SEASIDE TRANSPORTATION SYSTEM PLAN

VOLUME I: Plan

PREPARED FOR

City of Seaside

WITH SUPPORT FROM

Clatsop County

Oregon Department of Transportation

Oregon Department of Land Conservation and Development

OCTOBER 2010

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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.

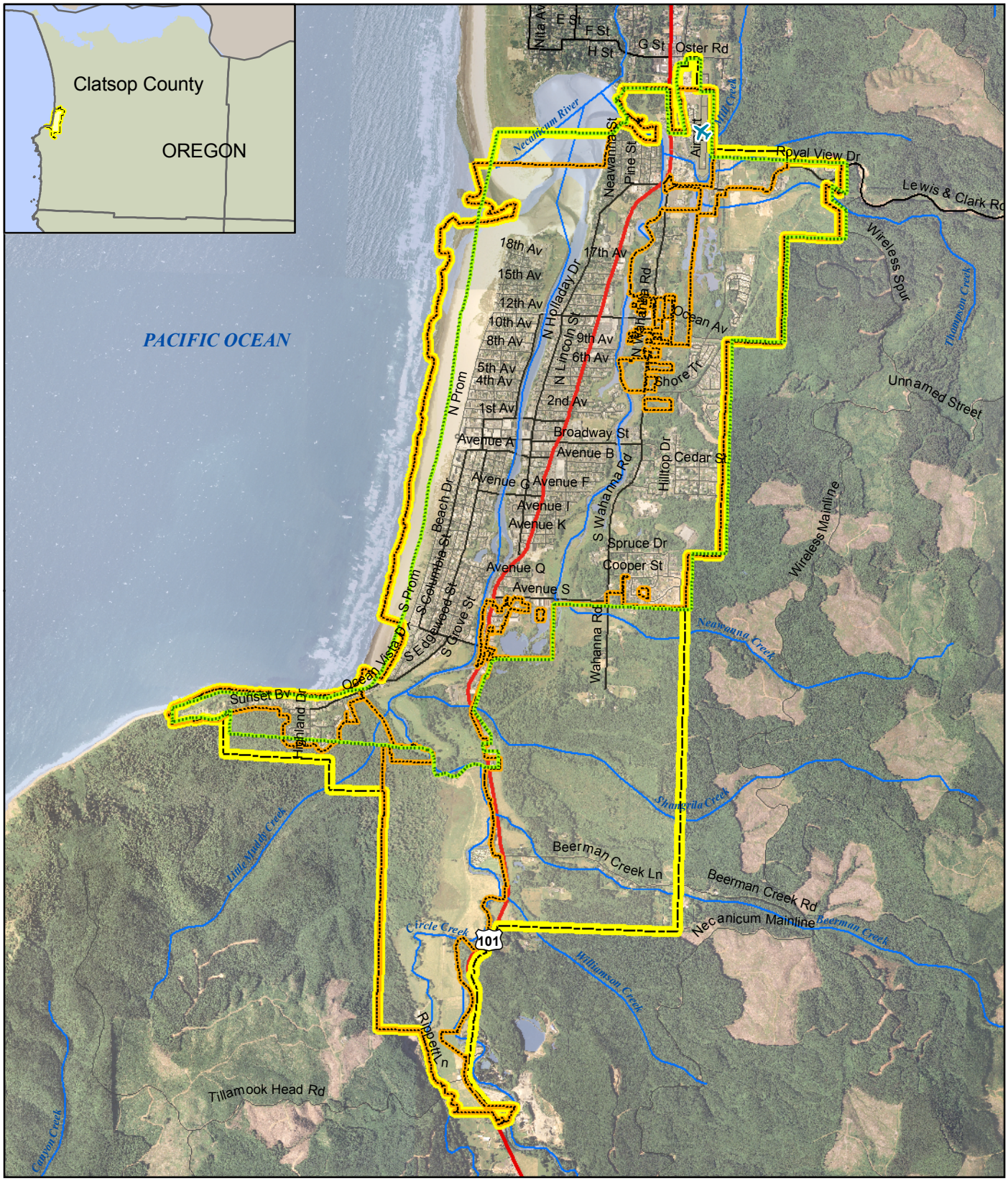
Project Leadership

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.



LEGEND

- Study Area
- Urban Growth Boundary
- City of Seaside Boundary
- Major Collector
- Minor Arterial
- Local Road
- Highway 101

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Miles

Figure 2.1
Transportation System Plan
Study Area

City of Seaside, Oregon
Transportation System Plan

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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.seasidetsp.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.

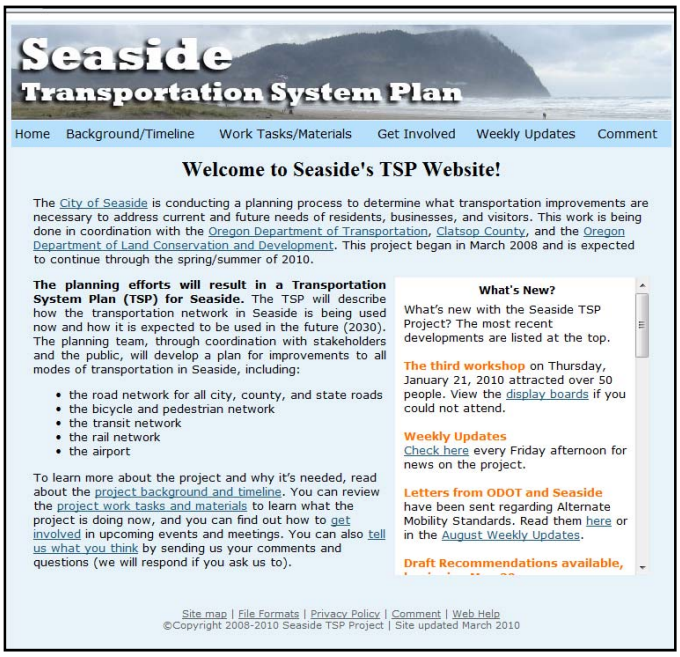

Figure 2.2 Seaside TSP Web Site

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 transportations 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 30th Highest Hour (HH), literally the 30th busiest hour of the year. In Seaside the 30th HH is always during summer-time weekend afternoon.

Roadway Deficiencies

- *Intersection Congestion* – Based on future (year 2030) 30th 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.

3 MODAL PLANS

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 30th 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.

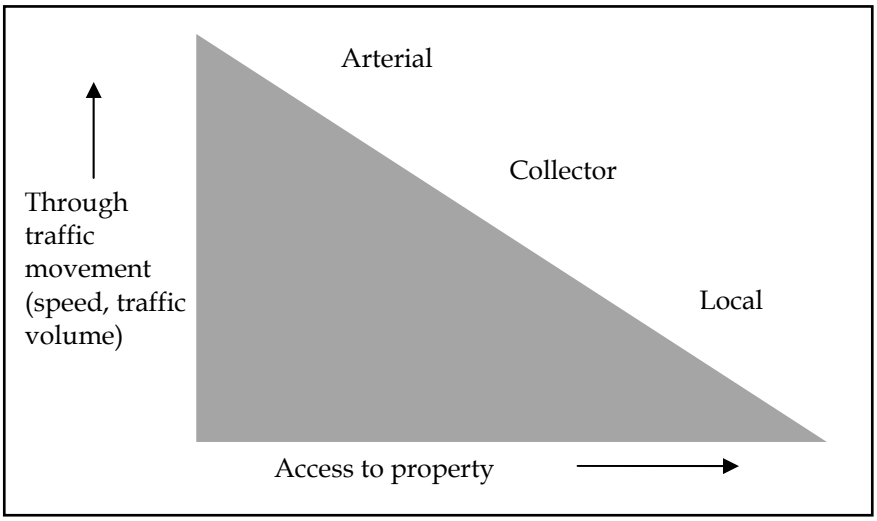

Figure 3.1 Road Hierarchy, Access, and Through Traffic

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.

