

CLACKAMAS COUNTY BOARD OF COMMISSIONERS

Study Session Worksheet

Presentation Date: Dec. 16, 2014 **Approx Start Time:** 11 am **Approx Length:** 30'

Presentation Title: Five-Year Transportation Capital Improvement Program (Five-Year CIP)

Department: Transportation and Development – Engineering Division

Presenters: Mike Bezner, Engineering Manager, and Karen Buehrig, Transportation Planning Supervisor

WHAT ACTION ARE YOU REQUESTING FROM THE BOARD?

Review of the proposed Five-Year Transportation Capital Improvement Program (Five-year CIP) and approval to place it on the agenda for action at a BCC Business Meeting.

EXECUTIVE SUMMARY (why and why now):

The proposed Five-Year Capital Improvement Program (Five-Year CIP) is composed of projects from the 20-year Transportation System Plan (TSP), which was adopted by the Board in January 2014. Since we anticipate that there will only be enough funding for 15% of projects listed in the TSP, the Five-Year CIP lists projects for which funding has been identified or is anticipated over the next five years. It includes fully funded projects and those funded only for preliminary planning and design.

The Five-Year CIP includes major construction projects needed to improve safety and enhance capacity, roughly divided into the following categories:

- Upgrade
- Bridge/culverts
- Safety
- Active transportation
- Intelligent transportation systems (ITS)
- Capital repairs
- Study

Projects in the Five-Year CIP have already been identified as needed in previous plans (the TSP, the Transportation Safety Action Plan [TSAP], the Intelligent Transportation System [ITS] Plan), have been identified through the bridge and culvert review system, or emerge because of needed repairs.

In order for any projects to be constructed, they need to be matched to a specific funding source and programmed for design, engineering and construction. The proposed Five-Year CIP details the work schedule over the next five years and specifies

the funding source for each project, connecting transportation planning to the County's capital construction budget.

Project funding falls into several categories:

- Projects within the Clackamas Town Center and North Clackamas Revitalization Area urban renewal districts funded through tax-increment financing funds;
- Projects that have received funding from outside sources, such as the State Transportation Improvement Program (STIP) and the Metropolitan Transportation Improvement Program (MTIP);
- Projects that are currently underway and will be completed within the five-year time frame
- Bridge, culvert and repair projects where other sources of funding have been identified.

FINANCIAL IMPLICATIONS:

The County Road Fund (the gas tax and other revenues directed to the County) is only anticipated to provide matching funds for the Five-Year CIP projects and for future projects. The attached report includes a brief overview of sources that have been used in the past, as well as a list matching projects to possible grant funding sources (Table B).

All the projects in the Five-Year CIP have been reviewed and previously approved by the BCC through review of grant applications, the Development Agency work program or other project funding requests. The impact to the County Road Fund is anticipated to be approximately \$3.28 million over the next five years.

LEGAL/POLICY REQUIREMENTS:

N/A

PUBLIC/GOVERNMENTAL PARTICIPATION:

The public was provided the opportunity to comment on the proposed Five-Year CIP between October 28 and November 14, 2014. A news release advertising this opportunity was sent to the media, posted on social media and sent to CPOs, Hamlets and Villages. The proposed plan was posted on the County website with information on how to comment or ask questions. In addition, staff attended the following meetings -- Development Liaison Committee, October 21; Community Leaders, October 28; Pedestrian and Bikeway Committee, Nov. 4; and Traffic Safety Commission, November 5 -- to share information and receive input.

Only one comment was received -- inquiring how 'near misses' can be accounted for in determining the safety of the Beaver Creek Rd / Leland Rd / Kamrath Rd intersection. A need for an improvement at this intersection is identified on the 20-year Capital Project list. While there is no system in place to track "near miss" incidents, the project will move forward when it can be matched with a funding source.

OPTIONS:

- Approve the proposed Five-Year CIP at a future business meeting
- Direct staff to update the proposed Five-Year CIP per BCC discussion and bring it back to the BCC for further review.

RECOMMENDATION:


Staff recommends that the BCC approve the proposed Five-Year CIP at a future business meeting.

ATTACHMENTS:

Five-Year Transportation Capital Improvement Program, 2014-15 - 2018-19

SUBMITTED BY:

Division Director/Head Approval
Department Director/Head Approval
County Administrator Approval



M. B. Cartmill 12-10-14

For information on this issue or copies of attachments, please contact Karen Buehrig @ 503-742-4683

Five-Year Transportation Capital Improvement Program

2014-15 – 2018-19



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TRANSPORTATION SYSTEM PLANNING AND PROJECT PROGRAMMING

Clackamas County is responsible for an extensive transportation network throughout the County. This network is part of a larger regional transportation system that supports the needs of the people and businesses in the County. The vast majority of the County road system (93.6%) is located outside of cities. Approximately 90 miles of County roads are maintained inside cities with the largest portion of these roads in Happy Valley and Damascus.

The public ownership of roads in Clackamas County is as follows:

- City -- 806 miles
- County -- 1,400 miles
- State -- 222 miles

There are also many miles of local access roads, private roads and forest service roads.

The entire County transportation network encompasses a variety of structures as shown below, as well as a substantial system of sidewalks and bike lanes.

- 1,400 miles of road
- 700 miles of road striping
- 2,400 miles of gravel shoulder
- 26,900 traffic signs
- 111,000 feet of guardrail
- 180 bridges
- 8,100 culverts
- 1,900 manholes
- 9,300 catch basins
- 1 ferry

The major capital improvements needed for the transportation system, including projects needed to increase road capacity, relieve congestion, improve safety, serve new development, support economic growth and provide options to traveling by automobile, are identified within the Clackamas County Transportation System Plan (TSP), which is Chapter 5 of the County Comprehensive Plan. As defined by the TSP, transportation capital projects are primarily located on arterial and collector roads. Similarly, federal transportation funding is only available for capital improvement projects located on roads that are classified as arterials and collectors, with an emphasis on maintaining the operations of the principal arterial system.

20-Year Capital Improvement Plan (20-Year CIP)

The 20-Year CIP was developed and adopted as a part of the TSP. It is divided into three lists, reflecting the expectation that there will not be enough funding for all projects within the 20-year time frame.

- **20-Year Capital Projects:** The prioritized list of needed transportation projects that can reasonably be undertaken given the current estimates of available funding
- **Preferred Capital Projects:** A second group of needed, prioritized transportation projects that the County would undertake if additional funding becomes available during the next 20 years
- **Long-Term Capital Projects:** The remainder of the transportation projects needed to meet the transportation needs of the County in the next 20 years, but not expected to be funded or constructed by the County

5-Year Capital Improvement Program (5-Year CIP)

The 5-Year CIP is comprised of projects from the 20-Year CIP for which funding has been identified or is anticipated over the next five years. This includes fully funded projects as well as those that are funded only for preliminary planning and design. It details the schedule for work in the next five years, creating the five-year program. In addition, the 5-Year CIP specifies the funding source for each project, connecting transportation planning to the County's capital construction budget.

The 5-Year CIP also includes projects identified in the Transportation Safety Action Plan (TSAP) and the Intelligent Transportation System (ITS) Plan, projects identified through the bridge and culvert review system, and projects that emerge because of needed repairs. It is updated periodically to provide a more detailed implementation of the capital project priorities identified in the TSP. Policy 5.CC.2 of the TSP directly addresses this need:

Maintain a current and complete 5-Year Capital Improvement Program (CIP), which contains the programmed transportation projects in priority order, with estimated costs and assigned responsibility for funding. Update and adopt the 5-Year Capital Improvement Program periodically.

Finally, the 5 year CIP supports the County's concurrency policy (ZDO Section 1007.09, 3/1/2014). The transportation portion of this policy states that "approval of a development shall be granted only if transportation facilities are adequate or will be made adequate in a timely manner," requiring that the needed improvements be fully funded in the five-year program and scheduled for construction within three years of land use approval.

Capital Project Categories

The broadly defined capital project descriptions used in the TSP, the 20-Year CIP and the 5-Year CIP allow for the development of individual projects within a larger project. These project categories are loosely based on the road user or system that the project benefits or impacts (e.g., bicycle project, pedestrian project or transit project), as follows:

1. **Upgrade** -- Projects that add vehicle capacity to an existing roadway or intersection. This may require the reconstruction of any existing sidewalks and/or bicycle lanes. Other examples include adding intersection turn lanes or installing a traffic signal. In the 20-year CIP, the "upgrade" projects are separated into urban and rural projects, depending on if they are located inside or outside the Urban Growth Boundary (UGB).

Some projects have a "new roadway" designation, when an extension or a new road is needed to accommodate vehicle capacity or needed connectivity.

2. **Bridge/Culverts** – Constructing, replacing or upgrading a bridge or culvert
3. **Safety** – Projects or studies focused on reducing crashes and/or the risk for crashes, including railroad crossings. The Clackamas County Transportation Safety Action Plan (TSAP) outlines a strategy to build and implement a county-wide safety culture with the ultimate goal of reducing transportation-related injuries and fatalities. Policy and action items set forth in the plan will achieve the desired goals when implemented; however, successful implementation depends upon a number of factors, including strong safety leadership at all levels, cohesive

safety partnerships, funding and working together toward a common goal. Success will result in reduced injuries and fatalities on County roadways.

Appendix A is a list of projects that support the TSAP. In order to make the needed investments, these projects will have to be matched to a funding source so that they can be programmed into the 5 year Capital Improvement Program.

4. **Active Transportation** - Projects located in both the urban and rural area. Active Transportation upgrade projects in the UGB add needed sidewalks, bicycle lanes or multi-use paths. Projects outside the UGB include those that add paved shoulders or multi-use paths. There are also more general projects that add needed facilities such as way-finding signage.
5. **Intelligent Transportation Systems (ITS)** – Projects that incorporate ITS treatments such as coordinated signal systems. The Clackamas County ITS Action Plan includes a range of projects that address the needs of the region, grouped into the following categories:
 - Traffic Management and Operations (TMO)
 - Multimodal Operations (MMO)
 - Traveler Information (TI)
 - Data Collection and Management (DCM)
 - Incident and Emergency Management (IM)
 - Maintenance and Construction Management (MCM)
6. **Repairs** – Capital repairs of major damage caused by storms, flooding, landslides or other natural events that damage portions of the transportation system
7. **Study** – Future transportation studies to be undertaken as part of the implementation of the TSP. The TSP identifies a number of transportation planning efforts needed to provide additional details on capital project needs in specific areas of the County.

5-year Capital Improvement Program Project List
FY 14/15 - FY 18/19

Project Category	Map #	Prospectus #	Project Name	Project Extent	Description	Funding Source	Cost Estimate (\$2014)	Anticipated Road Fund Match	FY-14/15	FY-15/16	FY-16/17	FY-17/18	FY-18/19
1-Upgrade	1127	None	Union Mills (turn lane)	Union Mills Road at Hwy 213	Intersection with Hwy 213 – Add turn lane for logging trucks	STIP - Enhance; Road Fund Match	\$808,004	\$82,982			X	X	
1-Upgrade	2000	30320	Bell Ave Improvements	Johnson Creek Boulevard to King Road	Improve to minor arterial standards, add sidewalks, bicycle lanes and stormwater control.	Tax Increment Financing	\$2,100,000		X	X			
1-Upgrade	1046	30098	Sunnyside Road and Stevens Intersection Enhancements	Sunnyside Road and Stevens Street	Intersection improvements, such as additional turn lanes, turn lane extensions, and/or signal timing modifications	Tax Increment Financing	\$2,000,000		X	X			
1-Upgrade	101	30313	70th Ave Improvements	King Boulevard to Monroe Street	Improve 70th Ave through repair of road base, repaving, installation of sidewalks, safety facilities, storm water facilities and/or landscaping or any combination of the aforementioned improvements	Tax Increment Financing	\$550,000		X				
1-Upgrade	1042	30002	Otty Road Realignment	Otty Road @ 8nd Ave (OR 213)	Realign Otty St with Otty Road at OR 213; install dual west bound left turn lanes; install flashing yellow arrow for left turns on northbound and southbound approaches	Tax Increment Financing	\$1,600,000			X	X		
1-Upgrade	1034 2008	None	Linwood Ave Improvements	Johnson Creek Boulevard to Monroe Street	Improve to minor arterial standards, add sidewalks, bicycle lanes and stormwater control.	Tax Increment Financing	\$2,100,000					X	X
1-Upgrade	1035 1036	None	Monroe St Improvements	60th Ave to Fuller Road	Improve to minor arterial standards, add sidewalks, bicycle lanes and stormwater control. First Phase Project Planning - Transportation Growth Management Grant	Tax Increment Financing; TGM Grant	\$150,000			X	X	X	
1-Upgrade - New Roadway	1038	30038	Monterey Extension	82nd to Fuller	The project will extend SE Monterey Avenue between SE 82nd Avenue and SE Fuller Road. The project also includes a small bridge over Phillips Creek.	Tax Increment Financing	\$7,200,000		X	X			
1-Upgrade - New Roadway	1012	None	Boyer Extension West	82nd to Fuller	Construct a new 2 lane roadway with turn lanes at OR 213 and Fuller Road, bikeways and pedestrian facilities; install flashing yellow arrow for left turns on northbound and southbound approaches at OR 213 intersection	Tax Increment Financing	\$3,700,000			X	X		
1-Upgrade - New Roadway ODOT	4036	22215	Sunrise JTA Project Coordination IGA #29149	OR 224 to OR 212 / 224 @ 122nd Avenue	Support ODOT during the construction of County facilities associated with the Sunrise JTA project. This includes construction engineering services for Minuteman Way, inspection of 122nd Ave, Ford St, 125th Ct and the new 125th Ct cul-de-sac, Herbert Ct, 82nd Dr, Lawnfield Rd, and Mather Rd. This project will also include ODOT/County coordination activities as required for the successful completion of the Sunrise JTA project including but not limited to traffic engineering and traffic control planning.	State JTA Funding	\$700,000		X	X			
2-Bridge/Culverts	102	22144	Salmon River Bridge	Elk Park Road	Replace the existing one-lane bridge with a new two lane bridge.	Highway Bridge Replacement & Rehab Grant; Road Fund Match	\$2,496,273	\$219,154	X	X			
2-Bridge/Culverts	1047	22196	Tolbert Street	SE 82nd Drive to Minuteman Way	Extend and improve Tolbert Street from 82nd Drive to Minuteman Way by adding a traffic signal to the existing intersection of Tolbert Street and 82nd Drive, a new bridge over the Union Pacific Railroad (UPRR) mainline tracks, a new intersection at Minuteman Way and the Camp Withycombe main gate, street lighting, bikelanes, and sidewalks.	State JTA Funding	\$20,000,000			X	X		
2-Bridge/Culverts	103	22195	Pudding River Bridge	Whiskey Hill Road	Construction of a new bridge, 32 feet wide, spanning the river inside of the current curve.	STP Grant; Federal Funds; Highway Bridge Replacement & Rehab Grant, Road Fund Match	\$8,773,292	\$903,842	X	X			

5-year Capital Improvement Program Project List

FY 14/15 - FY 18/19

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2-Bridge/Culverts	3020	None	Johnson Creek Crossing on Linwood Ave	Linwood Ave	Reconstruct and widen to accommodate sidewalks and bikelanes	Tax Increment financing	TBD					X	
2-Bridge/Culverts	1029 1031	None	Johnson Creek Crossing on Bell Ave	Bell Ave	Reconstruct and widen to accommodate sidewalks and bikelanes	Tax Increment financing	TBD					X	
3-Safety	1044	22194	HWY 224 @ Springwater - Temporary Signal	Intersection of Highway 224 & Springwater Road	install a temporary traffic signal at the intersection of Highway 224 and Springwater Road.	OTIA, SDC	\$588,969		X				
3-Safety	1024 2014 4031	30003	Southwest Connector Safety Improvements	OR 213 / Sunnyside Road and Harmony Road	Potential projects are currently being evaluated. The focus is on projects that improve safety and mobility of motorists, pedestrian and cyclists in this area.	Tax Increment Financing	\$15,000,000		X	X	X		
3-Safety	1021		Fuller Road / King Rd Intersection	Fuller Road / King Rd Intersection	Restrict access to right-in/right-out only	Tax increment Financing	\$255,000			X	X		
3-Safety ADA	1025		I-205 Multi-Use Path Connection - ADA ramps		Construct ADA Compliant access to commercial area from I-205 multi-use path	Justice Court	\$80,000				X		
3-Safety- Road Safety Audit Y1	1067, 1118, 1119, 1087 and 1090		RSA - Jennings Ave, Redland Road and Stafford Road		Perform road safety audit or transportation safety review to identify appropriate safety improvements	Justice Court, Grant	\$210,000			X			
3-Safety- Road Safety Audit Y2	1027, 1070, 1060, 1113, and 1129		RSA - Johnson Creek Blvd, Oatfield Road, Aldercrest Dr, Maplelane Rd and Upper Highland Road		Perform road safety audit or transportation safety review to identify appropriate safety improvements	Justice Court, Grant	\$230,000				X		
3-Safety- Road Safety Audit Y3	1002, 1095, 1096		RSA - 122nd Ave and Beaver creek Road		Perform road safety audit or transportation safety review to identify appropriate safety improvements	Justice Court, Grant	\$135,000					X	
3-Safety- Road Safety Audit Y4	1052 and 1048		RSA Compton Road		Perform road safety audit or transportation safety review to identify appropriate safety improvements	Justice Court, Grant	\$85,000						X
3-Safety- RSA Implementation	1001		RSA - Canby Marquam RSA Recommendations	13th to Highway 211	Implement low/medium cost improvements per Canby Marquam RSA	Justice Court, Grant	\$200,000			X	X	X	X
3-Safety- RSA Implementation	1001		RSA -Beavercreek Recommendations	OC Limits to Furguson	Implement low/medium cost improvements per Beavercreek RSA	Justice Court, Grant	\$100,000			X	X		
3-Safety-Fix It	117		SE EAGLE CREEK RD, S EADEN RD, S CANBY-MARQUAM HWY, S UNION MILLS RD, S MOLALLA AVE, S BAKERS FERRY RD, S SPRINGWATER RD SW , STAFFORD RD- 30013-22228, SW PETES MOUNTAIN RD/HOFFMAN RD, S BEAVERCREEK RD, S HENRICI RD, S SAWTELL RD, S NEW ERA RD-OLD 31009, S UPPER HIGHLAND RD, SE EAGLE CREEK RD, S CENTRAL POINT RD	Rural Area	Curve signing, delineation, centerline rumble strips	HSIP	\$600,000			X	X		
4-Active Transportation	1068	None	Jennings Ave - Sidewalk and Bike lanes (consider adding a RSA component)	McLoughlin Blvd to Oatfield	The project will construct curb tight sidewalk on the north side of Jennings Avenue and bike lanes on both sides. The widening of the roadway to accommodate the bike lanes and sidewalk will require general excavation, rock excavation and new water quality and detention facilities, including new storm water collection infrastructure. The project will also require the removal and construction of a retaining wall and replacement of an existing guardrail.	MTIP - Regional Flexible Funds	\$3,806,673	\$390,945				X	X

