislature, the U.S. Department of Transportation (USDOT) has extended the current legislation into 2011.

Relevant programs funded under SAFETEA-LU but distributed through state and regional sources are described later in this memo. For example, the Transportation Enhancement (TE) Program is funded by states setting aside a portion of the Surface Transportation Program (STP) budget. Federal funds must be matched with state and local funds; in Oregon, the current matching amount is 10.27% of total costs.

*Applicability* – Projects using funds from the Federal Highway Trust Fund must first be included in the Statewide Transportation Improvement Program (STIP). Specific programs and grants through which these funds are allocated are described in the State Funding Sources section of this document.

### National Infrastructure Innovation and Finance Fund

The Department of Transportation’s 2011 budget request included \$4 million for the National Infrastructure Innovation and Finance Fund. This fund will be allocated to multimodal projects that provide significant national or regional economic benefits. This

funding will be distributed as grants and loans. In addition to capital projects, the proposed fund will sponsor planning, analytical, and feasibility studies. The minimum grant size is \$25 million but the secretary may allow for smaller scale support to smaller states, regions, or cities.

*Applicability:* If this budget request is granted, additional details of the application process will be released as the program is developed. The SETD 101 bus line connects the City of Astoria, Warrenton and Seaside, and is regional in nature, as it would allow employees and students to access employment and education opportunities in the communities north of Seaside. The bus line could be eligible for this fund.

### **Department of Energy: Energy Efficiency and Conservation Block Grant (EECBG)**

According to the U.S. Department of Energy (DOE), this grant program was developed to provide funds to U.S. states, territories, local governments, and Indian tribes to develop and implement projects to reduce energy use and fossil fuel emissions in their communities. It was authorized in the Energy Independence and Security Act (EISA) and was initially funded under the American Recovery and Reinvestment Act of 2009. DOE states that the initial purpose of the funding is to create a conservation plan. After that plan is submitted to DOE additional funding may become available. This grant program also includes competitive grants for communities that did not receive funding through the formula grants. Seaside is eligible for these grants as they were not awarded a formula grant.

*Applicability* - The recommended circulator trolley bus line through Seaside could reduce visitor's reliance on the single occupant vehicle. Additionally, the proposed park and rides at the north and south of the City could be eligible, along with some of the bicycle and pedestrian improvements aimed at shifting drivers to non-motorized modes.

### **Livable Communities Grant**

The goal of the FTA Livable Communities initiative is to demonstrate methods to improve the connection between transportation and communities. This initiative encourages city governments and transportation agencies to communicate proposed transportation improvements to the communities they serve in the early stages of the planning and to design facilities that are community oriented and customer friendly.

*Applicability:* SETD is actively pursuing grant funding through this program.

### **Transportation Housing and Urban Development Grant**

The Transportation Housing and Urban Development Grant (THUD) is a federal appropriation.

*Applicability* - SETD has been working with Representative Earl Blumenauer's office to obtain this funding.

### **Existing State Funding Sources**

State funds are distributed via the Oregon Transportation Commission (OTC). The State Highway Fund, the most significant funding sources is described below, as is a description of the Statewide Transportation Improvement Program (STIP), which serves as the improvement program for the state of Oregon.

## State Highway Fund

Revenues in the State Highway Fund are received from a combination of fuel taxes, vehicle registration and title fees, driver's license fees, the truck weight-mile tax, and federal monies. State Highway Trust Fund revenues may be used only for construction and maintenance of state and local highways, bridges, and roadside rest areas, but according to state law (ORS 366.514) reasonable amounts of the fund must be spent on walkways and bikeways as well. The State Highway funds cannot be spent on trails in parks or other areas outside of a road, street or highway right-of-way. The law requires that in any given fiscal year, the amounts expended to provide walkways and bikeways must be a minimum of one percent of the state highway fund received by the Department, a city or county. Cities and counties are not required to spend a minimum of one percent each year; they may credit this amount to a reserve fund and expend these amounts within a period not to exceed ten years.

State Highway Fund revenues are appropriated by the Oregon Transportation Commission (OTC) on an annual basis. Appropriation is based on population for cities and registered vehicles for counties; net revenues are distributed in the following manner:

- 60 percent state
- 24 percent counties (by number of vehicles registered)
- 16 percent cities (by population)

*Applicability* – Infrastructure projects within state, city or county right-of-way are eligible to be funded by the State Highway Fund. To receive funding, projects must be listed in the STIP (see below).

## STIP

The STIP is the capital improvement program for the State of Oregon. It provides a schedule and identifies funding for projects throughout the state. The STIP lists projects that are planned for construction during a four-year period. Projects that are included in the STIP are considered "regionally significant" and have been given a high priority through planning efforts and by the relevant area commissions on transportation (ACT). For Seaside, the relevant ACT is the Northwest Area Commission on Transportation (NWACT). The 2010-2013 STIP has five categories – modernization, safety, preservation, bridge, and operations. All federally funded transportation projects and programs, as well as all state and locally funded projects that are deemed "regionally significant," must be included in the STIP.

The 2008-2011 STIP contains projects totaling \$288.83 million. The 2010-2013 STIP is currently under development, and the total estimated cost of the approved projects has not been released. Approximately 80 percent of STIP projects are federally funded.

Transportation projects in the STIP are generally categorized into the five main categories referenced above, plus a sixth "special projects" category. Projects identified within the Seaside TSP may fall within five of the six categories: Bridge Replacement and Rehabilitation Program, Modernization Program, Operations Projects, Safety, and Special Programs including bicycle/pedestrian and Transportation Enhancement. The STIP states that the applicable uses under each of these projects are as follows:

- **Bridge Replacement and Rehabilitation Program:** Capital projects that either replace or rehabilitate state or local bridges.
- **Modernization Program:** Capital projects that lead to increased highway system capacity.
- **Operations Projects:** System management and improvements that lead to more efficient and safer traffic operations and greater system reliability.
- **Safety:** Identification of locations in the state highway system where frequent and serious incidents occur and improvements that reduce this hazard.
- **Special Programs:** Bicycle and Pedestrian, Public Transit, and Transportation Enhancement.

The funding programs under these three categories are described in more detail over the pages that follow.

### Bridge Rehabilitation and Replacement Program

This program includes the State Bridge and Local Bridge programs. The State Bridge program is applicable to project(s) in the Seaside TSP. The objective of the State Bridge program is to replace or rehabilitate public roadway bridges constructed over water or other barriers when a bridge has been identified as deficient either due to structural deficiencies, functional obsolescence, or physical deterioration. Typical projects include total replacement of a bridge in the same location or within the same corridor, removal of the structure and development of an alternative access equal to or lower than the cost of replacement, and rehabilitation of a bridge that results in increased structural integrity and life of the structure.

*Applicability* Bridges within the Seaside that have been identified as deficient according to Federal guidelines may be eligible for funding through this program. Depending on the level of deficiency, according to Federal guidelines, a project may be eligible for either replacement or rehabilitation.

### Modernization Program

The 2010-2013 Draft STIP states that projects funded under this section are capital highway improvements that lead to increased system capacity. Increased capacity can be accomplished by either adding additional lanes, constructing new highways, or other system improvements. Strong competition exists for funding through the STIP Modernization Program as the need for funding such projects greatly outweighs the funds available. Projects are awarded funding through this program by the applicable ODOT Region.

*Applicability:* Projects to widen US 101 or create right turn pockets would be eligible for funding through this program as they would increase the capacity of the highway.

### Operations Projects

The 2010-2013 Draft STIP states that projects funded under this section “improve the efficiency of the transportation system through the replacement of aging infrastructure and the deployment of technology that allows the existing system to meet increased demands.” Applicable projects may be listed within four sub-categories: (1) Intelligent Transportation Systems (ITS); (2) Signs, Signals, and Illumination; (3) Slides and



Rockfalls and; (4) Transportation Demand Management (TDM). The 2010-2013 Draft STIP does not identify Seaside as a community that is currently receiving funding.

- ***Signs, Signals and Illumination Program*** – The Signs, Signals and Illumination program provides funding for the replacement of equipment that has reached the end of its useful life. This program also provides limited funding for new or upgraded signals at problem intersections.

*Applicability* – New signals identified in the TSP may be eligible to receive funding through this program if they are located at “problem” intersections. The intersection of US 101 and 24th Avenue has an average vehicle delay and volume to capacity ratio that exceeds the standards and the recommended traffic signal at that intersection could be eligible for this funding.

- ***Transportation Options Program*** – The Transportation Options (TO) Program was previously called “TDM.” It is still listed under this name in the 2010-2013 Draft STIP. The goals of the program are to reduce congestion, improve air quality, increase the efficiency of the transportation system, and enhance mobility of residents and visitors. The program works towards these goals by assisting in the development of alternative transportation modes, including rideshare programs, park-and-ride locations, telecommuting programs, and information and incentive programs. To receive funding, larger projects need to be included in the STIP. For smaller projects, the TO office has discretionary funding that they could allocate as projects arise.

*Applicability* – Many of the transit and TDM/TSM improvement projects identified in the Seaside TSP may be eligible to receive funding through the TO Program. Requests for the inclusion of the recommended projects into the STIP should be submitted to the Region Manager. Smaller funding requests could be submitted directly to the TO office. Funding is allocated to the agency that is implementing the program. This could be a transit agency, local government, or non-profit organization.

## Safety

The 2010-2013 Draft STIP states that under this program locations within the state highway system are identified that have high frequency and severity of incidents. Cost-effective measures are then applied to reduce incidents. Funding is focused on projects with the highest likelihood of reducing fatalities and serious injuries in a cost-effective manner. Both highway segment safety and site-specific improvements are eligible for funding under this program. Site-specific safety improvements are commonly combined with other ODOT funding projects.

*Applicability* – Projects along 101 that increase the safety of the facility, in locations where incidents have historically been frequent or severe, are eligible for this funding source.

## Special Programs

ODOT also provides funding to a number of special programs. This section describes the programs that are applicable to projects outlined in the Seaside TSP.

- ***Public Transit Programs*** – Generally, only federally funded public transit projects are included in the STIP. ODOT administers both state and federal grant programs through this set of programs to support the operation of local public transit.

Public transit programs administered by ODOT include: support to communities for general-use public transit, transportation for seniors and individuals with disabilities, travel options programs, and intercity bus service. ODOT also distributes capital funding support for building transit facilities and purchasing transit equipment. To attain this funding, ODOT has established a project application, review and selection process. The federal funding programs listed in the STIP that are applicable to the projects identified in the Seaside TSP are described below.

The *Rural and Small Urban Areas Program* is a program administered through ODOT and makes federal funds available to support public transportation in areas with less than 50,000 people. Funds may be used for capital, operating, and administrative assistance. Funding is apportioned by a statutory formula based on population. States must spend 15 percent of the apportionment to support rural intercity bus service.

The *New Freedom Formula Grant Program* intends to “provide additional tools to overcome existing barriers facing Americans with disabilities seeking integration into the work force and full participation in society.” The goal of this program is to “reduce barriers to transportation services and to expand the transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act (ADA) of 1990.” Every three years, ODOT’s Public Transit Division conducts a competitive grant application process for these funds. Staff within the Division review and recommend projects for funding and the OTC approves the list.

The *Capital Investment Program* provides federal funding for the acquisition of capital assets. This program is also administered through ODOT. The most common project is to replace transit vehicles. This funding can also be used to purchase vehicles to expand transportation services. Grants are also provided to purchase and construct a variety of facilities and equipment.

*Applicability* – The funding sources described in this section provide resources that could be applied to a variety of the transit projects identified in this TSP. Funds from the *Urbanized Area Formula Program* or the *Capital Investment Program* could be used by Sunset Empire Transportation District to purchase additional busses to increase the frequency of service or the extension of service. Funds from the *Capital Investment Program* could also be used to construct facilities.

Sunset Empire Transportation District would be eligible to compete for *New Freedom Grant* and *Rural and Small Urban Areas* funds. These funds could be used for several of the transit projects that provide service to low-income populations and those with physical disabilities. As the requirement for the *New Freedom Grant* program is to increase public transportation alternatives beyond those required by ADA, further research would need to be conducted to determine if the identified transit projects go beyond this requirement. Applications for these grants should be submitted to ODOT.

- ***ODOT Bicycle and Pedestrian Program*** –This program is divided into three sub-programs: the sidewalks improvement program, quick fix, and grants. The goal of the sidewalk improvement program is to construct pedestrian improvements on state highways. Minor sidewalk and bike facility improvements on state highways

are eligible to receive funding under the Quick Fix sub-program. Bicycle and pedestrian improvements on local and state highways are eligible to receive grant funding through the Bicycle and Pedestrian program. The grant program provides funding to cities, counties and ODOT regional and district offices through a competitive process. Eligible projects are related to the design and construction of pedestrian and bicycle facilities within the public right-of-way. The application process for the grant program occurs every two years, and the next application cycle begins in 2010 for 2012-2013 funding. Every biennium, the grant program awards approximately \$5 million. A local match is expected for projects that receive this grant.

*Applicability* – Many of the bicycle and pedestrian projects included in this TSP are within the public right-of-way and would be eligible for either the sidewalk improvement program or the grant program. A grant application could be submitted as early as 2010 for receipt of funds in the 2012-2013 funding cycle.

- ***Transportation Enhancement Program*** – Oregon’s Transportation Enhancement (TE) program provides federal highway funds for project that strengthen the cultural, aesthetic, or environmental value of the transportation system. TE activities are funded through a required state set-aside from STP funds of 10%, or the amount set aside in FY 2005, whichever is greater. Projects fall into four main categories: Bicycle and Pedestrian; Historic Preservation; Landscaping and Scenic Beautification; and Environmental Mitigation. The intent of the program is to fund special or additional activities not normally required on a highway or transportation project.

Since the project’s inception in 1992, 190 projects of approximately \$97 million have been funded through the TE program. For fiscal years 2008-2011 the Program will have \$6.5 million per year for competitive selection, and \$2 million per year for the TE Discretionary Account. The funds are provided through reimbursement, not grants. Participation requires matching funds from the project sponsor, at a minimum of 10.27%. All projects must have a direct relationship to surface transportation.

*Applicability* - Bicycle and pedestrian projects in the STIP are eligible for funding for through the ODOT TE Program. This is a competitive grant application process facilitated by ODOT that awards funding to local governments on an annual basis. The TE Advisory Committee awards the grants based on a project’s technical merit and local support. The committee also considers the TE “focus areas” for the year and the connection to other transportation projects.

- ***Immediate Opportunity Fund*** – This fund provides funding for the construction and improvement of streets and roads that are crucial to support site-specific economic development projects. ODOT manages this fund on a case-by-case basis in cooperation with the Oregon Economic and Community Development Department.

The fund’s use is discretionary, and it can only be used when other sources of financial support are unavailable or insufficient. Use is also restricted to circumstances where an actual transportation problem exists and where funds are needed to identify or retain employers that provide primary industry employment in a community. A match of at least 50 percent of the total fund requested is expected from project’s applicants.

*Applicability* – This fund is not being proposed as a primary funding source for any of the TSP’s recommendations. It could be explored as a funding strategy in the case of partnering with a developer to integrate a recommendation into a proposed development.

### Connect Oregon Grant

Connect Oregon is a program created by the Oregon Legislature in 2005 that provides funding through lottery-backed bonds and leverages partnerships to non-highway transportation projects statewide. The goal of this program is to improve connections, enhance transportation options and support the statewide economy. Connect Oregon III was reauthorized through the Jobs and Transportation Act of 2009, and the application process is already underway.

*Applicability* – Public transit projects are eligible for funding under the Connect Oregon program, however discussions of a Connect Oregon IV have not yet begun. Past projects have included the building of a new public transit center in La Grande. To participate in the program Sunset Empire Transportation District would keep in contact with the program about the potential for authorizing future rounds of funding.

### Business Energy Tax Credit

Oregon’s Business Energy Tax Credit (BETC) program allows individuals, businesses, and other entities to take an Oregon tax credit for energy efficiency investments, including transportation investments that increase energy efficiency. This program provides tax credits to businesses that support transportation solutions, such as incentives to switch modes or education to increase employee’s comfort with specific modes. Governments can also benefit from this program by partnering with businesses. The government then sells BETC credits they receive through TDM efforts and sell them to their partnering business. These funds can then be used to expand TDM efforts. In Portland, the Bureau of Transportation has used the BETC for establishing its SmartTrips marketing program, which promotes utilization of alternative transportation in targeted Portland neighborhoods, as well as Safe Routes to Schools.

*Applicability* – The City of Seaside could partner with one or several businesses in Seaside to establish a mutually beneficial BETC partnership. The funding the City of Seaside receives from such a partnership could be used to implement projects that encourage reduced vehicle trips including bicycle, pedestrian, and transit improvements.

Please note that the Oregon legislature is currently considering changes to the BETC program that could reduce the ability to use this program.

<http://www.oregon.gov/ENERGY/TRANS/transhm.shtml>

## Existing County or Regional Funding Sources

### County Roads Budget

The County Roads department has a budget to conduct bridge replacement, paving, and road construction. The budget of this department is derived from the funding it receives from the State Highway Fund, Clatsop State Forest timber sales, and local property tax.

*Applicability:* This funding source would only apply to county roads. County roads within the study area include Wahanna Road south of Avenue S, Wahanna Road north

of 12<sup>th</sup> Avenue, Lewis and Clark Road east of US 101, and Beerman Creek Lane east of US 101. Projects suggested for Wahanna Road and Lewis and Clark Road could be eligible for county funding.

### Transit System Advertising

Most transit agencies post advertising on their vehicles, facilities, and materials. Advertising is a source of earned income, provides a means to develop community partnerships and communicate community information, and can create a point of visual interest. Either the transit agency or an outside firm may manage the advertising program and contracts could be set up on a single or multiyear contract.

*Applicability* – The Sunset Empire Transportation District currently posts advertising on their buses. The Transportation District could work with the community to expand this source of revenue though its overall revenue generating potential remains limited.

## Potential New County or Regional Sources

### Local Option Levies

In Clatsop County, voters within an established taxing district, such as a city or a fire district can approve levies for operating purposes or capital projects. The levy has most commonly been used for operating purposes. A levy can either be established as a set rate or a set dollar amount. For capital projects, a levy cannot last longer than 10 years. Levies must be approved at a November election in an even numbered year or by more than 50 percent of eligible voters (double majority).

*Applicability* - Within established taxing districts, Clatsop County voters could approve funding projects through a levy but the levy would need to be paid back within 10 years. Similar to the General Obligation bond (described below), a careful assessment of public support for the projects to be funded would be needed before this source was pursued.

### Transit Center Space Lease

Leasing portions of a transit center out to other businesses or concessions can be a revenue generating method for public transportation agencies. Concessions can include newsstands, food stands, ATMs, gift shops, florists, shoe repair and sales shops, and so forth. Lease agreements are typically multiyear and are bid on competitively with payments received as revenue or in the form of direct contributions to capital improvements.

*Applicability* – Surplus space in a future transit center in Seaside could be leased to another business as a strategy to expand transit funding. If indoor space is restricted, revenue may also be gathered through permitting mobile vendors, such as food carts, or seasonal vendors.

## Existing City Funding Sources

The City of Seaside's major revenue sources are: the state tax street fund, which funds street lights and maintenance projects using money from City-appropriated highway trust fund, urban renewal area funds, and system development fund. These funds are described below.

## Tax Street Fund

Table 5 provides an overview of the street fund revenue program and expenditures for the City of Seaside between 2004 and 2009.

**Table 5**  
Seaside State Tax Street Fund Revenue Program and Expenditures<sup>1</sup> (Between 2004-2009)

	Revenues				
	2004-05	2005-06	2006-07	2007-08	2008-09
Beginning Fund Balance	\$676,000	\$124,000	\$148,000	\$142,000	\$54,000
Interest on Investments	\$2,000	\$5,000	\$7,000	\$7,000	\$3,000
State Gas Tax Refund	\$294,000	\$298,000	\$286,000	\$285,000	\$276,000
STP					\$270,000
Miscellaneous	\$5,000	\$8,000	\$11,000	\$11,000	\$9,000
<b>Total</b>	<b>\$368,000</b>	<b>\$435,000</b>	<b>452,000</b>	<b>\$445,000</b>	<b>\$612,000</b>
	Expenditures				
Administration Costs	\$15,000	\$14,000	\$14,000	\$22,000	\$24,000
Materials and Services	\$150,000	\$163,000	\$152,000	\$231,000	\$176,000
Capital Outlay	\$79,000	\$111,000	\$145,000	\$116,000	\$53,000
Contingency					\$270,000
<b>Total</b>	<b>\$243,000</b>	<b>\$288,000</b>	<b>\$310,000</b>	<b>\$369,000</b>	<b>\$522,000</b>

<sup>1</sup>All numbers have been rounded to the nearest \$1000

Revenues available for the State Tax Street Fund Revenue Program have ranged between \$368,000 and \$612,000 over the past five years. The revenues for the current fiscal year are \$612,000. The more significant funding sources composing the street fund revenue program are described in turn below.

### *Gas Tax Refund*

These funds are the annual appropriation of the State Highway Funds described in the earlier section on state funding. They are largely derived from the state fuel tax revenue as well as registration, title, and heavy vehicle weight-mile tax, and licensing fees. During the past five years this revenue source has decreased six percent, from \$294,000 to \$276,000.

### *Surface Transportation Program (STP) Funds*

This revenue source is the appropriation of the Federal Highway Trust Fund revenues. As the city of Seaside has a population of less than 200,000 but greater than 5,000, ODOT shares a portion of its STP funding with the City. The 2008-2009 budget shows that the City received an allocation of \$270,000 from this fund. In the last five years, 2008-2009 was the only year the city received an allocation.

### *Other*

Other revenue sources include use of interest earned on transportation-related investments and other miscellaneous sources. Together these revenues have composed between \$7,000 and \$32,000.

*Applicability:* Capital improvement projects are eligible to receive funding through the Street Tax Fund. Matching funds may be available for projects identified in the TSP but additional funding sources will be needed for larger improvement projects.

### Urban Renewal Area

The Urban Renewal Agency identifies transportation and other enhancement projects within the urban renewal area boundaries with the goal of enhancing the infrastructure and attractiveness of the area. Recently identified transportation related projects include the reconstruction of local streets and sidewalk installation along Highway 101. The Agency also provided funding to construct a new library. Projects that are identified receive some funding from the Agency. The Agency may look for additional external funding sources for identified projects. See Table 6.

**Table 6**  
Urban Renewal Area Fund Revenue Program and Expenditures<sup>2</sup> (Between 2004-2009)

	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
<b>Revenues</b>					
Beginning Fund Balance	\$-34,000	\$-309,000	\$23,000	\$778,000	\$860,000
Transfer – Great Seaside Debt	\$277,000	\$452,000	\$392,000	\$293,000	\$311,000
Interest on Investments	\$1,000	\$>1,000	\$36,000	\$35,000	\$28,000
ODOT	\$104,000	\$1,000			
Bond Proceeds			\$1,985,000		
Bond Premium			\$34,000		
<b>Total</b>	<b>\$348,000</b>	<b>\$144,000</b>	<b>\$2,469,000</b>	<b>\$1,106,000</b>	<b>\$1,199,000</b>
<b>Expenditures</b>					
Materials and Services	\$139,000	\$101,000	\$1,663,000	\$187,000	\$86,000
Capital Outlay	\$518,000	\$20,000	\$28,000	919,000	\$713,000
<b>Total</b>	<b>\$657,000</b>	<b>\$122,000</b>	<b>\$1,691,000</b>	<b>\$1,106,000</b>	<b>\$799,000</b>

<sup>2</sup> All numbers have been rounded to the nearest \$1000

*Applicability:* As the Urban Renewal Agency previously supported roadway reconstruction and pedestrian infrastructure improvements, this may be a good source for identifying support for many of the roadway and pedestrian projects identified in the TSP. It may also be advantageous to work with the Urban Renewal Agency to determine if they may be willing to support other types of projects. Urban renewal funds are only available for projects located within the urban renewal area boundary.

### Systems Development Charges - Roads Fund

System Development Charges (SDCs) are a one-time fee assessed on new development, to compensate for increased traffic associated with the new growth area. Developers of new residential or commercial growth areas are responsible for providing adequate vehicular, bicycle and pedestrian access through their site. Owners of abutting

properties pay the cost of street improvements to city standards. Street-related SDC revenues and expenditures for the last four years are listed in Table 3.

SDCs are structured so that revenues pay for expenditures. When revenues are low in a particular year, new streets likely were not necessary. Due to the current economy and the reduced amount of construction, SDCs may provide limited funding for projects identified in the Seaside TSP.

Street-related SDC revenues and expenditures for 2004-2009 are listed in Table 7.

**Table 7**  
System Development Fund Revenue Program and Expenditures<sup>3</sup> (Between 2004 and 2009)

	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
<b>Revenues</b>					
Beginning Fund Balance	\$5,000	\$5,000	\$11,000	\$21,000	\$28,000
SDC - Principal		\$5,000	\$9,000	\$1,000	\$2,000
SDC - Interest	\$>100	\$>100	\$>100	\$>100	\$>100
Interest on Investment	\$>1,000	\$>1,000	\$1000	\$>1000	\$1,000
<b>Total</b>	<b>\$5,000</b>	<b>\$11,000</b>	<b>\$21,000</b>	<b>\$22,000</b>	<b>\$32,000</b>
<b>Expenditures</b>					
Infrastructure				\$22,000	\$32,000
<b>Total</b>				<b>\$23,000</b>	<b>\$33,000</b>

<sup>3</sup> All numbers have been rounded to the nearest \$1000

*Applicability:* This funding source would only be applicable to projects along Wahanna Road. This source could be used for smaller projects or in coordination with another funding source for the recommended changes to the cross section of Wahanna Road.

**Road District**

The Road District has the same boundary as the city of Seaside. This district has a separate budget from the city and provides funding for maintenance and upkeep of improved streets within the district. Funds can be used for improvements from reconstructing a street to minor improvements.

*Applicability:* This funding source could be used for many projects identified in the TSP that alter already improved streets. Street improvements along arterial streets would be most applicable for this funding source, with improvements to residential streets being less applicable.

**Special Transportation Fund**

The Special Transportation Fund (STF) was created by the Oregon Legislature in 1985. It is funded through a cigarette tax and ODOT Transportation Operating Funds. This state funding source provides support for special transportation services that benefit seniors and individuals with disabilities. Seventy-five percent of the funding is allocated to designated counties, transit districts and Indian tribal governments proportional to population. The remaining 25% of the funds are distributed through a discretionary grant program called the Public Transportation Discretionary Grant Program.



*Applicability:* Sunset Empire Transit District has been designated as one of 42 entities statewide to receive funding through STF. For fiscal year 2010, Sunset Empire Transit District received \$61,474 from this funding source. STF funds can be used to create, maintain, or expand systems that serve seniors or individuals with disabilities, as well as plan and develop new services for those currently not served. ODOT's STF Guidebook provides a list of TSM and TDM examples of previous fund use ([http://www.oregon.gov/ODOT/PT/PROGRAMS/stf\\_program.shtml](http://www.oregon.gov/ODOT/PT/PROGRAMS/stf_program.shtml)). This funding source could be applicable for recommendations that serve seniors or individuals with disabilities.

## Potential New Local Sources

### Additional Transportation System Development Charges and Developer Fees

The City of Seaside could implement additional or increase existing SDCs that could be used to construct transportation projects in the City. These additional or increased fees could be dedicated generally to transportation improvements throughout Seaside, but would have to be used within a certain geographic area, such as the corridor the development is being constructed, within City limits, or within the UGB. Extents would be determined through SDC amendment language what would be adopted by the City.

### Park System Development Charges

Park SDCs could be instituted and used for multi-use trail projects, such as the boardwalk along the west side of Wahanna Road, or other projects that would serve a recreational as well as a transportation purpose (such as the bicycle/pedestrian bridges). A park SDC would need to be created and levied on development or redevelopment of parcels within the City.

### Tax Increment Financing (TIF)

TIFs require the City to define an urban renewal area, and then the county assessor "freezes" the assessed value of the property within the urban renewal area. This assumes that the value of the properties within the area will increase over time. The property taxes above those that were collected when the properties were "frozen" are used to pay for improvements within the urban renewal area. These funds are limited to the extent of where the Urban Renewal Area. TIF is used primarily as an economic development tool, but would be useful for targeted areas within the City of Seaside, especially for those projects such as Broadway pedestrian improvements west of US 101 and the extension of sidewalks along US 101 that could encourage economic development.

### Local Improvement District (LID)

LIDs are created by property owners within a district of the City to raise revenues for constructing improvements within the same district. LIDs may be used to assess property owners for improvements that benefit properties and are secured by property liens. Property owners typically enter into LIDs because they see economic or personal advantages to the improvements. The City would work with property owners to acquire financing at lower interest rates than under typical financing methods.

The formation of LIDs is governed by state law and local jurisdictional development codes. LID revenues are used solely for capital costs. Similar to TIF revenues, LID

revenues can be combined with other revenue sources to fully fund improvement costs. LIDs have been established in the city of Seaside for projects in the past.

*Applicability* - LIDs could be an appropriate funding source for street improvement recommendations throughout Seaside.

### Transit Center Space Lease

Leasing portions of a transit center out to other businesses or concessions can be a revenue generating method for public transportation agencies. Concessions can include newsstands, food stands, ATMs, gift shops, florists, shoe repair and sales shops, and so forth. Lease agreements are typically multiyear and are bid on competitively with payments received as revenue or in the form of direct contributions to capital improvements.

*Applicability* - Surplus space in a future transit center in Seaside could be leased to another business as a strategy to expand transit funding. If indoor space is restricted, revenue may also be gathered through permitting mobile vendors, such as food carts, or seasonal vendors.

### Parking Fees and Fines

Seaside currently has non-metered street parking. Income generated by converting free parking spaces to metered or permitted parking spaces could be directed to projects identified in the TSP.

*Applicability* - To implement this funding strategy, the city would need to purchase and install parking meters for the parking spots along the streets. The city may choose to install these meters in busy locations where tourists will be willing to pay for a convenient spot. The visual impact of parking meters can be minimized by installing smart meters which only require a single meter per block.

### Revenue and General Obligation Bonds

Bonding allows municipal and county governments to finance construction projects by borrowing money and paying it back over time (with interest). Financing costs with bonds requires funding to pay back borrowed funds. Financing requires smaller regular payments over time compared to paying the full cost at once, but financing increases the total cost by adding interest. General Obligation Bonds are often used to pay for construction of large capital improvements. This method is typically used to fund road improvements that will benefit an entire community. General Obligation Bonds add the cost of the improvement to property taxes over a period of time. A double majority voter approval is required for instituting General Obligation Bonds. Revenue for General Obligation Bonds is collected in property tax billings.

Revenue bonds are repaid with dedicated revenue from a source other than property taxes. Revenues from SDCs, LIDs, or other reliable revenue streams can be used. Revenue bonds are typically used to fund improvements that primarily benefit the people who provide the revenue through fees and assessments.

*Applicability* - A Transportation General Obligation Bond could be a method to fund some of the more expensive transportation projects that have a high level of public support. Public support would need to be considered carefully before making a decision to pursue this revenue source.

## Outlook for Existing Transportation Funding Sources

Overall, the existing transportation funding sources are expected to continue at a rate similar to the current rate. The U.S. Congress is deliberating a reauthorization of the SAFETEA-LU surface transportation legislation for the next 6 years as it expired in September of 2009 and is expected to operate on continuing resolutions until 2011. The proposed funding package could total around \$600 billion for the upcoming 6-year period. The financing package for the SAFETEA-LU legislation (2005-2009) was approximately \$244 billion.

According to ODOT, fuel tax revenues are expected to decrease, as the purchasing power of fuel revenues decrease with inflation and more fuel-efficient vehicles are purchased. Oregon has been considering a shift to a more user-based revenue fee system to offset decreased revenues from the fuel tax.

SDCs have decreased on average over the last 2 years due to the downturn in the housing market. Table 6 may not reflect this decrease as budget projections, not actual fees were used for 2007-08 and 2008-09.

Tables 8, 9, and 10 match specific TSP recommendations with potential funding sources.

