Multnomah County
Department of Community Services

Multnomah County Transportation Capital Improvement Plan And Program Fiscal Years 2014-2018

May 2015

Prepared by
Multnomah County
Land Use and Transportation Program

Multnomah County
Capital Improvement Plan and Program
FY 2014-2018 Transportation

TABLE OF CONTENTS

LIST OF TABLES

Multnomah County Transportation
Capital Improvement Plan and Program
Fiscal Years 2014-2018

2015 Update Summary:

The Transportation Capital Improvement Plan and Program (CIPP) is a two-part document:

1) the Plan inventories and prioritizes County transportation needs; and

2) the Program matches estimated transportation capital revenue with priority projects for a five-year period.

The Program component is typically updated biennially to reflect new and completed projects as well as the most current revenue projections. The 2015 Program Update is presented as the last three pages of this document.

The Plan component contains all identified projects to improve motor vehicle, transit, pedestrian and bicycle, and fish passage culvert needs. Using relevant criteria for each type of project, County staff scores all projects. Based on the scoring, available funding, and input from stakeholders, a 5-year Program is developed to schedule anticipated revenue and other sources.

As part of this biennial update, in addition to programming corrections, the update also includes updates to the Willamette River Bridges and Fish Passage Culvert criteria and project list. *The revised criteria and subsequent rankings are presented in this 2015 Update and are reflected in the projects on the 2015 Program Update.*

Introduction

On May 2013, Multnomah County adopted its Transportation Capital Improvement Plan and Program (CIPP) for Fiscal Years 2014-2018, consistent with guidelines established in the County Comprehensive Framework Plan: Trafficways Policy #32. The Capital Improvement Plan and Program (CIPP) establishes a list of priority transportation improvements deemed necessary to enhance and maintain the County transportation system at acceptable levels, identifies anticipated transportation revenues and other potential funding, and matches these revenues to targeted investments in the transportation system.

A goal of the Comprehensive Framework Plan is to:

> Promote and enhance a balanced transportation system that encourages a thriving economy, increases public safety, allows for efficient transportation movement, and protects livable communities through the best possible use of available funds.

Background

The County's network of roads and bridges lies outside the cities of Gresham and Portland, with the exception of the six (6) Willamette River Bridges within Portland. Projects that accommodate

all modes of transportation, motor vehicle, pedestrian and bicycle, and fish passage culvert improvements are considered in the CIPP.

The relative jurisdictional authority of the County and the cities within its boundaries has evolved significantly since the 1980s. In 1985, all roads and streets within the incorporated boundaries of the City of Portland, (excepting certain Willamette River Bridges) were transferred to the City. Multnomah County, under ORS 382.305, is required to “operate and maintain” the following Willamette River bridges located within the City limits of Portland: the Broadway, the Burnside, the Morrison, the Hawthorne and the Sellwood.

In 1995, Multnomah County transferred many local roads to the cities of Fairview, Gresham, and Troutdale. Multnomah County retained the regional road network outside of Portland. In December 2005, following Oregon legislative action, Multnomah County transferred jurisdiction of all County roads within the City of Gresham to the City of Gresham.

The County currently has jurisdiction over 283 miles of roads located in east and west unincorporated Multnomah County and approximately 27 miles of urban roads in the Cities of Fairview, Troutdale, and Wood Village. In addition to the five (5) bridges the County operates and maintains on the Willamette River located in the City of Portland as noted above, the County also owns, operates and maintains the Sauvie Island Bridge.

Purpose of a Capital Improvement Plan and Program

A current CIPP helps ensure that public funds are strategically invested in transportation projects that provide the greatest public benefit and keep the County’s priority projects eligible for state and federal grant programs.

Capital projects improve County transportation facilities where either substantial reconstruction or new construction is required.

Examples of capital projects include:

- Bridge or bridge component replacement
- Road reconstruction
- Extensive guardrail replacement
- Sidewalk construction
- Extensive drainage improvements
- New traffic signals and upgrades to existing traffic signals
- Intersection improvements
- Road widening and the construction of new roadways
- Bikeway construction
- Culvert replacement
- Bridge Corrosion Control

Maintenance projects, such as crack sealing, striping and signing are not funded by the Capital Improvement Program. These activities are funded through operations and maintenance budgets. There are instances where roads developed to current standards require major reconstruction. These are capital projects. The road overlay program and bridge corrosion control are also funded through the capital program.

The CIPP is a two-part document. The Transportation Capital Improvement Plan (Plan) identifies and scores transportation projects needed in the next 20 years. The Transportation Capital Improvement Program (Program) assigns available revenues to high priority projects for a five-year period.

Transportation Capital Improvement Plan

The Plan) is an inventory of transportation capital needs and costs. It precedes the Program by rating and ranking projects by priority of need. The Plan uses criteria to evaluate and distinguish Roadway, Bicycle and Pedestrian, Fish Passage Culvert, and Willamette River Bridges priorities from the array of candidate projects.

Transportation Capital Improvement Program

The Program implements the Plan by assigning anticipated and available County transportation revenues to candidate projects. The Program is reviewed annually and updated biennially to ensure that limited resources for projects are efficiently and equitably allocated to the most critical capital needs, including where equity can be improved, as well as to leverage County funds. The Program is used by the Transportation Program in preparing its annual Transportation Program budget. Public review of the Program is provided annually through the County's budget process.

CIPP Process

The County road system is dynamic, changing in response to land use decisions and infrastructure life cycles. Consequently, the CIPP must be reconsidered and revised on a regular basis.

Several internal and external means are used to identify transportation improvement projects.

The primary internal source of information is the FY 2010-2014 Capital Improvement Plan and Program. Projects included in the 2010-2014 CIPP that have been completed or are under construction are deleted from the FY 2014-2018 CIPP list. Projects on roads no longer under the jurisdiction of the County, as well as those projects which will be annexed consistent with adopted intergovernmental agreements (e.g., Pleasant Valley Plan District) have been deleted. Other sources of projects include:

- Public recommendations,
- Recommendations from the Multnomah County Bicycle and Pedestrian Citizen Advisory Committee,
- Projects identified through adopted Transportation System Plans in the cities of Fairview, Troutdale and Wood Village
- Projects from the Regional Transportation Plan
- Input from County Maintenance and Engineering staff
- Safety audit reports
- County planning and data management tools, including the County Pavement Management Program, Functional Classification of Trafficways, and the Master Road List
- Projects from the County's Bicycle Master Plan,
- Projects from the County's Pedestrian Master Plan
- Projects from the Fish Passage Culvert Program

These sources identify segments, intersections, and structures on the County transportation system that are hazardous or congested, substandard, incomplete, or in need of reconstruction. The Willamette River Bridges 20-Year Capital Improvement Needs report provides the basis for identifying the needs and projects on the six (6) Willamette River bridges.

In addition to these project sources, the 2014-2018 CIPP list has been updated to reflect the completion of the East Metro Connections Plan (EMCP). The plan, completed in June 2012 identified transportation and other investments that advance economic and community development. Working with the cities of Gresham, Fairview, Troutdale, Wood Village and Multnomah County, the East Metro Connections Plan relied on coordination across jurisdictional boundaries to advocate for results that ensure prosperity of the East Metro area. The final recommendation and action plan identified the needs, transportation mode, function and scope and general location of solutions needed for the area between the adoption of the plan in 2012 and the year 2035. The 2014-2018 CIPP reflects the projects identified in the EMCP.

The capital project needs identified in this Plan total over $1.8 billion.

Table 1 summarized the capital needs by facility type.

Table 1
Multnomah County Transportation Capital Improvement Plan Summary

Arterials	$175,147,387
Collectors	$113,548,154
Bridges (non-WRB)	$20,849,000

Signals	$20,576,722
Street Design	$1,950,548
Roadways subtotal	**$332,071,811**
Bicycle Facilities	$119,323,775
Pedestrian Facilities	$12,539,128
Fish Passage Culverts	$37,727,186
Willamette River Bridges	$1,299,995,854
Total	**$1,801,657,754**

Capital Project Funding

Capital programming is intended to budget funds over a five-year period to bring portions of each element of the transportation system up to standard. Future year revenues are estimated and allocated to the highest priority capital projects until estimated revenue is fully allocated.

Multnomah County receives its transportation revenue from three (3) primary sources – Federal revenues, the State Highway Fund (State gas tax, State vehicle registration fees, and truck weight/mile tax), and a 3-cent County gas tax. Federal sources include the Surface Transportation Program (STP) and Highway and Bridge Program (HBP). The County has chosen to dedicate the STP funds to the rural roads within the County in order to ensure equity in geographic allocation. HBP funds are used solely for the Willamette River Bridge Program for both capital and large maintenance projects. The revenue received from the County's Vehicle Registration Fee under Multnomah County Code Sections 11.250-11.256, is exclusively dedicated to the Sellwood Bridge Project and is not available for any other purpose.

The County receives State revenues based on the number of vehicles registered in the County. Through revenue sharing agreements, a portion of these funds are given to Portland, Gresham, Troutdale, and Fairview for capital and maintenance projects. The Portland agreement also dedicates annual funding for the operation, maintenance, and capital program for the Willamette River bridges. The County uses the remainder of these funds primarily for maintenance and leveraging outside sources of revenues. As obligated by State law, a minimum of one percent of State Highway revenues are spent on planning, building, and maintaining bicycle facilities and sidewalks on County transportation facilities. In practice, the County spends more than one percent of State Highway revenues on bicycle and pedestrian facilities. Revenues dedicated for the bicycle and pedestrian system are generally used to fund bicycle and pedestrian projects that are unlikely to be associated with a road or bridge capital project. County road and bridge capital projects generally incorporate bicycle and pedestrian elements into the project design, and Roadway and Willamette River Bridges maintenance programs assume the cost of maintaining the bicycle and pedestrian facilities.

Like all public transportation agencies relying on gas tax revenue, Multnomah County is experiencing a dramatic reduction in its ability to maintain its current system of roads and bridges or to invest in replacement or expansion projects. Prior to the 2009 State legislative adoption of the Jobs and Transportation Act, the last state gas tax increase was in 1993. Since that time, the number of vehicle miles traveled in the region has risen by 19 percent, but gas tax revenues only increased by 3 percent. Vehicles have become more fuel efficient, but travelers are no less dependent on a good transportation system.

Since 1993, inflation has increased by more than 50 percent. While fuel prices fluctuate dramatically, the gas tax is flat and has no index to inflation. As a consequence, the County's purchasing power has diminished with inflation. The County's core responsibility to provide a safe environment for the traveling public has been seriously compromised by diminished buying power.

The County has a history of investing heavily in capital preservation. However, over the past few years, funds for road overlays and upkeep have dwindled, and the backlog of deferred maintenance, particularly for roads, is growing at an alarming rate.

In 2009, Oregon passed the Job and Transportation Act (HB 2001) which included an increase in the statewide vehicle registration fee and gas tax and a local option for increased revenues

for the Sellwood Bridge replacement. These increased revenues to the state, cities, and counties helped address deferred maintenance and make capital investments. In addition, it allowed counties in the Portland metro area the option to levy a local vehicle registration fee to fund the Sellwood Bridge replacement.

Current projections of County revenues from both the state and county transportation funds indicate an improved but limited ability to sustain investments in road and bridge preservation and maintenance and in a limited capital program. County priorities for its transportation revenues are capital debt payments, the road preservation/overlay program, bridge preservation/maintenance, annual allotments for emergency response and safety, and new bridge and road capital projects.

Priorities for capital projects are established through evaluation processes for each of the following facility categories: Road and non-Willamette River Bridges, Bicycle, Pedestrian, Fish Passage Culverts, and Willamette River Bridges. Unique sets of criteria for each facility category are used to evaluate and score projects. County staff uses objective criteria to evaluate and give priority to the array of potential projects. Specific evaluation criteria are discussed under each of the following facility category's capital plan summaries. Of note are recent equity and health criteria added as part of the 2012 update of the Bicycle and Pedestrian criteria. Similar criteria were added to the project criteria for road projects as part of the 2014-2018 CIPP.

Multnomah County Roadways
FY 2014-2018 Capital Improvement Plan

The Roadways Capital Improvement Plan establishes a ranked list of road and road-related capital projects necessary to enhance and maintain the County road system at acceptable levels. The County's road projects are evaluated using criteria that address the following:

- Safety
- Multi-modal benefits
- Support of regional 2040 land uses and transportation goals
- Completing gaps in travel corridors
- Demonstrating local community support
- Potential to leverage non-County funding
- Equity
- Health

These criteria are based in part on project selection criteria used by Metro for funding regional projects. The addition of the equity and health criteria reflects inclusion and consideration of these two priorities for both regional and state funding. This aligns Multnomah County urban projects with Metro 2040 Growth Management objectives while still meeting Multnomah County criteria and objectives.