5-year Capital Improvement Program Project List
FY 14/15 - FY 18/19

Project Category	Map #	Prospectus #	Project Name	Project Extent	Description	Funding Source	Cost Estimate (\$2014)	Anticipated Road Fund Match	FY-14/15	FY-15/16	FY-16/17	FY-17/18	FY-18/19
4-Active Transportation	107	22223	RTO Wayfinding Project	Clackamas Regional Center Area	The project will develop and implement a comprehensive wayfinding system for the Clackamas Regional Center (CRC) area.	RTO Grant, Road Fund match	\$150,000	\$15,405	X				
4-Active Transportation	1003 1005	22200	SE 122nd & 132nd Sidewalks	SE 122nd & 132nd between Sunnyside and Hubbard	Construct sidewalk to fill gaps in the pedestrian system on 122nd and 132nd and near several schools.	TE Grant; Road Fund match	\$950,119	\$342,581		X			
4-Active Transportation - ITS	108	22179	Harmony Road ITS & Pedestrian Improvements	Harmony Road - Linwood to 82nd	Construct various signal improvements at 82nd Avenue/Harmony Road/Sunnyside Road, Harmony Road/ Fuller Road, Harmony Road/ NCPRD Access, and Harmony Road/ Linwood Avenue/ Railroad Avenue. Install sidewalk on the west side of 82nd Avenue from Harmony Road to Sunnybrook Boulevard on Sunnyside Road from Clackamas Town Center to 82nd Avenue, on Harmony Road from 82nd Avenue to Clackamas Community College and connect multiuse path from Clackamas Town Center to 82nd Avenue. Install fiberoptic communication from 82nd Avenue to Linwood Avenue. Install ADA improvements at various locations.	Tax Increment Financing; Federal Funds; STP Funds; Road Fund match	\$1,694,931	\$196,239		X			
5-ITS	110	22218	Clackamas County Regional Freight ITS Project Phase 1 – Planning and Design and Phase 2 A- Construction	Clackamas Industrial Area to Wilsonville	The Freight ITS project will construct ITS improvements in the following freight corridors/employment areas: 1) OR 224 (Milwaukie Expressway); 2) OR 212 / 224 Clackamas Highway; 3) 82nd Drive between the Gladstone Interchange and OR 213 (82nd Avenue); 4)The City of Wilsonville; and 5) Other areas identified in the planning process	Regional Flexible Funds, Road Fund match	\$880,419	\$171,552		X	X		
5-ITS	111	None	Clackamas County Regional Freight Its Project - Phase 2B- Constructions	Clackamas Industrial Area - Wilsonville	The Freight ITS project will construct ITS improvements in the following freight corridors/employment areas: 1) OR 224 (Milwaukie Expressway); 2) OR 212 / 224 Clackamas Highway; 3) 82nd Drive between the Gladstone Interchange and OR 213 (82nd Avenue); 4)The City of Wilsonville; and 5) Other areas identified in the planning process	Regional Flexible Funds; Road Fund match	\$1,200,000	\$123,240			X	X	
5-ITS	3027	22219	Sunnyside Adaptive Signal System	Sunnyside Road from 8600 block to 122nd Avenue	Deploy Adaptive Signal Control Technology (smarter signals) along Sunnyside Road from 8600 block to 122nd Avenue.	STP Grant, Road Fund match	\$558,000	\$109,350	X	X			
6-Repairs	113	22201	East Barlow Trail Road	Mile Post 6.0	Replace the washed away riprap revetment with Class 2000 riprap. The estimated length of the revetment is approximately 375 feet long and a total estimated quantity of 4,500 cubic yards.	Federal Emergency Relief Program; Federal Funds; Road Fund match	\$1,207,064	\$166,196	X				
6-Repairs	115	22185	Henrici Road at Athens Drive	500 ft. West of Athens Drive	Landslide prevention. Stormwater runoff from the adjacent hillsides will be collected in stormwater infrastructure placed upstream of Henrici Road and the runoff will be conveyed to a ditch along Athens Drive or conveyed through stormwater pipes to a stormwater outlet near the creek leading to Beaver Lake.	Federal Emergency Relief Program; Federal Funds; Road Fund match	\$732,578	\$121,492	X				
6-Repairs	112	22209	Deep Creek Bridge Phase 2	Bridge 06299 MP 0.43 Amisigger Road, 0.12 miles north of Judd	Required mitigation from DSL for the emergency repair and constructing engineered log jams to move Deep Creek back into its original channel away from the bridge abutment	Road Fund	\$485,063	\$485,063	X	X	X		
7-Study	116	22220	Lolo Pass Access Alternative Study	Lolo Pass Corridor between US-26 and Aschoff Road	The study will evaluate access alternatives in the Lolo Pass Corridor to address future flood damage issues	Western Federal Lands	\$520,000		X				
						Other	\$43,615,340						
						Road Fund	\$3,364,595						
						Tax Increment Financing	\$35,463,004						
						TOTAL	\$82,442,939	\$3,364,595					

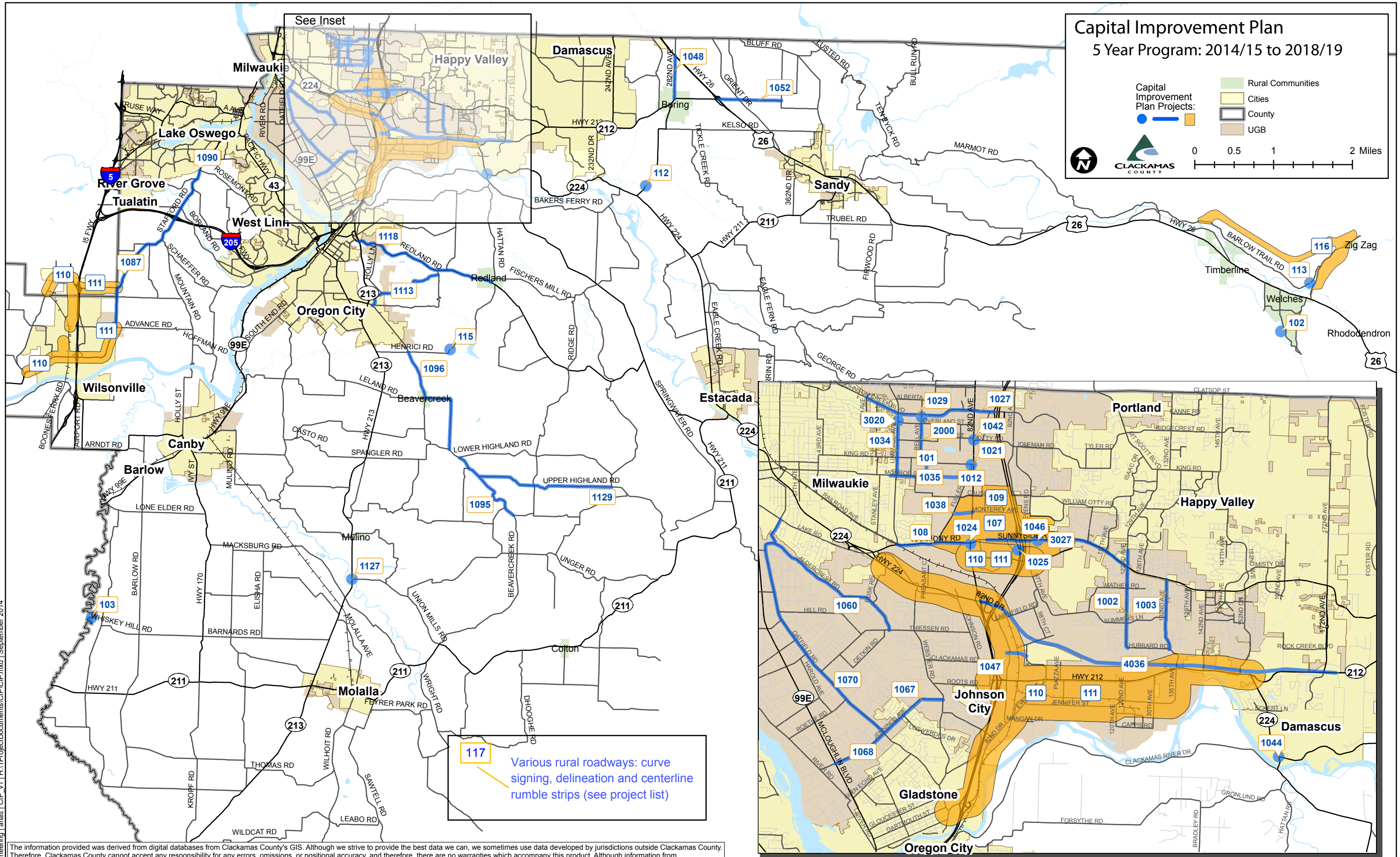
Capital Improvement Plan

5 Year Program: 2014/15 to 2018/19

- Capital Improvement Plan Projects:
- Highway
 - Local Road
 - Rural Communities
 - Cities
 - County
 - UGB



0 0.5 1 2 Miles



117 Various rural roadways: curve signing, delineation and centerline rumble strips (see project list)

Engineering | aflat | CIP_v1 | H:\1\ProjectDocuments\CIP\CIP.mxd | September 2014

The information provided was derived from digital databases from Clackamas County's GIS. Although we strive to provide the best data we can, we sometimes use data developed by jurisdictions outside Clackamas County. Therefore, Clackamas County cannot accept any responsibility for any errors, omissions, or positional accuracy, and therefore, there are no warranties which accompany this product. Although information from Land Surveys may have been used in the creation of this product, in no way does this product represent or constitute a Land Survey. Users are strongly cautioned to verify all information before making any decisions.

FUNDING SOURCES AND FUTURE PROJECTS

Projects in the 5-Year CIP are funded through a variety of sources, connecting transportation planning to the County's capital construction budget. To be on the 5-Year CIP list, a project must have an identified funding source.

A 20-year funding forecast was completed in October 2012 as a part of the TSP update process. The complete memo outlines funding expected to be received over the next 20 years. One of the key themes is that ***the County Road Fund is only anticipated to play a minor role (as match money for other funding sources) in future capital projects.***

Since the Road Fund will be used only to match funds from other sources, reliance upon other funding sources for capital projects has increased. To help match projects to appropriate funding sources, recently used sources are reviewed below and potential projects for the next funding cycle are identified. **Table B: Key Projects Matched with Potential Grant Funding Sources** highlights projects in the Transportation System Plan (TSP) that should be considered when the next grant cycle is open. While identification of potential projects is needed as the programs become open for applications, ultimately the selection of appropriate projects will be determined when the application is developed.

Local Funding Sources

Clackamas County Road Fund

The County Road Fund is made up of revenue received through the Oregon State Highway Trust Fund from state gas tax, weight-mile tax, vehicle registration fees (VRF) and vehicle titling fees. These funds are distributed to the County based on allocation schedules set out in state law.

The state constitution and Oregon Revised Statutes require State Highway Trust Fund revenue to be used "...for the construction, reconstruction, improvement, repair, maintenance, operation and use of public highways, roads, and streets..." (including a mandatory minimum 1% annual expenditure on bicycle and pedestrian facilities). Road fund money is often used as the local contribution (match) for projects funded by federal, state and other local funding programs.

The County Road Fund also includes federal funds from the Secure Rural Schools program. Since 2001, approximately 17.6% of funding for rural transportation projects and 3.4% of funding for urban transportation projects has come from the Road Fund.

Transportation System Development Charges (TSDCs)

TSDCs are one-time assessments on new developments based on the number of vehicle trips the developments are forecast to generate. This equitably spreads the cost of increased capacity road projects to new development because new and expanding developments rely on improvements to the road network provided through the County's capital improvement program. These funds are dedicated to projects that improve capacity, may not be used for maintenance or multi-modal projects, and are restricted to projects on an adopted list within a geographic area.

Improved capacity can include operational efficiencies (e.g., signalization) that increase the number of vehicles accommodated by the system or added lane miles.

Urban Renewal (Tax Increment Financing [TIF])

Urban renewal raises money for public improvements through Tax Increment Financing (TIF) in blighted areas. Local investments focus on creating jobs, helping businesses, improving communities and increasing the tax base to result in long-term financial stability for local service providers and property owners. The use of funds from urban renewal districts is customized to meet the needs of the approved plan for the urban renewal area.

Expenditures are restricted to making improvements within the geographic limits of the urban renewal area in which the funds were raised, and focus on funding infrastructure consistent with the adopted urban renewal plan. Urban renewal frequently provides matching funds for money from federal, state, regional and other local sources.

There are four County urban renewal districts. Only one, the North Clackamas Revitalization Area (NCRA), still collects revenue and only two, the Clackamas Town Center District and the NCRA, are forecast to invest revenue in transportation projects over the next 20 years.

Safe Communities

Reducing Injuries and Fatalities in Clackamas County is the mission of the Clackamas Safe Communities Program, emphasizing transportation-related crashes as a leading injury prevention issue. The program's approach to crash reduction includes using the "5E's" (Education, Enforcement, Engineering, Emergency Medical Response and Evaluation). Efforts include selected enforcement, safety education and safety projects.

Federal, State and Regional Funding Sources

Federal Highway Trust Fund-Moving Ahead for Progress in the 21st Century (MAP 21)

Projects on National Highway System facilities can access federal funding. Periodically, federal legislation reauthorizes federal highway, transit and transportation safety programs funded through the Highway Trust Fund. Between 2005 and 2012, SAFETEA-LU was the reauthorization law. The current multi-year reauthorization, MAP-21, was enacted in 2014 and is set to expire in May 2015. MAP-21, which substantially transformed the federal program from previous reauthorizations, contains the following federal aid highway programs and mass transit funding:

- National Highway Performance Program
- Surface Transportation Program (STP)
- Highway Safety Improvement Program (HSIP)
- Congestion Mitigation & Air Quality Improvement Program (CMAQ)
- Metropolitan Transportation Planning
- Transportation Alternatives
- Mass Transit

Local projects on the National Highway System can apply for funding through programs managed directly by federal agencies (TIGER and Federal Lands Access), the state (the STIP, Highway Safety Program and the Highway Bridge Program) or programs directed through the local Metropolitan Planning Organization (Metro), such as the Metropolitan Transportation Improvement Program (MTIP).

Oregon State Highway Fund

Highway revenues in the State of Oregon have several major sources:

- Motor vehicle registration and title fees
- Drivers license fees
- Motor vehicle fuel taxes
- Weight-mile taxes

Net revenues from the above taxes and fees are deposited into an account known as the State Highway Fund. With minor exceptions, the [Oregon Constitution \(Article IX, Section 3a\)](#) dedicates highway revenues for the construction, improvement, maintenance, operation and use of public highways, roads, streets and roadside rest areas.

Transportation Investment Generating Economic Recovery Discretionary Grant (TIGER)

The TIGER program provides a unique opportunity for the US Department of Transportation to invest in road, rail, transit and port projects that promise to achieve critical national objectives. Since 2009, Congress has dedicated more than \$4.1 billion for six rounds of TIGER to fund projects that have a significant impact on the nation, a region or a metropolitan area.

Each project needs to be multi-modal, multi-jurisdictional or otherwise challenging to fund through existing programs. TIGER uses a rigorous process to select projects with exceptional benefits that explore ways to deliver projects faster and save on construction costs, and that invest in the nation's infrastructure to make communities more livable and sustainable. In urban areas, the minimum project amount is \$10 million; in rural areas the minimum project amount is \$1 million. Projects must be regionally significant and closely aligned with economic benefits.

Western Federal Lands Access Program

The Federal Lands Access Program was created by MAP-21 to improve access to federal lands. The program is directed towards public highways, roads, bridges, trails and transit systems that are under state, county, town, township, tribal, municipal or local government jurisdiction or maintenance and provide access to federal lands. The following activities are eligible for consideration:

- Preventive maintenance, rehabilitation, restoration, construction and reconstruction
- Adjacent vehicular parking areas
- Acquisition of necessary scenic easements and scenic or historic sites
- Provisions for pedestrian and bicycles
- Environmental mitigation in or adjacent to federal land to improve public safety and reduce vehicle/wildlife mortality while maintaining habitat connectivity
- Construction and reconstruction of roadside rest areas, including sanitary and water facilities
- Operation and maintenance of transit facilities

Proposed projects must be located on a public highway, road, bridge, trail or transit system that is located on, is adjacent to or provides access to federal lands for which title or maintenance responsibility is vested in a state, county, town, township, tribal, municipal or local government.

FHWA Accelerated Innovation Deployment (AID) Demonstration Program

AID provides funding as an incentive for eligible entities to accelerate the implementation and adoption of innovation in highway transportation. FHWA encourages the use of AID Demonstration funds to promote the deployment of the *Every Day Counts* (EDC) initiatives, which provide ways to improve highway planning, design, construction and operation.

This program is one aspect of the multi-faceted Technology and Innovation Deployment Program (TIDP) approach that provides funding and other resources to offset the risk of trying an innovation. AID Demonstration funds are available for any project eligible for assistance under Title 23, United States Code. Eligible projects may involve any aspect of highway transportation that addresses TIDP goals, and must include proven innovative practices or technologies such as those included in the EDC initiative. Innovations may include infrastructure and non-infrastructure strategies or activities that the applicant or sub-recipient intends to implement and adopt as a significant improvement from the conventional practice.

FHWA Emergency Relief Program

Title 23, United States Code, Section 125, authorizes a special program from the Highway Trust Fund for the repair or reconstruction of federal-aid highways and roads on federal lands that have suffered serious damage as a result of natural disasters or catastrophic failures from an external cause. This program, commonly referred to as the emergency relief or ER program, supplements the commitment of resources by states, their political subdivisions or other federal agencies to help pay for unusually heavy expenses resulting from extraordinary conditions.

The applicability of the ER program to a natural disaster is based on the extent and intensity of the disaster. Damage to highways must be severe, occur over a wide area and result in unusually high expenses to the highway agency. Applicability of ER to a catastrophic failure is based on the criteria that the failure was not the result of an inherent flaw in the facility, but was sudden, caused a disastrous impact on transportation services and resulted in unusually high expenses to the highway agency.

This program has been used to fund projects in Clackamas County needed due to federal emergencies, such as Lolo Pass / Zig Zag River bridge, Henrici Road and E. Barlow Trail Road.