TABLE 3.1
Street Cross-Section Standards

Functional Classification	Cross-section Width[1]	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’[2]	Two @ 10-14’	Optional 14’	6’ on both sides[2]	6-8’ on both sides[2]	None	Optional 4-8’	0-3’
Major Collector	36-80’	Two @ 11-14’ If no bike lane, min 12’ travel lane with sharrow[3]	None[4]	Required if no sharrow,[3] 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[3]	None[2]	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’

[1] Range of widths listed represent minimum and maximum acceptable widths.

[2] 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.

[3] A sharrow is a pavement marking that indicates a travel lane is a shared bicycle and vehicle facility.

[4] Unless required by a specific development.

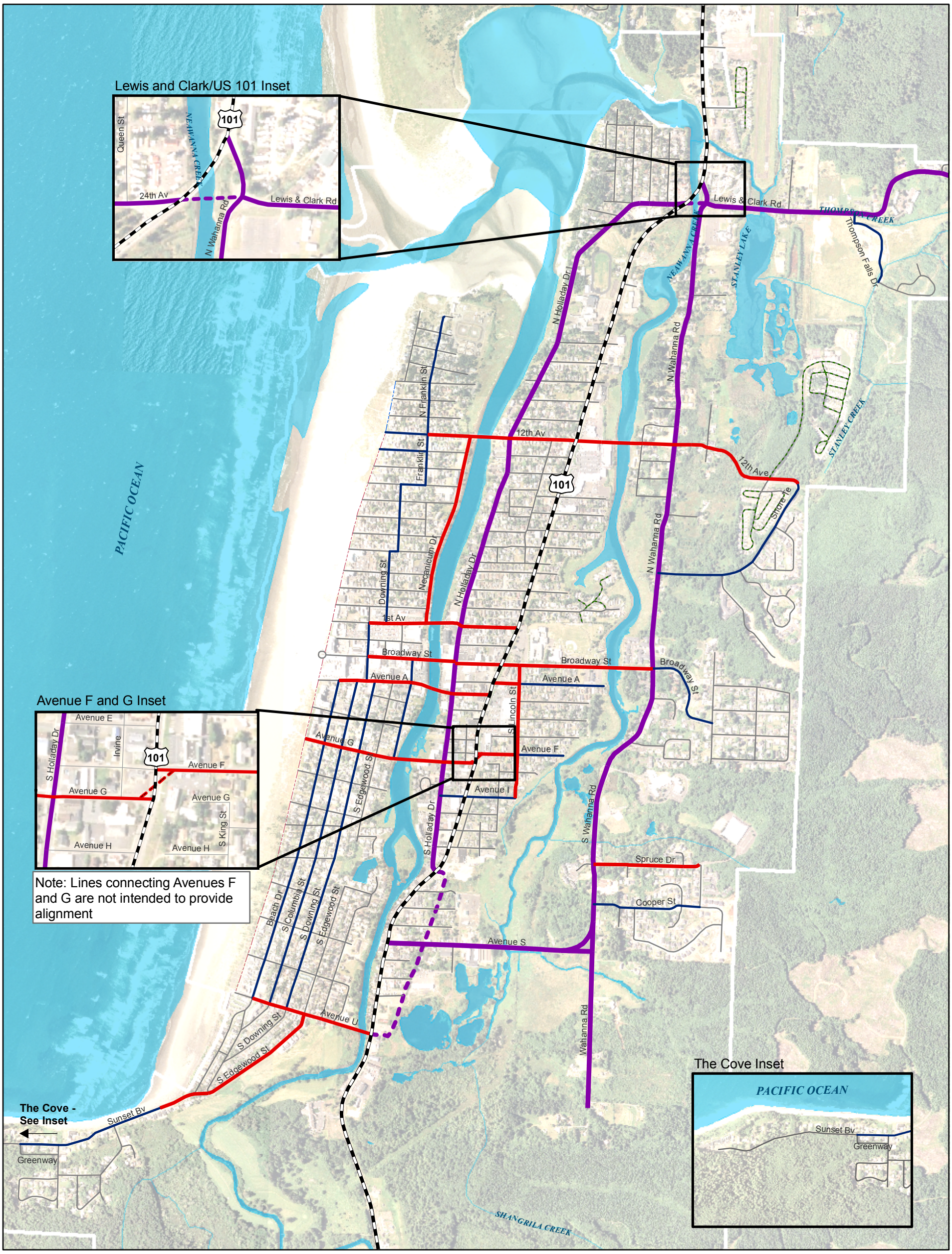

Figure 3.2 STREET FUNCTIONAL CLASSIFICATIONS
City of Seaside TSP

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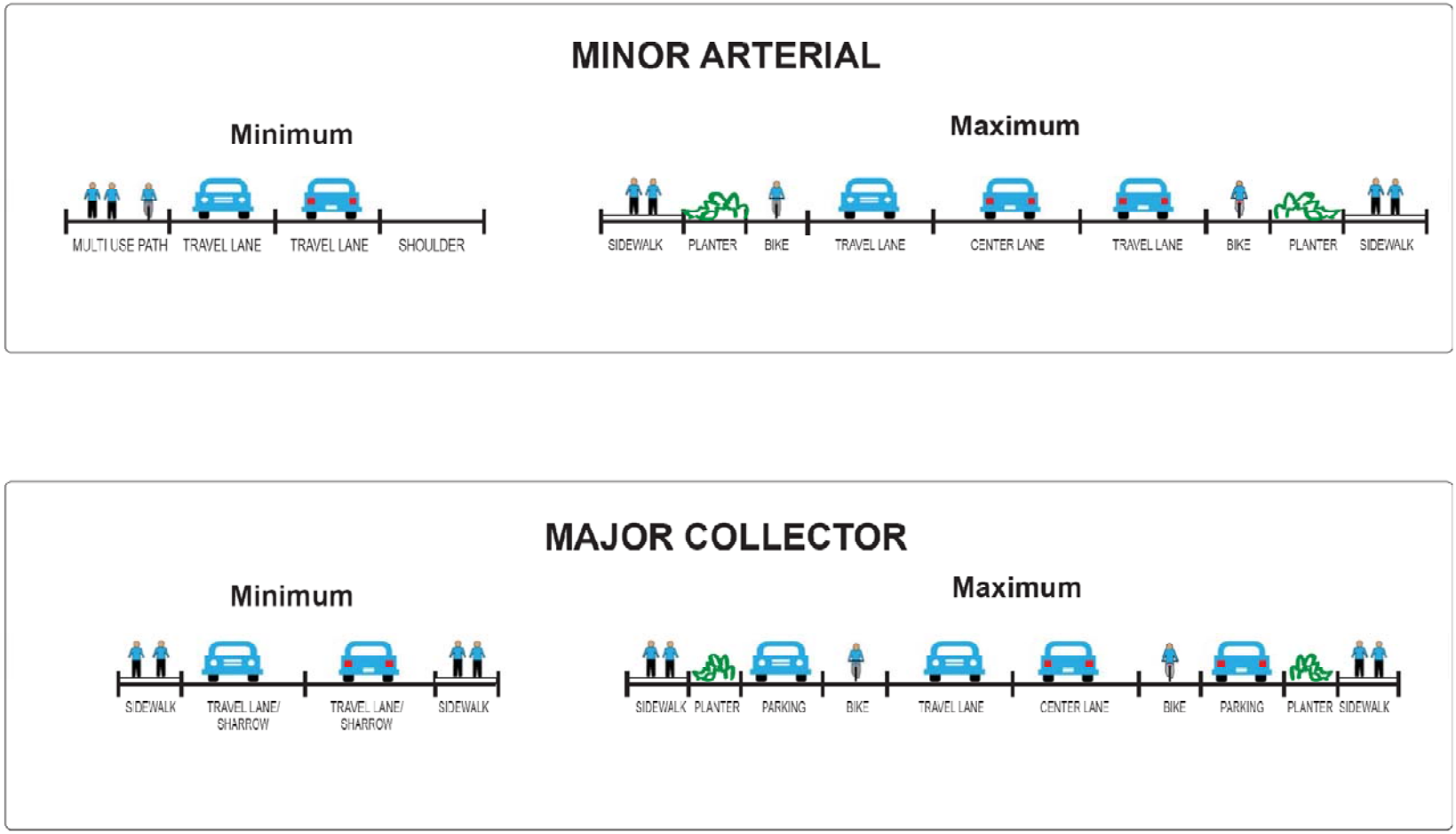