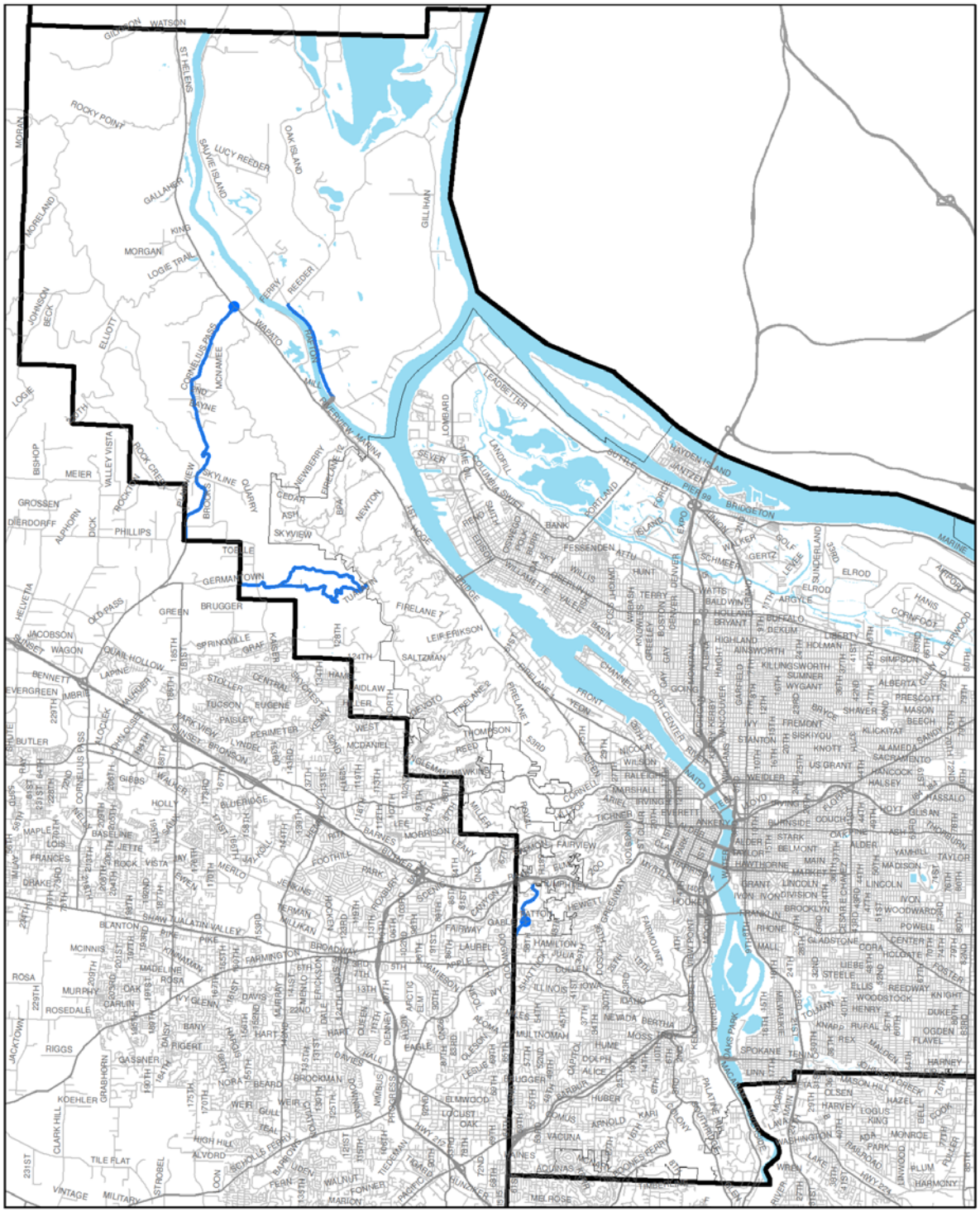
Each potential project is evaluated and scored using the Road Capital Projects Ranking Criteria shown on the following Table 2. Roadway projects are sub-categorized as Arterials, Collectors, (non-Willamette River) Bridges, Signals/Intersections, and Street Design Concept on Table 3. Using the scoring tool, priorities are established for each Road sub-category.

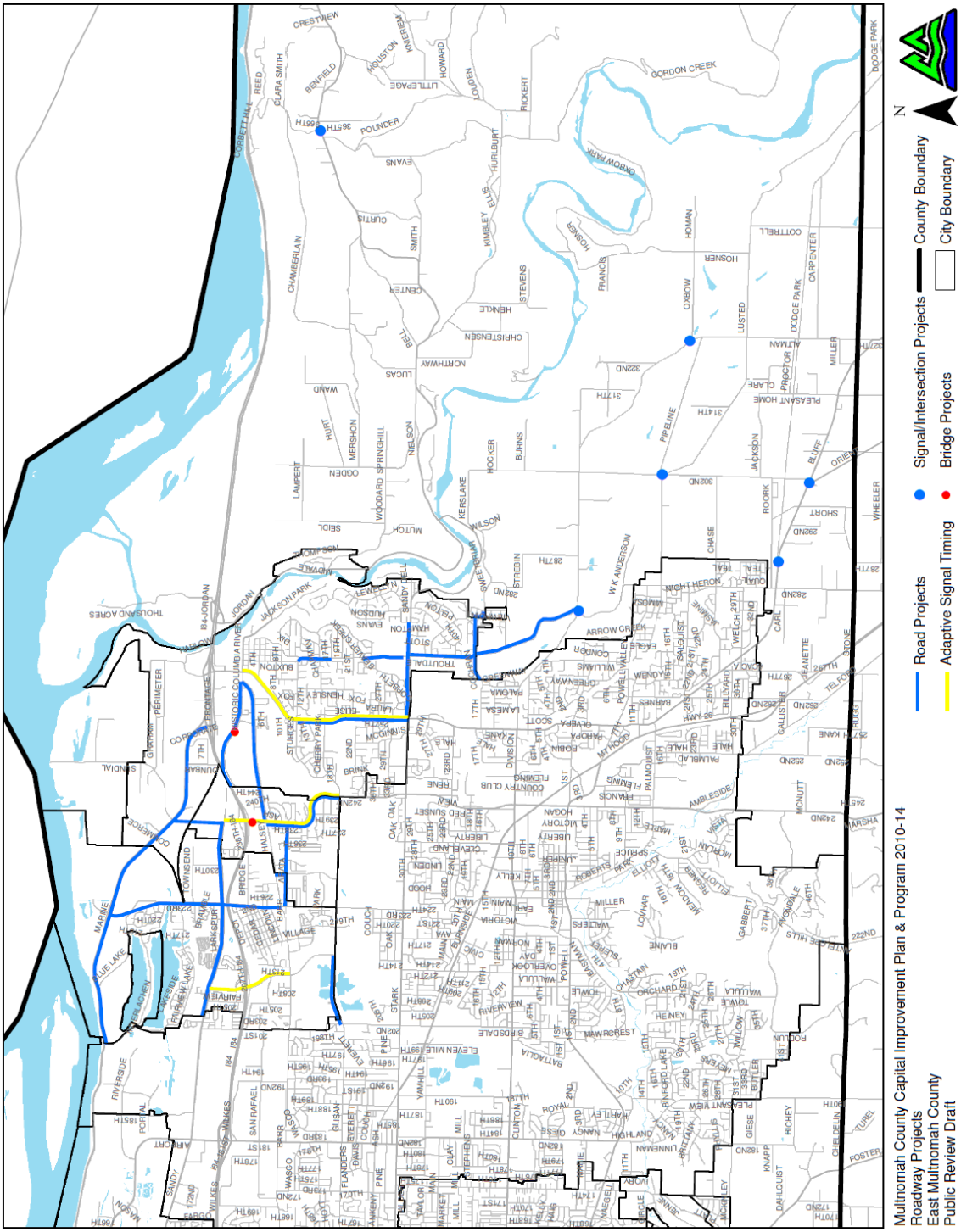
Table 2
Criteria for Road Project Evaluation

Criteria	Criteria Explanation	Points
Safety	Project solves a safety problem once complete. Is there a crash history along the project site? Projects that will mitigate a hazard in locations. Does the project remove conflicts and/or provides safety mitigation for any potential vehicular conflicts? •	Crash history: High – 9, Med – 5, Low – 0 Solves problem: High – 9, Med – 5, Low – 0
Multi-modal benefit	Project adds bike and pedestrian facilities where none exist. Project improves on existing bike and pedestrian facilities built to minimum standards. Project in an identified transit corridor.	20 8 8
2040 Focus Areas (land use)	Project is located in or directly serving a regional center or town center. Project is located in or directly serves an industrial center or employment core. Project serves an activity center (MHCC, Blue Lake Park, Legacy Hospital, K-12 school).	5 5 5
Non-county funding secured	Project secured 50 – 100% of funding from non-county source. Project secured less than 50% from a non-county source.	10 5
Project Support	Project is included in a local plan (transportation system plan, corridor plan, refinement plan, etc.). Project has received citizen support (letters, phone calls, hearings, etc.). Project a local jurisdiction priority.	5 5 5
Completion of corridor	The project complete a gap in a corridor (i.e. is the roadway on either end of segment constructed to county standards.	High-8 Med- 4 Low- 0
Equity	Does the project serve traditionally underserved (minority, low income, limited English speaking, youth, elderly, disabled) communities?	0-5 points
Health	Does this project increase the potential for increased physical activity during every day trips? Does the project help reduce impacts, such as noise, land use conflicts, emissions, etc. Does the project help reduce air toxics or particulate matter? Does the project include multimodal elements (access to transit stops or encourages use of different modes of transportation)? Does the project reduce Vehicle Miles Travelled (VMT)?	0-5 points
Total points possible		104

TABLE 3: Roadways Project Ranking Report					
Project #	Project Name	Project Description	Score	Project Cost ($)	On Bike CIP
ARTERIAL CATEGORY					
Urban					
88	NE 238th Drive: Halsey St to Glisan St	Implement East Metro Connections Plan (EMCP): 3 lanes with multimodal	99	9,000,000	Y
107	Halsey St: 238th Dr--Historic Columbia River Hwy	Widen Halsey St to 3 lane minor arterial with center turn lane/median, sidewalk and bicycle lanes, consistent with Halsey Street Conceptual Design Plan	89	10,807,290	Y
716	Sandy Blvd: Gresham/Fairview City Limits -- 230th Ave	Reconstruct Sandy Blvd to minor arterial standards with bike lanes, sidewalks and drainage improvements, utilizing recommendations from TGM grant.	82	21,404,633	N
57	Stark St: 257th Ave.--Troutdale Rd	Reconstruct Stark St. to minor arterial standards by widening the existing 2 lanes to provide for 4 traffic lanes, a continuous left-turn lane, bike lanes, sidewalks, and intersection improvements.	79	11,100,000	Y
110	Glisan St: 202nd Ave--Fairview Parkway	Reconstruct northside of Glisan Street to provide multimodal connection between Gresham-Fairview Trail and Salish Ponds Natural Area. Include bike lanes, sidewalks, two travel lanes in each direction per EMCP, and on-street parking. Design green-street treatment for drainage improvements, including Fairview Creek culvert replacement. South side of Glisan St is in Gresham, north is City of Fairview.	76	11,774,421	Y
TBD	238th/242nd/Hogan {I-84 - Powell}	238th/242nd/Hogan {I-84 - Powell}- System Management EMCP	59		
TBD	System management: Fairview Pkwy/Glisan/223rd/Eastman {I-84 - Pow	System management: Fairview Pkwy/Glisan/223rd/Eastman {I-84 - Powell}	54		
101	Scholls Ferry Road: Humphrey Blvd - County Line	Improve Scholls Ferry based on the Scholls Ferry Concept Plan including bicycle and pedestrian facilities.	54	TBD	N
202	Stark St: Troutdale Rd--Hampton Ave	Reconstruct road to arterial standards with 1 travel lanes in each direction, center turn lane/median, sidewalks and bicycle lanes.	42	3,276,450	Y
Rural					
103a	Cornelius Pass Rd: MP 3.0--MP 3.5	Realign and widen Cornelius Pass Road to provide southbound passing lane.	48	35,135,976	N
389	Cornelius Pass Rd: US 30--MP 2	Reconstruct Cornelius Pass Road including passing lane, safety, shoulder and drainage improvements.	42	54,159,714	Y
103	Cornelius Pass Rd: MP 2--MP 3	Widen Cornelius Pass Rd, including new box culvert and passing lane.	38	21,893,536	N
		Arterial Total		**156,658,484**	
COLLECTOR CATEGORY					
Urban					
129	Arata Rd: 223rd Ave- Wood Village Blvd	Construct to 3 lane collector standards with center turn lane/median, sidewalks, bicycle lanes.	96	4,468,201	Y
710	Wood Village Blvd: Arata Rd--Halsey St	Construct extension of Wood Village Blvd as a major collector with 2 travel lanes, center lane/median, sidewalks, bicycle lanes.	78	3,294,764	Y
135	223rd Ave: Halsey St--Sandy Blvd	Reconstruct 223rd Ave to major collector standards with 2 travel lanes, center turn lane/median, sidewalks and bicycle lanes. Requires reconstruction of RR bridge under another project.	76	4,596,717	Y
143	223rd Ave: Sandy Blvd--Marine Dr	Improve 223rd Ave to major collector standards including 2 travel lanes, center turn lane/median, sidewalks, bicycle lanes. Project is a standalon project, though a possible culvert replacement for fish passage could add $120,000 to cost. Requires replacement of RR bridge not included in this proposal.	70	7,106,182	Y
150	Troutdale Rd: Stark St--northerly 1700'	Reconstruct to major collector standards with 2 travel lanes, center turn lane/median, sidewalks, bicycle lanes. Requires new fish culvert at Beaver Creek.	69	8,556,929	Y
745	Marine Drive Reconstruction	Reconstruct Marine Drive between Interlachen Ln. and the frontage roads in Troutdale.	59	36,764,139	
134	Troutdale Rd: Strebin St--Stark St	Improved to collector standards with 2 traffic lanes, center lane, bike lanes and sidewalks, intersection and drainage improvements.	54	8,446,060	Y
165	Troutdale Rd: 19th St--Cherry Park Rd	Widen to major collector standards with 2 travel lanes, center turn lane/median, sidewalks and bicycle lanes	52	875,155	Y
TBD	Safety corridor: Cherry Park/257th {Cherry Park - Division}	Safety corridor: Cherry Park/257th {Cherry Park - Division}	51		
151	Historic Columbia River Hwy: 244th Ave--Halsey St	Reconstruct to minor arterial standards with 2 travel lanes, center turn lane/median, bicycle 25 lanes and sidewalk. Reconstruction of railroad bridge is not included in this project.	45	16,371,224	Y