Statewide Transportation Improvement Program (STIP)

The Statewide Transportation Improvement Program, known as the STIP, is Oregon's four-year transportation capital improvement program. The STIP identifies the funding for, and scheduling of, transportation projects and programs on federal, state, city and county transportation systems, multimodal projects (highway, passenger rail, freight, public transit, bicycle and pedestrian) and projects in the National Parks, National Forests and Indian tribal lands.

The STIP includes a process for identifying projects that receive federal funds (MAP-21 programs) as well as a portion of Oregon State Highway Fund. The current STIP process divides funding into two main categories -- Enhance and Fix-it.

- *Enhance*: Enhance, expand or improve the transportation system. Project activities eligible include bicycle and/or pedestrian facilities; Development STIP (D-STIP);

modernization projects that add capacity to the system; most projects previously eligible for Transportation Enhancement funds; projects eligible for Flex Funds; protective right-of-way purchases, public transportation, Safe Routes to Schools, Scenic Byways, Transportation Alternatives and Transportation Demand Management (TDM).

- *Fix-It*: Includes all the capital funding categories that maintain or fix ODOT's portion of the transportation system. The categories do not include non-capital maintenance and operations programs because they are not included in the STIP.

Uncertainty with regards to the level of future STIP funding has lead ODOT to postpone for a year the next round of the STIP allocation process.

Highway Safety Improvement Program (HSIP)

This ODOT program has been expanded under MAP-21 to incorporate the functions and funding that were previously contained in the High Risk Rural Roads Program. The HSIP has been changed from being focused on ODOT facilities to being available for projects on local agency roads (non-ODOT facilities). The goal is to increase awareness of safety on all roads, promote best practices for infrastructure safety, complement behavioral safety efforts, and focus limited resources to reduce fatal and serious injury crashes. The program is data-driven to achieve the greatest benefits in crash reduction and was developed to be blind to jurisdiction. While ODOT is currently working to transition the safety program, the completed jurisdictionally-blind safety program is expected to start in 2017. During the transition, funding for local agency roads will be allocated to primarily focus on a few systemic low-cost fixes that can be implemented in the shorter timeframe.

Highway Bridge Program (HBP)

This program has been moved to the National Highway Performance Program and the Surface Transportation Program as part of the MAP 21 changes. However, bridge improvement and replacement remain a major priority of ODOT. The next round of funding focused on bridges is expected in spring 2015. To qualify for this funding, a bridge typically needs to have a sufficiency rating of less than 50.

Oregon Watershed Enhancement Board (OWEB)

The OWEB is a state agency that provides grants to help Oregonians take care of local streams, rivers, wetlands and natural areas. Community members and landowners use scientific criteria to decide jointly what needs to be done to conserve and improve rivers and natural habitat in the places where they live. OWEB grants are funded from the Oregon Lottery, federal dollars and salmon license plate revenue.

OWEB will be accepting applications for restoration, technical assistance and land acquisition. Applications submitted for the October 2014 grant cycle will be considered for Board funding decisions at its April 28-29, 2015, meeting. These grants support voluntary efforts by Oregonians to protect and restore healthy watersheds, including actions in support of the Oregon Plan for Salmon and Watersheds, and the Oregon Conservation Strategy.

Fish America Foundation

Fish America, in partnership with the NOAA Restoration Center, awards grants to local communities and government agencies to restore habitat for marine and anadromous fish species. Successful proposals have community-based restoration efforts with outreach to the local communities. These grants are small, but help with bridge scour projects.

National Fish Passage Program - US Fish and Wildlife

The U.S. Fish and Wildlife Service National Fish Passage Program is a voluntary, non-regulatory conservation assistance program that provides financial and technical support to remove or bypass artificial barriers that impede the movement of fish and other aquatic species and contribute to their decline. The program implements fish passage improvement-based, cost-shared projects to protect, restore or enhance habitats that support fish and other aquatic species and their populations. All or a portion of project funds may be transferred to partner organizations through cooperative agreements if the Service lacks the capability to implement a project.

Jobs and Transportation Act (JTA)

To help address funding shortfalls for some long-standing transportation needs, as well as stimulate the state's economy, the 2009 Oregon Legislature provided dedicated funding to nine different projects and an additional \$26.3 million in modernization funding for ODOT Region 1. Six of the Region 1 projects are in the urban Metro area, including the first phase of the Sunrise Project. There has been recent discussion about a JTA 2 funding round.

ConnectOregon

ConnectOregon is a lottery bond-based initiative to invest in air, rail, marine, transit and bicycle/pedestrian infrastructure to ensure Oregon's transportation system is strong, diverse and efficient. ConnectOregon projects are eligible for up to 80% of project costs for grants and 100% for loans. A minimum 20% cash match is required from the recipient for all grant-funded projects. Projects eligible for funding from state fuel tax revenues are not eligible. If a highway or public road element is essential to the complete functioning of the proposed project, applicants are encouraged to work with their ODOT region, city or county to identify the necessary funding sources.

The previous focus on air, rail, marine and transit projects limited the 20-year TSP projects appropriate for funding from this source. With the addition of active transportation projects, this may be an appropriate TSP funding source in the future.

Immediate Opportunity Funds (IOF)

The IOF supports primary economic development in Oregon through construction and improvement of streets and roads. The 1987 Legislature created state funding for immediate economic opportunities with certain motor vehicle gas tax increases. Access to this fund is discretionary and the fund may only be used when other sources of financial support are unavailable or insufficient. The IOF is not a replacement or substitute for other funding sources. The IOF is designed to meet the following objectives:

- Provide needed street or road improvements to influence the location, relocation or retention of a firm in Oregon
- Provide procedures and funds for the Oregon Transportation Commission (OTC) to respond quickly to economic development opportunities
- Provide criteria and procedures for the Oregon Economic and Community Development Department, other agencies, local governments and the private sector to work with ODOT in providing road improvements needed to ensure specific job development opportunities for Oregon, or to revitalize business or industrial centers

The use of the IOF is limited to:

- Type A: Specific economic development projects that affirm job retention and job creation opportunities
- Type B: Revitalization of business or industrial centers to support economic development
- Type C: Preparation of Oregon Certified Project-Ready Industrial Sites

Metropolitan Transportation Improvement Program (MTIP)

MTIP is the federally-mandated four-year schedule of expenditures of federal transportation funds and significant state and local funds in the Portland metropolitan region. The MTIP provides the upcoming four-year implementation schedule of transportation projects in the Portland region.

For projects to receive federal transportation funding, they must be included in the Regional Transportation Plan (RTP). MTIP coordinates spending of federal and state transportation funds for four different public agencies: Metro, ODOT, TriMet and South Metro Area transit district.

Regional Flexible Fund Allocation (RFFA)

The regional flexible fund allocation (RFFA) process is used to determine which locally identified priorities are awarded funding to advance the goals of the RTP. The RFFA process typically, but not always, takes place on a two-year funding cycle to match closely with the MTIP update schedule.

With the beginning of each RFFA cycle, the Joint Policy Advisory Committee on Transportation (JPACT), as the MPO board, sets forth policy direction on broad transportation investment categories to direct forecasted transportation funding. As part of the 2016-2018 RFFA process, JPACT took action in November 2012 directing a three-step process for allocating an estimated \$94.58 million available to the region from federal fiscal years 2016-2018. The three-step policy direction is composed of the following:

- *Step 1 – Region-wide Programs.* A total of five region-wide priorities have been defined by their regional scope, program administration and policy coordination:
 - Transit-Oriented Development
 - Regional Travel Options
 - Transportation System Management and Operations
 - Corridors and Systems Planning
 - Regional MPO Planning

- *Step 2 – Community Investment Funds for Active Transportation/Complete Streets and Green Economy/Freight Initiatives.* The priority focus areas established by JPACT during the 2014-15 RFFA for Step 2 were Active Transportation/Complete Streets and Green Economy/Freight Initiatives. Transportation investments for these focus areas are targeted to a 75/25 percent split of Step 2 funding, respectively. The 2016-18 RFFA cycle continued to use the 2014-15 RFFA approach to investing in these focus areas in order achieve greater regional impact.
- *Step 3 – Regional Economic Opportunity Fund.* The Regional Economic Opportunity Fund (REOF) was created to respond to JPACT direction. The fund is targeted at larger projects (\$5-\$10 million) that are difficult to fund at the local level and allow for multi-agency projects, and prioritize the following types of investment:
 - Address economic opportunity and job creation
 - Take a system-wide approach
 - Leverage private sector investments
 - Consider corridor safety
 - Reflect criteria from Transportation Investment Generating Economic Recovery (TIGER)
 - Implement corridor planning work
 - Improve access to industrial lands
 - Consider the transportation needs of environmental justice and underserved communities

Table B: Key Projects Matched with Possible Grant Funding Sources

Project Name (TSP Number)	Description	Possible Funding Source
I-205 Bottleneck Project (4016)	Improvement to I-205 between the Stafford interchange and the east end of the Abernethy Bridge to address congestion issues	STIP Enhance / TIGER, JTA 2
SW County Access Alternatives Plan (1106)	Planning study to develop transportation alternatives and alternative project alignments to provide improved access between I-5 / Wilsonville and Canby	STIP Enhance / JTA 2
Sunrise Project Phase II (4036)	Extend the Sunrise Project to 172 nd Avenue	STIP Enhance / JTA 2
OR 211 (4040)	OR 170 (Canby Marquam Hwy)/ OR 211 intersection – intersection improvements	STIP Fix-it / HSIP
Bull Run Truss (3038)	Replace bridge	STIP / HBR
172 nd Avenue / 190 th Avenue Connector	Environmental assessment and project construction to connect 172 nd Avenue to 190 th Avenue as envisioned in the 172 nd / 190 th Corridor Management Plan	MTIP / TIGER
Willamette Falls Locks	Renovation of the Locks to allow them to resume operations	Connect Oregon
Fuller Road (1020)	Add pedestrian facilities, turn lanes, on-street parking, central median and landscaping	MTIP /RFFA
97 th / Mather Rd (1011)	Add bikeways, pedestrian facilities and east-bound left turn lanes at Mather Rd / Summers Lane	MTIP /RFFA
Jennifer St (2005/3015)	Add pedestrian facilities and bikeways	MTIP /RFFA
I-205 Pedestrian / Bike Overpass (3013)	Pedestrian / bike overpass across I-205 between Causey and Sunnyside to improve multimodal access and safety within the Clackamas Regional Center	Connect Oregon
Holly St. (1109)	Add paved shoulders	STIP / Enhance
Clackamas River Drive (3113)	Add paved shoulders and turn lanes at major intersection	STIP / Enhance
Newland Crk Bridge / Advance Rd (portion of 2027)	Replace culverts and roadway embankment with a bridge on the same approximate vertical and horizontal alignment that will improve fish passage to the site.	FHWA AID Demonstration
Woodcock Creek / Grimm Bridge	Bridge replacement	HBR/ OWEB / National Fish Passage
Aschoff Road	Culvert repair project	OWEB / National Fish Passage
OR 212 Freight Mobility Corridor Improvement	Freight mobility improvements on OR 212 between Rock Creek Junction and US 26	MTIP / STIP / JTA 2

APPENDIX A: Transportation Safety Action Plan Projects

CIP Category	Link to Project code	Project Name	Description/Application	Cost Estimate (\$2014)	Potential Funding Source	Annual Cost
ITS						
ITS	1000 - ITS Plan	FYA (only 5-section heads "doghouse" to FYA)	All signalized intersections with 5-section (Dog House) signals	\$ 120,000	RF, TG	\$ 120,000
ITS	1000 - ITS Plan	Reflective strips on backplates	Signalized intersection with a high crash history	\$ 150,000	RF, TG, JC	\$ 150,000
ITS Year 1	1001 - ITS Plan	Support of County wide master plan		\$ 10,000		\$ 10,000
ITS	1000 - ITS Plan	Red/Green Light Extension Project	Signalized intersection with high red-light crashes	\$ 30,000	RF, TG, JC	\$ 30,000
ITS	1000 - ITS Plan	Johnson Creek Blvd & Linwood - Bike & Ped Improvement Signal Project	Upgrade signal and intersection and accommodate bike signal, Safety Evaluation	\$ 250,000	RF, TG	\$ 250,000
ITS Year 4	1000 - ITS Plan	Supplemental signal heads (left turn/thru, far side and/or near side)	Signalized intersection with high left-turn and red-light crash history	\$ -	RF, TG	\$ -
ITS Years 1 - 3	1000 - ITS Plan	Advance Ped Crossing - Upgrade all push buttons at all signalized intersections to a new standard Accessible Pedestrian Signal (APS) Buttons	At all signalized intersections	\$ 800,000	RF, JC, TG	\$ 266,667
ITS Years 1 - 4	1000 - ITS Plan	Advance Ped Crossing - Install pedestrian countdown heads	At all signalized intersections	\$ 500,000	RF, JC, TG	\$ 125,000
ITS	1000 - ITS Plan	School Zone Beacons Signs	Evaluate 7-5 school zones and replace static School Zones with When Flashing School Zones when warranted	\$ 750,000	RF, TG, JC	\$ 150,000
ITS	1000 - ITS Plan	Changeable Message Signs at School Zones	Install Radar Reader signs approaching a school Zone. Traffic Calming.	\$ 750,000	RF, TG, JC	\$ 150,000
ITS	1000 - ITS Plan	Advance Ped Crossing - Install Rectangular Rapid-Flashing Beacons at mid-block crossings	All crossings near school frontage and mid-block locations based on an evaluation.	\$ 400,000	RF, TG, JC	\$ 80,000
ITS Years 2 - 4	1000 - ITS Plan	Improve Bike Detection - Deploy Radar or Bike Loops at all signals	At all signalized intersections with bike lanes	\$ -	RF, TG	\$ -
ITS Years 2 - 5	1000 - ITS Plan	illumination (convert incandescent to LED to match the corridor and add illumination at location without lighting).	Signalized intersections	\$ -	RF, TG	\$ -
Safety Programs						
Safety Programs	1001	Neighborhood Traffic Calming	Use of mobile Radar Reader Signs placed in neighborhoods - requiring staff time to move radar speed signs every other month on requested roadways throughout County	\$ 250,000		\$ 50,000
Safety Programs	1001	Traffic Calming Program - Collector Streets	Develop a program to support traffic calming on Collector streets in the Urban area	\$ 30,000		\$ 15,000
Safety ADA						
Safety ADA	1025	I-205 Multi-Use Path Connection	Construct ADA compliant access to the commercial area from the I-205 Multi-Use Path	\$ 80,000		\$ 26,667

Safety ADA	1000 - ITS Plan	ADA sidewalk ramp improvements at push button locations and mid-block crossing locations	At all non-compliant sidewalk ramps at/near push buttons & mid blocks.	\$ 3,000,000	RF, DA, TG	\$ 600,000
Safety RSA						
Safety RSA Year 4	1052	RSA - Compton Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	\$ 45,000		\$ 11,250
Safety RSA Year 4	1048	RSA - 282nd Ave	Perform road safety audit or transportation safety review to identify appropriate safety improvements	\$ 40,000		\$ 10,000
Safety RSA Year 5	1045	RSA - Sunnyside Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	\$ 40,000		\$ 40,000
Safety RSA Year 5	1054	RSA - Eagle Creek Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	\$ 45,000		\$ 45,000
Safety RSA Recommendations	1001	RSA - Beaver creek/Unger intersections RSA	<u>Low cost recommended improvement options</u> - Install signage "Hill Blocks View" to warn northbound and southbound drivers of sight limitation at Unger with a 45 rider, upgrade pavement markings, relocate advanced warning signage, install delineators and/or RPMs <u>Medium cost improvement options</u> - install intersection beacon or vehicle activated warning system *Please see full RSA report for more detail and long term/high cost recommendations	\$ 400,000		\$ 400,000
Safety RSA Recommendations	1055	RSA - Eagle Creek Rd	Remove horizontal curve, relocate intersection, add paved shoulders and turn lanes at major intersection; investigate speed zone south of Currin Rd	\$ 40,000		\$ 40,000
Safety SPIS						
Safety SPIS	1001	Mulino/13th	Reconfiguration - signing to use Sequoia Parkway; increased markings/signing at intersection	\$ 20,000		\$ 20,000
Safety SPIS	New	SPIS - Sunnyside Road/122	Evaluate the safety of the intersection - implement solutions	\$ 20,000		\$ 20,000
Safety SPIS	New	SPIS - Central Pt Rd/New Era Rd	Re-evaluate safety of intersection and make changes as necessary	\$ 10,000		\$ 10,000
Safety SPIS	New	SPIS - Compton Rd/Orient Dr	Evaluate intersection safety and make improvements	\$ 10,000		\$ 10,000
Safety SPIS	New	SPIS - Beaver crk Rd/Henrici Rd	Evaluate intersection safety and make improvements	\$ 50,000		\$ 50,000
Safety SPIS	New	Advanced Road Curves	Realight Road through canyon or improve existing road with improved delineation/geometry/signing/stripping	\$ 15,000		\$ 15,000
Safety SPIS	1114	Meridian Rd	Limit access/egress points to and from school on NE corner of intersection	\$ 50,000		\$ 25,000
Safety SPIS	New	SPIS - King Rd/Fuller Rd	Turn Fuller into right-in/right-out	\$ 250,000		\$ 125,000
Safety SPIS	New	SPIS - Jennings Av/Addie Rd	Regrade Jennings (lower) to create improved sight distance	\$ 800,000		\$ 400,000
Safety SPIS	New	SPIS - Harding Rd/Sprinwater Rd	Evaluate intersection safety and make improvements	\$ 10,000		\$ 5,000
Safety SPIS	New	SPIS - Oatfiled Rd/Jennings Av	Evaluate intersection safety and make improvements	\$ 50,000		\$ 25,000
Safety SPIS	New	Springwater Rd/Hattan Rd	Evaluate intersection safety and make improvements	\$ 100,000		\$ 50,000
Safety SPIS	New	SPIS - Kelso Rd/312th Av	Evaluate intersection safety and make improvements	\$ 25,000		\$ 12,500
Safety SPIS	New	Ladd Hill Rd/Bell Ave	Vegetation/fixd object removal to improve safety and sight distance	\$ 100,000		\$ 50,000
Safety SPIS	New	SPIS - Johnson Ck Blvd@80th	Evaluate the intersection and implement safety measures to reduce crashes, improve ped/bike access	\$ 300,000		\$ 100,000
Safety SPIS	New	SPIS - Thiessen Rd/Oetkin Rd	Evaluate intersection safety and make improvements	\$ 250,000		\$ 83,333
Safety SPIS	New	SPIS - Bakers Fy Rd/Barton Park Rd	Realign intersection to improve safety and clarity	\$ 500,000		\$ 166,667
Safety SPIS	New	SPIS - Sunnyside Rd/Sunnybrook Blvd	Evaluate intersection safety and make improvements	\$ 300,000		\$ 100,000
Safety SPIS	New	SPIS - Sunnyside Rd/132nd Ave	Evaluate intersection safety and make improvements	\$ 50,000		\$ 16,667
Safety SPIS	New	SPIS - SE 122nd/Mather Rd	Evaluate intersection safety and make improvements	\$ 2,000,000		\$ 2,000,000
Safety SPIS	New	362/Deming and Wilsonville@Ladd Hill	Remove crest vertical curve to improve sight distance	\$ 1,100,000		\$ 1,100,000
Safety SPIS	New	Borland Rd/Ek Rd	Reconfigure intersection for improved safety and operations	\$ 1,100,000		\$ 1,100,000
Safety Study						
Safety Study	1001	Bike / Ped facilities	Systemic review of urban collectors and arterials for possible reallocation of space for bike/ped facilities	\$ 200,000	RF	\$ 40,000
Safety Study	1001	Rural Bike Program	Creation of rural bike boulevards	\$ 50,000		\$ 10,000
Safety Study	1001	DTZ - CPO safety RSA grant program	Grants for CPO's to do RSA/HIA within their boundaries	\$ 200,000		\$ 40,000
Safety Study	1001	DTZ - DDACTS - neighborhood safety - Crime Prevention by environmental design	Data driven crime-safety analysis to identify linkage between high crash/safety concern areas and crime - set up system	\$ 40,000	CCSO, JC, RF, SC	\$ 8,000
Safety Study	1001	DTZ - Safety Reflector Outreach Program	Providing reflectors/lights/vests to individuals	\$ 7,500		\$ 1,500
Safety Study	1001	DTZ - Transportation Options for transportation disadvantaged	Working with transit partners to maximize ability to transport persons who need rides - reduce driving of elderly/others by providing alternative transportation	\$ 25,000	JC	\$ 5,000
Safety Study	1001	DTZ - Young Driver Education Program	Outreach to young drivers (Ages 15-25) one of the top 3 TSAP risk factors	\$ 50,000	JC, SC	\$ 10,000

