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TECHNICAL MEMORANDUM #6

Gilliam County Transportation System Plan Update

Preferred Alternative

Date: April 30, 2015 Project #: 17679
To: Michael Duncan, ODOT
Michelle Colby, Gilliam County
From: Casey Bergh, PE; Ashleigh Griffin; and Marc Butorac, PE, PTOE
cc: Project Advisory Committee

This memorandum outlines the draft preferred transportation system plan for Gilliam County, which includes TSP elements consistent with OAR 660-12-020 and goals of OAR 660-12-025. The preferred plan includes recommendations for the County's transportation system, including:

- Roadway System Plan
- Access Management Plan
- Pedestrian and Bicycle System Plan
- Public Transportation System Plan
- Air/Marine/Rail/Pipeline/Transmission System Plan

The transportation components presented in this section were developed in accordance with the requirements of Oregon's Transportation Planning Rule (TPR). Each modal plan has been developed concurrent with the findings presented in the existing and future forecast conditions analysis. The plan also conveys the interests of the citizens, business owners, and governmental agencies within Gilliam County, as expressed by the Public Advisory Committee (PAC).

The preferred plan applies to the entire county, including areas within the incorporated cities of Condon and Arlington and the unincorporated community of Lonerock.

ROADWAY SYSTEM PLAN

The Gilliam County roadway system plan reflects the anticipated operations and circulation needs through the year 2035 and provides guidance on how to facilitate vehicular and freight traffic over the next 20 years. The plan focuses on the City and County owned and maintained roadway system. All state highways residing within the County are identified for coordination purposes.