TABLE 8: ROADWAY RECOMMENDATIONS

Project	Time frame	Potential Funding Sources	Secondary Funding Sources
Intersection of 24 <sup>th</sup> Avenue and US 101		ODOT STIP	
Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge 01035 outside of 100-year floodplain	Very Long	- Modernization City Urban Renewal Area	City Tax Street Fund (for local match)
Phase 2: Construct new 24 <sup>th</sup> Avenue intersection	Very Long	ODOT STIP - Modernization City Urban Renewal Area	City Tax Street Fund (for local match)
Three-Way Stop at Lewis & Clark Road and Wahanna Road	Short	County Roads Department budget	
Wahanna Road Cross Sections		Systems Development Charges	City Urban Renewal Area
	Medium	ODOT STIP - TE Program ODOT Bicycle and Pedestrian Program - Grant program	City Road District Fund
Intersection of 12th Ave. & Hwy 101		ODOT STIP	City Tax Street Fund (for local match)
	Medium	- Modernization - Safety - Operations	City Road District Fund City Urban Renewal Area

TABLE 8: ROADWAY RECOMMENDATIONS

Project	Time frame	Potential Funding Sources	Secondary Funding Sources
Intersection of 24 <sup>th</sup> Avenue and US 101		ODOT STIP	
Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge 01035 outside of 100-year floodplain	Very Long	- Modernization City Urban Renewal Area	City Tax Street Fund <i>(for local match)</i>
Phase 2: Construct new 24 <sup>th</sup> Avenue intersection	Very Long	ODOT STIP - Modernization City Urban Renewal Area	City Tax Street Fund <i>(for local match)</i>
Realignment of Avenue F and Avenue G with new signal	Medium	ODOT STIP	City Tax Street Fund <i>(for local match)</i>
		Modernization	City Road District Fund
		Safety	City Urban Renewal Area
		Operations Developer Contribution	
US 101 widening between north of Broadway and Avenue G	Very Long	ODOT STIP - Modernization	
Intersection of Broadway & Hwy 101	Short	ODOT STIP	City Tax Street Fund <i>(for local match)</i>
		- Modernization	City Road District Fund
		- Safety	City Urban Renewal Area
		- Operations	
Broadway Cross Section	Medium	ODOT Bicycle and Pedestrian Program	City Tax Street Fund <i>(for local match)</i>
		- Grant Program	City Road District Fund
		ODOT STIP	City Urban Renewal Area
		- TE Program	
Intersection of Avenue U & Hwy 101	Short	ODOT STIP	City Tax Street Fund <i>(for local match)</i>
		- Modernization	City Road District Fund
		- Safety	City Urban Renewal Area
		- Operations	
		- Highway Bridge Rehabilitation and Replacement Program	
Extension of S. Holladay Drive to the south (tie in with US 101 at Avenue U)	Long	ODOT STIP	City Tax Street Fund <i>(for local match)</i>
		- Modernization	
		Local Improvement District Extended System	

TABLE 8: ROADWAY RECOMMENDATIONS

Project	Time frame	Potential Funding Sources	Secondary Funding Sources
Intersection of 24 <sup>th</sup> Avenue and US 101		ODOT STIP	
Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge 01035 outside of 100-year floodplain	Very Long	- Modernization City Urban Renewal Area	City Tax Street Fund (for local match)
Phase 2: Construct new 24 <sup>th</sup> Avenue intersection	Very Long	ODOT STIP - Modernization City Urban Renewal Area Development Charges	City Tax Street Fund (for local match)
Flyover of S. Holladay Drive at US 101	Very Long	ODOT STIP - Modernization	
Avenue S Cross Section Between US 101 and the bridge	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Road District Fund	City Tax Street Fund (for local match) City Road District Fund City Urban Renewal Area
Between the bridge and Wahanna Road	Medium	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Road District Fund	City Tax Street Fund (for local match) City Urban Renewal Area
12 <sup>th</sup> Avenue Cross Section	Medium	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Road District Fund	City Tax Street Fund (for local match) City Urban Renewal Area

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 <sup>th</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 <sup>rd</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of Avenue F	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program Local Improvement District Bond or Levy City Urban Renewal Area	
Bicycle/pedestrian bridge over Necanicum River in vicinity of Avenue S	Medium	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program Local Improvement District Bond or Levy City Urban Renewal Area	
Pedestrian islands along US 101	Short	ODOT Bicycle and Pedestrian Program - Quick Fix ODOT STIP - TE Program	

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 <sup>th</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 <sup>rd</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge
Pedestrian crosswalks and curb ramps off US 101	Short	City Urban Renewal Area ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area City Road District Fund	City Tax Street Fund (for local match)
Signed bicycle routes on low traffic roadways	Medium	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	City Tax Street Fund (for local match)
Bicycle lanes and shared roadway markings for busier roadways	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Road District Fund	City Tax Street Fund (for local match)
Sidewalk connectivity – along US 101	Short	ODOT Bicycle and Pedestrian Program - Sidewalk Improvement Program	

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 <sup>th</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 <sup>rd</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge
Sidewalk connectivity – off of US 101	Long	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area Extended System Development Charges City Road District Fund	City Tax Street Fund (for local match)
Shared use path extending the Prom from Avenue U to Ocean Vista	Medium	Local Improvement District Bond or Levy Prom Improvement Fund	
High ground connector pathway (north/south between Lewis & Clark and Avenue S)	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP	New Park System Development Charge



TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 <sup>th</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 <sup>rd</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area - TE Program	New Park System Development Charge
Connection to higher ground – east of Broadway	Medium	Local Improvement District Bond or Levy	
Connection to higher ground – east of Neawanna Creek in vicinity of Avenue F	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program Local Improvement District Bond or Levy City Urban Renewal Area	
Connection to higher ground – north/south between Broadway and Avenue F	Medium	Local Improvement District Bond or Levy	
Connection to higher ground – east of Avenue S/Wahanna Road	Medium	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	
Path connecting US 101	Long	Local Improvement District	New Park System

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 <sup>th</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 <sup>rd</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge
and Wahanna in vicinity of 15 <sup>th</sup> Avenue		Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	Development Charge
Extension of shared use path along US 101 from Avenue P to Avenue U	Short	Local Improvement District Bond or Levy City Urban Renewal Area	
Extension of shared use path along US 101 from north city limits to 12 <sup>th</sup> Avenue	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program Local Improvement District Bond or Levy City Urban Renewal Area	

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 <sup>th</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 <sup>rd</sup> Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge

TABLE 10: TRANSIT RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Re-establish Trolley Bus Circulatory Route	Medium	ODOT STIP - Public Transportation Programs (Job Access Reverse Commute (JARC), Capital Investment) Transit System Advertising Transit Center Space Lease Local Improvement District Urban Renewal Area	Department of Energy Efficiency and Conservation Block Grant
Increase existing Bus service to 30 minute headways during the peak	Medium	ODOT STIP - Public Transportation Programs (JARC, New Freedom) Transit System Advertising Transit Center Space Lease	
Extend Route 101 service in the evenings	Short	ODOT STIP - Public Transportation Programs	

TABLE 10: TRANSIT RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Re-establish Trolley Bus Circulatory Route	Medium	<p>ODOT STIP</p> <p>- Public Transportation Programs (Job Access Reverse Commute (JARC), Capital Investment)</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p> <p>Local Improvement District</p> <p>Urban Renewal Area</p>	<p>Department of Energy Efficiency and Conservation Block Grant</p>
Increase existing Bus service to 30 minute headways during the peak	Medium	<p>ODOT STIP</p> <p>- Public Transportation Programs (JARC, New Freedom)</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
		<p>(JARC, New Freedom)</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
Provide service on Sundays	Short	<p>ODOT STIP</p> <p>- Public Transportation Programs (JARC, New Freedom)</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
Addition of Bus pullouts on US 101	Short	<p>ODOT Modernization</p> <p>ODOT TE Program</p>	
Addition of Bus Shelters	Short	<p>ODOT</p> <p>- Public Transportation Programs (Capital Investment)</p> <p>Livable Communities Grant</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
Relocate existing bus stop at US 101 and Broadway	Medium	<p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
Satellite Parking Areas	Medium	<p>ODOT STIP</p> <p>- Public Transportation Programs (JARC)</p> <p>ODOT Transportation Options Program</p> <p>City Tax Street Fund</p>	<p>Department of Energy Efficiency and Conservation Block Grant</p>

TABLE 10: TRANSIT RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Re-establish Trolley Bus Circulatory Route	Medium	ODOT STIP - Public Transportation Programs (Job Access Reverse Commute (JARC), Capital Investment) Transit System Advertising Transit Center Space Lease Local Improvement District Urban Renewal Area	Department of Energy Efficiency and Conservation Block Grant
Increase existing Bus service to 30 minute headways during the peak	Medium	ODOT STIP - Public Transportation Programs (JARC, New Freedom) Transit System Advertising Transit Center Space Lease	
Transit Center	Short	ConnectOregon Program Transportation Housing and Community Development Grant Livable Communities Grant ODOT Public Transit Programs (Capital Investment)	Transit Center Space Lease National Infrastructure Innovation and Finance Fund Greening Rural Oregon – Transit Consortium



## **Attachment A: Roadway Cost Assumptions**

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**CH2M HILL**  
**SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE SUMMARY**

<b>PROJECT:</b> Seaside TSP	<b>DATE:</b>	<b>SHEET:</b>
<b>DESIGN LEVEL:</b> Conceptual Level Estimates	3/19/2010	1 of 1

ALTERNATIVE	IMPROVEMENT	PROJECT COST
N1a	Intersection 24th/L&C Rd./Hwy101 Option A (N1a)	No Further Consideration
N1b	Intersection 24th/L&C Rd./Hwy101 Option B (N1b)	No Further Consideration
N1c P1	Intersection 24th/L&C Rd./Hwy101 Option C (N1c) Phase 1	\$ 15,741,000
N1c P2	Intersection 24th/L&C Rd./Hwy101 Option C (N1c) Phase 2	\$ 6,663,000
N1d	Hwy 101 Bridge No. 01035 Seismic Retrofit (N1d)	No Further Consideration
N2	Intersection L&C Rd. & Wahana Rd. (N2)	\$ 30,000
N4	Wahanna Road Cross Section (N4) w/ Revised Cross Sections	\$ 6,678,000
N5	Intersection 12th Ave. & Hwy 101 (N5)	\$ 1,314,000
C6	F & G Realignment (C6)	\$ 3,352,000
C7	Hwy 101 Widening; Ave. G to Broadway (C7)	\$ 5,456,000
C8	Intersection Broadway & Hwy 101 (C8)	\$ 792,000
C9	Broadway Cross Section (C9)	\$ 506,000
S10a	Intersection Avenue U & Hwy 101 (S10a)	\$ 7,997,000
S10b	S. Holladay Dr. Extension (S10b)	\$ 8,005,000
S10c	S. Holladay Dr. Flyover (S10c)	\$ 9,911,000
S11a	Avenue S Cross Section Hwy 101 to Bridge (S11a)	\$ 3,459,000
S11b	Avenue S Cross Section Bridge to Wahanna (S11b)	\$ 2,268,000
S12	Wahanna Road Extension (S12)	\$ 7,396,000
		\$ 79,568,000

\* Note: N=North, C=Center, S=South

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 24th/L&C Rd./Hwy101 Option A (N1a)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structures, Seismic Retrofit		LENGTH (MI.): 0.17	DATE 10/20/2009	NAME DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.13	\$129,090
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.69	\$251,160
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$11,200
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.13	\$37,180
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	8,370	\$2,511,000
17	Seismic Retrofit Bridges	SF	\$50	8,740	\$437,000
18	Walls	SF	\$70	5,820	\$407,400
<b>SUBTOTAL</b>					<b>\$4,084,030</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$102,100	
	TP & DT	3.0-8.0%	8.0%	\$326,700	
	Mobilization	8.0-10.0%	10.0%	\$408,400	
	Erosion Control	0.5-2.0%	2.0%	\$81,700	
	Contingency		40.0%	\$1,633,600	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$6,636,530</b>	
	Right-of-Way	LS	ALL	1	\$196,740
	Design Engineering			13.0%	\$862,700
	Construction Engineering			10.0%	\$663,700
<b>TOTAL PROJECT COST</b>				<b>\$8,360,000</b>	

**Assumptions:**

- No realignment of Hwy 101
- Extg. Hwy 101 Bridge No. 01035 seismically retrofit
- No widening of Hwy 101 Bridge No. 01035
- Lewis & Clark Road to be extended to Hwy 101 at 24th Ave. (New bridge across Neawanna Creek  
L=135', W=62')
- Extg. Lewis & Clark becomes one way NB, right turn only to Hwy 101 NB
- All roadway to be reconstructed or new, except Lewis & Clark NB from Wahanna to Hwy 101
- Wahanna to be realigned south of Lewis & Clark
- No permanent natural resources impacts assumed
- \$/SF ROW cost averaged from properties near project (2009 RMV assessed/property size)
- ROW costs include property and buildings

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 24th/L&C Rd./Hwy101 Option B (N1b)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.):	DATE	NAME	
		0.17	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.13	\$129,090
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.69	\$251,160
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$11,200
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.13	\$37,180
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	12,530	\$3,759,000
17	Seismic Retrofit Bridges	SF	\$50	8,740	\$437,000
18	Walls	SF	\$70	5,820	\$407,400
<b>SUBTOTAL</b>					<b>\$5,332,030</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$133,300	
	TP & DT	3.0-8.0%	8.0%	\$426,600	
	Mobilization	8.0-10.0%	10.0%	\$533,200	
	Erosion Control	0.5-2.0%	2.0%	\$106,600	
	Contingency		40.0%	\$2,132,800	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$8,664,530</b>	
	Right-of-Way	LS	ALL	1	\$196,740
	Design Engineering			13.0%	\$1,126,400
	Construction Engineering			10.0%	\$866,500
<b>TOTAL PROJECT COST</b>				<b>\$10,855,000</b>	

**Assumptions:**

- No realignment of Hwy 101
- Extg. Hwy 101 Bridge No. 01035 seismically retrofit
- Widen Hwy 101 Bridge No. 01035 to 62' total width (42' extg. width)
- Lewis & Clark Road to be extended to Hwy 101 at 24th Ave. (New bridge across Neawanna Creek  
L=135', W=62')
- Extg. Lewis & Clark becomes one way NB, right turn only to Hwy 101 NB
- All roadway to be reconstructed or new, except Lewis & Clark NB from Wahanna to Hwy 101
- Wahanna to be realigned south of Lewis & Clark
- No permanent natural resources impacts assumed
- \$/SF ROW cost averaged from properties near project (2009 RMV assessed/property size)
- ROW costs include property and buildings

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 24th/L&C Rd./Hwy101 Option C (N1c) Phase 1		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.):	DATE	NAME	
		0.19	3/19/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.19	\$188,670
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	1.21	\$619,520
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.35	\$127,400
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.19	\$54,340
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	21,250	\$6,375,000
17	Seismic Retrofit Bridges	SF	\$50	0	\$0
18	Walls	SF	\$70	3,000	\$210,000
<b>SUBTOTAL</b>					<b>\$7,874,930</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$196,900	
	TP & DT	3.0-8.0%	8.0%	\$630,000	
	Mobilization	8.0-10.0%	10.0%	\$787,500	
	Erosion Control	0.5-2.0%	2.0%	\$157,500	
	Contingency		40.0%	\$3,150,000	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$12,796,830</b>	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$1,663,600
	Construction Engineering			10.0%	\$1,279,700
<b>TOTAL PROJECT COST</b>				<b>\$15,741,000</b>	

**Assumptions:**

Hwy 101 Bridge No. 01035 will be reconstructed above the 100 year floodplain (L=250', W=85')  
Hwy 101 Reconstructed 500' north and south of bridge  
Lewis & Clark Road to be extended to Hwy 101 at 24th Ave. in Phase 2  
Lewis & Clark Road reconstructed north of Wahanna to meet new Hwy 101 grade  
All ROW impacts are assumed as part of P2. P1 can be constructed in extg. ROW.  
24th Ave. reconstructed to meet Hwy101 new grade.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 24th/L&C Rd./Hwy101 Option C (N1c) Phase 2			REFERENCE NAME/PHONE		SHEET
DESIGN LEVEL: Conceptual			503-235-5000		1 of 1
KIND OF WORK: Roadway, Drainage, Structures			LENGTH (MI.):	DATE	NAME
			0.19	3/19/2010	DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.13	\$129,090
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.69	\$251,160
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0.11	\$3,520
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	1.00	\$60,000
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.13	\$37,180
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	8,370	\$2,511,000
17	Seismic Retrofit Bridges	SF	\$50	0	\$0
18	Walls	SF	\$70	1,840	\$128,800
<b>SUBTOTAL</b>					<b>\$3,120,750</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$78,000
	TP & DT	3.0-8.0%	8.0%	\$249,700
	Mobilization	8.0-10.0%	10.0%	\$312,100
	Erosion Control	0.5-2.0%	2.0%	\$62,400
	Contingency		40.0%	\$1,248,300
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
<b>TOTAL CONSTRUCTION COST</b>				<b>\$5,071,250</b>
	Right-of-Way	LS	ALL	1
	Design Engineering			13.0%
	Construction Engineering			10.0%
<b>TOTAL PROJECT COST</b>				<b>\$6,663,000</b>

**Assumptions:**

Lewis & Clark Road to be extended to Hwy 101 at 24th Ave. (New bridge across Neawanna Creek  
L=135', W=62')

Extg. Lewis & Clark becomes one way NB, right turn only to Hwy 101 NB

All roadway to be reconstructed or new, except Lewis & Clark NB from Wahanna to Hwy 101  
Wahanna to be realigned south of Lewis & Clark

No permanent natural resources impacts assumed

ROW costs include property and filing costs. Cost information provided by ODOT.

Signal modifications at Hwy 101 & 24th for new L&C Rd. leg.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Hwy 101 Bridge No. 01035 Seismic Retrofit (N1d)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Bridge Seismic Retrofit		LENGTH (MI.):	DATE	NAME	
		0.17	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Seismic Retrofit Bridges	SF	\$50	8,740	\$437,000
18	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$437,000</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	0.0%	\$0
	TP & DT	3.0-8.0%	8.0%	\$35,000
	Mobilization	8.0-10.0%	10.0%	\$43,700
	Erosion Control	0.5-2.0%	2.0%	\$8,700
	Contingency		40.0%	\$174,800
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
<b>TOTAL CONSTRUCTION COST</b>				<b>\$699,200</b>
	Right-of-Way	LS	ALL	1
	Design Engineering			13.0%
	Construction Engineering			10.0%
<b>TOTAL PROJECT COST</b>				<b>\$860,000</b>

**Assumptions:**

Project is to seismically retrofit Hwy 101 Bridge No. 01035 only.  
Existing Bridge Length = 208'  
Existing Bridge Width = 42'

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection L&C Rd. & Wahana Rd. (N2)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0.00	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0.26	\$8,320
9	Signing	LS	\$6,600	1.00	\$6,600
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$14,920</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	0.0%	\$0	
	TP & DT	3.0-8.0%	8.0%	\$1,200	
	Mobilization	8.0-10.0%	10.0%	\$1,500	
	Erosion Control	0.5-2.0%	0.0%	\$0	
	Contingency		40.0%	\$6,000	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$23,620</b>	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$3,100
	Construction Engineering			10.0%	\$2,400
<b>TOTAL PROJECT COST</b>				<b>\$30,000</b>	

**Assumptions:**

- Revisions be striping and signing only, no new pavement needed
- Remaining unused pavement to be removed
- 1 new stop sign, 3 new directional signs, and 6 new street name signs assumed

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: 12th Street Cross Section (N3)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$0</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	1.0%	\$0
	TP & DT	3.0-8.0%	3.0%	\$0
	Mobilization	8.0-10.0%	8.0%	\$0
	Erosion Control	0.5-2.0%	50.0%	\$0
	Contingency		40.0%	\$0
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2020	\$0
<b>TOTAL CONSTRUCTION COST</b>				<b>\$0</b>
	Right-of-Way	LS	ALL	1
	Design Engineering			13.0%
	Construction Engineering			10.0%
<b>TOTAL PROJECT COST</b>				<b>\$0</b>

Assumptions:



CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Wahanna Road Cross Section (N4) w/ Revised Cross Sections		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0	3/1/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$1,100,000	1.08	\$1,188,000
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.62	\$225,680
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	3.45	\$493,350
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.89	\$480,600
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	3	\$110,400
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	1.08	\$308,880
15	Landscaping	Mi.	\$250,000	1.08	\$270,000
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$3,076,910</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$76,900	
	TP & DT	3.0-8.0%	8.0%	\$246,200	
	Mobilization	8.0-10.0%	10.0%	\$307,700	
	Erosion Control	0.5-2.0%	2.0%	\$61,500	
	Contingency		40.0%	\$1,230,800	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$5,000,010</b>	
	Right-of-Way	LS	ALL	1	\$527,120
	Design Engineering			13.0%	\$650,000
	Construction Engineering			10.0%	\$500,000
<b>TOTAL PROJECT COST</b>				<b>\$6,678,000</b>	

**Assumptions:**

- 39' cross section (2-10' lanes, curb westside only, 10' path/sidewalk, 6' eastside shoulder) from L&C Rd. to S. Shore Terrace.
- 45' cross section (2-10' lanes, 2-5' bike, 5' sidewalk eastside and 10' path/sidewalk westside) from S. Shore Terrace to Broadway.
- 56' cross section (2-13' lanes, 10' center turn lane, and 2-10' path/sidewalk each side) from Broadway to Spruce Drive.
- 46' cross section (2-10' lanes, 5' bike lanes, 10' path/sidewalk west and 6' sidewalk east) from from Spruce Drive to Ave. S.
- Existing roadway width (edge of pavement to edge of pavement) varies from 24' to 36' width
- Assumes existing roadway width resurfacing (overlay) with 20% reconstruction
- Widening will be to one side along corridor where existing curblines exist
- Assumes no structures impacted from corridor improvements and widening
- \$/SF cost averaged from several properties along corridor (2009 RMV assessed/property size)
- ROW costs include property acquisition only

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 12th Ave. & Hwy 101 (N5)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):		DATE	NAME
		0.08		3/19/2010	DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.08	\$79,440
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.07	\$35,840
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.07	\$25,480
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.15	\$42,900
15	Landscaping	Mi.	\$250,000	0.15	\$37,500
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$521,160</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$13,000	
	TP & DT	3.0-8.0%	8.0%	\$41,700	
	Mobilization	8.0-10.0%	10.0%	\$52,100	
	Erosion Control	0.5-2.0%	2.0%	\$10,400	
	Contingency		40.0%	\$208,500	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$846,860</b>	
	Right-of-Way	LS	ALL	1	\$272,000
	Design Engineering			13.0%	\$110,100
	Construction Engineering			10.0%	\$84,700
<b>TOTAL PROJECT COST</b>				<b>\$1,314,000</b>	

**Assumptions:**

- 200' Right turn lanes all legs (100' storage + 100' taper), 1/2 length to Hwy 101 and 1/2 to 12th Ave.
- 15' turn lane width on Hwy 101 (ODOT Std.), 14' width on 12th Ave.
- New Signal for single intersection
- Illumination and landscaping included
- ROW acq. = turn lane width + 1/2 width for taper \* length
- \$/SF cost averaged from 4 properties near intersection (2009 RMV assessed/property size)
- ROW costs include property, buildings, filing costs, and relocation costs.
- All ROW impacts are to SW, SE, and NE intersection corners. No impacts to NW property assumed.
- Access maintained by 15' ROW acquisition from 13th Avenue.
- All widening on 12th Ave. west of Hwy 101 are to the south side of the street.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: F & G Realignment (C6)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Signals		LENGTH (MI.):	DATE	NAME	
		0.15	3/19/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.15	\$148,950
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.32	\$163,840
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.57	\$207,480
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.15	\$42,900
15	Landscaping	Mi.	\$250,000	0.15	\$37,500
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$900,670</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$22,500
	TP & DT	3.0-8.0%	8.0%	\$72,100
	Mobilization	8.0-10.0%	10.0%	\$90,100
	Erosion Control	0.5-2.0%	2.0%	\$18,000
	Contingency		40.0%	\$360,300
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
<b>TOTAL CONSTRUCTION COST</b>				<b>\$1,463,670</b>
	Right-of-Way			
	Total (Eastside Impacts)	LS	ALL	\$1,551,000
	Design Engineering		13.0%	\$190,300
	Construction Engineering		10.0%	\$146,400
<b>TOTAL PROJECT COST</b>				<b>\$3,352,000</b>

**Assumptions:**

- 500' 3-L reconstruction along Hwy 101 (10" AC/14" Agg)
- 900' 3-L reconstruction along Ave F & Ave G (6" AC/12" Agg)
- New Signal for single intersection
- Illumination and landscaping included
- Assumes average 30' ROW needed for 1/2 length of Ave F & Ave G realignment
- \$/SF cost averaged from properties near intersection (2009 RMV assessed/property size)
- \$/EA for structures averaged from properties near intersection (2009 RMV assessed)
- ROW costs include property, buildings, filing costs, and relocation costs. Total costs based on information provided by ODOT
- Highway 101 widening costs are included elsewhere however as part of realigning Avenue F and Avenue G, some reconstruction of Hwy 101 is required. Those costs are included here.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Hwy 101 Widening; Ave. G to Broadway (C7)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Signals		LENGTH (MI.): 0.43		DATE 3/2/2010	NAME DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.70	\$695,100
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	2.24	\$1,146,880
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	1.00	\$60,000
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.43	\$122,980
15	Landscaping	Mi.	\$250,000	0.27	\$67,500
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	54	\$3,780
<b>SUBTOTAL</b>					<b>\$2,396,240</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$59,900
	TP & DT	3.0-8.0%	8.0%	\$191,700
	Mobilization	8.0-10.0%	10.0%	\$239,600
	Erosion Control	0.5-2.0%	2.0%	\$47,900
	Contingency		40.0%	\$958,500
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
<b>TOTAL CONSTRUCTION COST</b>				<b>\$3,893,840</b>
	Right-of-Way			
	Total (Eastside Impacts)	LS	ALL	\$665,812
	Design Engineering		13.0%	\$506,200
	Construction Engineering		10.0%	\$389,400
<b>TOTAL PROJECT COST (Eastside Impacts)</b>				<b>\$5,456,000</b>

**Assumptions:**

- 1,850' length 4-L w/ raised median (ODOT HDM Table 8-4)
- 200' north and south, taper from 4-L w/median to extg. 3-L section
- 1 new signal assumed at F&G, signal modification at Broadway
- Widening to occur on eastside of Hwy 101 to minimize building impacts
- \$/SF cost averaged Ave F&G and Broadway Intersection Estimates
- ROW costs include property and buildings but do not include relocation
- 12' lanes widths assumed for per lane mile estimate
- Cost are for widening Hwy 101 only. Intersection improvements for Broadway and Ave. F&G are included elsewhere.
- Landscaping included for 4-L length minus 400' for left turn pockets at Broadway and Ave. F.
- Additional Curb/Gutter length added for raised median

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection Broadway & Hwy 101 (C8)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Signals, Illumination		LENGTH (MI.):	DATE	NAME	
		0.04	3/19/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.04	\$39,720
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.04	\$14,560
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.04	\$11,440
15	Landscaping	Mi.	\$250,000	0.04	\$10,000
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$375,720</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$9,400	
	TP & DT	3.0-8.0%	8.0%	\$30,100	
	Mobilization	8.0-10.0%	10.0%	\$37,600	
	Erosion Control	0.5-2.0%	2.0%	\$7,500	
	Contingency		40.0%	\$150,300	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$610,620</b>	
	Right-of-Way	LS	ALL	1	\$40,000
	Design Engineering			13.0%	\$79,400
	Construction Engineering			10.0%	\$61,100
<b>TOTAL PROJECT COST</b>				<b>\$792,000</b>	

**Assumptions:**

- Any widening on Hwy 101 will be covered under a separate project
- New signal will be installed at locations for future Hwy 101 widening
- 6' widening needed on Broadway
- No ROW needed on east leg. 6' ROW needed for widening on west leg.
- ROW costs average assessed (2009 RMV) costs for adjacent (affected) properties
- ROW costs include acquisition and filing costs and are based on information provided by ODOT

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Broadway Cross Section (C9)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0.39	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.08	\$79,440
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.10	\$36,400
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0.00	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	1.30	\$41,600
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.29	\$82,940
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$150	0	\$0
17	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$240,380</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$6,000	
	TP & DT	3.0-8.0%	3.0%	\$7,200	
	Mobilization	8.0-10.0%	10.0%	\$24,000	
	Erosion Control	0.5-2.0%	2.0%	\$4,800	
	Contingency		40.0%	\$96,200	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$378,580</b>	
	Right-of-Way	LS	ALL	1	\$39,680
	Design Engineering			13.0%	\$49,200
	Construction Engineering			10.0%	\$37,900
<b>TOTAL PROJECT COST</b>				<b>\$506,000</b>	

**Assumptions:**

- 52' back of walk to back of walk cross section assumed
- Widening will only be between the bridge and Wahanna
- Width from Hwy 101 to bridge is sufficient for cross section
- No work to the existing bridge is assumed
- ROW costs average assessed (2009 RMV) costs for adjacent (affected) properties
- ROW costs include property and buildings
- Curb cost include additional length for sidewalk improvements, south side from Hwy 101 to the bridge
- Restriping assumed for the entire road segment (Hwy 101 to Wahanna)
- Includes 3/4 length illumination retrofit (~1/4 of length has existing illumination)

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection Avenue U & Hwy 101 (S10a)		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0.06	11/23/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.06	\$59,580
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.06	\$21,840
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$5,120
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.06	\$17,160
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	11,375	\$3,412,500
17	Walls	SF	\$70	2,640	\$184,800
<b>SUBTOTAL</b>					<b>\$4,001,000</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$100,000
	TP & DT	3.0-8.0%	8.0%	\$320,100
	Mobilization	8.0-10.0%	10.0%	\$400,100
	Erosion Control	0.5-2.0%	2.0%	\$80,000
	Contingency		40.0%	\$1,600,400
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
<b>TOTAL CONSTRUCTION COST</b>				<b>\$6,501,600</b>
	Right-of-Way	LS	ALL	1
	Design Engineering			13.0%
	Construction Engineering			10.0%
<b>TOTAL PROJECT COST</b>				<b>\$7,997,000</b>

**Assumptions:**

- Bridge reconstruction assumend, 3-L (60' width)
- Bridge reconstruction assumed at grade. No costs included to raise bridge if regulations require.
- Widening west of bridge to match extg at S. Grove Street (30' extg to 60')
- All widening is to north side, no impacts to green space
- Illumination to be included
- Signal at Ave. U and Hwy 101 to be modified for widening
- Extg roadway to remain to be re-striped
- Wall assumed for sidewalk fill north side west of bridge. No impacts to parking lot (avg. h=4')
- No additional ROW needed
- Traffic from Avenue U EB to Hwy 101 SB merges into SB lane (no separate merge lane included)

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: S. Holladay Dr. Extension (S10b)		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.):	DATE	NAME	
		0.63	3/19/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.63	\$625,590
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	2.00	\$728,000
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$8	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	2.00	\$600,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.63	\$180,180
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	1,000	\$70,000
<b>SUBTOTAL</b>					<b>\$2,203,770</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$55,100	
	TP & DT	3.0-8.0%	8.0%	\$176,300	
	Mobilization	8.0-10.0%	10.0%	\$220,400	
	Erosion Control	0.5-2.0%	2.0%	\$44,100	
	Contingency		40.0%	\$881,500	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$3,581,170</b>	
	Right-of-Way	LS	ALL	1	\$3,600,000
	Design Engineering			13.0%	\$465,600
	Construction Engineering			10.0%	\$358,100
<b>TOTAL PROJECT COST</b>				<b>\$8,005,000</b>	

**Assumptions:**

Holladay Drive Extension from Hwy 101 at S. Holladay Driver to Hwy. 101 at Ave. U  
 2-L cross section 6' s/w, 6' bike, 12' lanes plus 5' to new ROW  
 Widens to 3-L at Hwy 101 (south end intersection)  
 New signal at Avenue U and Hwy 101, and Avenue S. and Hwy 101  
 200' length wall, average 5' height along pond (assumes no impacts)  
 At grade intersection at extg. S. Hollady Drive and Hwy 101  
 Alignment assumed to impact ROW along Holladay (removes structures)  
 7 structures total affected along entire alignment  
 150' inscribed diameter roundabout at Avenue S and Holladay included  
 \$/SF & Bldg. ROW cost averaged from properties near project (2009 RMV assessed/property size)  
 ROW costs include property and buildings and are 2/3 of Pac Dooley ROW costs



CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: S. Holladay Dr. Flyover (S10c)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.):		DATE	NAME
		0.19		11/23/2009	DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.17	\$168,810
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.52	\$189,280
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$8	15,250	\$122,000
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.19	\$54,340
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	4,800	\$1,440,000
17	Walls	SF	\$70	24,400	\$1,708,000
<b>SUBTOTAL</b>					<b>\$3,682,430</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$92,100	
	TP & DT	3.0-8.0%	8.0%	\$294,600	
	Mobilization	8.0-10.0%	10.0%	\$368,200	
	Erosion Control	0.5-2.0%	2.0%	\$73,600	
	Contingency		40.0%	\$1,473,000	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$5,983,930</b>	
	Right-of-Way	LS	ALL	1	\$2,550,000
	Design Engineering			13.0%	\$777,900
	Construction Engineering			10.0%	\$598,400
<b>TOTAL PROJECT COST</b>				<b>\$9,911,000</b>	

**Assumptions:**

Holladay Street over Hwy 101, 17.5' clearance, 8' structure depth, 10% grade max.  
 2-L cross section 6' s/w, 6' bike, 12' lanes plus 5' to new ROW  
 25' wings walls approaching bridge, 19' end wall under bridge  
 Alignment assumed to impact ROW along Holladay (removes structures)  
 3 structures total affected along entire alignment  
 Structure is single span, 100' length, 48' wide  
 \$/SF & Bldg. ROW cost averaged from properties near project (2009 RMV assessed/property size)  
 ROW costs include acquisition and filing costs as well as relocation costs and are based on information provided by ODOT.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Avenue S Cross Section Hwy 101 to Bridge (S11a)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structure		LENGTH (MI.):	DATE	NAME	
		0.28	11/23/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.28	\$278,040
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	1.10	\$400,400
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.28	\$80,080
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$200	0	\$0
17	Walls	SF	\$70	12,560	\$879,200
<b>SUBTOTAL</b>					<b>\$1,637,720</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$40,900	
	TP & DT	3.0-8.0%	8.0%	\$131,000	
	Mobilization	8.0-10.0%	10.0%	\$163,800	
	Erosion Control	0.5-2.0%	2.0%	\$32,800	
	Contingency		40.0%	\$655,100	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$2,661,320</b>	
	Right-of-Way	LS	ALL	1	\$184,632
	Design Engineering			13.0%	\$346,000
	Construction Engineering			10.0%	\$266,100
<b>TOTAL PROJECT COST</b>				<b>\$3,459,000</b>	

**Assumptions:**

- 48' 2-L Cross Section (6' walks, 6' bike, 12' lanes) Hwy 101 to westside of the bridge
- No signal improvements at Hwy 101
- Extg. rdwy width is 26'
- Extg. timber wall southside of roadway, west of bridge to be replaced (assumed h=10')
- Extg. bridge sufficient, no reconstruction assumed
- All extg roadway and curb is replaced
- \$/SF ROW cost averaged from properties near project (2009 RMV assessed/property size)
- ROW costs include property and buildings

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Avenue S Cross Section Bridge to Wahanna (S11b)		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Roadway, Drainage, Structure		LENGTH (MI.):	DATE	NAME	
		0.23	11/23/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.23	\$228,390
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.77	\$280,280
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.23	\$65,780
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$200	0	\$0
17	Walls	SF	\$70	8,000	\$560,000
<b>SUBTOTAL</b>					<b>\$1,134,450</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$28,400	
	TP & DT	3.0-8.0%	8.0%	\$90,800	
	Mobilization	8.0-10.0%	10.0%	\$113,400	
	Erosion Control	0.5-2.0%	2.0%	\$22,700	
	Contingency		40.0%	\$453,800	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$1,843,550</b>	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$239,700
	Construction Engineering			10.0%	\$184,400
<b>TOTAL PROJECT COST</b>				<b>\$2,268,000</b>	

**Assumptions:**

40' 2-L cross section across bridge and along sensitive area (~400'), 46' width then to Wahana Rd.  
 Assumes 400', 22' impacts to natural resources area  
 Extg. rdwy width is 26'  
 Walls will be installed through NRA to minimize impacts  
 All extg roadway and curb is replaced  
 No additional ROW needed

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Wahanna Road Extension (S12)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		1.53	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	1.53	\$1,519,290
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	4.60	\$1,674,400
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	1.53	\$437,580
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$3,631,270</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$90,800	
	TP & DT	3.0-8.0%	5.0%	\$181,600	
	Mobilization	8.0-10.0%	10.0%	\$363,100	
	Erosion Control	0.5-2.0%	2.0%	\$72,600	
	Contingency		40.0%	\$1,452,500	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$5,791,870</b>	
	Right-of-Way	LS	ALL	1	\$271,800
	Design Engineering			13.0%	\$752,900
	Construction Engineering			10.0%	\$579,200
<b>TOTAL PROJECT COST</b>				<b>\$7,396,000</b>	

**Assumptions:**

- Roadway to follow contours to minimize cut/fill
- 48' cross-section assumed (6' s/w, 6' bike, 12' lanes)
- Illumination assumed along entire corridor
- Curb and gutter assumed for entire corridor
- New signal to be installed at Beerman Cr. Rd. and Hwy 101
- All extg. roadway will be reconstructed including 1,500' along Beerman Cr. Rd.
- General cut/fill assumption of 2' depth sufficient
- ROW cost estimated by averaging 3 properties assessed value (2009 RMV) along corridor
- ROW costs include property and buildings
- TP&DT lower due to off alignment type work

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Hwy 101 Pedestrian Bridge Overcrossing Location 1		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0.23	3/8/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Path	Mile	\$135,000	0.23	\$31,050
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	5,200	\$52,000
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$200	1,920	\$384,000
17	Walls	SF	\$70	17,262	\$1,208,340
<b>SUBTOTAL</b>					<b>\$1,675,390</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.0%	\$33,500	
	TP & DT	3.0-8.0%	8.0%	\$134,000	
	Mobilization	8.0-10.0%	10.0%	\$167,500	
	Erosion Control	0.5-2.0%	0.5%	\$8,400	
	Contingency		40.0%	\$670,200	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$2,688,990</b>	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$349,600
	Construction Engineering			10.0%	\$268,900
<b>TOTAL PROJECT COST</b>				<b>\$3,308,000</b>	

**Assumptions:**

- 1-85' bridge, 12' wide across Hwy 101
- 1-75' bridge, 12' across Third Ave.
- Assumes varying height retaining walls along the pedestrian path.
- Max path grade at 6%
- 10' width path up to each bridge



## **Attachment B: Bicycle and Pedestrian Cost Assumptions**

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## Cost Opinions

This section summarizes planning level cost opinions associated with the recommended pedestrian and bicycle improvement projects. Cost opinions were established by similar Bicycle/Pedestrian Master Plans and experience in nearby communities. Table 1 shows cost opinions for elements of both bicycle and pedestrian improvement projects.