Safety Study	1001	DTZ-TSAP-Safety Outreach	Community outreach/PSA's - PCN work with citizens	\$ 250,000	JC, SC, RF, TG, HG	\$ 50,000
Safety Study	1001	Systemic - "T" Intersection sign/markings treatments	Create standard list of treatments to improve safety at all T-intersections County-wide, focussing first on the rural area and evaluating the need at intersection in the urban area	\$ 750,000		\$ 150,000
Safety Study	1001	Systemic - 2-way stop controlled intersection treatments	Create standard list of treatments to improve safety at all 2-Way Stop-Controlled intersections County-wide, focussing first in the rural area and evaluating the need at intersection in the urban area	\$ 900,000		\$ 180,000
Safety Study	1001	Systemic - School zone evaluations/safety upgrades	Evaluate all school zones and implement improvements when necessary including sidewalks, curb ramps, crosswalks, radar speed signs, flashers, rapid flashing beacons, traffic calming.	\$ 4,000,000		\$ 800,000
Safety Study	1001	Systemic- All-way stop-controlled intersection treatments	Create standard list of treatments to improve safety at all All-Way Stop-Controlled intersections County-wide, focussing first in the rural area and evaluating the need at intersection in the urban area	\$ 150,000	RF, JC, TG	\$ 30,000
Safety - Fix-It Programs						
Safety Fix-it	1001	Maintenance - Buttons	Annual program to support the installation/maintenance of centerline buttons on all rural collectors and arterials	\$ 400,000	RF, JC	\$ 80,000
Safety Fix-it	1001	Maintenance - Guardrails	Annual program to support the installation/removal/ maintenance/cleaning/repair and delineation of guardrail	\$ 750,000	RF, JC	\$ 150,000
Safety Fix-it	1001	Maintenance - Roadway general	Shoulders, safety edge, centerline rumble strips, pavement markings, clear zone	\$ 750,000	RF, JC	\$ 150,000
Safety Fix-it	1001	Maintenance - Signs	Clean, repair and/or replace if not current with MUTCD requirements	\$ 200,000	RF, JC, TG	\$ 40,000
Safety Fix-it	1001	Maintenance - Vegetation	Remove overgrown vegetation inhibiting sight distance along all roads	\$ 250,000	RF, JC	\$ 50,000

Appendix B

TRANSPORTATION SYSTEM PLAN 2013

PROJECTS

Table 5-3a, 20-Year Capital Projects

Table 5-3b, Preferred Projects

Table 5-3c, Long-Term Capital Projects

Table 5-3d, Regional Capital Projects

MAPS

Map 5-11a, Greater Clackamas Regional Center / Industrial Area

Map 5-11b, East County

Map 5-11c, Greater McLoughlin Area

Map 5-11d, Northwest County

Map 5-11e, Southwest County-Northern Portion

Map 5-11f, Southwest County-Southern Portion



Table 5-3a 20-Year Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
1000	County-wide	ITS Plan Program	N/A	Develop a program to support the implementation of the County's ITS Plan and support the County's efforts to make improvements to traffic operations based on the ITS Plan. Deploy traffic responsive signal timing, ramp metering, traffic management equipment for better routing of traffic during incidents along the three key ODOT corridors - I-205, I-5, 99E. Install signal controller upgrades and update county ITS plan.
1001	County-wide	Transportation Safety Action Plan Program	N/A	Develop a program to support the implementation of the County's TSAP and support the County's efforts to make improvements based on the outcomes of the road safety audits and other safety studies.
1002	5-11a	122nd Ave	Eagle Glen Dr to Hubbard Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1003	5-11a	122nd Ave	Sunnyside Rd to Hubbard Rd	Fill gaps in pedestrian facilities, turn lanes at Mather Rd
1004	5-11a	122nd Ave	Sunnyside Rd to Timber Valley Dr	Add bikeways and turn lanes at major intersections
1005	5-11a	132nd Ave	Sunnyside Rd to OR 212	Add bikeways, pedestrian facilities, traffic calming and turn lanes at major intersections
1006	5-11a	142nd Ave	Sunnyside Rd to OR 212	Add bikeways and pedestrian facilities
1007	5-11a	72nd Ave Multi-Use Path Connection	Thompson Rd to Harmony Rd	Construct multi-use path
1008	5-11a	82nd Dr	OR 212 to Lawnfield Rd	Fill in bikeways and pedestrian facilities gaps
1009	5-11a	85th Ave	Causey Ave to Monterey Ave	Add sidewalks and bikeways
1010	5-11a	92nd Ave	Johnson Creek Blvd to Emmert View Ct	Fill gaps in pedestrian facilities
1011	5-11a	97th Ave / Mather Rd	Lawnfield Rd to Summers Ln	Add bikeways, pedestrian facilities and eastbound left turn lanes at Mather Rd / Summers Ln
1012	5-11a	Boyer Dr	OR 213 to Fuller Rd	Construct new 2 lane roadway with turn lanes at OR 213 and Fuller Rd, bikeways and pedestrian facilities; install flashing yellow arrow for left turns on northbound and southbound approaches at OR 213 intersection.
1013	5-11a	Boyer Dr / 85th Ave / Spencer Dr	OR 213 to I-205 bike path	Add bikeways
1014	5-11a	Causey Ave	Fuller Rd to I-205	Add bikeways and shared facility markings
1015	5-11a	Clackamas Industrial area multi-modal improvements	N/A	Complete bike and pedestrian connections within the Clackamas Industrial area on Jennifer St., Evelyn St., 106 th Ave, 122 nd Ave, 130 th Ave and 135 th Ave.
1016	5-11a	Clackamas Regional Center Bike/Pedestrian Corridors	N/A	Construct pedestrian and bike improvements as described in the Clackamas Regional Center Pedestrian / Bicycle Plan
1017	5-11a	Clackamas Town Center Alternative Performance Standards Study	Clackamas Regional Center	Develop alternative performance standards for the intersections within the Clackamas Regional Center.

Table 5-3a 20-Year Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
1018	5-11a	Clackamas Town Center Circulation Plan	West of the Town Center	Study area circulation and create plan
1019	5-11a	Flavel Dr	Alberta Ave to County boundary	Add bikeways
1020	5-11a	Fuller Rd	Otty St to Johnson Creek Blvd	Add pedestrian facilities, turn lanes, on-street parking, central median and landscaping.
1021	5-11a	Fuller Rd / King Rd Improvements	Fuller Rd / King Rd intersection	Restrict access to right-in/right-out only
1022	5-11a	Harmony Rd	OR 213 to OR 224	Construct bikeways and pedestrian facilities
1023	5-11a	Harmony Rd	Railroad Ave / Linwood Ave / Harmony Rd	Railroad crossing and intersection improvements based on further study of intersection operations including bikeways and pedestrian facilities to be undertake jointly by the City of Milwaukie and the County
1024	5-11a	Harmony Rd / Sunnyside Rd	Harmony Rd / Sunnyside Rd / OR 213 intersection	Extend queue storage on westbound approach and rebuild median; extend queue storage on eastbound approach and install median; convert to right-in-right-out accesses on frontage road.
1025	5-11a	I-205 Multi-Use Path Connection	Between Sunnyside Rd and Sunnybrook Blvd	Construct ADA compliant access to the commercial area from the I-205 Multi-Use Path
1026	5-11a	I-205 Multi-Use Path Gap	OR 224/OR 213 to OR 212	Study the I-205 multi-use path gap to create a plan for connection and path completion
1027	5-11a	Johnson Creek Blvd	55th Ave to I-205	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1028	5-11a	Johnson Creek Blvd	Johnson Creek Blvd near 79th Pl	Add signal to either Johnson Creek Blvd and 79th Pl or 80th Ave
1029	5-11a	Johnson Creek Blvd	55th Ave to Bell Ave	Widen to 3 lanes with bikeways and pedestrian facilities
1030	5-11a	Johnson Creek Blvd	Johnson Creek Blvd / OR 213 intersection	Extend westbound left-turn lane and rebuild median; install dual northbound and southbound left-turn lanes
1031	5-11a	Johnson Creek Blvd	OR 213 to 92nd Ave	Add pedestrian facilities, restripe for bikeways
1032	5-11a	Johnson Rd	SE Lake Rd to North Clackamas Park Trail	Identify bike/pedestrian connections to fill gaps along 82nd Ave
1033	5-11a	Lake Rd	Lake Rd / International Way intersection	Add northbound right-turn lane
1034	5-11a	Linwood Ave	Monroe St to Johnson Creek Blvd	Add pedestrian facilities
1035	5-11a	Monroe St	72nd Ave to Fuller Rd	Add bikeways, pedestrian facilities and traffic calming
1036	5-11a	Monroe St	Linwood Ave to 72nd Ave	Add bikeways and traffic calming
1037	5-11a	Monterey Ave	Stevens Rd to Bob Schumacher Rd	Construct collector roadway with bikeways and pedestrian facilities
1038	5-11a	Monterey Ave	OR 213 to Fuller Rd	Construct new 2 lane extension with pedestrian facilities and bikeways. Install flashing yellow arrow for left-turns on northbound and southbound approaches at OR 213 intersection.
1039	5-11a	North Clackamas Regional Park Trail	Linwood Ave to North Clackamas Park Complex	Construct multi-use path

Table 5-3a 20-Year Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
1040	5-11a	North Clackamas Regional Parks Trail	OR 213 to Linwood Ave	Construct multi-use path
1041	5-11a	Otty Rd	OR 213 to 92nd Ave	Improve to minor arterial standard consistent with Fuller Road Station Plan; improve curb radius; add turn lanes, on-street parking, central median, landscaping, bikeways and pedestrian facilities
1042	5-11a	Otty St	Otty St / OR 213 / Otty Rd	Realign Otty St with Otty Rd at OR 213; install dual westbound left-turn lanes; install flashing yellow arrow for left-turns on northbound and southbound approaches.
1043	5-11a	Southwest Connector Multi-Use Path	North Clackamas Aquatic Center access road to 82nd Ave	Construct multi-use path
1044	5-11a	Springwater Rd	OR 224 to Hattan Rd	Widen to 3 lanes with shoulders and pedestrian facilities; bridge remains two lanes
1045	5-11a	Sunnyside Rd	93rd Ave to 126th Ave	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1046	5-11a	Sunnyside Rd	Sunnyside Rd / Stevens Rd intersection	Intersection improvements, such as additional turn lanes, turn lane extensions, and/or signal timing modifications
1047	5-11a	Tolbert St Overcrossing	82nd Dr to Industrial Way	Construct new 2 lane overcrossing with bikeways and pedestrian facilities
1048	5-11b	282nd Ave	US 26 to OR 212	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1049	5-11b	Amisigger Rd / Kelso Rd	OR 224 to Kelso / Richey Rd	Add paved shoulders; turn lanes at Amisigger/OR 212 and Kelso/Richey; smooth curves.
1050	5-11b	Arrah Wanna Blvd	US 26 to Fairway Ave	Add paved shoulders
1051	5-11b	Cazadero Multi-Use Trail	Community of Boring to City of Estacada	Construct multi-use path
1052	5-11b	Compton Rd	US 26 to 352nd Ave	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1053	5-11b	Dodge Park Rd Bridge	~192 feet south of Pipeline Rd	Replace bridge nearing the end of its useful life and include paved shoulders
1054	5-11b	Eagle Creek Rd	Firwood Rd to Duus Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1055	5-11b	Eagle Creek Rd	Currin Rd to Duus Rd	Remove horizontal curve, relocate intersection, add paved shoulders and turn lanes at major intersection; investigate speed zone south of Currin Rd
1056	5-11b	Fairway Ave	Arrah Wanna Blvd to Salmon River Rd	Add paved shoulders
1057	5-11b	OR 211	OR 211 / Judd Rd intersection	Realign roadway
1058	5-11b	Richey Rd	Kelso Rd to OR 212	Add paved shoulders and left turn lane at Richey Rd and OR 212
1059	5-11b	Welches Rd	US 26 to Birdie Ln	Add paved shoulders; add pedestrian facilities in Welches rural center
1060	5-11c	Aldercrest Dr	Thiessen Rd to Oatfield Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1061	5-11c	Concord Rd	River Rd to Oatfield Rd	Fill gaps in pedestrian facilities
1062	5-11c	Concord Rd	River Rd to Oatfield Rd	Add turn lanes at major intersections

Table 5-3a 20-Year Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
1063	5-11c	Courtney Ave	OR 99E to Oatfield Rd	Fill gaps in pedestrian facilities and bikeways
1064	5-11c	Courtney Ave	River Rd to OR 99E (McLoughlin Blvd)	Construct pedestrian facilities / complete gaps on the south side; add bikeways
1065	5-11c	Harold Ave	Concord Rd to Roethe Rd	Add pedestrian facilities and traffic calming
1066	5-11c	Hull Ave	Wilmot St to Tims View Ave	Fill gaps in pedestrian facilities
1067	5-11c	Jennings Ave	Webster Rd to OR 99E	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1068	5-11c	Jennings Ave	River Rd to Oatfield Rd	Widen to 2-lane urban minor arterial standard with bikeway and pedestrian facilities infill
1069	5-11c	Oak Grove Blvd	Oatfield Rd to River Rd	Fill gaps in pedestrian facilities and bikeways
1070	5-11c	Oatfield Rd	Jennings Ave to Lake Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1071	5-11c	Oatfield Rd	Oatfield Rd / Park Rd intersection	Install traffic signal and add turn lanes
1072	5-11c	Oatfield Rd	Oatfield Rd / McNary Rd intersection	Add southbound and eastbound left-turn lanes
1073	5-11c	Park Ave	River Rd to OR 99E (McLoughlin Blvd)	Add pedestrian facilities
1074	5-11c	River Rd	Lark St to Courtney Ave	Add pedestrian facilities
1075	5-11c	River Rd	Oak Grove Blvd to Riskey Ave	Fill gaps in bikeways and pedestrian facilities
1076	5-11c	School Pedways	Johnson Rd / Clackamas Rd / Webster Rd	Fill gaps in pedestrian facilities on Johnson Rd, Clackamas Rd and Webster Rd within 1/4 mile of schools
1077	5-11c	Thiessen Rd	Thiessen Rd / Aldercrest Rd intersection	Add turn lanes on Thiessen Rd; consider converting to two-way stop controlled
1078	5-11c	Torbank Rd	River Rd to Trolley Trail	Fill gaps in pedestrian facilities
1079	5-11d	65th Ave	65th Ave / Elligsen Rd / Stafford Rd intersection	Construct roundabout
1080	5-11d	Advance Rd	53rd Ave to 43rd Dr	Grade and sight distance improvements
1081	5-11d	Borland Rd	Tualatin city limits to Stafford Rd	Add paved shoulders and turn lanes at major intersections
1082	5-11d	Borland Rd	Stafford Rd to West Linn city limits	Add paved shoulders
1083	5-11d	Carman Dr	Lake Oswego city limits to Roosevelt Ave	Add bikeways and pedestrian facilities; analyze for turn lanes
1084	5-11d	Childs Rd	Sycamore Ave to 65th Ave	Transfer roadway to local jurisdiction
1085	5-11d	French Prairie Bridge	Willamette River near I-5	Construct a bridge consistent with the Connecting Clackamas Plan

Table 5-3a 20-Year Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
1086	5-11d	Rosemont Rd	Stafford Rd to West Linn	Add paved shoulders and turn lanes at major intersections
1087	5-11d	Stafford Rd	I-205 to Boeckman Rd / Advance Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1088	5-11d	Stafford Rd	Rosemont Rd to I-205	Add paved shoulders and turn lanes at major intersections
1089	5-11d	Stafford Rd	Stafford Rd / Childs Rd intersection	Install traffic signal and southbound and northbound turn lanes or roundabout
1090	5-11d	Stafford Rd	Rosemont Rd to I-205	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1091	5-11d	Tonquin Trail	Willamette River through Wilsonville	Construct bike / pedestrian bridge consistent with the Connecting Clackamas Plan
1092	5-11d	Wilsonville Rd / Ladd Hill Rd	Wilsonville Rd / Ladd Hill Rd	Install Collision Countermeasure System
1093	5-11e	Airport Rd	Airport Rd / Miley Rd intersection	Install traffic signal
1094	5-11e	Barlow Rd	Barlow Rd / OR 99E intersection	Add dual left-turn lanes on southbound Barlow Rd
1095	5-11e	Beavercreek Rd	Lower Highland Rd to Butte Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1096	5-11e	Beavercreek Rd	Ferguson Rd to Spangler Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1097	5-11e	Beavercreek Rd	Henrici Rd to Yeoman Rd/Steiner Rd	Add paved shoulders and turn lanes at major intersections
1098	5-11e	Beavercreek Rd	Beavercreek Rd / Leland Rd / Kamrath Rd intersection	Construct roundabout with additional analysis
1099	5-11e	Canby-Marquam Highway	Canby-Marquam Hwy / Lone Elder Rd intersection	Reconstruct intersection; install northbound left-turn lane and southbound right-turn lane
1100	5-11e	Canby-Marquam Highway	~1,900 ft south of Barnards Rd	Replace bridge nearing the end of its useful life with 2-lane structure including paved shoulders
1101	5-11e	Clarkes Four Corners Intersection	Beavercreek Rd / Unger Rd	Reconstruct intersection
1102	5-11e	Emerald Necklace Trail	To Canby Ferry	Extend Molalla Forest Rd to Locust St
1103	5-11e	Ferguson Multi-Use Path	Thayer Rd to Ferguson Rd	Multi-use path to connect Ferguson Rd to Thayer Rd
1104	5-11e	Fischers Mill Rd	Fischers Mill / Hattan Rd intersection	Install eastbound left-turn lane
1105	5-11e	Graves Rd/Passmore Rd/Mulino Rd/ OR 213	Graves Rd/Passmore Rd/Mulino Rd/ OR 213	Work in conjunction with the Molalla River School District, ODOT and community stake-holders to complete a safety audit to look at all options for the safe movement of Mulino Elementary School students in relation to the adjacent transportation system. Utilize the results from the audit to develop a list of projects and/or programs to maximize safety for all users.