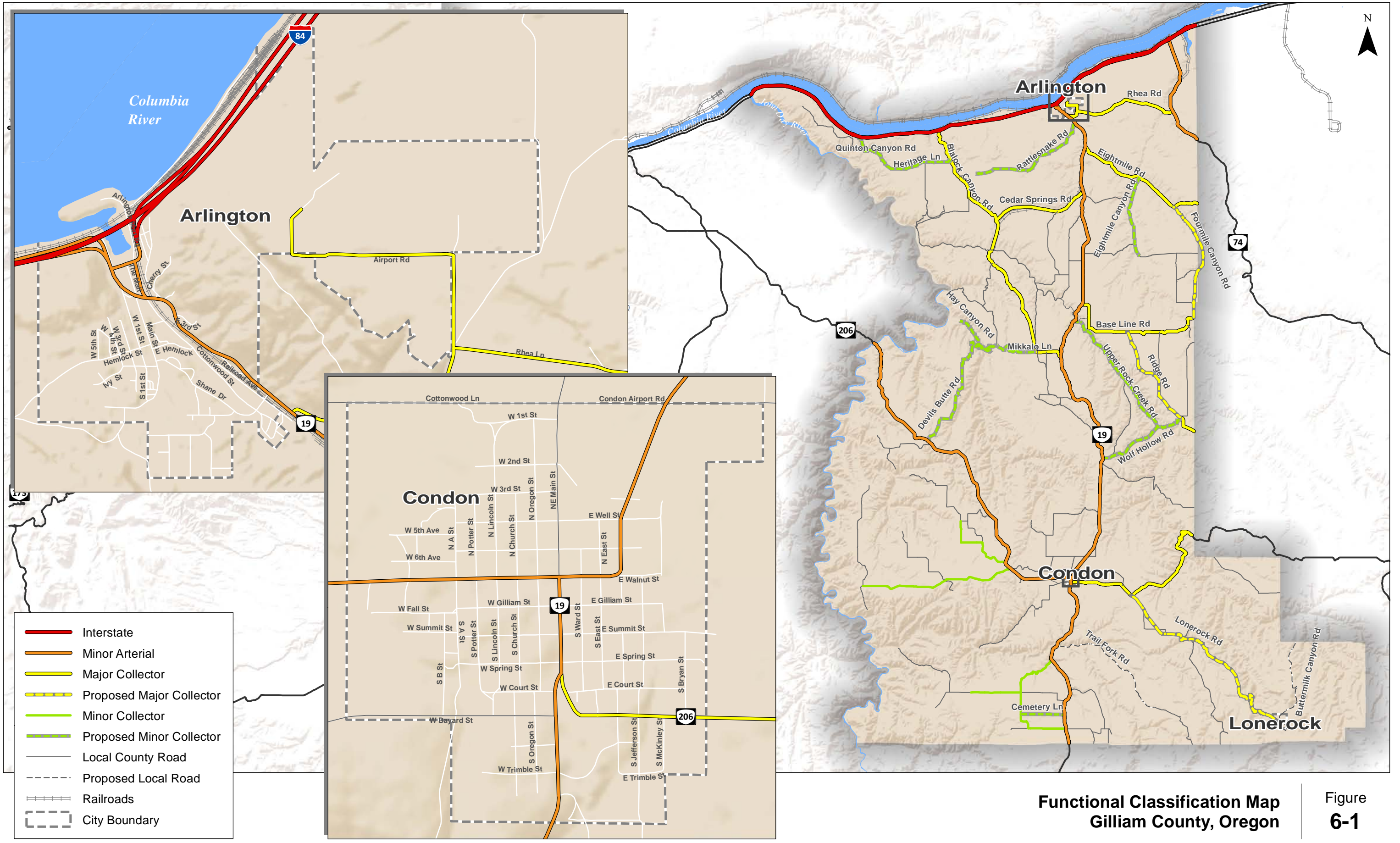
Functional Classifications

Functional classification of a roadway characterizes the intended purpose, amount and type of vehicular traffic it is expected to carry, provisions for non-auto travel, and the roadway’s design standards. The classification considers access to adjacent land uses and the transportation modes to be accommodated.

The preferred functional classification system in Gilliam County includes: Minor Arterial, Major Collector, Minor Collector, and Local Road. Table 6-1 provides a detailed description of each classification. Figure 6-1 presents the preferred functional classifications for all existing and planned County roadways.

Table 6-1. Gilliam County Functional Classification Descriptions

Functional Classification	Description
Interstate	Primary function is mobility and to serve long-distance travel. These roadways are high-speed, divided roadways with limited access. Interstates link urban areas across the United States.
Minor Arterial	Primary function is to carry high levels of regional vehicular traffic at high speeds. These roads connect the collector road system to freeways, provide access to other cities and communities, and serve major traffic movements. Access is limited but can be accommodated with at-grade intersections.
Major Collector	<p>Primary function is to serve traffic from local roads and move them to arterials. These roads provide some degree of access to adjacent properties, while maintaining circulation and mobility for all users. Major Collectors carry lower traffic volumes at slower speeds than arterials. Major Collectors are often longer in length and have lower driveway density, higher speed limits, higher traffic volumes, and may have more travel lanes than Minor Collectors.</p> <p>Major Collectors can be located in urban or rural environments. In rural environments, Collectors generally serve intra-county travel. In rural areas, traffic volumes and spacing may be the most significant designation factors between Major and Minor Collectors. In urban areas, these roads serve both access and traffic circulation in higher dense residential, commercial, and industrial areas. They typically have higher speeds and more signalized intersections.</p>
Minor Collector	Primary function is to serve traffic from local roads and connect traffic to arterials. These roads can be urban or rural. In urban areas, they serve both access and traffic circulation but in lower density areas than Major Collectors. They also penetrate neighborhoods, but often for a shorter distance than Major Collectors. They typically have lower speeds and fewer signalized intersections. In rural areas, they serve to bring traffic from local roads to developed areas or connections to those areas. They provide service to smaller communities not served by a higher class facility and link locally important traffic generators with rural areas.
Local Road	Local roads account for the largest percentage of all roadways in terms of mileage. Their primary function is to provide direct access to adjacent land uses. They are characterized by short roadway distances, slow speeds, and low volumes. Local roads offer a high level of accessibility, serves passenger cars, pedestrians, and bicycles, but not through trucks.