Table 1. Costs for Improvements Summary

Improvement	Unit	Planning-Level Cost Opinion	Notes
High-Visibility Crosswalks	LF	\$30	6' wide
ADA-Compliant Curb Ramps	EA	\$1,000	
Pedestrian-Actuated Push Buttons	EA	\$600	
Curb Extensions	EA	\$12,500	
Bicycle/Pedestrian bridge	SF	\$150	All estimates assume 12' bridge (\$1,800 LF)
Signed Bike Route (Low Traffic Roadway Treatment)	LF	\$1.33	Includes signage (\$250 ea) every 600' & pavement markings (\$50 ea) every 200' in either direction
Shared Lane Markings	LF	\$4.33	Includes signage (\$250 ea) every 600' & pavement markings (\$175 ea) every 200' in either direction
Bike Lane (High Traffic Roadway Treatment)	LF	\$22.33	Includes stripe removal (\$1.50 LF) of two lanes and re-striping (\$4.50) of four lanes, as well as signage (\$250 ea) every 600' & pavement markings (\$50 ea) every 200' in either direction
Shared Use Path	LF	\$31.72	12' path with 2' unpaved shoulders: Clear & Grub (SF): \$0.15 SF @ 16' 4" Aggregate base: \$0.60 SF @ 16' 3" Asphalt path: \$1.56 SF @ 12' Centerline stripe: \$1.00 LF
Sidewalk with Drainage and Curb & Gutter*	LF	\$92.78	7' wide sidewalk: Curb and Gutter: \$18.00 LF @ 10,560' Sidewalk: \$45.00 SY @ 7,040' 12" Storm Sewer Pipe, 10' deep (assumes ½ roadway): \$70.00 LF @ 2,640' Storm Manhole (assumes ½ roadway): \$2,800.00 EA @ 9 Standard Catch Basin: \$1,500.00 EA @ 18

\* Sidewalk estimates include half the cost of drainage, which consists of a sewer pipe and storm manholes running the length of the roadway in the center

The proposed pedestrian improvements in Seaside, including intersection and sidewalk improvements, total \$13,624,000 (in 2009 dollars. Does not include Wahanna improvements) while the bicycle improvements, including improvements on low traffic streets and on busier roadways, as well as shared use paths, total \$3,513,400 (Estimates do not include bicycle and pedestrian improvements on Wahanna). Together, bicycle and pedestrian improvements recommended for Seaside total \$17,137,400.

### Individual Project Cost Opinions

Table 2 through Table 6 list the recommended projects by category and include planning-level cost opinions. The cost opinions include engineering/ design (13 percent), contingency (40 percent) and construction management (10 percent) costs, which represent a proportion of the original project costs.

Table 2. Proposed Intersection Improvements

Project	Length <sup>20</sup>	Improvement Type	Cost Opinion <sup>21</sup>
US 101 at Wahanna	154	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$14,000
24th at US 101	100	High-visibility crosswalks	\$5,000
Lewis & Clark at Wahanna	150	High-visibility crosswalks, ADA-compliant curb ramps (6)	\$17,000
15th at US 101	160	High-visibility crosswalks	\$8,000
15th at creek	3,900	Bicycle/pedestrian bridge	\$954,000
15th at Wahanna	70	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
12th at Franklin	60	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$9,000
12th at Holladay	80	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
12th at US 101	206	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$14,000
12th at Wahanna	70	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
9th at US 101	160	High-visibility crosswalks	\$8,000
6th at US 101	160	High-visibility crosswalks	\$8,000
3rd at Necanicum River	2,940	Bicycle/pedestrian bridge	\$719,000
3rd at US 101	160	High-visibility crosswalks	\$8,000
1st at US 101	160	High-visibility crosswalks	\$8,000
Broadway at Holladay	80	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
Broadway at US 101	160	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$15,000
Broadway at Lincoln	60	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$9,000

<sup>20</sup> Intersection improvement lengths are based on roadway widths estimated from GoogleEarth aerials, assuming a crosswalk on both sides of the intersection with the major road.

<sup>21</sup> Planning level costs are rounded to the nearest \$1,000.

Project	Length <sup>20</sup>	Improvement Type	Cost Opinion <sup>21</sup>
Broadway E of Lincoln	30	High-visibility crosswalks, ADA-compliant curb ramps (2)	\$5,000
Broadway at Wahanna	130	High-visibility crosswalks, ADA-compliant curb ramps (8)	\$19,000
Avenue B at US 101	160	High-visibility crosswalks	\$8,000
Avenue F at US 101	160	High-visibility crosswalks, pedestrian refuge island	\$21,000
Avenue F at creek	2,640	Bicycle/pedestrian bridge	\$645,000
Avenue M at US 101	160	High-visibility crosswalks	\$8,000
Holladay at US 101	160	High-visibility crosswalks	\$4,000
Spruce at Wahanna	80	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
Avenue S at Necanicum River	1,596	Bicycle/pedestrian bridge	\$390,000
Avenue S at US 101	160	High-visibility crosswalks	\$8,000
Avenue U at Columbia	60	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$9,000
Avenue U at US 101	160	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$12,000

Table 3. Proposed Sidewalk Improvements

Project	From-To	Length	Cost Opinion <sup>22</sup>
Franklin	19th to Highland	1,613*	\$488,000
Franklin	Avenue C to Avenue G	700	\$106,000
Lincoln	Broadway to Avenue F	575*	\$174,000
17th	Holladay to US 101	600*	\$181,000
1st	The Prom to Downing St	451	\$68,000
Broadway	W of bridge to community center entrance	460	\$70,000
Avenue A/B	Holladay to US 101	440	\$67,000
Hilltop/Alder crest	Cedar/pathway to multi-use path	1,533*	\$464,000
Avenue G	The Prom to river	1,238*	\$374,000
Avenue G/Avenue F	River to US 101	637	\$96,000
Avenue F	US 101 to Creek	1,154*	\$349,000
Cooper/Alder	Wahanna to Reef Dr	335*	\$101,000
Lewis & Clark	Beach Dr to Columbia	233*	\$70,000
Avenue S	The Prom to river	1,150*	\$348,000
24th/Holladay	US 101 to High School	2,104*	\$636,000
Holladay	High School to 12th St	2,205	\$333,000
Wahanna**	24th/Lewis & Clark 200' N of Broadway	6,438	\$1,947,000
Wahanna**	200' N of Broadway to Spruce Dr	3,005	\$454,000
Wahanna**	Spruce Dr to Avenue S	967*	\$292,000
12th St	Promenade to Necanicum	1,134***	\$140,000
12th St	Necanicum to US 101	Move power poles (2)	\$3,000
12th St	Queen St to Wahanna	445*	\$135,000
Avenue S	US 101 to Wahanna	2,730*	\$826,000
US 101	MP 22.76 to 21.54 (NB)	6,442	\$974,000
US 101	MP 20.42 to 20.25 (NB)	898	\$136,000
US 101	MP 20.13 to 19.75 (NB)	2,006	\$303,000
US 101	MP 19.38 to 21.90 (SB)	7,182	\$1,086,000
US 101	MP 22.00 to 22.33 (SB)	940	\$142,000
Necanicum Drive	12th to 4th	1,892	\$286,000

\* Indicates sidewalks both sides of street

\*\* Wahanna cost estimates not included in totals

\*\*\* Sidewalk widening only

<sup>22</sup> Planning level costs are rounded to the nearest \$1,000.

Table 4. Signed Bike Routes on Low Traffic Roadways<sup>i</sup>

Project	From-To	Length	Cost Opinion
Franklin/9th/Downing/Columbia	19th to Highland	13,975	\$30,400
Franklin	Broadway to Avenue G	1,368	\$3,000
Lincoln	Broadway to Avenue F	1,195	\$2,600
17th	Holladay to US 101	959	\$2,100
15th	Holladay to US 101	650	\$1,400
1st	The Prom to US 101	2,519	\$5,500
Broadway	The Prom to US 101	2,378	\$5,200
Avenue A/Avenue B	The Prom to US 101	2,370	\$5,200
Hilltop/Aldercrest	Cedar/pathway to multi-use path	1,572	\$3,400
Avenue G/Avenue F	The Prom to creek	3,636	\$7,900
Cooper/Alder	Wahanna to Spruce	1,991	\$4,300
Lewis & Clark	The Prom to Columbia	475	\$1,000
Avenue S	The Prom to US 101	1,521	\$3,300
Ocean Vista Dr/Sunset Blvd	Beach Dr to Highland Dr	2,168	\$4,700

Table 5. Improvements on Busier Roadways

Project	From-To	Length	Cost Opinion	Facility Type
24th/Holladay	US 101/Wahanna to US 101/Avenue S	10,340	\$376,000	Bike Lane
Wahanna	24th/Lewis & Clark to Avenue S	6,407	\$233,000	Bike Lane
12th	The Prom to Wahanna	3,903*	\$28,000	Shared Lane Markings
Avenue S	US 101 to Wahanna	3,813	\$139,000	Bike Lane
Avenue U	The Prom to US 101	1,910	\$70,000	Bike Lane

Table 6. Shared Use Pathways

Project	From-To	Length	Cost Opinion
The Prom	Avenue U to Ocean Vista	1,577	\$82,000
US 101	North city limits to 7th	7,377	\$381,000
US 101	1st to Avenue G	3,520	\$182,000
US 101	Avenue M to Avenue U	2,050	\$105,992
Wahanna	Lewis & Clark/US 101 pathway to Broadway	6,423	\$332,000
High ground connector pathway	Lewis & Clark to Avenue S	13,295	\$687,000
15th	US 101 to Wahanna	1,117	\$58,000
12th extension	Wahanna to high ground connector pathway	1,881	\$97,000
Broadway extension/Hilltop	Wahanna to Avenue F extension	2,563	\$133,000
Avenue F extension	creek to high ground connector pathway	2,122	\$110,000
Avenue S/Wahanna/Spruce	US 101 to high ground connector pathway	5,725	\$296,000

Table 7. Costs for Sidewalk, Drainage, Curb and Gutter

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Standard Concrete Curb and Gutter	LF	5,280	\$18.00	\$95,040.00	
Sidewalk	SY	3,520	\$45.00	\$158,400.00	6' Wide
12 Inch Storm Sewer Pipe, 10' deep	LF	2,640	\$70.00	\$369,600.00	Storm System Pipe, Including Trenching/Backfill, Assuming Half Roadway
Storm Manhole	EA	9	\$2,800.00	\$24,640.00	Every 300' Assuming Half Roadway
Standard Catch Basin	EA	18	\$1,500.00	\$27,000.00	Every 300'
Cost per mile:				\$489,880.00	
				0	
Construction Cost per LF:				\$92.78	

Table 8. Costs for Low Traffic Roadway – Signed Bike Route

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Warning sign	EA	18	\$250.00	\$4,400.00	Every 600' each direction
Pavement Marking	EA	53	\$50.00	\$2,640.00	Every 200' each direction
Cost per mile:				\$7,040.00	
Construction Cost per LF:				\$1.33	

Table 9. Costs for High Traffic Roadway – Shared Lane Marking

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Shared Lane Markings	EA	105.6	\$175.00	\$18,480.00	Every 100 feet
Custom Signs	EA	17.6	\$250.00	\$4,400.00	Two per block (600' blocks)
Cost per Mile				\$22,880.00	
Construction Cost per LF:				\$0.00	\$4.33

Table 10. Costs for High Traffic Roadway – Bike Lane

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Striping Removal	LF	10,560	\$1.50	\$15,840.00	Assumes 2 lanes
Re-striping	LF	21,120	\$4.50	\$95,040.00	2 lanes w/ bike lanes
Pavement markings	EA	53	\$50.00	\$2,640.00	Every 200' each direction
Signage	EA	18	\$250.00	\$4,400.00	Every 600' each direction
Cost per Mile				\$117,920.00	
Construction Cost per LF:			\$0.00	\$22.33	

Table 11. Costs for Shared Use Path

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Clear & Grub	SF	84,480	\$0.15	\$12,672.00	
4" Aggregate base	SF	84,480	\$0.60	\$50,688.00	
Asphalt Path-3" Depth	SF	63,360	\$1.56	\$98,841.60	
Centerline stripe	LF	5,280	\$1.00	\$5,280.00	
Cost per mile:				\$167,481.60	
Construction Cost per LF:				\$31.72	





## Attachment C: Transit Cost Assumptions

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## Seaside TSP Transit Recommendation Service Estimate

### 1) Trolley Bus

- Assume purchase of trolley bus is required. Each bus would cost approximately \$225,000, per Sunset Empire Transportation District direction.
- Assume all stops will need to be constructed, for a total of 16 stops.
- Average cost to construct each stop is assumed at \$7,000. This includes cost of curb reconstruction, bench, and solar shelter installation.
- Assume two trolley buses in the field at a time, with one hour head-ways.
- Assume the trolley buses would operate between 8:00 AM and 8:00 PM, for 12 hours, 6 days a week.
- Average operational cost of each bus is \$55/hr, per Sunset Empire Transportation District direction.
- Assume each stop will have a solar shelter at it. Each solar shelter will cost \$5,800 (not including installation costs), based on discussions with transit district staff.

### Start Up Costs

Purchase of Trolley Bus:  $(\$225,000)(2) = \$450,000$

Construction of Bus Stops:  $(\$7,000/\text{stop})(16 \text{ stops}) = \$112,000$

Purchase of Shelters:  $(16 \text{ stops})(\$5,800/\text{shelter})(1 \text{ shelter}/\text{stop}) = \$92,800$

20% Contingency = \$130,960

**Total Start Up Costs = \$785,760**

### Annual Operating Costs

Labor Costs:  $(\$55.00/\text{hr}/\text{trolley bus})(12 \text{ hours}/\text{day})(2 \text{ trolley buses})(6 \text{ days}/\text{wk})$

$(52 \text{ weeks}/\text{yr}) = \$411,840$

20% Contingency = \$82,368

**Total Annual Operating Costs = \$494,208**

### 2) Increasing existing bus service to 30 Minute Peak Headways on Weekdays

- Involves upgrades to Routes 20 and 101
- Route 20:
  - Currently operating at one hour headways, 6:30 AM to 7:00 PM.
  - There are currently two buses in the field at a time during weekday operations. Assume 30 minute headway would require doubling of number of buses (requiring an additional two buses).
  - Assume doubling of buses will require the additional buses to be purchased (2 buses total, \$600,000 per bus).
  - Average operating costs of \$55/hr/bus (cost provided by Sunset Empire Transportation District) for a duration of 5 hours (7-10 a.m. and 4-6 p.m.). Assume the route operates 5 days a week, annually.
- Route 101:
  - Currently operating at one hour headways, 6:30 AM to 8:45 PM.

- There are currently two buses in the field at a time during weekday operations. Assume 30 minute headway would require doubling of number of buses (requiring an additional two buses).
- Assume doubling of buses will require the additional buses to be purchased (2 buses total, \$600,000 per bus).
- Average operating costs of \$55/hr/bus (cost provided by Sunset Empire Transportation District) over 5 hours (peak times are 7-10 a.m. and 4-6 p.m.). Assume operates 5 days a week.

#### Start Up Costs

Rt 20, Purchase Buses: (2 buses)(\$600,000/bus) = \$1,200,000

Rt 101, Purchase Buses: (2 buses)(\$600,000/bus) = \$1,200,000

20% Contingency Cost: \$480,000

**Total Start Up Costs = \$2,880,000**

#### Additional Annual Operating Costs

Rt 20, Labor Costs: (\$55.00/hr/bus)(5 hours/day)(2 buses)(5 days/wk)  
(52 wk/yr) = \$ 143,000

Rt 101, Labor Costs: (\$55.00/hr/bus)(5 hours/day)(2 buses)(5 days/wk)  
(52 wk/yr) = \$ 143,000

20% Contingency Cost: \$57,200

**Total Additional Annual Operating Costs = \$343,200**

### **3) Extend Astoria Service in Evenings**

- Includes upgrades to Route 101
- Assume no purchase of buses necessary
- Assume one hour headways starting at 8:00 PM.
- Service currently runs until 8:00 PM, assume additional service until 10:00 PM for two more hours of service.
- At 8:00 PM currently two buses in the field on weekdays and one bus in the field on Saturdays. Number of buses to remain the same for additional service hours.
- Assume drivers average operating cost of \$55/hr/bus (per Sunset Empire Transportation District).

#### Additional Annual Operating Costs

Weekday Costs: (\$55.00/hr/bus)(2 hrs)(2 buses)(5 day/wk)(52 wk/yr) = \$57,200

Weekend Costs: (\$55.00/hr/bus)(2 hrs)(1 buses)(1 day/wk)(52 wk/yr) = \$5,720

20% Contingency Costs: \$12,584

**Total Additional Annual Operating Costs = \$75,504**

#### **4) Provide Service on Sundays**

- Involves upgrades to Routes 20 and 101
- Assume one hour headways on Sundays.
- Assume stops visited on Sunday are the same as the other days of the week.
- Assume average operating cost of \$55/hr/bus (per Sunset Empire Transportation District).
- Route 20:
  - 6:30 AM to 7:00 PM for 13 hours of operation.
  - Assume 1 bus will be in route at a time on Sundays.
- Route 101:
  - 6:30 AM to 8:45 PM, for 14 hours of operation.
  - Assume 1 bus will be in route at a time on Sundays.

#### **Additional Annual Operating Cost**

Rt 20, Operating Costs:  $(\$55.00/\text{hr}/\text{bus})(13 \text{ hours}/\text{day})(1 \text{ bus})(1 \text{ day}/\text{wk})$   
(52 wk/yr) = \$37,180

Rt 101, Operating Costs:  $(\$55.00/\text{hr}/\text{bus})(14 \text{ hours}/\text{day})(1 \text{ bus})(1 \text{ day}/\text{wk})$   
(52 wk/yr) = \$40,040

20% Contingency Costs: \$15,444

***Total Additional Annual Operating Cost = \$92,664***

#### **5. Addition of Bus Pullouts**

- Assume addition of 4 bus pullouts along US 101
- Assume bus pullout length of 60 feet each
- Does not include costs associated with: ROW purchase, landscaping, signing, illumination
- Assumes 15' wide pullout

#### **Project Costs**

***Total Additional Annual Operating Cost = \$152,000***

See Transit Service Estimates spreadsheet for detail information.

#### **6. Addition of Shelters**

- Assume each stop will have a shelter at it, with an average cost of \$5,800 per solar shelter.
- Assume 10 stops
- Does not include installation cost for shelters.

#### **Start Up Costs**

Purchase of Shelters:  $(10 \text{ stops})(\$5,800/\text{shelter})(1 \text{ shelter}/\text{stop})=\$58,000$

20% Contingency: \$11,600

***Total Start Up Costs = \$69,600***

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Re-establish Trolley Bus circulatory route		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Bus purchase, construction of stops, annual operating costs		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Trolley Bus Purchase	EA	\$225,000	2	\$450,000
2	Construction of Bus Stops	EA	\$7,000	16	\$112,000
3	Purchase Trolley Shelters	EA	\$5,800	16	\$92,800
<b>SUBTOTAL</b>					<b>\$654,800</b>
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Operating Costs		\$55		\$411,840
<b>SUBTOTAL</b>					<b>\$411,840</b>
Contingency Costs					
Start Up Costs				20%	\$785,760
Annual Operating Costs				20%	\$494,208
TOTAL PROJECT COST					
				<b>START UP COSTS</b>	<b>\$785,760</b>
				<b>ANNUAL OPERATING COSTS</b>	<b>\$494,208</b>

**Assumptions:**

Purchase of trolley bus is \$225,000, per SETD.

Assume all stops will need to be constructed, for a total of 16 stops.

Average cost to construct each stop is assumed at \$7,000. This includes cost of curb reconstruction, bench, and solar shelter installation.

Assume 2 trolley buses in the field at a time, with one hour head-ways.

Assume the trolley bus would operate between 8:00 AM and 8:00 PM, for 12 hours, 6 days per week, annually.

Average \$55.00/hr/trolley bus operational costs, per SETD

Assume each stop will have a solar shelter at it, with an average cost of \$5,800 per shelter (cost provided by SETD, does not include installation costs).

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Increase existing bus service to 30 minute peak headways on weekdays		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Bus purchase, annual operating costs		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Route 20, Bus Purchase	EA	\$350,000	2	\$700,000
2	Route 101, Bus Purchase	EA	\$350,000	2	\$700,000
<b>SUBTOTAL</b>					<b>\$1,400,000</b>
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Route 20		\$55		\$143,000
2	Route 101		\$55		\$143,000
<b>SUBTOTAL</b>					<b>\$286,000</b>
Contingency Costs					
Start Up Costs				20%	\$1,680,000
Annual Operating Costs				20%	\$343,200
TOTAL PROJECT COST					
				<b>START UP COSTS</b>	<b>\$1,680,000</b>
				<b>ANNUAL OPERATING COSTS</b>	<b>\$343,200</b>

**Assumptions:**

Involves upgrades to Routes 20 and 101

Route 20:

Currently operating at one hour headways, 6:30 AM to 7:00 PM.

There are currently two buses in the field at a time during weekday operations. Assume 30 minute headway requires doubling of number of buses (an additional two buses).

Assume additional buses will need to be purchased (2 buses total, approximately \$350,000 per hybrid electric bus, per STED).

Operating costs of \$55/hr/bus (per SETD) for 5 hours. Assume operates 5 days per week, annually.

Route 101:

Currently operating at one hour headways, 6:30 AM to 8:45 PM.

There are currently two buses in the field at a time during weekday operations.

Assume 30 minute headway requires doubling of number of buses (an additional two buses).

Assume doubling of buses will require the additional buses to be purchased (2 buses total, \$350,000 per bus, per STED).

Assume operating costs of \$55.00/hr/bus (per SETD) for 5 hours.

Assume operates 5 days per week, annually

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Extend Astoria Service in Evenings		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Annual operating costs		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
<b>SUBTOTAL</b>					<b>\$0</b>
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Weekday		\$55		\$57,200
2	Weekend		\$55		\$5,720
<b>SUBTOTAL</b>					<b>\$62,920</b>
Contingency Costs					
Start Up Costs				20%	\$0
Annual Operating Costs				20%	\$75,504
TOTAL PROJECT COST					
				<b>START UP COSTS</b>	<b>\$0</b>
				<b>ANNUAL OPERATING COSTS</b>	<b>\$75,504</b>

**Assumptions:**

Includes upgrades to Route 101

Assume no purchase of buses necessary

Assume one hour headways starting at 8:00 PM.

Service currently runs until 8:00 PM, assume additional service until 10:00 PM for two more hours of service.

At 8:00 PM there are currently two buses in the field on weekdays and one bus in the field on Saturdays. This number of buses will remain the same for additional service hours.

Average operating cost of \$55.00/hr/bus (per SETD)



CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Provide Service on Sundays		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Bus purchase, annual operating costs		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
<b>SUBTOTAL</b>					<b>\$0</b>
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Route 20		\$55		\$37,180
2	Route 101		\$55		\$40,040
<b>SUBTOTAL</b>					<b>\$77,220</b>
Contingency Costs					
Start Up Costs				20%	\$0
Annual Operating Costs				20%	\$92,664
TOTAL PROJECT COST					
				<b>START UP COSTS</b>	<b>\$0</b>
				<b>ANNUAL OPERATING COSTS</b>	<b>\$92,664</b>

**Assumptions:**

Involves upgrades to Routes 20 and 101

Assume one hour headways on Sundays.

Assume stops visited on Sunday are the same as the other days of the week.

Assume average operating cost of \$55.00/hr/bus (per SETD).

Route 20:

6:30 AM to 7:00 PM for 13 hours of operation.

Assume 1 bus will be in route at a time on Sundays.

Route 101:

6:30 AM to 8:45 PM, for 14 hours of operation.

Assume 1 bus will be in route at a time on Sundays.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Addition of Bus Pullouts on US 101		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Striping		LENGTH (MI.):	DATE	NAME	
		0	3/1/2010	TMH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$736,000	0.05	\$33,455
2	Bike Boulevard	Day	\$2,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$593,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$622,000	0.05	\$28,273
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$1,455
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	SF	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Seismic Retrofit Bridges	SF	\$50	0	\$0
18	Walls	SF	\$70	0	\$0
<b>SUBTOTAL</b>					<b>\$63,182</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$1,600	
	TP & DT	3.0-8.0%	8.0%	\$5,100	
	Mobilization	8.0-10.0%	10.0%	\$6,300	
	Erosion Control	0.5-2.0%	2.0%	\$1,300	
	Contingency		40.0%	\$25,300	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b>TOTAL CONSTRUCTION COST</b>				<b>\$102,782</b>	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$13,400
	Construction Engineering			10.0%	\$10,300
<b>SUBTOTAL</b>				<b>\$126,482</b>	
<b>Contingency Costs</b>					
	Start Up Costs		20%	\$151,778	
	Annual Operating Costs		20%	\$0	
<b>TOTAL PROJECT COST</b>				<b>\$152,000</b>	

**Assumptions:**

- Assume bus pullout length of 60 feet each
- Does not include costs associated with: ROW purchase, landscaping, signing, illumination
- Assumes 15' wide pullout
- Assume construction of 4 pullouts along US 101

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Addition of Bus Shelters		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Shelter Purchase		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Bus Shelter	EA	\$5,800	10	\$58,000
<b>SUBTOTAL</b>					<b>\$58,000</b>
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
<b>SUBTOTAL</b>					<b>\$0</b>
Contingency Costs					
Start Up Costs				20%	\$69,600
Annual Operating Costs				20%	\$0
TOTAL PROJECT COST					
				<b>START UP COSTS</b>	<b>\$69,600</b>
				<b>ANNUAL OPERATING COSTS</b>	<b>\$0</b>

**Assumptions:**

Assume each stop will have a shelter at it, with an average cost of \$5,800 per solar shelter (cost provided by City of Seaside)

Assume 10 stops

Does not include installation cost for shelters.

CH2M HILL SUMMARY - QUICK COST ESTIMATE					
PROJECT: Summer Park and Ride		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Parking Lot Construction		LENGTH (MI.): NA		DATE 6/4/2010	NAME GSH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Level 3, 1/2" Dense MHMAC	Ton	\$86	91.00	\$7,826
2	Aggregate Base	Ton	\$21	125.00	\$2,625
3	Standard Curb	LF	\$9	367.00	\$3,303
4	General Excavation	CY	\$9	200.00	\$1,800
5	Type G2 Signs in Place	SF	\$35	28.00	\$980
6	Longitudinal Pavement Markings	LF	\$1	673.00	\$673
<b>SUBTOTAL</b>					<b>\$17,207</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$400
	TP & DT	3.0-8.0%	8.0%	\$1,400
	Mobilization	8.0-10.0%	8.0%	\$1,400
	Erosion Control	0.5-2.0%	2.0%	\$300
	Contingency	-	50.0%	\$8,600
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
<b>TOTAL CONSTRUCTION COST</b>				<b>\$29,307</b>
	Right-of-Way R/W	SF	\$0.00	0
	Design Engineering		13.0%	\$3,800
	Construction Engineering		10.0%	\$2,900
<b>TOTAL PROJECT COST</b>				<b>\$36,007</b>

<b>NOTES:</b>		
#1	Unit Costs	Unit Costs are from the ODOT Region Weighted Averages Prices for Region 2 dated 7/24/09.
#2	Quantities	Quantities were calculated for an assumed 25 space parking lot. See "Parking Lot Estimate" pdf dated 6/4/2009 for calculations.
#3	Right-of-Way Costs:	Right of Way costs were not included.

CH2M HILL SUMMARY - QUICK COST ESTIMATE					
PROJECT: Park and Ride Signs		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Parking Lot Construction		LENGTH (MI.): NA		DATE 6/4/2010	NAME GSH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Type G2 Signs in Place	SF	\$35	28.00	\$980
<b><i>SUBTOTAL</i></b>					<b>\$980</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$0	
	TP & DT	3.0-8.0%	8.0%	\$100	
	Mobilization	8.0-10.0%	8.0%	\$100	
	Erosion Control	0.5-2.0%	2.0%	\$0	
	Contingency	-	50.0%	\$500	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<b><i>TOTAL CONSTRUCTION COST</i></b>				<b>\$1,680</b>	
	Right-of-Way R/W	SF	\$0.00	0	\$0
	Design Engineering			13.0%	\$200
	Construction Engineering			10.0%	\$200
<b><i>TOTAL PROJECT COST</i></b>				<b>\$2,080</b>	

<b><i>NOTES:</i></b>		
#1	Unit Costs	Unit Costs are from the ODOT Region Weighted Averages Prices for Region 2.

CH2M HILL SUMMARY - QUICK COST ESTIMATE					
PROJECT: US 101 and Broadway Bus Shelter Relocation		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Remove and Relocate Bus Shelter		LENGTH (MI.): NA		DATE 6/4/2010	NAME GSH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Remove and Relocate Shelter	EA	\$1,240	1.00	\$1,240
<b>SUBTOTAL</b>					<b>\$1,240</b>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$0
	TP & DT	3.0-8.0%	8.0%	\$100
	Mobilization	8.0-10.0%	8.0%	\$100
	Erosion Control	0.5-2.0%	2.0%	\$0
	Contingency	-	50.0%	\$600
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
<b>TOTAL CONSTRUCTION COST</b>				<b>\$2,040</b>
	Right-of-Way R/W	SF	\$0.00	0
	Design Engineering			13.0%
	Construction Engineering			10.0%
<b>TOTAL PROJECT COST</b>				<b>\$2,540</b>

<b>NOTES:</b>		
#1	Unit Costs	Unit Costs are from the City of Woodburn Downtown Transit Facility Improvements project that was bid on 3/11/2010. The average price for the bid item "Remove and Relocate Bus Shelter" was used.



APPENDIX H

# Public Involvement





APPENDIX H

# Public Involvement Process

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This section would describe the decision-making process throughout the development of the TSP. It would provide details on public outreach through the project website, on-line surveys, stakeholder interviews, community workshops, open houses, and briefings.

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**TABLE 1:**  
Public Meetings

<b>Date</b>	<b>Meeting Title</b>
June 18, 2008	Transportation Summit #1
November 6, 2008	Mode/Policy Workshop #1
January 20, 2009	Mode/Policy Workshop #2
January 21, 2010	Mode/Policy Workshop #3
June 8, 2010	Transportation Summit #2

## Summary of September 2008 Stakeholder Interviews

PREPARED FOR: Seaside Transportation System Plan  
Project Management Team

PREPARED BY: Theresa Carr, CH2M HILL  
Jamie Damon, JLA

COPIES: Erik Havig, Oregon Department of Transportation  
Sumi Malik, CH2M HILL

DATE: September 29, 2008

PROJECT NUMBER: 371149.09.02

Jamie Damon and Theresa Carr met with 12 community leaders in Seaside on Tuesday, September 23 and Wednesday, September 24, 2008. The purpose of these meetings, which were held individually at the location of the interviewee's choosing, was to supplement feedback received from the community to date on the Seaside Transportation System Plan (TSP) through the community survey, the website, and the June 18, 2008 Transportation Summit. This feedback was deemed important before the plan moves from the needs identification into the alternatives development stage this October. The interviews were organized in part because of a relatively low turnout at the June 2008 Transportation Summit. Names of community leaders interviewed were provided by the City of Seaside, and are listed at the end of this memo.