Table 5-3a 20-Year Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
1106	5-11e	Greater Arndt Rd/I-5/Canby Access Feasibility Study	Southwest County in the vicinity of Arndt Rd/I-5/Canby	Conduct an alternatives analysis and land use study to identify and consider roadway improvements to address access to I-5 within the Southwest County and address capacity deficiencies.
1107	5-11e	Hattan Rd	Hattan Rd / Gronlund Rd intersection	Install southbound right-turn lane
1108	5-11e	Henrici Rd	Beavercreek Rd to Ferguson Rd	Add paved shoulders and turn lanes at major intersections. Remove horizontal and vertical curves
1109	5-11e	Holly St	Territorial Rd to Canby Ferry	Add paved shoulders
1110	5-11e	Hult Rd	OR 211 to Unger Rd	Re-open and improve Hult Rd
1111	5-11e	Klang's Mill Bridge	~1,000 ft north of OR 211	Replace bridge nearing the end of its useful life
1112	5-11e	Lone Elder Rd Bridge	~5,800 feet east of Barlow Rd	Replace bridge (nearing the end of its useful life) and include paved shoulders
1113	5-11e	Maplelane Rd	Beavercreek Rd to Ferguson Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1114	5-11e	Meridian Rd	Meridian Rd / Whiskey Hill Rd intersection	Limit access/egress points to and from school on NE corner of intersection
1115	5-11e	Molalla Ave Flooding	Just south of city of Molalla	Construct bridge to resolve flooding issues
1116	5-11e	Mulino Rd	Mulino Rd / 13th Ave	Relocate intersection to south away from railroad trestle
1117	5-11e	OR 170	OR 99E to Macksburg Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1118	5-11e	Redland Rd	OR 213 to Hattan Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1119	5-11e	Redland Rd	Redland Rd / Springwater Rd intersection	Perform road safety audit or transportation safety review to identify appropriate safety improvements
1120	5-11e	Redland Rd	Redland Rd / Holly Rd intersection	Install traffic signal and westbound and northbound left-turn lanes or roundabout
1121	5-11e	Redland Rd	Redland Rd / Ferguson Rd intersection	Construct roundabout
1122	5-11e	Ridge Rd	~1 miles north of Lower Highland Rd	Fix sinkhole
1123	5-11e	Springwater Rd	Springwater Rd / Clackamas River Dr intersection	Install signal at Clackamas River Dr
1124	5-11e	Springwater Rd	400 ft east of Hattan Rd	Construct bridge to accommodate paved shoulders
1125	5-11e	Springwater Rd	Hattan Rd to Bakers Ferry Rd	Add paved shoulders and turn lanes at major intersections
1126	5-11e	Township Rd	Central Point Rd to Canby City limit	Add paved shoulders and turn lanes at major intersections
1127	5-11e	Union Mills Rd	OR 213 to OR 211	Add turn lanes at major intersections
1128	5-11e	Union Mills Rd	OR 213 to OR 211	Construct a shoulder on the south side of the roadway

Table 5-3a 20-Year Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
1129	5-11e	Upper Highland Rd	Beavercreek Rd to Lower Highland Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements

Table 5-3b Preferred Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
2000	5-11a	Bell Ave / Alberta St / 72nd Ave	King Rd to County line	Add bikeways and pedestrian facilities
2001	5-11a	Clatsop St / Luther Rd	72nd Ave to Fuller Rd	Add turn lanes and signals at OR 213 intersection; add bikeways, pedestrian facilities and traffic calming
2002	5-11a	Evelyn St	OR 224 to Jennifer St	Add bikeways and pedestrian facilities
2003	5-11a	Evelyn St / Mangan Dr	Jennifer St to Water Ave	Add bikeways
2004	5-11a	Hubbard Rd	122nd Ave to 132nd Ave	Fill gaps in pedestrian facilities
2005	5-11a	Jennifer St	82nd Dr to 135th Ave	Add pedestrian facilities
2006	5-11a	Lake Rd	Milwaukie City limits east to OR 224	Fill gaps in pedestrian facilities
2007	5-11a	Linwood Ave	Linwood Ave / Monroe St intersection	Add curbs/sidewalks, improve horizontal alignments
2008	5-11a	Linwood Ave	Queen Rd to Johnson Creek Blvd	Add bikeways
2009	5-11a	Mather Rd	Summers Ln Rd to 122nd Ave	Add bikeways, pedestrian facilities and eastbound left turn lanes at Mather Rd / 122nd Ave
2010	5-11a	Monroe St / 72nd Ave / Thompson Rd	Linwood Ave to Fuller Rd	Add pedestrian facilities
2011	5-11a	Scouters Mountain / Mt Scott Loop Trail	Loop trail through Happy Valley, Damascus, Clackamas County and Portland	Construct multi-use path consistent with the Connecting Clackamas Plan
2012	5-11a	Stevens Rd / Stevens Way	Causey Ave to Idleman Rd	Add pedways and optional traffic calming
2013	5-11a	Strawberry Ln	Strawberry Ln / 82nd Dr intersection	Install traffic signal and eastbound turn lane
2014	5-11a	Sunnybrook Blvd	Sunnybrook Blvd / 82nd Ave intersection	Add dual southbound left-turn lanes, extend queue storage for southbound lefts and westbound lefts
2015	5-11a	Sunnyside Rd	OR 213 to 97th Ave	Modified boulevard treatment including lane redesign, medians, beautification, curb extensions, reconstructed sidewalks, landscaping, south side bikeways. Consider flashing yellow arrow for left-turns at signalized intersections.
2016	5-11b	282nd Ave	282nd / Haley Rd intersection	Install traffic signal and reduce speed limit on 282nd
2017	5-11b	362nd Ave	Skogan Rd to OR 211	Add paved shoulders
2018	5-11b	Eagle Creek Rd	OR 211 to Duus Rd	Add paved shoulders
2019	5-11b	Firwood Rd	Wildcat Mountain Dr to US 26	Add paved shoulders and turn lanes at major intersections.
2020	5-11c	Clackamas Rd	Johnson Rd and Webster Rd	Fill gaps in bikeways and pedestrian facilities
2021	5-11c	Jennings Ave	Oatfield Rd to Webster Rd	Widen to 2-lane urban minor arterial standard with bikeway and pedestrian facilities infill

Table 5-3b Preferred Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
2022	5-11c	Lake Oswego to Milwaukie Bridge	Between Sellwood and Oregon City	Construct bike/pedestrian crossing over the Willamette River
2023	5-11c	Roots Rd	Webster Rd to McKinley Rd	Add pedestrian facilities
2024	5-11c	Thiessen Rd	Oatfield Rd to Webster Rd	Add bikeways and pedestrian facilities
2025	5-11c	Webster Rd	OR 224 to Gladstone	Fill gaps in bikeways and pedestrian facilities
2026	5-11d	Advance Rd	~2,900 ft west of Mountain Rd	Realign roadway and grade improvements
2027	5-11d	Advance Rd	65th Ave to Mountain Rd	Add paved shoulders
2028	5-11d	Stafford Rd / 65th Ave	I-205 to Boeckman Rd / Advance Rd	Add paved shoulders and turn lanes at major intersections
2029	5-11e	Arndt Rd Extension	Barlow to OR 99E	Construct new 2 or 3 lane roadway
2030	5-11e	Barlow Rd	Knights Bridge Rd to OR 99E	Add paved shoulders
2031	5-11e	Beavercreek Multi-Use Path	Loder Rd to Ferguson Rd	Construct multi-use path consistent with the Beavercreek Road Concept Plan
2032	5-11e	Boones Ferry Rd	Boones Ferry Rd / Butteville Rd intersection	Remove bank, remove/decrease horizontal curve
2033	5-11e	Canby - Molalla Railroad Trail	City of Canby to City of Molalla	Construct multi-use path
2034	5-11e	Dryland Rd	Macksburg Rd S to Macksburg Rd N	Realign to form one intersection at Dryland Rd
2035	5-11e	Hattan Rd	Fischers Mill Rd to Gronlund Rd	Add paved shoulders and turn lanes at major intersections
2036	5-11e	Henrici Rd	OR 213 to Beavercreek Rd	Add paved shoulders and turn lanes at major intersections
2037	5-11e	Henrici Rd	Ferguson Rd to Redland Rd	Add paved shoulders and turn lanes at major intersections. Remove horizontal and vertical curves
2038	5-11e	Molalla Forest Rd	City of Canby to City of Molalla	Pave to provide bicycle access
2039	5-11e	Mulino Rd (13th St segment)	Canby city limits to OR 213	Add paved shoulders and turn lanes at major intersections
2040	5-11e	Newell Creek Trail / Oregon City Loop Trail	Loop around the perimeter of Oregon City	Construct multi-use path consistent with the Connecting Clackamas Plan
2041	5-11e	Redland Rd	Redland Rd / Bradley Rd intersection	Install eastbound left-turn lane
2042	5-11e	Redland Rd	Redland Rd / Fischers Mill Rd / Henrici Rd intersection	Install eastbound left-turn, eastbound right-turn and westbound right-turn lanes at Henrici Rd
2043	5-11e	Springwater Rd	Springwater Rd / Bakers Ferry Rd intersection	Install southbound left-turn lane; realign intersection to fix skew

Table 5-3c Long Term Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
3000	5-11a	106th Ave	OR 212 to Jennifer St	Add bikeways and pedestrian facilities
3001	5-11a	152nd Ave Phase 2	Sunnyside Rd to OR 212	Add bikeways, pedestrian facilities and turn lanes at major intersections
3002	5-11a	162nd Ave	Sager Rd north to County line	Add bikeways, pedestrian facilities, turn lanes at major intersections
3003	5-11a	172nd Ave Bridge	~140 feet south of Troge Rd	Replace bridge nearing the end of its useful life
3004	5-11a	82nd Dr	OR 212 to Gladstone	Widen to 5 lane with bikeways and pedestrian facilities
3005	5-11a	84th Ave	Sunnyside Rd to Sunnybrook Blvd	Fill in bikeways and pedestrian facilities gaps
3006	5-11a	93rd Ave	Sunnyside Rd to Sunnybrook Blvd	Add bikeways
3007	5-11a	Cheldelin Rd	Foster Rd to 190th Dr	Add bikeways and pedestrian facilities
3008	5-11a	Cheldelin Rd (Clatsop St extension)	172nd Ave to Foster Rd	Construct new two lane roadway with bikeways and pedestrian facilities
3009	5-11a	Cornwell Ave	OR 213 to Fuller Rd	Add pedestrian facilities; connect to I-205 Multi-Use Path
3010	5-11a	Fuller Rd	Otty Rd to King Rd / OR 213	Construct new 2 lane extension with pedestrian facilities and bikeways
3011	5-11a	Fuller Rd	Johnson Creek Blvd to County line	Add pedestrian facilities
3012	5-11a	Hillcrest St	92nd Ave to Stevens Rd	Add pedestrian facilities
3013	5-11a	I-205 Pedestrian / Bike Overpass	Between Causey Ave and Sunnyside Rd	Construct a bike / pedestrian crossing over I-205 to connect transit services, businesses and residents
3014	5-11a	Idleman Rd	92nd Ave to Westview Ct	Fill gaps in bikeways and pedestrian facilities
3015	5-11a	Jennifer St	106th Ave to 130th Ave	Add bikeways
3016	5-11a	Johnson Creek Blvd	Bell Ave to OR 213	Widen to 3 lanes from Bell Ave to 76th Ave and 5 lanes from 76th Ave to 82nd Ave ; add bikeways and pedestrian facilities
3017	5-11a	King Rd	Milwaukie City Limits to 82nd Ave	Fill gaps in pedestrian facilities
3018	5-11a	Lake Rd	OR 224 west to Milwaukie city limits	Add pedestrian facilities and turn lanes at major intersections
3019	5-11a	Lake Rd	Johnson Rd to Webster Rd	Fill gaps in pedestrian facilities and bikeways
3020	5-11a	Linwood Ave Bridge over Johnson Creek	Bridge	Construct bridge with bike lanes and sidewalks
3021	5-11a	Luther Rd Bridge	Bridge crossing Johnson Creek	Replace bridge
3022	5-11a	Mather Rd	Mather Rd / 122nd Ave intersection	Install traffic signal or compact roundabout
3023	5-11a	Mather Rd	122nd Ave to 132nd Ave	Construct new 2 lane roadway with pedestrian facilities and bikeways
3024	5-11a	Mather Rd	Industrial Way to 98th Ave	Maintain as pedestrian facilities and bikeway. Construct undercrossing at Sunrise Expressway.
3025	5-11a	Michael Dr	72nd Ave to Fuller Ave	Fill gaps in pedestrian facilities

Table 5-3c Long Term Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
3026	5-11a	Phillips Creek Multi-Use Path	Causey Ave to North Clackamas Regional Parks Trail	Construct multi-use path
3027	5-11a	Sunnyside Rd Adaptive Signal Timing	OR 213 to 172nd Ave	Add adaptive timing to traffic signals
3028	5-11a	Valley View Terrace	Sunnyside Rd to Otty Rd	Add bikeways and pedestrian facilities
3029	5-11a	West 82nd Ave Parallel Road	King Rd to Luther Rd	Construct collector road parallel to OR 213 with bikeways and pedestrian facilities
3030	5-11b	282nd Ave	282nd Ave / OR 212 intersection	Add second right-turn lane on 282nd Ave and additional intersection improvements as needed
3031	5-11b	282nd Ave	OR 212 to Multnomah County line	Add paved shoulders
3032	5-11b	352nd Ave / Dunn Rd	Bluff Rd to Bluff Rd	Add paved shoulders
3033	5-11b	362nd Dr	Colorado Rd to Dubarko Rd	Remove or decrease horizontal and vertical curves
3034	5-11b	362nd Dr	362nd Ave / Deming Rd intersection	Remove or decrease vertical curve, relocate intersection
3035	5-11b	Barlow Trail Rd/ Lolo Pass Rd	Between communities of Timberline, Welches and Zig Zag	Add paved shoulders
3036	5-11b	Bluff Rd	Kelso Rd to County line	Add paved shoulders
3037	5-11b	Bull Run Rd	Ten Eyck Rd to Multnomah County line	Add paved shoulders and turn lanes at major intersections.
3038	5-11b	Bull Run Truss	Bull Run truss between Waterworks Rd and Bowman Rd	Replace bridge nearing the end of its useful life
3039	5-11b	Coalman Rd	City of Sandy to US 26	Add paved shoulders
3040	5-11b	Compton Rd	US 26 to 352nd Ave	Remove vertical curve near Orient Dr and relocate intersection; add paved shoulders
3041	5-11b	Coupland Rd	Estacada City limits to Divers Rd	Add paved shoulders and turn lanes at major intersections
3042	5-11b	Eagle Creek Rd	Keegan Rd to Currin Rd	Realign Eagle Creek Rd to remove or decrease downgrade
3043	5-11b	Firwood Rd	Firwood Rd / Trubel Rd intersection	Realign Trubel Rd to remove or decrease downgrade
3044	5-11b	Hayden Rd	Springwater Rd to OR 211	Add paved shoulders
3045	5-11b	Howlett Rd	OR 211 to Wildcat Mountain Dr	Add paved shoulders
3046	5-11b	Kelso Rd	Richey Rd to Orient Dr	Add paved shoulders
3047	5-11b	Kelso Rd	Orient Dr to Sandy Urban Growth Boundary	Remove vertical curve, relocate intersection, add paved shoulders and turn lanes at major intersections; investigate speed zone

Table 5-3c Long Term Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
3048	5-11b	Lolo Pass Rd	US 26 to Barlow Trail Rd	Safety analysis; add paved shoulders
3049	5-11b	Mt Hood Aerial Transportation Link	Between Ski Bowl, Government Camp Village and Timberline Lodge	Aerial transportation link
3050	5-11b	Orient Dr	US 26 north to County line	Add paved shoulders
3051	5-11b	Porter Rd Bridge over Delph Creek	~100 ft east of Wilcox Rd	Replace bridge
3052	5-11b	Salmon River Rd	US 26 to Welches Rd	Add paved shoulders
3053	5-11b	Springwater Rd	Hayden Rd to OR 211	Add paved shoulders
3054	5-11b	Ten Eyck Rd	Lusted Rd to US 26	Remove vertical curve, relocate intersection, add paved shoulders, turn lanes at major intersections; investigate speed zone
3055	5-11b	Tickle Creek Trail	Springwater Corridor to Sandy city limits	Construct multi-use path consistent with the Connecting Clackamas Plan
3056	5-11b	Welches Rd	Birdie Ln to Salmon River Rd	Add paved shoulders
3057	5-11b	Wildcat Mountain Dr	OR 224 to Firwood Rd	Add paved shoulders
3058	5-11c	Aldercrest Dr	Thiessen Rd to Oatfield Rd	Add pedestrian facilities to one side of the road and bikeways
3059	5-11c	Clackamas Rd	Clackamas Rd / I-205 interchange	Construct bike/pedestrian bridge over I-205
3060	5-11c	Hill Rd	Oatfield Rd to Thiessen Rd	Add bikeways and pedestrian facilities
3061	5-11c	Johnson Rd / McKinley Rd	OR 224 to I-205 multi-use path	Bikeway and pedestrian facilities infill
3062	5-11c	McNary Rd / Mabel Ave	Oatfield Rd to Webster Rd	Add bikeways and pedestrian facilities
3063	5-11c	Naef Rd	Oatfield Rd to River Rd	Add pedestrian facilities
3064	5-11c	Oatfield Rd	Oatfield Rd / Hill Rd intersection	Add left-turn lanes, install signal if warranted
3065	5-11c	Oatfield Rd	Milwaukie city limits to Gladstone city limits	Fill gaps in pedestrian facilities and bikeways
3066	5-11c	Oatfield Ridge Connection	Between Jennings Ave and Thiessen Ave over Oatfield Ridge	Construct multi-use path
3067	5-11c	Oetkin Way and Naef Rd	Oatfield Rd and Wallace Rd	Add bikeways
3068	5-11c	Portland Ave	Jennings Ave to Hull Ave	Fill gaps in pedestrian facilities
3069	5-11c	Risley Ave	Arista Dr to Hager Rd	Fill gaps in pedestrian facilities
3070	5-11c	River Rd	Courtney Ave to Oak Grove Blvd	Add pedestrian facilities
3071	5-11c	River Rd	Risley Ave to Rinearson Rd	Add pedestrian facilities