Figure 3.3 Functional Classification Design Standards

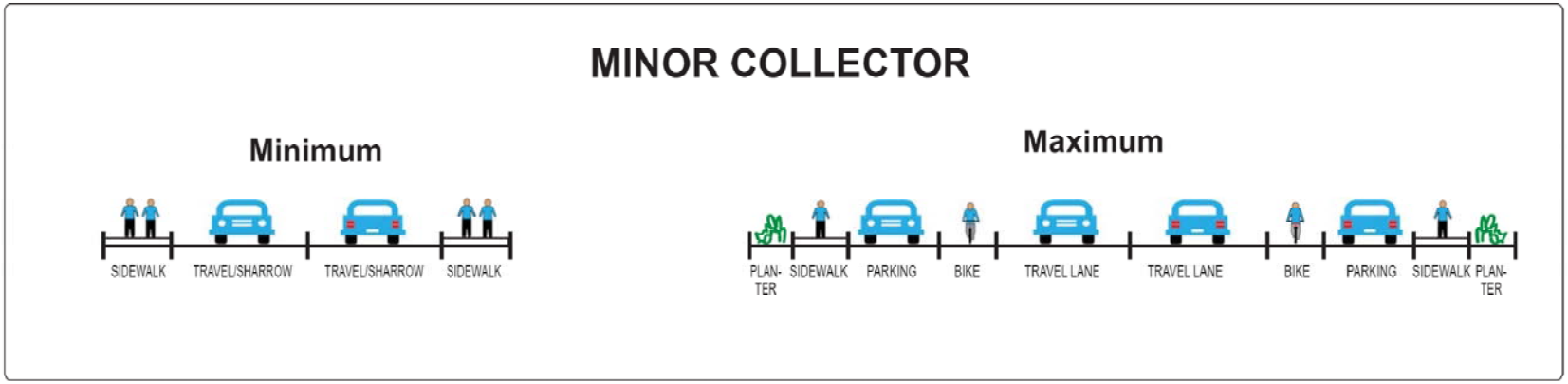


Figure 3.3 Functional Classification Design Standards (Continued)

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 sharrows when possible will be wider than regular travel lanes to provide more room for both vehicles and bicycles. The standard is 12 feet. Sharrows 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 12th Avenue) are described over the pages that follow.

1. US 101 and Lewis and Clark Road, 24th 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 24th 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 24th 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 24th Avenue onto US 101 are disallowed. Right turns to and from 24th Avenue would be retained, as would left turns onto 24th Avenue from US 101. This would be subject to further discussions between the City and ODOT as left turns from 24th Avenue could also be self-regulated, meaning that they could be discouraged but allowed unless causing safety concerns.

1b. Combine 24th Avenue and Lewis & Clark Road via a New Intersection at US 101

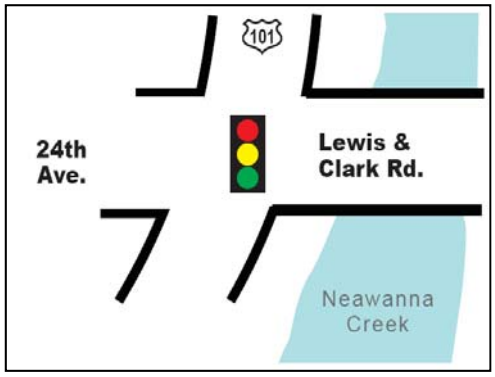


Figure 3.4. US 101, 24th Avenue, and Lewis & Clark Road Intersection Improvement

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 24th Avenue that connects 24th 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, 24th 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 24th 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 12th 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.

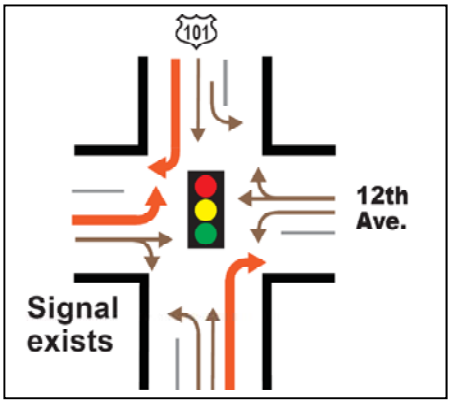


Figure 3.6 US 101 and 12th Avenue Intersection

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 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.

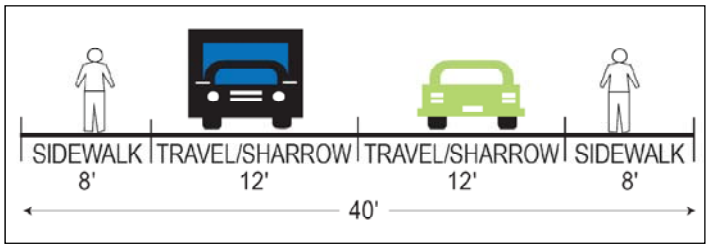
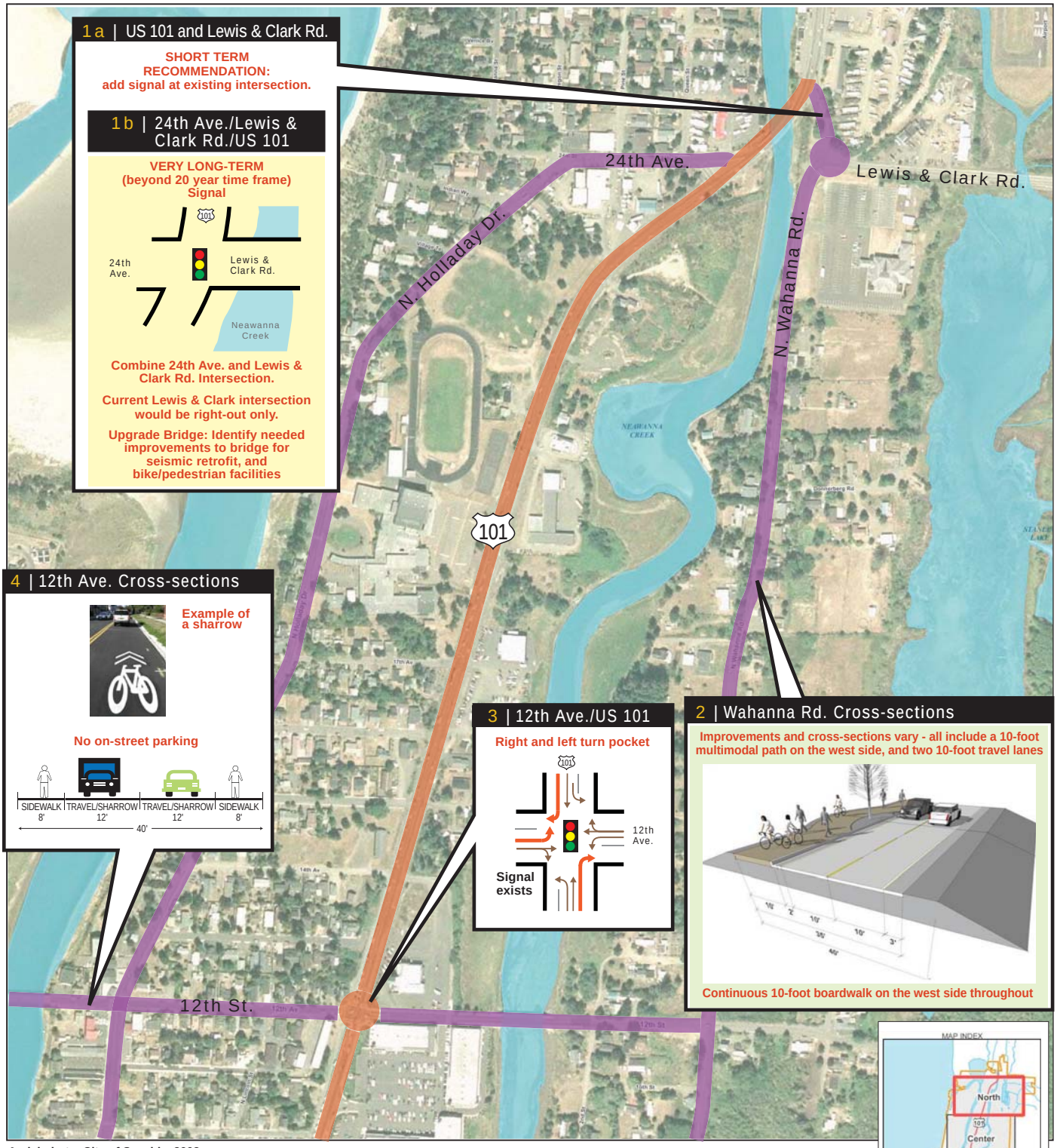