Jamie and Theresa gave each stakeholder a three page packet, containing a one-page overview of the project, the project timeline, and the public outreach plan. The project overview contained the project website address.

This memorandum summarizes what was heard at these meetings, and are organized by discussion topic.

### Tell us a bit about yourself

The 12 community leaders represented local developers, delivery professionals, local business owners, the hotel industry, news media, the school district, religious institutions, and a former City Engineer. Many of the leaders interviewed have lived in Seaside for 25 years or more, though a couple brought a newcomer's perspective to the discussion. Most leaders are currently active in other community or business organizations, including the North Coast Land Conservancy, Seaside Downtown Development Association (SDDA), the Chamber of Commerce, the Seaside Rotary Club, and the Vision 20/20 planning effort.

Several of the leaders interviewed were familiar with the TSP though had not been actively involved until this time. Most had participated in or had kept abreast of the details of the Pac-Dooley project around the time of the public vote (May 2005). Many interviewed lived outside the Seaside city limits in 2005 and did not vote on the Pac-Dooley project.

## What makes Seaside special? What transportation elements are working?

Many pointed to the Pacific Ocean and the long stretches of sandy beach as Seaside's best asset. One stakeholder provided some statistics that 82 percent of the nation's public coastline is located in Oregon, and that 62 percent of Oregon's coastline is in the public domain. "We live in a park," this stakeholder said, and with that in mind we can not expect that people will stop coming to the coast, but rather learn to accept some traffic during the summertime, and to do what we can to improve their experience entering town, during their visit, and leaving town.

Seaside's location 1 ½ hours from Portland and 2 ½ hours from Seattle make it an easy and accessible destination. Even with downturns in the economy stakeholders felt that Seaside remains a desirable and affordable location for family vacations.

Seaside offers a great quality of life, and community members know and care about each other. The city is great for walking and bicycling, especially along the Promenade. Its protected cove provides a safe place for swimming. Visitors can feasibly park once and walk or bicycle around Seaside for the duration of their visit.

Drives along the rivers are pleasant, with one stakeholder pointing out Necanicum Drive in particular. Many stakeholders had difficulty pointing to specific transportation elements they thought worked well, though several thought that Broadway through the downtown core was a successful beautification project and the landscaping in particular was considered a positive element for visitors, business owners, and residents alike.

Seaside's financial health is good. The bonds for the convention center are paid off and the convention center committee is now looking to build a multi-purpose facility in the downtown core with parking on the lower levels and area on the top levels serving as an emergency gathering location in case of tsunami. The committee is beginning efforts to conduct a feasibility study for this facility, with a major use being a set of indoor courts for high school tournaments in winter and perhaps concerts in summer.

## What elements of Seaside's transportation system are not working?

### Growth and Land Use

One stakeholder talked about how Seaside would grow, and that city leaders needed to consider the environment in design standards. The desire, they stated, would be to avoid turning into a west coast Atlantic City. More green with each development, combined with green as part of transportation projects, would help.

One stakeholder pointed out that several properties on the west side of the highway south of Avenue U had no sewer system. A sewer upgrade project was proposed in the 1980's, but was deferred because of the impending Pac-Dooley project would require those parcels. The Pac-Dooley project did not happen and the houses remain. The lack of sewer has delayed any redevelopment that otherwise likely would have occurred.

## US 101 Traffic

Several said that Seaside's traffic problems were limited to a handful of weekends throughout the year, and/or were not significant when compared to larger urban areas (Seattle, Los Angeles, etc.)

Most stakeholders pointed to the area of US 101 at the Safeway as a problem. Cars taking left turns are a problem, but pedestrians always are trying to cross and several leaders felt doing so at this location was very unsafe but pedestrians were unwilling to walk out of their way to cross at the signal. It was noted that a pedestrian fatality occurred at this location early in 2008.

One stakeholder pointed to the lack of coordination for the traffic signals through town as a problem. Further, this leader said, capacity at the south end of town is only two lanes which create a bottleneck on summer Sundays when traffic is heavy southbound. There was a question of whether ODOT recently timed the signals or whether there was less traffic this past summer as problems were not as bad this past summer as they'd been in the past.

Flooding on US 101 south of Seaside has required the Seaside School District to close the schools five times over the past ten years, with late starts and early releases happening approximately three times every year (staff consult the tide tables in making these decisions). School buses have difficulty crossing the flooded section of US 101, but more of a problem is staff and teachers being able to cross this section in their personal vehicles. At times, staff and students take the school buses if buses are allowed to cross but personal vehicles are not.

## Issues on Local Streets

Wahanna and Holladay serve as good alternate routes to US 101 for locals, but improvements are needed to handle traffic, bicycles, and pedestrians.

When service at the North Coast Family Fellowship lets out on Sundays (around 10:30am and again about noon), up to 400 cars are leaving the parking area at Wahanna Road near Lewis and Clark Road at once. The Wahanna/L&C intersection and the L&C/US 101 intersections are dangerous and difficult for cars to navigate (especially left turns onto US 101). Locals go south on Wahanna towards 12<sup>th</sup> Avenue or Broadway, and the pastor tries to make a point of announcing tips on exiting to parishioners, but it is a chronic problem seen every Sunday, Wednesday evenings (when evening events draw 150 children and 80 adults), and at many special events.

Visibility at US 101 intersections from side streets is not ideal. Drivers can't always see what traffic is coming before they turn onto the highway.

Several leaders pointed to a lack of parking in downtown, although others pointed to the free public parking structure at Trend West as underutilized. One stakeholder said that some business owners perpetuate the problem by parking in front of their business. Removal of loading zones has made deliveries more difficult.

Many pointed to 12<sup>th</sup> Avenue in particular as a busy street where the design doesn't match up with its function. West of the highway parking is allowed on both sides, leaving a narrow unstriped travel area where it is difficult to fit a car in each direction.

## What ideas do you have for transportation improvements?

Mark Mead, the former City Engineer, submitted a separate document with ideas for transportation improvements by districts. This is attached at the end of this memo.

### Growth and Land Use

A couple of stakeholders voiced concern that the schools and hospital in Seaside were within the tsunami inundation zone and should be moved to a higher elevation within the planning horizon. If this occurred, it would mean a not unsubstantial development and associated trips on the eastern edge of the city extending beyond the Urban Growth Boundary (UGB), with necessary connection to the existing network.

### US 101

Make the highway more beautiful, with streetscaping and better signage. It was believed that this would spur economic development and would encourage more passers-by to stop. Landscaping in downtown core is costed out by linear foot and the cost of maintenance is shared by all business owners. Cost is returned in visitor business. It was felt by at least one stakeholder that businesses along US 101 would consider paying into a fee for maintaining landscaping along US 101.

Disallow left turns out of the Safeway by putting in a median. Median could double as a pedestrian refuge because pedestrians are always trying to cross at this location.

Add a stoplight at US 101 and Avenue S.

Add a right turn lane at the eastern end of Avenue U at US 101, and a merge lane onto US 101 south of this intersection.

Support for some ideas from Pac-Dooley, specifically:

- aligning Avenue F and Avenue G and add a signal
- modifications to Wahanna Road/L&C Road and L&C Road/US 101

Coordinate the signal timing on US 101 through the City.

Widen US 101 south of the city between the Dooley Bridge and the US 26 interchange to four lanes and raise the road elevation so that it doesn't flood every year.

### Local Streets

Add sidewalks and curbs to Wahanna Road and Avenue S, and Holladay north of Broadway. Break up Wahanna Road into segments for implementation (Broadway to S, Shore Terrace to Broadway, 12<sup>th</sup> to Shore Terrace, and Lewis and Clark to 12<sup>th</sup>)

Turn Avenue A into a one-way street. Too narrow to be a two way street with parking allowed and many pedestrians using it. Would need to find another street to make into a one-way in the other direction.

## Specific Design Treatments

Look at Palm Springs and Santa Barbara for examples of innovative, inexpensive, and effective transportation design treatments that could be applied to Seaside.

Consider opportunities to introduce roundabouts in Seaside. Look at conceptual layouts provided by a local firm at Avenue U and the Lewis and Clark/Wahanna Road intersections.

Provide better signage to beach and downtown.

## Parking and Alternate Modes

Expand the transit network.

Provide wider sidewalks and/or safer conditions for pedestrians to walk on roadway in the downtown's central core.

Consider providing satellite parking with frequent, reliable shuttle service.

Pay better attention to where parking is allowed, especially on local streets where parking on both sides of the street creates a narrow travel lane where only one direction can progress at a time.

Add "free" to the public parking sign at Trend West.

Add more bicycle racks around the city.

Bring back the "Seaside Trolley" with a smaller vehicle that would be able to serve local hotels and other destinations.

Extend the boardwalk along river, build pedestrian footbridges over the rivers, and create a trail system around town.

Add a pedestrian crosswalk across US 101 at the High School.

Make the tourist experience as pleasant as it can be. Business owners do their part, but transportation can also play a real role here. How well designed is the network, and how easy or difficult is it to find your way around.

Expand the bicycle network to Warrenton/ Astoria (it was recognized this is outside the scope of this study).

## Tell us your experiences with past transportation projects and discussions

Most but not all stakeholders had past experience with ODOT and the City of Seaside on various transportation projects. Consistent themes were heard around three specific topic areas – Pac-Dooley, the bypass concept, and access permits.

### Pac-Dooley

A couple of leaders said that it took ODOT too long to build Pac-Dooley. It had been studied for more than 25 years before moving into design, with little changes to the basic concept design. If it had been built earlier, the leaders theorized, it would have been more successful. Others felt that during the design process ODOT was unwilling to compromise

on any project details which led to a perception during the time period leading to the vote that the agency did not care about the community.

Many stakeholders felt the Pac-Dooley project was better than doing nothing. Further, several pointed to a low turnout, a close vote, and that many business owners lived outside the city limits and were not able to vote on the issue.

There were different opinions about a greenbelt median. Many liked the idea, but worried about who would maintain it and how many turns would be allowed. One stakeholder voiced concern over the ability of emergency vehicles to turn or make u-turns at intersection breaks. Others saw the width of the highway as too wide, and were concerned about the walls (retaining or noise) creating what they called a “canyon of concrete.”

Several leaders pointed to the long construction schedule (three years in duration and construction through the summers) which would have been too painful for business owners. Again, ODOT was seen as inflexible in addressing business owner concerns about construction impacts. Further, one stakeholder stated that construction would have impacted businesses on and off the highway, yet construction assistance was reportedly provided only to businesses along US 101.

Overall, there was a general feeling that elements of the Pac-Dooley project should be reconsidered, and a general feeling that community members were ready to come back to the table with ODOT and the City to discuss transportation issues.

### **Bypass**

Most that were interviewed were not in support of a bypass, or had no opinion on it. Several stated that they didn't expect that a bypass would be built in their lifetime, and others voiced concern that local businesses relied on passersby who hadn't expected to stop in Seaside but saw something of interest from the highway, and that a bypass would eliminate these kind of stops. One stakeholder said they thought Seaside was a sufficient destination to be successful even without through traffic through downtown.

One leader stated that Cannon Beach was unique in its ability to remain successful after building one. Another stated that with Cannon Beach travelers were able to see the ocean from north and south of the bypass, making it easy to turn off onto the local road network if travelers wanted to visit the town or the beach.

### **Access Permits**

Several leaders voiced concerns over coordination with ODOT on access permits and sidewalk standards for local development. Several referenced recent issues with allowing access for a new bank development on 11<sup>th</sup> Street. Specific questions these stakeholders wanted to see out of the TSP were:

- Who reviews access permits within ODOT
- How long should reviews take
- What are the access requirements (how to design an acceptable site layout)
- Guidance for ODOT to provide consistent, reasonable access comments

- How to reduce miscommunications between ODOT Salem and Astoria staff

One stakeholder warned that ODOT was putting too much on the developer, making it too expensive to develop in the City. Another warned that some developers and consultants will not work on projects that touch the ODOT right of way or would require coordination with the agency before construction.

## How do you think the City and ODOT should best work with the community?

### Things ODOT could do

More than one stakeholder pointed to the median outside the outlet stores. This median has a central area for landscaping but has not been planted. Planting inside this area and maintaining could be a low cost action that would beautify this intersection and show ODOT commitment (the planting) and follow through (maintaining the planting).

Multiple stakeholders said that the community was ready to move beyond Pac-Dooley. ODOT would need to acknowledge the past history at the next workshop, and be open, straightforward, and honest about moving forward together.

One stakeholder pointed to the longevity of many Seaside locals and stated that many Seaside residents knew parts of the state highway system very well (history, location of utilities, etc.). The locals would welcome ODOT asking them for history and information on the highway system.

One stakeholder voiced concern with considerable staff turnover at ODOT and suggested that there be greater clarity on roles at ODOT and guidelines for reviews so that new staff would not come in to an existing process and change course.

Several stakeholders felt that ODOT was mad at the community after the Pac-Dooley vote. One stakeholder stated that they felt ODOT Astoria especially did not see Seaside as a destination. Others felt that residents couldn't trust ODOT to follow through with commitments made to the community. Several stakeholders said that ODOT sitting with the City and the community at the next workshop would be a great step towards dispelling this perception.

### Things the City of Seaside could do

A few stakeholders questioned the City's leadership in creating the vision for Seaside. The City could consider the desire of some business owners and residents to have a long-term vision for the City when addressing the community.

At least one stakeholder voiced a recent improvement in the access permit discussion, that the City ask ODOT to weigh in before they make any determination regarding access.

Two stakeholders said the city has been responsive to needs of local businesses and residents. Several pointed to the Broadway Improvement Project as a positive example of the city working with businesses to design improvements, communicate impacts, and craft a construction schedule that would minimize impacts on local businesses.



## Things the project could do

All stakeholders interviewed advocated for more dialog, and less one-way communication.

One stakeholder asked the team to create a steering committee for the TSP staffed with a balanced group of action-focused community leaders that would combine political, environmental, and economic sensitivities when crafting recommendations.

## What ideas do you have to increase participation in upcoming workshops?

### Advertise the workshop

These ideas are beyond the advertisements done for the first summit (advertisements in local papers, in water bill):

- Send fliers home with school kids would be an effective way to engage members of the community that live outside city limits.
- Prepare an op-ed piece for the Signal (recommended for the 10/30 edition, space has been reserved, material would need to be submitted by Monday 10/27).
- Post fliers at all local businesses. Go door-to-door, and ask to post. Don't forget the community bulletin board at the Safeway.

### Announce the workshop

Do a PSA at the radio stations – KOST 94.9 and KAST

Present at SDDA, Chamber, and Rotary the week prior to the workshop (Thursday 10/30 and Friday 10/31). Talk about the importance of the project, and why involvement is needed.

### Ask leaders to attend

Make focused telephone calls to community leaders to invite them to attend. Tell them who recommended them as a leader of the community. Make sure they understand that the City and ODOT see them as a leader and really want their update at the meeting.

Follow up with a reminder a couple of days before the meeting (email is fine).

Ask people such as the stakeholders interviewed in September to take on a leadership role at the meeting, by leading a table discussion or presenting some findings to date.

### At the meeting

Do not leave it up to the participants to craft their own process, but provide adequate leadership and direction to ensure that the discussion results in the desirable level of detail.

Make sure to tell people to leave their baggage at the door.

Break up the City into districts, and have people talk about improvements that are needed within those districts.

Have ODOT and the City sit at the same table with the community.

Have a map and overlay ideas on top of it.

Possible locations to have future community meetings are the Convention Center, the North Coast Family Fellowship auditorium (Tuesdays best), the library, the schools, and the Community Center.

The table below lists the Seaside community leaders interviewed in September.

TABLE 1  
Community Leaders Interviewed September 23 and 24, 2008

<b>Tuesday September 23, 2008</b>		
<b>Time</b>	<b>Stakeholder(s)</b>	<b>Organization</b>
8:30 – 9:30am	Ken and Pam Ulbricht	Ulbricht Public Accounting, LLC
10:00 – 11:00am	Terry Lowenberg	Beach Development, LLC
11:30am – 12:30pm	Mark Mead	Mead Engineering Resources, Inc. (former City Engineer)
2:30 – 3:30pm	Terry Bichsel	Best Western Hotel / Ocean View Resort
6:00 – 7:00pm	Wayne Poole	Pig 'n Pancake Restaurants
7:30 – 8:30pm	Mark Biamont	UPS
<b>Wednesday September 24, 2008</b>		
<b>Time</b>	<b>Stakeholder(s)</b>	<b>Organization</b>
8:00 – 9:00am	Peter and Jeff Ter Har	Ter Har's
9:30 – 10:30am	Doug Dougherty	Seaside School District 10
1:00 – 2:00pm	Donald Allison	Seaside Signal
2:30 – 3:30pm	Larry Rydman	North Coast Family Fellowship

The project team attempted to schedule interviews with Sandy Winnett, Steve Hinton, Pat Ordway, Harry Henke, Mark Utti, and Dana Phillips. Many stakeholders recommended that Theresa and Jamie meet with additional members of the residential and business community. Names forwarded to the two included:

Russ Earl	Gary Hinckey	Al Wexler
Scott Dean	Keith Chandler	Les Clark
Bob Skalin	Jim Morrissey	Ken Smith
Tita Montero	Warren Kan	Terry Hartell
Dana Phillips	Doug Wiese	Garbage company
Randy Frank	Mike Davies	Bayview Transit
Heather Wadkins	Brian Pogue	Benny Olson
Jack and Janice Risterer	McCall Brothers	

# Seaside Transportation System Plan: Transportation Summit #1 Summary

## Overview

On June 18, 2008, the City of Seaside together with ODOT hosted the first Transportation Summit for the Seaside Transportation System Plan for over 30 people. The meeting was held from 5:30 – 7:30 p.m. at the Bob Chisholm Community Center (1225 Avenue A, Seaside.) The goal of this first meeting was to raise the level of awareness and understanding of the TSP process and outcomes. Objectives for the meeting include:

- Provide information about the how, why and what of a TSP
- Explain roles of the City, County, ODOT, community and consultants
- Share information received from the community through the survey and how this input will be used
- Clarify what is/isn't addressed in a TSP and why

The meeting included a presentation followed by table discussions focused on public transit; alternative modes; and local street network.

The meeting was announced in a variety of ways:

- Press release to local papers
- Information on city, ODOT website
- Email announcement sent by city
- Articles in city news (other news sources?)
- Display ad placed in Daily Astorian and Seaside Signal

## Summary

Immediately following the presentation, the full group asked questions relating to the scope of the TSP, how a bypass would or would not be considered and how projects are funded. In response to questions regarding how traffic congestion on US 101 would be considered, the team suggested that “local connectivity” be changed to “connectivity” so that it is more clear that issues relating to Highway 101 can be discussed in that group. The group then discussed with the other members of their table the top priorities that emerged from the survey – connectivity; alternative modes and public transportation. Following the table discussions, the full group reconvened to hear the highlights from each group. Participants were asked to do some “homework” over the summer and send their results to [www.seasidetsp.org](http://www.seasidetsp.org):

- Try a different mode
- Observe the system
- Take photos

The following is a summary from the flip charts for each topic.

## Connectivity

- 12<sup>th</sup> Ave too narrow
- 12<sup>th</sup> & Franklin – directions confusing
- 12<sup>th</sup> Ave elevation east of Wahanna
- Locals change schedules to avoid traffic
- No access east from community center
- Avenue G and all “bridge” street connections
- North/south connectivity
- Regional Traffic not necessarily a priority
- Left turn entries to highway
- Safeway access
- Number of lanes on highway
- Ability to maneuver around traffic
- Maintain local “flavor”
- Hwy 101 and Safeway
- Need to get to the pool and Library
- Ave S southbound movement
- Left turn entries to highway
- Road condition on Holladay
- Arterials/collectors not connected properly
- Speeding on “shortcuts”
- 24<sup>th</sup> and 101 north bound movement
- Safeway access
- Bridges (conditions)

## Alternate modes

- Biking in Seaside safely
- Parking for bikes
- Make biking desirable
- Crossing 101 at Broadway is default (signals)
- Turning at signals is unsafe (need to favor bikes turning)
- Need to invest in infrastructure to offset poor drivers
- Bikes forced onto sidewalks
- Bikes on local streets
- Roads narrow, too many parked cars
- Surreys and scooters cause problems
- Use old RR path, extend for continuous path
- Fix 12<sup>th</sup> street
- Beach Dr sidewalks not consistent
- Wahanna north bound sidewalks not consistent
- Nice landscaping along 101
- Pedestrian crossing at G – bridge is there
- Darting across 101 to Safeway (don’t walk one block to crosswalk)
- Cars blocking sidewalk and driveways
- Can’t cross 101

- Shrubs blocking views at crosswalks
- Sidewalks – more needed!
- Parking on 12<sup>th</sup> too narrow
- Right turn at 12<sup>th</sup> hazardous to bikes

## Public Transit

- New, smaller streetcar (seasonal, rubber tire)
- Need more frequent service/more stops (S. Downing St)
- Employees do not have good transit options to Seaside (from out of town)
- Need a Park and Ride (seasonal)
- Need transit center with parking at Convention center S
- Need to transfer from So. County up to Astoria(?)
- Bus service not frequent enough
- Commuter express service
- Express that would allow riders not to transfer
- Ridership survey (of general public, not just current riders)
- Some busses don't connect with others (intra-city vs. inter-city)
- Location of transfer site
- Need Cannon Beach to Astoria Express (without transfers)
- Too slow for most people
- Transit trips too infrequent

## Comment Form Compilation

### Connectivity:

- Need a bypass/truck route
- Bypass – 2 lanes through Seaside – east and west
- Preserve small town/beach town atmosphere. No 4 lanes. Widen Broadway/101 intersection
- Broadway/101, Avenue S/101, 12<sup>th</sup> Avenue/101
- The bottleneck at both ends of Seaside
- Bypass should be added as a long range topic
- Better traffic flow on 101, more turn lanes on 101, Improve Necanicum stream bed to prevent 101 flooding south of town, more frequent bus service to Portland. Service to PDX would be great
- I think it's the lack of road networks. So often traffic comes to a complete stop because someone is turning or someone is walking across the highway. A bypass is the only long-term solution

### Pedestrian issues:

- How about a pedestrian overpass on 101? On Broadway between the pool and the library. Where there are not already crosswalks and signals. On 101 at north end of Broadway school. On 101 at south end of factory outlet center
- Only 3 crosswalks in or across 101

- Sidewalk improvements, crossing safely at 101, better visibility – Brush, signage, inconsistent connectivity of sidewalk
- We need an all direction protected crosswalk at Hwy 101 and Broadway where no traffic moves until pedestrians have cleared the highway and street. We have décor (trees and plantings) at all crosswalks through town which block the views of drivers and pedestrians from seeing each other
- Crossing 101 at or near G St. Sidewalks along 101 to the south are in poor condition. Sidewalks in general are not in good repair
- Safe pedestrian crossing points across 101. There are no crossing signals now between Broadway and U
- Complete sidewalks on major streets so peds don't have to walk in the streets
- Traffic around schools and how pedestrians stop the flow of traffic (20 mph on 101 is ridiculous). How about a truck route, or pedestrian overpass (like the one in Rockaway Beach). Need to get school in a tsunami safe area soon

### Alternate modes:

- Want our Seaside streetcar back, but smaller. We need a little regular side street shuttle that can fit down 12<sup>th</sup> to the prom, down 4<sup>th</sup> to the hotels, down the corner of 2<sup>nd</sup> near the aquarium
- Surreys
- Bike parking, better bike lanes and facilities, better transit info
- As a college student in welding at Merts Campus, there is no bus that goes from Seaside to Merts, even with transfers. I have to drive 22+ miles one way daily. We need a campus bus for the students.
- Wider shoulder on Wahanna for bikers and peds, bike path around 101/26 interchange so bikes don't have to cross traffic lanes, off road bike paths to Cannon Beach and Astoria
- Obviously need wider bike paths along 101. More and more people are biking on 101 each year. Are we waiting for a death?

### Anything else:

- Bypass/truck route. Can't see trying to turn left from Necanicum Dr SE onto 1<sup>st</sup> Ave near SSC and Convention center
- Maybe in future discussions. Get drivers for bus system that do not ignore traffic laws and who do yield to pedestrians and not try to run them over
- Please put a left turn lane at Saddle Mtn Rd and US 26. This is extremely dangerous now
- You don't seem to want to consider a bypass. I know it will take many years so let's get started now. If we know we have a problem now do you think things will get better traffic-wise? Why can't we have a "two plan" plan? Bypass and Seaside city concerns

Eight members of the public were added to the mailing list.

# Public Workshop #1

Thursday, November 6, 2008

5:00 to 8:00 p.m.

Broadway Middle School

## Workshop Summary

The Seaside Transportation System Plan (TSP) project team held a public workshop on Thursday, November 6, 2008 at the Broadway Middle School. Approximately 60 people attended the meeting. The main purpose of the workshop was to gather public input on initial project ideas, and gather new ideas from the public. The workshop began at 5:00 p.m. and concluded at 8:00 p.m.

### WORKSHOP OUTREACH

The project team posted a meeting announcement on several websites, including the Seaside TSP, the City of Seaside, the Oregon Department of Transportation (ODOT), and Clatsop County. ODOT issued a press release to local newspapers, including the Seaside Signal and the Daily Astorian. A Public Service Announcement (PSA) was developed and issued to the statewide media – a radio advertisement was also purchased on KMUN. A flier was developed and posted at Seaside City Hall. This flier was also sent home with all Seaside School District students. The City of Seaside announced the workshop at the October 30 Seaside Downtown Development Association and Rotary Club meetings, as well as the October 31 Chamber of Commerce meeting. An op-ed piece jointly written by Mayor Don Larson of the City of Seaside and Erik Havig, ODOT Planning and Development Manager, was published in the October 30 edition of the Seaside Signal. A display ad was purchased in the Daily Astorian. An email announcement was sent to the 100 people on the project's Interested Parties List. Stakeholders interviewed earlier in the process received a personal invitation to participate in the workshop.

Following the workshop, materials, including the comment sheet, were posted on the project website and in Council Chambers at Seaside City Hall. An email message was sent to the interested parties list following the meeting asking those unable to make the meeting to send comments to the team via the website.

### WORKSHOP FORMAT

An open house format was used at the meeting, allowing members of the public to attend at their convenience and have the opportunity to discuss the project and the initial concept ideas with project team members. The meeting was organized into three stations:

- Station 1 – Project Overview. This station consisted of a looped PowerPoint presentation giving an overview of the project; several boards describing the project, the study area, the decision-making and public involvement processes, and the project timeline; and the project evaluation criteria. Attendees were asked to provide feedback on the importance of each evaluation criteria.

- Station 2 - ODOT and City Check In. Mark Winstanley, Seaside City Manager, and Erik Havig of ODOT hosted individual discussions with community members to discuss whatever was important to the community.
- Station 3 - Project Ideas. This station was comprised of four topic areas to gather feedback on stated project needs, initial project concepts, and additional project ideas. The four topic areas were bicycle and pedestrian ideas; transit ideas; local roadway ideas; and highway ideas.

Upon signing in, attendees received a booklet containing several of the meeting's boards and a comment sheet. Attendees were encouraged to submit feedback directly to staff at the meeting; by writing on maps or flip charts at the meeting; or by completing a comment form. There were two comment forms at the workshop – one form general for the project and one specific to highway improvement ideas.

Public comments received at and following the meeting are listed below. They are organized by workshop station and topic area. Additional comments received from the website and from comment sheets at City Hall, if any, will be included to this summary as an attachment.

## Station 1: Project Overview

No comments were received on the project purpose, decision-making structure, public involvement process, or timeline.

Attendees were asked to weigh in on the project evaluation criteria. Each participant was given a sheet of various colored dots and asked to voice how important each criterion was – green dots indicated very important; yellow dots indicated somewhat important; and red dots indicated not important. Approximately 15 people participated in the exercise, as summarized below.



Criteria	Explanation	How important is this criteria to you?		
		Very Important	Somewhat Important	Not Important
<b>Safety for all modes</b>	Address safety issues for automobiles, bikes, and pedestrians at known problem areas	13	0	1
<b>Access for all modes</b>	Provide clear and easy evacuation routes; move toward ODOT access standards; plan for emergency vehicle access	12	3	0
<b>Mobility</b>	Plan for future growth; address regional and local travel needs of residents, businesses, & industries	9 (one comment "local")	0	1
<b>Connectivity</b>	Improve east-west streets; provide local alternative to Hwy 101; improve bike/ped connections; regional and local transit system	8	1	1
<b>Cost</b>	Benefits outweigh the costs; cost effective over lifespan of improvements; identify funding options	6	2	2
<b>Livability</b>	Preserve current parking and viability of businesses; plan should support the community's idea of future growth and development;	5	3	2 (one comment "no future growth")
<b>Environmental Resources</b>	Minimize impacts to the built environment, fish habitats, floodplains, and wetlands	10	3	

## Station 2: Meetings with ODOT and the City

Five people signed up for time with ODOT and the City of Seaside, though several other people stopped by to give comments. Comments given at this station are recorded by topic area (under station 3).

## Station 3: Project Ideas

Feedback on initial project concepts and new ideas from the public are recorded by section (topic) area below – bicycle/pedestrian; transit; local roadway; and highway. One member of the public provided a two-page submittal of ideas. This is attached separately at the end of this summary.

### Section A: Bicycle/Pedestrian Ideas

This section is organized into five types of treatments – on-street improvements, off-street paths, crossings, parking, and policies.

### On-Street Improvements

- 1) Need to have bike facilities between Holladay & Avenue U on US 101
- 2) Sidewalks on US 101 are inconsistent - high priority on completing this sidewalk system
- 3) Pedestrian only street, even if during the day only on Broadway, west of Holladay
- 4) On Broadway, sidewalk ends at 1215 and beyond that is a large hedge. Needs continuous sidewalk close to school and library
- 5) Sidewalks needed on US 101 between Broadway & 12<sup>th</sup> St.
- 6) Entire town needs major improvements with pedestrian & bike designated lanes. Maps shown seem to address major thoroughfares
- 7) Boardwalk on Wahanna. If you can not do it on the street, go off street with an elevated board walk
- 8) Ped Bike between 12<sup>th</sup> St. to 1<sup>st</sup> St. should be an elevated boardwalk (on Wahanna)
- 9) Lewis & Clark/US 101 bridge safety improvements needed to accommodate cyclists - a cyclist was hit trying to go to Gearhart

### Off-Street Paths

- 10) Something to attract visitors - bike/pedestrian loop
- 11) Connect to existing and/or consider future bike paths to north (Gearhart/Warrenton) and south (Cannon Beach)
- 12) Bike and pedestrian paths throughout the entire area

### Crossings

- 13) Pedestrian bridges need to be high enough to be above a tsunami wave. Think about suspension bridges. Needs to be large enough to accommodate summer population of 20K people
- 14) Need many crosswalks for community
  - a) Add a cross walk with light in front of Safeway
  - b) Consider crosswalk at the new library
  - c) Accommodate people crossing US 101 between Ave. A and 6<sup>th</sup> Street
  - d) Should there be a pedestrian signal at Ave. A on the east side of US 101
  - e) Big pedestrian movement on highway at Ave. B. Crossing needed
- 15) Mark crosswalks better
- 16) Consider bicycle/pedestrian bridge across US 101 (multiple comments), consider partial funding from Hood to Coast?

- a) Pedestrian/bike bridges should be constructed over US 101 linking walkways. One at the high school and one as you enter the community at Ave. U
- 17) Bike/pedestrian crossing needed across river on 4<sup>th</sup> St. and 6<sup>th</sup> St.
- a) Bike/pedestrian crossing needed across river on 4<sup>th</sup> and 6<sup>th</sup>
  - b) Walking bridge needed at river crossing on Ave. U
  - c) Add a river crossing between 15<sup>th</sup> crossing and the crossing that is before 24<sup>th</sup>
  - d) Add a Necanicum River crossing off Holladay at 6<sup>th</sup>
  - e) Add a Necanicum River crossing at Avenue L
  - f) Add a Necanicum River crossing at Avenue P
- 18) Add lots of cross walks, pedestrian bridges, pedestrian islands, bike paths
- 19) At school there is no school zone sign is posted – kids crossing highway

### **Bicycle Parking**

- 20) Bike racks downtown – consider metered (2 comments)
- 21) Combined bike/motorbike parking on street
- 22) Need a bicycle facility in open space off of Ave. P near Irving Street to connect to Neawanna Creek.

## **Section B: Transit Ideas**

### **Routes**

- 1) SETD – Extended express route S. to Broadway. NET to 12<sup>th</sup> via Wahanna
- 2) Route bus down Downing instead
- 3) Run bus line to North Gateway Park
- 4) Need to tweak bus school out to MERTS afternoon classes start at 1pm and 2pm and are out at 5pm. Bus gets there 1 ½ hours early or ½ hour late
- 5) High bus speeds on Beach Drive when bus is running late
- 6) Parking on both sides of Beach Drive make it too narrow for the bus

### **Stops**

- 7) US 101 express, - add a stop at Broadway instead or in addition to current stop locations
- 8) The US 101/Broadway stop is too close to the intersection and blocks up traffic

### **Schedule**

- 9) Liked the bus stops expanded through town with increased access to public transport. Hopefully bus times will increase too

## Section C: Local Roadway Ideas

The local roadway ideas section was comprised of three maps - one showing concepts in north Seaside (between Lewis & Clark Road and 12<sup>th</sup> Street), one for central Seaside (between 12<sup>th</sup> Street and Avenue G), and one for southern Seaside (between Avenue G and Avenue U). Comments are listed in order from north to south below.