Table 5-3c Long Term Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
3072	5-11c	Roethe Rd	River Rd to OR 99E (McLoughlin Blvd)	Add bikeways, pedestrian facilities and traffic calming
3073	5-11c	Rusk Rd	OR 224 South to Aldercrest Rd	Add pedestrian facilities on one side of the roadway and bikeways
3074	5-11c	Strawberry Ln	Webster Rd to 82nd Dr	Add pedestrian facilities and fill bikeway gaps
3075	5-11c	Thiessen Rd	Thiessen Rd / Hill Rd intersection	Add right-turn lane on Thiessen Rd; consider converting to two-way stop controlled or installing roundabout
3076	5-11c	View Acres Rd	Oatfield Rd to Hill Rd	Add pedestrian facilities and traffic calming
3077	5-11c	Webster Rd	Webster Rd / Jennings Ave and Webster Rd / Roots Rd intersections	Construct traffic signals, turn lanes
3078	5-11c	Webster Rd	Webster Rd / Strawberry Ln intersection	Add signal; construct southbound and westbound left-turn lane
3079	5-11d	65th Ave	Stafford Rd to Tualatin city limits	Add paved shoulders
3080	5-11d	Baker Rd	Tooze Rd to County line	Add paved shoulders
3081	5-11d	Bell Rd	Ladd Hill Rd to Wilsonville Rd	Add paved shoulders
3082	5-11d	Bonita Rd	Carman Dr to I-5	Add bikeways and pedestrian facilities
3083	5-11d	Childs Rd	Stafford Rd to Lake Oswego city limits	Add pedestrian facilities, bikeways and turn lanes at major intersections
3084	5-11d	Graham's Ferry Rd	County line to Westfall Rd	Add paved shoulders
3085	5-11d	Graham's Ferry Rd	Wilsonville Rd to Wilsonville city limits	Add paved shoulders
3086	5-11d	Hoffman Rd / Peach Cove Rd / Riverwood Rd	Mountain Rd to Tualatin River	Add paved shoulders
3087	5-11d	Homesteader Rd	Stafford Rd to Mountain Rd	Add paved shoulders
3088	5-11d	Johnson Rd	Stafford Rd to West Linn city limits	Add paved shoulders and turn lanes at major intersections
3089	5-11d	Ladd Hill Rd	Wilsonville Rd to Washington County line	Add paved shoulders and turn lanes at major intersections
3090	5-11d	Mountain Rd	Stafford Rd to Hoffman Rd	Add paved shoulders
3091	5-11d	Petes Mountain Rd	West Linn city limits to Hoffman Rd	Add paved shoulders and turn lanes at major intersections
3092	5-11d	Pleasant Hill Rd / McConnell Rd / Tooze Rd	Ladd Hill Rd to Westfall Rd	Add paved shoulders
3093	5-11d	Schaeffer Rd	Mountain Rd to Petes Mountain Rd	Add paved shoulders
3094	5-11d	Schatz Rd / 55th Ave / Meridian Way	65th Ave to Stafford Rd	Add paved shoulders

Table 5-3c Long Term Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
3095	5-11d	Tualatin / Lake Oswego Pedestrian and Bicycle Bridge	Tualatin River Bridge	Construct bike / pedestrian bridge consistent with the Connecting Clackamas Plan
3096	5-11d	Wilsonville Rd	Wilsonville Rd / Bell Rd intersection	Realign roadway and grade improvements
3097	5-11d	Wilsonville Rd	Wilsonville Rd / Edminston Rd intersection	Remove bank, remove horizontal curve, relocate intersection
3098	5-11d	Wilsonville Rd Bridge	~300 feet south of Bell Rd	Replace bridge nearing the end of its useful life
3099	5-11d	Wisteria Rd / Woodbine Rd	Rosemont Rd to Johnson Rd	Add paved shoulders
3100	5-11e	Airport Rd	Arndt Rd to Miley Rd	Add turn lanes at major intersections
3101	5-11e	Bakers Ferry Rd	Springwater Rd to OR 224	Add paved shoulders and turn lanes at major intersections; remove horizontal curve and relocate intersection from Eaden Rd to OR 224
3102	5-11e	Barnards Rd	Meridian Rd to Canby-Marquam Hwy	Add paved shoulders
3103	5-11e	Barnards Rd	Needy Rd to Stuwe Rd	Reconstruct bridge and widen to 36 feet
3104	5-11e	Beavercreek Rd	Yeoman Rd/Steiner Rd to OR 211	Add paved shoulders
3105	5-11e	Bradley Rd	Redland Rd to Holcomb Blvd	Add turn lanes at major intersections
3106	5-11e	Bradley Rd	Gronlund Rd to Redland Rd	Add paved shoulders
3107	5-11e	Buckner Creek Rd	Gard Rd to Cochell Rd	Add paved shoulders
3108	5-11e	Canby-Marquam Highway	OR 170 / Macksburg Rd intersection	Reconstruct intersection; install southbound left-turn lane and northbound right-turn lane
3109	5-11e	Canby-Marquam Highway	City of Canby to OR 211	Add paved shoulders
3110	5-11e	Carus Rd	Central Point Rd to Beavercreek Rd	Add paved shoulders
3111	5-11e	Casto Rd	Spangler Rd to Central Point Rd	Add paved shoulders and turn lanes at major intersections
3112	5-11e	Central Point Rd	Parrish Rd to Mulino Rd	Add paved shoulders; smooth curves
3113	5-11e	Clackamas River Dr	Oregon City limits to Springwater Rd	Add paved shoulders and turn lanes at Springwater Rd and Forsythe Rd
3114	5-11e	Fellows Rd	Redland Rd to Lower Highland Rd	Add paved shoulders and turn lanes at major intersections
3115	5-11e	Ferguson Rd	Beavercreek Rd and Henrici Rd	Reduce the speed limit and install traffic calming
3116	5-11e	Fischers Mill Rd	Redland Rd to Springwater Rd	Add paved shoulders
3117	5-11e	Forsythe Rd	Oregon City line to Bradley Rd	Add paved shoulders
3118	5-11e	Forsythe Rd	Oregon City limit to Bradley Rd	Add center turn lane and paved shoulders

Table 5-3c Long Term Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
3119	5-11e	Forsythe Rd	Forsythe Rd / Victory Rd intersection	Realign, widen Victory Rd; remove or decrease curves along Forsythe Rd; relocate intersection
3120	5-11e	Gard Rd	~100 ft south of Old Clarke Rd	Construct bridge to accommodate paved shoulders
3121	5-11e	Gronlund Rd / Hattan Rd	Bradley Rd to Springwater Rd	Add paved shoulders and turn lanes at major intersections
3122	5-11e	Henrici Rd	Between Driftwood Dr and Shore Vista Dr	Widen bridge to accommodate paved shoulders
3123	5-11e	Holcomb Blvd	Edenwild Ln to Bradley Rd	Add paved shoulders and turn lanes at Holcomb Blvd / Bradley Rd
3124	5-11e	Kamrath Rd	Carus Rd to Spangler Rd	Safety analysis at Carus Rd, add paved shoulders, remove or decrease horizontal curves north of Spangler Rd
3125	5-11e	Knights Bridge Rd Bridge	~3,200 feet east of Barlow Rd	Replace bridge (nearing the end of its useful life)
3126	5-11e	Leland Rd	Oregon City line to Beaver Creek Rd	Add paved shoulders
3127	5-11e	Leland Rd	~1,000 ft north of Warnock Rd	Construct bridge to accommodate paved shoulders
3128	5-11e	Lone Elder Rd	County line to Canby-Marquam Hwy	Add paved shoulders
3129	5-11e	Lower Highland Rd	Beaver Creek Rd to Fellows Rd	Add paved shoulders and turn lanes at major intersections
3130	5-11e	Macksburg Rd	Canby Marquam Hwy to OR 213	Add paved shoulders and turn lanes at major intersections
3131	5-11e	Maplelane Rd	~1,800 ft west of Walker Rd	Add paved shoulders
3132	5-11e	Maplelane Rd	Oregon City Urban Growth Boundary to Ferguson Rd	Add paved shoulders
3133	5-11e	Mattoon Rd	Fischers Mill Rd to Redland Rd	Add paved shoulders and turn lanes at major intersections; remove vertical curves, remove horizontal curves north of Redland Rd
3134	5-11e	Meridian Rd	Lone Elder Rd to OR 211	Add paved shoulders
3135	5-11e	Meridian Rd	Elliott Prairie Rd to Barlow Rd	Add paved shoulders; remove or decrease horizontal and vertical curves
3136	5-11e	Miley Rd	Airport Rd to Eilers Rd	Add paved shoulders
3137	5-11e	Molalla Ave	OR 213 to Molalla City limits	Add paved shoulders
3138	5-11e	New Era Rd / Haines Rd	OR 99E to Leland Rd	Add paved shoulders
3139	5-11e	Redland Rd	Fischers Mill Rd to Springwater Rd	Add paved shoulders
3140	5-11e	Redland Rd	~900 ft west of Holly Ln	Widen to include shoulders and bikeways
3141	5-11e	Redland Rd	~400 ft west of Holly Ln	Widen to include shoulders and bikeways
3142	5-11e	Redland Rd	Henrici Rd to Oregon City limit	Add paved shoulders

Table 5-3c Long Term Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description
3143	5-11e	Redland Rd	Henrici Rd to Springwater Rd	Add paved shoulders and turn lanes at major intersections
3144	5-11e	Ridge Rd	Lower Highland Rd to Redland Rd	Add paved shoulders
3145	5-11e	Rock Creek (Kropf Rd) Bridge	~3,500 ft north of Gibson Rd	Replace bridge
3146	5-11e	S Killdeer Rd	Ferguson Road and Yeoman Road	Extend S Killdeer Rd to connect with S. Ivel Rd. and provide bike/pedestrian access
3147	5-11e	South End Rd	Oregon City limits to OR 99E	Smooth curves; add paved shoulders
3148	5-11e	Spangler Rd	Casto Rd to Beaver creek Rd	Add paved shoulders and turn lanes at major intersections
3149	5-11e	Springwater Rd	Bakers Ferry Rd to Hayden Rd	Add paved shoulders and turn lanes at major intersections
3150	5-11e	Thayer Rd/Ferguson Rd	Oregon City line to Redland Rd	Add paved shoulders
3151	5-11e	Toliver Rd	Dryland Rd to Molalla city Limits	Add paved shoulders
3152	5-11e	Unger Rd	Beavercreek Rd to OR 211	Add paved shoulders and turn lanes at major intersections
3153	5-11e	Union Hall Rd	Central Point Rd to El Dorado Rd	Add paved shoulders
3154	5-11f	Bird Rd	Groshong Rd to Wilhoit Rd	Add paved shoulders and turn lanes at major intersections
3155	5-11f	Blair Rd	Groshong Rd to Maple Grove Rd	Add paved shoulders and turn lanes at major intersections
3156	5-11f	Callahan Rd S (beginning on Ramsby Rd)	Dickey Prairie Rd to Fernwood Rd	Add paved shoulders and turn lanes at major intersections
3157	5-11f	Dhooghe Rd	OR 211 to Fernwood Rd	Add paved shoulders and turn lanes at major intersections
3158	5-11f	Fernwood Rd	Dhooghe Rd to Callahan Rd	Add paved shoulders and turn lanes at major intersections
3159	5-11f	Gray's Hill Rd	Green Mountain Rd to OR 211	Add paved shoulders
3160	5-11f	Maple Grove Rd	Nowlens Bridge Rd to Sawtell Rd	Add paved shoulders and turn lanes at major intersections
3161	5-11f	Nowlens Bridge Rd	OR 213 to Maple Grove Rd	Add paved shoulders and turn lanes at major intersections
3162	5-11f	Sawtell Rd	Maple Grove Rd to Wilhoit Rd	Add paved shoulders and turn lanes at major intersections
3163	5-11f	Wildcat Rd	Wilhoit Rd to OR 213	Add paved shoulders and turn lanes at major intersections
3164	5-11f	Wright Rd	OR 211 to Callahan Rd	Add paved shoulders

Table 5-3d Regional Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description	Priority
4000	County-wide	TSP Refinement	State facility locations applicable where mobility target is not met in 2035	TSP Refinement to develop alternative mobility targets for state facilities consistent with Oregon Highway Plan (OHP) 1F3.	High
4001	5-11a	I-205 / Sunnyside Road interchange	I-205 / Sunnyside Road interchange	Add dual northbound right-turns; install bike signal.	High
4002	5-11a	OR 212	OR 212 / 172nd Ave intersection	Add second eastbound left-turn lane	High
4003	5-11a	OR 212	SE 162nd to Anderson Rd	Add bikeways, pedestrian facilities ways, and landscape pedestrian facilities buffer; widen to 6 lanes within Happy Valley; add center turn lane within Damascus	High
4004	5-11a	OR 213	Sunnybrook Blvd to Portland City Limits	Extend fiberoptic communications, CCTV at key intersections and adaptive signal timing	High
4005	5-11a	OR 224	OR 224 / Lake Rd / Webster Rd intersection	Add turn-lanes, including second left-turn lane on westbound OR 224, second left-turn lane and right-turn lane on northbound SE Webster Rd, and second left-turn lane on southbound SE Lake Rd	High
4006	5-11a	OR 224	OR 224 / Johnson Rd intersection	Add second left-turn lane on westbound OR 224	High
4007	5-11a	OR 224	OR 224 / Hubbard Rd / 135th Ave intersection	Add intersection improvements, including right-turn lanes	High
4008	5-11a	OR 224	Springwater Rd / OR 224 intersection	Add signal and turn lanes on all approaches	High
4009	5-11a	OR 224	Rock Creek Junction to Midway St	Widen to four lanes; add bikeways.	High
4010	5-11a	Sunrise Project - Preliminary Engineering	Webster Rd/ OR 224 to 172nd Ave / OR 212	Preliminary engineering from Webster Rd to 172nd Ave	High
4011	5-11a	Sunrise Project - Right-of-Way	Webster Rd/ OR 224 to 172nd Ave / OR 212	Acquire right-of-way to accommodate 6 lane expressway plus auxiliary lanes	High
4012	5-11a	SunriseProject - Multi-use Path	122nd to Rock Creek Junction	Construct multi-use path from 122nd to Rock Creek Junction parallel to the Sunrise project consistent with FEIS.	High
4013	5-11b	OR 224	OR 224 /232nd Ave intersection	Install traffic signal or roundabout	High
4014	5-11b	OR 224	Eaglecreek Rd / OR 224 intersection	Install signal	High
4015	5-11c	OR 99E	Milwaukie city limit to Gladstone city limit	Add bikeways, pedestrian facilities ways, median enhancements, crosswalks and pedestrian facilities refuges	High
4016	5-11d	I-205	SW Stafford Rd to OR 99E	Work with ODOT, Metro, Oregon City, West Linn and any other effect jurisdiction to analyze and develop a solution to the transportation bottle neck on I-205 between Oregon City and I-205 / Stafford Road Interchange. Possible solutions include widening to 3-lanes in each direction.	High
4017	5-11e	I-205	Willamette River to West Linn city limit	Add southbound truck climbing lane	High
4018	5-11e	I-205	I-205 Corridor	Corridor-wide operational improvements	High

Table 5-3d Regional Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description	Priority
4019	5-11e	OR 211	Beavercreek Rd, Union Hall Rd to Dhooghe Rd	Widen to include shoulders, bikeways, add passing lanes where needed and turn lanes at major intersections	High
4020	5-11e	OR 213	OR 213 / Spangler Rd intersection	Install traffic signal to replace existing two-way stop	High
4021	5-11e	OR 213	OR 213 / Henrici Rd intersection	Install traffic signal or roundabout and additional intersection improvements as needed	High
4022	5-11e	OR 213	OR 213 / Leland Rd intersection	Add northbound through auxiliary lane	High
4023	5-11e	OR 213	Leland Rd / Union Hall Rd intersection	Add southbound auxiliary lane	High
4024	5-11e	OR 213	Mulino to Molalla	Perform road safety audit or transportation safety review to identify appropriate safety improvements	High
4025	5-11e	OR 99E	OR 99E / Barlow Rd intersection	Add left-turn lane on southbound Barlow Rd - To widen Barlow Rd to add a southbound left turn lane on the north approach would need to modify the existing railroad crossing warning system	High
4026	5-11a	I-205 / Johnson Creek Blvd interchange	I-205 / Johnson Creek Blvd interchange	Add loop ramp and northbound on-ramp; realign southbound off-ramp and install dual right-turn lanes	Medium
4027	5-11a	I-205 / OR 212/224 Interchange	In vicinity of Roots Rd and McKinley Ave	Connect bikeways	Medium
4028	5-11a	OR 212	Rock Creek Junction to 172nd	Construct climbing lane	Medium
4029	5-11a	OR 212	OR 212 / SE 162nd Ave intersection	Add left-turn pockets and traffic signal	Medium
4030	5-11a	OR 213	Sunnyside Rd to Sunnybrook Rd	Widen to 7 lanes with boulevard treatments	Medium
4031	5-11a	OR 213	OR 213 / Harmony Rd / Sunnyside Rd intersection	Add bikeways, pedestrian facilities ways, dual northbound and southbound left-turn lanes, and lighting; convert driveways north of intersection to right-in / right-out	Medium
4032	5-11a	OR 224	OR 224 / Rusk Rd off-ramp	Extend right-turn lane on OR 224	Medium
4033	5-11a	OR 224	Milwaukie city limits to I-205	Construct multi-use path as parallel route to OR 224	Medium
4034	5-11a	OR 224	Lake Rd / Johnson Rd / Pheasant Ct	Realign Lake Rd / Johnson Rd to provide southern OR 224 access via Pheasant Ct; add turn lanes at OR 224 / Pheasant Ct intersection; close access at Lake / Webster south of OR 224	Medium
4035	5-11a	OR 99E	OR 99E / Jennings Ave intersection	Determine safe connection of Trolley Trail at OR 99E / Jennings Ave intersection	Medium
4036	5-11a	Sunrise Project	I-205 to 172nd Ave	Construct improvements to 172nd	Medium
4037	5-11b	OR 211	Hayden Rd to OR 224	Widen to rural arterial standard with shoulders, bikeways and turn lanes at major intersections	Medium
4038	5-11b	US 26	Govt. Camp Loop W to OR 35	Implement Finding of Mt Hood Multimodal Study including phased safety improvements	Medium
4039	5-11b	US 26	OR 35 Junction to Wasco County line	Widen roadway to include bikeways /shoulders, add passing lanes where needed and turn lanes at major intersections	Medium
4040	5-11e	OR 211	OR 170 (Canby-Marquam Hwy) / OR 211 intersection	Install eastbound and westbound left-turn lanes, and eastbound right-turn lane; remove or decrease horizontal curve	Medium