Project #	Project Name	Project Description	Score	Project Cost ($)	On Bike CIP
Rural					
145	Cochran Dr: Troutdale Rd--westerly 2175'	Reconstruct to major collector standards:2 travel lanes, center lane/median, sidewalks, bike lanes, and culvert replacement	45	7,442,765	Y
TBD	Troutdale Rd.: Stark St--Division Dr.	Reconstruct with 2 travel lanes; construct center turn lane/median, sidewalks, bicycle lanes between Stark and Strebin. Reconstruct Troutdale Rd/Division Dr. intersection including new fish culverts.	44	8,297,000	Y
159	Sauvie Island Rd: Bridge--Reeder Rd	Reconstuct road to rural collector standards with 2 travel lanes. Requires working on dike.	43	8,275,636	Y
TBD	Construct new road north of I-84, Exit 16	Conduct design options alternatives (DOA) study for new connection between Sandy Blvd and Marine Dr. Construct new connector linking industrial sites with I-84.	38	13,000,000	N
149	Sweetbriar Rd: Troutdale Rd--E City Limit	Widen to neighborhood collector standards with 2 travel lanes, sidewalk and bikelanes	31	2,740,748	Y
726	Germantown Rd/Old Germantown Rd	Widen Germantown Rd to create left turn pocket and improve sight distance.	14	780,835	N
		Collector Total		**131,016,355**	
BRIDGE CATEGORY (NON-WILLAMETTE RIVER BRIDGES)					
197	223rd Ave North RR Undercrossing	Reconstruct railroad bridge on 223rd Ave, 2000' north of I-84 to provide wider travel lanes, sidewalks and bicycle lanes.	45	11,534,500	
199	Historic Columbia River Hwy RR Overcrossing: Half mile east of 244th Avenue	Reconstruct railroad bridge to accommodate wider travel lanes, sidewalks and bike lanes.	38	9,314,500	
		Bridge Category Total		**20,849,000**	
SIGNAL/INTERSECTION CATEGORY					
Urban					
TBD	257th/Kane Dr.: Arterial Corridor Management (ACM) w/ Adaptive Signal Timing	Install upgraded traffic signal controllers, establish communications to the central traffic signal system, provide arterial detection and routinely update signal timings. Provide real-time and forecasted traveler information.	63	2,800,000	N
TBD	238th/242nd Ave/Hogan Dr.: ACM with Adaptive Signal Timing	Includes the ACM project with signal systems that automatically adapt to current arterial that automatically adapt to current arterial roadway conditions.	57	3,600,000	N
TBD	Fairview Parkway: Arterial Corridor Management (ACM)	Install upgraded traffic signal controllers, establish communications to the central traffic signal system, provide arterial detection and routinely update signal timings. Provide real-time and forecasted traveler information on arterial roadways.	42	850,000	N
744	Scholls Ferry Rd/Patton Rd	Improve safety and reduce delay at intersection. Improvements will include ADA curb ramps, signals with permissive/protective phasing	41	450,000	
Rural					
193	Cornelius Pass Rd/US 30	Widen pavement to allow for north bound left turn lane, right turn lane and bicycle lanes.	42	1,642,529	Y
706	Orient Dr/Bluff Rd	Widen Orient Dr to create eastbound left turn lane to Bluff Rd, realign Bluff and Teton to create perpendicular intersection.	20	685,247	N
703	Orient Dr/Dodge Park Blvd	Widen Orient Dr to create eastbound left turn lane.	17	373,616	N
147	Corbett Hill Rd: Historic Col. River Hwy	Improve intersection alignment by making stops at right angle.	15	3,770,920	N
707	Oxbow Dr/Altman Rd	Widen Oxbow Dr to create westbound left turn lane to Altman Rd, realign intersection to a 5 perpendicular intersection.	15	790,693	N
704	302nd Ave/Lusted Rd	Realign Lusted Rd and Pipeline Rd to create perpendicular intersection @ 302nd, add left turn lane to each leg of intersection.	10	5,613,717	N
186	Division Dr/Troutdale Rd (Included in Collector project above)	Realign intersection, eliminating NE leg, producing a 4-way intersection. Replace 3 existing culverts identified as fish barriers.	5		N
		Signal/Intersection Total		**20,576,722**	
STREET DESIGN CONCEPT TOTAL					
208	257th Ave Street Trees	Street Trees	24	919,552	N
207	257th Ave Utility Undergrounding	Underground Utilities	18	1,030,996	N
		Street Design Concept Total		**1,950,548**	
		ALL ROADWAY CATEGORIES TOTAL		**331,051,109**	


Multnomah County Capital Improvement Plan & Program 2010-14
Roadway Projects
West Multnomah County
Public Review Draft
Road Projects
Signal/Intersection Projects
County Boundary
City Boundary
N


Road Projects
Adaptive Signal Timing
Signal/Intersection Projects
Bridge Projects
County Boundary
City Boundary
N
Multnomah County Capital Improvement Plan & Program 2010-14
Roadway Projects
East Multnomah County
Public Review Draft

Multnomah County Bikeway and Pedestrian Program
FY 2014-2018 Capital Improvement Plan

The Multnomah County Land Use and Transportation Program has a long-term program to develop and maintain a balanced transportation system that includes sidewalks and bike lanes on urban arterials and collectors, and shoulder bike and pedestrianways on rural roads. Policies for bicycle and pedestrian facilities are established in the Multnomah County Comprehensive Framework Plan. The Land Use and Transportation Program spends more than the one percent minimum of its State Highway revenue on bikeway or pedestrian projects. These expenditures comply with ORS 366.514, which mandates expenditures of a minimum of one percent of State Highway revenues on bicycle and pedestrian facilities.

If a roadway project includes a planned bikeway or sidewalk, the bike and pedestrian facilities are constructed as part of the roadway project. Bicycle and pedestrian priorities that will not be constructed by a roadway project or other program in the near future are programmed through the Bikeway and Pedestrian way capital plans. Examples are sidewalks gaps, separated bike paths in the road right-of-way, cyclist activated traffic signals, major shoulder construction, and bridge modifications. Bikeways or pedestrian ways that can be created by striping roads and signage (such as designating bicycle lanes or routes) are funded through the maintenance budget.

In selecting Bicycle and Pedestrian system projects, the County uses a careful process of addressing critical needs and maximizing funding opportunities. Candidate projects are evaluated by category, bicycle or pedestrian, using objective criteria. Information used in evaluating a project addresses the following factors:

- Safety
- Completing gaps or compliments other system projects
- Cost effectiveness
- Proximity to school and other public destinations
- Lack of road project to address the need
- Equity
- Health

Each potential project is evaluated and scored using the ranking criteria shown in the following Table 4. Using this scoring tool, priorities are established for bicycle system and pedestrian system investments, in Tables 5 and 6.

Table 4
Criteria for Bicycle and Pedestrian Project Evaluation

Criteria	Criteria Explanation	Point Range
Safety Improvement	Project solves a safety problem once complete. Is there a crash history along the project site? Projects that will mitigate a hazard in locations. Does the project remove conflicts and/or provides safety mitigation for any potential vehicular conflicts?	*Crash history:* High – 9, Med – 5, Low – 0 *Solves problem:* High – 9, Med – 5, Low – 0
Cost Effectiveness	What is the cost/benefit of proposed project? Projects that provide the most new infrastructure for the least cost will receive the highest scores.	High – 12 Med – 6 Low – 0
Project Utility	Project serves a need/be well used once it is complete. Project improves access to priority destinations mixed use centers, large employment areas, schools, and essential services. Projects located in high or potentially high pedestrian/bicycle traffic areas will receive top scores. Projects that are located in high transit use areas or that improve access to transit will receive higher scores.	High – 15 Med – 8 Low – 0
Closes Gap in System	Project completes a gap in the systems; compliments adjacent facilities (stormwater management); significantly improves an existing facility that is well-used. Projects that significantly help to complete a pedestrian or bicycle corridor will receive top scores.	*Completes gap:* High – 8, Med – 4, Low – 0 *Compliments other facilities:* 0 – 4 *Improves existing facilities:* 0 – 4
Compliment Recent or Future Project	Project compliments or enhances a recently completed or near-term future project (including leveraging). Project that have benefit to phases of completed or future projects. Projects located in close proximity to other recent or planned bicycle or pedestrian enhancements will receive top scores.	High – 8 Med – 4 Low – 0
Proximity to Schools	School is adjacent to the project area. Project must be directly adjacent to a school to receive the points.	Yes – 5 No – 0
No Other Project	Will another project address all or some of the problem? Projects will receive all 5 points if no other projects planned for the area will address bicycle or pedestrian concerns.	0 to 5 points
Feasibility	Factors exist within or outside the scope of the project that make it impractical. Projects receive negative points if concerns about right-of-way, topography, or construction timing make them impractical.	*ROW/Topography issues:* -3 – 0 *Construction timing issues:* -3 – 0
Equity	Does the project improve access to priority destinations mixed use centers, large employment areas, schools, and essential services for Environmental Justice/underserved communities? Does the project serve traditionally underserved (minority, low income, limited English speaking, youth, elderly, disabled) communities?	0-6 points
Health	Does the project help reduce impacts, such as noise, land use conflicts, emissions, etc. Does the project help reduce air toxics or particulate matter? Does the project include multimodal elements (access to transit stops or encourages use of different modes of transportation)? Does the project reduce Vehicle Miles Travelled (VMT)? Does the project provide access to “essential services” (parks, trails, centers, recreation, etc) within a 1 mile walk or bike ride?	0-6 points
Bonus	Points will be awarded for alternate sources of money (-2, +2), project readiness (-2, +2) and community support (-5, +5).	-9 - +9
Total points possible		100

