



APPENDIX F

Cost Estimates

Transportation Funding and Improvement Costs

Seaside Transportation System Plan: Order-of-Magnitude Cost Estimates and Funding Options

This appendix provides order-of-magnitude cost estimates for the transportation improvements recommended in the Seaside Transportation System Plan (TSP), and outlines potential sources that could be explored to fund these improvements. This memorandum is split into two main sections: (1) Cost Estimates and (2) Funding Sources.

Order-of-Magnitude Cost Estimates

Order-of-magnitude level cost estimates (also called planning-level cost estimates) were created for each of the TSP's recommendations. This section provides a summary of these cost estimates, with tables organized by modal plan. The detailed assumptions used to prepare the cost estimates are provided at the end of this memo as attachments. The tables in this section also provide an estimate of timeframe for implementation. These are defined as short-term (0-5 years); medium-term (5-10 years); long-term (10-20 years); and very long term, which falls outside of the 20 year planning horizon, but the project recognizes the importance of these projects to the local street system within the City of Seaside.

Table 1 below summarizes cost estimates for the roadway modal plan. Detailed assumptions used to prepare these cost estimates are provided as Attachment A.

TABLE 1
*Order-of-Magnitude Cost Estimates for
Seaside TSP Roadway Recommendations*

	Improvement Concept	Order of Magnitude Cost Estimate (2010 \$)	Time Frame
1.	US 101 widening between north of Broadway and Avenue G	\$5,456,000	Very Long
2.	Intersection of 24 th Avenue and US 101		
	Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge outside of 100-year floodplain	\$15,741,000	Very Long
	Phase 2: Construct new 24 th Avenue intersection	\$6,663,000	Very long
3.	Intersection of 12th Ave. & Hwy 101	\$1,314,000	Medium
4.	Intersection of Broadway & Hwy 101	\$792,000	Medium
5.	Realignment of Avenue F and Avenue G with new signal	\$3,352,000	Medium
6.	Intersection of Avenue U & Hwy 101	\$7,997,000	Short
7.	12 th Ave. Cross Section	\$506,000	Medium
8.	Wahanna Road Pedestrian Improvements	\$6,678,000	Medium
9.	Broadway Cross Section	\$506,000	Medium
10.	Avenue S Cross Section		
	Between US 101 and the bridge	\$3,459,000	Short
	Between the bridge and Wahanna Road	\$2,268,000	Medium
11.	a. Extension of S. Holladay Drive to the south (tie in with US 101 at Avenue U)	\$7,406,000	Long
	b. Flyover of S. Holladay Drive at US 101	\$9,911,000	Very Long
12.	US 101 widening between north of Broadway and Avenue G	\$5,456,000	Very Long

As shown in Table 1, the roadway projects in the TSP range in cost from \$500,000 to over \$15 million. Many of the projects are recommended for the medium or long term though a few – a three-way stop at Lewis & Clark and Wahanna Road; the right turn pocket at Avenue U and US 101, and the Avenue S cross section between US 101 and the bridge – are recommended for short-term implementation.

The cost estimates provide two phases for the US 101 and 24th Avenue intersection, recognizing that reconstructing the bridge would be expensive and complicated. The first phase reconstructs the intersection and the existing bridge, and the second phase includes constructing a new 24th Avenue intersection. As an interim solution, a light is proposed at this location.

Additionally, the Avenue S cross section is broken up into two parts, recognizing that the available right of way and other constraints make sense to separate this project into two, with different time frame and priorities. Finally, the extension of Holladay Drive

south and connecting to US 101 will also be a two part project, as the flyover is outside of the 20 year TSP planning horizon.

Table 2 on the following page summarizes order-of-magnitude costs for the TSP's bicycle and pedestrian recommendations. Detailed assumptions used to prepare these cost estimates are provided as Attachment B.

TABLE 2
*Order-of-Magnitude Cost Estimates for
Seaside TSP Bicycle/Pedestrian Recommendations*

	Improvement Concept	Order of Magnitude Cost (2010 \$)	Time Frame
Bicycle/Pedestrian Bridges			
1.	Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 th Avenue	\$954,000	Long
2.	Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 rd Avenue	\$719,000	Long
3.	Bicycle/pedestrian bridge over Neawanna Creek in vicinity of Avenue F	\$645,000	Short
4.	Bicycle/pedestrian bridge over Necanicum River in vicinity of Avenue S	\$390,000	Medium
Pedestrian Treatments - Intersections			
5.	Pedestrian islands along US 101 (Approximately every three blocks – assumed in vicinity of 17 th , 15 th , 9 th , 6 th , 3 rd , Avenue B, and Avenue P)	Between \$8,000 and \$10,000 per intersection	Short to Medium
6.	Pedestrian crosswalks and curb ramps off US 101 (Assumed at 12 th /Franklin, 12 th /Holladay, Broadway/Lincoln; Broadway east of Lincoln; and Avenue U/Columbia)	Between \$5,000 and \$10,000 per intersection	Short to Medium
Pedestrian/Bicycle Treatments - Corridors			
7.	Improvements on Low Traffic Roadways (Assumed for Franklin, Lincoln, 17 th , 15 th , 1 st , Broadway west of US 101, Avenue A, Hilltop/Aldercrest, Avenue F/G, Cooper/Alder, and Avenue S west of US 101)	Between \$500 and \$5,400 depending on length of roadway	Medium
8.	Improvements on Busier Roadways (Assumed for Holladay, 12 th , Avenue S, and Avenue U)	Between \$5,000 and \$59,000 depending on length of roadway	Short
9.	Sidewalk connectivity – along US 101 (NB between MP 20.81 and 22.76; SB between MP 19.38 and 22.33)	\$1,935,000	Short
10.	Sidewalk connectivity – off of US 101	Between \$67,000 and \$488,000 per roadway segment	Long
Shared Use Paths			
11.	Shared use path extending the Prom from Avenue U to Ocean Vista	\$82,000	Medium

TABLE 2
*Order-of-Magnitude Cost Estimates for
Seaside TSP Bicycle/Pedestrian Recommendations*

	Improvement Concept	Order of Magnitude Cost (2010 \$)	Time Frame
12.	High ground connector pathway (north/south between Lewis & Clark and Avenue S)	\$687,000	Long
13.	Connection to higher ground – east of Broadway	\$125,000	Medium
14.	Connection to higher ground – east of Neawanna Creek in vicinity of Avenue F	\$110,000	Short
15.	Connection to higher ground – north/south between Broadway and Avenue F	\$133,000	Medium
16.	Connection to higher ground – east of Avenue S/Wahanna Road	\$296,000	Medium
17.	Path connecting US 101 and Wahanna in vicinity of 15 th Avenue	\$58,000	Long

Bicycle and pedestrian projects vary in scale and cost. Many can be implemented in the short-term. Those flagged as long term projects are done so in sensitivity of potential business or resident concerns as well as potential cost. Priorities include building bicycle and pedestrian bridges across the Necanicum River and Neawanna Creek south of Broadway (in vicinity of Avenue F and in vicinity of Avenue S). These could be combined with the construction of pedestrian paths leading to higher ground for use in case of an emergency. Other higher priority projects include bicycle and pedestrian friendly treatments along busier roadways, and crossing safety projects along US 101 (pedestrian islands).

Please note that bicycle and pedestrian treatments that are part of larger roadway projects are included in Table 1 estimates.

Table 3 below provides order-of-magnitude cost estimates for the TSP’s transit recommendations. Detailed assumptions used to prepare these estimates are included as Attachment C.

TABLE 3
*Order-of-Magnitude Cost Estimates for
Seaside TSP Transit Recommendations*

	Improvement Concept	Order of Magnitude Cost Estimate (2010 \$)		Time Frame
		Start up costs	Annual Operating Costs	
1.	Re-establish Trolley Bus Circulatory Route	\$785,760	\$494,210	Medium
2.	Increase existing Bus service to 30 minute headways during the peak	\$1,680,000	\$343,200	Medium
3.	Extend Route 101 service in the evenings	-	\$75,500	Short
4.	Provide service on Sundays	-	\$92,660	Short
5.	Addition of Bus pullouts on US 101	\$152,000	-	Short
6.	Provide Bus Shelters at key locations	\$69,600	-	Short
7.	Relocate existing bus stop at US 101 and Broadway	\$2,540	-	Medium
8.	Build Satellite Parking Areas		-	Medium
	- Park and Ride Lot	\$36,000		
	- Park and Ride signage (using existing lots)	\$2,080		
9.	Construct a new transit center	\$4,000,000		Short

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

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

Potential Funding Sources

A variety of federal, state, and local funding sources may be available to fund transportation projects identified in the Seaside TSP. This section provides an overview of the existing and potential federal, state, and local funding sources for the projects, and discusses the applicability of the funding sources described. Funding sources described in this section are summarized in Table 4 below.

TABLE 4
 Summary of Existing and Potential Future Funding Sources

Entity Distributing Funds	Program Name
Federal	National Infrastructure Innovation and Finance Fund Department of Energy Efficiency and Conservation Block Grant Livable Communities Grant Transportation Housing and Urban Development Grant
State	State Highway Fund Statewide Transportation Improvement Program (STIP) Relevant programs include: 1. Bridge Rehabilitation and Replacement Program - State Bridge Program 2. Modernization Program 3. Operations Projects - Signs, Signals, and Illumination Program - Transportation Options Program 4. Safety 5. Special Programs - Public Transit Programs - ODOT Bicycle and Pedestrian Program - Sidewalk Improvement Program - Quick Fix - Grants - Transportation Enhancement Program - Immediate Opportunity Fund Connect Oregon Business Energy Tax Credit (note changes pending to program)
County or Regional – Existing	County Roads Department Budget Transit System Advertising
County or Regional – Potential Future	Local Option Levy Transit Center Space Lease
Local – Existing	Tax Street Fund - Gas Tax Refund - Surface Transportation Program Funds - Other/Miscellaneous Urban Renewal Funds Systems Development Charges – Roads Fund Road District Special Transportation Fund

TABLE 4
Summary of Existing and Potential Future Funding Sources

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

Existing Federal Funding Sources

Currently, federal funding accounts for approximately 20 percent of funding for projects within the state of Oregon. Because the City of Seaside is outside the boundary of an MPO, federal funding is predominantly made available through state or county programs via the Northwest Area Commission on Transportation (NWACT), though some funding is made available directly to the City.

The most significant source of federal revenue is the Federal Highway Trust Fund.

Federal Highway Trust Fund

Revenues comprising the Federal Highway Trust Fund come from motor vehicle fuel taxes, sales taxes for heavy trucks and trailers, tire taxes, and annual heavy truck use taxes. Revenues are split into two accounts – the highway account and the transit account. Funds are appropriated to individual states on an annual basis under the current surface transportation legislation (currently the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – a Legacy for Users, referred to as SAFETEA-LU). Authorization to use the Federal Highway Trust Fund, under SAFETEA-LU, originally expired on September 29, 2009. However with direction from the U.S. Legislature, the U.S. Department of Transportation (USDOT) has extended the current legislation into 2011.

Relevant programs funded under SAFETEA-LU but distributed through state and regional sources are described later in this memo. For example, the Transportation Enhancement (TE) Program is funded by states setting aside a portion of the Surface Transportation Program (STP) budget. Federal funds must be matched with state and local funds; in Oregon, the current matching amount is 10.27% of total costs.

Applicability – Projects using funds from the Federal Highway Trust Fund must first be included in the Statewide Transportation Improvement Program (STIP). Specific programs and grants through which these funds are allocated are described in the State Funding Sources section of this document.

National Infrastructure Innovation and Finance Fund

The Department of Transportation’s 2011 budget request included \$4 million for the National Infrastructure Innovation and Finance Fund. This fund will be allocated to multimodal projects that provide significant national or regional economic benefits. This

funding will be distributed as grants and loans. In addition to capital projects, the proposed fund will sponsor planning, analytical, and feasibility studies. The minimum grant size is \$25 million but the secretary may allow for smaller scale support to smaller states, regions, or cities.

Applicability: If this budget request is granted, additional details of the application process will be released as the program is developed. The SETD 101 bus line connects the City of Astoria, Warrenton and Seaside, and is regional in nature, as it would allow employees and students to access employment and education opportunities in the communities north of Seaside. The bus line could be eligible for this fund.

Department of Energy: Energy Efficiency and Conservation Block Grant (EECBG)

According to the U.S. Department of Energy (DOE), this grant program was developed to provide funds to U.S. states, territories, local governments, and Indian tribes to develop and implement projects to reduce energy use and fossil fuel emissions in their communities. It was authorized in the Energy Independence and Security Act (EISA) and was initially funded under the American Recovery and Reinvestment Act of 2009. DOE states that the initial purpose of the funding is to create a conservation plan. After that plan is submitted to DOE additional funding may become available. This grant program also includes competitive grants for communities that did not receive funding through the formula grants. Seaside is eligible for these grants as they were not awarded a formula grant.

Applicability – The recommended circulator trolley bus line through Seaside could reduce visitor’s reliance on the single occupant vehicle. Additionally, the proposed park and rides at the north and south of the City could be eligible, along with some of the bicycle and pedestrian improvements aimed at shifting drivers to non-motorized modes.

Livable Communities Grant

The goal of the FTA Livable Communities initiative is to demonstrate methods to improve the connection between transportation and communities. This initiative encourages city governments and transportation agencies to communicate proposed transportation improvements to the communities they serve in the early stages of the planning and to design facilities that are community oriented and customer friendly.

Applicability: SETD is actively pursuing grant funding through this program.

Transportation Housing and Urban Development Grant

The Transportation Housing and Urban Development Grant (THUD) is a federal appropriation.

Applicability - SETD has been working with Representative Earl Blumenauer’s office to obtain this funding.

Existing State Funding Sources

State funds are distributed via the Oregon Transportation Commission (OTC). The State Highway Fund, the most significant funding sources is described below, as is a description of the Statewide Transportation Improvement Program (STIP), which serves as the improvement program for the state of Oregon.

State Highway Fund

Revenues in the State Highway Fund are received from a combination of fuel taxes, vehicle registration and title fees, driver's license fees, the truck weight-mile tax, and federal monies. State Highway Trust Fund revenues may be used only for construction and maintenance of state and local highways, bridges, and roadside rest areas, but according to state law (ORS 366.514) reasonable amounts of the fund must be spent on walkways and bikeways as well. The State Highway funds cannot be spent on trails in parks or other areas outside of a road, street or highway right-of-way. The law requires that in any given fiscal year, the amounts expended to provide walkways and bikeways must be a minimum of one percent of the state highway fund received by the Department, a city or county. Cities and counties are not required to spend a minimum of one percent each year; they may credit this amount to a reserve fund and expend these amounts within a period not to exceed ten years.