Table 5-3d Regional Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description	Priority
4041	5-11e	OR 211	Marion County line to OR 170 (Canby-Marquam Hwy)	Widen to include shoulders, bikeways, add passing lanes where needed and turn lanes at major intersections	Medium
4042	5-11e	OR 99E	Barlow Rd to Marion County line	Four lane widening with median, left-turn lanes from mile post 24.05	Medium
4043	5-11e/f	OR 213	Oregon City boundary to Marion County line	Add shoulders and bikeways	Medium
4044	5-11a	OR 212	I-205 to OR 224	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4045	5-11a	OR 212	Within the Damascus City Limits (Armstrong Cr to 257th)	Obtain right-of-way for future 4 lane facility with planted median and 5 lanes at major intersections; build as major development occurs and apply access management to reduce number of driveways.	Low
4046	5-11a	OR 213	Clatsop St to Sunnyside Rd	OR 213/82nd Avenue Boulevard Design Improvements - Widen to add sidewalks, lighting, central median, planting strips and landscaping; fill gaps in the bike and pedestrian facilities network. 2014 ODOT OR 213 paving project programmed King to OR 224.	Low
4047	5-11a	OR 213 (82nd Ave)	Luther Road to Sunnybrook Blvd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4048	5-11a	OR 224	Webster Rd and 82nd Ave	Provide frontage connection on the north side of OR 244	Low
4049	5-11a	OR 224	Springwater Rd to 232nd Dr	Shoulder widening, horizontal realignment, realignment of roadway to bluff	Low
4050	5-11b	OR 211	OR 224 to eastbound US 26	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4051	5-11b	OR 211	OR 224 to Hillcockburn Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4052	5-11b	OR 211	Tickle Creek Rd/OR 211 intersection	Remove or decrease horizontal curve, relocate intersection	Low
4053	5-11b	OR 211	362nd Dr / OR 211 intersection	Remove or decrease vertical curve and remove vegetation	Low
4054	5-11b	OR 211	Eagle Creek Rd to Tickle Creek Rd	Widen to include bikeways /shoulders and add passing /climbing lanes where needed	Low
4055	5-11b	OR 211	0.14 miles east of Coop Rd to Jackknife Rd	Widen to add shoulder / bikeways; realign to remove horizontal and vertical curves	Low
4056	5-11b	OR 211	Tickle Creek Rd to 362nd Dr	Widen to include bikeways /shoulders and add passing /climbing lanes where needed	Low
4057	5-11b	OR 211	Bornstedt Rd to City of Sandy	Add shoulders and bikeways	Low
4058	5-11b	OR 224	232nd Ave to OR 211	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4059	5-11b	OR 224	Fish Creek Rd to National Forest Rd 46	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4060	5-11b	OR 224	Bakers Ferry Rd / OR 224 intersection	Add eastbound right-turn lane	Low
4061	5-11b	OR 224	Amisigger Rd / OR 224 intersection	Install traffic signal; add southbound and eastbound left-turn lanes and westbound right-turn lane	Low

Table 5-3d Regional Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description	Priority
4062	5-11b	OR 224	Heiple Rd / OR 224 intersection	Add southbound right-turn lane	Low
4063	5-11b	OR 224	Bakers Ferry Rd to Estacada city limits	Widen to include shoulders and bikeways; add passing lanes where needed	Low
4064	5-11b	OR 224	OR 212 to City of Estacada	Add shoulders and bikeways	Low
4065	5-11b	US 26	US 26 / Haley Rd intersection	Develop a plan to address to address access and safety issues on US 26 at this intersection and implement that plan	Low
4066	5-11b	US 26	Kelso Rd to Duncan Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4067	5-11b	US 26	Duncan Rd to Langensand Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4068	5-11b	US 26	Firwood Rd to Sleepy Hollow Dr	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4069	5-11b	US 26	Rhododendron to OR 35	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4070	5-11b	US 26	US 26 / Firwood Rd intersection	Add eastbound right-turn lane	Low
4071	5-11b	US 26	US 26 / Brightwood Loop W	Add westbound right-turn lane	Low
4072	5-11b	US 26	US 26 / Brightwood Loop E	Add westbound right-turn lane	Low
4073	5-11b	US 26	Lolo Pass Rd to Govt. Camp Loop Rd. W	Implement Finding of Mt Hood Multimodal Study including ITS approach with variable speed signage	Low
4074	5-11c	OR 99E	Park Ave to Gladstone city limits	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4075	5-11d	OR 43	Lake Oswego to Portland	Develop active transportation connection consistent with the Connecting Clackamas Plan	Low
4076	5-11e	OR 211	Dhooghe Rd / OR 211 intersection	Remove or decrease horizontal curve, relocate intersection	Low
4077	5-11e	OR 211	OR 170 (Canby-Marquam Hwy) to City of Molalla	Add shoulders and bikeways	Low
4078	5-11e	OR 211	Needy Rd to 0.6 miles west of Needy Rd	Remove or decrease vertical curve to allow passing zone, add passing lane in one or both directions, possible relocation of intersection	Low
4079	5-11e	OR 211	Molalla city limits to Estacada city limits	Widen to rural arterial standard (2 lanes) with shoulders and bikeways	Low
4080	5-11e	OR 211	Beavercreek Rd to Upper Highland Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4081	5-11e	OR 213	OR 213 / Carus Rd intersection	Install traffic signal to replace existing two-way stop See U339	Low
4082	5-11e	OR 213	OR 213 / Beavercreek Rd intersection	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4083	5-11e	OR 213	Carus Rd / OR 213 intersection	Install southbound left-turn and right-turn lanes	Low
4084	5-11e	OR 213	Macksburg Rd to Liberal Way	Widen shoulders to state standards	Low
4085	5-11e	OR 99E	Oregon City to Canby	Add shoulders and bikeways	Low

Table 5-3d Regional Capital Projects

Project ID	Map	Project Name / Street Name	Segment / Locations	Project Description	Priority
4086	5-11e	OR 99E	Sequoia Parkway to Lone Elder Rd	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low
4087	5-11e	OR 99E	Territorial Rd to Metro boundary	Perform road safety audit or transportation safety review to identify appropriate safety improvements	Low

Capital Improvement Plan

Greater Clackamas Regional Center / Industrial Area

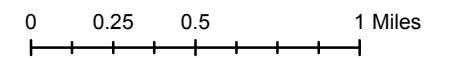
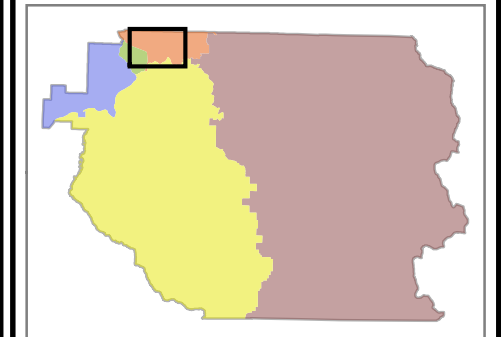
- 20-Year Capital Projects (Table 5-3a)
- Preferred Capital Projects (Table 5-3b)
- Long-Term Capital Project Needs (Table 5-3c)

Projects on Non-County Facilities

- High (Table 5-3d)
- Medium (Table 5-3d)
- Low (Table 5-3d)

- ▲ Study*
- Multi-Use Path*
- Metro Urban Growth Boundary
- Incorporated City

*Symbol color consistent with Priority symbologies shown above



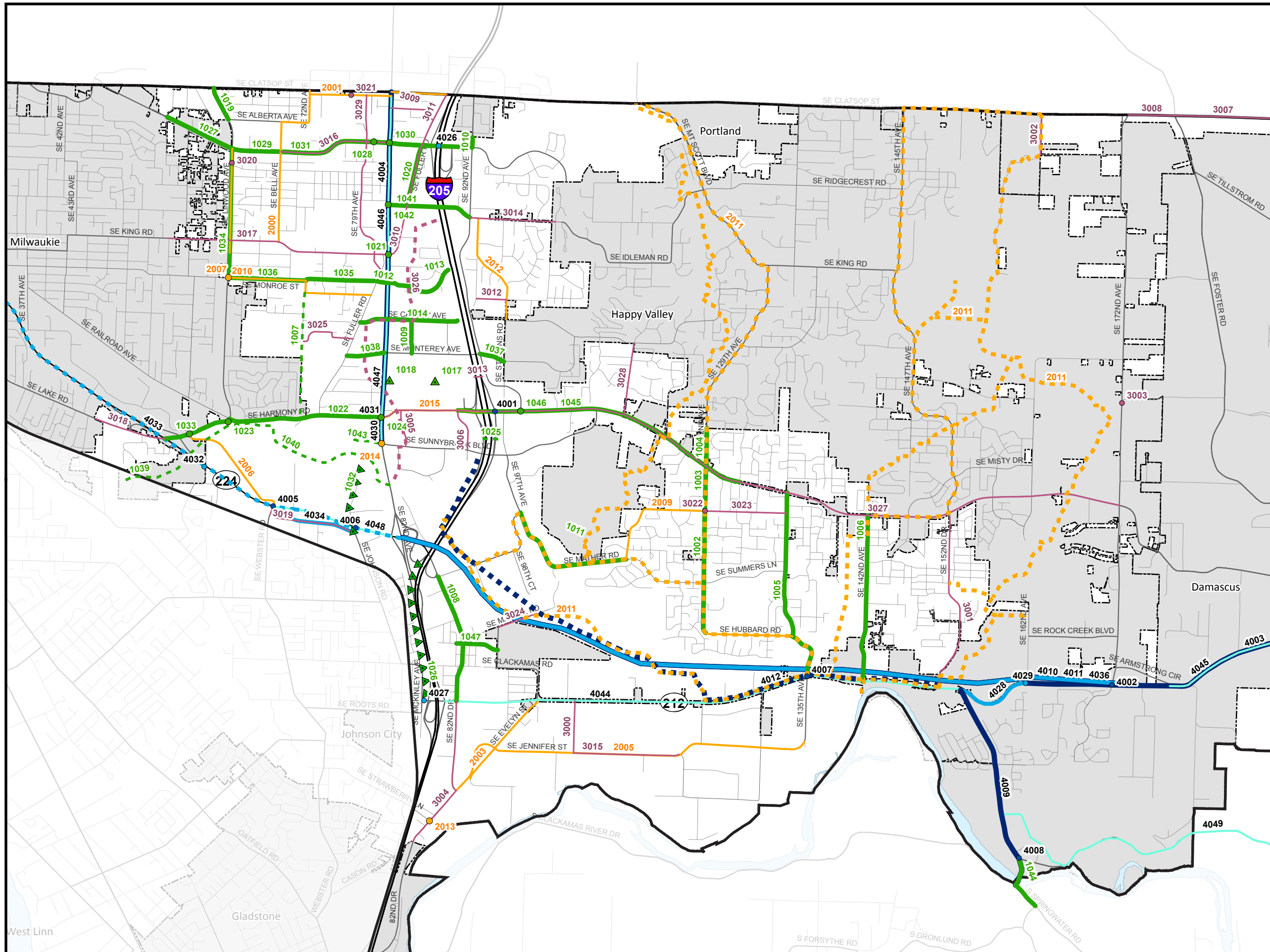
Last Amended March 1, 2014



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COMPREHENSIVE PLAN

MAP 5-11a



Capital Improvement Plan

East County

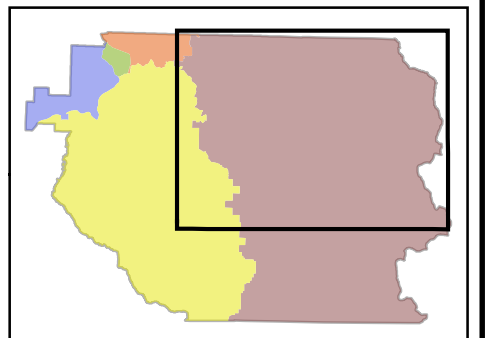
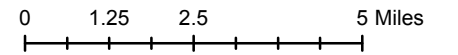
- 20-Year Capital Projects (Table 5-3a)
- Preferred Capital Projects (Table 5-3b)
- Long-Term Capital Project Needs (Table 5-3c)

Projects on Non-County Facilities

- High (Table 5-3d)
- Medium (Table 5-3d)
- Low (Table 5-3d)

- ▲ Study*
- Multi-Use Path*
- Metro Urban Growth Boundary
- Incorporated City

*Symbol color consistent with Priority symbologies shown above

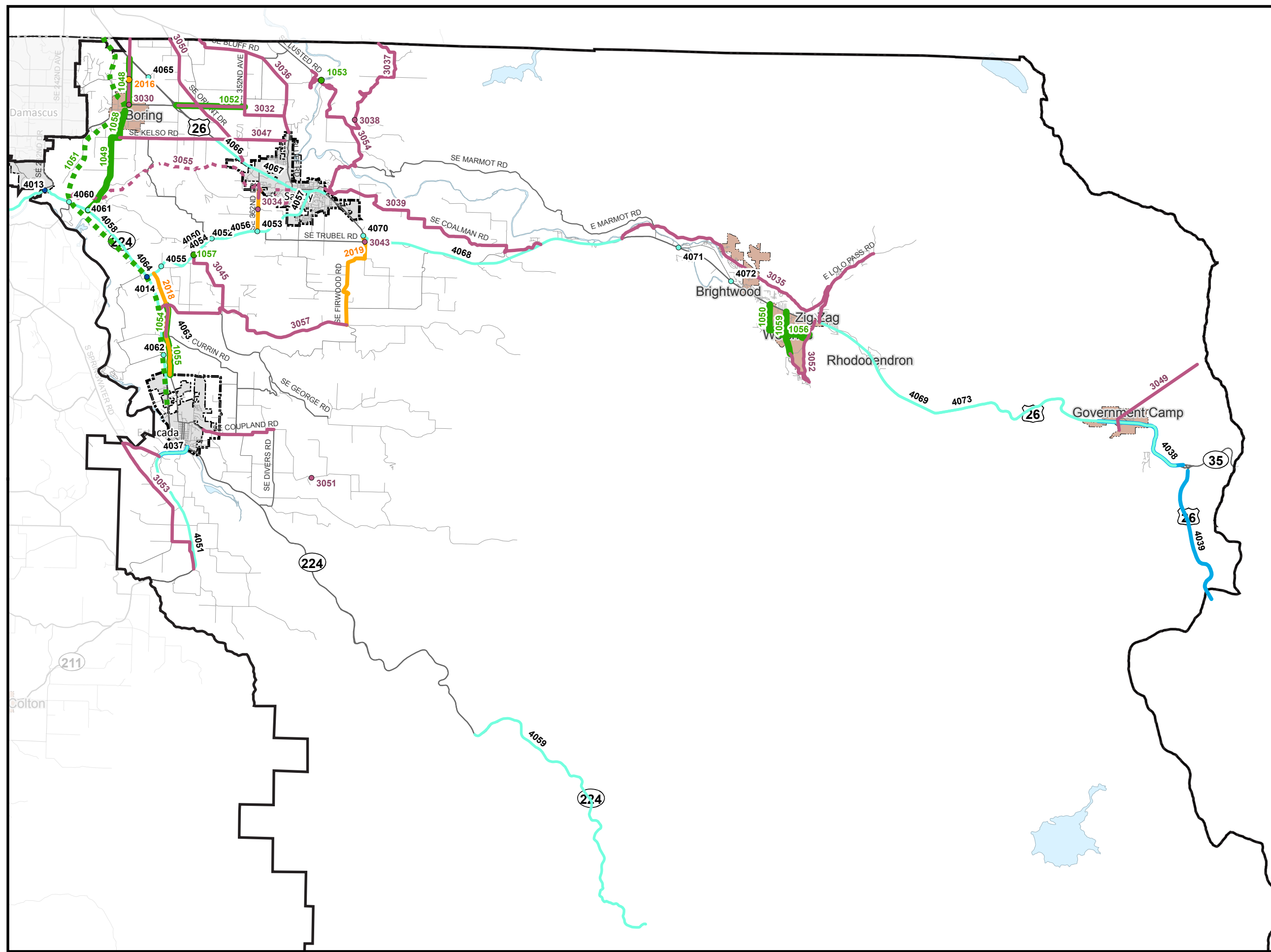


Last Amended March 1, 2014



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COMPREHENSIVE PLAN
MAP 5-11b



Capital Improvement Plan

Greater McLoughlin Area

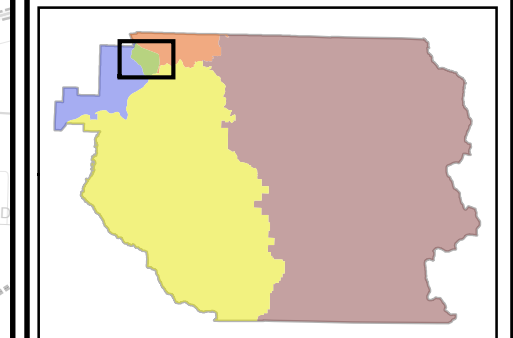
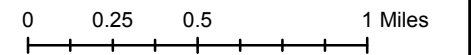
- 20-Year Capital Projects (Table 5-3a)
- Preferred Capital Projects (Table 5-3b)
- Long-Term Capital Project Needs (Table 5-3c)

Projects on Non-County Facilities

- High (Table 5-3d)
- Medium (Table 5-3d)
- Low (Table 5-3d)