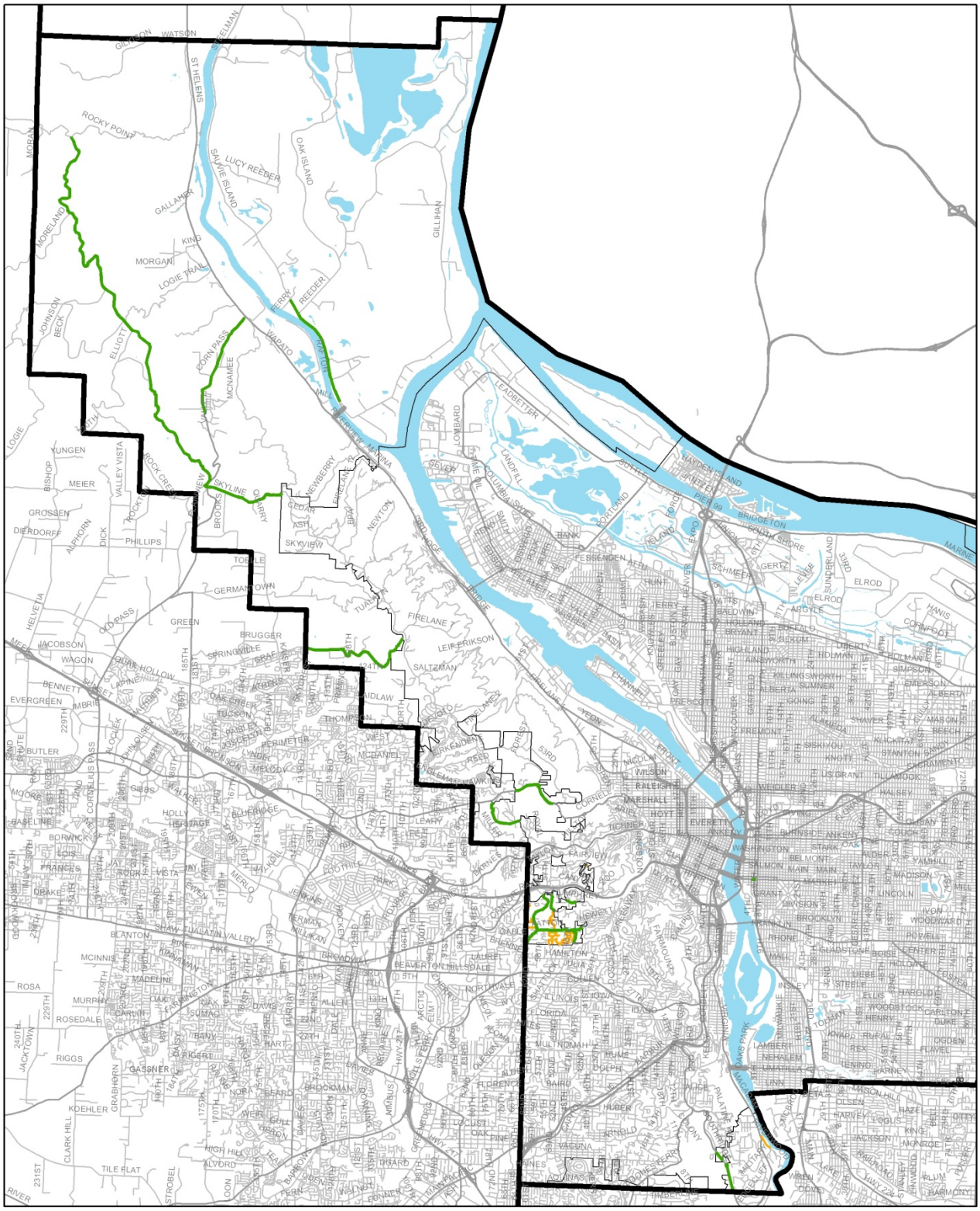
Table 5: Bicycle CIP Ranking Report

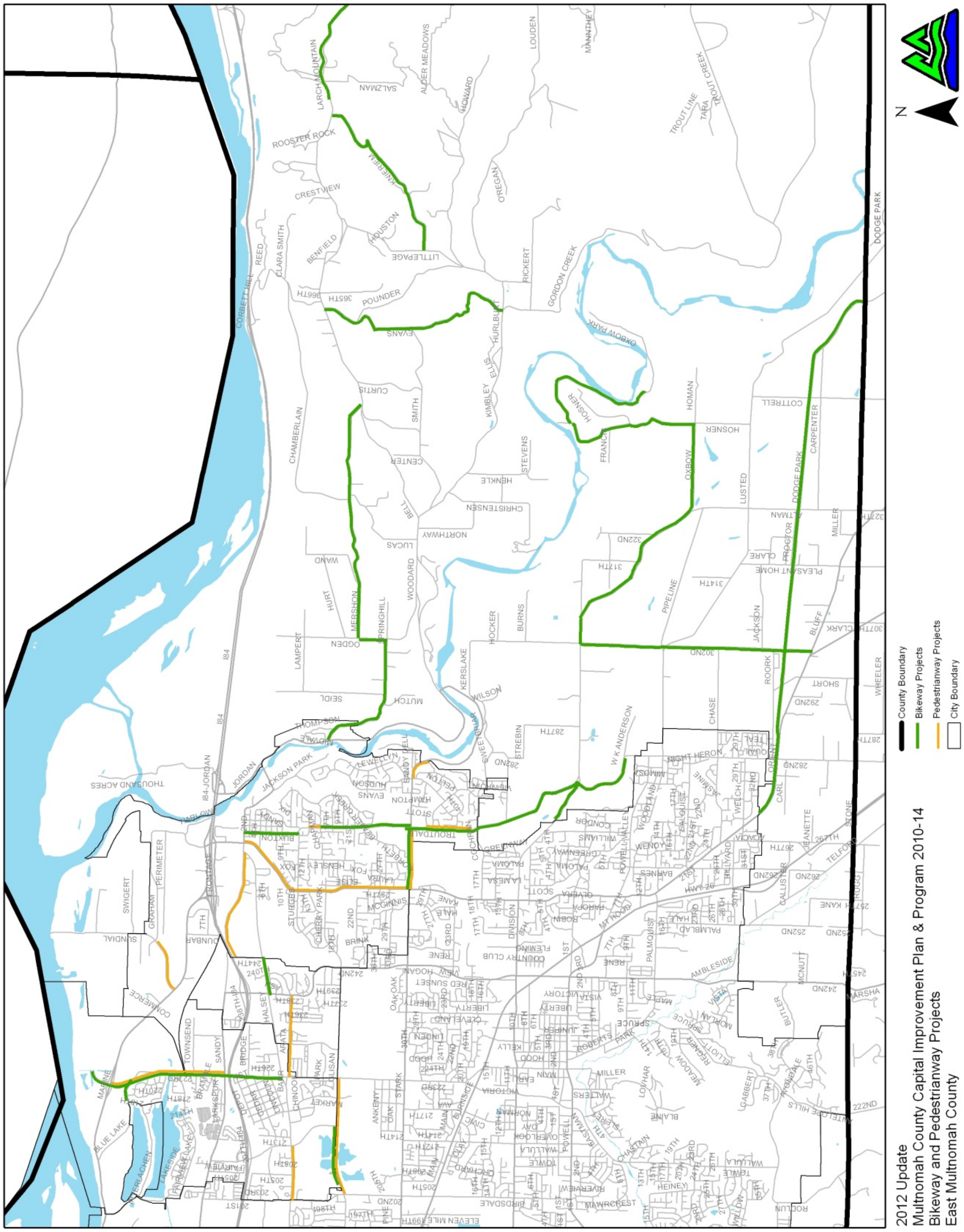
Project Name	Description	2010-2014 CIPP Project Cost	Score	Included in Roadway Project?	Urban or Rural
NE 238th bike facilities (EMCP)	Bike Lanes	TBD	77	Y	Urban
Stark St: SE 257th to Troutdale Rd - Bike Lanes		$710,127	75	Y	Urban
N.E. 223rd Avenue: Bridge St to Halsey St	Bike Lanes	$632,211	75	Y	Urban
N.E. Glisan St: 203rd Ave - 207th Ave	Bike Lanes	$483,958	71	Y	Urban
Halsey St.: 238th to 244th	Bike Lanes	$571,000	71	TBD	Urban
Buxton Rd: HCRH –Cherry Park Rd	Bike Lanes	$53,530	68	N	Urban
N.E. 223rd Ave.: Blue Lake –Sandy Blvd	Shoulder Bikeway	$912,497	65	Y	Urban
Skyline Blvd: McNamee –Cornelius Pass	Shoulder Bikeway	$2,629,164	57	N	Rural
Skyline Blvd: Cornelius Pass – Rocky Point	Shoulder Bikeway	$15,153,851	56	N	Rural
Troutdale Rd: Stark St – Strebin Rd	Bike Lanes	$2,001,749	55	Y	Urban
Troutdale Rd: Chapman – Stark St	Bike Lanes	$1,220,139	53	Partially	Urban
Blue Lake Rd: 223rd Ave—Interlachen Lane	Bike Lanes	$455,781	53	N	Urban
S.W. Shattuck Rd: Patton Rd—Windsor Ct	Shared Bikeway	$245,423	52	N	Urban
Hewitt Blvd: Humphrey - 5200' W of Patton	Shared Bikeway	$324,863	51	N	Urban
N.E. 223rd Ave: Marine Dr – 1086' N of Marine Dr	Bike Lanes	$386,182	50	Y	Urban
N.E. 223rd Ave: Marine Dr - Blue Lake Rd	Bike Lanes	$434,995	49	Y	Urban
Scholls Ferry Rd: Humphrey - Co. Line	Bike Lanes	$3,057,655	49	Y	Urban
Dodge Park Blvd: 302nd - County Line	Shoulder Bikeway	$7,592,686	48	N	Rural
302nd Ave: Division - Bluff	Shoulder Bikeway	$3,878,852	46	N	Rural
Orient Dr: Welch Rd – Dodge Park Blvd	Shoulder Bikeway	$1,523,441	45	N	Rural
Patton Rd: Scholls Ferry - 708' east of SW 48th Ave	Shared Bikeway	$818,730	45	N	Urban
Troutdale Road: Chapman to Cherry Park	Bike Lanes	TBD	44	Y	Urban
Sauvie Island Rd: Gillihan Rd – Reeder Rd	Bike Path	$2,114,214	43	N	Rural
Larch Mt Rd: HCRH—End of Road	Shoulder Bikeway	$26,341,706	43	N	Rural
Knieriem Rd: Littlepage Rd – HCRH	Shoulder Bikeway	$3,122,720	41	N	Rural
Humphrey Blvd: Patton – Hewitt	Shared Bikeway	$218,206	41	N	Urban

Sauvie Island: Reeder - Ferry Rd	Shoulder Bikeway	$535,851	40	Y	Rural
Springville Rd: Skyline Blvd—County Line	Shoulder Bikeway	$4,258,950	39	N	Rural
Oxbow Park Rd: Oxbow Dr - Road End	Shoulder Bikeway	$1,834,695	39	N	Rural
Oxbow Dr: Division Dr - Hosner Rd	Shoulder Bikeway	$5,393,681	39	N	Rural
Hurlburt Rd: HCRH – Littlepage Rd	Shoulder Bikeway	$4,344,240	38	N	Rural
Oxbow Dr: Hosner Terrace –Oxbow Park Rd SE	Shoulder Bikeway	$1,259,838	38	N	Rural
Cornelius Pass Rd.: (old) St. Helens Rd—MP 2	Shoulder Bikeway	$3,684,602	35	Y	Rural
Evan Rd: Hurlburt Rd - HCRH	Shoulder Bikeway	$4,463,908	35	N	Rural
Woodard Rd: HCRH – Ogden Rd	Shoulder Bikeway	$2,338,065	35	N	Urban/Rural
Skyline Blvd: Cornell Rd—Greenleaf - Shared Bikeway	Bike Lanes	$792,224	34	N	Urban
S.E. Division Dr: UGB – Troutdale Rd	Bike Lanes	$945,518	34	N	Rural
Terwilliger Blvd: Northgate Rd –County line		$1,412,358	34	N	Urban
Troutdale Rd: Strebin Rd - 282 Ave	Bike Lanes	$3,292,979	33	N	Rural
Terwilliger Blvd: Powers Ct—Coronado St	Shoulder Bikeway	$356,904	33	N	Urban
Cornell Rd: County line—COP jurisdiction line	Shoulder Bikeway	$75,758	33	N	Urban
Cornell Rd: City limits – NW 53rd Dr	Shoulder Bikeway	$1,605,682	33	N	Urban
Mershon Rd: Ogden - HCRH	Shoulder Bikeway	$4,009,646	32	N	Rural
S.E. Division Dr: Troutdale – Oxbow Parkway	Bike Lanes	$3,371,407	31	N	Rural
Ogden Rd: Mershon – Woodard	Shoulder Bikeway	$463,789	30	N	Rural
Total		$119,323,775			

Table 6: Pedestrian CIP Ranking Report

Project Name	2010-2014 CIPP Project Cost	Sidewalk Width (feet)	Score	Included in Roadway Capital Project	Urban or Rural
Arata Road: 223rd Ave—238th Ave	$1,188,512	6	80	Y	Urban
Stark St: 257th Ave—Troutdale; northside	$660,006	7	75	Y	Urban
223rd Ave: Sandy Blvd – Marine Dr	$1,132,179	6	73	Y	Urban
Glisan St: 204th Ave – 223rd; north side	$522,691	7	72	Partially	Urban
257th Ave: Sidewalk Improvements (widen per Streetscape Plan)	$1,307,685	9	66	N	Urban
Troutdale Road: Beaver Creek Ln- Stark St	TBD		64	Y	Urban
Hawthorne Br. Southeast ramp sidewalk	$80,284		64	N	Urban
Troutdale Rd: Beaver Creek Ln –Chapman Ave	$44,484	7	63	N	Urban
Historic Columbia Highway: 244th Ave –Halsey St	$902,598	6	63	Y	Urban
Troutdale Rd: SE 40th St-Sweetbriar Road	$320,608	7	63	Y	Urban
Wood Village extension - multi use path (EMCP, 99129)	TBD		59	Y	Urban
257th Ave: Pedestrian Crossings (Columbia Vista, 26th St.)	$100,000		59	N	Urban
257th Ave: Pedestrian Lighting	$208,280		54	N	Urban
Sundial Rd: Marine Drive – Graham Cl	$517,877	7	46	Y	Urban
48th Pl: Windsor Ct—Downsview Ct	$288,408	5	43	N	Urban
64th Pl: Bucharest Ct – Dead End	$129,729	5	44	N	Urban
Bucharest Ct: Dead End – County Line	$122,573	5	43	N	Urban
52nd Pl: Thomas St – Downsview Ct	$483,083	5	43	N	Urban
50th Ave: Windsor Ct—Downsview Ct	$483,083	5	43	N	Urban
Windsor Ct: SW 52nd Pl –Shattuck Rd	$392,955	5	40	N	Urban
Thomas St: SW 52nd Pl – SW 54th Pl	$254,159	5	40	N	Urban
Downview Ct.: 52nd Pl—48th Pl	$223,516	5	40	N	Urban
54th Pl: Thomas St – Dead End	$106,350	5	39	N	Urban
Riverwood Rd: Riverside Dr—Miltary Rd	$261,369	5	38	N	Urban
Downsview Ct: 57th Ave –55th Dr	$216,306	5	38	N	Urban
Westdale Dr: 57th Ave –Dead End	$255,873	5	38	N	Urban
Windsor Ct: 54th Pl—Dead End	$248,752	5	38	N	Urban
Scholls Ferry Ct: Scholls Ferry Road – Dead End	$261,165	5	35	N	Urban
Sweetbriar Ct: 64th Pl –Scholls Ferry Rd	$138,776	5	35	N	Urban
Fairview Blvd: Knights Blvd – Kingston Ave	$52,916	5	33	N	Urban
55th Dr: County Limit – Patton Rd	$493,898	5	26	N	Urban
55th Ave: Patton Rd – 55th Dr	$194,675	5	25	N	Urban
55th Dr: 55th Ave – Dead end	$511,924	5	25	N	Urban
57th Ave: County Limits—Windsor Ct	$151,414	5	25	N	Urban
57th Ave: Westdale Dr—Patton Rd	$189,268	5	25	N	Urban
Grover Ct: Dead End –55th Dr	$93,732	5	25	N	Urban
Woods Ct: 55th Dr – Dead End	$156,822	5	25	N	Urban
Total	$12,539,128				


2012 Update
Multnomah County Capital Improvement Plan & Program 2010-14
Bikeway and Pedestrianway Projects
West Multnomah County
Bikeway Projects
Pedestrianway Projects
County Boundary
City Boundary
N



2012 Update
Multnomah County Capital Improvement Plan & Program 2010-14
Bikeway and Pedestrianway Projects
East Multnomah County

Multnomah County Fish Passage Culvert Program

Oregon Fish Passage Statute of 2001 (ORS 509.580-.910) states that fish passage shall be addressed in locations where fish are currently or were historically present. The fish passage rules apply to 119 in-stream culverts owned by Multnomah County. These culverts are located in fish-bearing reaches of streams in unincorporated County, and many are located in stream reaches that are habitat for fish species on the federal Endangered Species List. The Endangered Species Act mandates fish barrier removal, citing that man-made fish barriers are considered part of the "take" prohibition, where, a "take" refers to the harm, harassment, or other activities that reduce the species. The County Fish Passage Culvert Program addresses the concerns of fish barriers by identifying and prioritizing culvert replacement for fish passage for endangered fish and other native aquatic species.

The fish barrier culverts under Multnomah County's jurisdiction are located in the following seven sub-basins:

- Tualatin Watershed - a sub-basin of the Willamette River
- Tributaries of the Willamette River - a sub-basin of the Columbia River
- Johnson Creek Watershed - a sub-basin of the Willamette River
- Fairview Creek Watershed - a sub-basin of the Columbia Slough
- Beavercreek Watershed - a sub-basin of the Sandy River
- Sandy River Watershed (excluding the Beavercreek Watershed) - a sub-basin of the Columbia River
- Tributaries of the Columbia River Gorge

Stream Passage Design

Characteristics of typical fish passage barriers include: 1) outfall water drop heights that are too high for the fish to jump, 2) flat concrete box culvert bottoms that make the flows too shallow, or 3) water flows that are too fast for fish to swim against. The Oregon Department of Fish and Wildlife (ODFW) fish passage requirements (OAR 635-412) defines the triggers that require fish passage restoration as well as the design criteria for fish passage structures. Fish passage designs must allow the upstream migration of 6 inch trout, as a reference. The bottomless "stream simulation" structure (approximately 2 times wider than the stream width), or a hydraulic culvert design (using baffles and weir structures to create jump pools within a culvert), are allowed per the fish passage criteria depending on the context in which stream is sited.

Community Interest, Participation and Funding Sources.