### North

- 1) US 101 / Lewis & Clark Road
  - a) Need a signal
  - b) Combine this intersection with 24<sup>th</sup> Ave.
- 2) Lewis & Clark Road / Wahanna Road
  - a) I like the roundabout (3 comments)
  - b) Roundabout is dangerous/no roundabouts (2 comments)
  - c) T intersection only if large enough for trucks
- 3) US 101 / 24<sup>th</sup> Street
  - a) Development occurring on Highway in vicinity of 24<sup>th</sup> Ave.
  - b) Look at a signal at 24<sup>th</sup> Ave. not at Lewis and Clark
  - c) Combine this intersection with Lewis and Clark (2 comments)
  - d) Look at a roundabout to serve both 24<sup>th</sup> Ave. and Lewis and Clark Road
- 4) US 101 / 12<sup>th</sup> Street
  - a) Prefer Option 2 (left-turn pocket) (4 comments)
  - b) A westbound refuge lane is needed at intersection on 12<sup>th</sup> Ave. (2 comments)
  - c) Prefer to have both a left- and a right-turn lane on 12<sup>th</sup> Ave.
  - d) I like Option 1 on 12<sup>th</sup> Ave./US 101 intersection. Seems most summer traffic turns right not left from here (2 comments)
- 5) 12<sup>th</sup> Street Cross Section
  - a) Wide Cross-section needed over river
  - b) No improvements needed to the west of the Necanicum River
  - c) Provide adequate striping on 12<sup>th</sup> Ave. between US 101 and the Prom
  - d) Option 1 (parking lanes and bike/pedestrian shoulder on both sides)
    - i) Drop bike/pedestrian facility on side & parking one side
    - ii) Drop parking. Encourage visitors to park in peripheral locations and ride a bike or take a shuttle to beach or downtown.

- e) Option 2 (parking one side, bike lanes and sidewalks both sides)
  - i) First choice for bicyclists & commuters. Consider impacts to adjacent property owners
  - ii) How can you remove so much private property?
  - iii) 12<sup>th</sup> Ave. needs sidewalks from US 101 to Wahanna Rd
- 6) Wahanna Rd Cross-Sections
  - a) Option 3 (bike/pedestrian shoulder one side) is dangerous (three comments)
  - b) Option 3 looks best (2 comments, one suggested taking a vote to decide east or west side)
  - c) Sidewalk is safer – any possibility of it being on the west side?
  - d) Where possible, separate bikes from pedestrians
  - e) A lot of homes on east side – driveways
  - f) Option 3 okay, Option 2 maybe, Option 1 no
  - g) Use some options in some places & others elsewhere, depending on available right of way.
  - h) A 4' sidewalk is needed on the west side of Wahanna Rd from Lewis & Clark Rd to Broadway
  - i) Put a priority on saving space and multiple use
  - j) Wahanna Road is more and more often being used as a local bypass to US 101. Traffic goes too fast on the road, and it is not wide enough. It is dangerous for bicyclists and pedestrians. Road needs to be improved (2 comments).
- 7) Other
  - a) Make Holladay a school zone near school

### Center

- 8) US 101 / Broadway
  - a) Great idea
  - b) Make pedestrian crossing safer at this intersection
  - c) The southbound left turn lane on US 101 at Broadway is too short
  - d) Broadway light needs to be long enough to flush out highway traffic (2 comments)
  - e) This intersection concept is too wide with so many lanes – combine lanes
- 9) Broadway Cross Section

- a) Add a crosswalk on Broadway near the new library. Provide warning lights preceding the crossing
- b) Make Broadway a school zone near school

10) Broadway/Downtown

- a) Like concept of Broadway as a slow street (3 comments)
- b) It would beautify Broadway if it was without cars (part- or full-time) (3 comments)
- c) Use cobblestone for a walking street on Broadway

11) Access to Safeway

- a) Remove highway access at Safeway and have U turns at Broadway and Ave. F and Ave. G
- b) If you disallow left turns out of the Safeway parking lot it means everyone turns left on Ave. B
- c) Prefer signal for left turns out of Safeway – diverting to side neighborhoods would be bad
- d) Careful about sending traffic past fire hall & street

12) Other

- a) Downtown: Provide motorcycle parking in street stall 9-5, allow auto use after 5pm
- b) Create more motorcycle parking
- c) Do not create more motorcycle parking
- d) Alley at Elks blocks main onto Ave. A.
- e) Make Ave. B a one-way west bound on the east side of US 101

**South**

13) Holladay Dr/US 101:

- a) Sight distance is a problem for traffic turning left onto US 101 at Holladay
- b) Roundabout will slow traffic on US 101. Do option 1 instead
- c) No roundabout – see Astoria, people get confused badly (2 comments)
- d) I like roundabout, just make sure it's big enough. Astoria's is too small
- e) Roundabouts are great!
- f) Can't seem to turn left from Holladay onto US 101. Needs a left turn signal
- g) Too much traffic on US 101 for a roundabout. Look at restricting left turns, or putting in a signal instead

14) Avenue S/US 101:

- a) Separate the right- and left-turn lanes
- b) No light, provide a northbound right turn refuge
- c) What happens to the building close to the road on Ave. S?
- d) Limit stop lights if possible (2 comments)
- e) Add a signal at river crossing on Ave. S

15) Avenue S Cross-section:

- a) Consider flexibility of sidewalk and bike lane in constrained areas

16) Avenue U/US 101:

- a) Yes
- b) Provide southbound refuge to turn right at light without tripping the signal (2 comments).
- c) Ave. U is currently light activated by car at Ave. U. Suggest longer interval between red lights.
- d) Ave. U has daily vehicles and large trucks running the US 101 light. It's a very dangerous intersection with high volume usage year round because of cove area and golf course. This is a must to improve.

17) Extend Wahanna Road to Beerman to Highway 26 and to US 101

## Section D: Highway Ideas

The highway section consisted of a map of US 101 through Seaside. The community was asked to make comments and suggestions on highway treatments and to comment on what they liked and disliked about several typical highway elements including pedestrian islands, U-turns, center-turn lanes, and medians or landscaped medians. Comments related to the intersection of the highway and a local road, and bicycle or pedestrian improvements along the highway, are listed under Section C: Local Roadway Ideas and Section A: Bicycle/Pedestrian Ideas respectively.

### Pedestrian Islands

- 1) Pedestrian islands serve as traffic calming and we need as many as possible. Downside is they may restrict left turns
- 2) Maintain islands with community non-profit groups: Pacifica Project, Senior Club Council, SW Garden Club, Community Garden Development Group, SEPRD, Adopt A Highway group. They may be able to receive funds from the city as a community "give back"

### U-Turn

- 3) Increases safety. Needed along highway. I don't like that ODOT has to purchase land for this

**Center Turn Lane:**

- 4) Improves traffic flow
- 5) Center turn lane is needed between Ave. B and Ave. P
- 6) Three lanes through town are needed
- 7) Add center turn lane from Safeway to Holladay
- 8) US 101 and Holladay needs a center turn lane back to the Safeway entrance

**Median/Landscaped Median:**

- 9) Increases safety
- 10) I don't like this idea because Seaside already has a greenway on both sides of US 101
- 11) Concerns that landscaped medians restrict visibility and cause a safety concern
- 12) Maintain islands with community non-profit groups: Pacifica Project, Senior Club Council, SW Garden Club, Community Garden Development Group, SEPRD, Adopt A Highway group. They may be able to receive funds from the city as a community "give back"

**Other**

- 13) Look at a bypass for long-long-range plan, start planning and saving money for it now
- 14) Address the bypass in the TSP even if it will not be constructed in the near future
- 15) Desire for a four or a five lane cross section because there is a need to be able to pass slow-moving vehicles. With a two or a three lane section you are stuck behind a slow moving vehicle
- 16) Very concerned about highway flooding every year south of Seaside. Look at raising the highway and putting in culverts (2 comments)
- 17) Seaside is isolated in the winter storms, as US 101 floods, downed trees close US 26 and US 30 - would like multiple options for getting to and from town to provide greater options in wintertime
- 18) Concerned about loss of parking associated with any highway widening project
- 19) Interconnect signals
- 20) Reduce the elimination of private homes and small businesses
- 21) Didn't like the walls that were part of Pac-Dooley project, they were considered a "walled canyon"
- 22) East and SE range outside of downtown - Long Range for Bypass on old Weyerhaeuser Main Line
- 23) Let go of the idea of perfection, meeting all "standards" and live with some congestion
- 24) School zones on US 101 need upgrades



- 25) High school zone works great
- 26) Near school: Rear-ender wrecks. Not fast
- 27) Make US 101 school zone near Broadway Middle School
- 28) Flashing lights for school zone on US 101 in front of Junior High School
- 29) Possible curbs & road markers to help remind people to slow down and take notice
- 30) High school needs ideas to inspire inexperienced drivers to obey laws & slow down

## Other/General

- 1) Tie transportation improvements to emergency evacuation needs – focus east of highway where topography is higher, and on easterly routes
- 2) Create a “Motorcycle friendly community”
- 3) In the event of a tsunami, prioritize evacuation routes to underground utilities
- 4) Keep public input very open during all stages
- 5) All transportation bridges should be rebuilt with extra capacity to accommodate more foot traffic in the event of a tsunami. Need to be able to handle a 9+ earthquake for 5 minutes +
- 6) Make left turn on lights consist through town: either yield or only on green turn signal
- 7) Connect neighborhoods and slow traffic through town
- 8) Welcome people to our healthy, connected, safe community
- 9) Facilitate people parking downtown and walking/biking around town – mark free public parking at Trend West (2 comments)
- 10) Public parking outside of downtown core with a shuttle to downtown for people making a day-trip to Seaside (ideally at northern and southern ends of town to cut down on traffic on US 101; could be just for summer months)

## Public Workshop #2 Summary

March 2009

The Seaside Transportation System Plan (TSP) project team held a second public workshop on Tuesday, January 20, 2009 at the Broadway Middle School. Approximately 50 people attended the meeting. The main purpose of the workshop was to gather public input on project concepts with the intent of identifying preferences for local roadway, bicycle, pedestrian, and transit improvements. The workshop began at 5:00 p.m. and concluded at 7:00 p.m., although some attendees stayed until 7:30 p.m.

### Workshop Outreach

The project team posted a meeting announcement on several websites, including the Seaside TSP project website as well as the websites for the City of Seaside, and the Oregon Department of Transportation (ODOT). ODOT issued a press release to local newspapers, including the Seaside Signal and the Daily Astorian. A flier was developed and posted at Seaside City Hall. This flier was also emailed to over 100 people on the project's Interested Parties List and sent home with school children in Seaside Heights Elementary, Broadway Middle School, and Seaside High School. An article was published in the Seaside Signal on January 15 inviting the community to attend the meeting.

The morning of the workshop, the meeting materials were posted on the project website. An email message was sent to the interested parties list following the meeting asking those unable to make the meeting to send comments to the team via the website and thanking those that attended the workshop. Two articles about the workshop were published after January 20, in the Daily Astorian and the Seaside Signal.

### Workshop Format

Most members of the Project Management Team (PMT) staffed the workshop - including Ingrid Weisenbach from ODOT, Mark Winstanley, Kevin Cupples, and Neal Wallace from the City of Seaside, and Jennifer Bunch from Clatsop County. Four members of the consultant team also staffed stations. An open house format was used at the meeting, allowing members of the public to attend at their convenience and have the opportunity to discuss the project and the initial concepts with project team members. The meeting was organized into four stations:

- Station 1 - Project Overview. This station consisted of a looped PowerPoint presentation giving an overview of the project; several boards describing the project, the study area, the decision-making and public involvement processes, and the project timeline; and the project evaluation criteria.
- Station 2 - Bicycle/Pedestrian and Transit. Recommended improvements to the bicycle and pedestrian facilities were shown along with maps of the existing conditions. Recommended improvements were also provided for transit in Seaside.
- Station 3 -Roadway. This station also showed existing conditions on a map and suggested improvements. Three separate comment forms were provided to participants, to gather input on recommendations for the northern, central, and southern areas of Seaside.

- Station 4 - US 101. This station described elements under consideration for US 101.

Upon signing in, attendees received a booklet containing graphics for all of the improvement concepts. Attendees were encouraged to submit feedback directly to staff at the meeting; by writing on maps or flip charts at the meeting; or by completing the four comment forms (one for general comments and three for comments specific to the roadway station).

Public comments received at and following the meeting are listed below. Comments below are either written comments received through comment forms or on flip charts at stations or verbal comments given to project staff. In some cases, the project team has clarified some written comments, in which case the author's note is bracketed and italicized, [*authors note*]. Mainly, comments below are written as direct quotes. They are organized by workshop station and topic area. Additional comments received from the website and from comment sheets at City Hall, if any, will be included to this summary as an attachment.

### Station 1: Project Overview

No written comments were received on the project purpose, decision-making structure, public involvement process, or timeline. General feedback from several attendees to project staff was that the overall process was clear and inclusive.

### Station 2: Bicycle/Pedestrian and Transit

- 1) Pedestrian crossing of US 101 at G Street and Holladay/US 101.
- 2) Do not believe we need medians – just build or make pedestrian-crossings with lights to warn.
- 3) Why not participate in building a parking garage with the convention center to help with the parking problem. A transit station could also be in the bottom of the parking garage. Station should be closer to downtown.
- 4) Location of area where a woman was killed last year near Safeway is poorly lit on the west side of US 101, opposite Safeway.
- 5) Bicycle lane shown is headed south not north as stated on map.
- 6) Video detection for traffic lights so that bicycles are detected. Loop detection not sensitive enough for bikes. Particular problems at Avenue U/US 101 and at Broadway/US 101.
- 7) Make pathway to high ground a road [evacuation route]. [Do not create any bike/pedestrian bridge to no where.]
- 8) Better business owner upkeep of bus transit area needed (cinema/outlet mall); trim landscaping, remove trash and glass. Improve bus transit sites.
- 9) Make transit schedule easier to understand – too confusing
- 10) Create a bus pull-out for Sunset Empire Transit District buses at Broadway and US 101. A property owner said that he minimally maintains a landscaped area adjacent to the roadway that could be better used as a bus pull-out and stop.
- 11) Consider pedestrian bridge near 24<sup>th</sup>/Lewis & Clark and Wahanna. [Project team is considering a bridge at this location that would be open to all users (autos, bicyclists, pedestrians).]
- 12) Consider another pedestrian bridge across the Necanicum River at 4<sup>th</sup> (where the old bridge was prior to the 1964 tsunami).

- 13) A park-and-ride lot outside of town would not be effective. The [project] team should consider helping to build the downtown garage and people will walk.
- 14) Consider bikeways for:
  - Seaside to Cannon Beach over Tillamook Head
  - Prom extension to Seltzer Park
  - Along length of river through Seaside 4) along river south of Seaside.
- 15) Consider connecting bus to Hillsboro MAX and 185<sup>th</sup> shopping, and bus to Astoria Airport for flights to Portland.
- 16) Really look at prom extension south to Seltzer Park and bikeway along river and highland to Rippert for emergencies and high water.

### Station 3: Roadway

General comments are listed below, followed by comments received on specific project concepts.

- 1) Keep potentially affected land owners informed throughout the process so they aren't in limbo (i.e. deferring maintenance on their properties because they think they may be displaced)
- 2) Add a signal [*a flashing beacon*] for Broadway Middle School to warn drivers of the school zone (like the high school has)
- 3) General concern about introducing multiple new traffic lights on US 101.
- 4) Consider elevating US 101 through the most congested part of town and provide overcrossings at appropriate street crossings.

The public also had the opportunity to comment directly on roadway concepts. Only specific alternatives that had comments are listed below; if there was not a comment about an alternative it is left blank.

#### 1. North – North Seaside between High School and Lewis & Clark Road

##### **1.A. Add signal and right turn pocket at Lewis & Clark/US 101. Restrict turns on 24<sup>th</sup> Ave. to right and left turns in, right turns out only.**

- Left turn pocket is necessary
- Alternative A is doable, less impact to landowners.
- Too much restriction, only street that has this restriction! Impacts businesses.
- Remember there are emergencies coming to the pet clinic that may not be able to get there in a timely manner (can't make a left onto 24<sup>th</sup> from US 101; pet clinic is on 24<sup>th</sup> Avenue).

##### **1.B. Combine 24<sup>th</sup> Ave. and Lewis & Clark Rd. intersection as a roundabout**

- No it will dump all west bound traffic on Wahanna Road
- Not the best with all the logging and chip trucks. Gets ugly in Astoria, lots of times they tend to take both lanes and then some.
- Preferred alternative, no signal

##### **1.C. Combine 24<sup>th</sup> Ave. and Lewis & Clark Rd. intersection with a signal**

- Best alternative, traffic on/off 24<sup>th</sup> would not be restricted (although I'm not in favor of more lights on US 101).

##### **1.D. Connect Holladay Drive and Wahanna Rd with a new connection through the high school property**

- No

- [Improvements are needed now.] Can't wait for schools [*to relocate*].

Based on written and verbal feedback given on project 1 alternatives, several attendees commented that Alternative 1C – a new signalized intersection of 24<sup>th</sup> and Lewis and Clark Road at US 101 – was the best by providing a direct east-west connection and addressing safety issues, but they did express concern about adding several new traffic lights on US 101.

## 2. Lewis & Clark Rd./Wahanna Rd.

### 2.A. Roundabout

- No it would dump all [*traffic*] west.
- No roundabouts; not in Seaside.
- Consider trailer park at Lewis & Clark and Wahanna for roundabout and /or intersection.
- Does this correction require any of North Coast Family Fellowship (NCFE) land and parking lot?

### 2.B. T-intersection

- Better option than 2A.
- This is best.

Intermediate help: a sign on the North Coast Family Fellowship parking lot directing traffic to take a left if going to US 101 south (routing drivers to 12<sup>th</sup> Street) and a right if going to US 101 north.

Generally, attendees preferred 2B – T intersection at Lewis and Clark and Wahanna – over 2A (a roundabout), and agreed that improvements need to be made here.

## 3. 12th St. Cross Sections

### 3.B. Bicycle Lanes

- This is best one

### 3.C. No on-street Parking

- This area is a problem to get onto 101 from 12<sup>th</sup> Avenue. The signal backs it up. An additional right turn lane is needed plus a longer light for west/east traffic. Participants expressed concern that homeowner's on 12<sup>th</sup> Avenue do not have off-street parking and need on-street parking. Project staff clarified that 3C would be implemented in the event of redevelopment.

## 4. Wahanna Rd. Cross Sections

### 4.A. Bike lanes and sidewalk one side

- No bike lanes; keep Wahanna Road in its 30 foot right of way, also [*be aware of*] wet land issues

### 4.B. Shared use shoulder both sides

- Necessary for future – 2030
- This is best

### 4.C. Bike lanes and sidewalks on both sides

- Necessary for future – 2030

Generally, participants expressed the need for sidewalks on Wahanna Road, but acknowledged that a different treatment may be needed for different segments.

Two participants suggested a possible truck route along Wahanna, voicing that this would have less impact to people visiting or working in Seaside than keeping trucks on US 101. This person cited better sight distance on US 101 without trucks, and thought that a truck route could help with many of the discussed problems.

A letter submitted following the meeting stated the following:

I do not like the proposal to widen Wahanna Road. Wahanna Rd. currently has a 30' right of way where I am at. Two alternatives widen to 46' and one to 40'. This would wipe out many houses on Wahanna. Any of your proposals would put Wahanna so close to my house it would not be livable. And due to wetlands, houses could not be placed further back.

Wahanna Rd. has transformed into a residential street. There are many families with children and pets living on and near Wahanna. To turn Wahanna into an arterial would be disastrous. The speed limit should be lowered to 25 and we need enforcement. There are way too many speeders on Wahanna. I rarely see a cop patrolling between Broadway and 12<sup>th</sup>. There is currently enough right of way on Wahanna to put in a sidewalk between 12<sup>th</sup> and Shore Terrace, which is badly needed.

I think that Holladay should be the arterial through town as well as improvements on 101. Holladay already had enough right of way and sidewalks on both sides, so street improvements and traffic control devices would be all that would be needed. No property acquisitions would be needed.

## 5. 12th Ave./US 101

### 5.A. Right Turn Pocket

- No
- Makes no sense for traffic east flow

### 5.B. Left Turn Pocket

- Left turn pocket is necessary
- With left turn signal makes most sense nice if left arrows blink yellow after green
- Favored, going east needs a dedicated left turn lane. I know, I live in the area and it is backed up to Holladay in the summer.

### 5.C. Right and Left Turn Pocket

- Yes
- With no parking is not good
- Yes, right on!
- This is best one

Generally, participants favored alternatives that added a left turn pocket, citing long traffic queues that build up while waiting for vehicles to turn left onto US 101. One adjacent land owner expressed an understanding for the need to improve the intersection, but said he would like to be kept informed throughout the process as decisions were made so he could anticipate potential impacts to his property.

## 6. Combine Avenues F & G – Specific alternative to be chosen as part of a future study or design process

### 6.A. Realign Local Streets (all options)

- We definitely need for cars and pedestrians [additional traffic queues at signal]
- Good for east/west emergency exit, Avenue C and bridge. Replace the bridge also.
- Concern for the signal impacts.
- Consider elevating 101 with a set of on/off ramps.

### 6.B. Operate as one intersection

- Hard for me to cross US 101 on foot or on my bike.
- Yes to Alternative B
- Continue studying double-signal scheme, then review pedestrian crossing with left turn pocket to Safeway at Avenue B after #6 is solved.
  - Participants questioned if this alternative would work well and said it would slow down traffic on US 101.
- No signal on 101 at all in this area.

#### Other comments:

- Avenues F and G at US 101 are not that dangerous the way they are. I drive it every day. Just place a warning light at Avenue S, powered by emergency vehicle.
- Crossing US 101 at Avenues F and G is difficult for bicycles and pedestrians.
- Very important to get a left turn lane at Kentucky Fried Chicken corner! [Corner of US 101 and Avenue F.]

Generally, participants favored 6A – realigning local streets to combine Avenues F and G – and agreed that there was a need to address safety issues around Safeway, citing the pedestrian fatality that occurred in 2008.

## 7. Pedestrian Improvements along Broadway

### 7.A. Broadway as a Slow Street

- Make Broadway (west of US 101) pedestrian only (at least during summer).
- Consider a pedestrian-only street. Route Shilo guests in using 1<sup>st</sup> Street. Provide prom widening for events to get cars from 1<sup>st</sup> Street to A Street (1 way)

### 7.B. Other Pedestrian Improvements

- looks good

Participants generally thought either 7A or 7B were good ideas, but not a high priority compared to other needs.

## 8. Broadway/US 101

- Really great
- Need left turn lanes at Avenue U, Broadway, 12<sup>th</sup> Avenue, Wahanna, Lewis & Clark, and US 101.

- Why not soften all curves? Right turn from Broadway to US 101 needs order designated left turn lane.
- In the summer, ODOT changes the green time for east/west streets across US 101 and it is difficult to get across.
- Elevate 101, use on/off ramps

Participants agreed with the need for left turn pockets in the east and westbound directions.

## 9. Broadway St. Cross sections

### 9.A. On-street parking and sharrows

- We need parking!
- Work on taking out the bumps in the intersection
- SW corner (new business) needs to design parking lot that is conducive for pedestrians to wait for light to cross.
- On Broadway, provide parking for buses to wait for students that is far enough off not the block cars on Broadway or those trying to get out of the school parking lot.

### 9.B. Bicycle lanes

- Consider bicycle lanes on Broadway between Holladay and Wahanna, and a pedestrian street between Holladay and Prom, no cars, shared bike/ped.

## 10. Improving East-West Connections at the Southern End of Seaside

### 10.A Improving Existing Conditions

- Option 1 - Extend left turn pockets on US 101
  - This might be ok
- Option 2 - Roundabout
  - Not a good pedestrian crossing
  - Not good - too many lumber, logging, and chip trucks that end up taking up the whole thing and then some. Too many of these trucks are too long for a roundabout.
- Option 3 - T-intersection and signal
  - Residents have a major problem getting onto US 101

Generally participants favored Option 3 (signalize intersection of Holladay and US 101), including an adjacent land owner.

### 10.B. Combine Avenue S and Holladay Drive Intersection and add signal

- Preference for a traffic light for left turns
- Concern about all of the traffic lights

### 10.D. Extend Holladay Drive with a flyover connecting to Avenue U

- Hard to think this is necessary
- Good if two-way traffic on each
- [roundabout drawn in at the intersection of S. Holladay Drive Extension and Avenue S]
- Yes.



Generally participants expressed interest in extending S. Holladay Drive south and thought that could serve as an alternative to US 101 for some local trips. Some clarified that they were pleased that it was not proposed as a couplet with US 101.

### 11. Avenue S Cross section

- Ok.

### 12. Extend Wahanna Rd. to South of Dooley Bridge with a connection to US 101

- Lighting on Wahanna South end (very dark).
- Extend Wahanna Road to connect US 101/US 26 junction (however 2 large elk herds)
- Doesn't bypass flood area.

### 13. Explore ways to eliminate flooding on US 101 (For future study)

- No, it needs to be now!! This is of utmost importance - safety of residences, emergency services - major impact on business, employers, and employees.
- Consider a viaduct here (across to new school) to US 26/US 101 junction.
- Look for ways to get over high water when flooded while looking for the long-term fix, such as a temporary bridge or ramps that can be dropped into place when flooded.
- Consider extending Highland to Rippert. Gravel shared path but with breakway barrier.

Participants expressed to project staff at several stations that addressing flooding on US 101 was the highest priority. A dike built on the east side of US 101 to protect private lands from flooding may be contributing to the flooding on US 101. Participants who spoke to staff understood that additional study would be needed to determine a solution. Photos of the dike were provided to the project team by one meeting participant.

## Station 4: US 101

- 1) Dislike roundabouts; pedestrian crossing is very hard.
- 2) All we need is a turn lane the length of town. Not 4 or 5 lanes.
- 3) Remove all of the stuff around US 101 and Broadway so people could see pedestrians at the intersection. Is there a way to allow pedestrians a few seconds head start when crossing?
- 4) Where is the data to support that driveways may be responsible for rear end accidents on Hwy 101? Inattention is more likely.
- 5) Community hung up against 4-5 lane solution. Do 3 lanes with 5 lanes at intersections or make Wahanna a truck bypass to get more capacity.

Some participants voiced opposition to the 4-lane concept and expressed concerns over medians. Concerns over a 4-lane concept focused on potential impacts to businesses. Participants voiced that they thought pedestrian islands were a good idea. Some participants felt that US 101 should be designed for a typical day rather than for the busy tourist season.

Generally, people expressed concerns over the ability for pedestrians to cross US 101 safely.

Another participant commented that flooding on the southern end of US 101 is the highest concern, and asked why the team would consider spending time and money on other projects when addressing flooding is the highest priority. They agreed that it would take ODOT some time to work through the issues that are causing flooding and to develop potential solutions.

A participant contributed that the team needs to provide a reasonable alternative route to US 101. Another questioned that ODOT has said that must have two lanes each way; can this be accomplished by just widening intersections?

One participant's impression was that input from the public was being ignored. He indicated that the public did not want to consider a 5-lane cross section with medians, which would further split Seaside in two. He said there wasn't need to build US 101 that would relieve traffic congestion on 60 days out of the year instead of something that would work during an average day. He supported a 3-lane cross section with a center turn lane that would allow free movement, and improving the alternative access routes so they're more attractive to locals.

A concern was heard about impacts to downtown businesses from US 101 construction, that businesses would not survive a long construction period.

## PEDESTRIAN MODE

- COMPLETE SIDEWALKS ON HWY 101 THROUGH ENTIRE CITY
- COMPLETE SIDEWALK ALONG SUNSET ON INLAND SIDE FROM HIGHLAND TO AVE U
- IN CONJUNCTION WITH STATE ON THE OCEAN SIDE OF SUNSET CREATE NEW SIDEWALK AND ACCESS STEPS TO THE BEACH IN THE PUBLIC USE AREA OF THE COVE
- EXTEND FROM SOUTH FROM AVE U TO PUBLIC USE AREA OF THE COVE

## BICYCLE MODE

- CREATE TWO NEW BIKEWAYS THROUGH THE CITY, ONE ALONG THE RIVER AND ONE ALONG THE CREEK
- COMPLETE BIKEWAY ALONG HWY 101 THROUGH THE ENTIRE CITY
- IN CONJUNCTION WITH THE STATE, CREATE NEW BIKEWAY FROM THE SOUTH END OF SUNSET TO CANNON BEACH
- IDENTIFY EXISTING BIKEWAY ALONG SUNSET AND COMPLETE BETWEEN AVE U AND THE END OF SUNSET

## MOPEDS/ELECTRIC CARTS

- CREATE CAPABILITY FOR RESIDENTS TO USE THESE ON PUBLIC STREETS
- CREATE PARKING AND ACCESS FOR RESIDENTS TO USE THESE VEHICLES FOR SHOPPING AT SAFEWAY/RITE AIDE SITE

## AUTO MODE

- IMPROVE SIGNALIZED INTERSECTIONS ON 101 TO DESIGN IDENTIFIED BY ODOT PLAN TO INCREASE TRAFFIC FLOW
- COMPLETE 101 TURNING LANE THROUGH CITY
- ELIMINATE LEFT TURNS TO AND FROM SAFEWAY/RITE AIDE AND 101 AND REPLACE WITH NEW STREET BEHIND STRIP COMMERCIAL ON 101 SOUTH TO AVE F. ELIMINATE LEFT TURN AND ACROSS ACCESS TO 101 FROM 1<sup>ST</sup> AVE, AVE A, AVE B, AND AVE C BUT CONTINUE TO ALLOW RIGHT TURN ACCESS FROM 101 TO THOSE TO/FROM THOSE STREETS. CONSTRUCT LANDSCAPED MEDIAN ON 101 TO PREVENT LEFT TURNS AND ACROSS TRAFFIC IN THIS AREA.
- REBUILD NORTH END OF 101 BRIDGE OVER CREEK TO IMPROVE SAFETY BY INCREASING WIDTH
- APPLY PRESSURE TO POST OFFICE TO RELOCATE TO WEST SIDE OF HWY 101 BETWEEN AVE B AND BROADWAY USING OLD LIBRARY /BANK SITES

#### AUTO MODE (CONTINUED)

- IMPROVE LINE OF SIGHT BETWEEN EDGEWOOD AND OCEAN VISTA, BEACH, AND COLUMBIA BY EXPANDING EDGEWOOD TO ITS FULL RIGHT-OF-WAY WIDTH AND RESTRIPING IN THAT AREA
- CREATE EMERGENCY EGRESS FOR SOUTH PART OF CITY BY EXTENDING HIGHLAND (GRAVEL) TO RIPPERT WITH A BREAKAWAY BARRIER TO ALLOW USE ONLY IN EMERGENCY
- INSTALL A REFUELING SYSTEM FOR ELECTRIC/ HYDROGEN VEHICLES

#### TRUCK MODE

- MAKE SEASIDE TRAFFIC BYPASS SHOWN IN CITY AND COUNTY MASTER PLAN MANDATORY ONLY FOR TRUCKS AND ROUTE ALONG WAHANNA ROAD, LIMIT SPEED TO 30 MPH.
- INSTALL A COMPRESSED NATURAL GAS TRUCK REFUELING STATION ALONG TRUCK ROUTE.

#### BUS MODE

- PROVIDE CONNECTION TO HILLSBOROUGH MAX STATION AND 185<sup>TH</sup> ST SHOPPING CENTER THREE ROUND TRIPS A DAY
- PROVIDE CONNECTION TO ASTORIA AIRPORT FOR SEATTLE AND PORTLAND SERVICE

#### WATER MODE

- RESTORE OCEAN PIER AT AVE U TO ALLOW FISHING/PLEASURE AND CRUISE BOAT ACCESS TO VISITORS AND RESIDENTS. USE AS LOCATION FOR OCEAN VIEW DINING ESTABLISHMENTS AND BOAT TOURS TO ASTORIA OVER THE BAR.
- PROMOTE KAYAK RENTALS AND PLEASURE BOAT MOORING AT RIVER/CREEK/ OCEAN ESTUARY
- PROMOTE BOAT LAUNCH AND UPRIVER ACCESS TO AVE U

#### AIR MODE

- CENTRALIZE HELICOPTER AND FIXED WING SIGHTSEEING FLIGHTS AT SEASIDE AIRPORT
- ESTABLISH A FLY-IN RESTAURANT, HOTEL SHUTTLE, AND CAR RENTAL AT AIRPORT

## Public Workshop #3 Summary

### February 2010

The Seaside Transportation System Plan (TSP) project team held a third public workshop on January 21, 2010 between 5:30 p.m. and 8 p.m. Approximately 45 people signed in to attend the meeting. The format of the workshop focused around three activities: an open house to review recommendations to date (which had been available for earlier viewing and feedback via City Hall posters and the website); a presentation on the five highway concepts that had been developed featuring alternate mobility standards; and small group discussions around the highway and Wahanna Road concepts.

### Workshop Outreach

The project team posted a meeting announcement on several websites, including the project website, the City of Seaside website, and Clatsop County's website. The Oregon Department of Transportation (ODOT) issued a press release to local newspapers, including the Seaside Signal and the Daily Astorian, which resulted in newspaper articles in both publications. A flier was developed and distributed to interested parties, the Seaside School District (where a copy was forwarded to school principals to be sent home with all school children), Chamber of Commerce, Seaside Downtown Development Association, and the Seaside Rotary Club. Copies of the flier were posted at Seaside City Hall. An article about the meeting was published in the City of Seaside's newsletter. Members of the TSP team called community leaders to encourage them to attend and participate.

Prior to the workshop, all display materials were posted on the project website. An email message was sent to the interested parties list following the meeting asking those unable to make the meeting to send comments to the team via the website. A follow-up article was published in the Daily Astorian about the workshop on January 22<sup>nd</sup> and in the Seaside Signal on January 28<sup>th</sup>.

### Workshop Format

All members of the Project Management Team (PMT) staffed the workshop - including Ingrid Weisenbach from ODOT; Matt Spangler from DLCD; Mark Winstanley, Kevin Cupples, and Neal Wallace from the City of Seaside; and Jennifer Bunch from Clatsop County. Erik Havig from ODOT also staffed the meeting, as did members of the consultant team (CH2M HILL, Alta Planning + Design, and Portland State University).

An open house format was used for the first portion of the workshop, allowing members of the public to arrive at their convenience and have the opportunity to discuss the project and the recommendations that had been developed through previous meetings. The open house area was organized into three stations:

- Station 1 – Project Overview. This station consisted of several boards describing the project, the study area, the decision-making and public involvement processes, the project timeline, and the project evaluation criteria.