State Highway Fund revenues are appropriated by the Oregon Transportation Commission (OTC) on an annual basis. Appropriation is based on population for cities and registered vehicles for counties; net revenues are distributed in the following manner:

- 60 percent state
- 24 percent counties (by number of vehicles registered)
- 16 percent cities (by population)

Applicability – Infrastructure projects within state, city or county right-of-way are eligible to be funded by the State Highway Fund. To receive funding, projects must be listed in the STIP (see below).

STIP

The STIP is the capital improvement program for the State of Oregon. It provides a schedule and identifies funding for projects throughout the state. The STIP lists projects that are planned for construction during a four-year period. Projects that are included in the STIP are considered “regionally significant” and have been given a high priority through planning efforts and by the relevant area commissions on transportation (ACT). For Seaside, the relevant ACT is the Northwest Area Commission on Transportation (NWACT). The 2010-2013 STIP has five categories – modernization, safety, preservation, bridge, and operations. All federally funded transportation projects and programs, as well as all state and locally funded projects that are deemed “regionally significant,” must be included in the STIP.

The 2008-2011 STIP contains projects totaling \$288.83 million. The 2010-2013 STIP is currently under development, and the total estimated cost of the approved projects has not been released. Approximately 80 percent of STIP projects are federally funded.

Transportation projects in the STIP are generally categorized into the five main categories referenced above, plus a sixth “special projects” category. Projects identified within the Seaside TSP may fall within five of the six categories: Bridge Replacement and Rehabilitation Program, Modernization Program, Operations Projects, Safety, and Special Programs including bicycle/pedestrian and Transportation Enhancement. The STIP states that the applicable uses under each of these projects are as follows:

- **Bridge Replacement and Rehabilitation Program:** Capital projects that either replace or rehabilitate state or local bridges.
- **Modernization Program:** Capital projects that lead to increased highway system capacity.
- **Operations Projects:** System management and improvements that lead to more efficient and safer traffic operations and greater system reliability.
- **Safety:** Identification of locations in the state highway system where frequent and serious incidents occur and improvements that reduce this hazard.
- **Special Programs:** Bicycle and Pedestrian, Public Transit, and Transportation Enhancement.

The funding programs under these three categories are described in more detail over the pages that follow.

Bridge Rehabilitation and Replacement Program

This program includes the State Bridge and Local Bridge programs. The State Bridge program is applicable to project(s) in the Seaside TSP. The objective of the State Bridge program is to replace or rehabilitate public roadway bridges constructed over water or other barriers when a bridge has been identified as deficient either due to structural deficiencies, functional obsolescence, or physical deterioration. Typical projects include total replacement of a bridge in the same location or within the same corridor, removal of the structure and development of an alternative access equal to or lower than the cost of replacement, and rehabilitation of a bridge that results in increased structural integrity and life of the structure.

Applicability Bridges within the Seaside that have been identified as deficient according to Federal guidelines may be eligible for funding through this program. Depending on the level of deficiency, according to Federal guidelines, a project may be eligible for either replacement or rehabilitation.

Modernization Program

The 2010-2013 Draft STIP states that projects funded under this section are capital highway improvements that lead to increased system capacity. Increased capacity can be accomplished by either adding additional lanes, constructing new highways, or other system improvements. Strong competition exists for funding through the STIP Modernization Program as the need for funding such projects greatly outweighs the funds available. Projects are awarded funding through this program by the applicable ODOT Region.

Applicability: Projects to widen US 101 or create right turn pockets would be eligible for funding through this program as they would increase the capacity of the highway.

Operations Projects

The 2010-2013 Draft STIP states that projects funded under this section “improve the efficiency of the transportation system through the replacement of aging infrastructure and the deployment of technology that allows the existing system to meet increased demands.” Applicable projects may be listed within four sub-categories: (1) Intelligent Transportation Systems (ITS); (2) Signs, Signals, and Illumination; (3) Slides and

Rockfalls and; (4) Transportation Demand Management (TDM). The 2010-2013 Draft STIP does not identify Seaside as a community that is currently receiving funding.

- ***Signs, Signals and Illumination Program*** – The Signs, Signals and Illumination program provides funding for the replacement of equipment that has reached the end of its useful life. This program also provides limited funding for new or upgraded signals at problem intersections.

Applicability – New signals identified in the TSP may be eligible to receive funding through this program if they are located at “problem” intersections. The intersection of US 101 and 24th Avenue has an average vehicle delay and volume to capacity ratio that exceeds the standards and the recommended traffic signal at that intersection could be eligible for this funding.

- ***Transportation Options Program*** – The Transportation Options (TO) Program was previously called “TDM.” It is still listed under this name in the 2010-2013 Draft STIP. The goals of the program are to reduce congestion, improve air quality, increase the efficiency of the transportation system, and enhance mobility of residents and visitors. The program works towards these goals by assisting in the development of alternative transportation modes, including rideshare programs, park-and-ride locations, telecommuting programs, and information and incentive programs. To receive funding, larger projects need to be included in the STIP. For smaller projects, the TO office has discretionary funding that they could allocate as projects arise.

Applicability – Many of the transit and TDM/TSM improvement projects identified in the Seaside TSP may be eligible to receive funding through the TO Program. Requests for the inclusion of the recommended projects into the STIP should be submitted to the Region Manager. Smaller funding requests could be submitted directly to the TO office. Funding is allocated to the agency that is implementing the program. This could be a transit agency, local government, or non-profit organization.

Safety

The 2010-2013 Draft STIP states that under this program locations within the state highway system are identified that have high frequency and severity of incidents. Cost-effective measures are then applied to reduce incidents. Funding is focused on projects with the highest likelihood of reducing fatalities and serious injuries in a cost-effective manner. Both highway segment safety and site-specific improvements are eligible for funding under this program. Site-specific safety improvements are commonly combined with other ODOT funding projects.

Applicability – Projects along 101 that increase the safety of the facility, in locations where incidents have historically been frequent or severe, are eligible for this funding source.

Special Programs

ODOT also provides funding to a number of special programs. This section describes the programs that are applicable to projects outlined in the Seaside TSP.

- ***Public Transit Programs*** – Generally, only federally funded public transit projects are included in the STIP. ODOT administers both state and federal grant programs through this set of programs to support the operation of local public transit.

Public transit programs administered by ODOT include: support to communities for general-use public transit, transportation for seniors and individuals with disabilities, travel options programs, and intercity bus service. ODOT also distributes capital funding support for building transit facilities and purchasing transit equipment. To attain this funding, ODOT has established a project application, review and selection process. The federal funding programs listed in the STIP that are applicable to the projects identified in the Seaside TSP are described below.

The *Rural and Small Urban Areas Program* is a program administered through ODOT and makes federal funds available to support public transportation in areas with less than 50,000 people. Funds may be used for capital, operating, and administrative assistance. Funding is apportioned by a statutory formula based on population. States must spend 15 percent of the apportionment to support rural intercity bus service.

The *New Freedom Formula Grant Program* intends to “provide additional tools to overcome existing barriers facing Americans with disabilities seeking integration into the work force and full participation in society.” The goal of this program is to “reduce barriers to transportation services and to expand the transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act (ADA) of 1990.” Every three years, ODOT’s Public Transit Division conducts a competitive grant application process for these funds. Staff within the Division review and recommend projects for funding and the OTC approves the list.

The *Capital Investment Program* provides federal funding for the acquisition of capital assets. This program is also administered through ODOT. The most common project is to replace transit vehicles. This funding can also be used to purchase vehicles to expand transportation services. Grants are also provided to purchase and construct a variety of facilities and equipment.

Applicability – The funding sources described in this section provide resources that could be applied to a variety of the transit projects identified in this TSP. Funds from the *Urbanized Area Formula Program* or the *Capital Investment Program* could be used by Sunset Empire Transportation District to purchase additional busses to increase the frequency of service or the extension of service. Funds from the *Capital Investment Program* could also be used to construct facilities.

Sunset Empire Transportation District would be eligible to compete for *New Freedom Grant* and *Rural and Small Urban Areas* funds. These funds could be used for several of the transit projects that provide service to low-income populations and those with physical disabilities. As the requirement for the *New Freedom Grant* program is to increase public transportation alternatives beyond those required by ADA, further research would need to be conducted to determine if the identified transit projects go beyond this requirement. Applications for these grants should be submitted to ODOT.

- ***ODOT Bicycle and Pedestrian Program*** –This program is divided into three sub-programs: the sidewalks improvement program, quick fix, and grants. The goal of the sidewalk improvement program is to construct pedestrian improvements on state highways. Minor sidewalk and bike facility improvements on state highways

are eligible to receive funding under the Quick Fix sub-program. Bicycle and pedestrian improvements on local and state highways are eligible to receive grant funding through the Bicycle and Pedestrian program. The grant program provides funding to cities, counties and ODOT regional and district offices through a competitive process. Eligible projects are related to the design and construction of pedestrian and bicycle facilities within the public right-of-way. The application process for the grant program occurs every two years, and the next application cycle begins in 2010 for 2012-2013 funding. Every biennium, the grant program awards approximately \$5 million. A local match is expected for projects that receive this grant.

Applicability – Many of the bicycle and pedestrian projects included in this TSP are within the public right-of-way and would be eligible for either the sidewalk improvement program or the grant program. A grant application could be submitted as early as 2010 for receipt of funds in the 2012-2013 funding cycle.

- ***Transportation Enhancement Program*** – Oregon’s Transportation Enhancement (TE) program provides federal highway funds for project that strengthen the cultural, aesthetic, or environmental value of the transportation system. TE activities are funded through a required state set-aside from STP funds of 10%, or the amount set aside in FY 2005, whichever is greater. Projects fall into four main categories: Bicycle and Pedestrian; Historic Preservation; Landscaping and Scenic Beautification; and Environmental Mitigation. The intent of the program is to fund special or additional activities not normally required on a highway or transportation project.

Since the project’s inception in 1992, 190 projects of approximately \$97 million have been funded through the TE program. For fiscal years 2008-2011 the Program will have \$6.5 million per year for competitive selection, and \$2 million per year for the TE Discretionary Account. The funds are provided through reimbursement, not grants. Participation requires matching funds from the project sponsor, at a minimum of 10.27%. All projects must have a direct relationship to surface transportation.

Applicability - Bicycle and pedestrian projects in the STIP are eligible for funding for through the ODOT TE Program. This is a competitive grant application process facilitated by ODOT that awards funding to local governments on an annual basis. The TE Advisory Committee awards the grants based on a project’s technical merit and local support. The committee also considers the TE “focus areas” for the year and the connection to other transportation projects.

- ***Immediate Opportunity Fund*** – This fund provides funding for the construction and improvement of streets and roads that are crucial to support site-specific economic development projects. ODOT manages this fund on a case-by-case basis in cooperation with the Oregon Economic and Community Development Department.

The fund’s use is discretionary, and it can only be used when other sources of financial support are unavailable or insufficient. Use is also restricted to circumstances where an actual transportation problem exists and where funds are needed to identify or retain employers that provide primary industry employment in a community. A match of at least 50 percent of the total fund requested is expected from project’s applicants.

Applicability – This fund is not being proposed as a primary funding source for any of the TSP’s recommendations. It could be explored as a funding strategy in the case of partnering with a developer to integrate a recommendation into a proposed development.

Connect Oregon Grant

Connect Oregon is a program created by the Oregon Legislature in 2005 that provides funding through lottery-backed bonds and leverages partnerships to non-highway transportation projects statewide. The goal of this program is to improve connections, enhance transportation options and support the statewide economy. Connect Oregon III was reauthorized through the Jobs and Transportation Act of 2009, and the application process is already underway.

Applicability – Public transit projects are eligible for funding under the Connect Oregon program, however discussions of a Connect Oregon IV have not yet begun. Past projects have included the building of a new public transit center in La Grande. To participate in the program Sunset Empire Transportation District would keep in contact with the program about the potential for authorizing future rounds of funding.

Business Energy Tax Credit

Oregon’s Business Energy Tax Credit (BETC) program allows individuals, businesses, and other entities to take an Oregon tax credit for energy efficiency investments, including transportation investments that increase energy efficiency. This program provides tax credits to businesses that support transportation solutions, such as incentives to switch modes or education to increase employee’s comfort with specific modes. Governments can also benefit from this program by partnering with businesses. The government then sells BETC credits they receive through TDM efforts and sell them to their partnering business. These funds can then be used to expand TDM efforts. In Portland, the Bureau of Transportation has used the BETC for establishing its SmartTrips marketing program, which promotes utilization of alternative transportation in targeted Portland neighborhoods, as well as Safe Routes to Schools.

Applicability – The City of Seaside could partner with one or several businesses in Seaside to establish a mutually beneficial BETC partnership. The funding the City of Seaside receives from such a partnership could be used to implement projects that encourage reduced vehicle trips including bicycle, pedestrian, and transit improvements.

Please note that the Oregon legislature is currently considering changes to the BETC program that could reduce the ability to use this program.

<http://www.oregon.gov/ENERGY/TRANS/transhm.shtml>

Existing County or Regional Funding Sources

County Roads Budget

The County Roads department has a budget to conduct bridge replacement, paving, and road construction. The budget of this department is derived from the funding it receives from the State Highway Fund, Clatsop State Forest timber sales, and local property tax.

Applicability: This funding source would only apply to county roads. County roads within the study area include Wahanna Road south of Avenue S, Wahanna Road north

of 12th Avenue, Lewis and Clark Road east of US 101, and Beerman Creek Lane east of US 101. Projects suggested for Wahanna Road and Lewis and Clark Road could be eligible for county funding.

Transit System Advertising

Most transit agencies post advertising on their vehicles, facilities, and materials. Advertising is a source of earned income, provides a means to develop community partnerships and communicate community information, and can create a point of visual interest. Either the transit agency or an outside firm may manage the advertising program and contracts could be set up on a single or multiyear contract.

Applicability – The Sunset Empire Transportation District currently posts advertising on their buses. The Transportation District could work with the community to expand this source of revenue though its overall revenue generating potential remains limited.