- ▲ Study*
- Multi-Use Path*
- Metro Urban Growth Boundary
- Incorporated City

*Symbol color consistent with Priority symbologies shown above

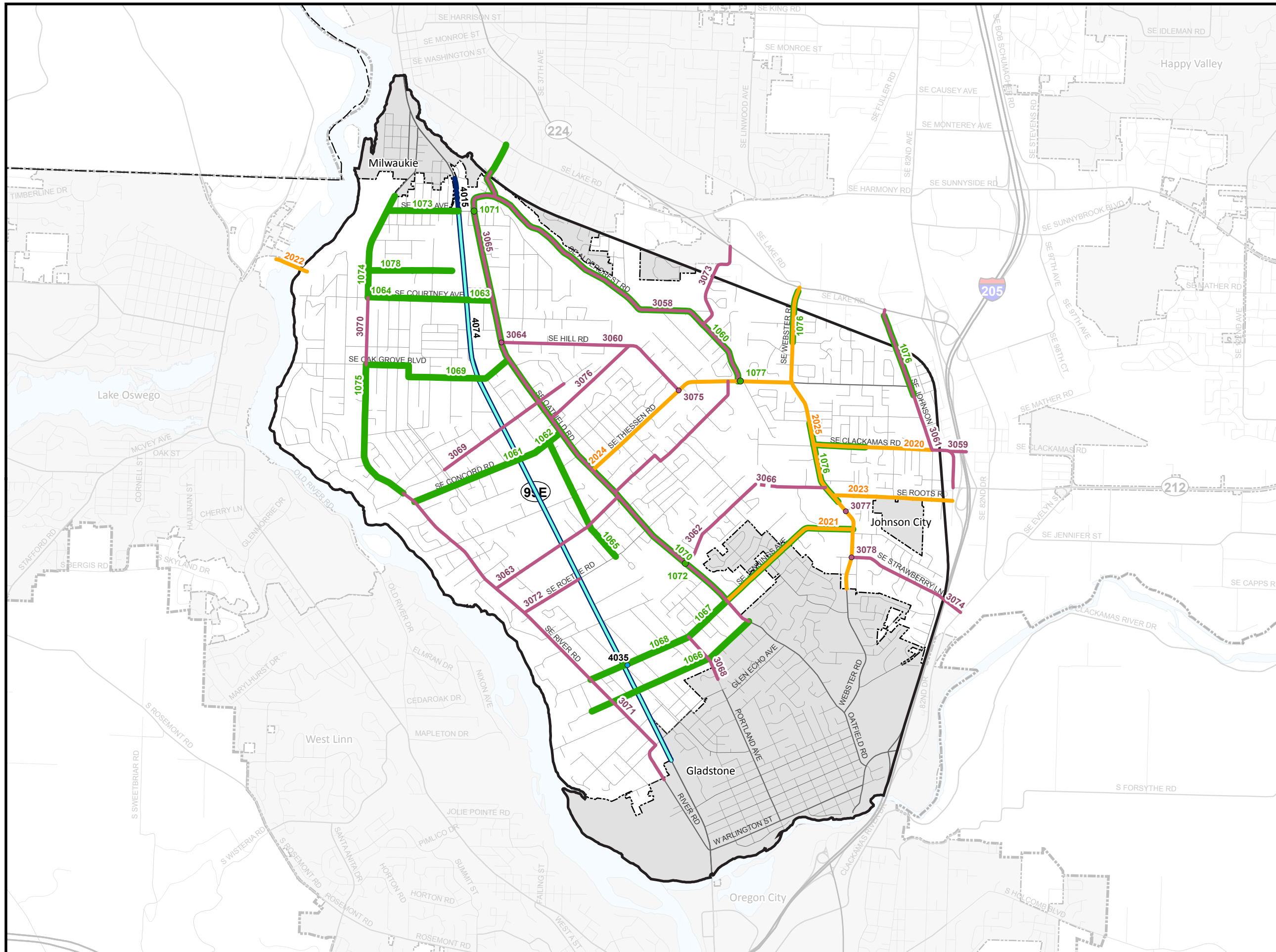


Last Amended March 1, 2014



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COMPREHENSIVE PLAN
MAP 5-11c



Capital Improvement Plan

Northwest County

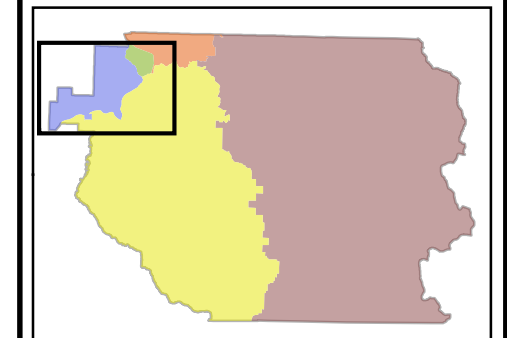
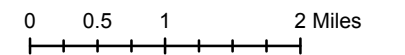
- 20-Year Capital Projects (Table 5-3a)
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- Long-Term Capital Project Needs (Table 5-3c)

Projects on Non-County Facilities

- High (Table 5-3d)
- Medium (Table 5-3d)
- Low (Table 5-3d)

- ▲ Study*
- Multi-Use Path*
- Metro Urban Growth Boundary
- Incorporated City

*Symbol color consistent with Priority symbologies shown above



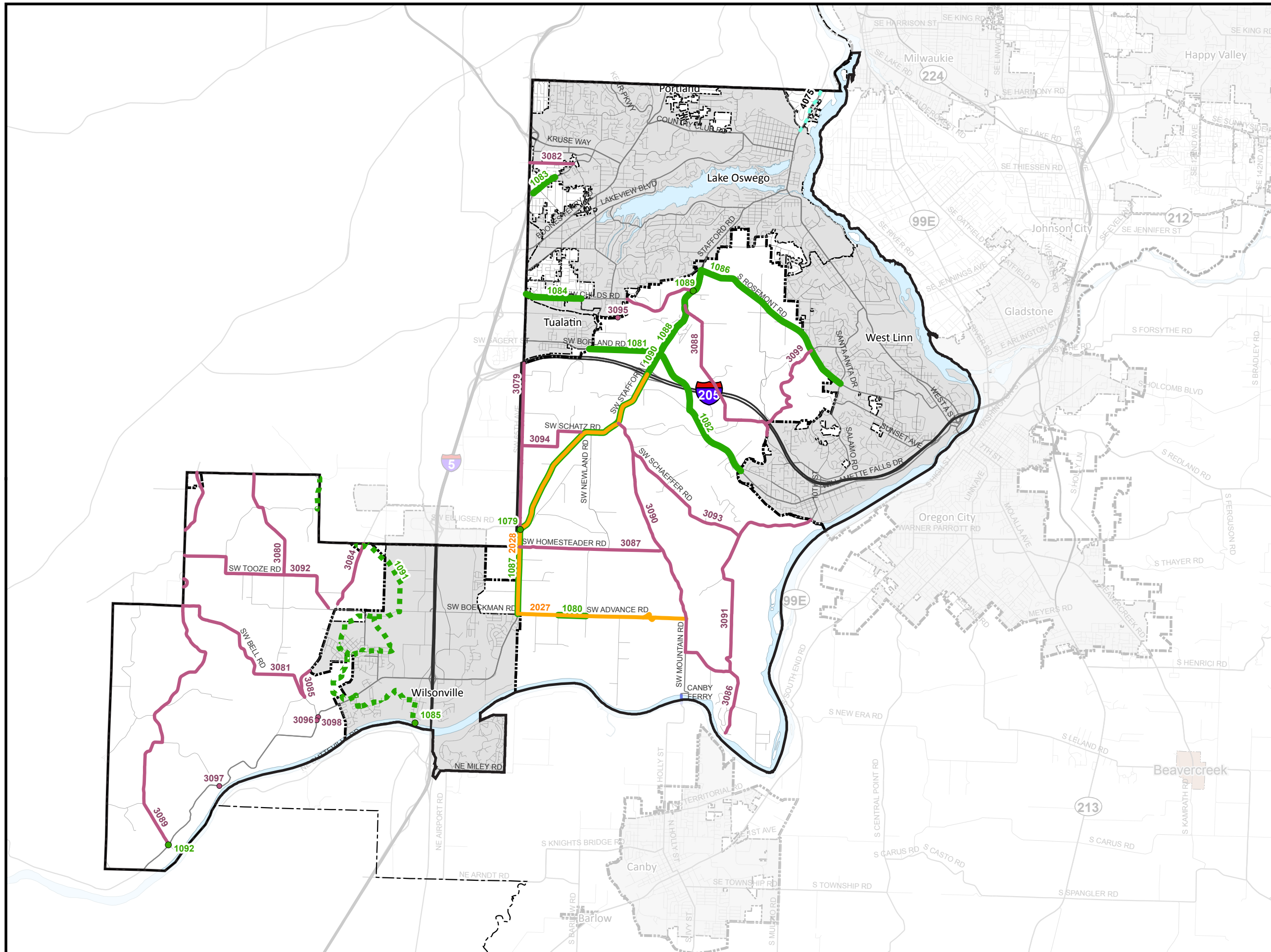
Last Amended March 1, 2014



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COMPREHENSIVE PLAN

MAP 5-11d



Capital Improvement Plan

Southwest County - Northern Portion

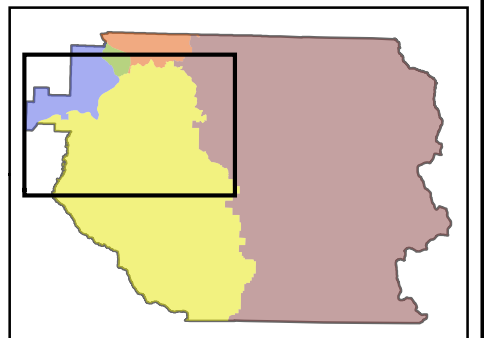
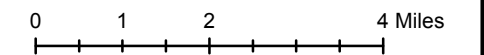
- 20-Year Capital Projects (Table 5-3a)
- Preferred Capital Projects (Table 5-3b)
- Long-Term Capital Project Needs (Table 5-3c)

Projects on Non-County Facilities

- High (Table 5-3d)
- Medium (Table 5-3d)
- Low (Table 5-3d)

- ▲ Study*
- Multi-Use Path*
- Metro Urban Growth Boundary
- Incorporated City

*Symbol color consistent with Priority symbologies shown above



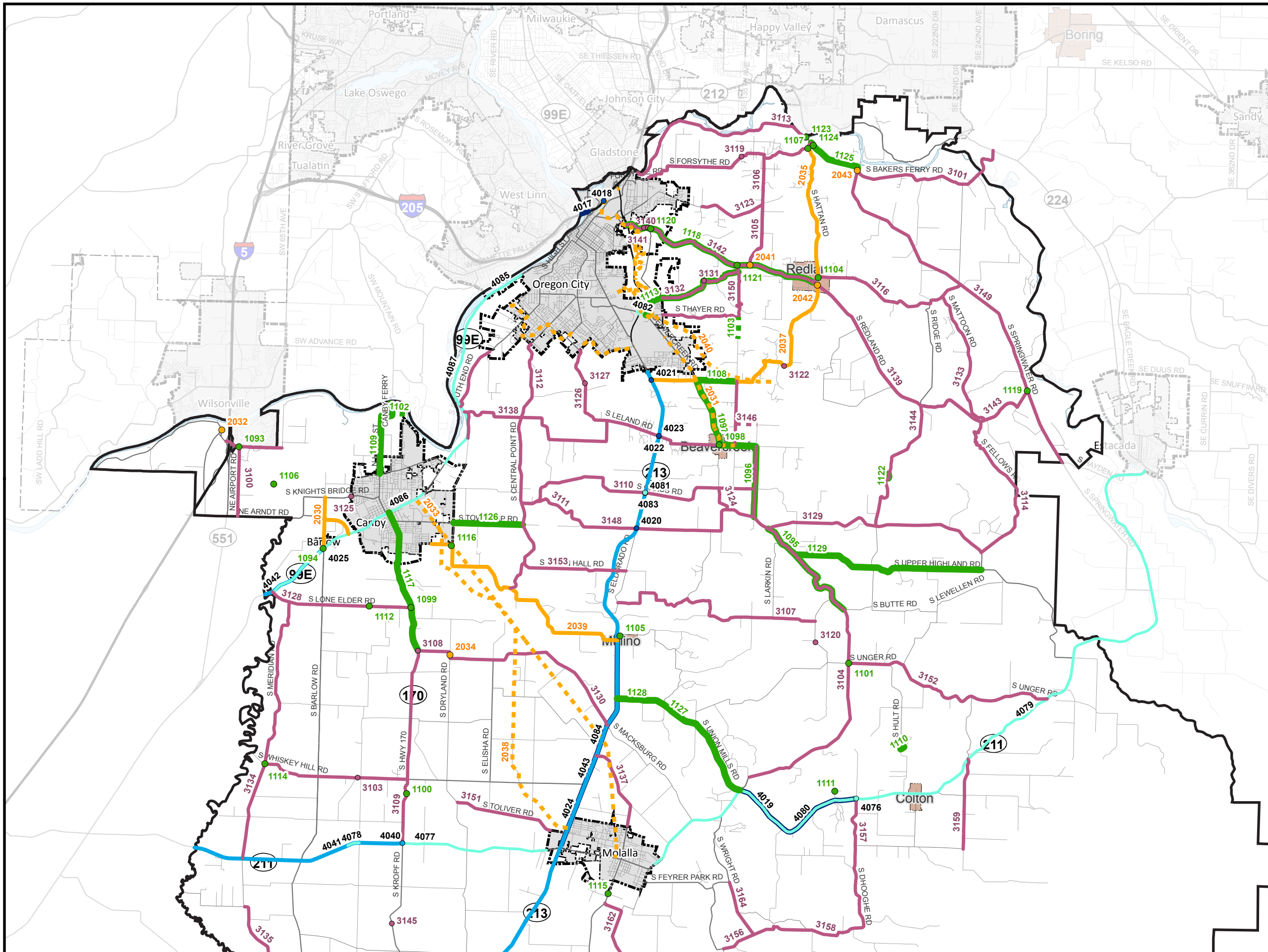
Last Amended March 1, 2014



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COMPREHENSIVE PLAN

MAP 5-11e



Capital Improvement Plan

Southwest County - Southern Portion

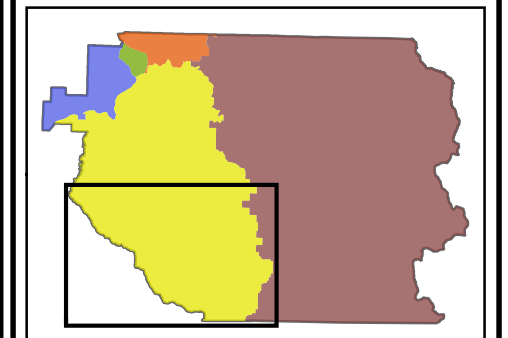
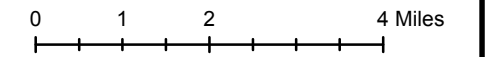
- 20-Year Capital Projects (Table 5-3a)
- Preferred Capital Projects (Table 5-3b)
- Long-Term Capital Project Needs (Table 5-3c)

Projects on Non-County Facilities

- High (Table 5-3d)
- Medium (Table 5-3d)
- Low (Table 5-3d)

- ▲ Study*
- ■ ■ Multi-Use Path*
- Metro Urban Growth Boundary
- Incorporated City

*Symbol color consistent with Priority symbologies shown above

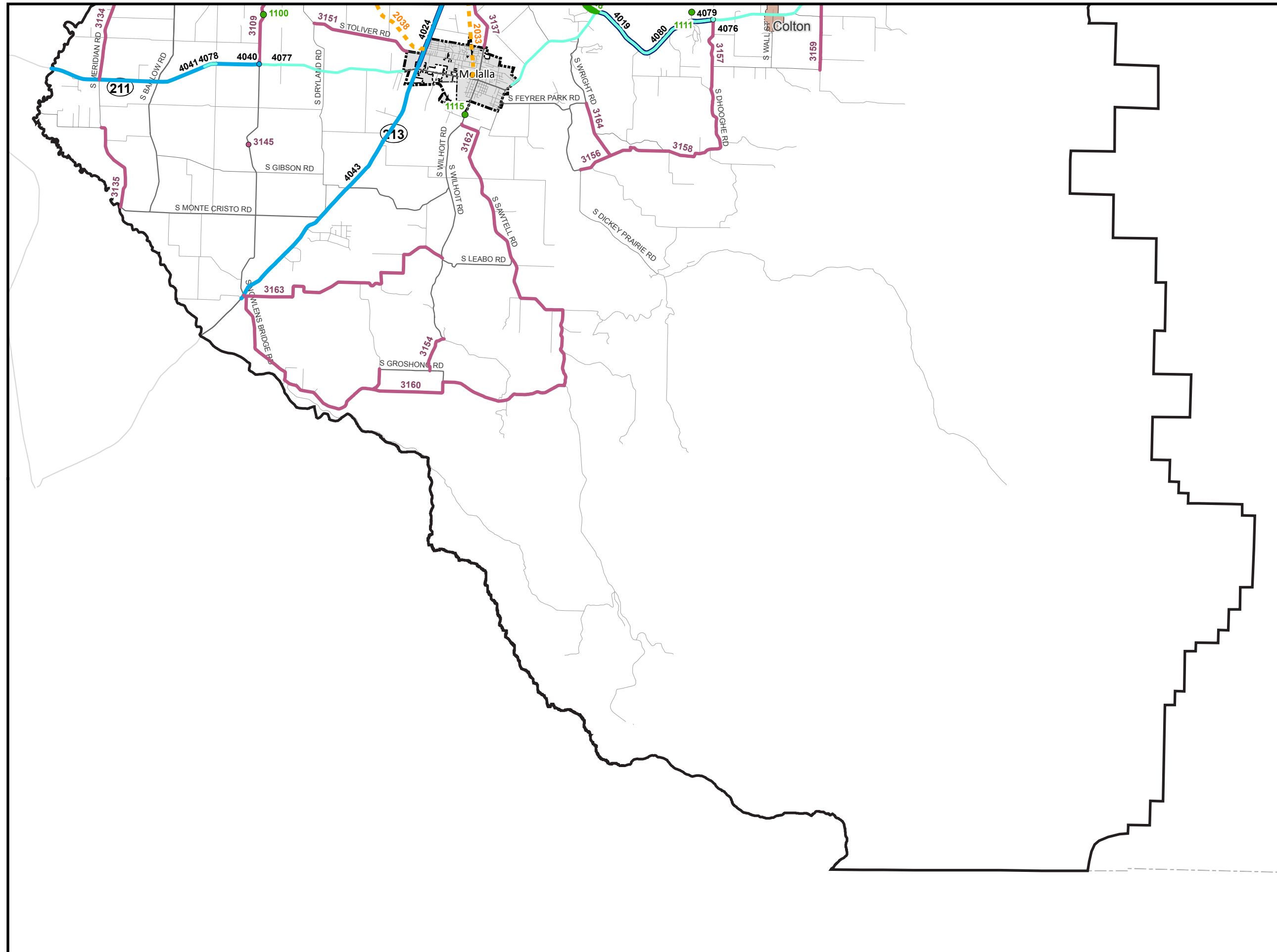


Last Amended March 1, 2014



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COMPREHENSIVE PLAN
MAP 5-11f





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