- Station 2 – Bicycle/Pedestrian and Transit Recommendations. Recommended improvements to the bicycle and pedestrian facilities were shown along with maps of the existing conditions. Recommended improvements were also provided for transit in Seaside.
- Station 3 –Roadway Recommendations. This station also showed existing conditions on a map and recommended projects. The station also had a recommended functional classification map and proposed street design standards.

Following the open house, the PMT provided a presentation about Alternative Mobility Standards to the public. Currently ODOT evaluates congestion on US 101 based on the 30<sup>th</sup> highest hour volume-to-capacity (V/C) ratio which, in Seaside, occurs during busy peak summer usage when there are many visitors to the city. The PMT explained that the Alternative Mobility Standards being proposed to ODOT and the City would result in ODOT evaluating congestion based on the busiest hour in a typical weekday during the shoulder months (likely April, May or October). The PMT also described five alternatives to apply this concept along US 101, for the portion within Seaside. Following the presentation, the public was welcomed to ask questions while in the large group or, if they preferred, to ask questions during the small group discussions.

The last portion of the workshop was small group discussions. This activity provided the public with time to review the stations that presented new concepts and discuss the concepts with PMT. During the small group discussions, PMT staffed three stations:

- Station 4 – Wahanna Road: This station consisted of a board that showed improvement concepts and potential cross-sections for Wahanna Road.
- Station 5 – Highway Alternatives: This station consisted of boards for the five proposed alternatives.
- Station 6 – Access Management: This station consisted of several boards that showed access management concepts along US 101.

Upon signing in, attendees received two handouts and a comment form. The handouts provided a background and exploration of Alternative Mobility Standards for US 101 in Seaside and provided an overview of the five alternatives discussed during the meeting. Attendees were encouraged to submit feedback directly to staff at the meeting, by writing on maps or flip charts at the meeting, or by completing the comment form.

Public comments received at the meeting are listed below. Comments below are either written comments received through comment forms or on flip charts at stations or verbal comments given to project staff. Mainly, comments below are written as direct quotes. They are organized by topic area. Any additional comments received from the website and from comment sheets at City Hall will be included to this summary as an attachment.

## Bicycle/Pedestrian Recommendations

On the comment forms, 2 attendees noted that they strongly agree with the recommendations, 3 attendees noted that they somewhat agree, and 2 attendee noted that they strongly disagreed. All comments recorded below are direct quotes.

1. This component is very important and needed.
2. At Broadway & Hwy 101 pedestrians need more protection from the left turn lanes. Either an all read pause to cross, or some other protection against drivers that are aggressive or just not paying attention to bikers and walkers.
3. As a cycling commuter, I appreciate being involved in the planning process. To make sure all the bicycle lanes, shared roadways, etc., are actually safe and easy to use. I would be happy to be a "beta tester."
4. Wahanna Road is too narrow and there is too much traffic for more bikes.
5. I commute by tricycle, it is 28" wide. The bike lanes must be wider, 6-8'. There are drains that take up the present bike lanes forcing me into the road.
6. [Flip Chart] Foot bridge recommendation at 15<sup>th</sup> and Wahanna Road is not a good idea. It leads to swamp land and is not a good evacuation route.
7. [Flip Chart, in relation to comment above] I disagree! I like it!
8. Foot bridge at Avenue S, Avenue V, Avenue F and across the Necanicum River between Broadway and 12<sup>th</sup> are important evacuation routes (Seaside Tsunami Awareness).
9. Bike lanes need to be wide enough for cyclists to avoid obstacles safely, such as sewers, gratings, and gravel. This is also a concern for people in electric wheelchairs who use the bike lanes. These devices are wider than a bike and need more clearance. 6-8ft would be an ideal width.

## Transit Recommendations

On the comment forms, 2 attendees noted that they strongly agree with the transit recommendations, 2 attendees noted that they somewhat agree, 1 attendee was unsure if they supported the recommendations, and 2 attendee noted that they strongly disagreed. All comments recorded below are direct quotes.

1. I like the roundabouts. Transit station needs to be located near Broadway.
2. More frequent bus service on Sundays and evening will encourage more widespread use of mass transit.
5. I am very interested in making sure that regular bus service is available year round between Seaside and Astoria. I know of many senior citizens who live between Seaside and Astoria that are finding it difficult to drive safely on Hwy 101. Therefore I would like to endorse the following suggestion that I saw on the existing transportation site: Extend Astoria service into evenings to accommodate Clatsop Community College (CCC) schedule. I suggest that getting people to and from the Seaside Hospital and Safeway with adequate shelters along Hwy 101 are important. This will not only benefit CCC students, but senior citizens as well.

## Roadway Recommendations

On the comment forms, 2 attendees noted that they strongly agree with the roadway recommendations, 1 attendees noted that they somewhat agree, 1 attendee was unsure if

they supported the recommendations, and 2 attendee noted that they strongly disagreed. All comments recorded below are direct quotes.

1. Roundabouts are a plus. I'm not a fan of more traffic lights.
2. We need to consider all the new retail going in at Warrenton. It might be wise to plan ahead and widen Hwy 101 out past Wahanna and Hwy 101 intersections.
3. I don't travel all of these routes, but the recommendations seem sound overall.
4. This is your parkway you have been proposing for the last 15 years.
5. Remember that bigger is not always better. We voted down bigger. Livability is important. Three lanes through town, period.
6. They appear fine.
7. A right turn only off Lewis & Clark Road will dump all southbound traffic on Wahanna Road.
8. At US 101 and Broadway, cars turning southbound from Broadway onto US 101 (left turns) have hit pedestrian in the cross-walk. 3 people at the workshop have been hit there.
9. Lincoln Street - Provide major arterial extensions north to 1<sup>st</sup> Street and the signalized intersection with Hwy 101.
10. Do not increase the speed limit on Holladay. The high school and a lot of residents are along the road, especially north of Broadway.

### Wahanna Road Concepts under Consideration

On the comment forms, 2 attendees noted that they strongly agree with the Wahanna Road concepts, 1 attendees noted that they somewhat agree, 1 attendee was unsure if they supported the concepts, and 2 attendee noted that they strongly disagreed. All comments recorded below are direct quotes.

1. Remove stop stations in current locations for roundabouts.
2. Wahanna, Lewis & Clark, 24<sup>th</sup> and Hwy 101 really need to be re-routed into a 4 way with a light.
3. A bike/pedestrian area would be very welcome in this narrow, sometimes winding road with its limited sight lines.
4. The one big problem that needs to be addressed.
5. I strongly dislike everything about this.
6. If you make better access to Wahanna Road, traffic will become too much for that road as it stands.
7. It needs pedestrian and bike path areas.
8. Lewis & Clark - 12<sup>th</sup>. Shouldn't expand to the east because of wetlands.



9. Extend Wahanna Road to Beerman Creek.
10. People who live on Beerman Creek probably do not know the implications of the Wahanna Road extension. The meeting notice didn't say anything about Beerman Creek.

## Highway Concepts under Consideration

During the presentation, there was a question about why the highway was not wider throughout Seaside to account for the increased traffic from retail development in neighboring communities. The PMT staff stated that the concepts developed were a compromise, and that a compromise was needed to address current and future safety and mobility needs on as small a highway footprint as possible. Capacity changes were made in each of the five alternatives. Another attendee felt that the PMT's understanding that the community wanted a smaller highway footprint was not accurate. Attendees were asked what they thought. One community member stated that they had spoken with many people within the community and that the community wanted a smaller footprint.

Another attendee asked if there was a study that showed the percentage of people that pass through Seaside and if that would show that a by-pass would resolve the congestion issues within the city. The PMT staff stated that some numbers were available about pass-through versus local trips, and that the majority of traffic along US 101 in Seaside were destined for some location in the City.

In addition to large group conversation, the following written statements were provided related to this topic:

1. Four attendees noted that they strongly agree with the Highway concepts and 1 attendee noted that they strongly disagreed with these concepts.
2. We need to really think about all the future coastal traffic heading south to north from Tillamook or such heading to large stores going in at Warrenton area which will affect us year round, not just during tourist season.
3. I much prefer these ideas over a 4-lane highway through town. The 4-lane areas in Gearhart and north already have setbacks for businesses and residences. To make such a wide road here would drastically alter our city design, infringe properties, etc.
4. Alternate 1 seems the best. 2 Lanes each all the way through from U Street to Wahanna Road. We also need left turn lanes only when turning lights at Avenue U, Broadway, 12=left turn protected lanes in all directions with light. Combine right and straight or separate where possible.
5. Alternative #5 is the best of the 5. People voted against the old highway presentation because it was too big of a footprint and it tore the community and businesses apart. I know, I helped stop it.
6. I love your logic of considering the average peak hour.
7. I like Alternative #5 as the best compromise.
8. 1<sup>st</sup> choice - [Alternative] #4, second choice - #3, third choice - #5 (sic).

9. There is nothing in black and white addressing the need for a road system above 80-feet. It is very important that there is language for a by-pass above 80-foot level to serve new schools, hospital, etc., because of tidal wave danger with at least 5 connectors to Seaside. As is, I would hate to think what is going to happen to Seaside if we were to have an earthquake and tidal wave which has been projected. Instead of spending all our chips on a system within the tidal wave zone, let's spend a little towards a road system that won't be wasted.
10. South Holladay and South 101 - The existing Hwy 101 south of the Holladay junction in south Seaside is not a reasonable location for a principal arterial. This was identified by ODOT 6 years ago when widening it was proposed as a couplet because it was too close to the river with a 4 lane design. ODOT has now identified a need for a parallel minor arterial also in this area. The west side of this existing alignment of 101 also has numerous residences which take access directly off Hwy 101 which was recognized 6 years ago as a long term safety issue. A much better solution would be to use the existing Hwy 101 as the local minor arterial called Holladay Extension and build a new Hwy 101 as a principal arterial east of the present alignment where ODOT has proposed the Holladay extension. This would solve the access problems and allow widening to 4 lanes if required. It would also eliminate the need for the local street traffic proceeding between the southern city and downtown to cross over Hwy 101 twice including the proposed flyover.

West Broadway - would destroy existing downtown to build Broadway as a major collector west of Holladay as shown. Visitor traffic going between Hwy 101 and downtown should use Ave B and 1<sup>st</sup> Street which are major collectors and should be signalized at Hwy 101. Hwy 101 should fly over Broadway which would provide much better east west local circulation between downtown and the library/recreation center areas. In conjunction with elevating Hwy 101 City Hall/Fire area should be elevated to serve as a tsunami evacuation center. (aka Cannon Beach proposal)

11. Dislike that they all require years of disruption throughout the city and large expense to the businesses. We who walk to the core of business would be greatly inhibited.
12. Would favor ANY widening of US 101 to 4-5 lanes; I guess option 5 (combine 1 and 4) is best. Also, there was a quote in the paper from City Mgr Winstanley: "After the meeting, Winstanley expressed surprise at those who appeared to want the highway widened. 'We told them (voters) that the question was whether the highway should be five lanes through Seaside, and 65 percent said no... We thought the question was clear,' Winstanley said." This is incorrect - the vote was 56-44, and 65 does not equal 56. I won't even go into how the NO vote was sold to the public. Almost half of the public DID want 5 lanes. Worth reminding folks.

### Other Concepts the Public Would Like Considered

1. Elevated walking bridges over Hwy 101 at Broadway and at 17<sup>th</sup>.
2. Footbridges for easier access from east to west for walkers, bikers and tsunami evacuation routes.

3. Safe zones for pedestrians, bikes. Turn arrows for the east/west light at Broadway. Additional 2-3 seconds of red light for pedestrian crossing.
4. A solid red for a brief period to allow pedestrians to cross without having to worry about left turns trying to run us over because they are in a rush or just not paying attention.
5. I would like to see more discussion and consideration of a by-pass. We must be prepared for a tsunami if it happens to give people an escape route.
6. A Hwy 101 by-pass from Cannon Beach on to Fern Hill on Highway 30.
7. We like a smaller footprint.
8. The flooding on the south end of town. Something needs to be done now.
9. It seems that we need 2 lanes each direction with a third lane at lights for left turns (N/S) and at least 2 lanes (E/W) with one being for left turns only and at least 1 for right turn and straight traffic.
10. A bypass of the city would allow trucks and passenger vehicles not stopping to zoom on like they do around Cannon Beach. Surely it wouldn't cost more to bypass Seaside with construction than all the cost of purchasing property and closing businesses we now have where construction will take place.
11. I'd like to be kept up to date when the "micro-planning" stages come about in order to ensure safety for cyclists and pedestrians. For example, at right-hand turn pockets. The bike boxes in Portland are great ways to keep cyclists safe at busy intersections. Also, visible differences in pavement (different colors or textures) help reinforce the idea of a protected area for cyclist (pedestrians, if no sidewalk exists).
12. I was not able to attend the meeting but continue to be very interested in the process and eventual outcome. In looking over the web-site information you supplied with this email I don't see any action(s) planned for one of my most immediate concerns. I did want to attend and express my concern about the crossing of Hwy 101 by High School students to and from the school and the Stop and Go Store. I have seen the Vice Principal out during lunch times, but really he has very little control over what is happening. I literally thought I was witnessing a young man getting run over a few weeks ago. My heart stopped as I watched what was taking place. At the very last second the driver became aware of the pedestrian (are they truly a pedestrian when crossing at an unmarked location?) and locked up her brakes. It would have happened if the road surface had been wet or if the car had slid. The vehicle obviously had ABS on all four or it never would have stopped safely. Fault? Pedestrian was crossing with on coming traffic, vehicle driver was not attentive and did not see or anticipate what was happening. I have seen many other not so close incidents and I surmise there have been many I haven't witnessed. Many if not most of the pedestrians crossing do so with care and courtesy interacting with the on coming traffic; however many are reckless and rude when crossing, it is setting up for some inevitable confrontations. I truly believe someone is going to get hurt or die at that location.

## Next Steps

The comments from the community workshop have been distributed to all members of the TSP project team. They will be used to help the team finalize the bicycle, pedestrian, transit, and local roadway project recommendations and begin to develop modal plans for the TSP. Comments will also be used to help the team as they consider refinements to concepts along Wahanna Road and US 101 before developing preliminary recommendations.

The next community meeting on the TSP will be a Transportation Summit to be held this spring.

# Transportation Summit #2 Summary

## June 2010

The Seaside Transportation System Plan (TSP) project team held its second transportation summit on June 8, 2010 between 5:30 p.m. and 7:30 p.m. Approximately 30 people signed in to attend the meeting, with about 40 people total in attendance. The purpose of this meeting – the last public meeting before the TSP adoption process – was to discuss TSP recommendations and implementation (costs, priorities, and funding options). The format of the workshop focused around two activities: an open house to review recommendations, policy recommendations, and implementation, and a presentation on implementation, funding, and phasing.

## Workshop Outreach

The project team posted a meeting announcement on several websites, including the project website and the City of Seaside website. The Oregon Department of Transportation (ODOT) issued a press release to local newspapers, including the Seaside Signal and the Daily Astorian. A flier was developed and distributed to the project's interested parties list (approximately 160 individuals), the Seaside School District, the Seaside Chamber of Commerce, the Seaside Downtown Development Association, and the Seaside Rotary Club. Copies of the flier were posted at Seaside City Hall. Members of the TSP team made calls to active members of the community to encourage them to attend and participate.

All display materials were posted on the project website.

## Workshop Format

All members of the Project Management Team (PMT) staffed the workshop – including Erik Havig from the Oregon Department of Transportation (ODOT); Matt Spangler from the Oregon Department of Land Conservation and Development (DLCD); Mark Winstanley, Kevin Cupples, and Neal Wallace from the City of Seaside; and Jennifer Bunch from Clatsop County. Members of the consultant team (CH2M HILL, Alta Planning + Design, and Portland State University) also staffed the meeting.

Upon signing in, attendees received one handout with a comment form in the middle. The handout provided several of the project display boards, including a project background, recommendations, and policy to support the TSP. Attendees were encouraged to submit feedback directly to staff at the meeting, by asking questions after the presentation, or by completing the comment form.

An open house format was used for the majority of the meeting time, allowing members of the public to arrive at their convenience and discuss the project and its recommendations. The open house area was organized into four stations:

- Station 1 – Welcome, Project Overview and Background. This station consisted of several boards describing the project, the study area, the decision-making and public involvement processes, the project timeline, and the project evaluation criteria. There was also a rotating PowerPoint presentation with project background information.

- Station 2 – Recommendations. Recommended improvements to bicycle and pedestrian facilities, transit, the street functional classification system, Wahanna Road, and roadway recommendations were shown. Wahanna Road recommendations were the newest of the recommendations boards – all other recommendations were also presented to the community at the January Workshop.
- Station 3: Policy. This station laid out the areas where policy will be used to support the TSP recommendations and projects. Policies include Alternate Mobility Standards, Access Management Tools, Land Use Overlay. Also at this station was a discussion of the constraints facing the construction of a Bypass in Seaside.
- Station 4 –Implementation. This station displayed projects from the TSP, organized by prioritization – short (0-5 years), medium (5-10 years), long (10-20 years), and very long (20+ years), and potential funding sources. The boards included order-of-magnitude cost estimates for each project, and identified the champion to move it forward (City, ODOT, Sunset Empire Transportation District).

Following the open house, the PMT provided a presentation about implementation and project priorities.

Mayor Larson started the presentation with an introduction and a quick summary of the project including who is involved, and what still needs to be done.

There was a brief outline of the presentation and the format, and then Kevin Cupples from the City talked about the work completed since the last public meeting. Kevin talked about the alternate mobility standards, refining the highway cross section, land use code changes, and introduced Mark Winstanley from the City and Erik Havig from ODOT.

Mark and Erik talked about implementation, funding and prioritization, recognizing that there are limited funds for roadway improvements. They talked about the type and likelihood of funding, and how that affected the projects identified as short, medium, long, and very long term priorities.

After the presentation, there was a question and answer session. The questions and responses are included below.

### Presentation Comments/Questions

- Follow up on blinking lights for school on highway
- Include a narrative that explains what is included in a “project” and if phased in the TSP itself
- There are inconsistent speed zone signs northbound and southbound on US 101
- Explain that county residents along Wahanna would not need to annex to the city if the City owns the road and makes improvements on Wahanna
- Clarify how/where the 6 foot additional width for the road would come from along Wahanna

- Pedestrian upgrades between Shore Terrace and Broadway on Wahanna should be a priority
- 24<sup>th</sup>/Lewis and Clark should be a high priority! Please include how to phase – more to short term list.
- When will the conversation start for the 0-5 year projects?
- Would have been nice to hear bypass statement 5-6 years ago – it would've been voted down. Appreciate letting people know back then. Why did we have to wait? Thank you for addressing the bypass. Glad you are doing it now. Thankfully someone is telling us.
- Avenue U – why so expensive? Narrative project descriptions needed in the plan.  
Response: Triggers upgrade and seismic retrofit to bridge at Avenue U
- Pedestrian bridge on 15<sup>th</sup> – who owns the project? It is a county area, but a City led project. Likely IGA or agreement with the county
- Wahanna Road trigger annexing properties? No real reason to do so, though IGA is an important Q&A piece (for web?).
- Bypass is a waste of time, where can you go with this? Don't get distracted from building short term projects
- What do the headings mean? Start with short term projects
- Adopted plan is central – opens up doors for funding
- Avenue U is high priority! Traffic light backs everything up. That is an important project

Additional public comments received at the meeting are listed below. Comments were either written comments received through comment forms or verbal comments given to project staff. The comments are included as close as possible to the format submitted and are organized by topic area. Any additional comments received from the website and from comment sheets at City Hall will be included to this summary as an attachment.

## Recommendations

- US 101 between Avenue F south to Holladay should have a center turn lane. Everyone wants this. Has just been left out of the TSP.
- US 101 from Dooley Bridge to Holladay should be moved to the east along proposed new section of Holladay to be built. Convert existing 101 to Holladay, this would solve problem with houses taking access on west side of 101. Also this would allow 101 to eventually be widened.
- Convert the recommended north/south pedestrian path from 12<sup>th</sup> north along ridge into a full road, one lane in each direction
- We need a truck stop/transportation hub near the old Thriftway. Trucks park on the highway and are illegal, noisy and intrusive on the residential area
- The pedestrian/bicycle bridge near 15<sup>th</sup> avenue is not a good idea

- I think this process has been very effective and thorough.
- I really like the thinking about bike/ped path on Wahanna
- I am disturbed by the plans for 12<sup>th</sup>, the area from Necanicum Drive to the Prom. The current situation is a problem during July 4<sup>th</sup> and Hood to Coast - the congestion slows the traffic way down which makes it safe for the ped/bike activity - which is very heavy on those days.
- Taking away parking and widening the lanes will speed up cars and RVs - and pedestrians will have no parked cars for a safety barrier
- I also question why 12<sup>th</sup> Avenue - again, the section from Necanicum Drive to the Prom - should be classified as a collector, but all that collector traffic getting to the Prom has to exit via 11<sup>th</sup> Avenue- but it is not a "collector" and does not need to be.
- Again, collector for 12<sup>th</sup> from US 101 to Necanicum makes sense - but not from Necanicum to the Prom.

### Prioritization

- Should extend the Prom to the Cove - good priority!
- Bridges should not wait to be upgraded until an earthquake - they are not earthquake safe
- It will require firm action on the part of the City to see the projects through
- The 24<sup>th</sup> Avenue intersection and resulting bridge improvements should be high priority and within a 10 year timeline!
- Bridges, trails and new pedestrian bridges should all be high priority and done in the near future
- Wahanna road needs priority
- US 101 and all intersections need top priority
- In general, I agree, just step it up and do it soon
- If money is more available for pedestrian facilities (sidewalks and bridges), then why aren't they more short term projects?
- A synchronized funding stream will be culturally significant in the context of a natural history park

### Comments not related to the TSP

- Stop the highway shoulder truck parking that ruins the shoulders, trucks run their motors on idle, etc. Trucks keep us awake at night in our homes.
- Stop trucks "Jake Braking" or engine braking in city limits. If they need that they are driving TOO FAST! It is unnecessarily loud at all hours.



- The current plan/construction on Holladay Drive does not have a plan for street parking which is essential. There is no plan for bicycles using the road, there are no sidewalks, parking on property has been reduced. i.e. will affect short term rentals space requirements
- Will increased parking on side streets like 17<sup>th</sup> thereby reduce mobility and slow traffic flow?

## Next Steps

The comments from the community workshop have been distributed to all members of the TSP project team and will be used to help the team revise the TSP. Comments will also be used to help the team consider refinements to the implementation and funding portion of the document.

This was the final public meeting before the TSP adoption process, which will occur during Fall 2010.

## PMT, Agency and City Council/Planning Commission Meeting Summaries

**TABLE 2:**  
Meetings

<b>Date</b>	<b>Meeting Title</b>
March 12, 2008	PMT #1
March 31, 2008	Joint Planning Commission/City Council Project Briefing
June 3, 2008	Agency Meeting
July 22, 2008	Project Briefing – Future Land Use
September 29, 2008	PMT #2
December 2, 2008	ODOT Technical Review Meeting
December 29, 2008	PMT #3
January 7, 2009	PMT #4
May 8, 2009	PMT #5
June 16, 2009	Agency Team Meeting
July 7, 2009	Agency Team Meeting
August 4, 2009	Agency Team Meeting
September 9, 2009	PMT #6
October 13, 2009	PMT #7
November 17, 2009	PMT #8
November 30, 2009	Joint City Council/Planning Commission Worksession
March 4, 2010	PMT #9
March 29, 2010	Joint City Council/Planning Commission Worksession
May 13, 2010	Joint City Council/Planning Commission Worksession

# Project Management Team (PMT) Meeting #1

Kick-Off Meeting

**Wednesday, March 12, 2008**

**2:00 to 4:00 p.m.**

**Seaside City Hall**

## Meeting Summary

### ATTENDEES

<b>PMT Representatives</b>	<b>Consultant Team</b>
Kevin Cupples, City of Seaside	Theresa Carr, CH2M HILL
Dale Kamrath, City of Seaside	Jamie Damon, Jeanne Lawson Associates (by phone)
Neal Wallace, City of Seaside	Steve Durrant, Alta Planning + Design
Ingrid Weisenbach, ODOT	Sumi Malik, CH2M HILL
Mark Winstanley, City of Seaside	Kalin Schmoltdt, Jeanne Lawson Associates (by phone)

This memo summarizes the items discussed during the March 12<sup>th</sup> Project Management Team (PMT) meeting for the Seaside Transportation System Plan (TSP). This memo focuses on PMT discussion and actions; please see meeting handouts for an overview of items presented.

### 1. Welcome and Introductions

Ingrid Weisenbach opened the meeting, welcoming the group, and led introductions.

### 2. Project Background

Ingrid Weisenbach and Mark Winstanley provided the group with a brief context for the TSP project. Highlights of the discussion are as follows:

- A TSP was developed around 10 years ago but was never adopted. The plan covered the local transportation network in Seaside but not the highway. It left the analysis of the highway to the Pacific Way-Dooley Bridge (Pac-Dooley) Environmental Impact Statement (EIS) project which was underway at the time. Critics have said that the TSP should have included US 101 improvements, and should have been adopted prior to the EIS.
- The Pac-Dooley project EIS considered a variety of alternatives to address peak summertime congestion and safety concerns along US 101 through Seaside. The Federal Highway Administration's (FHWA) Record of Decision (ROD) was to widen the highway to five lanes.
- This project was rejected by Seaside registered voters in 2005.

### 3. Project Work Elements

Theresa Carr led a discussion of project work elements, including scope, schedule, roles and responsibilities, and communication. Discussion points are as follows:

#### Scope of Work

- PMT Representation

The group discussed the inclusion of more representatives in the PMT. Gary Debalt was named as a possible PMT member. Gary could represent both downtown businesses, and could represent city council. Gary also provides a link with the city visioning process currently underway, and is a member of the Seaside Downtown Development Association (SDDA).

*Action:* **Mark Winstanley** will discuss additional PMT representation with Mayor Larson. Mark will communicate recommendations to Ingrid, and will initiate communication with possible PMT members.

The **technical team** may need to coordinate at times with Dennis McNally at the City of Gearhart, though Dennis does not need to be added to the PMT.

- Study Area

The PMT discussed the study area, and decided to include urban reserve areas directly to the south of Wahanna Road into the area to be analyzed within the TSP. Theresa brought up the point that any recommendations resulting from the Seaside TSP process that are within these urban reserve areas would need to be coordinated with Clatsop County, and forwarded to them for possible inclusion within their TSP.

The rest of the study area would be the greater of the city limits or the urban growth boundary (UGB) – in some cases the UGB extends further than the city limits, and vice-versa.

*Action:* The **consultant team** will produce a project basemap which outlines the overall study area.

- Items Covered by Project

Mark asked how the Pac-Dooley project would be addressed in the TSP, and what it meant that the project went through an EIS process and received a ROD. Can the ROD be overturned? The group then discussed the scope of long-range alternatives (from the Pac-Dooley EIS [such as a bypass] or elsewhere that may be addressed or readdressed through the TSP.

*Action:* **Ingrid and Theresa** will coordinate with ODOT environmental to determine the federal process under which a ROD may be reconsidered, and will develop a diagram that outlines this process. The audience for this diagram would be the PMT, but also elected officials, stakeholders, and the public.

United States Geological Survey (USGS) conducted a study on tsunami inundation, and the portion of Highway 101 in Seaside is within the inundation zone. Kevin Cupples

questioned whether or not the federal government would approve further improvements to the highway if it is at risk of being lost due to inundation.

The group discussed the many variables in long-range planning. Theresa stated that ODOT had been looking into impacts of gas price increases on vehicle travel, but that overall the guidance is to use methods available to us to plan long-term, while being aware of how conditions might change. Jamie reminded the group that, although the TSP is a long-range plan, it would be updated before 20 years. A typical timeframe would update the TSP after 5-7 years.

Kevin voiced a concern that US 101 floods every year in the vicinity of Beerman Creek.

*Action:* **Ingrid** stated that ODOT and the City of Seaside are meeting with the Army Corps of Engineers next month to discuss the possibility of getting a grant from the USACE to evaluate the hydraulics in the area. The goal is to understand the hydraulics first and then find a solution to address the flooding.

- Public Involvement

A full discussion on public involvement was held until later on the agenda. However, the group discussed a TSP presentation for the upcoming March 31<sup>st</sup> joint City Council and Planning Commission Worksession.

*Action:* **Kevin Cupples** will speak with Mayor Larson to get the item on the agenda. The Planning Commission is aware of the request. **Ingrid and Theresa** will assume a 30-minute time period with the group, to include a brief presentation and discussion.

- Data Collection

Theresa alerted the group that the project site visit would be April 7<sup>th</sup> or 8<sup>th</sup> and that she would clarify via email as soon as the date was confirmed. Traffic counts may be delayed until late June in order to capture peak traffic conditions. Theresa distributed a list of plans and policies that would be reviewed for the TSP and asked the PMT to review and provide comments on the list by Friday March 14<sup>th</sup>. Sumi Malik and Kevin Cupples discussed the identification of land use districts in Seaside which would be surveyed as part of the site visit.

*Action:* **Theresa** will confirm the site visit date with the PMT. The **PMT** will provide feedback on the list of plans and policies to Theresa by March 14<sup>th</sup>. **Sumi and Kevin** will discuss identification of land use districts to be inventoried as part of the site visit.

- **Future Traffic Conditions**

One of the work tasks is developing a land use scenario for future traffic forecasting. Sumi Malik and the traffic engineering team will work with Kevin Cupples to develop the scenario, which will be reviewed by the PMT before it is finalized.

#### Communication

- Emails for Mark Winstanley will be sent to Kim Jordon. Kim will schedule necessary meetings for Mark, and will communicate with him regarding project status, actions required, and reviews needed.

#### **4. Public Involvement Approach**

Jamie Damon led the discussion on the public involvement approach. Discussion items are as follow:

- One of the first tasks is the development of a web-based survey. The web-based survey would be developed in March and issued in early April. The response window would be one month. The transportation summit would be scheduled following the web-based survey.
- The PMT asked whether people could be prevented from taking the survey multiple times to influence survey results.
- Kalin Schmoldt responded that survey results are screened and flagged for possible multiple entries. For example, if several surveys are taken from the same computer, especially if within a narrow window of time, this alerts him that someone may have taken the survey twice. He also checks for answers, finding that in most cases when this happens, responses are different, inferring that different people within a household took the survey using the same computer. In JLA's experience they have not found evidence of responders trying to influence survey results by taking multiple surveys.

*Action:* **Kalin** will send out the link to an existing survey for the City of Milwaukie, OR which has similar themes to Seaside. **JLA (Jamie and Kalin)** will develop a list of questions for a Seaside web-based survey by Friday, March 21<sup>st</sup>. The **PMT** will review and provide comments on the draft survey questions by the end of March. The survey would be finalized in early April.

**CH2M HILL** will work on development of the project website with the intent of being completed in early April to coincide with the web-based survey.

- Links to the survey would be provided on the project website and the City's website. Paper copies of surveys could be distributed at the library, City Hall, the planning/public works building, the visitors center, and the Chamber of Commerce. Announcement of the survey could go out in the water bills being issued mid-April. Fliers announcing the survey could be distributed to popular locations within the City, and newsletters (including the SDDA, the Chamber of Commerce, and the City of Seaside newsletter) could cover an overview of the project and provide a link to the survey.

*Action:* **CH2M HILL** will develop a one-page summary of the project which can be used in newsletters and be distributed to the Planning Commission and City Council Worksession on March 31<sup>st</sup>.

- The PMT discussed the importance of including all residents, employees, business owners, and visitors in the survey, including:
  - Residents that are full-time, permanent, year round, and Seaside is their primary residence.
  - Residents that are part-time and Seaside is the place of their second home.
  - People who live outside Seaside but work in Seaside.
  - People who live and work outside Seaside, but come to Seaside to visit/recreate.

## 5. Project Goals, Success Factors

Theresa led a roundtable discussion asking each PMT member what their goals were for the project, and how they would define success.

- *Mark Winstanley:* A successful TSP is one that would provide guidance to staff, and would be supported by the community.
- *Neal Wallace:* A successful TSP would provide:
  - Better east/west connectivity
  - Improve the existing three signals and perhaps add one or two more to the network
  - Develop a bicycle and pedestrian plan to link parks, schools, recreational areas, and other destinations with the existing river and urban trail system
  - Assess the need for a parallel route east of Highway 101 between Lewis and Clark Road and Beerman Creek Road, connecting with Wahanna Road
  - Address access issues related to existing and platted streets
- *Ingrid Weisenbach:* A successful TSP would be an adopted plan endorsed by the community. Ingrid also defines success as a process which develops a dialogue between ODOT and the City.
- *Kevin Cupples:* He too wants to see an adopted TSP, not one that remains unadopted, like the last attempt. He wants to see a plan that is supported by the community and users of the system that is practical, fundable, and reasonable in scale.
- *Dale Kamrath:* A successful TSP would consider the needs of fire trucks and other emergency vehicles to move safely and efficiently through service areas.

## 6. Next Steps and Adjourn

The meeting adjourned at 4:00 pm. Action items from the kick-off are summarized below.