The County works with many public agencies and watershed entities to address the liability identified by the culvert inventory. These agencies and entities help identify restoration needs and priorities, and help leverage funding opportunities. While the County maintains a capital budget for fish barrier removal, additional grants funds are desirable to share the financial burden and also develop stronger ties of a project to the community. Potential parties in the community who can provide financial and other assistance include Oregon Watershed Enhancement Board, ODFW, Congressional Representatives, National Oceanic and Atmospheric Administration, Army Corps of Engineers, Metro, local municipalities, local Soil & Water Conservation Districts, non-profit restoration organizations, and watershed councils.

Culvert Prioritization Criteria

Fish passage prioritization criteria have been updated for the 2019-2023 Capital Improvement Plan (CIP) to reflect new science. Since the previous CIP was issued, new culvert assessments, prioritization tools and mapping tools have become available, and these have been incorporated into a new logic for how the County will address fish barriers. New criteria for fish passage prioritization are summarized in Table 1.

The previous CIP prioritization relied on a "score and rank" method, using a cumulative score from a number of weighted criteria to create a single priority list. This method had particular limitations based on the method design and the data that was used in it. The previous method did not effectively consider the spatial structure of barriers in a stream network. That is, the method did not consider the effect of multiple barriers on fish passability and how that changed as fish passage was restored in the watershed. The previous method also relied on a qualitative assessment of fish passability by fish different biologists, which was not a reliable or comparable criterion for evaluation. The qualitative scoring of the "environmental" metrics (i.e., riparian vegetation quality, shade, bank stability, etc) also was not clear.

During the past 10 years, the amount of local funding and resources for invasive weed removal and native plant restoration in the riparian area has increased considerably. Many streams in the unincorporated County are under some restoration program. Given that riparian conditions are generally expected to increase by the end of the CIP planning period, it is prudent to reconsider whether this is a meaningful scoring consideration.

Using current environmental metrics to prioritize fish passage is challenging for other reasons. Recent local fish data[1] have shown that water quality analogs (e.g., high summer temperatures) and riparian vegetation condition may be poor indicators of fish populations. Fish passage improvement may also serve as a catalyst for other watershed health improvement by private landowners. Urban stormwater and agricultural runoff may also effect stream biota is different ways. Given these concerns, the updated CIP program prioritizes fish passage restoration independently from habitat and water quality. The "environmental" criteria used to score culverts in the previous CIP list were eliminated in this updated prioritization.

New criteria

In 2013, the degree of passability at each culvert was assessed on fish-bearing stream reaches using quantitative surveying methods and fish passage guidelines from Washington and Oregon. This assessment resulted in a quantitative understanding of how each culvert poses a barrier to fish. This also eliminated the subjectivity in barrier identification as a result of multiple qualitative field evaluations by fish biologists.

Fish passability information is important because the degree of passability is the key in understanding how multiple barriers effect fish passage in a stream network. Rather than considering each barrier independently, ignoring the spatial structure of the barrier network, we

[1] Portland Water Bureau Habitat Conservation Plan smolt trap program for the Sandy River Basin (2014); Multnomah County Fish Surveys of Beaver Creek (2011) and Johnson Creek (2012); Mt Hood Community College Fisheries Program Adult Salmon Spawning data (2012-2014).

assess the "cumulative passability" – defined as the product of the passability (%) and the length of habitat upstream of a culvert (ft) - to assess the effect of all culverts is considered in a watershed.

This "cumulative passability" information is, in turn, fed into a "fish-passage optimization model"[2] to prioritize fish passage to maximize the amount of accessible habitat in the stream network for a given budget. Cumulative passability is assessed by watershed.

Table 1. Prioritization criteria summary

Criteria	*Description of factors*
Cumulative passability	Length of stream habitat upstream of the fish barrier culvert
	Degree of fish passability (%) based on Washington and Oregon fish passage standards
Equity	Regional concern – support subsistence fisheries by increasing habitat for salmon species
	Local concern – reduce risks of flooding; improve local stream health including habitat for resident cutthroat trout and other native fishes
Condition	Ratings (good, fair, poor, very poor) are based on qualitative assessments of channel, culvert and embankment structure
Retrofit opportunity	Installation of baffles to improve fish passage in culverts as a short term measure for applicable culverts
Partnerships	Sequencing projects with adjacent culverts with public of private partners if the habitat gains are not significant by a single project alone.

The notion of "equity" is another new criterion in the CIP. Equity manifests in two ways; first, as a regional scale concern, and second, as a local scale concern. As a regional scale concern, we consider the equity implications of subsistence fishing; that is, to increase the numbers of catchable salmon by restoring fish passage in streams reaches that have the highest potential to increase those populations of fish. As a local concern, we consider the equity implications of local flooding concerns (where a culvert failure may lead to flooding) and the recovery of local watershed function and use by other native fishes (e.g., native cutthroat trout). Equity is used in the prioritization as a way to sort culverts based on community need, which is a way to integrate the goal of the Federal Clean Water Act to have "fishable" streams, and to prioritize streams with Federal Endangered Species listings (i.e., coho, Chinook, steelhead populations).
The CIP considers three additional factors: 1) the physical condition of a culvert (which increases the risk of failure); 2) opportunities created in partnership with other jurisdictions or entities (both public and private); and 3) opportunities for retrofits, as a short-term low-cost

[2] **A**nadromous Fish **Pass**age Optimization Tool (APASS Beta Version 0.8) is an optimization software tool developed by Dr. Jesse O'Hanley, University of Kent, UK (Copyright 2011).

solution to improve fish passability for culverts not in need of immediate repair. These factors are important for the timing and sequencing of barrier removal.

Capital Improvement Program Priority List

Fish barrier culverts in the updated CIP are separated into two sections to distinguish those that represent a regional level concern, and those that represent a local level concern (Table 2 and 3). The culverts are organized further by watershed and ordered in the highest benefit to cumulative passability, which were identified using the fish barrier optimization tool[3]. The condition, estimated cost of replacement (or retrofit), length of upstream habitat, and passability for fish are also presented. Some culverts are identified as good candidates for retrofits because of their condition and fish barrier type, and some others are identified as needing partners to properly sequence projects. These characteristics are used to determine the 5 year priority list. Priorities were given to specific culverts based on a combination of their characteristics and location in the watershed. Culverts of regional concern were given priority over those of local concern, unless the latter were affordable retrofits, or otherwise had major benefit in the watershed.

Priority was not given to culverts of regional concern that had a relative high cost of replacement and were located high in the watershed. Culverts that were adjacent to another jurisdiction's culvert were not given priority because of the lead time needed to coordinate projects. Many culverts that are important as a local concern, but do not pass Endangered Species were not given priority at this time.

Maps of culverts are found in Figure 1 and 2.

[3] Non-barrier culverts in "very poor" conditions were included in the prioritization because of the risk of failure which could block fish passage. Models were run as if these were complete barriers (0% fish passage).