Figure 3.7 12th Avenue Cross-section

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.



Aerial photo, City of Seaside, 2003

LEGEND

- Local Street
- US 101
- This project is outside of the 20-year planning horizon
- Projects located in Clatsop County—will be considered for County TSP
- Existing lane
- New lane

FIGURE 3.8
Roadway Improvements - **North**

CH2MHILL

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.

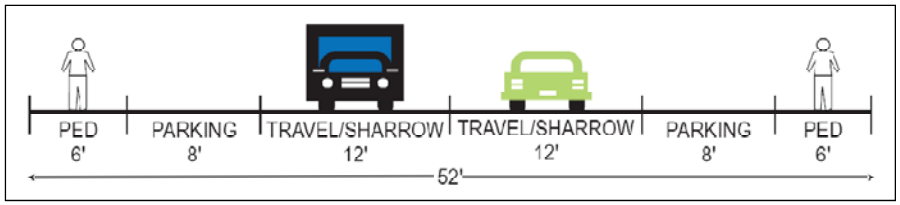


Figure 3.9 Broadway Cross-section

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

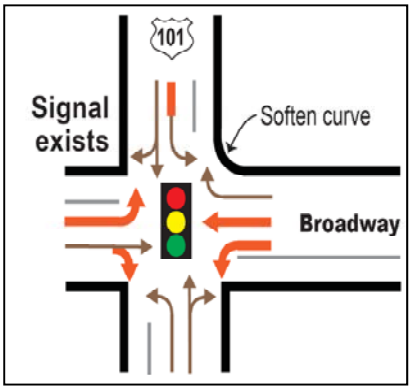


Figure 3.10 US 101 and Broadway Intersection

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′.

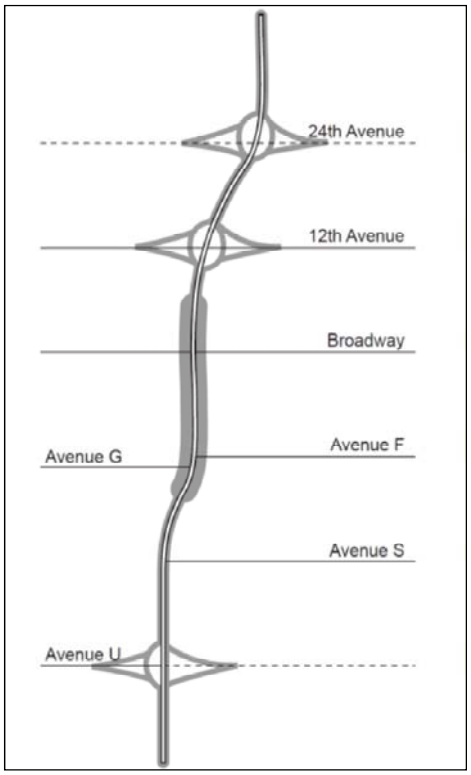


Figure 3.11 Extent of Recommended US 101 Widening

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 30th 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

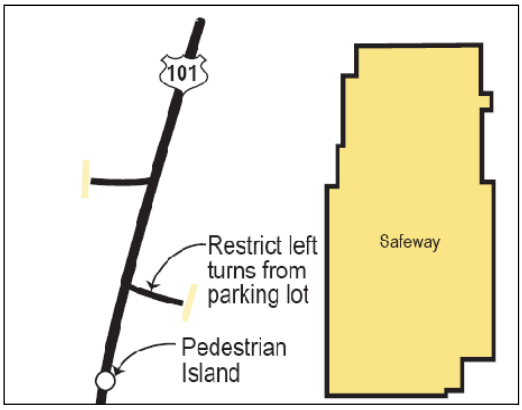


Figure 3.12 US 101 and Avenues F and G

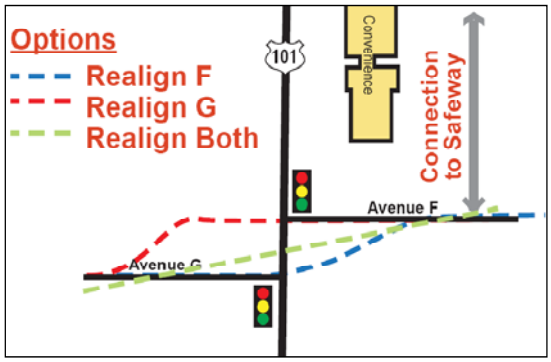


Figure 3.13 US 101 and Avenues F and G Alignment Options

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.