**ACTION ITEMS**

<b>No.</b>	<b>Item</b>	<b>Responsible</b>	<b>Timeline</b>
1.	Review list of plans and policies to be reviewed as part of the TSP and provide any additions or modifications to Theresa by the end of the week.	PMT	By March 14, 2008
2.	Ask for 30 minutes on the joint City Council and Planning Commission Meeting agenda to discuss the TSP.	Kevin	By March 19 <sup>th</sup>
3.	Speak with Mayor Larson about adding any additional members to the PMT.	Mark	By March 31 <sup>st</sup>
4.	Prepare a process diagram describing how the TSP will consider long-range improvements considering that the Pac-Dooley project underwent the EIS process.	Ingrid/Theresa	By March 31 <sup>st</sup>
5.	Conduct site visit.	CH2M HILL and Alta Planning + Design	April 7 <sup>th</sup> or 8 <sup>th</sup>
6.	Identify up to five land use focus areas for land use inventory during the site visit	Kevin and Sumi	By March 26 <sup>th</sup>
7.	Send link for Milwaukie TSP survey out to PMT.	Kalin	March 14 <sup>th</sup>
8.	Prepare questions for the Seaside TSP web-based survey	Jamie and Kalin	March 21 <sup>st</sup>
9.	Develop one-page project summary for inclusion in area newsletters and distribution to PC/City Council	Theresa	March 31 <sup>st</sup>
10.	Develop initial project website	CH2M HILL	Early April



# Joint Briefing to Planning Commission / City Council

Monday, March 31, 2008 6:30 p.m. / Seaside City Hall

## Briefing Summary ATTENDEES

City Council	Planning Commission
Gary Diebolt	Sara Fasoldt
Larry Haller	Tom Horning
Don Johnson	Chris Hoth
Dave Moore	Bill Hubbard
Tim Tolan	Richard Ridout
Ray Romin	
PMT Representatives	Consultant Team
Kevin Cupples, City of Seaside	Theresa Carr, CH2M HILL
Neal Wallace, City of Seaside	
Ingrid Weisenbach, ODOT	
Mark Winstanley, City of Seaside	
Laren Woolley, DLCD	

This brief document summarizes the conversation between the Seaside City Council, the Seaside Planning Commission, and the Seaside Transportation System Plan (TSP) project team at the joint Worksession March 31, 2008. This document focuses on questions and actions resulting from the discussion. A formal meeting summary is being prepared by the City of Seaside.

### 1. Project Overview

Ingrid Weisenbach opened the presentation and introduced Theresa Carr, Project Manager from CH2M HILL. Theresa Carr presented an overview of the upcoming Seaside TSP project, including a summary of the project's goals and objectives, the study area, and major work elements. See one-page project summary handout. Questions and comments from the group:

- When will traffic data be collected? Response: This will be taken twice - once in April, and again in late June. April traffic will be factored to peak summertime conditions for much of the TSP work, though they will also be used for a sensitivity analysis looking at what improvements will be needed to serve Seaside outside of the summertime peak

season. Late June counts will be taken after the school year is over, likely on a weekend, and will also be factored to peak conditions.

- The group requested that the summertime traffic collection take place the first Saturday after the July 4<sup>th</sup> holiday. (Note: June counts have been rescheduled for mid-July.)
- Who collects the traffic information? Response: ODOT contracts with a firm to collect traffic data. This is typically done by video camera. Video equipment is mounted on each study intersection to capture traffic entering and exiting the intersection from all directions. One or two people are responsible for mounting the cameras in the morning and taking them down in the evening. Data are summarized and provided in spreadsheet form to the project team.

## 2. Major Milestones / Check-In Points and Timeline

Theresa presented an overview of the project schedule and major milestones. The major work elements include an identification of need, the development and evaluation of alternatives, the preparation of an access management plan, and the TSP. See handout “Seaside TSP: Draft Timeline.” Questions and comments from the group:

- How will you be considering development? Response: the traffic work will actually look at what developments could realistically be expected in the City over the next 20 years, and what impact those would have on the transportation system.

## 3. Public and Stakeholder Involvement

Theresa went over the elements of the “Seaside TSP: Draft Public Involvement Approach” handout. The major elements of the public involvement program include an on-line web survey, a website, possibly a blog, two transportation summit public meetings, and three mode- or policy-specific workshops. Comments from the group:

- How will you be involving the City Council and Planning Commission? Response: staff will regularly brief these groups on the planning effort and ODOT is available at any time. The consultant will brief the groups at two future points in the process – at alternatives evaluation and with the draft TSP.
- Where will you be putting hard copies of the web survey? Response: Copies could be placed at City Hall, library, the planning/public works building, the visitors center, and the Chamber of Commerce.
- Suggestion to advertise public involvement events at the Convention Center and at City Hall
- Suggestion to post fliers about web survey in internet cafes and at the SDDA. Response: Good idea, and we also want to post them at other locations such as the supermarket.
- Suggestion to allow people to mail comments to city staff. Get those who can’t comment online or go to meetings.

#### 4. Next Steps

The group was asked to look out for the website and the web survey in the coming weeks, to watch out for staff doing site visit data collection, and for traffic counting firms to be out with their equipment. The group would be invited to the first Transportation Summit in June when that date is set.

#### 5. Project Goals, Success Factors

The group had a roundtable discussion where each City Council and Planning Commission member stated their desired outcomes and potential concerns for the upcoming planning effort. These are summarized below:

- Take into account the City’s park plan, and provide for a continuously linked trail system connecting parks.
- Tsunami preparedness is important. Provide for bridge seismic retrofits, and footbridges.
- Coordinate with the City, ODOT, and DLCD through the planning process and develop a plan which will be adopted and approved by all these jurisdictions.
- Provide the Planning Commission with tools they can apply to future development. Pedestrian access is important, as important as automobile access. East-west connectivity is also important.
- Make sure to consider public transportation needs.
- Bike access is critical. Can you recommend projects outside the UGB? Some emergency routes are outside the City.
- The concept of a bypass will come up. Wants to see potential funding sources for a bypass. Beware that Seaside will have real, major traffic needs that need to be addressed.
- Success in the short term is something fiscally responsible. Over the medium and long-term, begin to address the bigger concerns. Don’t want to have to go back and redo all over again.
- The funding piece will be important. The City needs the TSP because the City’s current ability to build is reduced because available land is limited. Need a TSP for an UGB expansion. Beware that traffic is a real problem. Finally, wish to actually do the projects in the TSP.

**Agency Meeting**  
**Tuesday, June 3, 2008**  
**1:00 to 4:00 p.m.**  
**Seaside City Hall**

**Meeting Summary**

ATTENDEES

<b>PMT Representatives</b>	<b>Consultant Team</b>
Ron Ash, Clatsop County	Theresa Carr, CH2M HILL
Jennifer Bunch, Clatsop County	Jamie Damon, Jeanne Lawson Associates
Kevin Cupples, City of Seaside	
Neal Wallace, City of Seaside	<b>Other Participants</b>
Ingrid Weisenbach, ODOT	Erik Havig, ODOT
Mark Winstanley, City of Seaside	Jyll Smith, ODOT
	Adam Torgerson, ODOT

This memo summarizes the items discussed during the June 3<sup>rd</sup> agency meeting for the Seaside Transportation System Plan (TSP). This memo focuses on group discussion and actions; please see meeting handouts for an overview of items presented.

**1. Welcome, Review of Agenda/Meeting Objective**

The objective of the agency meeting was to discuss the findings from the web-based community survey (available April 15-May 15) and to prepare for the first transportation summit, to be held June 18<sup>th</sup>.

Mark Winstanley asked that the project team contact the Sunset Empire Transportation District to participate in the TSP.

**2. Findings from Web-Based Survey**

Jamie Damon led a discussion of findings from the web-based community survey summary (handout). The objective of this community survey is to gather feedback from Seaside residents, employers/employees, and visitors on how they view the area’s transportation system. Information from this survey will be used to help identify transportation needs and generate potential solutions.

The survey was available online from April 15 to May 15, 2008. Most survey respondents accessed the survey from the project website. At the survey close, 167 respondents had provided input, either online or in hardcopy form. Major findings from the survey are described below – see the survey summary for more details.

- The vast majority of respondents (over 80%) live in Seaside full-time

- Gender of respondents was roughly equal (45% female, 53% male)
- Most respondents drove around town, though a surprising number walk, bike, and carpool
- Many respondents see Highway 101 as a barrier between them and their homes, jobs, schools, and errands. Capacity and congestion on Highway 101, access to and from Highway 101, and east/west connections across Highway 101 were rated poorly, though safety for bicycles and pedestrians, access to evacuation routes, and sidewalks and pedestrian facilities were also rated low.
- Respondents said they wanted to see improvements to Highway 101, added public transportation services, addressing congestion and traffic flow, improved evacuation routes, and enhanced pedestrian facilities in the TSP
- When asked how in the future we will know that we did a good job on the TSP many respondents mentioned reduced reliance on the automobile, increased bicycle and pedestrian traffic, visitors still coming to Seaside, and alternate routes through and around town.
- The web-based survey was a popular way for the public to stay connected to the study.

Mark asked if the survey had a question on how long people had lived in Seaside, and recommended that a future survey ask this question.

Ron asked whether the survey had a question on age of respondent, and recommended that a future survey ask this question.

### 3. Preparation for Transportation Summit #1

Jamie led the group through the draft public meeting plan (handout). Based on the survey findings, the following topic-specific groups were created:

1. Pedestrian Issues
2. Alternative Transportation
3. Local Connectivity

The first part of the summit will be a presentation. This presentation will be opened by Jamie who will explain purpose and format. Neal Wallace will talk about why a TSP is important to Seaside. Theresa Carr will give an overview of the TSP process. Jamie will then provide an overview of the survey findings. Time will be provided for a large group question and answer session.

The second half of the summit will be broken into small groups (see topics above), where facilitators will run through more specific findings related to each topic and ask participants whether they agree with the findings, and what they would add to the findings. Facilitators will rotate groups so that all participants can talk about all three topic areas. Time will be provided for a large-group report out session.

Jamie brought up the long time period between the first summit (June 18) and the first topic-specific workshop. She recommended that the team ask the public to report back at the first

workshop something they did over the summer. The group decided that they would ask the public to try different modes once a week and report back how they liked it. Did it work, what were some of the conflicts, would they be willing to keep trying it?

Erik recommended that the TSP overview part of the presentation include a discussion of fiscal constraints, and asked that additional information about the TSP process be available. Theresa said that she would work with Erik and Ingrid on a TSP overview that could be on boards, a presentation, or a handout.

The group discussed specific preparation for the summit, which is included below. All items below assume review by the stakeholder agencies prior to finalizing.

## PREPARATION FOR TRANSPORTATION SUMMIT #1

Item No.	Item	Description	Responsible	Due Date	Notes
1.	Flier	Flier promoting transportation summit	Kalin to draft  Kim to print and coordinate with Mark and Neal about distribution	Friday 6/6	Mark to hand out at SDDA Breakfast week of 6/9  Mark to hand out at Chamber of Commerce coffee week of 6/9  Neal to hand out at rotary club week of 6/9  Ingrid to post around town  Brandy to post on website  Kim to send to city newsletters
2.	Newspaper Ad	Advertisement to place in Seaside Signal and Daily Astorian	Kalin to draft  Adam to reserve space and coordinate with newspapers	Friday 6/6	Adam will reserve space by Friday 6/6 for ads to run week of 6/9. Adam will follow up to place advertisements with area newspapers week of 6/9 (working with newspaper deadlines).
3.	Media Stories	Encourage article in area newspapers and radio	Ingrid/Adam for print media  Kevin for radio media	Tuesday 6/10	Ingrid/Adam to talk with Donald Alison at the Seaside Signal and Pam Robely at the Daily Astorian  Kevin to talk with Tom Friel.
4.	Press Release	Send press release to local and regional media	Theresa to draft	Monday 6/9	Theresa to send press release for review on Friday 6/6, ODOT to send to media outlets week of 6/9.
5.	POTENTIAL – Postcard	ODOT may be able to mail postcard to households in Seaside zip code	Kalin to draft  Adam to mail	Friday 6/6	Kalin, Jamie, and Theresa to discuss when postcard could be ready. Adam will explore whether we have sufficient time to mail prior to event.
6.	Web Updates	Advertise event on project, City, County, and ODOT websites	Brandy	Tuesday 6/10	Update project website to include event format and information. Provide text and event flier to Kim Jordan, Jennifer Bunch, and Jyll Smith for updating other agency sites.
7.	Email Interested Parties	Alert those on interested parties list about event	Brandy	Wednesday 6/11	Send email to those who have submitted comments via the website, via the web survey, and those who have asked to be on the interested

PREPARATION FOR TRANSPORTATION SUMMIT #1

Item No.	Item	Description	Responsible	Due Date	Notes
					parties list, announcing event.

The group agreed on the following material to be prepared for the first transportation summit. All items below assume review by the stakeholder agencies prior to finalizing.

MATERIAL FOR TRANSPORTATION SUMMIT #1

Item No.	Item	Description	Responsible	Due Date	Notes
1.	Facilitator Guide	Gives direction to group facilitators on objective of group discussion and items to go over.	Jamie to draft	Friday 6/13	
2.	Handout Booklet	All meeting handouts to be bound in one booklet.	Theresa and Jamie to collaborate	Wednesday 6/11	Will include meeting objectives, project overview, highlights of survey, map of area, project schedule, and comment form.
3.	Maps	Maps to place on tables	Theresa	Friday 6/13	Map of study area for small groups to use and to write on. Include highlights from survey on map.
4.	Small Group Boards	Large plot of items heard from survey (split by subject)	To create Brandy to plot	Friday 6/13	Assumed to be the same information as in handout booklet.
5.	General Display Boards	Boards for entry, group presentations	Theresa to draft Brandy to plot	Friday 6/13	Welcome and Meeting Objective Project Objective Schedule Who's Involved Public Involvement Schedule Study Area
6.	TSP Basics Material	Presentation or handout describing fundamentals of a TSP	Theresa to coordinate with Ingrid and Erik	Wednesday 6/11	



#### 4. Update on Technical Work

Theresa gave an update on the technical work, to include:

- Plan and policy review is mostly complete, waiting for City comments (due June 6)
- Existing conditions work underway, will forward to agencies for review week of June 9
- Waiting for traffic count data at half of study intersections so existing conditions will not include traffic analysis or intersection-specific safety analysis
- Access management task and development of future land use scenario work to begin in June
- Development of evaluation framework will be started in June.

#### 5. Upcoming Meetings/Work Items

June 18 Transportation Summit  
5:30pm-7:30pm (presentation begins at 5:45pm)  
Bob Chisholm Community Center  
1225 Avenue A, Seaside

#### 6. Adjourn

The meeting adjourned at 3:30 pm.

# Future Land Use Discussion

Tuesday, July 22, 2008 3:00 p.m. – 4:30 p.m. Seaside City Hall

<b>Participants Name</b>	<b>Organization</b>
Kevin Cupples	City of Seaside
Laren Woolley	DLCD
Ingrid Weisenbach	ODOT
Theresa Carr	CH2M HILL
Sumi Malik	CH2M HILL

## Summary

### 1. Meeting Context

The purpose of this meeting was to discuss potential development outside the Seaside UGB and develop a plan for how to incorporate this into the Seaside TSP traffic projections. The future traffic work is critical path, and needs to be performed in August 2008 to be ready for the public workshops beginning in September 2008.

### 2. Anticipated Development outside UGB

A buildable lands inventory was drafted in 2005 but has not been completed. The City has reviewed and revised material prepared by a consultant and provided this information to CH2M HILL at the July 22 meeting. CH2M HILL will use the buildable acres information as revised by Kevin Cupples in the inventory to identify vacant and underdeveloped parcels.

Affordable housing was not addressed in the buildable lands inventory. Laren mentioned that a House Bill was introduced last year to streamline the UGB expansion process when its objective is to accommodate affordable housing, but that the bill did not succeed and next steps are uncertain.

The School District has voiced a desire to move all facilities outside of the Tsunami inundation zone, to an elevation at or above 80'-90'. This impacts four facilities in Seaside:

- Seaside High School
- Seaside Middle School
- Two Seaside Elementary Schools

Although all school facilities were considered critically important to the City and the School District, the Cannon Beach Elementary School and the Gearhart Grade School are considered the most critical facilities in the school district to move. Ability to obtain funding to move all facilities within a 20-year time period is uncertain.

The hospital has also discussed moving to a location above the critical 80'-90' elevation line. If this occurred, the current hospital facility would be expected to transition to medical offices or a nursing home facility.

The group discussed potential locations and size of parcels needed to accommodate future school and hospital uses outside the UGB. Plans are too preliminary to determine a specific size of facility, location, or timeline for moving.

School and hospital relocation is expected to shift travel patterns in the City. However, it is also anticipated that the current school and hospital locations would be redeveloped to a separate use (in the case of the schools) or a similar use (in the case of the hospital). Therefore traffic associated with relocations is expected to increase transportation needs in the area of relocations, and not necessarily remove the need for improvements that could be identified at the current school and hospital locations.

### **3. DLCD Process to Consider UGB Expansion Applications**

The City, Clatsop County, and DLCD would need to review and approve a UGB expansion application before transportation projects can be included in a Seaside TSP.

The City indicated an interest in beginning the UGB expansion application process, including a public process, on a concurrent timeline with the TSP. This process would determine what land is needed outside the UGB to accommodate desired school, hospital, and other relocations within a 20-year time period. Ingrid and Laren voiced a willingness to assist the City prepare the application if needed.

Laren and Kevin agreed that the expansion application process is possible to complete within the TSP time period, but would require commitment on the part of the City to accomplish.

### **4. Plan for Considering Development outside UGB, Assumptions for Seaside TSP Work**

Discussions regarding potential school and hospital relocations outside the current Seaside UGB are preliminary and have not gone through a public process. For this reason, the group decided to defer the consideration of school and hospital relocation in the Seaside TSP future land use scenario until after the City, School District, hospital, County, DLCD had had the opportunity to discuss the potential UGB expansion with the public.

The group decided to move forward with a cumulative traffic analysis approach considering development and redevelopment potential within the existing Seaside UGB for the TSP work. If the UGB expansion application is reasonably complete before the TSP is adopted, the team may modify the land use assumptions and include relevant projects to support the prospective development. If the TSP is adopted before the UGB expansion application is completed, needed transportation projects to support the relocations would be included in a future TSP update.

## 5. Adjourn

The meeting adjourned at 5:00 pm. Action items are summarized below.

### ACTION ITEMS

No.	Item	Responsible	Timeline
1.	Review buildable lands inventory and develop timeline for preparing land use scenario, alert group when material will be ready for their review	Theresa/Sumi	Fri 7/25
2.	Prepare land use scenario	Sumi	Late July
3.	Review land use scenario	PMT	Early August
4.	Conduct future conditions analysis	CH2M HILL	August

## Project Management Team (PMT) Meeting #2

Kick-Off Meeting

**Monday, September 29, 2008**

**2:00 to 4:15 p.m.**

**Seaside City Hall**

## Meeting Summary

### ATTENDEES

<b>PMT Representatives</b>	<b>Consultant Team</b>
Kevin Cupples, City of Seaside	Theresa Carr, CH2M HILL
Ingrid Weisenbach, ODOT	Jamie Damon, Jeanne Lawson Associates
Mark Winstanley, City of Seaside	Sumi Malik, CH2M HILL
Laren Woolley, Department of Land Conservation and Development (by phone)	

This memo summarizes the items discussed during the September 29<sup>th</sup> Project Management Team (PMT) meeting for the Seaside Transportation System Plan (TSP). This memo focuses on PMT discussion and actions; please see meeting handouts for an overview of items presented.

### 1. Welcome, Review of Agenda, and Meeting Objective

Ingrid Weisenbach opened the meeting and welcomed the group.

### 2. Urban Growth Boundary Expansion Evaluation Status

Ingrid Weisenbach asked what steps the City has taken to evaluate their need to apply for an Urban Growth Boundary (UGB) expansion. Kevin Cupples reported that geotechnical analysis of land east of Wahanna Road is going to be done soon to determine the feasibility of locating schools, residential development, and possibly a hospital expansion in the area. One possible outcome is that no land in that area may be feasible for development, in which case, the City, along with Seaside School District would evaluate other potential sites.

### 3. Review of Existing and Future Conditions Analysis

Sumi Malik used a series of three maps separated into categories identified in the Transportation Summit – connectivity and mobility, pedestrian issues, and other alternative modes – to illustrate findings from the Existing Conditions and Future Conditions Analysis. She asked the PMT to review both map content for accuracy and how easy-to-read they are, because they will be used in the upcoming workshop. Findings from stakeholder interviews will be added to the maps.

### Connectivity and Mobility

Out of seven study intersections on US 101, three are above the standard or capacity now,

and all seven are above capacity in the future (2031). Nearly 2/3 of crashes (2001-2006) at intersections on US 101 were rear-end, and may be due to the close distance between driveways. Ingrid Weisenbach questioned how severe these crashes were. Theresa Carr answered that 69 out of 132 crashes resulted in property damage only, but nearly an equal number, 63 out of 132 crashes resulted in injury as well. No crashes resulted in a fatality. Ingrid Weisenbach asked that information about the severity of crashes also be added to the map. US 101 in the vicinity of Avenue U is identified as a Safety Priority Index Site (SPIS) site by ODOT. Ingrid Weisenbach and Kevin Cupples questioned the placement of the SPIS site on the map. They thought it should be at the signalized intersection of Avenue U, west of US 101 and not at the intersection of Avenue U, east of US 101. Sumi Malik will verify the correct placement of the SPIS site. Ingrid Weisenbach asked that results from queuing analysis be added to the map.

### **Pedestrian Issues**

The map highlights missing sidewalks and sidewalks on one side only for arterials and collectors. Kevin Cupples questioned the accuracy of a segment of missing sidewalk on US 101, between 2<sup>nd</sup> Avenue and 9<sup>th</sup> Avenue. This segment of US 101 is served by a multi-use path. Sumi Malik will verify the accurate placement of sidewalks, and asked that PMT members help by taking a careful look. Theresa Carr pointed out that we did not want the public to be distracted by such mistakes on the map. Sumi Malik stated that sections of sidewalk were missing in older residential areas, few sidewalks outside of the downtown area and newer residential developments were ADA<sup>23</sup> compliant, and in that in the future, existing pedestrian needs would affect a greater number of people as population and interest in walking grows. Jamie Damon suggested removing reference to study intersections and to add crosswalk locations on US 101.

### **Other Alternative Modes**

Sumi Malik led the discussion of bicycle and transit deficiencies (other alternative modes). The map highlights arterials and collectors that do not have a bicycle facility. US 101 between Holladay Drive and Lewis & Clark Road did not have an identified bicycle facility need, but Kevin Cupples pointed out that a bicycle lane exists only for northbound traffic, and not southbound; therefore a need does exist in this location. The map currently calls out US 101, north of Lewis & Clark Road and south of Holladay Drive as needing a bicycle facility. Ingrid Weisenbach pointed out that a wide shoulder would meet ODOT's standards for a rural highway in these areas; therefore, a deficiency may not exist. Kevin Cupples suggested adding a lack of bicycle facilities on east-west across bridges. Other identified bicycle deficiencies were: lack of bicycle parking; opportunity for bicycle enhancements such as signing, pavement markings, and traffic calming. Transit deficiencies, based on survey results, indicated a need for greater service and service frequencies. Jamie Damon suggested adding existing transit stops to the map for reference.

*Action:* The **PMT** will continue to evaluate the maps and will send suggestions to Sumi Malik by October 3<sup>rd</sup>. **Sumi Malik** will continue to develop the maps and will address comments.

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<sup>23</sup> Americans with Disability Act

#### 4. Findings from Stakeholder Interviews

Theresa Carr and Jamie Damon told the PMT major findings from stakeholder interviews with community leaders. They met with 12 community leaders in Seaside on Tuesday, September 23<sup>rd</sup> and Wednesday September 24<sup>th</sup>, 2008. The purpose of the interviews was to receive additional feedback from the community to supplement community input to date. The 12 community leaders represented local developers, delivery professionals, local business owners, the hotel industry, news media, the school district, religious institutions, and a former City Engineer. Several community leaders were familiar with the TSP; although they had not been actively involved until the interview. Most had kept up with the details of the Pac-Dooley project around the time of the public vote (May 2005). Some community leaders had lived in Seaside for over 25 years, two were new to the area, and several lived outside the Seaside city limits in 2005, and did not vote on the Pac-Dooley project. Theresa Carr and Jamie Damon asked each community leader a set of questions.

##### **What makes Seaside special? What transportation elements are working?**

Many pointed to the Pacific Ocean and the long stretches of sandy beach as Seaside's best asset. Many community leaders pointed to the Pacific Ocean and the long stretches of sandy beach as Seaside's best asset. As one person put it, "We live in a park," and cannot expect people to stop coming to the coast, but rather, we can learn to accept some traffic during the summertime, and try to make the travel experience better. The city is great for walking and bicycling, especially along the Promenade. Several thought that Broadway through the downtown core was a successful beautification project and the landscaping in particular was considered a positive element for visitors, business owners, and residents alike.

##### **What elements of Seaside's transportation system are not working?**

One stakeholder talked about how Seaside would grow, and that city leaders needed to consider the environment in design standards. One stakeholder pointed out that several properties on the west side of the highway south of Avenue U had no sewer system. A sewer upgrade project was proposed in the 1980's, but was delayed because the Pac-Dooley project would require those parcels. The Pac-Dooley project was rejected, but the homes remain. The lack of sewer has delayed any redevelopment that otherwise likely would have occurred.

Kevin Cupples added to the history of those properties. He stated that the properties were outside of the city limits, and that residents on those parcels had resisted inclusion in the city limits because it would increase their property taxes; although, they would receive city services.

Several said that traffic problems on US 101 were limited to a handful of weekends throughout the year, and were not significant when compared to larger urban areas. Most stakeholders pointed to the area of US 101 at the Safeway as a problem. Cars taking left turns are a problem, but pedestrians always are trying to cross and several leaders felt doing so at this location was very unsafe, but that pedestrians were unwilling to walk out of their way to cross at the signal. A pedestrian fatality occurred at this location early in 2008.

Mark Winstanley said that he has observed many people walk to the closest intersection to cross at a crosswalk as well, and some choose to take the risk and cross mid-block.

Wahanna and Holladay serve as good alternate routes to US 101 for locals, but improvements are needed to handle traffic, bicycle, and pedestrians. Services at North Coast Family Fellowship, which is in the vicinity of the intersection of Wahanna Road and Lewis & Clark Road, let out on Sundays, and up to 400 cars leave their parking area at once. The Wahanna Road/Lewis & Clark Road and Lewis & Clark Road /US 101 intersections are dangerous and difficult for cars to navigate, especially when making left turns onto US 101. The Fellowship directs parishioners to go south on Wahanna towards 12<sup>th</sup> Avenue or Broadway, where intersections with US 101 are signalized, and left turns are easier to make. Visibility in general from sides streets at US 101 is not ideal, and drivers cannot always see traffic before they turn onto the highway. Many also identified 12<sup>th</sup> Avenue as a problem area – west of the highway people are allowed to park on the busy street, making it difficult to fit a car in each direction.

Many felt that there are ways to improve US 101 by addressing flooding that occurs at the southern end of town, adding traffic signals, and beautifying the highway with landscaping and signage.

Theresa Carr pointed out that most leaders brought up the idea of a bypass and Pac-Dooley. With respect to Pac-Dooley, many felt that Pac-Dooley was better than doing nothing. Others felt that during the design process ODOT was unwilling to compromise on any project details which led to a perception at the time that ODOT did not care about the community. Several said that the construction schedule of three years including summers was too long and would be too much for businesses to bear. Most interviewed felt were not in support of a bypass or did not have an opinion on it. Some voice concern that local businesses relied on pass-by trips, and a bypass would eliminate this possibility.

#### **What ideas do you have to increase participation in upcoming workshops?**

Community leaders suggested sending fliers home with school children, an op-ed piece in the Signal, public service announcements on local radio stations (KOST 94.9 and KAST), and presentations to the Seaside Downtown Development Association, Chamber of Commerce, and Rotary prior to workshops as ways to increase participation.

Community leaders expressed interest in playing a meaningful role during the workshop. Jamie Damon suggested they could help with small group facilitation.

*Action:* **Theresa Carr** has asked for feedback from community leaders interviewed by Friday, October 3<sup>rd</sup>. Likewise, she would like feedback from the **PMT** by Friday, October 3<sup>rd</sup>.

### **5. Planning for Policy/Mode Workshop**

Jamie Damon led the discussion of the workshop, and provided a draft workshop outline. Generally, the outline called for a project open house between 5:00 and 5:30 PM with a light dinner; opening remarks, presentations on technical analysis, and instructions for the discussion groups between 5:30 and 6:25; discussion in groups until 7:25; and report out, with the meeting ending at 8:00 PM, equaling a 3 hour meeting.

Mark Winstanley questioned individual's interest in attending a 3 hour meeting, or a 2 ½ hour meeting if people skipped the open house. Mark Winstanley also pointed out that some people would want to jump directly into marking up maps. Jamie Damon said the



format as outlined didn't allow for large group question and answers, which was a concern to her.

The group concluded that project background and technical analysis information could be presented using boards in an open house format in one section of the cafeteria. Simultaneously, a round table discussion to identify problem areas and potential solutions could take place throughout the evening, allowing people to sit at the table as long as they wanted. This format would allow people to drop in at their convenience and to provide input based on their interest in a self-led way. The duration of the workshop would be between 5:00 and 8:00 PM, at Broadway Middle School in the Cafeteria on Thursday November, 6<sup>th</sup>.

Theresa Carr informed the group that the consultant team is meeting on October 15<sup>th</sup> to discuss their approach. She asked if the team should come with possible solutions in hand, or simply with deficiency areas identified. Kevin Cupples and Mark Winstanley suggested the team come prepared with potential solutions to which community members could respond.

## 6. Next Steps and Adjourn

The meeting adjourned at 4:15 pm. Theresa Carr relayed upcoming PMT participation needed and action items, as listed below.

### ACTION ITEMS

No.	Item	Responsible	Timeline
1.	Future Conditions—comments to Sumi Malik	PMT	By October 3 <sup>rd</sup>
2.	Evaluation Criteria—comments to Theresa Carr.	PMT	By October, 10 <sup>th</sup>
3.	Preliminary Alternative Concepts to PMT by October, 20 <sup>th</sup> . PMT to comment on concepts.	PMT	By October 31 <sup>st</sup>
4.	Participation in workshop	PMT	November 6 <sup>th</sup>

# ODOT Technical Review Meeting

Tuesday, December 2, 2008 1:00 p.m. – 3:00 p.m. ODOT Region 2 (Salem), RROC 455 Airport Road, Bldg B, Room 101

<b>MEETING SUMMARY</b>	
ATTENDEES	
ODOT	
Matt Caswell	Rod Thompson
Deryl James	TPAU
Angela Kargel	David Warren
Tim McGinnis	Ingrid Weisenbach
<b>Consultant Team</b>	
Theresa Carr, CH2M HILL	
Darren Hippenstiel, CH2M HILL	
<b>Sumi Malik, CH2M HILL</b>	

This memo summarizes the items discussed during the December 2<sup>nd</sup> technical review meeting for the Seaside TSP at ODOT. The purpose of the meeting was to review alternative concepts under evaluation by the consultant team and identify fatal flaws before recommendations are fleshed out in detail. The meeting packet included the following items:

1. Meeting Agenda
2. Study Area Map
3. Project Timeline
4. Project Needs Maps (3)
5. Cross Section Alternatives
6. Intersection and Local Roadway Alternatives
7. Bike/Ped Recommendations
8. Transit Recommendations
9. Evaluation Framework

## 1. Welcome and Goal of Meeting

Ingrid Weisenbach opened the meeting, welcoming the group and leading introductions. The objective of this meeting was to discuss concepts currently being reviewed for the

Seaside TSP to identify any concepts that were fatally flawed, to identify any new concepts that should be considered, and to discuss what additional information would be needed.

## 2. Project Overview

Theresa Carr led an overview of the project purpose and timeline. The goal of the Seaside TSP is to establish a system of transportation facilities, services, and policies to meet long-range (20-year) local transportation needs.

The TSP will be developed consistent with applicable TSPs and the TPR. Preparation of this TSP will be in accordance with TSP guidelines. It is intended to serve as the transportation element of the City's Comprehensive Plan. The TSP must address the various transportation facilities within the City's UGB, including, but not limited to:

- Roads
- Bicycle Lanes or Paths
- Sidewalks
- Transit Routes
- Airports
- Rail Facilities
- Pipelines

The project began in March 2008 and is expected to continue through April 2009.

## 3. Description of Need

Sumi Malik described the project needs, including congestion, bike/ped, connectivity, safety, and geometric. For more information, refer to the three needs graphics.

## 4. Alternatives Discussion

Theresa led a discussion of the alternatives under consideration. Following are comments and recommendations from the technical review team.

### US 101 Cross Sections

Width of landscaped median could be reduced to 14' if needed. Also, for the modified five lane section ODOT could consider as narrow as 8' though this is at their discretion. Further a design exception (DE) may be required however the group's opinion was that a DE would be feasible. There was some concern over having a cross section of varying width through the corridor, though some members of the group thought it would be fine. Suggestion was made that median could be utilized for stormwater treatment but regardless maintenance would prefer landscaping kept to minimum.

Discomfort over 11' travel lanes in the modified five lane cross section alternative. Desire to increase the width to 12' and take the 1' from the bike lane as bikes will shy less than vehicles, specifically trucks (i.e. 12' travel and 5' bike).

Discussion over feasibility of three-lane section due to mobility concerns especially at north and south ends. Conclusion to keep three lane on the table for discussion purposes but that congestion appears higher for this alternative than what would be considered acceptable.

Additional discussion over what impacts would be avoided under a three-lane option. As all options would include access management provisions, some of the access impacts associated with a five lane option would also exist under a three lane option.

Alternate mobility standards were discussed. It was pointed out that an exception to the mobility standards could be for the study period.

Design speed selected for standards selection is 40mph.

Action: CH2M HILL to conduct a qualitative assessment of built environment impacts associated with a three- versus a five-lane alternative.

### Intersection Alternatives

North end – graphic showing improvement options at the north end is confusing

Added structures over the Neawanna Creek would be expensive

Possible “very-long-range” solution at Lewis & Clark and Hwy 101 would be a grade separated connection

Structures might be able to clear span the creek

Roundabout doesn’t operate as well as signal

Question: What software was used to analyze the roundabout? Response: The TPAU roundabout analysis spreadsheet was used.

Question: Was a westbound right turn pocket analyzed at 12<sup>th</sup> Street? Response: No. The team has since added it and it reduces overall v/c but not by very much (about 0.04 total). Overall delay remains about the same as without the westbound right turn pocket.

Interest from the group in improving local streets such as Wahanna, 12<sup>th</sup>, and Broadway.

Some discussion from the group about the potential signal project at Broadway

Discouraged Avenue F/G Option 4 where intersections remained at the current alignment and signals placed at each. There was concern over mobility impacts from longer phase needed for local streets. This wasn’t taken off the table though.