Figure 1. West Multnomah Culverts

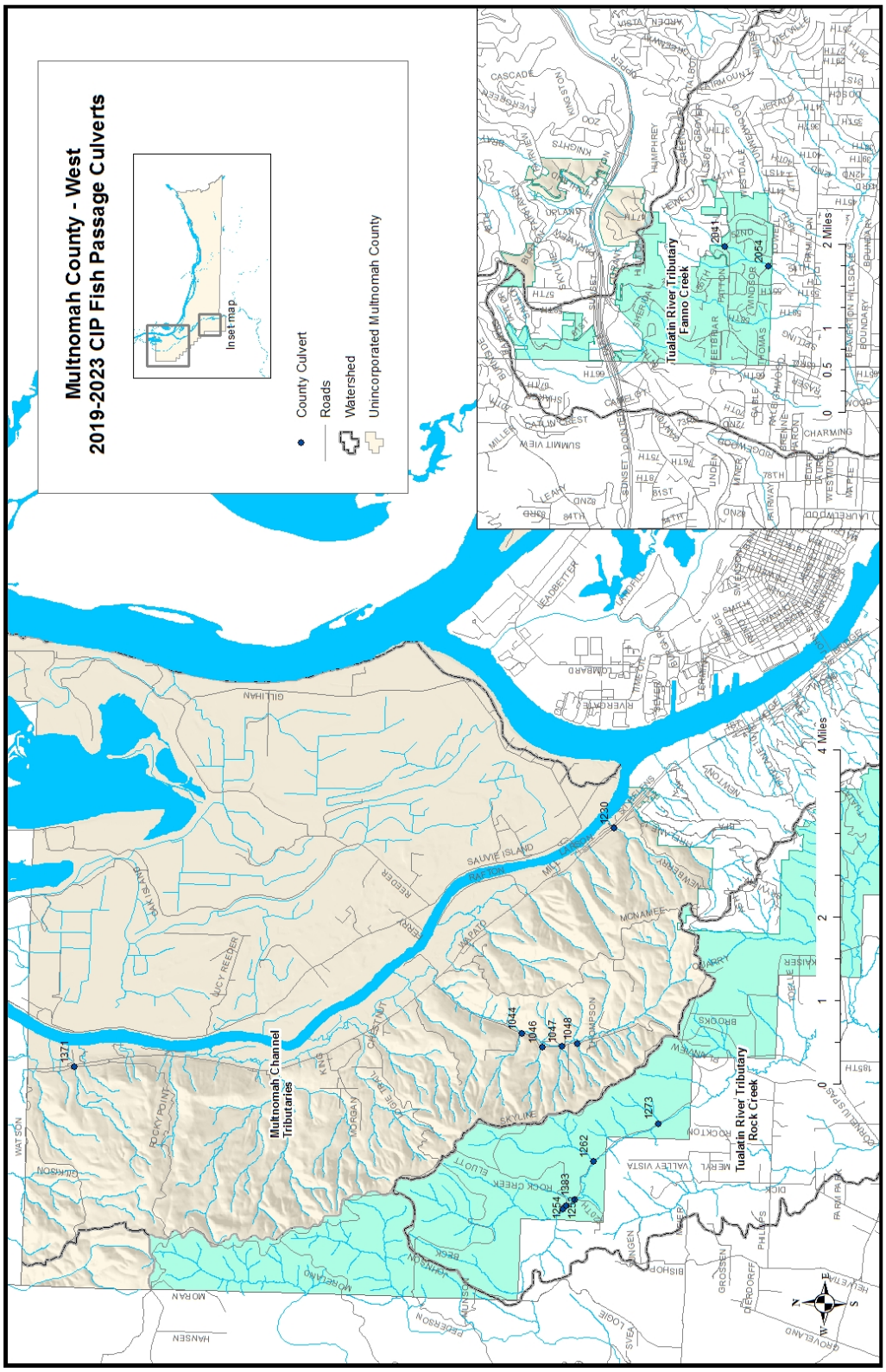


Figure 2. East Multnomah Culverts

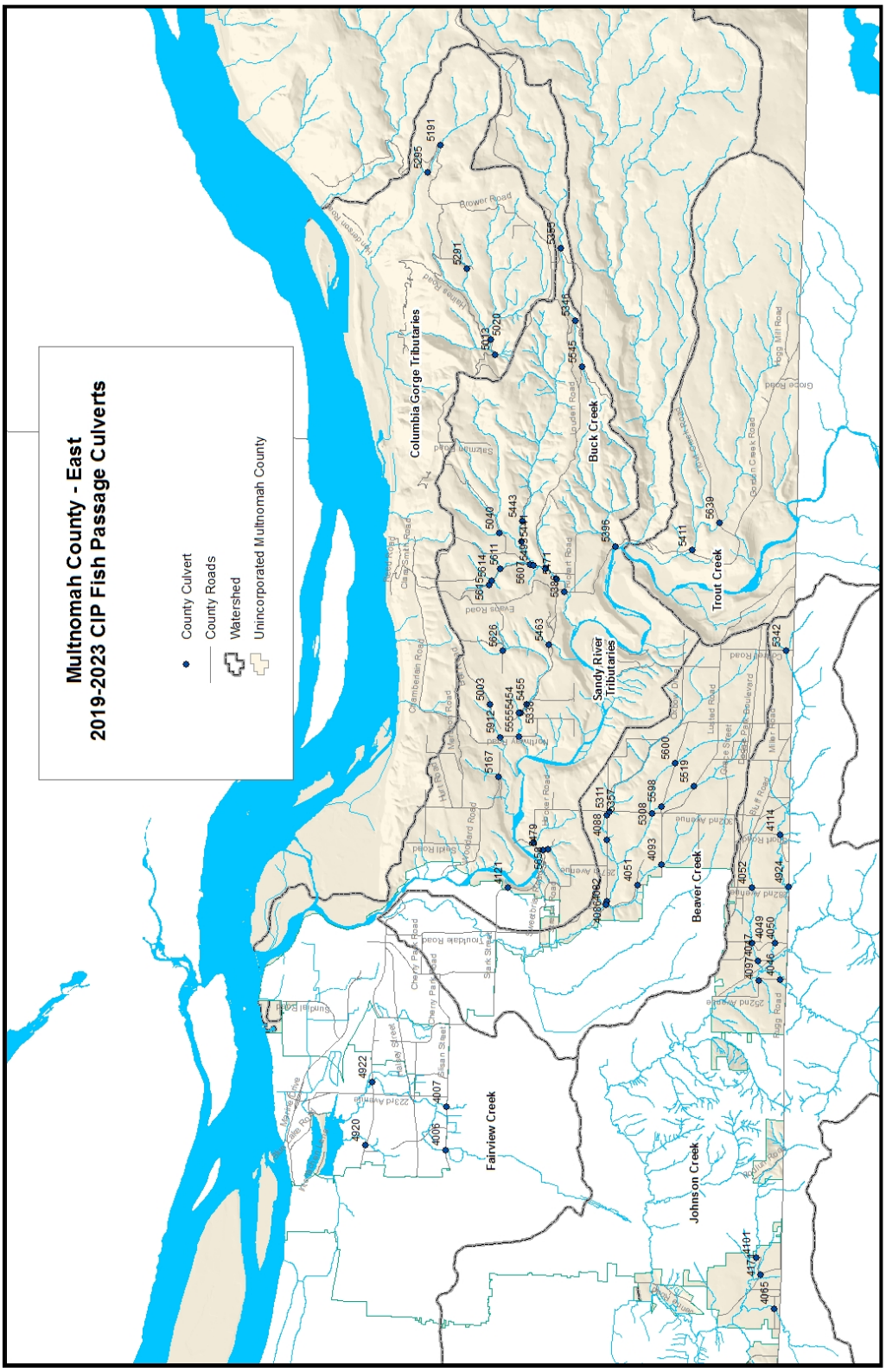


Table 2. Culverts of Regional Concern

WATERSHED	ID	*SUBBASIN*	*ROAD*	*CONDITION*	*COST*	*Upstream Habitat (ft)*	*Fish Passability*	*Cumulative Passability Rank*	*Retrofit*	*Partners Needed*	*5 YEAR PRIORITY*
REGIONAL CONCERN											
Johnson Creek	4114	Johnson Creek	SE Short Road	Good	$20,000	3,831	67%	1	●		●
Johnson Creek	4050	Johnson Creek	SE 267th Ave	Poor	$149,614	10,282	67%	2			●
Johnson Creek	4097	McNutt Creek	SE McNutt Road	Poor	$133,041	2,681	0%	3			●
Johnson Creek	4924	LB trib to Johnson Creek at County line	SE Stone Rd	Good	$125,673	1,786	67%	4		●	
Johnson Creek	4046	Sunshine Creek	SE Kane Road	Very Poor	$435,588	3,248	100%	5			●
Johnson Creek	4101	Kelley Creek	SE Richey Road	Poor	$584,922	3,013	33%	6		●	
Johnson Creek	4065	Mitchell Creek	SE Baxter Road	Very Poor	$239,942	3,000	100%	8			●
Johnson Creek	4049	NF Johnson Creek	SE 267th Ave	Poor	$390,187	4,603	0%	9			●
Johnson Creek	4047	NF Johnson Creek	SE 262nd Ave	Fair	$204,307	1,162	67%	11			●
Johnson Creek	4171	Unnamed tributary to Kelley Creek	SE Foster Road	Poor	$164,740	1,411	33%	7			●
Johnson Creek	4052	NF Johnson Creek	SE 282nd Ave	Poor	$322,457	3,648	67%	12			●
Johnson Creek	5342	RB trib to Johnson	SE Cottrell Road	Very Poor	$298,927	800	0%	13			●
Beaver Creek	5357	Beaver Creek	SE Division St, near 302nd Ave	good	$30,000	310	0%	1	●		●
Beaver Creek	4088	Beaver Creek	SE Division St between 4 Corners and SE 302nd	fair	$30,000	2,313	33%	2	●		●
Beaver Creek	5311	Beaver Creek	SE 302nd Ave	poor	$330,144	9,572	67%	3			●
Beaver Creek	4082	Arrow Creek	SE Division St, just W of Troutdale Rd junction	fair	$393,156	3,635	33%	4			●
Beaver Creek	4086	Beaver Creek	SE Division Street	good	$710,390	10,188	67%	5			
Beaver Creek	4051	Arrow Creek	SE 282nd Ave	fair	$1,069,627	2,560	0%	6			
Beaver Creek	5519	SF Beaver Creek	SE Lusted Rd	poor	$401,427	1,655	0%	11			
Beaver Creek	4093	Arrow Creek	SE Lusted Rd	poor	$593,566	3,000	33%	9			
Beaver Creek	5600	MF Beaver Creek	SE Pipeline Rd	unknown	$230,236	1,649	0%	7			
Beaver Creek	5598	SF Beaver Creek	SE Pipeline Rd east of SE 302nd Ave	poor	$503,180	2,967	0%	8			
Beaver Creek	5308	MF Beaver Creek	SE 302nd Ave	fair	$2,278,660	2,768	0%	10			
Sandy Tributaries	5346	Buck Creek	SE Deverell Road	good	$226,331	5,723	0%	1			●
Sandy Tributaries	5355	Buck Creek	SE Deverell Road	fair	$295,888	11,827	33%	2			●
Sandy Tributaries	5411	Trout Creek	SE Gordon Creek Road	poor	$1,280,638	18,066	0%	3			●
Sandy Tributaries	5639	Trout Creek	SE Trout Creek Road	fair	$366,546	45,370	67%	4			

Sandy Tributaries	5396	Buck Creek	SE Gordon Creek Road	good	$2,016,130	28,209	0%	5			
Sandy Tributaries	5545	Buck Creek	SE Mannthey Road	good	$208,012	3,529	67%	6			

Table 3. Culverts of Local Concern

WATERSHED	ID	*SUBBASIN*	*ROAD*	*CONDITION*	*COST*	*Upstream Habitat (ft)*	*Fish Passability*	*Cumulative Passability Rank*	*Retrofit*	*Partners Needed*	*5 YEAR PRIORITY*
LOCAL CONCERN											
Sandy Tributaries	5555	Smith Creek	Smith Creek	good	$20,000	2,294	33%	1	●		●
Sandy Tributaries	5607	Big Creek	Pounder Creek	good	$20,000	2,471	0%	2	●		●
Sandy Tributaries	5493	Big Creek	Big Creek	good	$20,000	20,907	67%	3	●		●
Sandy Tributaries	5912	Sandy trib R1	Unnamed tributary to Sandy River	fair	$249,351	2,665	33%	4			
Sandy Tributaries	5455	Smith Creek	Smith Creek	fair	$30,000	7,590	33%	5	●		●
Sandy Tributaries	5338	Smith Creek	Smith Creek	fair	$395,314	743	0%	6			
Sandy Tributaries	5386	Big Creek	Big Creek	fair	$899,141	1,374	33%	7			
Sandy Tributaries	5441	Big Creek	SF Big Creek	fair	$245,630	1,561	33%	8			
Sandy Tributaries	5443	Big Creek	SF Big Creek	fair	$271,657	28,380	33%	9			
Sandy Tributaries	5491	Big Creek	Unnamed tributary to Big Creek	poor	$190,925	5,122	0%	10			
Sandy Tributaries	5471	Big Creek	Big Creek	fair	$463,547	4,113	67%	11			
Sandy Tributaries	5615	Big Creek	WB Pounder Creek	fair	$168,837	1,810	0%	12			
Sandy Tributaries	5611	Big Creek	Pounder Creek	poor	$228,651	1,126	33%	13			
Sandy Tributaries	5040	Big Creek	RB trib 1 to NF Big Creek	poor	$499,530	4,081	0%	14			
Sandy Tributaries	5167	Bonnie Brook Creek	Bonnie Brook Creek	poor	$474,450	2,218	0%	15			
Sandy Tributaries	5003	Sandy trib R1	Unnamed tributary to Sandy River	poor	$413,896	1,558	0%	16			
Sandy Tributaries	5614	Big Creek	EB Pounder Creek	poor	$160,806	406	0%	17			
Sandy Tributaries	4121	Sandy trib L1	Unnamed tributary to Sandy River	fair	$839,795	2,080	0%	18			
Sandy Tributaries	5454	Smith Creek	Unnamed tributary to Smith Creek	fair	$656,683	1,486	0%	19			
Sandy Tributaries	5463	Sandy trib R2	Unnamed tributary to Sandy River	unknown	$1,070,722	2,687	0%	20		●	
Sandy Tributaries	5626	Smith Creek	Smith Creek	good	$1,084,765	2,611	0%	21			
Sandy Tributaries	5658	Sandy trib L2	Unnamed tributary to Sandy River	poor	$454,231	1,632	0%	22			
Sandy Tributaries	5479	Sandy trib L2	Unnamed tributary to Sandy River	fair	$1,749,668	473	0%	23			
Sandy Tributaries	5480	Sandy trib L3	Unnamed tributary to Sandy River	poor	$3,403,183	1,537	33%	24			
Tualatin Tributaries	1253	Rock Creek	NW Rock Creek Road - US crossing	Fair	$20,000	791	33%	1	●		●
Tualatin Tributaries	1262	Unnamed tributary of Rock Creek	NW Rock Creek Road	Poor	$134,396	7,036	0%	2			

Tualatin Tributaries	1273	Unnamed tributary to Rock Creek	NW Rock Creek Road	Fair	$86,105	800	0%	3			
Tualatin Tributaries	1383	Rock Creek	NW 220th Ave	Fair	$120,993	680	67%	4			
Tualatin Tributaries	1254	Rock Creek	NW Rock Creek Road - DS crossing	Fair	$197,471	348	33%	5			
Tualatin Tributaries	2054	Unnamed tributary to Fanno Creek	SW Thomas Street	Fair	$856,419	1,547	0%	6			
Tualatin Tributaries	2041	Unnamed tributary to Fanno Creek	SW Patton Rd	Poor	$503,818	2,294	0%	7			
Multnonmah Channel Tributaries	1046	Unnamed tributary to McCarthy Creek	NW Cornelius Pass Road	good	$261,672	8,628	0%	1			
Multnonmah Channel Tributaries	1371	Jones Creek	NW St Helens Rd and SR 30	fair	$411,579	844	0%	2			
Multnonmah Channel Tributaries	1046	Unnamed tributary to McCarthy Creek	NW Cornelius Pass Road	poor	$233,324	2,251	0%	3		●	
Multnonmah Channel Tributaries	1048	Unnamed tributary to McCarthy Creek	NW Cornelius Pass Road	poor	$354,856	896	0%	4			
Multnonmah Channel Tributaries	1230	Ennis Creek	NW Riverview Road	good	$1,276,145	4,738	0%	5			
Multnonmah Channel Tributaries	1044	Unnamed tributary to McCarthy Creek	NW Cornelius Pass Rd at NW Sheltered Nook Rd intersection	good	$2,712,760	8,352	0%	6		●	
Columbia River Gorge tributaries	5020	Latourell Creek	NE Haines Road	Poor	$177,087	23,241	33%	1			●
Columbia River Gorge tributaries	5291	Young Creek	SE Toll Road	Good	$267,327	2,278	0%	2			
Columbia River Gorge tributaries	5295	Latourell Creek	SE Thompson Mill Road	Good	$239,430	2,920	33%	3			
Columbia River Gorge tributaries	5191	Young Creek	SE Brower Road	Good	$570,922	4,686	0%	4			
Columbia River Gorge tributaries	5013	Unnamed tributary to Latourell Creek	E Haines Road	Good	$403,781	1,523	0%	5			
Fairview Creek	4920	Osborn Creek	NE Sandy Blvd	good	$30,000	1,500	33%	1	●		●
Fairview Creek	4922	Fairview Creek	NE Sandy Blvd	fair	$20,000	12,080	0%	2	●		●
Fairview Creek	4006	Fairview Creek	NE Glisan Street	good	$20,000	4,000	67%	3	●		●
Fairview Creek	4007	RB trib to Fairview Creek	NE Glisan St	good	$784,990	1,224	0%	4			

Multnomah County Willamette River Bridges
Capital Improvement Plan

This section of the plan addresses the capital needs of the six (6) Willamette River Bridges: Sellwood, Hawthorne, Morrison, Burnside, Broadway, and Sauvie Island. With the exception of the Sauvie Island Bridge, these bridges are located in the City of Portland and provide regional connections between the east and west sides of the metropolitan area. As part of the 2015 CIPP Update, the recently completed Willamette River Bridges Capital Improvement Plan was incorporated. The excerpts from the plan below are incorporated into the County CIPP. The full Willamette River Bridges Capital Improvement Plan is available as a separate document, and provides more details on the projects.

Purpose: This Multnomah County Willamette River Bridges Capital Improvement Plan (Bridge CIP) identifies a 20-year program of necessary capital projects and associated funding needs to maintain and seismically retrofit the iconic Willamette River bridges (Broadway, Burnside, Hawthorne, Morrison, Sauvie Island and Sellwood) for the period 2015-2034. These bridges connect the community and currently serve approximately 200,000 people daily. As of 2014, the four historic movable bridges lack the necessary seismic resiliency to withstand moderate to major earthquakes. This is especially true for the anticipated Magnitude 9.0 Cascadia Subduction Zone event that the Oregon Department of Geology and Mineral Industries has calculated as having a 37% chance of occurring before 2065.

Bridge CIP Objectives: The Bridge CIP meets the following objectives established by Multnomah County:

- Provide a rational basis for identifying and prioritizing capital projects.
- Establish criteria for informing program and project selection decisions.
- Provide collaborative public and stakeholder input for criteria selection.
- Identify needs, projects and costs to maintain the bridges to identified performance standards.
- Conduct a seismic evaluation to support programmatic rehabilitation needs, projects and costs.
- Develop a comprehensive understanding of the current condition of the six bridges.
- Assess life cycle and capital maintenance needs for key mechanical, electrical and structural systems and paint.
- Obtain Board of County Commissioners (BCC) input and approval for the Bridge CIP.

Results: The Bridge CIP identifies 56 capital projects with a total cost of approximately $1.3 billion. The Bridge CIP provides an action plan for 2015-2034 resulting in the following outcomes:

- Dependable bridge operation
- Safe and reliable river crossings
- Enhanced seismic resiliency
- Integration of Multnomah County's Equity Lens in decision making processes (see Section 3.2.2)
- Alignment with Multnomah County's Climate Action Plan

Costs for the projects account for inflation to a programmed year of expenditure. Each capital project is planned within a specified 5-year time interval, as summarized in **Table 1.**

Table 1 – Summary of Project Costs by Target Time Interval

Target Time Interval	Number of Projects	Cost at Target Time Interval for Construction
2015-2019	10	$125.43 million
2020-2024	16	$130.23 million
2025-2029	12	$877.48 million
2030-2034	18	$166.85 million

Bridge CIP costs summarized by bridge complex are shown in Table 2.