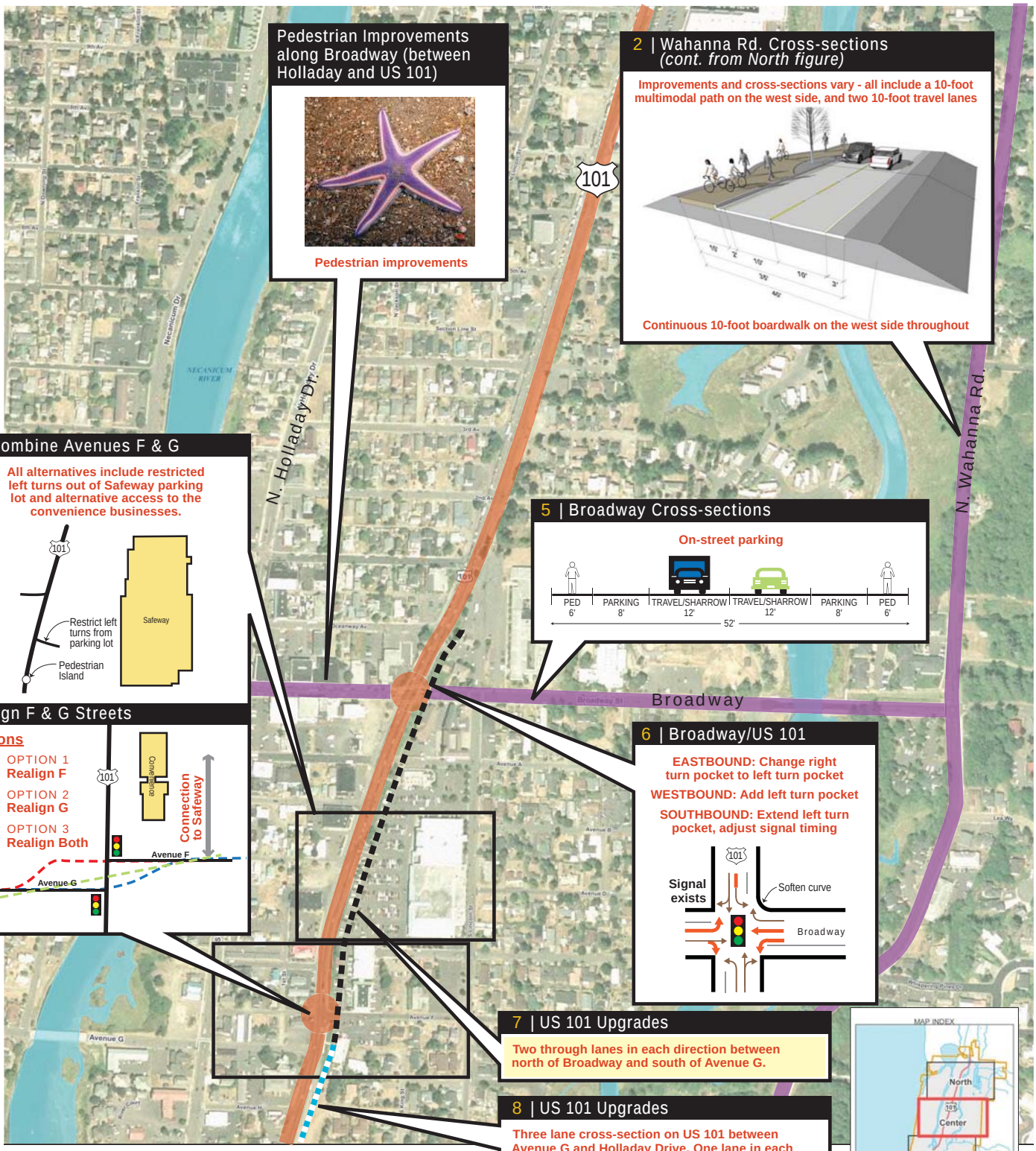
TABLE 3.10
US 101 and Avenues F and G Cost Estimate

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).



Aerial photo, City of Seaside, 2003

LEGEND

- Local Street
- US 101
- This project is outside of the 20-year planning horizon.
- Existing lane
- New lane

FIGURE 3.14
Roadway Improvements - **Central**

CH2MHILL

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). 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.

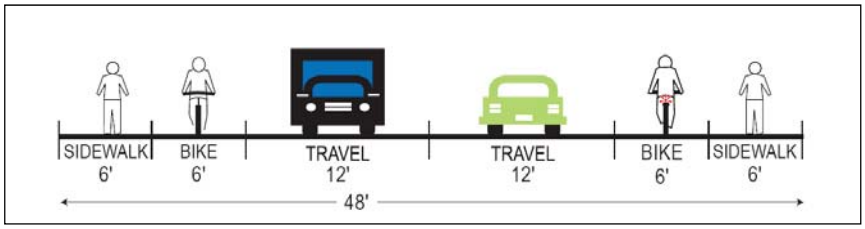


Figure 3.15. Avenue S Cross Section US 101 to Bridge

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

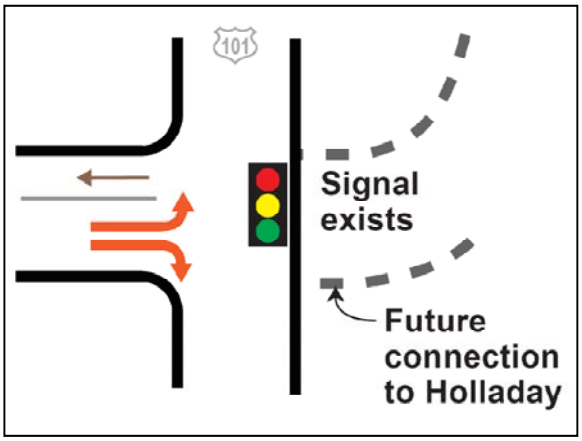


Figure 3.16 US 101 and Avenue U Intersection

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.

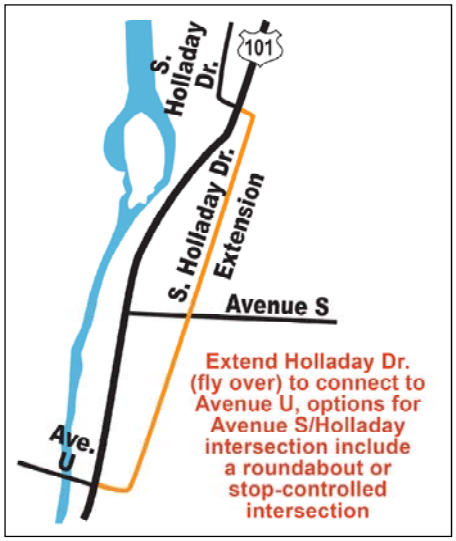


Figure 3.17 Holladay Drive Extension

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.

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).

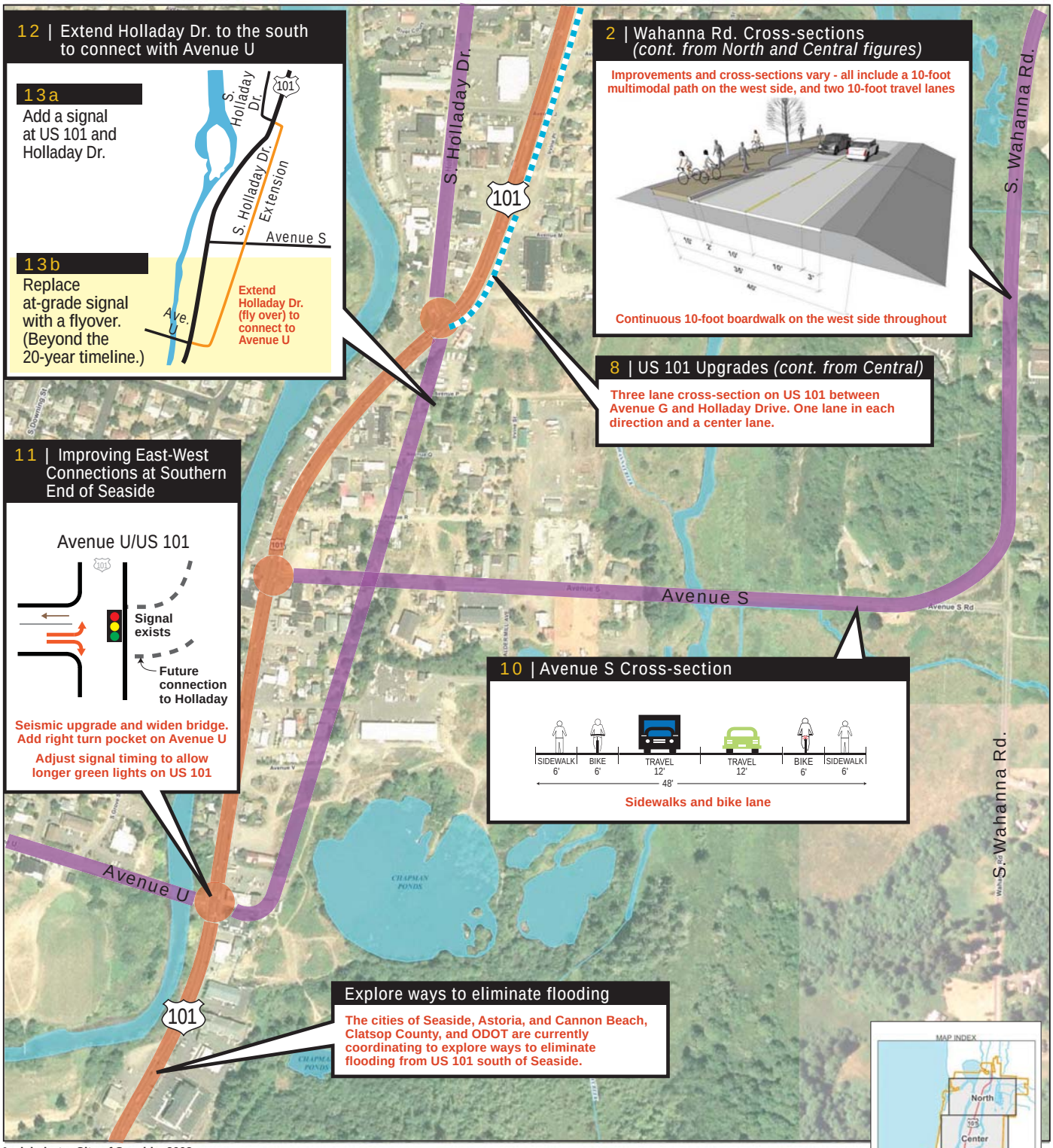
TABLE 3.14
US 101 and Holladay Drive Cost Estimate