Traffic had a concern over too many signals being added to the network. TSP could end up recommending four new signals, making seven total. Desire to look at reducing need for signals where possible. TPAU was less concerned with number of signals and suggested that existing and future signals could be synchronized to reduce delay associated with adding signals.

- New project idea: construct flyover of US 101 on Holladay, bringing the street back down to current grade south of the current intersection and east of the highway. Run along railroad right of way to Avenue U with a stop controlled or roundabout intersection at Avenue S. Tie back in to highway at Avenue U signal. Remove concepts of signals at Holladay and Avenue S.
- New project idea: Connect Holladay with Avenue S either along railroad right of way or east of railroad right of way.

- NOTE: Good signage would be needed to alert northbound traffic that they should turn east for access to Holladay, whether at Avenue U or Avenue S.
- NOTE: A reference should be added to the TSP if signals are recommended that State Engineer approval is needed for all signals on state highways and its inclusion in the TSP does not guarantee approval.

The group did not discuss bicycle, pedestrian, or transit options.

## 5. Next Steps and Adjourn

Ingrid closed the meeting at approximately 3:30pm. The next steps are for the consultant team to analyze the concepts suggested by the technical review team, conduct an evaluation process, and present to the Project Management Team in December and the public in January.

## Project Management Team Meeting #3

### **PMT MEETING # 3**

Monday, December 29, 2008

2:00 p.m. – 4:00 p.m.

Seaside City Hall, Council Chambers

### **Meeting Objective**

Review draft concepts and how they perform in relation to evaluation criteria.

### **Agenda**

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<b>No.</b>	<b>Item</b>	<b>Presenter</b>	<b>Time</b>
1.	Welcome, meeting purpose	Ingrid	10 minutes
2.	Project update <ul style="list-style-type: none"><li>– workshop summary</li><li>– alternatives development</li><li>– ODOT technical review meeting</li><li>– preliminary evaluation</li></ul>	Sumi	20 minutes
3.	Alternatives evaluation <ul style="list-style-type: none"><li>– Cross Sections</li><li>– Intersections and Local Roadway</li><li>– Bike/Ped</li><li>– Transit</li></ul>	Theresa	60 minutes
4.	Next steps <ul style="list-style-type: none"><li>– revise evaluation</li><li>– public workshop #2 January 20</li><li>– prepare draft plan</li></ul>	Ingrid	10 minutes

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## Project Management Team Meeting #4

### PMT MEETING # 4

Wednesday, January 7, 2009

1:00 p.m. – 3:00 p.m.

Seaside City Hall, Council Chambers

### Meeting Objective

Continue conversation about draft concepts and discuss public workshop.

### Agenda

No.	Item	Presenter	Time
1.	Welcome, meeting purpose	Ingrid	5 minutes
2.	Alternatives evaluation <ul style="list-style-type: none"> <li>– Roadway – South Segment</li> <li>– Bike/Ped</li> <li>– Transit</li> <li>– Close loop on highway concepts</li> </ul>	Theresa	60 minutes
4.	Public Workshop <ul style="list-style-type: none"> <li>– Meeting purpose</li> <li>– Format and staffing</li> <li>– Advertising</li> </ul>	Jamie	10 minutes
4.	Next Steps	Ingrid	5 minutes

# Project Management Team Meeting #5

## *PMT Meeting May 8, 2009 Summary*

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This document summarizes the May 8, 2009 PMT meeting.

### Recommendations Rollout

This brief document describes the proposed rollout of draft TSP recommendations related to transit, bicycle, pedestrian, and some roadway on the project website.

Each week for the next six weeks the team will roll out a different set of recommendations for the TSP and ask for public review and feedback. Feedback received on draft recommendations would be considered and incorporated as appropriate. Workshop 3 would highlight revised recommendations and focus discussion on highway and Wahanna Road concepts.

#### SCHEDULE

No.	Improvement Type	Rollout Date on Website
1	Roadway – North	May 29
2	Roadway – Central	June 5
3	Roadway – South	June 12
4	Bicycle/Pedestrian	June 19
5	Transit	June 26
6	Functional Classification Plan	July 10th

We recommend organizing recommendations by mode as this is the way the public has seen material presented to date, and this is the organization required for the TSP itself.

Material would be organized on the website in a manner that makes sense and maximizes visibility. Original material would be housed under Project Materials/Step 4: Assembling the Draft Plan. To maximize visibility, an announcement would be placed on the home page with a headline, a one-line tease, a screenshot of the map to be reviewed, and a link to the Weekly Update page.

The weekly update page would provide a description of what we're doing, and two links:

1. Map of draft recommendations (the what)
2. Description of draft recommendations (the why)

The remainder of this document focuses on how to get the word out to the public that the material is ready for review and comment.



## GETTING THE WORD OUT

No.	Concept	Who	When
1.	Create Flier	Brandy	By Friday May 29
2.	Distribute Flier to Schools, Interested Parties List, PMT, and Kim Jordan	Brandy	By Friday May 29
3.	Finalized Press Release to ODOT	Brandy	By Thursday May 28
4.	Finalize Press Release and Distribute to Newspapers and Radio	Adam	By Friday May 29
5.	Print copies of flier for City Hall, Library, Chamber of Commerce	Kim	By Wednesday June 3
6.	Post fliers at Safeway and businesses	Ingrid	By Friday June 5
7.	Use press release and flier for blurbs in community newsletters, SDDA, Chamber, and Rotary	Kim	By Wednesday June 3
8.	Announce what we're doing at Chamber, SDDA, and Rotary	Mark, Neal, Kevin	By Friday June 5

## Other ideas include:

- Put flier in June water bills
- Forward flier to stakeholders and elected officials (e.g., SETD, Port of Astoria, North Coast Community Fellowship, WAG, Community Center, BikeFriendly.org, Seaside Visitors Association, Senator Johnson, Representative Boone)

## Agency Team Meeting between ODOT and the City of Seaside

Tuesday June 16, 2009

2:00 – 4:00 p.m.

Seaside Convention Center

### Participants

Kevin Cupples, City of Seaside

Mark Winstanley, City of Seaside

Neal Wallace, City of Seaside

Theresa Carr, CH2M HILL

Ingrid Weisenbach, ODOT

Jamie Damon, Portland State University

### Summary

This document summarizes the key discussion and action items for the June 16, 2009 meeting, and is not intended to serve as meeting minutes.

#### 1. Project Website

The City asked that CH2M HILL centralize the project recommendations on the website so that people can easily see both this week's and past weeks recommendations on one page.

The group agreed that CH2M HILL should start emailing interested parties list when the site has been updated

#### 2. Recap since Last Meeting

Mark has held conversations with City Councilors and the Mayor. They are supportive of pursuing alternate mobility standards, but are looking for a commitment from ODOT that they are serious in their willingness to pursue.

Ingrid has had additional conversations within ODOT, and the agency is willing to pursue the conversation of alternate mobility standards.

#### 3. Moving forward

Both parties would like a letter of commitment. The letter should be worded positively and not be inflammatory, but state to each other each agency a public commitment to the TSP process and request the consideration of alternate mobility standards. Development of an alternate mobility standard would be at the staff level (letters would replace an upfront council meeting to describe process), and presented to city council and ODOT technical review at the point of alternatives for feedback.

The team would engage the community leaders at the point immediately before the letters are "shared."

#### 4. Actions:

1. Jamie will draft letters for ODOT and the City to submit by 6/23
2. Theresa will schedule the next meeting for the PMT

## Agency Team Meeting between ODOT and the City of Seaside

Tuesday July 7, 2009  
2:00 – 4:00 p.m.  
Seaside Public Library

### Participants

Kevin Cupples, City of Seaside  
Neal Wallace, City of Seaside  
Ingrid Weisenbach, ODOT  
Mark Winstanley, City of Seaside  
Theresa Carr, CH2M HILL  
Jamie Damon, Portland State University

## Summary

This document summarizes the key discussion and action items for the July 7, 2009 meeting between the City of Seaside and ODOT, and does not document details of presentations made.

### 1. Website/Recommendations Update

Theresa reported that the site had received about 300 hits since May 29<sup>th</sup> (the first week of the recommendations rollout). The team has received 25 comments through the website.

Brandy Steffen (CH2M HILL) has placed the TSP website link onto Wikipedia, and has begun emailing the interested parties list each time the site has been updated.

### 2. ODOT, City of Seaside Update

Ingrid shared that ODOT was ready to send their letter to the City, and would have very few changes from the draft Jamie sent on June 24<sup>th</sup>.

Mark shared that he was meeting with City Councilors and the Mayor to review the draft letter Jamie sent, and would have an update by the middle of next week (week of July 13<sup>th</sup>).

### 3. Methodology for Alternate Mobility Standards

Theresa presented a workplan for developing alternate mobility standards between July and the end of 2009. The workplan has three tracks – technical, policy, and meetings/decision points. The group identified two critical times in the workplan:

1. **September** – timing for a technical review meeting with ODOT staff to discuss how various options are performing. Depending on how the agency responds to actual concepts that use alternate mobility standards, additional work may need to be done before moving forward with concepts.
2. **November** – timing for community workshop. As this is the first time some members of the community will see how the draft highway concepts perform, additional work may be needed following this meeting and before the next step (transportation summit).

To be sensitive to the schedule risks the team agreed to wait to schedule the City Council presentation until after the ODOT technical review meeting, and will wait to schedule the transportation summit until after the community workshop.

Theresa then presented the traffic findings (v/c, queuing) to date for the following scenarios:

- Future no build
- Highway 2 lane with improvements to local street network
- Highway 4 lane
- Highway 2 lane for typical weekday conditions

The group discussed the following:

- Support lower density land use adjacent to the highway i.e. the redevelopment of the High School if it is moved to higher ground.
- Support access control in combination with any future land use change that increases density.
- Explore alternative access to the High School now to reduce trips on the highway.
- Need commitment to local network from the city – critical to removing trips i.e. Holliday flyover. Seems a bit farfetched but is actually an important connection for the local system.
- Look at opportunities for dedicated turn pockets to help clean out intersections in combination with changes to the street grid.
- Explore a bicycle lending program at the hotels to encourage guests to bike rather than drive.

#### 4. Next Steps

1. The group supports the “typical weekday” approach
2. Mark – has meetings scheduled with councilors regarding the letter
3. Theresa/Sumi - analyze a 4 lane section up to F & G; 2 – 3 lanes at 12<sup>th</sup>. Analyze in segments. Recognize that there is less of a need for a 4-5 lane section closer to 12<sup>th</sup>.
4. Kevin – identify more land use ideas to reduce traffic on highway
5. All – continue the creative thinking of how to remove local trips from the highway
6. Neil – coordinate with Theresa/Sumi regarding engineering analysis.
7. Theresa/Sumi – take another look at the US 101/24<sup>th</sup> intersection. Can’t be 1.72!

The next agency meeting was scheduled for August 4, 2009 from 2-4pm at the Seaside Public Library. Agenda items to include:

1. Outcome of analysis of ideas to date
2. Other ideas to analyze
3. Status of letters
4. Follow up on 24<sup>th</sup> numbers
5. How to address/respond to feedback received on recommendations.

## Agency Team Meeting between ODOT and the City of Seaside

Tuesday August 4, 2009

2:00 – 4:00 p.m.

Seaside Public Library, Community Room

### Participants

Kevin Cupples, City of Seaside

Neal Wallace, City of Seaside

Ingrid Weisenbach, ODOT

Mark Winstanley, City of Seaside

Theresa Carr, CH2M HILL

Jamie Damon, Portland State University

### Summary

This document summarizes the key discussion and action items for the August 4, 2009 meeting, and is not intended to serve as a full description of items presented.

#### 1. ODOT, City of Seaside Update

ODOT's TDD group has put together a white paper on use of alternate mobility standards which will be ready in draft form soon (this month). Ingrid met with Region 2 Planning and TDD about use of alternate mobility standards in Seaside. The group was comfortable with exploring typical weekday traffic volumes, and discussed a v/c of 1.0 as a potential threshold. The group requested that CH2M HILL calculate duration of delay (defined as number of hours where congestion is higher than a given threshold) for two scenarios:

- (a) Extension of Wahanna Road to the south
- (b) No extension of Wahanna Road

Theresa will explore this with CH2M HILL's traffic engineering group.

The City's letter of commitment is signed and ready to be mailed to ODOT. Mark will mail the letter to arrive by Tuesday August 11<sup>th</sup>. Ingrid will coordinate with ODOT Region 2 Planning to have a letter of commitment in response mailed by Friday, August 14<sup>th</sup>. CH2M HILL will post letters on the website as soon as they are available.

Jamie will draft a press release about where the project is heading, to be sent to the City and ODOT by Monday, August 17<sup>th</sup>. Mark will discuss both the press release and the ODOT letter with City Council members between August 20<sup>th</sup> and 24<sup>th</sup>. Jamie will coordinate with ODOT to send the press release the last week in August.

Theresa will call stakeholders prior to the press release to brief them and to schedule the next round of interviews for mid-September.

## 2. Review Methodology Write-up

Theresa presented the draft methodology write-up describing the potential use of alternate mobility standards. She walked the group through nine steps including consideration of local street improvements, alternate modes, land use decisions, and access management. The following comments were made:

- (a) Step 1 and throughout – the write-up describes the TSP but not the other deliverable package that will be needed through this process – the findings package that will be prepared for the Oregon Transportation Commission. The OTC will actually adopt the alternate mobility standards so this deliverable will be very important.
- (b) Step 3 – make sure to emphasize that the investment in alternate modes will actually make a difference (albeit small) in traffic operations.
- (c) Step 6 – the Seaside TSP will need to be slightly more specific than most in describing access management strategies. The TSP will need to discuss the function of the highway.
- (d) Step 7 – update the methodology to include a discussion of duration of delay, with and without an extension of Wahanna Road.
- (e) Step 8 – Ingrid emphasized the need for the write-up to be sufficiently detailed for a variety of audiences.

Theresa then walked the group through two outstanding questions.

Question 1 asked about a statement in Oregon Highway Plan (OHP) Policy 1F where it said that alternate mobility standards outside an urban area would need to be part of a larger corridor plan. Ingrid stated that the white paper being developed by TDD would address this.

Question 2 asked whether it would be needed to look at the ultimate preferred alternative (once identified) for the highway in the 30<sup>th</sup> highest hour in addition to typical weekday. The group decided that this would be necessary.

## 3. Review Initial Highway Options

Theresa presented four initial options for the US 101 corridor:

1. Two lane with turn lanes at key intersections (turn lanes on US 101 only)
2. Two lane with turn lanes at key intersections (turn lanes on US 101 and side streets)
3. Option 2 with an additional southbound through lane at 24<sup>th</sup> Avenue
4. Two lanes that widened to four lanes between Avenue G at the south and 12<sup>th</sup> Avenue at the north

All options were analyzed for typical weekday conditions, and showed v/c and queue lengths. With one exception (option 2, US 101/Broadway) v/c were under 1.0, however queue lengths varied between 125' (Option 4, 12<sup>th</sup> Avenue southbound) and 3,500' (Option 3, Broadway northbound). The group made the following suggestions:

- Bold the critical movement on the graphics to show what was causing the problem

- Consider an option that keeps the middle narrow and widens at the north and south
- ID the pros and cons of each option (including assessment of available right-of-way)
- Look at the length of the queues on the side streets
- Consider possible issues (example: connectivity for autos east of US 101 between Broadway and 12<sup>th</sup> Avenue) and potential mitigation
- Consider with and without the Wahanna Road extension

Theresa will work with the design team to explore these items and will return with responses at the next agency meeting.

The group set the next meeting tentatively for Tuesday September 1<sup>st</sup>, 1:00pm at Seaside Public Library, Community room.



## PMT Meeting # 6

Wednesday September 9, 2009

9:00 a.m. - 12:00 p.m.

Seaside Public Library

### Participants

Kevin Cupples, City of Seaside

Bill Holmstrom, DLCD

Neal Wallace, City of Seaside

Ingrid Weisenbach, ODOT

Mark Winstanley, City of Seaside

Theresa Carr, CH2M HILL

Terry Yuen, CH2M HILL

### Summary

This document summarizes the key discussion and action items for the September 9, 2009 meeting, and is not intended to serve as meeting minutes.

#### 1. Project Update

ODOT and the City of Seaside both reported that their letters of commitment had been mailed to each other's agencies in August. Theresa distributed a copy of both letters to meeting participants. The group noted that no new stories had been published, but that Theresa had spoken with several project stakeholders to make sure they were aware of the latest project status. Theresa and Jamie will be in Seaside meeting with key stakeholders on Tuesday, September 29.

Ingrid told the group that ODOT had a meeting set up in the near future to look at work completed to date on the highway options in Seaside. Mark noted that the work needs to be done in conjunction with City Council, Planning Commission, and the community to be sure to capture and address concerns that arise from these groups.

Kevin gave an update on the school district's considerations of new lands outside the UGB. The school is considering the feasibility of lands at higher elevations east of Seaside. Much work remains to be done before any relocation occurs - including identification of needs, modification of the Comprehensive Plan, UGB amendment, schools bond, and design.

#### 2. Present Highway Concepts

Theresa and Terry presented a total of eight concepts to the group. These concepts were comprised of two vantages of four unique alternatives:

Alternative 1: Widen US 101 between 12<sup>th</sup> Avenue and Avenue F/G.

Alternative 2: Widen US 101 north of 12<sup>th</sup> Avenue and south of Avenue S

Alternative 3: Widen US 101 only at key intersections

Alternative 4: Widen US 101 and side streets at key intersections

The two vantages were that all alternatives were considered with a project to extend Wahanna Road to the south, and without. The group considered how this one improvement to the local street network affected highway operations.

This analysis also took into consideration a shift in modes due to the investment in the bicycle, pedestrian, and transit network - an approximate 6% shift in the future (2030) year operations.

Meeting handouts contain details on each of the four alternatives. Discussion from the group included:

Describing how we determined shift in modes will be important when presenting information to the community and elected officials

Traffic volumes crossing US 101 at Lewis and Clark and at Avenue U are very low, probably lower than they should be. Terry will check on this.

Also important is the fact that we looked at options with and without an extension of Wahanna Road as this project may be challenging to build as the land is outside the City Limits and outside the UGB.

Discussion about projects at 24<sup>th</sup> and Holladay being expensive items – how realistic is it that these will be built? Ingrid requested that the technical team analyze highway operations with and without these projects for at least one highway alternative.

Queues in the southbound direction at 24<sup>th</sup> are awful (in several alternatives, greater than ½ mile in length) yet widening to include a second southbound lane only pushes the bottleneck to the south (12<sup>th</sup> and Broadway). The group discussed the pros and cons of this and asked Ingrid to discuss what queue lengths were going to be considered acceptable within ODOT.

The City asked about the length of left turn pockets at 12<sup>th</sup> and at Broadway. Terry will look into this.

Mark asked about a hybrid of Alternatives 1 and 4 that widened the highway just between Avenue F/G at the south to north of the Broadway intersection (around 3<sup>rd</sup>). Terry will prepare this alternative and send to the group by Monday, September 14. The PMT agreed to review this alternative and provide feedback by Friday, September 18.

### **3. Discuss Zoning and Access**

Theresa presented a memo on zoning along US 101 in Seaside and the group discussed what types of development and access are allowed in certain zones. The group agreed that some review and feedback would be appropriate by both the City and ODOT before certain traffic generators were permitted along the highway. A few options for how to address this in the TSP were discussed:

- Overlay zone along US 101
- Trip allowances along US 101
- Model code for developments that encourage walking and bicycling
- Allowed uses vs. conditional uses

The City asked that the technical team prepare some possible ordinance language that would relate to uses along the highway, and that this language is sent out in extra time in advance of the next meeting so as to allow the City to discuss before the PMT meeting. The group had similar feelings about access. There was general agreement that the TSP would take access language a step beyond what is typical, but stop short of being a true Access Management Plan. The PMT asked that the technical team take a stab at an access management section and send it in advance of the next meeting for discussion.

#### **4. Evaluate and narrow list of concepts**

Theresa asked the team if they were comfortable not forwarding any of the four alternatives. The group responded that they were comfortable not conducting further analysis on Alternative 2 or 3 as they did not operate as well and/or had greater impacts as the others. Further, it was suggested that the team review the hybrid alternative and depending on how that operated consider just doing further analysis on that one alternative.

#### **5. Map out next steps**

Theresa and Ingrid discussed the timing of an ODOT technical review meeting and the City Council/Planning Commission Worksession. They tabled that conversation and suggested that an updated workplan be created offline and sent to the group. Action items from the meeting include:

1. Terry will prepare a hybrid alternative and send to the PMT by Monday September 14
2. The PMT will review the hybrid alternative and send feedback to Theresa by Friday September 18
3. Theresa and Ingrid will prepare an updated workplan and send to the PMT the week of Monday September 14
4. Terry will consider the number of trips crossing US 101 at Lewis and Clark and Avenue U, and will determine the length of the left-turn pocket at Broadway and at 12<sup>th</sup> Avenue
5. Once an updated workplan is ready, Ingrid will schedule the ODOT Technical Review Meeting
6. Once an updated workplan is ready, Kevin will schedule the project for a City Council and Planning Commission Worksession
7. Theresa and Jamie will meet with stakeholders in Seaside on Tuesday September 29
8. CH2M HILL will prepare draft ordinance and access language to discuss with the PMT at its next meeting

## **PMT Meeting # 7**

Wednesday October 13, 2009

1:30 p.m. – 3:30 p.m.

Seaside City Hall

### **Participants**

Kevin Cupples, City of Seaside

Mark Winstanley, City of Seaside

Bill Holmstrom, DLCD

Jamie Damon, Portland State University

Matt Spangler, DLCD

Theresa Carr, CH2M HILL

Neal Wallace, City of Seaside

Terra Lingley, CH2M HILL

Ingrid Weisenbach, ODOT

### **Summary**

This document summarizes the key discussion and action items for the October 13, 2009 meeting, and is not intended to serve as meeting minutes.

### **Project Update**

Theresa and Jamie provided an overview of the stakeholder meetings that were conducted recently. A variety of stakeholders were interviewed based on recommendations from the City, and one stakeholder contacted Theresa directly to ask for an opportunity to discuss the project. The purpose was to check in with community leaders to make sure they're aware of the process so far. Theresa and Jamie found that stakeholders were not as up-to-date on the recommendations. They spent most of the time with stakeholders informing them of the process. It is important that everyone is aware of the process and understands that the recommendations are a package that works together to reach the goals of the project.

Ingrid reported on the ODOT internal coordination and is talking with Region 2 people within ODOT on the alternate mobility standards. She described it as a "trigger" or stairstep methodology, where if x happens, then y happens to achieve the alternate mobility standard. ODOT feels that Seaside is in a good starting place to move forward with the alternate mobility standards. They are comfortable with where the process is heading and are interested as the process moves forward.

### **City Council/Planning Commission Briefing**

Mark noted that the Planning Commissioners are probably similarly informed on the project as the stakeholders that were interviewed. They are interested in the discussions about the highway.

In approaching next week's meeting, we don't want them to have the perception that "we've figured it all out" - they need to understand that they're part of the decisions moving forward, and that what is being presented is simply a concept and not the final decision.

The conversation should center around how they feel about the concepts and make sure that the process is open and nothing is decided in a back room somewhere. It should be clear how the process moves forward from here.

There are two big issues that need to be addressed, or they will gridlock the conversation:

1. Bypass – it should be explained that this is a longer term project outside of the 20 year time frame for the TSP. The discussion about a bypass does not belong in this first iteration of the TSP.
2. Flooding south of town – the next step should be clear – further study is needed to address this issue, and will happen outside of the TSP process.

Keep the presentation informal, help people feel comfortable to have the discussions, come up with ideas, they should not simply bless the concepts already presented.

The presentation should emphasize the concern about the character of the town.

Need to be clear that the project is looking for feedback from this meeting, to see if the plan is heading in the right direction.

Staff should have answers about what was looked at and why it was set aside, to show that the technical work was done, and if concepts already set aside come up again.

The presentation should clearly be requesting information and input, not dictating solutions at this point.

### *Materials*

Theresa asked the group what was needed for next week's meeting.

- Pros and cons sheet of the concepts being looked at
- Graphic of the hybrid as it is now
- The 2 pager on the Oregon Highway Plan language
- Transit recommendations poster
- Detailed schedule – color the box “you are here”

Jamie noted that if you go in with the attitude of “we’re creating this together”, it will be more productive. Ask the Commission specifically what to ask the community, and what advice we need from the public. The project is not “running away” from this process.

It is important to remember that the alternative development standards are a test, a model, and could be an example for other communities on the coast and elsewhere.

Another important thing is that the TSP is not a static document. This effort is the beginning, there will be revisions and changes.

### **Draft Land Use Language**

Terra then walked through the US 101 Overlay draft ordinance for the team to review, talked about how this language could be integrated into the Seaside Zoning code, and that it was

based on the Model Development Code document produced by DLCD, and the details were changed to apply to Seaside.

Kevin suggested that the definitions be used throughout the code, and that some definitions were repeated within the language.

Mark asked about cap and trade language, and Theresa replied that it is very specific and based on detailed traffic analysis which was difficult to do on a corridor-wide basis. Most trip cap/budget examples happen within interchange areas. Mark suggested that the larger landowners generally have multiple parcels throughout town, so they could shift trips to other parcels they may own.

Kevin was concerned with changes to the zoning code possibly opening the City up to Measure 37/49 claims and suggested incorporating the draft language into a guidance document for implementing the already extant access and landscaping guidelines in the Zoning code. Developers and landowners are savvy enough to get around using new code, and the city would end up using the previous zoning.

Jamie asked what other tools could be used to achieve the same results. ODOT is interested in having assurance that the City would work to maintain congestion levels on US 101 within the agreed-upon levels, and the City is interested in minimizing risk of lawsuit due to zoning changes.

Ingrid noted that a lot of the pedestrian and bicycle way language in the draft ordinance should show up outside of an overlay zone, included in the overall zoning for the city, so the overlay zone could be less complicated. Pedestrian and bicycle ways and parking should be implemented City-wide, instead of just the overlay zone.

An alternative to the overlay zone could be a white paper for the process instead of an addition to the code.

The discussion was tabled and a list of action items was drawn up:

- Matt will look at Measures 37 and 49 to see if they would apply in the case of an overlay zone
- Terra will look at the current landscape and access requirements on US 101 in the zoning code
- Ingrid will think about what ODOT expects to maintain mobility on US 101
- The City will review the draft code and think about what they like and don't like, and how to get a commitment to maintain mobility and ensure continuity forward

### Access Management

Theresa then provided an overview of the work done on Access management. She described the level of detail, as most access management pieces of TSPs are general. She walked through the North, Central and South maps for generalized access management, and specifically pointed out areas where various access management techniques were suggested, including a raised median and frontage road. The way the access management language within the TSP will work is based on triggers for different access management guidelines.

There are two main categories for access management in the draft recommendations:

1. Reduce the number of accesses
  - Relocation of access to local streets
  - Driveway consolidation, shared parking, and/or frontage or backage roads
2. Restrict Accesses
  - To right-in, right-out only (no median or painted median)
  - Raised median

Theresa asked City staff to look at the draft access management recommendations and see if they are detailed enough or too detailed. Neal especially should weigh in on the medians and frontage roads as he has the most knowledge of the available right of way, and if the recommendations make sense.

US 101 near the Safeway is one of the areas where a raised median is highly recommended since there is a documented safety issue at that location.

### Next Steps

Action items were discussed for the City Council/Planning Commission worksession:

- Questions or materials for the worksession to Theresa ASAP
- Theresa will compile materials by Friday October 16
- The City, ODOT and DLCD will review draft ordinance language details by Friday October 23
- The City, ODOT, and DLCD will review access management maps by Friday October 23

## PMT Meeting # 8

Tuesday, November 17, 2009

1:00 p.m. – 3:00 p.m.

Seaside City Hall

### Participants

Kevin Cupples, City of Seaside

Mark Winstanley, City of Seaside

Matt Spangler, DLCD

Theresa Carr, CH2M HILL

Neal Wallace, City of Seaside

Terra Lingley, CH2M HILL

Ingrid Weisenbach, ODOT

### Summary

This document summarizes the key discussion and action items for the November 17, 2009 meeting, and is not intended to serve as meeting minutes.

#### Feedback from the October 20<sup>th</sup> Worksession

Theresa asked the group if there was feedback from the councilors/commissioners about the worksession on October 20<sup>th</sup>.

For the most part the councilors/commissioners seemed to understand the presentation. There were some concerns that for the TSP, accepting a higher alternate mobility standard is under building the highway and keeping the cross section to three lanes in some areas of Seaside, and will not solve the issues on the highway.

The next meeting is scheduled for 2 hours, and the process will be similar, making sure that everyone is on the same page, and then it is time for a conversation and a need to mull things over.

There was a discussion about changing the room/table set up so that everyone can sit at the table, and it would be more of a discussion than a presentation.

### Access Management

Theresa walked through the memo, pointing out what has changed from the previous version.

Comments from the PMT included redefining when access management comes into play: upon development or redevelopment of parcels, or in the event of a major reconstruction of US 101. Another comment was to include additional text in section 2) Restrict Accesses, to provide some text about the possibility of access management around the signal to continue to protect mobility along US 101 and around signalized intersections.

The group then looked at the maps and made suggestions for refinements, starting with the North section, moving south.



## North

The call-out box on the east side of the highway was suggested to delete the strikethrough sentence: “No other north-south streets between US 101 and Newanna Creek Exist. ~~Look for opportunities to consolidate access in the area.~~”

The next call-out box was changed from “possibility for minimal frontage road or access lane to achieve local access” to “Adequate space exists for possible frontage road or access lane to achieve local access.”

The coloring around US 101 on the east side of the highway starting at across from the high school south to 12<sup>th</sup> Ave was suggested to be changed to yellow to denote that there were opportunities to consolidate and/or relocate access to local street.

The legend for all the maps should be changed:

- “Frontage road” needs to be changed to “Frontage road/backage road, or cross-easement or shared parking lots”
- The blue line legend should read “Consolidate, relocate, or modify to right-in, right-out.”

The PMT noted that the bus barn already has an easement over City property and a consolidated access to the street, so they are in effect, already complying with access management suggestions.

The group talked about how Hood to Coast was suggesting a permanent pedestrian bridge over US 101, and there is a meeting scheduled with the City, ODOT and Hood to Coast representatives. The bridge would need to meet ADA requirements, which would increase the footprint and the price of construction. There was a discussion about the lack of funding to implement a pedestrian bridge up to standard, but if one were to be built, it should line up with the bridge over Newanna Creek. Theresa noted that the TSP considered a similar project, but it was shelved due to the high cost and amount of land associated with constructing it to ADA standards.

Kevin was concerned that the frontage/backage doesn't include consolidation and shared parking lots or crossover easements. The legend was amended to reflect this.

Mark was concerned that the lines on the map do not suggest flexibility, but clarification is needed that this is not a specific strategy, and is general guidance for where the City wants to be for the TSP before heading into an access management strategy, which will be done at a later date. The TSP is a framework, not the rule for access.

Kevin noted that reciprocal easements are common in Seaside development practices.

The group suggested adding a call-out box to the map for the signal areas and adding text about possible additional access restrictions near the signal areas.

For the worksession on the 30<sup>th</sup>, the group suggested that 1 set of large plots with the comments incorporated, along with handouts for the group (enough for the public and the members).

Additional comments and concerns will be emailed to Theresa by COB Friday.

## Draft Zoning Language

Terra then went through the zoning language noting where changes have been made, and then there were comments and discussion.

## Upcoming Worksession

It will be the same audience as the October 20<sup>th</sup> worksession.

Mark will provide a brief overview of the project

Ingrid will discuss the access management piece

Kevin will discuss the land use piece

Handouts will include:

- Access Management memo
- Access Management Maps
- Land Use ordinance memo, watermarked with “Draft”
- Kevin will take a stab at creating an example or step by step process on what exactly the overlay zone will entail.

What we are asking the group:

- What are they comfortable with sharing with the public? Is the group comfortable with what was presented.

The group decided to wait on scheduling the upcoming public workshop until after the worksession on the 30<sup>th</sup>. The public workshop will likely be mid-January.

## Joint City Council/Planning Commission Worksession –

November 30, 2009

The project team presented the draft access management framework figures and the revised draft alternate mobility standards.

## Project Management Team Meeting #9

### **PMT MEETING # 9**

Thursday, March 4, 2010

1:30 p.m. – 4:00 p.m.

Seaside City Hall, Council Chambers

### **Meeting Objective**

Approve organization and format of draft TSP document (cover style, document style, graphics style); review Wahanna Road boardwalk and HtC concepts; and discuss draft cost estimates and funding options.

### **Agenda**

<b>No.</b>	<b>Item</b>	<b>Time</b>
1.	Elements of draft TSP <ul style="list-style-type: none"> <li>– Cover</li> <li>– Text</li> <li>– Graphics</li> <li>– Appendixes</li> </ul>	30 minutes
2.	Hood to Coast request <ul style="list-style-type: none"> <li>– Possible locations for a pedestrian overcrossing</li> <li>– Pros, cons, and things to consider</li> <li>– Do any locations provide transportation benefit?</li> </ul>	30 minutes
3.	Wahanna Road <ul style="list-style-type: none"> <li>– Follow up from last meeting</li> <li>– Revised cross sections and boardwalk concept</li> </ul>	30 minutes
4.	Cost estimates and funding options	45 minutes
5.	Map out next steps <ul style="list-style-type: none"> <li>– Possible City Council/Planning Commission Worksession (March 29?)</li> <li>– Refine and package highway recommendations</li> <li>– Draft TSP (Volume 1 - TSP Recommendations and Volume 2 - Appendixes)</li> <li>– Targeted web outreach</li> <li>– Transportation Summit</li> </ul>	15 minutes

# Joint City Council/Planning Commission Worksession

March 29, 2010

## Joint City Council/Planning Commission Worksession

May 13, 2010

The project team presented and received input on the following topic areas:

1. Final draft of land use overlay zone and access management
2. ODOT priorities, and discussion about the larger projects being outside of the 20 year planning time frame
3. City priorities
4. Conversation about the bypass and why it is not included as a project in the TSP.