Table 2 – Summary of Project Costs by Bridge Complex

Bridge Name	Number of Projects	Cost at Target Time Interval for Construction
Broadway	14	$212.16 million
Burnside	4	$546.92 million
Hawthorne	12	$195.40 million
Morrison	13	$236.05 million
Multiple	6	$104.08 million
Sauvie Island	4	$3.93 million
Sellwood	3	$1.45 million

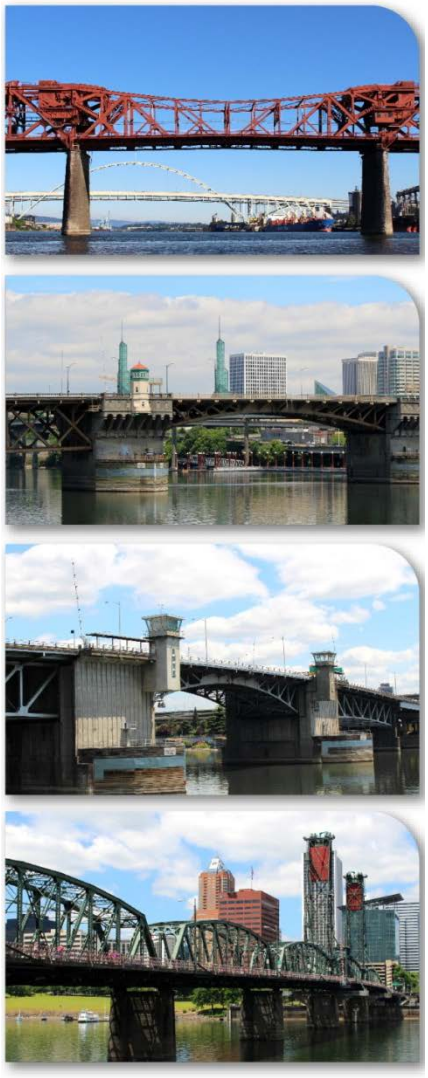


Figure 1 – Multnomah County Operated and Maintained Downtown Portland Bridges

Bridge CIP costs summarized by primary work category are shown in **Table 3**.

Table 3 – Summary of Bridge CIP Costs by Primary Work Category

Primary Work Category	Number of Projects	Cost at Target Time Interval for Construction
Accessibility	6	$43.37 million
Driving Surface	5	$32.99 million
Electrical and Lighting	9	$26.26 million
Mechanical	6	$39.62 million
Paint	11	$288.96 million
Seismic	6	$705.47 million
Structural	13	$163.33 million

Performance Attribute Criteria Assessment and Ratings

In addition to considering cost, the prioritization process considered how each project bundle rated against ten different performance attribute criteria that were derived from the County's values. Projects were rated, receiving scores that ranged from -3 (poor performance) to +3 (excellent performance), and every project was evaluated at each five-year time interval. The scores at each time interval were then compared to the score based on the bridge's existing condition resulting in a value in which the higher this value was the higher the priority the project has.

The following ten performance attributes were established for the project (in alphabetical order):

- **Emergency Preparedness -** An assessment of the structure's ability to resist anticipated seismic and flood events.
- **Livable Communities -** An assessment of how the improvement promotes a multimodal community including bicyclists, transit users and pedestrians (Americans with Disabilities Act (ADA) compatibility) to encourage a more livable and healthy community.
- **Maintenance -** An assessment of the long-term maintenance needs and the safety of maintenance and operations staff. Maintenance considerations include the overall durability, longevity and maintainability of roadway surfaces. It also includes the accessibility and safety considerations for maintenance personnel.
- **Movable Operations -** An assessment of the project's ability to maintain bridge movable operations for all modes.
- **Regional Alignment -** An assessment of how well the projects align with adjacent partner agency CIP projects and regional plans, including those for emergency preparedness. (Note: Considers input from the stakeholder engagement process.)
- **Social Justice -** An assessment of project impacts on services for traditionally under-served communities (minority, low income, limited English speaking, youth, elderly, and disabled). Services include schools, social services, faith-based organizations, community centers, police/fire/justice and food options).
- **Structural Integrity -** An assessment of the structural condition of the bridge based on assessed condition. Projects include paint system rehabilitations that have the ability to preserve the structural condition of the various steel members.
- **Sustainability -** Assessment of the project's influence on: (1) the long-term economic well-being of the region; (2) the long-term environmental well-being of the vicinity adjacent to the bridges; and (3) the preservation of the historic and iconic nature of the bridges.
- **Traffic Operations -** An assessment of the operations of motor vehicles, freight mobility, and congestion reduction.
- **User Safety** - An assessment of multimodal (including river traffic) safety on the bridge complex and its approach roadways. Safety considerations include horizontal

and vertical geometric configurations, merging or weave distances, design speeds, sight distance, lane and shoulder widths, traffic and safety lighting, vehicle or vessel snagging, barrier rail systems and roadway conditions.

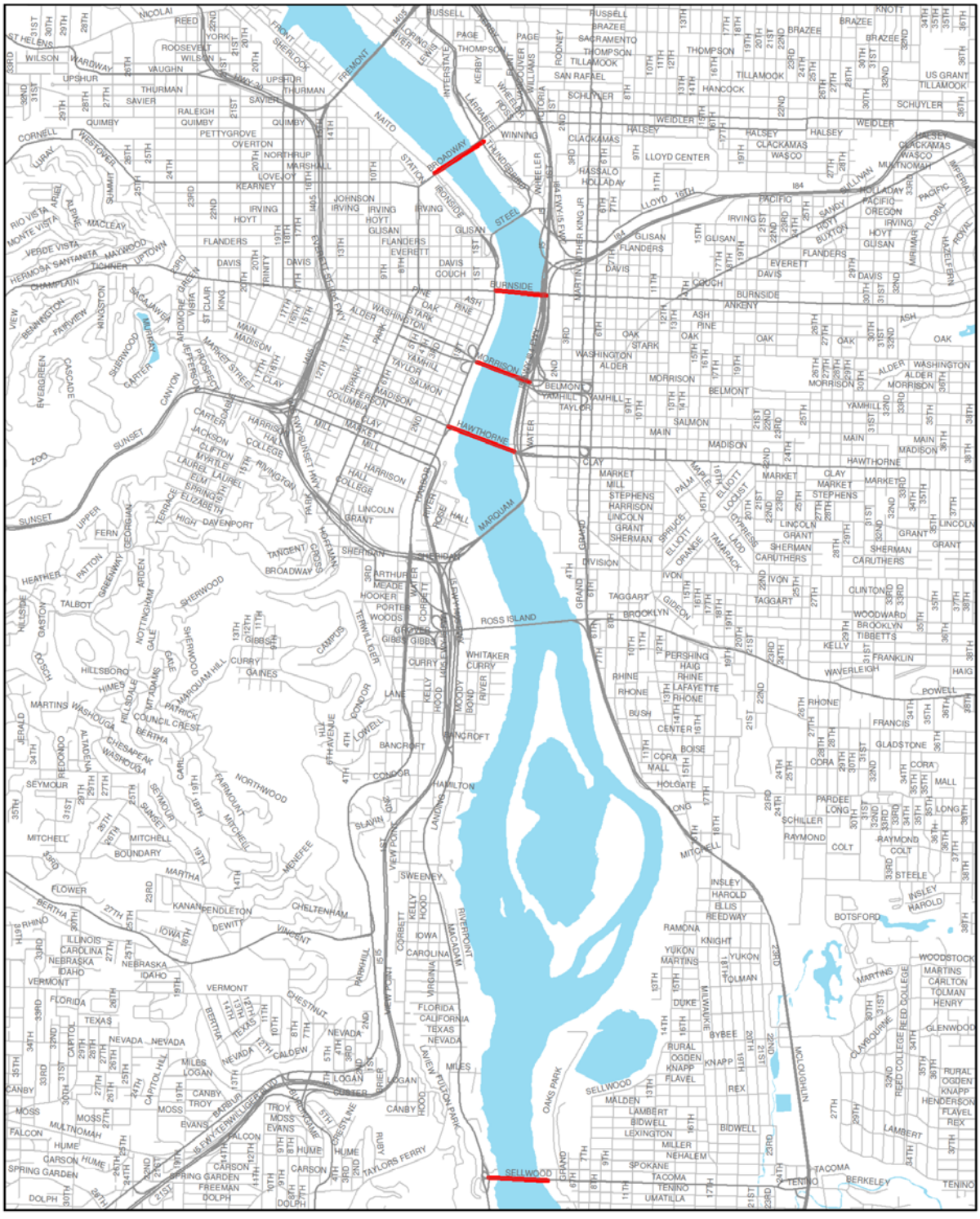
Capital Projects Summary – ALL BRIDGES, ALL PROJECTS							
Project Rank	**Bridge Name (s)**	**Project Name**	**Primary Work Category**	**Project ID #**	**Importance Score**	**Target Construction Time**	**Total Cost at Target Construction Time**
1	Burnside	Seismic Resiliency (Major Bridge Rehabilitation / Bridge Replacement) - Feasibility Study	Seismic	BUN-BU-12	TI-1 64.27	2015-2020	$3,000,000
2	Burnside	Seismic Resiliency (Major Bridge Rehabilitation / Bridge Replacement) - Environmental Impact Study	Seismic	BUN-BU-13	TI-1 64.27	2015-2019	$17,000,000
3	Broadway	Rall Wheel Rehabilitation	Mechanical	BUN-BR-02	TI-1 48.03	2015-2019	$15,423,401
4	Burnside	2016 Burnside Rehabilitation Project	Structural	BUN-BU-06	TI-1 41.73	2015-2019	$30,846,519
5	Morrison	Bridge Painting & Structural Rehabilitation - West Approach	Paint	BUN-MO-09	TI-1 25.63	2015-2019	$17,159,972
6	Broadway, Burnside, Hawthorne and Morrison	Bicycle and Pedestrian Improvement Project - Feasibility Study Phase	Accessibility	BUN-MU-04	TI-1 21.96	2015-2019	$1,442,557
7	Broadway	Bridge Painting - 2015 Paint Project	Paint	BUN-BR-13	TI-1 17.14	2015-2019	$12,658,907
8	Morrison	Bent Cap Rehabilitation - Approach Spans	Structural	BUN-MO-10	TI-1 9.66	2015-2019	$3,479,386
9	Morrison	Motor, Brake, and Electrical Power Rehabilitation; Operator House Improvements	Mechanical	BUN-MO-01	TI-1 7.99	2015-2019	$1,649,105
10	Morrison	Painting and Structural Improvements - River Spans	Paint	BUN-MO-14	TI-1 7.73	2015-2019	$22,773,510
11	Morrison	Roadway Approaches, Bridge Deck Overlay, and Illumination Improvements	Driving Surface	BUN-MO-07	TI-2 33.33	2020-2024	$13,014,918
12	Broadway	Gate, Span Lock and Structural Rehabilitation - River Spans	Electrical and Lighting	BUN-BR-10	TI-2 31.07	2020-2024	$4,579,643

Capital Projects Summary – ALL BRIDGES, ALL PROJECTS							
Project Rank	**Bridge Name (s)**	**Project Name**	**Primary Work Category**	**Project ID #**	**Importance Score**	**Target Construction Time**	**Total Cost at Target Construction Time**
13	Broadway	Roadway and Structural Rehabilitation	Driving Surface	BUN-BR-11	TI-2 29.16	2020-2024	$2,209,311
14	Hawthorne	Bent Cap Rehabilitation - Approach Spans	Structural	BUN-HA-08	TI-2 25.94	2020-2024	$3,814,227
15	Morrison	Span Lock and Support Rehabilitation	Mechanical	BUN-MO-02	TI-2 24.45	2020-2024	$1,328,430
16	Hawthorne	Span Lock and Live Load Shoe Rehabilitation	Mechanical	BUN-HA-02	TI-2 22.93	2020-2024	$1,001,567
17	Broadway	Broadway Bridge West Approach Structural Rehabilitation and Paint	Paint	BUN-BR-09	TI-2 21.49	2020-2024	$20,311,661
18	Hawthorne	Operating Machinery, Trunnion, and Trunnion Tower Structural Rehabilitation	Mechanical	BUN-HA-01	TI-2 21.23	2020-2024	$17,914,399
19	Broadway	Bridge Deck / Rail / Illumination Improvements	Driving Surface	BUN-BR-07	TI-2 20.42	2020-2024	$6,130,398
20	Sauvie Island	Roadway Improvements - East Approach	Driving Surface	BUN-SI-02	TI-2 17.28	2020-2024	$1,488,668
21	Hawthorne	Joint Rehabilitation and Replacement - West and East Approaches	Structural	BUN-HA-12	TI-2 17.23	2020-2024	$1,928,296
22	Hawthorne	Structural Rehabilitation of Steel and Concrete Members - River Spans	Structural	BUN-HA-10	TI-2 16.03	2020-2024	$11,961,361
23	Burnside, Broadway, Morrison	Submarine Cable Removal	Electrical and Lighting	BUN-MU-01	TI-2 15.60	2020-2024	$4,552,476
24	Broadway, Burnside, Hawthorne and Morrison	Bicycle and Pedestrian Improvement Project - Design and Construction Phase 1	Accessibility	BUN-MU-05	TI-2 15.14	2020-2024	$16,319,707
25	Broadway, Burnside, Hawthorne and Morrison	Scour Remediation	Structural	BUN-MU-02	TI-2 14.68	2020-2024	$22,302,695