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).



Aerial photo, City of Seaside, 2003

LEGEND

- Local Street
- US 101
- This project is outside of the 20-year planning horizon.
- Existing lane
- New lane

FIGURE 3.18
Roadway Improvements - **South**

CH2MHILL

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.

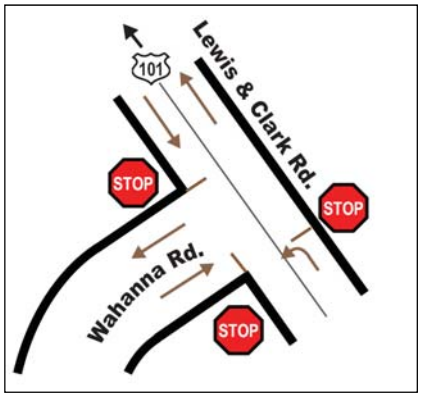


Figure 3.19 Lewis & Clark and Wahanna Road Intersection

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 & 24th 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.

Additional Services/ Facilities (requires additional coordination with SETD)

- Re-establish a trolley bus circulator route to serve visitors; make sure that trolley bus can navigate Seaside streets and serve attraction points.

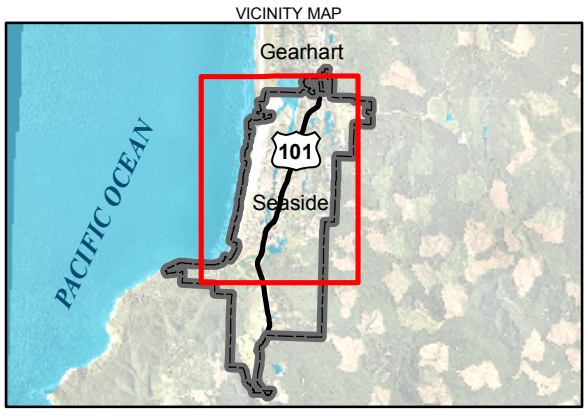
  NOTE: See Fig. 2 of 2 for proposed trolley bus route.

Route 20 and 101 Service Improvements:

- 30 minute peak headways on week days
- Extend Astoria service into evenings to accomodate Clatsop Community College schedule
- Provide service on Sundays (dependant on ridership and funding availability)

- Add bus pullouts at stops along US 101 where space allows (targeted for implementation within 1-5 years)
- Add shelters at bus stops (SETD to evaluate priority locations)

VICINITY MAP



LEGEND

- Potential Bus Pullouts
- Bus Stops
- Route 20 Bus Line
- Route 101 Express Line
- Streets

Notes:
1. Sunset Empire Transit District (SETD) - Transit Agency

FIGURE 3.20
TRANSIT RECOMMENDATIONS
City of Seaside

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Potential Stop Locations

1. Seaside Airport
2. US 101 and 24th Ave.
3. Seaside High School
4. Necanicum Dr. and 4th Ave.
5. Necanicum Dr. and 1st Ave. (Convention Center Seaside)
6. Holiday Dr. and Oceanway St.
7. Broadway and Prom (Prom Circle)
8. Downing St. and Ave. G
9. Downing St. and Ave. S
10. Ocean Vista Dr. and Evergreen Dr. (The Cove Parking Area)
11. Sunset Blvd. and Tillmook Head Trail
12. Edgewood St. and Avenue U
13. US101 and Holladay Dr.
14. US101 and Ave. F
15. US101 and 1st Ave.
16. US101 and 12th Ave. (Seaside Factory Outlet Center)

The Cove Inset

VICINITY MAP

LEGEND

- Potential Trolley Bus Stops
- Potential Seaside Trolley Bus Route
- Streets

FIGURE 2 of 2
DRAFT TRANSIT RECOMMENDATIONS
POTENTIAL SEASIDE TROLLEY BUS ROUTE
City of Seaside

0 0.25 0.5 Miles

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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 - Park and ride lot - Park and ride signage (using existing lots)	 $36,000 $2, 080	-	Medium
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.

Figure 3.24: US 101 Bike Lane with Stencil

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.

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

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 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 a 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").

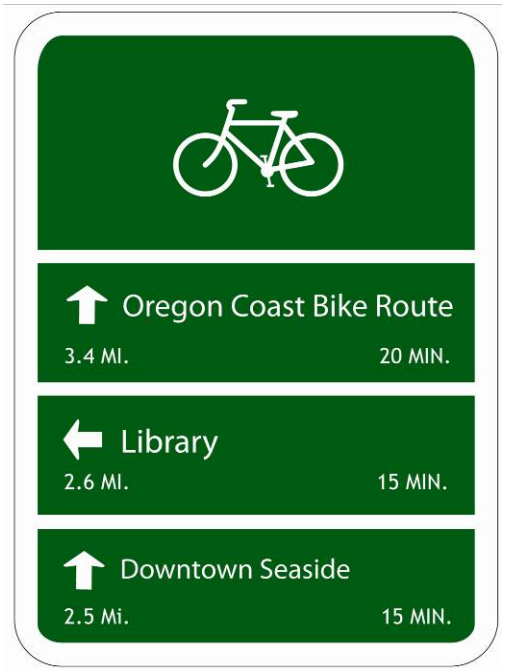

Figure 3.26: Sample Wayfinding Signage

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 3.27 Bicycle and Pedestrian Improvements

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Seaside Transportation System Plan

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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 1st and 7th 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 12th 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 conflicts between motorists and bicyclists. As illustrated in Figure 3.32, a common

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

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.

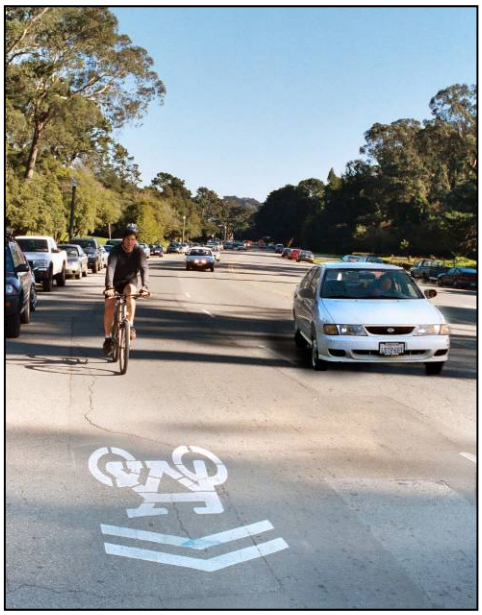


Figure 3.34: Shared Lane Markings Indicate Where a Bicyclist Should Ride in the Roadway

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.