Potential New County or Regional Sources

Local Option Levies

In Clatsop County, voters within an established taxing district, such as a city or a fire district can approve levies for operating purposes or capital projects. The levy has most commonly been used for operating purposes. A levy can either be established as a set rate or a set dollar amount. For capital projects, a levy cannot last longer than 10 years. Levies must be approved at a November election in an even numbered year or by more than 50 percent of eligible voters (double majority).

Applicability - Within established taxing districts, Clatsop County voters could approve funding projects through a levy but the levy would need to be paid back within 10 years. Similar to the General Obligation bond (described below), a careful assessment of public support for the projects to be funded would be needed before this source was pursued.

Transit Center Space Lease

Leasing portions of a transit center out to other businesses or concessions can be a revenue generating method for public transportation agencies. Concessions can include newsstands, food stands, ATMs, gift shops, florists, shoe repair and sales shops, and so forth. Lease agreements are typically multiyear and are bid on competitively with payments received as revenue or in the form of direct contributions to capital improvements.

Applicability – Surplus space in a future transit center in Seaside could be leased to another business as a strategy to expand transit funding. If indoor space is restricted, revenue may also be gathered through permitting mobile vendors, such as food carts, or seasonal vendors.

Existing City Funding Sources

The City of Seaside's major revenue sources are: the state tax street fund, which funds street lights and maintenance projects using money from City-appropriated highway trust fund, urban renewal area funds, and system development fund. These funds are described below.

Tax Street Fund

Table 5 provides an overview of the street fund revenue program and expenditures for the City of Seaside between 2004 and 2009.

Table 5
Seaside State Tax Street Fund Revenue Program and Expenditures¹ (Between 2004-2009)

	Revenues				
	2004-05	2005-06	2006-07	2007-08	2008-09
Beginning Fund Balance	\$676,000	\$124,000	\$148,000	\$142,000	\$54,000
Interest on Investments	\$2,000	\$5,000	\$7,000	\$7,000	\$3,000
State Gas Tax Refund	\$294,000	\$298,000	\$286,000	\$285,000	\$276,000
STP					\$270,000
Miscellaneous	\$5,000	\$8,000	\$11,000	\$11,000	\$9,000
Total	\$368,000	\$435,000	452,000	\$445,000	\$612,000
	Expenditures				
Administration Costs	\$15,000	\$14,000	\$14,000	\$22,000	\$24,000
Materials and Services	\$150,000	\$163,000	\$152,000	\$231,000	\$176,000
Capital Outlay	\$79,000	\$111,000	\$145,000	\$116,000	\$53,000
Contingency					\$270,000
Total	\$243,000	\$288,000	\$310,000	\$369,000	\$522,000

¹All numbers have been rounded to the nearest \$1000

Revenues available for the State Tax Street Fund Revenue Program have ranged between \$368,000 and \$612,000 over the past five years. The revenues for the current fiscal year are \$612,000. The more significant funding sources composing the street fund revenue program are described in turn below.

Gas Tax Refund

These funds are the annual appropriation of the State Highway Funds described in the earlier section on state funding. They are largely derived from the state fuel tax revenue as well as registration, title, and heavy vehicle weight-mile tax, and licensing fees. During the past five years this revenue source has decreased six percent, from \$294,000 to \$276,000.

Surface Transportation Program (STP) Funds

This revenue source is the appropriation of the Federal Highway Trust Fund revenues. As the city of Seaside has a population of less than 200,000 but greater than 5,000, ODOT shares a portion of its STP funding with the City. The 2008-2009 budget shows that the City received an allocation of \$270,000 from this fund. In the last five years, 2008-2009 was the only year the city received an allocation.

Other

Other revenue sources include use of interest earned on transportation-related investments and other miscellaneous sources. Together these revenues have composed between \$7,000 and \$32,000.

Applicability: Capital improvement projects are eligible to receive funding through the Street Tax Fund. Matching funds may be available for projects identified in the TSP but additional funding sources will be needed for larger improvement projects.

Urban Renewal Area

The Urban Renewal Agency identifies transportation and other enhancement projects within the urban renewal area boundaries with the goal of enhancing the infrastructure and attractiveness of the area. Recently identified transportation related projects include the reconstruction of local streets and sidewalk installation along Highway 101. The Agency also provided funding to construct a new library. Projects that are identified receive some funding from the Agency. The Agency may look for additional external funding sources for identified projects. See Table 6.

Table 6
Urban Renewal Area Fund Revenue Program and Expenditures² (Between 2004-2009)

	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Revenues					
Beginning Fund Balance	\$-34,000	\$-309,000	\$23,000	\$778,000	\$860,000
Transfer – Great Seaside Debt	\$277,000	\$452,000	\$392,000	\$293,000	\$311,000
Interest on Investments	\$1,000	\$>1,000	\$36,000	\$35,000	\$28,000
ODOT	\$104,000	\$1,000			
Bond Proceeds			\$1,985,000		
Bond Premium			\$34,000		
Total	\$348,000	\$144,000	\$2,469,000	\$1,106,000	\$1,199,000
Expenditures					
Materials and Services	\$139,000	\$101,000	\$1,663,000	\$187,000	\$86,000
Capital Outlay	\$518,000	\$20,000	\$28,000	919,000	\$713,000
Total	\$657,000	\$122,000	\$1,691,000	\$1,106,000	\$799,000

² All numbers have been rounded to the nearest \$1000

Applicability: As the Urban Renewal Agency previously supported roadway reconstruction and pedestrian infrastructure improvements, this may be a good source for identifying support for many of the roadway and pedestrian projects identified in the TSP. It may also be advantageous to work with the Urban Renewal Agency to determine if they may be willing to support other types of projects. Urban renewal funds are only available for projects located within the urban renewal area boundary.

Systems Development Charges - Roads Fund

System Development Charges (SDCs) are a one-time fee assessed on new development, to compensate for increased traffic associated with the new growth area. Developers of new residential or commercial growth areas are responsible for providing adequate vehicular, bicycle and pedestrian access through their site. Owners of abutting

properties pay the cost of street improvements to city standards. Street-related SDC revenues and expenditures for the last four years are listed in Table 3.

SDCs are structured so that revenues pay for expenditures. When revenues are low in a particular year, new streets likely were not necessary. Due to the current economy and the reduced amount of construction, SDCs may provide limited funding for projects identified in the Seaside TSP.

Street-related SDC revenues and expenditures for 2004-2009 are listed in Table 7.

Table 7
System Development Fund Revenue Program and Expenditures³ (Between 2004 and 2009)

	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Revenues					
Beginning Fund Balance	\$5,000	\$5,000	\$11,000	\$21,000	\$28,000
SDC - Principal		\$5,000	\$9,000	\$1,000	\$2,000
SDC - Interest	\$>100	\$>100	\$>100	\$>100	\$>100
Interest on Investment	\$>1,000	\$>1,000	\$1000	\$>1000	\$1,000
Total	\$5,000	\$11,000	\$21,000	\$22,000	\$32,000
Expenditures					
Infrastructure				\$22,000	\$32,000
Total				\$23,000	\$33,000

³ All numbers have been rounded to the nearest \$1000

Applicability: This funding source would only be applicable to projects along Wahanna Road. This source could be used for smaller projects or in coordination with another funding source for the recommended changes to the cross section of Wahanna Road.

Road District

The Road District has the same boundary as the city of Seaside. This district has a separate budget from the city and provides funding for maintenance and upkeep of improved streets within the district. Funds can be used for improvements from reconstructing a street to minor improvements.

Applicability: This funding source could be used for many projects identified in the TSP that alter already improved streets. Street improvements along arterial streets would be most applicable for this funding source, with improvements to residential streets being less applicable.

Special Transportation Fund

The Special Transportation Fund (STF) was created by the Oregon Legislature in 1985. It is funded through a cigarette tax and ODOT Transportation Operating Funds. This state funding source provides support for special transportation services that benefit seniors and individuals with disabilities. Seventy-five percent of the funding is allocated to designated counties, transit districts and Indian tribal governments proportional to population. The remaining 25% of the funds are distributed through a discretionary grant program called the Public Transportation Discretionary Grant Program.

Applicability: Sunset Empire Transit District has been designated as one of 42 entities statewide to receive funding through STF. For fiscal year 2010, Sunset Empire Transit District received \$61,474 from this funding source. STF funds can be used to create, maintain, or expand systems that serve seniors or individuals with disabilities, as well as plan and develop new services for those currently not served. ODOT's STF Guidebook provides a list of TSM and TDM examples of previous fund use (http://www.oregon.gov/ODOT/PT/PROGRAMS/stf_program.shtml). This funding source could be applicable for recommendations that serve seniors or individuals with disabilities.

Potential New Local Sources

Additional Transportation System Development Charges and Developer Fees

The City of Seaside could implement additional or increase existing SDCs that could be used to construct transportation projects in the City. These additional or increased fees could be dedicated generally to transportation improvements throughout Seaside, but would have to be used within a certain geographic area, such as the corridor the development is being constructed, within City limits, or within the UGB. Extents would be determined through SDC amendment language what would be adopted by the City.

Park System Development Charges

Park SDCs could be instituted and used for multi-use trail projects, such as the boardwalk along the west side of Wahanna Road, or other projects that would serve a recreational as well as a transportation purpose (such as the bicycle/pedestrian bridges). A park SDC would need to be created and levied on development or redevelopment of parcels within the City.

Tax Increment Financing (TIF)

TIFs require the City to define an urban renewal area, and then the county assessor "freezes" the assessed value of the property within the urban renewal area. This assumes that the value of the properties within the area will increase over time. The property taxes above those that were collected when the properties were "frozen" are used to pay for improvements within the urban renewal area. These funds are limited to the extent of where the Urban Renewal Area. TIF is used primarily as an economic development tool, but would be useful for targeted areas within the City of Seaside, especially for those projects such as Broadway pedestrian improvements west of US 101 and the extension of sidewalks along US 101 that could encourage economic development.

Local Improvement District (LID)

LIDs are created by property owners within a district of the City to raise revenues for constructing improvements within the same district. LIDs may be used to assess property owners for improvements that benefit properties and are secured by property liens. Property owners typically enter into LIDs because they see economic or personal advantages to the improvements. The City would work with property owners to acquire financing at lower interest rates than under typical financing methods.

The formation of LIDs is governed by state law and local jurisdictional development codes. LID revenues are used solely for capital costs. Similar to TIF revenues, LID

revenues can be combined with other revenue sources to fully fund improvement costs. LIDs have been established in the city of Seaside for projects in the past.

Applicability - LIDs could be an appropriate funding source for street improvement recommendations throughout Seaside.

Transit Center Space Lease

Leasing portions of a transit center out to other businesses or concessions can be a revenue generating method for public transportation agencies. Concessions can include newsstands, food stands, ATMs, gift shops, florists, shoe repair and sales shops, and so forth. Lease agreements are typically multiyear and are bid on competitively with payments received as revenue or in the form of direct contributions to capital improvements.

Applicability - Surplus space in a future transit center in Seaside could be leased to another business as a strategy to expand transit funding. If indoor space is restricted, revenue may also be gathered through permitting mobile vendors, such as food carts, or seasonal vendors.

Parking Fees and Fines

Seaside currently has non-metered street parking. Income generated by converting free parking spaces to metered or permitted parking spaces could be directed to projects identified in the TSP.

Applicability - To implement this funding strategy, the city would need to purchase and install parking meters for the parking spots along the streets. The city may choose to install these meters in busy locations where tourists will be willing to pay for a convenient spot. The visual impact of parking meters can be minimized by installing smart meters which only require a single meter per block.

Revenue and General Obligation Bonds

Bonding allows municipal and county governments to finance construction projects by borrowing money and paying it back over time (with interest). Financing costs with bonds requires funding to pay back borrowed funds. Financing requires smaller regular payments over time compared to paying the full cost at once, but financing increases the total cost by adding interest. General Obligation Bonds are often used to pay for construction of large capital improvements. This method is typically used to fund road improvements that will benefit an entire community. General Obligation Bonds add the cost of the improvement to property taxes over a period of time. A double majority voter approval is required for instituting General Obligation Bonds. Revenue for General Obligation Bonds is collected in property tax billings.

Revenue bonds are repaid with dedicated revenue from a source other than property taxes. Revenues from SDCs, LIDs, or other reliable revenue streams can be used. Revenue bonds are typically used to fund improvements that primarily benefit the people who provide the revenue through fees and assessments.

Applicability - A Transportation General Obligation Bond could be a method to fund some of the more expensive transportation projects that have a high level of public support. Public support would need to be considered carefully before making a decision to pursue this revenue source.

Outlook for Existing Transportation Funding Sources

Overall, the existing transportation funding sources are expected to continue at a rate similar to the current rate. The U.S. Congress is deliberating a reauthorization of the SAFETEA-LU surface transportation legislation for the next 6 years as it expired in September of 2009 and is expected to operate on continuing resolutions until 2011. The proposed funding package could total around \$600 billion for the upcoming 6-year period. The financing package for the SAFETEA-LU legislation (2005-2009) was approximately \$244 billion.

According to ODOT, fuel tax revenues are expected to decrease, as the purchasing power of fuel revenues decrease with inflation and more fuel-efficient vehicles are purchased. Oregon has been considering a shift to a more user-based revenue fee system to offset decreased revenues from the fuel tax.

SDCs have decreased on average over the last 2 years due to the downturn in the housing market. Table 6 may not reflect this decrease as budget projections, not actual fees were used for 2007-08 and 2008-09.

Tables 8, 9, and 10 match specific TSP recommendations with potential funding sources.