Capital Projects Summary – ALL BRIDGES, ALL PROJECTS							
Project Rank	**Bridge Name (s)**	**Project Name**	**Primary Work Category**	**Project ID #**	**Importance Score**	**Target Construction Time**	**Total Cost at Target Construction Time**
26	Sauvie Island	Roadway and Structural Rehabilitation	Structural	BUN-SI-03	TI-2 12.98	2020-2024	$1,371,606
27	Hawthorne	Hawthorne Bridge Limited Seismic Retrofit	Seismic	BUN-HA-06	TI-3 162.33	2025-2029	$44,886,391
28	Broadway	Broadway Bridge Limited Seismic Retrofit	Seismic	BUN-BR-06	TI-3 88.10	2025-2029	$52,628,358
29	Burnside	Seismic Resiliency (Major Bridge Rehabilitation / Bridge Replacement) - Final Design and Construction	Seismic	BUN-BU-07	TI-3 84.91	2025-2029	$496,070,564
30	Morrison	Morrison Bridge Limited Seismic Retrofit	Seismic	BUN-MO-05	TI-3 69.76	2025-2029	$91,883,919
31	Morrison	Structural Rehabilitation of Steel and Concrete Pier Members - River Spans	Structural	BUN-MO-11	TI-3 46.25	2025-2029	$14,103,949
32	Hawthorne	Roadway, Sign Bridge, Bridge Deck and Illumination Improvements - Approaches	Structural	BUN-HA-07	TI-3 38.96	2025-2029	$25,679,708
33	Hawthorne	Paint and Structural Rehabilitation of Steel and Concrete Members - East Approach	Paint	BUN-HA-11	TI-3 29.52	2025-2029	$35,447,056
34	Morrison	Joint Rehabilitation - West Approach, River Spans and East Approach	Structural	BUN-MO-13	TI-3 22.58	2025-2029	$3,837,233
35	Hawthorne	Bridge Painting and Upgraded Lighting	Paint	BUN-HA-13	TI-3 21.59	2025-2029	$43,328,584
36	Broadway, Burnside, Hawthorne and Morrison	Bicycle and Pedestrian Improvement Project - Design and Construction Phase 2	Accessibility	BUN-MU-06	TI-3 20.31	2025-2029	$16,323,533
37	Broadway	Movable Span Deck Replacement	Driving Surface	BUN-BR-16	TI-3 19.63	2025-2029	$10,148,330

Capital Projects Summary – ALL BRIDGES, ALL PROJECTS							
Project Rank	**Bridge Name (s)**	**Project Name**	**Primary Work Category**	**Project ID #**	**Importance Score**	**Target Construction Time**	**Total Cost at Target Construction Time**
38	Broadway, Burnside, Hawthorne and Morrison	Fender Repair and Installation	Structural	BUN-MU-03	TI-3 14.04	2025-2029	$43,142,056
39	Morrison	Paint, Structural Rehabilitation and Access Improvements - East Approach	Paint	BUN-MO-12	TI-4 36.11	2030-2034	$54,416,301
40	Broadway	Operating Machinery Rehabilitation and Brake Replacement	Mechanical	BUN-BR-01	TI-4 31.52	2030-2034	$2,300,579
41	Morrison	Warning Gate and Sign Bridge Replacement	Electrical and Lighting	BUN-MO-06	TI-4 23.01	2030-2034	$6,631,895
42	Broadway	Electrical System Master Control Switch Installation and Miscellaneous Operator House Improvements	Electrical and Lighting	BUN-BR-03	TI-4 18.66	2030-2034	$307,377
43	Broadway	Bridge Painting - Maintenance of 2002 Paint Project	Paint	BUN-BR-12	TI-4 17.26	2030-2034	$66,631,927
44	Broadway	Bridge Painting - Maintenance of 2015 Paint Project	Paint	BUN-BR-14	TI-4 14.80	2030-2034	$14,891,720
45	Sellwood	Lighting Maintenance	Electrical and Lighting	BUN-SE-01	TI-4 14.26	2030-2034	$326,903
46	Hawthorne	Installation of Remote Operation and Monitoring Equipment	Electrical and Lighting	BUN-HA-04	TI-4 13.58	2030-2034	$2,063,574
47	Hawthorne	ADA Improvements	Accessibility	BUN-HA-14	TI-4 12.02	2030-2034	$3,703,257
48	Morrison	ADA Improvements	Accessibility	BUN-MO-15	TI-4 9.57	2030-2034	$3,703,257
49	Broadway	ADA Improvements	Accessibility	BUN-BR-15	TI-4 9.57	2030-2034	$1,875,456
50	Sellwood	Joint Rehabilitation and Replacement	Structural	BUN-SE-02	TI-4 8.35	2030-2034	$353,055
51	Sauvie Island	Under-bridge Maintenance Traveler System	Structural	BUN-SI-04	TI-4 8.19	2030-2034	$510,786

Capital Projects Summary – ALL BRIDGES, ALL PROJECTS							
Project Rank	**Bridge Name (s)**	**Project Name**	**Primary Work Category**	**Project ID #**	**Importance Score**	**Target Construction Time**	**Total Cost at Target Construction Time**
52	Morrison	Installation of Remote Operation and Monitoring Equipment	Electrical and Lighting	BUN-MO-03	TI-4 8.15	2030-2034	$2,063,574
53	Broadway	Installation of Remote Operation and Monitoring Equipment	Electrical and Lighting	BUN-BR-04	TI-4 8.15	2030-2034	$2,063,574
54	Sauvie Island	Routine Maintenance and Bridge Painting	Paint	BUN-SI-01	TI-4 5.87	2030-2034	$560,741
55	Hawthorne	Warning and Barrier Gate Rehabilitation	Electrical and Lighting	BUN-HA-03	TI-4 3.86	2030-2034	$3,674,718
56	Sellwood	Bridge Maintenance Painting	Paint	BUN-SE-03	TI-4 2.93	2030-2034	$774,760
						TOTAL:	**$1,299,995,854**



Multnomah County Capital Improvement Plan & Program 2010-14
Willamette River Bridge Projects
Public Review Draft

FY 2014-2018 Transportation
Capital Improvement Program

The Transportation Capital Improvement Program (Program) has been developed to implement the capital plan. Where the Transportation Capital Improvement Plan identifies and scores 20-year project needs for Multnomah County's transportation system, the Program identifies anticipated revenue and schedules projects for construction for a 5-year period.

Constantly changing community needs will alter County transportation program priorities over time before all projects can be constructed. The Program is reviewed by the Land Use and Transportation Program staff on an annual basis and full reviews with public input biennially. The 2014-2018 CIPP is based on the best available revenue and cost information and by clear and objective means, establishes a strategy for addressing the highest priority transportation needs for fiscal years from 2014 to 2018.

Projects with the most critical need and fewest development constraints were programmed for priority development. The total cost of projects in the Program update is $76.4 million, excluding the Sellwood Bridge. The County's transportation capital funding capacity for these projects is projected at approximately $61.3 million, based on projected revenues and secured external funds.

The County attempts to leverage external funds whenever possible. Partially-funded projects are those where some funds are available but are insufficient to complete the project. County staff has identified potential sources to leverage and has committed County transportation revenues for that purpose. In addition, funds are set aside to cover other expenses -- remedying safety concerns, repairs, ADA improvements, leveraging private development activities, etc.

Since the 2012 Update of the 2010-2014 CIPP, Multnomah County has received state and regional grants awards for road, bicycle and pedestrian projects, including Arata Road pedestrian and bicycle facilities, and additional state Jobs and Transportation Act funds for Cornelius Pass Road safety enhancements. These new projects and revenues were reflected in the 2012 Program Update.

The Sellwood Bridge Replacement revised cost estimate of $268.8 million is reflected in the 2012 Update, along with current secured funding. Another change to the Willamette River Bridges program for fiscal years 2013-14 include the relocation of the west ramp of the Hawthorne Bridge.

The current CIP is based on the best available revenue and cost information and, by clear and objective means, establishes a strategy for addressing the highest priority transportation needs.

The total capital need identified in the Transportation Capital Improvement Plan for candidate projects totals more than an estimated $1.8 billion.

MULTNOMAH COUNTY FY 2014-2018 TRANSPORTATION CAPITAL

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Capital Debt Service						
257th Avenue@Orient Drive	$288,000	$311,856	$311,856	$311,856	$311,856	$311,856
223rd Ave Railroad Undercrossing	$413,000					
Sellwood Bridge Replacement	$11,700,000	$62,806,121	$9,470,750	$9,469,150	$9,472,650	$9,470,150

Capital Projects and Programs	Total Project Cost	County Funds	External Funds*	County Funds	External Funds*	County Funds	External Funds*	County Funds	External Funds*	County Funds	External Funds*	County Funds	External Funds*
ROADS													
Anticipated Capital Revenue		$ 1,275,000		$ 1,400,000		$ 1,400,000		$ 1,400,000		$ 1,400,000		$ 1,400,000	
Developer Payment In Lieu Of Funds (PILO)													
Road Projects													
Category: Road													
223rd Ave Railroad Undercrossing at I-84	$ 11,534,500	$ 400,000		$ 400,000		$ 400,000		$ 400,000		$ 400,000		$ 400,000	
Wood Village Blvd. Extension (PILO)	$ 920,000	$ 10,000		$ 153,500		$ 630,000	$ 290,000						
Stark Street Reconstruction - Corbeth Ln. – Troutdale Rd. (PILO)	$ 4,004,700	$ 5,000											
Sandy Blvd. COG limits to 1800' east of Fairview Parkway (PILO)	4100000 (Check with Andy on $4.1M)	$ 50,000				$ 32,000		80,000					
Halsey Road Reconstruction (238th - 240th)(ARRA)	$ 450,000			$ 450,000									
Sandy Blvd. 230th to 238th Avenue	$ 1,700,000			$ -				insert difference	insert grant award				
Arata Road, WVB row Multi-modal improvements (Regional and	$ 4,468,201	$ 65,000						1,200,000	3,300,000				
Category: ADA/Sidewalks Infill													
Annual Allotment	$ 25,000					$ 25,000		$ 25,000		$ 25,000		$ 25,000	
SE Troutdale Rd.	$ 75,000	$ 25,000		$ 50,000				70,000					
RFB and Sidewalk Infill (Troutdale, Chapman, Cherry Park)	$ 836,000	$ 236,000		$ 160,000		$ 440,000							
Category: Preservation and Safety													
Cornelius Pass Road (ARRA) (JTA)	$ 4,740,000		$ 1,000,000						750,000				
238th Dr Safety Project (HEP)	$ 346,000		$ 346,000										
Safety and Repair Annual Allotment		$ 100,000		$ 50,000		$ 50,000		$ 50,000		$ 50,000		$ 50,000	
Overlay Program Annual Allotment		$ 500,000		$ 550,000		$ 550,000		$ 1,250,000		$ 550,000		$ 550,000	
Category: Contingency Reserve													
Annual Allotment		$ 200,000		$ 200,000		$ 300,000		$ 300,000		$ 300,000		$ 300,000	
Oxbow Park Road Repair	$ 525,000					$ 50,000	$ 25,000	100,000	375,000				
Newberry Road Slide Repair	$ 286,000	$ 242,000											
Cottrell Road Culvert Repair (Rural STP)									300,000				
Lautourell Falls Bridge Replacement								30,000					
Category : Fish Passage Culverts													
Beaver Creek Culverts (MTIP, USCOE)	$ 1,000,000			$ -	$ -								
Fish Passage Culvert Replacements								200,000		$ 100,000		100000	
Sauvie Island Reeder Road at Dairy Creek Culvert	$ 6,444,477								300,000				
Marine Drive Culvert								350,000					
Cochran Road Culvert Replacement	$ 1,799,500							100,000					
Category: Bicycle and Pedestrian													
Carry-over Funds		$ 334,100		$ 407,920		$ 441,250		$ 370,000		$ 370,000		$ 370,000	
Anticipated Annual Revenue		$ 73,000		$ 77,000									
Bicycle and Pedestrian Projects													
Morrison Bridge Bike/Ped Facility (MTIP) (TE)	$ 2,215,801												
Halsey/Stark Street Sidewalks Project (ARRA)	$ 529,960												
NE Halsey south Sidewalk, Birch Ave to City Park (ARRA, CDBG)	$ 154,000												
Local Match, Annual Contingency						$ 50,000							
Arata Road Multi Use Path								75,000		$ 75,000			
Hawthorne Sidewalks				$ 47,250									
WILLAMETTE RIVER BRIDGES (WRB)													
Anticipated Capital Revenue		$ 2,636,917		$ 2,636,917		$ 2,636,917		$ 2,636,917		$ 2,636,917		$ 2,636,917	
Carry-over Funds		$ 1,859,873		$ 3,100,718		$ 2,580,014		$ 1,506,275		$ 2,492,114		$ 461,995	
WRB Projects													
Sellwood Bridge (State JTA, TIGER)**	$ 307,500,000	$ 57,907,906	**$ 2,681,183**	$ 5,054,985	**$ 25,366,323**	**$ 19,369,806**	**$ 18,640,270**	$ 40,393,819	**$ 9,192,068**	$ 5,690,469	**$ 3,886,524**		
Sellwood continued: Portland contibution					**$ 50,000,000**		**$ 20,000,000**		$ -		**$ 4,500,000**		
Morrison Bridge Main Span (HBP)	$ 10,000,000	$ 94,583	$ 611,435	$ 1,073,783	$ 781,797	$ 511,124							
Morrison Bridge Main Span (HBP) Part 2	$ 7,900,000									$ 89,760	**$ 784,240**	$ 730,505	**$ 6,382,495**
Morrison Bridge Center Locks	$ 300,000							$ 300,000					
Broadway Bridge Rail Wheel Replacement	$ 9,500,000			$ 29,079	**$ 26,093**	$ 156,464	$ 103,353	$ 82,160	**$ 800,000**	$ 852,703	**$ 7,450,148**		
Burnside Rehabilitation	$ 32,000,000			$ 30,518	**$ 3,689**	**$ 93,645**	**$ 55,214**	$ 196,414	**$ 1,912,502**	$ 173,306	**$ 1,514,194**	$ 1,457,769	**$ 12,736,675**
Broadway Bridge Painting (HBP)	$ 9,500,000			$ 55,338	$ -	$ 67,390	$ 17,281	$ 576,489	**$ 5,613,330**	$ 339,956	$ 2,970,225		

External Funding Programs:
ARRA=American Recovery and Reinvestment Act
CBDG=Community Development Block Grant
FTA=Federal Transit Administration Portland Streetcar Project
HBP=Highway Bridge Program
HEP=Hazard Elimination Program
MTIP=Metropolitan Transportation Improvement Program
PILO=Developer Payment In Lieu Of Improvement
TE=Transportation Enhancement
STIP=State Transportation Improvement Program
USCOE=US Army Corps of Engineers

Notes:
* indicates external funding is not fully secured and is contingent on grants, authorizations, development agreements, intergovernmental agreements and/or other external actions.
** $35M secured from JTA Earmark for Sellwood Bridge Replacement, $17.7M TIGER Grant. Project completion is expected in 2016.
BOLD indicates external funding is secured.