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 in 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."[1]
- **Transportation Demand Management:** "Programs designed to reduce demand for transportation through various means, such as the use of transit and of alternative work hours."[2]

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

[1] Glossary, Planning for Operations, US Department of Transportation, http://plan4operations.dot.gov/glossary.htm

[2] 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 24th 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 *(for local match)*	ODOT
Intersection of 12th Ave. & Hwy 101	Medium	ODOT STIP Modernization, Safety, or Operations City Tax Street Fund *(for local match)* City Road District Fund City URA	ODOT
Intersection of Broadway & Hwy 101	Short	ODOT STIP Modernization, Safety, or Operations City Tax Street Fund *(for local match)* 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 *(for local match)* 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
Holladay Drive			
Intersection of Avenue U & Hwy 101	Short	ODOT STIP Modernization, Safety, or Operations ODOT Highway Bridge Rehabilitation and Replacement Program City Tax Street Fund *(for local match)* 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 (*for local match)* 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 *(for local match)* City Road District Fund City URA	City of Seaside
Avenue S Cross-section *Between US 101 and the bridge* *Between the bridge and Wahanna Road*	 Short Medium	ODOT Bicycle and Pedestrian Program ODOT TE Program City Road District Fund City Tax Street Fund *(for local match)* City Road District Fund City URA	City of Seaside
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 *Signal* *Flyover*	 Long Very Long	 ODOT STIP, Modernization ODOT STIP, Modernization	ODOT

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 *(for local match)*	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 *(for local match)*	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 *(for local match)*	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 12th 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
Satellite Parking Areas	Medium	ODOT STIP, Public Transportation Programs (JARC) ODOT Transportation Options Program City Tax Street Fund Department of Energy Efficiency and	SETD

TABLE 3.27
Transit Recommendations Project Readiness

Project	Timeframe	Potential Funding Sources	Champion
		Conservation Block Grant	
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

4 ACCESS MANAGEMENT

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.

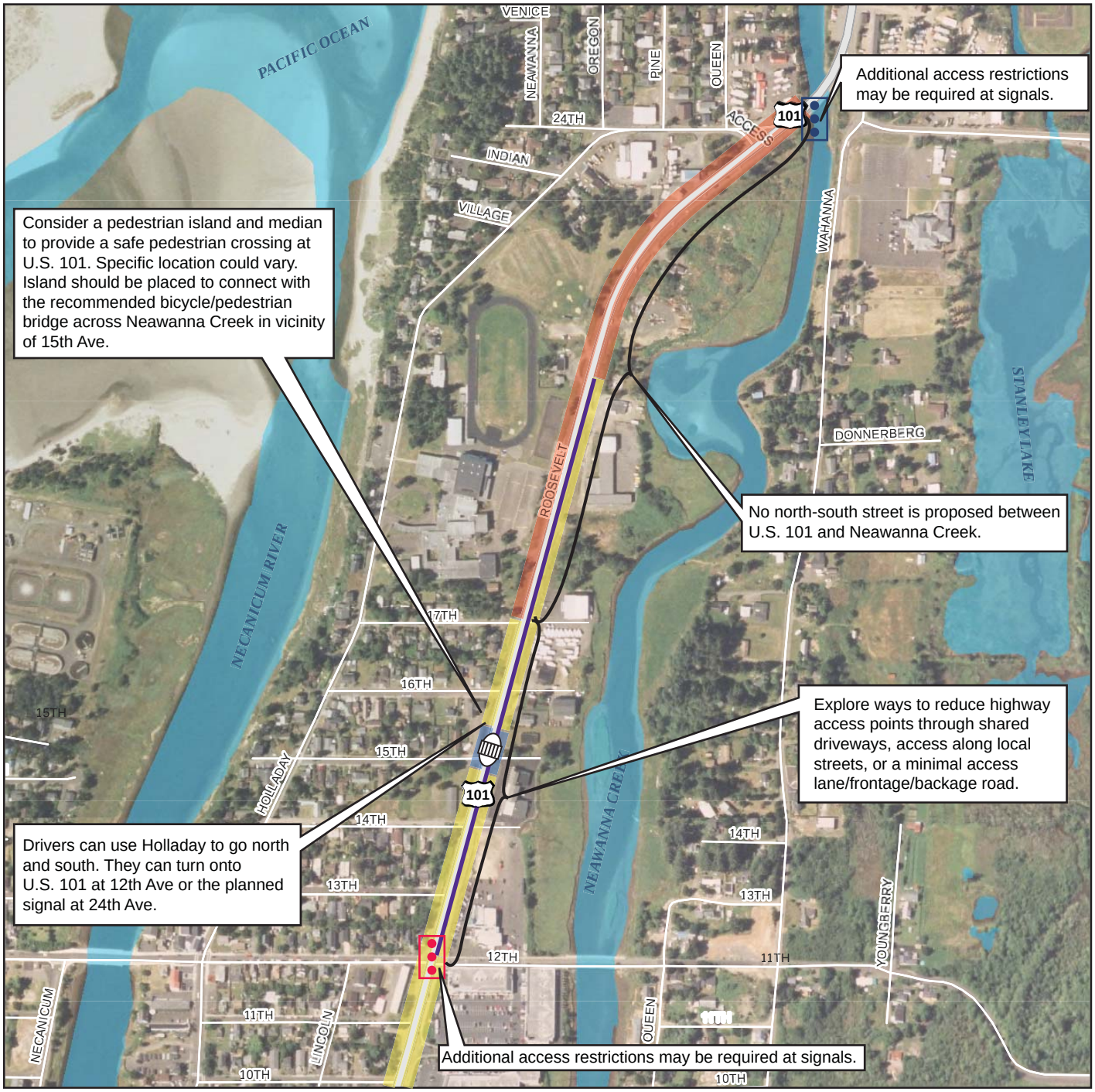
The main TSP access management elements are as follows:

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.