TABLE 8: ROADWAY RECOMMENDATIONS

Project	Time frame	Potential Funding Sources	Secondary Funding Sources
Intersection of 24 th Avenue and US 101		ODOT STIP	
Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge 01035 outside of 100-year floodplain	Very Long	- Modernization City Urban Renewal Area	City Tax Street Fund (for local match)
Phase 2: Construct new 24 th Avenue intersection	Very Long	ODOT STIP - Modernization City Urban Renewal Area	City Tax Street Fund (for local match)
Three-Way Stop at Lewis & Clark Road and Wahanna Road	Short	County Roads Department budget	
Wahanna Road Cross Sections		Systems Development Charges ODOT STIP - TE Program ODOT Bicycle and Pedestrian Program - Grant program	City Urban Renewal Area City Road District Fund
Intersection of 12th Ave. & Hwy 101		ODOT STIP - Modernization	City Tax Street Fund (for local match)
	Medium	- Safety - Operations	City Road District Fund City Urban Renewal Area

TABLE 8: ROADWAY RECOMMENDATIONS

Project	Time frame	Potential Funding Sources	Secondary Funding Sources
Intersection of 24 th Avenue and US 101		ODOT STIP	
Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge 01035 outside of 100-year floodplain	Very Long	- Modernization City Urban Renewal Area	City Tax Street Fund <i>(for local match)</i>
Phase 2: Construct new 24 th Avenue intersection	Very Long	ODOT STIP - Modernization City Urban Renewal Area	City Tax Street Fund <i>(for local match)</i>
Realignment of Avenue F and Avenue G with new signal	Medium	ODOT STIP	City Tax Street Fund <i>(for local match)</i>
		Modernization	City Road District Fund
		Safety	City Urban Renewal Area
		Operations Developer Contribution	
US 101 widening between north of Broadway and Avenue G	Very Long	ODOT STIP - Modernization	
Intersection of Broadway & Hwy 101	Short	ODOT STIP	City Tax Street Fund <i>(for local match)</i>
		- Modernization	City Road District Fund
		- Safety	City Urban Renewal Area
		- Operations	
Broadway Cross Section	Medium	ODOT Bicycle and Pedestrian Program	City Tax Street Fund <i>(for local match)</i>
		- Grant Program	City Road District Fund
		ODOT STIP	City Urban Renewal Area
		- TE Program	
Intersection of Avenue U & Hwy 101	Short	ODOT STIP	City Tax Street Fund <i>(for local match)</i>
		- Modernization	City Road District Fund
		- Safety	City Urban Renewal Area
		- Operations	
		- Highway Bridge Rehabilitation and Replacement Program	
Extension of S. Holladay Drive to the south (tie in with US 101 at Avenue U)	Long	ODOT STIP	City Tax Street Fund <i>(for local match)</i>
		- Modernization	
		Local Improvement District Extended System	

TABLE 8: ROADWAY RECOMMENDATIONS

Project	Time frame	Potential Funding Sources	Secondary Funding Sources
Intersection of 24 th Avenue and US 101		ODOT STIP	
Phase 1: Reconstruct US 101 in vicinity of Lewis and Clark, including reconstruction of existing bridge 01035 outside of 100-year floodplain	Very Long	- Modernization City Urban Renewal Area	City Tax Street Fund (for local match)
Phase 2: Construct new 24 th Avenue intersection	Very Long	ODOT STIP - Modernization City Urban Renewal Area Development Charges	City Tax Street Fund (for local match)
Flyover of S. Holladay Drive at US 101	Very Long	ODOT STIP - Modernization	
Avenue S Cross Section Between US 101 and the bridge	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Road District Fund	City Tax Street Fund (for local match) City Road District Fund City Urban Renewal Area
Between the bridge and Wahanna Road	Medium	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Road District Fund	City Tax Street Fund (for local match) City Urban Renewal Area
12 th Avenue Cross Section	Medium	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Road District Fund	City Tax Street Fund (for local match) City Urban Renewal Area

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 th Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 rd Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of Avenue F	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program Local Improvement District Bond or Levy City Urban Renewal Area	
Bicycle/pedestrian bridge over Necanicum River in vicinity of Avenue S	Medium	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program Local Improvement District Bond or Levy City Urban Renewal Area	
Pedestrian islands along US 101	Short	ODOT Bicycle and Pedestrian Program - Quick Fix ODOT STIP - TE Program	

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 th Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 rd Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge
Pedestrian crosswalks and curb ramps off US 101	Short	City Urban Renewal Area ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area City Road District Fund	City Tax Street Fund <i>(for local match)</i>
Signed bicycle routes on low traffic roadways	Medium	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	City Tax Street Fund <i>(for local match)</i>
Bicycle lanes and shared roadway markings for busier roadways	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Road District Fund	City Tax Street Fund <i>(for local match)</i>
Sidewalk connectivity – along US 101	Short	ODOT Bicycle and Pedestrian Program - Sidewalk Improvement Program	

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 th Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 rd Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge
Sidewalk connectivity – off of US 101	Long	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area Extended System Development Charges City Road District Fund	City Tax Street Fund (for local match)
Shared use path extending the Prom from Avenue U to Ocean Vista	Medium	Local Improvement District Bond or Levy Prom Improvement Fund	
High ground connector pathway (north/south between Lewis & Clark and Avenue S)	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP	New Park System Development Charge

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 th Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 rd Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area - TE Program	New Park System Development Charge
Connection to higher ground – east of Broadway	Medium	Local Improvement District Bond or Levy	
Connection to higher ground – east of Neawanna Creek in vicinity of Avenue F	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program Local Improvement District Bond or Levy City Urban Renewal Area	
Connection to higher ground – north/south between Broadway and Avenue F	Medium	Local Improvement District Bond or Levy	
Connection to higher ground – east of Avenue S/Wahanna Road	Medium	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	
Path connecting US 101	Long	Local Improvement District	New Park System

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 th Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 rd Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge
and Wahanna in vicinity of 15 th Avenue		Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	Development Charge
Extension of shared use path along US 101 from Avenue P to Avenue U	Short	Local Improvement District Bond or Levy City Urban Renewal Area	
Extension of shared use path along US 101 from north city limits to 12 th Avenue	Short	ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program Local Improvement District Bond or Levy City Urban Renewal Area	

TABLE 9: BICYCLE/PEDESTRIAN RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Bicycle/pedestrian bridge over Neawanna Creek in vicinity of 15 th Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program	New Park System Development Charge
Bicycle/pedestrian bridge over Necanicum River in vicinity of 3 rd Avenue	Long	Local Improvement District Bond or Levy ODOT Bicycle and Pedestrian Program - Grant Program ODOT STIP - TE Program City Urban Renewal Area	New Park System Development Charge

TABLE 10: TRANSIT RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Re-establish Trolley Bus Circulatory Route	Medium	ODOT STIP - Public Transportation Programs (Job Access Reverse Commute (JARC), Capital Investment) Transit System Advertising Transit Center Space Lease Local Improvement District Urban Renewal Area	Department of Energy Efficiency and Conservation Block Grant
Increase existing Bus service to 30 minute headways during the peak	Medium	ODOT STIP - Public Transportation Programs (JARC, New Freedom) Transit System Advertising Transit Center Space Lease	
Extend Route 101 service in the evenings	Short	ODOT STIP - Public Transportation Programs	

TABLE 10: TRANSIT RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Re-establish Trolley Bus Circulatory Route	Medium	<p>ODOT STIP</p> <p>- Public Transportation Programs (Job Access Reverse Commute (JARC), Capital Investment)</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p> <p>Local Improvement District</p> <p>Urban Renewal Area</p>	<p>Department of Energy Efficiency and Conservation Block Grant</p>
Increase existing Bus service to 30 minute headways during the peak	Medium	<p>ODOT STIP</p> <p>- Public Transportation Programs (JARC, New Freedom)</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
		<p>(JARC, New Freedom)</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
Provide service on Sundays	Short	<p>ODOT STIP</p> <p>- Public Transportation Programs (JARC, New Freedom)</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
Addition of Bus pullouts on US 101	Short	<p>ODOT Modernization</p> <p>ODOT TE Program</p>	
Addition of Bus Shelters	Short	<p>ODOT</p> <p>- Public Transportation Programs (Capital Investment)</p> <p>Livable Communities Grant</p> <p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
Relocate existing bus stop at US 101 and Broadway	Medium	<p>Transit System Advertising</p> <p>Transit Center Space Lease</p>	
Satellite Parking Areas	Medium	<p>ODOT STIP</p> <p>- Public Transportation Programs (JARC)</p> <p>ODOT Transportation Options Program</p> <p>City Tax Street Fund</p>	<p>Department of Energy Efficiency and Conservation Block Grant</p>

TABLE 10: TRANSIT RECOMMENDATIONS

Project	Timeframe	Potential Funding Sources	Secondary Funding Sources
Re-establish Trolley Bus Circulatory Route	Medium	ODOT STIP - Public Transportation Programs (Job Access Reverse Commute (JARC), Capital Investment) Transit System Advertising Transit Center Space Lease Local Improvement District Urban Renewal Area	Department of Energy Efficiency and Conservation Block Grant
Increase existing Bus service to 30 minute headways during the peak	Medium	ODOT STIP - Public Transportation Programs (JARC, New Freedom) Transit System Advertising Transit Center Space Lease	
Transit Center	Short	ConnectOregon Program Transportation Housing and Community Development Grant Livable Communities Grant ODOT Public Transit Programs (Capital Investment)	Transit Center Space Lease National Infrastructure Innovation and Finance Fund Greening Rural Oregon – Transit Consortium

Attachment A: Roadway Cost Assumptions

CH2M HILL
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE SUMMARY

PROJECT: Seaside TSP	DATE:	SHEET:
DESIGN LEVEL: Conceptual Level Estimates	3/19/2010	1 of 1

ALTERNATIVE	IMPROVEMENT	PROJECT COST
N1a	Intersection 24th/L&C Rd./Hwy101 Option A (N1a)	No Further Consideration
N1b	Intersection 24th/L&C Rd./Hwy101 Option B (N1b)	No Further Consideration
N1c P1	Intersection 24th/L&C Rd./Hwy101 Option C (N1c) Phase 1	\$ 15,741,000
N1c P2	Intersection 24th/L&C Rd./Hwy101 Option C (N1c) Phase 2	\$ 6,663,000
N1d	Hwy 101 Bridge No. 01035 Seismic Retrofit (N1d)	No Further Consideration
N2	Intersection L&C Rd. & Wahana Rd. (N2)	\$ 30,000
N4	Wahanna Road Cross Section (N4) w/ Revised Cross Sections	\$ 6,678,000
N5	Intersection 12th Ave. & Hwy 101 (N5)	\$ 1,314,000
C6	F & G Realignment (C6)	\$ 3,352,000
C7	Hwy 101 Widening; Ave. G to Broadway (C7)	\$ 5,456,000
C8	Intersection Broadway & Hwy 101 (C8)	\$ 792,000
C9	Broadway Cross Section (C9)	\$ 506,000
S10a	Intersection Avenue U & Hwy 101 (S10a)	\$ 7,997,000
S10b	S. Holladay Dr. Extension (S10b)	\$ 8,005,000
S10c	S. Holladay Dr. Flyover (S10c)	\$ 9,911,000
S11a	Avenue S Cross Section Hwy 101 to Bridge (S11a)	\$ 3,459,000
S11b	Avenue S Cross Section Bridge to Wahanna (S11b)	\$ 2,268,000
S12	Wahanna Road Extension (S12)	\$ 7,396,000
		\$ 79,568,000

* Note: N=North, C=Center, S=South

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 24th/L&C Rd./Hwy101 Option A (N1a)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structures, Seismic Retrofit		LENGTH (MI.): 0.17	DATE 10/20/2009	NAME DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.13	\$129,090
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.69	\$251,160
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$11,200
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.13	\$37,180
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	8,370	\$2,511,000
17	Seismic Retrofit Bridges	SF	\$50	8,740	\$437,000
18	Walls	SF	\$70	5,820	\$407,400
SUBTOTAL					\$4,084,030

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$102,100	
	TP & DT	3.0-8.0%	8.0%	\$326,700	
	Mobilization	8.0-10.0%	10.0%	\$408,400	
	Erosion Control	0.5-2.0%	2.0%	\$81,700	
	Contingency		40.0%	\$1,633,600	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$6,636,530	
	Right-of-Way	LS	ALL	1	\$196,740
	Design Engineering			13.0%	\$862,700
	Construction Engineering			10.0%	\$663,700
TOTAL PROJECT COST				\$8,360,000	

Assumptions:

- No realignment of Hwy 101
- Extg. Hwy 101 Bridge No. 01035 seismically retrofit
- No widening of Hwy 101 Bridge No. 01035
- Lewis & Clark Road to be extended to Hwy 101 at 24th Ave. (New bridge across Neawanna Creek
L=135', W=62')
- Extg. Lewis & Clark becomes one way NB, right turn only to Hwy 101 NB
- All roadway to be reconstructed or new, except Lewis & Clark NB from Wahanna to Hwy 101
- Wahanna to be realigned south of Lewis & Clark
- No permanent natural resources impacts assumed
- \$/SF ROW cost averaged from properties near project (2009 RMV assessed/property size)
- ROW costs include property and buildings

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 24th/L&C Rd./Hwy101 Option B (N1b)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.): 0.17		DATE 10/20/2009	NAME DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.13	\$129,090
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.69	\$251,160
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$11,200
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.13	\$37,180
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	12,530	\$3,759,000
17	Seismic Retrofit Bridges	SF	\$50	8,740	\$437,000
18	Walls	SF	\$70	5,820	\$407,400
SUBTOTAL					\$5,332,030

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$133,300	
	TP & DT	3.0-8.0%	8.0%	\$426,600	
	Mobilization	8.0-10.0%	10.0%	\$533,200	
	Erosion Control	0.5-2.0%	2.0%	\$106,600	
	Contingency		40.0%	\$2,132,800	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$8,664,530	
	Right-of-Way	LS	ALL	1	\$196,740
	Design Engineering			13.0%	\$1,126,400
	Construction Engineering			10.0%	\$866,500
TOTAL PROJECT COST				\$10,855,000	

Assumptions:

- No realignment of Hwy 101
- Extg. Hwy 101 Bridge No. 01035 seismically retrofit
- Widen Hwy 101 Bridge No. 01035 to 62' total width (42' extg. width)
- Lewis & Clark Road to be extended to Hwy 101 at 24th Ave. (New bridge across Neawanna Creek
L=135', W=62')
- Extg. Lewis & Clark becomes one way NB, right turn only to Hwy 101 NB
- All roadway to be reconstructed or new, except Lewis & Clark NB from Wahanna to Hwy 101
- Wahanna to be realigned south of Lewis & Clark
- No permanent natural resources impacts assumed
- \$/SF ROW cost averaged from properties near project (2009 RMV assessed/property size)
- ROW costs include property and buildings

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 24th/L&C Rd./Hwy101 Option C (N1c) Phase 1		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.): 0.19	DATE 3/19/2010	NAME DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.19	\$188,670
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	1.21	\$619,520
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.35	\$127,400
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.19	\$54,340
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	21,250	\$6,375,000
17	Seismic Retrofit Bridges	SF	\$50	0	\$0
18	Walls	SF	\$70	3,000	\$210,000
SUBTOTAL					\$7,874,930

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$196,900
	TP & DT	3.0-8.0%	8.0%	\$630,000
	Mobilization	8.0-10.0%	10.0%	\$787,500
	Erosion Control	0.5-2.0%	2.0%	\$157,500
	Contingency		40.0%	\$3,150,000
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
TOTAL CONSTRUCTION COST				\$12,796,830
	Right-of-Way	LS	ALL	1
	Design Engineering			13.0%
	Construction Engineering			10.0%
TOTAL PROJECT COST				\$15,741,000

Assumptions:

Hwy 101 Bridge No. 01035 will be reconstructed above the 100 year floodplain (L=250', W=85')
Hwy 101 Reconstructed 500' north and south of bridge
Lewis & Clark Road to be extended to Hwy 101 at 24th Ave. in Phase 2
Lewis & Clark Road reconstructed north of Wahanna to meet new Hwy 101 grade
All ROW impacts are assumed as part of P2. P1 can be constructed in extg. ROW.
24th Ave. reconstructed to meet Hwy101 new grade.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 24th/L&C Rd./Hwy101 Option C (N1c) Phase 2		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.): 0.19		DATE 3/19/2010	NAME DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.13	\$129,090
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.69	\$251,160
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0.11	\$3,520
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	1.00	\$60,000
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.13	\$37,180
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	8,370	\$2,511,000
17	Seismic Retrofit Bridges	SF	\$50	0	\$0
18	Walls	SF	\$70	1,840	\$128,800
SUBTOTAL					\$3,120,750

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$78,000	
	TP & DT	3.0-8.0%	8.0%	\$249,700	
	Mobilization	8.0-10.0%	10.0%	\$312,100	
	Erosion Control	0.5-2.0%	2.0%	\$62,400	
	Contingency		40.0%	\$1,248,300	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$5,071,250	
	Right-of-Way	LS	ALL	1	\$425,000
	Design Engineering			13.0%	\$659,300
	Construction Engineering			10.0%	\$507,100
TOTAL PROJECT COST				\$6,663,000	

Assumptions:

Lewis & Clark Road to be extended to Hwy 101 at 24th Ave. (New bridge across Neawanna Creek
L=135', W=62')

Extg. Lewis & Clark becomes one way NB, right turn only to Hwy 101 NB

All roadway to be reconstructed or new, except Lewis & Clark NB from Wahanna to Hwy 101
Wahanna to be realigned south of Lewis & Clark

No permanent natural resources impacts assumed

ROW costs include property and filing costs. Cost information provided by ODOT.

Signal modifications at Hwy 101 & 24th for new L&C Rd. leg.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection Lewis and Clark Rd. & Hwy 101		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Signal		LENGTH (MI.):	DATE	NAME	
		0.07	7/23/2010	RJB	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$499,188	0.07	\$34,943
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0.00	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0.41	\$13,120
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0.00	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0.00	\$0
17	Walls	SF	\$70	1,050.00	\$73,500
SUBTOTAL					\$421,563

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$10,500	
	TP & DT	3.0-8.0%	8.0%	\$33,700	
	Mobilization	8.0-10.0%	10.0%	\$42,200	
	Erosion Control	0.5-2.0%	2.0%	\$8,400	
	Contingency		40.0%	\$168,600	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$684,963	
	Right-of-Way	LS	ALL	1	\$5,400
	Design Engineering			13.0%	\$89,000
	Construction Engineering			10.0%	\$68,500
TOTAL PROJECT COST				\$848,000	

Assumptions:

- Widen Lewis & Clark Rd. to accommodate 75' single left turn pocket.
- New Signal for single intersection.
- Re-stripe all of Lewis & Clark Rd. between intersection with US101 and Wahanna Rd.
- Assumed a fill wall section for half the distance between the intersections with US101 and Wahanna Rd. on the north side.
- No physical changes to US101 other than re-striping.
- Crosswalk striping added for a single crossing on US101 and across Lewis & Clark Rd.
- \$/SF cost averaged from several properties along corridor (2009 RMV assessed/property size).
- ROW costs include property acquisition only.
- No changes to unit cost from previous estimates.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Hwy 101 Bridge No. 01035 Seismic Retrofit (N1d)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Bridge Seismic Retrofit		LENGTH (MI.):	DATE	NAME	
		0.17	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Seismic Retrofit Bridges	SF	\$50	8,740	\$437,000
18	Walls	SF	\$70	0	\$0
SUBTOTAL					\$437,000

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	0.0%	\$0
	TP & DT	3.0-8.0%	8.0%	\$35,000
	Mobilization	8.0-10.0%	10.0%	\$43,700
	Erosion Control	0.5-2.0%	2.0%	\$8,700
	Contingency		40.0%	\$174,800
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
TOTAL CONSTRUCTION COST				\$699,200
	Right-of-Way	LS	ALL	1
	Design Engineering			13.0%
	Construction Engineering			10.0%
TOTAL PROJECT COST				\$860,000

Assumptions:

Project is to seismically retrofit Hwy 101 Bridge No. 01035 only.
Existing Bridge Length = 208'
Existing Bridge Width = 42'

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection L&C Rd. & Wahana Rd. (N2)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0.00	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0.26	\$8,320
9	Signing	LS	\$6,600	1.00	\$6,600
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
SUBTOTAL					\$14,920

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	0.0%	\$0	
	TP & DT	3.0-8.0%	8.0%	\$1,200	
	Mobilization	8.0-10.0%	10.0%	\$1,500	
	Erosion Control	0.5-2.0%	0.0%	\$0	
	Contingency		40.0%	\$6,000	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$23,620	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$3,100
	Construction Engineering			10.0%	\$2,400
TOTAL PROJECT COST				\$30,000	

Assumptions:

- Revisions be striping and signing only, no new pavement needed
- Remaining unused pavement to be removed
- 1 new stop sign, 3 new directional signs, and 6 new street name signs assumed

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: 12th Street Cross Section (N3)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
SUBTOTAL					\$0

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	1.0%	\$0
	TP & DT	3.0-8.0%	3.0%	\$0
	Mobilization	8.0-10.0%	8.0%	\$0
	Erosion Control	0.5-2.0%	50.0%	\$0
	Contingency		40.0%	\$0
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2020	\$0
TOTAL CONSTRUCTION COST				\$0
	Right-of-Way	LS	ALL	1
	Design Engineering			13.0%
	Construction Engineering			10.0%
TOTAL PROJECT COST				\$0

Assumptions:

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Wahanna Road Cross Section (N4) w/ Revised Cross Sections		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0	3/1/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$1,100,000	1.08	\$1,188,000
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.62	\$225,680
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	3.45	\$493,350
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.89	\$480,600
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	3	\$110,400
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	1.08	\$308,880
15	Landscaping	Mi.	\$250,000	1.08	\$270,000
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
SUBTOTAL					\$3,076,910

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$76,900	
	TP & DT	3.0-8.0%	8.0%	\$246,200	
	Mobilization	8.0-10.0%	10.0%	\$307,700	
	Erosion Control	0.5-2.0%	2.0%	\$61,500	
	Contingency		40.0%	\$1,230,800	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$5,000,010	
	Right-of-Way	LS	ALL	1	\$527,120
	Design Engineering			13.0%	\$650,000
	Construction Engineering			10.0%	\$500,000
TOTAL PROJECT COST				\$6,678,000	

Assumptions:

- 39' cross section (2-10' lanes, curb westside only, 10' path/sidewalk, 6' eastside shoulder) from L&C Rd. to S. Shore Terrace.
- 45' cross section (2-10' lanes, 2-5' bike, 5' sidewalk eastside and 10' path/sidewalk westside) from S. Shore Terrace to Broadway.
- 56' cross section (2-13' lanes, 10' center turn lane, and 2-10' path/sidewalk each side) from Broadway to Spruce Drive.
- 46' cross section (2-10' lanes, 5' bike lanes, 10' path/sidewalk west and 6' sidewalk east) from from Spruce Drive to Ave. S.
- Existing roadway width (edge of pavement to edge of pavement) varies from 24' to 36' width
- Assumes existing roadway width resurfacing (overlay) with 20% reconstruction
- Widening will be to one side along corridor where existing curblines exist
- Assumes no structures impacted from corridor improvements and widening
- \$/SF cost averaged from several properties along corridor (2009 RMV assessed/property size)
- ROW costs include property acquisition only

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection 12th Ave. & Hwy 101 (N5)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0.08	3/19/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.08	\$79,440
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.07	\$35,840
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.07	\$25,480
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.15	\$42,900
15	Landscaping	Mi.	\$250,000	0.15	\$37,500
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
SUBTOTAL					\$521,160

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$13,000	
	TP & DT	3.0-8.0%	8.0%	\$41,700	
	Mobilization	8.0-10.0%	10.0%	\$52,100	
	Erosion Control	0.5-2.0%	2.0%	\$10,400	
	Contingency		40.0%	\$208,500	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$846,860	
	Right-of-Way	LS	ALL	1	\$272,000
	Design Engineering			13.0%	\$110,100
	Construction Engineering			10.0%	\$84,700
TOTAL PROJECT COST				\$1,314,000	

Assumptions:

- 200' Right turn lanes all legs (100' storage + 100' taper), 1/2 length to Hwy 101 and 1/2 to 12th Ave.
- 15' turn lane width on Hwy 101 (ODOT Std.), 14' width on 12th Ave.
- New Signal for single intersection
- Illumination and landscaping included
- ROW acq. = turn lane width + 1/2 width for taper * length
- \$/SF cost averaged from 4 properties near intersection (2009 RMV assessed/property size)
- ROW costs include property, buildings, filing costs, and relocation costs.
- All ROW impacts are to SW, SE, and NE intersection corners. No impacts to NW property assumed.
- Access maintained by 15' ROW acquisition from 13th Avenue.
- All widening on 12th Ave. west of Hwy 101 are to the south side of the street.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: F & G Realignment (C6)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Signals		LENGTH (MI.):	DATE	NAME	
		0.15	3/19/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.15	\$148,950
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.32	\$163,840
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.57	\$207,480
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.15	\$42,900
15	Landscaping	Mi.	\$250,000	0.15	\$37,500
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
SUBTOTAL					\$900,670

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$22,500
	TP & DT	3.0-8.0%	8.0%	\$72,100
	Mobilization	8.0-10.0%	10.0%	\$90,100
	Erosion Control	0.5-2.0%	2.0%	\$18,000
	Contingency		40.0%	\$360,300
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
TOTAL CONSTRUCTION COST				\$1,463,670
	Right-of-Way			
	Total (Eastside Impacts)	LS	ALL	\$1,551,000
	Design Engineering		13.0%	\$190,300
	Construction Engineering		10.0%	\$146,400
TOTAL PROJECT COST				\$3,352,000

Assumptions:

- 500' 3-L reconstruction along Hwy 101 (10" AC/14" Agg)
- 900' 3-L reconstruction along Ave F & Ave G (6" AC/12" Agg)
- New Signal for single intersection
- Illumination and landscaping included
- Assumes average 30' ROW needed for 1/2 length of Ave F & Ave G realignment
- \$/SF cost averaged from properties near intersection (2009 RMV assessed/property size)
- \$/EA for structures averaged from properties near intersection (2009 RMV assessed)
- ROW costs include property, buildings, filing costs, and relocation costs. Total costs based on information provided by ODOT
- Highway 101 widening costs are included elsewhere however as part of realigning Avenue F and Avenue G, some reconstruction of Hwy 101 is required. Those costs are included here.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Hwy 101 Widening; Ave. G to Broadway (C7)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Signals		LENGTH (MI.): 0.43		DATE 3/2/2010	NAME DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.70	\$695,100
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	2.24	\$1,146,880
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	1.00	\$60,000
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.43	\$122,980
15	Landscaping	Mi.	\$250,000	0.27	\$67,500
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	54	\$3,780
SUBTOTAL					\$2,396,240

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$59,900
	TP & DT	3.0-8.0%	8.0%	\$191,700
	Mobilization	8.0-10.0%	10.0%	\$239,600
	Erosion Control	0.5-2.0%	2.0%	\$47,900
	Contingency		40.0%	\$958,500
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
TOTAL CONSTRUCTION COST				\$3,893,840
	Right-of-Way			
	Total (Eastside Impacts)	LS	ALL	\$665,812
	Design Engineering		13.0%	\$506,200
	Construction Engineering		10.0%	\$389,400
TOTAL PROJECT COST (Eastside Impacts)				\$5,456,000

Assumptions:

- 1,850' length 4-L w/ raised median (ODOT HDM Table 8-4)
- 200' north and south, taper from 4-L w/median to extg. 3-L section
- 1 new signal assumed at F&G, signal modification at Broadway
- Widening to occur on eastside of Hwy 101 to minimize building impacts
- \$/SF cost averaged Ave F&G and Broadway Intersection Estimates
- ROW costs include property and buildings but do not include relocation
- 12' lanes widths assumed for per lane mile estimate
- Cost are for widening Hwy 101 only. Intersection improvements for Broadway and Ave. F&G are included elsewhere.
- Landscaping included for 4-L length minus 400' for left turn pockets at Broadway and Ave. F.
- Additional Curb/Gutter length added for raised median

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: US 101 New Cross Section - Ave. G to Holladay Dr.		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Walls		LENGTH (MI.):	DATE	NAME	
		0.26	7/19/2010	RJB	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$1,100,000	0.26	\$286,458
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	1.13	\$578,560
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0.00	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0.00	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0.00	\$0
14	Illumination	Mi.	\$286,000	0.26	\$74,479
15	Landscaping	Mi.	\$250,000	0.26	\$65,104
16	Bridges	SF	\$300	0.00	\$0
17	Walls	SF	\$70	750.00	\$52,500
SUBTOTAL					\$1,057,102

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$26,400	
	TP & DT	3.0-8.0%	8.0%	\$84,600	
	Mobilization	8.0-10.0%	10.0%	\$105,700	
	Erosion Control	0.5-2.0%	2.0%	\$21,100	
	Contingency		40.0%	\$422,800	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$1,717,702	
	Right-of-Way	LS	ALL	1	\$20,100
	Design Engineering			13.0%	\$223,300
	Construction Engineering			10.0%	\$171,800
TOTAL PROJECT COST				\$2,133,000	

Assumptions:

- 68' cross section (2-12' lanes, 1-16' turn lane, 2-6' bike lanes, 2-8' sidewalks) from Ave. G to Holladay Dr.
- 68' cross section on US101 matches proposed build-out of F & G Realignment (C6) to the north and S. Holladay Dr. Extension (S10b) to the south. Signal costs included in each of those estimates. Transition from 2-L to 3-L north of Holladay Dr.
- Existing roadway width (edge of pavement to edge of pavement) varies from 36' to 48' width. Assumes widening to the east through this section to avoid business impacts along the west side of the highway.
- Assumed a cut wall section for half the distance between Ave. K and Ave. J. on the east side.
- \$/SF cost averaged from several properties along corridor (2009 RMV assessed/property size).
- ROW costs include property acquisition only.
- No changes to unit cost from previous estimates.
- Utility Relocations not included in this estimate.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection Broadway & Hwy 101 (C8)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Signals, Illumination		LENGTH (MI.):	DATE	NAME	
		0.04	3/19/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.04	\$39,720
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.04	\$14,560
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.04	\$11,440
15	Landscaping	Mi.	\$250,000	0.04	\$10,000
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
SUBTOTAL					\$375,720

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$9,400	
	TP & DT	3.0-8.0%	8.0%	\$30,100	
	Mobilization	8.0-10.0%	10.0%	\$37,600	
	Erosion Control	0.5-2.0%	2.0%	\$7,500	
	Contingency		40.0%	\$150,300	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$610,620	
	Right-of-Way	LS	ALL	1	\$40,000
	Design Engineering			13.0%	\$79,400
	Construction Engineering			10.0%	\$61,100
TOTAL PROJECT COST				\$792,000	

Assumptions:

- Any widening on Hwy 101 will be covered under a separate project
- New signal will be installed at locations for future Hwy 101 widening
- 6' widening needed on Broadway
- No ROW needed on east leg. 6' ROW needed for widening on west leg.
- ROW costs average assessed (2009 RMV) costs for adjacent (affected) properties
- ROW costs include acquisition and filing costs and are based on information provided by ODOT

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Broadway Cross Section (C9)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0.39	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.08	\$79,440
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.10	\$36,400
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0.00	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	1.30	\$41,600
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.29	\$82,940
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$150	0	\$0
17	Walls	SF	\$70	0	\$0
SUBTOTAL					\$240,380

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$6,000	
	TP & DT	3.0-8.0%	3.0%	\$7,200	
	Mobilization	8.0-10.0%	10.0%	\$24,000	
	Erosion Control	0.5-2.0%	2.0%	\$4,800	
	Contingency		40.0%	\$96,200	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$378,580	
	Right-of-Way	LS	ALL	1	\$39,680
	Design Engineering			13.0%	\$49,200
	Construction Engineering			10.0%	\$37,900
TOTAL PROJECT COST				\$506,000	

Assumptions:

- 52' back of walk to back of walk cross section assumed
- Widening will only be between the bridge and Wahanna
- Width from Hwy 101 to bridge is sufficient for cross section
- No work to the existing bridge is assumed
- ROW costs average assessed (2009 RMV) costs for adjacent (affected) properties
- ROW costs include property and buildings
- Curb cost include additional length for sidewalk improvements, south side from Hwy 101 to the bridge
- Restriping assumed for the entire road segment (Hwy 101 to Wahanna)
- Includes 3/4 length illumination retrofit (~1/4 of length has existing illumination)

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Intersection Avenue U & Hwy 101 (S10a)		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		0.06	11/23/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.06	\$59,580
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.06	\$21,840
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$5,120
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	1.00	\$300,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.06	\$17,160
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	11,375	\$3,412,500
17	Walls	SF	\$70	2,640	\$184,800
SUBTOTAL					\$4,001,000

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$100,000	
	TP & DT	3.0-8.0%	8.0%	\$320,100	
	Mobilization	8.0-10.0%	10.0%	\$400,100	
	Erosion Control	0.5-2.0%	2.0%	\$80,000	
	Contingency		40.0%	\$1,600,400	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$6,501,600	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$845,200
	Construction Engineering			10.0%	\$650,200
TOTAL PROJECT COST				\$7,997,000	

Assumptions:

- Bridge reconstruction assumend, 3-L (60' width)
- Bridge reconstruction assumed at grade. No costs included to raise bridge if regulations require.
- Widening west of bridge to match extg at S. Grove Street (30' extg to 60')
- All widening is to north side, no impacts to green space
- Illumination to be included
- Signal at Ave. U and Hwy 101 to be modified for widening
- Extg roadway to remain to be re-striped
- Wall assumed for sidewalk fill north side west of bridge. No impacts to parking lot (avg. h=4')
- No additional ROW needed
- Traffic from Avenue U EB to Hwy 101 SB merges into SB lane (no separate merge lane included)

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: S. Holladay Dr. Extension (S10b)		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.):	DATE	NAME	
		0.63	3/19/2010	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.63	\$625,590
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	2.00	\$728,000
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$8	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	2.00	\$600,000
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.63	\$180,180
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	1,000	\$70,000
SUBTOTAL					\$2,203,770

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$55,100	
	TP & DT	3.0-8.0%	8.0%	\$176,300	
	Mobilization	8.0-10.0%	10.0%	\$220,400	
	Erosion Control	0.5-2.0%	2.0%	\$44,100	
	Contingency		40.0%	\$881,500	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$3,581,170	
	Right-of-Way	LS	ALL	1	\$3,600,000
	Design Engineering			13.0%	\$465,600
	Construction Engineering			10.0%	\$358,100
TOTAL PROJECT COST				\$8,005,000	

Assumptions:

Holladay Drive Extension from Hwy 101 at S. Holladay Driver to Hwy. 101 at Ave. U
 2-L cross section 6' s/w, 6' bike, 12' lanes plus 5' to new ROW
 Widens to 3-L at Hwy 101 (south end intersection)
 New signal at Avenue U and Hwy 101, and Avenue S. and Hwy 101
 200' length wall, average 5' height along pond (assumes no impacts)
 At grade intersection at extg. S. Holladay Drive and Hwy 101
 Alignment assumed to impact ROW along Holladay (removes structures)
 7 structures total affected along entire alignment
 150' inscribed diameter roundabout at Avenue S and Holladay included
 \$/SF & Bldg. ROW cost averaged from properties near project (2009 RMV assessed/property size)
 ROW costs include property and buildings and are 2/3 of Pac Dooley ROW costs

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: S. Holladay Dr. Flyover (S10c)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structures		LENGTH (MI.):	DATE	NAME	
		0.19	11/23/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.17	\$168,810
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.52	\$189,280
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$8	15,250	\$122,000
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.19	\$54,340
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	4,800	\$1,440,000
17	Walls	SF	\$70	24,400	\$1,708,000
SUBTOTAL					\$3,682,430

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$92,100	
	TP & DT	3.0-8.0%	8.0%	\$294,600	
	Mobilization	8.0-10.0%	10.0%	\$368,200	
	Erosion Control	0.5-2.0%	2.0%	\$73,600	
	Contingency		40.0%	\$1,473,000	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$5,983,930	
	Right-of-Way	LS	ALL	1	\$2,550,000
	Design Engineering			13.0%	\$777,900
	Construction Engineering			10.0%	\$598,400
TOTAL PROJECT COST				\$9,911,000	

Assumptions:

Holladay Street over Hwy 101, 17.5' clearance, 8' structure depth, 10% grade max.
 2-L cross section 6' s/w, 6' bike, 12' lanes plus 5' to new ROW
 25' wings walls approaching bridge, 19' end wall under bridge
 Alignment assumed to impact ROW along Holladay (removes structures)
 3 structures total affected along entire alignment
 Structure is single span, 100' length, 48' wide
 \$/SF & Bldg. ROW cost averaged from properties near project (2009 RMV assessed/property size)
 ROW costs include acquisition and filing costs as well as relocation costs and are based on information provided by ODOT.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Avenue S Cross Section Hwy 101 to Bridge (S11a)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structure		LENGTH (MI.):	DATE	NAME	
		0.28	11/23/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.28	\$278,040
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	1.10	\$400,400
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.28	\$80,080
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$200	0	\$0
17	Walls	SF	\$70	12,560	\$879,200
SUBTOTAL					\$1,637,720

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$40,900	
	TP & DT	3.0-8.0%	8.0%	\$131,000	
	Mobilization	8.0-10.0%	10.0%	\$163,800	
	Erosion Control	0.5-2.0%	2.0%	\$32,800	
	Contingency		40.0%	\$655,100	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$2,661,320	
	Right-of-Way	LS	ALL	1	\$184,632
	Design Engineering			13.0%	\$346,000
	Construction Engineering			10.0%	\$266,100
TOTAL PROJECT COST				\$3,459,000	

Assumptions:

- 48' 2-L Cross Section (6' walks, 6' bike, 12' lanes) Hwy 101 to westside of the bridge
- No signal improvements at Hwy 101
- Extg. rdwy width is 26'
- Extg. timber wall southside of roadway, west of bridge to be replaced (assumed h=10')
- Extg. bridge sufficient, no reconstruction assumed
- All extg roadway and curb is replaced
- \$/SF ROW cost averaged from properties near project (2009 RMV assessed/property size)
- ROW costs include property and buildings

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Avenue S Cross Section Bridge to Wahanna (S11b)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Structure		LENGTH (MI.):		DATE	NAME
		0.23		11/23/2009	DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.23	\$228,390
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.77	\$280,280
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.23	\$65,780
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$200	0	\$0
17	Walls	SF	\$70	8,000	\$560,000
SUBTOTAL					\$1,134,450

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$28,400	
	TP & DT	3.0-8.0%	8.0%	\$90,800	
	Mobilization	8.0-10.0%	10.0%	\$113,400	
	Erosion Control	0.5-2.0%	2.0%	\$22,700	
	Contingency		40.0%	\$453,800	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$1,843,550	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$239,700
	Construction Engineering			10.0%	\$184,400
TOTAL PROJECT COST				\$2,268,000	

Assumptions:

40' 2-L cross section across bridge and along sensitive area (~400'), 46' width then to Wahana Rd.
 Assumes 400', 22' impacts to natural resources area
 Extg. rdwy width is 26'
 Walls will be installed through NRA to minimize impacts
 All extg roadway and curb is replaced
 No additional ROW needed

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Wahanna Road Extension (S12)		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.):	DATE	NAME	
		1.53	10/20/2009	DAH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	1.53	\$1,519,290
2	Bike Boulevard	Day	\$135,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	4.60	\$1,674,400
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	1.53	\$437,580
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Walls	SF	\$70	0	\$0
SUBTOTAL					\$3,631,270

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$90,800	
	TP & DT	3.0-8.0%	5.0%	\$181,600	
	Mobilization	8.0-10.0%	10.0%	\$363,100	
	Erosion Control	0.5-2.0%	2.0%	\$72,600	
	Contingency		40.0%	\$1,452,500	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$5,791,870	
	Right-of-Way	LS	ALL	1	\$271,800
	Design Engineering			13.0%	\$752,900
	Construction Engineering			10.0%	\$579,200
TOTAL PROJECT COST				\$7,396,000	

Assumptions:

- Roadway to follow contours to minimize cut/fill
- 48' cross-section assumed (6' s/w, 6' bike, 12' lanes)
- Illumination assumed along entire corridor
- Curb and gutter assumed for entire corridor
- New signal to be installed at Beerman Cr. Rd. and Hwy 101
- All extg. roadway will be reconstructed including 1,500' along Beerman Cr. Rd.
- General cut/fill assumption of 2' depth sufficient
- ROW cost estimated by averaging 3 properties assessed value (2009 RMV) along corridor
- ROW costs include property and buildings
- TP&DT lower due to off alignment type work

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Hwy 101 Pedestrian Bridge Overcrossing Location 1		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage		LENGTH (MI.): 0.23		DATE 3/8/2010	NAME DAH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$993,000	0.00	\$0
2	Bike Path	Mile	\$135,000	0.23	\$31,050
3	New Roadway: Highway	Lane-Mi.	\$512,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$540,000	0.00	\$0
7	Embankment	CY	\$10	5,200	\$52,000
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$0
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	%	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$200	1,920	\$384,000
17	Walls	SF	\$70	17,262	\$1,208,340
SUBTOTAL					\$1,675,390

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.0%	\$33,500	
	TP & DT	3.0-8.0%	8.0%	\$134,000	
	Mobilization	8.0-10.0%	10.0%	\$167,500	
	Erosion Control	0.5-2.0%	0.5%	\$8,400	
	Contingency		40.0%	\$670,200	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$2,688,990	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$349,600
	Construction Engineering			10.0%	\$268,900
TOTAL PROJECT COST				\$3,308,000	

Assumptions:

- 1-85' bridge, 12' wide across Hwy 101
- 1-75' bridge, 12' across Third Ave.
- Assumes varying height retaining walls along the pedestrian path.
- Max path grade at 6%
- 10' width path up to each bridge

Attachment B: Bicycle and Pedestrian Cost Assumptions

Cost Opinions

This section summarizes planning level cost opinions associated with the recommended pedestrian and bicycle improvement projects. Cost opinions were established by similar Bicycle/Pedestrian Master Plans and experience in nearby communities. Table 1 shows cost opinions for elements of both bicycle and pedestrian improvement projects.

Table 1. Costs for Improvements Summary

Improvement	Unit	Planning-Level Cost Opinion	Notes
High-Visibility Crosswalks	LF	\$30	6' wide
ADA-Compliant Curb Ramps	EA	\$1,000	
Pedestrian-Actuated Push Buttons	EA	\$600	
Curb Extensions	EA	\$12,500	
Bicycle/Pedestrian bridge	SF	\$150	All estimates assume 12' bridge (\$1,800 LF)
Signed Bike Route (Low Traffic Roadway Treatment)	LF	\$1.33	Includes signage (\$250 ea) every 600' & pavement markings (\$50 ea) every 200' in either direction
Shared Lane Markings	LF	\$4.33	Includes signage (\$250 ea) every 600' & pavement markings (\$175 ea) every 200' in either direction
Bike Lane (High Traffic Roadway Treatment)	LF	\$22.33	Includes stripe removal (\$1.50 LF) of two lanes and re-striping (\$4.50) of four lanes, as well as signage (\$250 ea) every 600' & pavement markings (\$50 ea) every 200' in either direction
Shared Use Path	LF	\$31.72	12' path with 2' unpaved shoulders: Clear & Grub (SF): \$0.15 SF @ 16' 4" Aggregate base: \$0.60 SF @ 16' 3" Asphalt path: \$1.56 SF @ 12' Centerline stripe: \$1.00 LF
Sidewalk with Drainage and Curb & Gutter*	LF	\$92.78	7' wide sidewalk: Curb and Gutter: \$18.00 LF @ 10,560' Sidewalk: \$45.00 SY @ 7,040' 12" Storm Sewer Pipe, 10' deep (assumes ½ roadway): \$70.00 LF @ 2,640' Storm Manhole (assumes ½ roadway): \$2,800.00 EA @ 9 Standard Catch Basin: \$1,500.00 EA @ 18

* Sidewalk estimates include half the cost of drainage, which consists of a sewer pipe and storm manholes running the length of the roadway in the center

The proposed pedestrian improvements in Seaside, including intersection and sidewalk improvements, total \$13,624,000 (in 2009 dollars. Does not include Wahanna improvements) while the bicycle improvements, including improvements on low traffic streets and on busier roadways, as well as shared use paths, total \$3,513,400 (Estimates do not include bicycle and pedestrian improvements on Wahanna). Together, bicycle and pedestrian improvements recommended for Seaside total \$17,137,400.