Legend

= existing traffic signal

= planned traffic signal

= streets

N

0 200 400

Feet

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 extentions

= potential local street extentions in areas with public right of way available

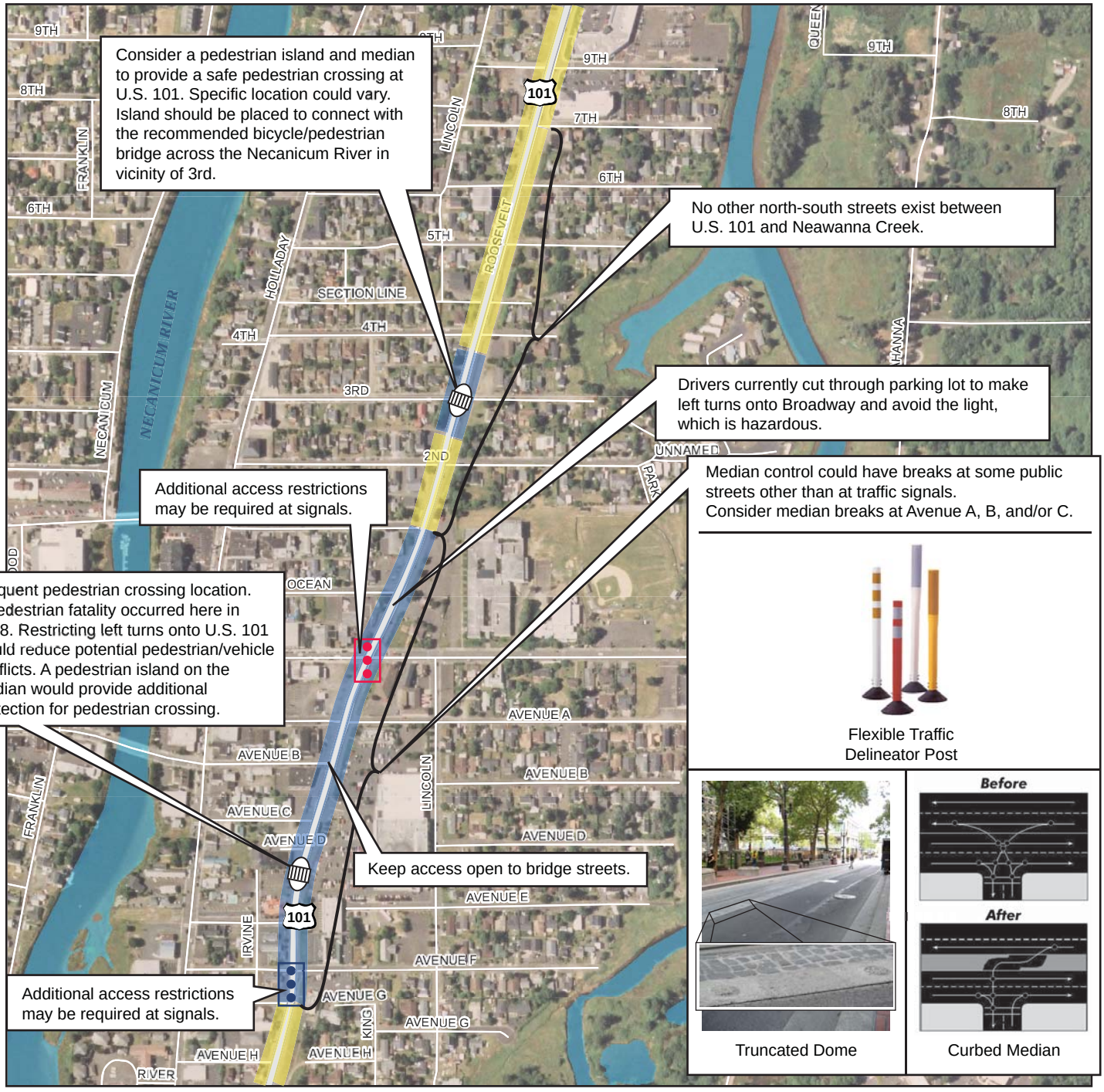
= potential pedestrian island

* These tools do not preclude ODOT from considering other improvements.

Figure 4.1 US 101 Access Management Elements

NORTH

SEASIDE TRANSPORTATION SYSTEM PLAN



Legend

= existing traffic signal

= planned traffic signal

= streets

N

0 200 400

Feet

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 extentions

= potential local street extentions in areas with public right of way available

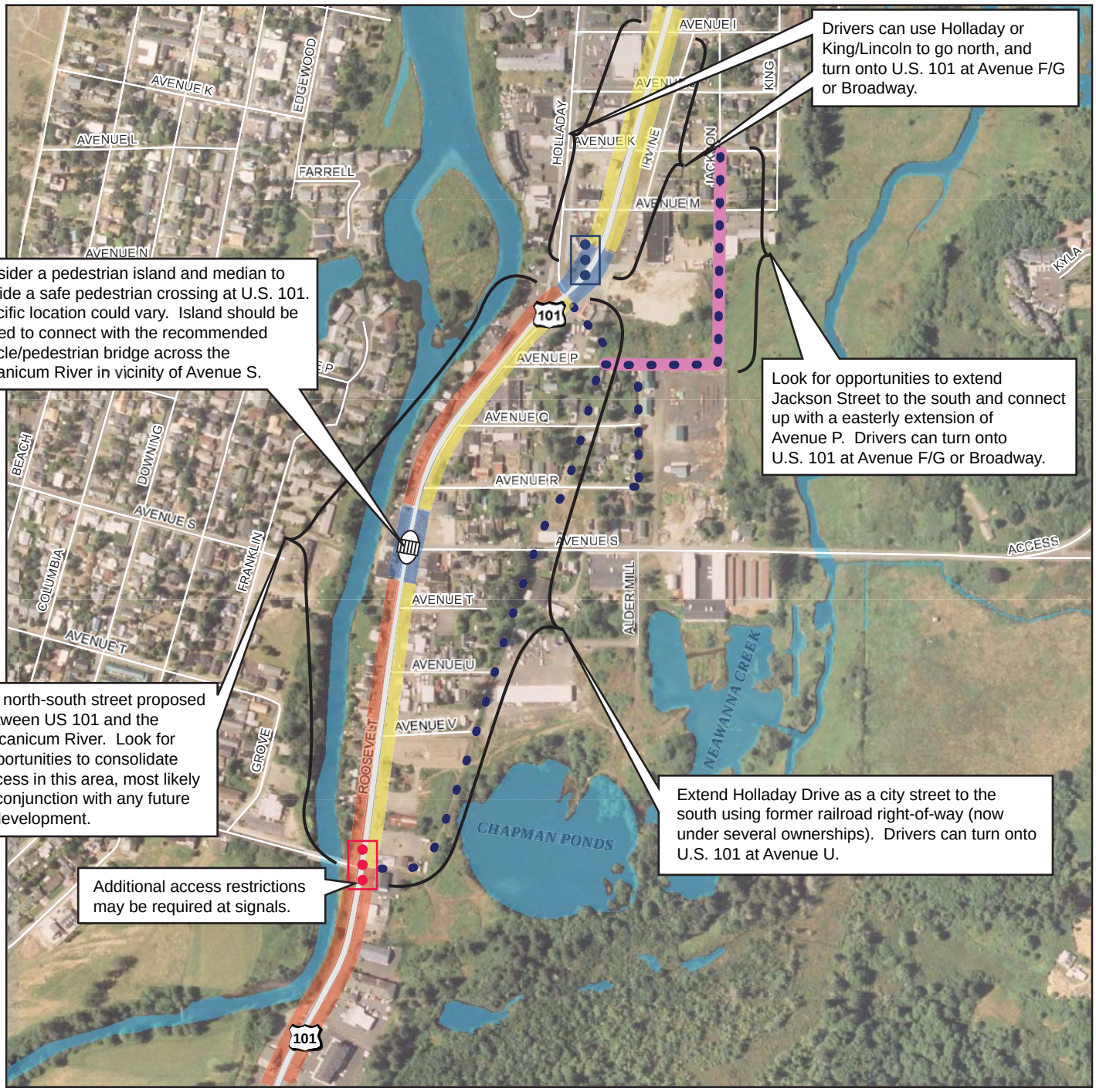
= potential pedestrian island

* These tools do not preclude ODOT from considering other improvements.

Figure 4.2 US 101 Access Management Elements

CENTRAL

SEASIDE TRANSPORTATION SYSTEM PLAN



Legend

= existing traffic signal

= planned traffic signal

= streets

N

0 200 400

Feet

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 extentions

= potential local street extentions in areas with public right of way available

= potential pedestrian island

* These tools do not preclude ODOT from considering other improvements.

Figure 4.3 US 101 Access Management Elements

SOUTH

SEASIDE TRANSPORTATION SYSTEM PLAN

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 24th Avenue Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark,	$15,741,000	Very Long

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.	12th 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 Between the bridge and Wahanna Road	 $3,459,000 $2,268,000	 Short 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 a. Signal at Holladay Drive	Included in cost estimate for Project 12	Long
	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
Bicycle/Pedestrian Bridges			
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
	Avenue		
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
Pedestrian Treatments – Intersections			
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
Pedestrian/Bicycle Treatments – Corridors			
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
Shared Use Paths			
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 • Signs, Signals, and Illumination Program • Transportation Options Program 3. Special Programs • Public Transit Programs • ODOT Bicycle and Pedestrian Program • Transportation Enhancement Program • Immediate Opportunity Fund 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 ~~strikethrough~~ 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 ib 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.

6 ALTERNATE MOBILITY STANDARDS

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 / 12th 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 24th 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 12th Avenue, Broadway, and 24th 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 24th 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 30th 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 30th 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 / 12th 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 12th 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.