Individual Project Cost Opinions

Table 2 through Table 6 list the recommended projects by category and include planning-level cost opinions. The cost opinions include engineering/ design (13 percent), contingency (40 percent) and construction management (10 percent) costs, which represent a proportion of the original project costs.

Table 2. Proposed Intersection Improvements

Project	Length ²⁰	Improvement Type	Cost Opinion ²¹
US 101 at Wahanna	154	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$14,000
24th at US 101	100	High-visibility crosswalks	\$5,000
Lewis & Clark at Wahanna	150	High-visibility crosswalks, ADA-compliant curb ramps (6)	\$17,000
15th at US 101	160	High-visibility crosswalks	\$8,000
15th at creek	3,900	Bicycle/pedestrian bridge	\$954,000
15th at Wahanna	70	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
12th at Franklin	60	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$9,000
12th at Holladay	80	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
12th at US 101	206	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$14,000
12th at Wahanna	70	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
9th at US 101	160	High-visibility crosswalks	\$8,000
6th at US 101	160	High-visibility crosswalks	\$8,000
3rd at Necanicum River	2,940	Bicycle/pedestrian bridge	\$719,000
3rd at US 101	160	High-visibility crosswalks	\$8,000
1st at US 101	160	High-visibility crosswalks	\$8,000
Broadway at Holladay	80	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
Broadway at US 101	160	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$15,000
Broadway at Lincoln	60	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$9,000

²⁰ Intersection improvement lengths are based on roadway widths estimated from GoogleEarth aerials, assuming a crosswalk on both sides of the intersection with the major road.

²¹ Planning level costs are rounded to the nearest \$1,000.

Project	Length ²⁰	Improvement Type	Cost Opinion ²¹
Broadway E of Lincoln	30	High-visibility crosswalks, ADA-compliant curb ramps (2)	\$5,000
Broadway at Wahanna	130	High-visibility crosswalks, ADA-compliant curb ramps (8)	\$19,000
Avenue B at US 101	160	High-visibility crosswalks	\$8,000
Avenue F at US 101	160	High-visibility crosswalks, pedestrian refuge island	\$21,000
Avenue F at creek	2,640	Bicycle/pedestrian bridge	\$645,000
Avenue M at US 101	160	High-visibility crosswalks	\$8,000
Holladay at US 101	160	High-visibility crosswalks	\$4,000
Spruce at Wahanna	80	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$10,000
Avenue S at Necanicum River	1,596	Bicycle/pedestrian bridge	\$390,000
Avenue S at US 101	160	High-visibility crosswalks	\$8,000
Avenue U at Columbia	60	High-visibility crosswalks, ADA-compliant curb ramps (4)	\$9,000
Avenue U at US 101	160	High-visibility crosswalks, pedestrian-activated push buttons (4)	\$12,000

Table 3. Proposed Sidewalk Improvements

Project	From-To	Length	Cost Opinion ²²
Franklin	19th to Highland	1,613*	\$488,000
Franklin	Avenue C to Avenue G	700	\$106,000
Lincoln	Broadway to Avenue F	575*	\$174,000
17th	Holladay to US 101	600*	\$181,000
1st	The Prom to Downing St	451	\$68,000
Broadway	W of bridge to community center entrance	460	\$70,000
Avenue A/B	Holladay to US 101	440	\$67,000
Hilltop/Alder crest	Cedar/pathway to multi-use path	1,533*	\$464,000
Avenue G	The Prom to river	1,238*	\$374,000
Avenue G/Avenue F	River to US 101	637	\$96,000
Avenue F	US 101 to Creek	1,154*	\$349,000
Cooper/Alder	Wahanna to Reef Dr	335*	\$101,000
Lewis & Clark	Beach Dr to Columbia	233*	\$70,000
Avenue S	The Prom to river	1,150*	\$348,000
24th/Holladay	US 101 to High School	2,104*	\$636,000
Holladay	High School to 12th St	2,205	\$333,000
Wahanna**	24th/Lewis & Clark 200' N of Broadway	6,438	\$1,947,000
Wahanna**	200' N of Broadway to Spruce Dr	3,005	\$454,000
Wahanna**	Spruce Dr to Avenue S	967*	\$292,000
12th St	Promenade to Necanicum	1,134***	\$140,000
12th St	Necanicum to US 101	Move power poles (2)	\$3,000
12th St	Queen St to Wahanna	445*	\$135,000
Avenue S	US 101 to Wahanna	2,730*	\$826,000
US 101	MP 22.76 to 21.54 (NB)	6,442	\$974,000
US 101	MP 20.42 to 20.25 (NB)	898	\$136,000
US 101	MP 20.13 to 19.75 (NB)	2,006	\$303,000
US 101	MP 19.38 to 21.90 (SB)	7,182	\$1,086,000
US 101	MP 22.00 to 22.33 (SB)	940	\$142,000
Necanicum Drive	12th to 4th	1,892	\$286,000

* Indicates sidewalks both sides of street

** Wahanna cost estimates not included in totals

*** Sidewalk widening only

²² Planning level costs are rounded to the nearest \$1,000.

Table 4. Signed Bike Routes on Low Traffic Roadwaysⁱ

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

Table 5. Improvements on Busier Roadways

Project	From-To	Length	Cost Opinion	Facility Type
24th/Holladay	US 101/Wahanna to US 101/Avenue S	10,340	\$376,000	Bike Lane
Wahanna	24th/Lewis & Clark to Avenue S	6,407	\$233,000	Bike Lane
12th	The Prom to Wahanna	3,903*	\$28,000	Shared Lane Markings
Avenue S	US 101 to Wahanna	3,813	\$139,000	Bike Lane
Avenue U	The Prom to US 101	1,910	\$70,000	Bike Lane

Table 6. Shared Use Pathways

Project	From-To	Length	Cost Opinion
The Prom	Avenue U to Ocean Vista	1,577	\$82,000
US 101	North city limits to 7th	7,377	\$381,000
US 101	1st to Avenue G	3,520	\$182,000
US 101	Avenue M to Avenue U	2,050	\$105,992
Wahanna	Lewis & Clark/US 101 pathway to Broadway	6,423	\$332,000
High ground connector pathway	Lewis & Clark to Avenue S	13,295	\$687,000
15th	US 101 to Wahanna	1,117	\$58,000
12th extension	Wahanna to high ground connector pathway	1,881	\$97,000
Broadway extension/Hilltop	Wahanna to Avenue F extension	2,563	\$133,000
Avenue F extension	creek to high ground connector pathway	2,122	\$110,000
Avenue S/Wahanna/Spruce	US 101 to high ground connector pathway	5,725	\$296,000

Table 7. Costs for Sidewalk, Drainage, Curb and Gutter

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Standard Concrete Curb and Gutter	LF	5,280	\$18.00	\$95,040.00	
Sidewalk	SY	3,520	\$45.00	\$158,400.00	6' Wide
12 Inch Storm Sewer Pipe, 10' deep	LF	2,640	\$70.00	\$369,600.00	Storm System Pipe, Including Trenching/Backfill, Assuming Half Roadway
Storm Manhole	EA	9	\$2,800.00	\$24,640.00	Every 300' Assuming Half Roadway
Standard Catch Basin	EA	18	\$1,500.00	\$27,000.00	Every 300'
Cost per mile:				\$489,880.00	
				0	
Construction Cost per LF:				\$92.78	

Table 8. Costs for Low Traffic Roadway – Signed Bike Route

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Warning sign	EA	18	\$250.00	\$4,400.00	Every 600' each direction
Pavement Marking	EA	53	\$50.00	\$2,640.00	Every 200' each direction
Cost per mile:				\$7,040.00	
Construction Cost per LF:				\$1.33	

Table 9. Costs for High Traffic Roadway – Shared Lane Marking

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Shared Lane Markings	EA	105.6	\$175.00	\$18,480.00	Every 100 feet
Custom Signs	EA	17.6	\$250.00	\$4,400.00	Two per block (600' blocks)
Cost per Mile				\$22,880.00	
Construction Cost per LF:				\$0.00	\$4.33

Table 10. Costs for High Traffic Roadway – Bike Lane

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Striping Removal	LF	10,560	\$1.50	\$15,840.00	Assumes 2 lanes
Re-striping	LF	21,120	\$4.50	\$95,040.00	2 lanes w/ bike lanes
Pavement markings	EA	53	\$50.00	\$2,640.00	Every 200' each direction
Signage	EA	18	\$250.00	\$4,400.00	Every 600' each direction
Cost per Mile				\$117,920.00	
Construction Cost per LF:			\$0.00	\$22.33	

Table 11. Costs for Shared Use Path

ITEM DESCRIPTION	UNIT	QTD	UNIT COST	TOTAL	NOTES
Clear & Grub	SF	84,480	\$0.15	\$12,672.00	
4" Aggregate base	SF	84,480	\$0.60	\$50,688.00	
Asphalt Path-3" Depth	SF	63,360	\$1.56	\$98,841.60	
Centerline stripe	LF	5,280	\$1.00	\$5,280.00	
Cost per mile:				\$167,481.60	
Construction Cost per LF:				\$31.72	

Attachment C: Transit Cost Assumptions

Seaside TSP Transit Recommendation Service Estimate

1) Trolley Bus

- Assume purchase of trolley bus is required. Each bus would cost approximately \$225,000, per Sunset Empire Transportation District direction.
- Assume all stops will need to be constructed, for a total of 16 stops.
- Average cost to construct each stop is assumed at \$7,000. This includes cost of curb reconstruction, bench, and solar shelter installation.
- Assume two trolley buses in the field at a time, with one hour head-ways.
- Assume the trolley buses would operate between 8:00 AM and 8:00 PM, for 12 hours, 6 days a week.
- Average operational cost of each bus is \$55/hr, per Sunset Empire Transportation District direction.
- Assume each stop will have a solar shelter at it. Each solar shelter will cost \$5,800 (not including installation costs), based on discussions with transit district staff.

Start Up Costs

Purchase of Trolley Bus: $(\$225,000)(2) = \$450,000$

Construction of Bus Stops: $(\$7,000/\text{stop})(16 \text{ stops}) = \$112,000$

Purchase of Shelters: $(16 \text{ stops})(\$5,800/\text{shelter})(1 \text{ shelter}/\text{stop}) = \$92,800$

20% Contingency = \$130,960

Total Start Up Costs = \$785,760

Annual Operating Costs

Labor Costs: $(\$55.00/\text{hr}/\text{trolley bus})(12 \text{ hours}/\text{day})(2 \text{ trolley buses})(6 \text{ days}/\text{wk})$

$(52 \text{ weeks}/\text{yr}) = \$411,840$

20% Contingency = \$82,368

Total Annual Operating Costs = \$494,208

2) Increasing existing bus service to 30 Minute Peak Headways on Weekdays

- Involves upgrades to Routes 20 and 101
- Route 20:
 - Currently operating at one hour headways, 6:30 AM to 7:00 PM.
 - There are currently two buses in the field at a time during weekday operations. Assume 30 minute headway would require doubling of number of buses (requiring an additional two buses).
 - Assume doubling of buses will require the additional buses to be purchased (2 buses total, \$600,000 per bus).
 - Average operating costs of \$55/hr/bus (cost provided by Sunset Empire Transportation District) for a duration of 5 hours (7-10 a.m. and 4-6 p.m.). Assume the route operates 5 days a week, annually.
- Route 101:
 - Currently operating at one hour headways, 6:30 AM to 8:45 PM.

- There are currently two buses in the field at a time during weekday operations. Assume 30 minute headway would require doubling of number of buses (requiring an additional two buses).
- Assume doubling of buses will require the additional buses to be purchased (2 buses total, \$600,000 per bus).
- Average operating costs of \$55/hr/bus (cost provided by Sunset Empire Transportation District) over 5 hours (peak times are 7-10 a.m. and 4-6 p.m.). Assume operates 5 days a week.

Start Up Costs

Rt 20, Purchase Buses: (2 buses)(\$600,000/bus) = \$1,200,000

Rt 101, Purchase Buses: (2 buses)(\$600,000/bus) = \$1,200,000

20% Contingency Cost: \$480,000

Total Start Up Costs = \$2,880,000

Additional Annual Operating Costs

Rt 20, Labor Costs: (\$55.00/hr/bus)(5 hours/day)(2 buses)(5 days/wk)

(52 wk/yr) = \$ 143,000

Rt 101, Labor Costs: (\$55.00/hr/bus)(5 hours/day)(2 buses)(5 days/wk)

(52 wk/yr) = \$ 143,000

20% Contingency Cost: \$57,200

Total Additional Annual Operating Costs = \$343,200

3) Extend Astoria Service in Evenings

- Includes upgrades to Route 101
- Assume no purchase of buses necessary
- Assume one hour headways starting at 8:00 PM.
- Service currently runs until 8:00 PM, assume additional service until 10:00 PM for two more hours of service.
- At 8:00 PM currently two buses in the field on weekdays and one bus in the field on Saturdays. Number of buses to remain the same for additional service hours.
- Assume drivers average operating cost of \$55/hr/bus (per Sunset Empire Transportation District).

Additional Annual Operating Costs

Weekday Costs: (\$55.00/hr/bus)(2 hrs)(2 buses)(5 day/wk)(52 wk/yr) = \$57,200

Weekend Costs: (\$55.00/hr/bus)(2 hrs)(1 buses)(1 day/wk)(52 wk/yr) = \$5,720

20% Contingency Costs: \$12,584

Total Additional Annual Operating Costs = \$75,504

4) Provide Service on Sundays

- Involves upgrades to Routes 20 and 101
- Assume one hour headways on Sundays.
- Assume stops visited on Sunday are the same as the other days of the week.
- Assume average operating cost of \$55/hr/bus (per Sunset Empire Transportation District).
- Route 20:
 - 6:30 AM to 7:00 PM for 13 hours of operation.
 - Assume 1 bus will be in route at a time on Sundays.
- Route 101:
 - 6:30 AM to 8:45 PM, for 14 hours of operation.
 - Assume 1 bus will be in route at a time on Sundays.

Additional Annual Operating Cost

Rt 20, Operating Costs: $(\$55.00/\text{hr}/\text{bus})(13 \text{ hours}/\text{day})(1 \text{ bus})(1 \text{ day}/\text{wk})(52 \text{ wk}/\text{yr}) = \$37,180$

Rt 101, Operating Costs: $(\$55.00/\text{hr}/\text{bus})(14 \text{ hours}/\text{day})(1 \text{ bus})(1 \text{ day}/\text{wk})(52 \text{ wk}/\text{yr}) = \$40,040$

20% Contingency Costs: \$15,444

Total Additional Annual Operating Cost = \$92,664

5. Addition of Bus Pullouts

- Assume addition of 4 bus pullouts along US 101
- Assume bus pullout length of 60 feet each
- Does not include costs associated with: ROW purchase, landscaping, signing, illumination
- Assumes 15' wide pullout

Project Costs

Total Additional Annual Operating Cost = \$152,000

See Transit Service Estimates spreadsheet for detail information.

6. Addition of Shelters

- Assume each stop will have a shelter at it, with an average cost of \$5,800 per solar shelter.
- Assume 10 stops
- Does not include installation cost for shelters.

Start Up Costs

Purchase of Shelters: $(10 \text{ stops})(\$5,800/\text{shelter})(1 \text{ shelter}/\text{stop}) = \$58,000$

20% Contingency: \$11,600

Total Start Up Costs = \$69,600

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Re-establish Trolley Bus circulatory route		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Bus purchase, construction of stops, annual operating costs		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Trolley Bus Purchase	EA	\$225,000	2	\$450,000
2	Construction of Bus Stops	EA	\$7,000	16	\$112,000
3	Purchase Trolley Shelters	EA	\$5,800	16	\$92,800
SUBTOTAL					\$654,800
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Operating Costs		\$55		\$411,840
SUBTOTAL					\$411,840
Contingency Costs					
Start Up Costs				20%	\$785,760
Annual Operating Costs				20%	\$494,208
TOTAL PROJECT COST					
				START UP COSTS	\$785,760
				ANNUAL OPERATING COSTS	\$494,208

Assumptions:

Purchase of trolley bus is \$225,000, per SETD.

Assume all stops will need to be constructed, for a total of 16 stops.

Average cost to construct each stop is assumed at \$7,000. This includes cost of curb reconstruction, bench, and solar shelter installation.

Assume 2 trolley buses in the field at a time, with one hour head-ways.

Assume the trolley bus would operate between 8:00 AM and 8:00 PM, for 12 hours, 6 days per week, annually.

Average \$55.00/hr/trolley bus operational costs, per SETD

Assume each stop will have a solar shelter at it, with an average cost of \$5,800 per shelter (cost provided by SETD, does not include installation costs).

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Increase existing bus service to 30 minute peak headways on weekdays		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Bus purchase, annual operating costs		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Route 20, Bus Purchase	EA	\$350,000	2	\$700,000
2	Route 101, Bus Purchase	EA	\$350,000	2	\$700,000
SUBTOTAL					\$1,400,000
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Route 20		\$55		\$143,000
2	Route 101		\$55		\$143,000
SUBTOTAL					\$286,000
Contingency Costs					
Start Up Costs				20%	\$1,680,000
Annual Operating Costs				20%	\$343,200
TOTAL PROJECT COST					
				START UP COSTS	\$1,680,000
				ANNUAL OPERATING COSTS	\$343,200

Assumptions:

Involves upgrades to Routes 20 and 101

Route 20:

Currently operating at one hour headways, 6:30 AM to 7:00 PM.

There are currently two buses in the field at a time during weekday operations. Assume 30 minute headway requires doubling of number of buses (an additional two buses).

Assume additional buses will need to be purchased (2 buses total, approximately \$350,000 per hybrid electric bus, per STED).

Operating costs of \$55/hr/bus (per SETD) for 5 hours. Assume operates 5 days per week, annually.

Route 101:

Currently operating at one hour headways, 6:30 AM to 8:45 PM.

There are currently two buses in the field at a time during weekday operations.

Assume 30 minute headway requires doubling of number of buses (an additional two buses).

Assume doubling of buses will require the additional buses to be purchased (2 buses total, \$350,000 per bus, per STED).

Assume operating costs of \$55.00/hr/bus (per SETD) for 5 hours.

Assume operates 5 days per week, annually

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Extend Astoria Service in Evenings		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Annual operating costs		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
SUBTOTAL					\$0
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Weekday		\$55		\$57,200
2	Weekend		\$55		\$5,720
SUBTOTAL					\$62,920
Contingency Costs					
Start Up Costs				20%	\$0
Annual Operating Costs				20%	\$75,504
TOTAL PROJECT COST					
				START UP COSTS	\$0
				ANNUAL OPERATING COSTS	\$75,504

Assumptions:

Includes upgrades to Route 101

Assume no purchase of buses necessary

Assume one hour headways starting at 8:00 PM.

Service currently runs until 8:00 PM, assume additional service until 10:00 PM for two more hours of service.

At 8:00 PM there are currently two buses in the field on weekdays and one bus in the field on Saturdays. This number of buses will remain the same for additional service hours.

Average operating cost of \$55.00/hr/bus (per SETD)

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Provide Service on Sundays		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Bus purchase, annual operating costs		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
SUBTOTAL					\$0
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Route 20		\$55		\$37,180
2	Route 101		\$55		\$40,040
SUBTOTAL					\$77,220
Contingency Costs					
Start Up Costs				20%	\$0
Annual Operating Costs				20%	\$92,664
TOTAL PROJECT COST					
				START UP COSTS	\$0
				ANNUAL OPERATING COSTS	\$92,664

Assumptions:

Involves upgrades to Routes 20 and 101

Assume one hour headways on Sundays.

Assume stops visited on Sunday are the same as the other days of the week.

Assume average operating cost of \$55.00/hr/bus (per SETD).

Route 20:

6:30 AM to 7:00 PM for 13 hours of operation.

Assume 1 bus will be in route at a time on Sundays.

Route 101:

6:30 AM to 8:45 PM, for 14 hours of operation.

Assume 1 bus will be in route at a time on Sundays.

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Addition of Bus Pullouts on US 101		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Roadway, Drainage, Striping		LENGTH (MI.):	DATE	NAME	
		0	3/1/2010	TMH	
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	\$736,000	0.05	\$33,455
2	Bike Boulevard	Day	\$2,000	0.00	\$0
3	New Roadway: Highway	Lane-Mi.	\$593,000	0.00	\$0
4	New Roadway: Local Street	Lane-Mi.	\$364,000	0.00	\$0
5	Overlay Existing Roadway	Lane-Mi.	\$143,000	0.00	\$0
6	Reconstruct Existing Roadway	Lane-Mi.	\$622,000	0.05	\$28,273
7	Embankment	CY	\$10	0	\$0
8	Restriping Existing Roadway	Lane-Mi.	\$32,000	0	\$1,455
9	Interconnect Signal	EA	\$30,000	0.00	\$0
10	New Signal	EA	\$300,000	0.00	\$0
11	Signal Modifications	EA	\$60,000	0.00	\$0
12	Transit Enhancements	Mi.	\$106,000	0.00	\$0
13	Traffic Calming	SF	\$0	0%	\$0
14	Illumination	Mi.	\$286,000	0.00	\$0
15	Landscaping	Mi.	\$250,000	0.00	\$0
16	Bridges	SF	\$300	0	\$0
17	Seismic Retrofit Bridges	SF	\$50	0	\$0
18	Walls	SF	\$70	0	\$0
SUBTOTAL					\$63,182

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$1,600	
	TP & DT	3.0-8.0%	8.0%	\$5,100	
	Mobilization	8.0-10.0%	10.0%	\$6,300	
	Erosion Control	0.5-2.0%	2.0%	\$1,300	
	Contingency		40.0%	\$25,300	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$102,782	
	Right-of-Way	LS	ALL	1	\$0
	Design Engineering			13.0%	\$13,400
	Construction Engineering			10.0%	\$10,300
SUBTOTAL				\$126,482	
Contingency Costs					
	Start Up Costs		20%	\$151,778	
	Annual Operating Costs		20%	\$0	
TOTAL PROJECT COST				\$152,000	

Assumptions:

- Assume bus pullout length of 60 feet each
- Does not include costs associated with: ROW purchase, landscaping, signing, illumination
- Assumes 15' wide pullout
- Assume construction of 4 pullouts along US 101

CH2M HILL					
SUMMARY - ORDER OF MAGNITUDE COST ESTIMATE					
PROJECT: Addition of Bus Shelters		REFERENCE NAME/PHONE		SHEET	
DESIGN LEVEL: Conceptual		503-235-5000		1 of 1	
KIND OF WORK: Shelter Purchase		LENGTH (MI.):	DATE	NAME	
			3/1/2010	TMH	
Start Up Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Bus Shelter	EA	\$5,800	10	\$58,000
SUBTOTAL					\$58,000
Annual Operating Costs					
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
SUBTOTAL					\$0
Contingency Costs					
Start Up Costs				20%	\$69,600
Annual Operating Costs				20%	\$0
TOTAL PROJECT COST					
				START UP COSTS	\$69,600
				ANNUAL OPERATING COSTS	\$0

Assumptions:

Assume each stop will have a shelter at it, with an average cost of \$5,800 per solar shelter (cost provided by City of Seaside)

Assume 10 stops

Does not include installation cost for shelters.

CH2M HILL SUMMARY - QUICK COST ESTIMATE					
PROJECT: Summer Park and Ride		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Parking Lot Construction		LENGTH (MI.): NA		DATE 6/4/2010	NAME GSH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Level 3, 1/2" Dense MHMAC	Ton	\$86	91.00	\$7,826
2	Aggregate Base	Ton	\$21	125.00	\$2,625
3	Standard Curb	LF	\$9	367.00	\$3,303
4	General Excavation	CY	\$9	200.00	\$1,800
5	Type G2 Signs in Place	SF	\$35	28.00	\$980
6	Longitudinal Pavement Markings	LF	\$1	673.00	\$673
SUBTOTAL					\$17,207

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST
	Construction Surveying	1.0-2.5%	2.5%	\$400
	TP & DT	3.0-8.0%	8.0%	\$1,400
	Mobilization	8.0-10.0%	8.0%	\$1,400
	Erosion Control	0.5-2.0%	2.0%	\$300
	Contingency	-	50.0%	\$8,600
	Escalation (per year)		2.0%	
	-Estimate Year		2009	
	-Construction Year		2009	\$0
TOTAL CONSTRUCTION COST				\$29,307
	Right-of-Way R/W	SF	\$0.00	0
	Design Engineering		13.0%	\$3,800
	Construction Engineering		10.0%	\$2,900
TOTAL PROJECT COST				\$36,007

NOTES:		
#1	Unit Costs	Unit Costs are from the ODOT Region Weighted Averages Prices for Region 2 dated 7/24/09.
#2	Quantities	Quantities were calculated for an assumed 25 space parking lot. See "Parking Lot Estimate" pdf dated 6/4/2009 for calculations.
#3	Right-of-Way Costs:	Right of Way costs were not included.

CH2M HILL SUMMARY - QUICK COST ESTIMATE					
PROJECT: Park and Ride Signs		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Parking Lot Construction		LENGTH (MI.): NA		DATE 6/4/2010	NAME GSH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Type G2 Signs in Place	SF	\$35	28.00	\$980
<i>SUBTOTAL</i>					<i>\$980</i>

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$0	
	TP & DT	3.0-8.0%	8.0%	\$100	
	Mobilization	8.0-10.0%	8.0%	\$100	
	Erosion Control	0.5-2.0%	2.0%	\$0	
	Contingency	-	50.0%	\$500	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
<i>TOTAL CONSTRUCTION COST</i>				<i>\$1,680</i>	
	Right-of-Way R/W	SF	\$0.00	0	\$0
	Design Engineering			13.0%	\$200
	Construction Engineering			10.0%	\$200
<i>TOTAL PROJECT COST</i>				<i>\$2,080</i>	

<i>NOTES:</i>		
#1	Unit Costs	Unit Costs are from the ODOT Region Weighted Averages Prices for Region 2.

CH2M HILL SUMMARY - QUICK COST ESTIMATE					
PROJECT: US 101 and Broadway Bus Shelter Relocation		REFERENCE NAME/PHONE			SHEET
DESIGN LEVEL: Conceptual		503-235-5000			1 of 1
KIND OF WORK: Remove and Relocate Bus Shelter		LENGTH (MI.): NA		DATE 6/4/2010	NAME GSH
NO.	ITEM	UNIT	UNIT COST	QUANTITY	COST
1	Remove and Relocate Shelter	EA	\$1,240	1.00	\$1,240
SUBTOTAL					\$1,240

	ADDITIONAL COSTS	RANGE	PERCENTAGE	COST	
	Construction Surveying	1.0-2.5%	2.5%	\$0	
	TP & DT	3.0-8.0%	8.0%	\$100	
	Mobilization	8.0-10.0%	8.0%	\$100	
	Erosion Control	0.5-2.0%	2.0%	\$0	
	Contingency	-	50.0%	\$600	
	Escalation (per year)		2.0%		
	-Estimate Year		2009		
	-Construction Year		2009	\$0	
TOTAL CONSTRUCTION COST				\$2,040	
	Right-of-Way R/W	SF	\$0.00	0	\$0
	Design Engineering			13.0%	\$300
	Construction Engineering			10.0%	\$200
TOTAL PROJECT COST				\$2,540	

NOTES:		
#1	Unit Costs	Unit Costs are from the City of Woodburn Downtown Transit Facility Improvements project that was bid on 3/11/2010. The average price for the bid item "Remove and Relocate Bus Shelter" was used.