Functional Classification Map
Gilliam County, Oregon

Figure
6-1

K:\H_Perland\proj\17679 - Gilliam County TSP\gis\memo 616-1 Proposed Functional Classification.mxd - agriffin - 3:15 PM 4/30/2015

Design Standards

Roadway design standards were established for rural and urban conditions. The design standards take into consideration roadway function and operational characteristics, including traffic volume, capacity, operating speed, and safety. The design standards are necessary to ensure that as the road system develops, it will be capable of safely and efficiently serving the traveling public, while also accommodating orderly development of adjacent lands.

While not specifically outlined in this plan, improvements on state highways must meet ODOT design and operating standards provided in the ODOT Highway Design Manual.

Rural Design Standards

Rural roadway design standards for all County-owned and maintained facilities are shown in Exhibit 6-1, Exhibit 6-2, and Exhibit 6-3. Deviations from these design standards should be pursued through the managing agency.

Sidewalks have not been included in the roadway design standards because the majority of County roadways are rural in nature and sidewalks are not typically provided. Bicyclists are expected to share the travel lane with vehicles in rural areas, consistent with guidance provided in the Oregon Bicycle and Pedestrian Design Guide.

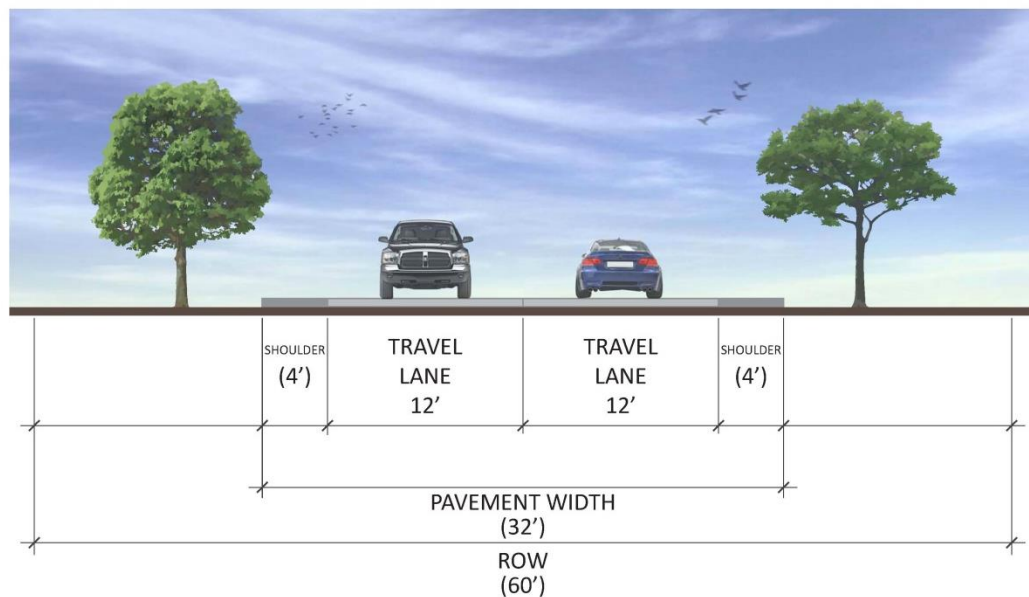


Exhibit 6-1. Rural Arterial Street Cross-Section

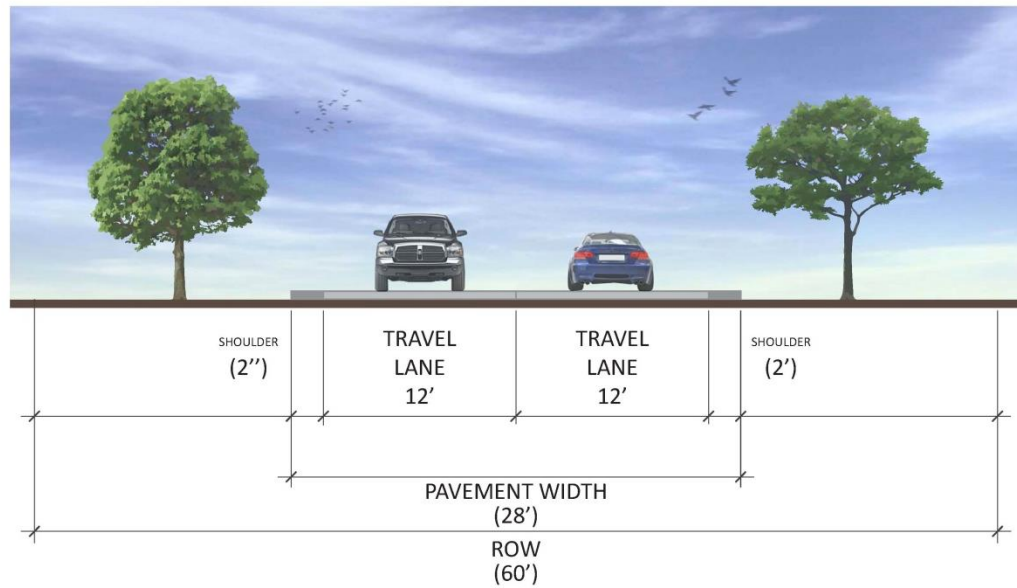


Exhibit 6-2. Rural Major and Minor Collector Street Cross-Section

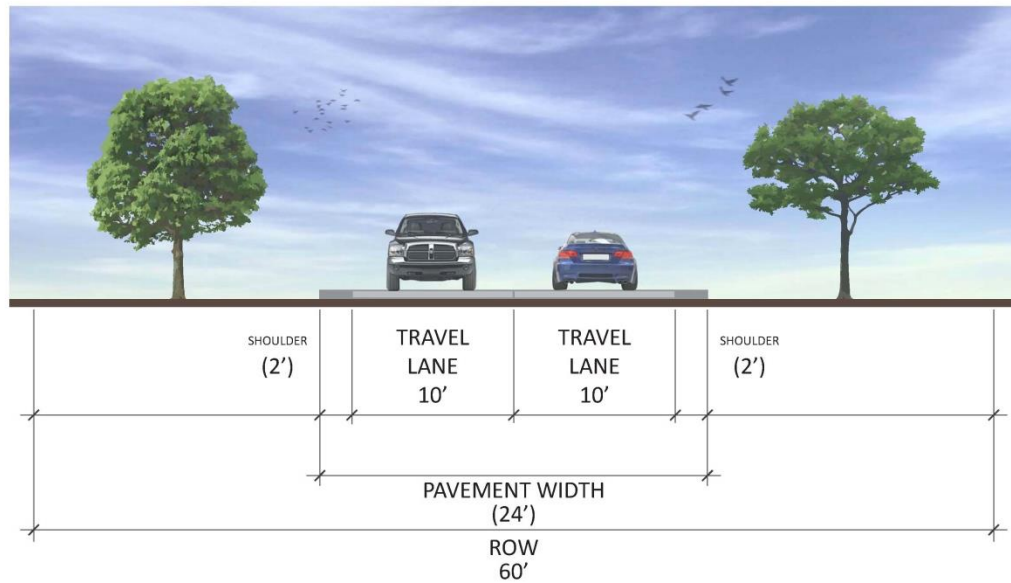


Exhibit 6-3. Rural Local Street Cross-Section

Urban Design Standards

Design standards for City roadways within urban areas (incorporated cities) are provided in Exhibit 6-4, Exhibit 6-5, and Exhibit 6-6.

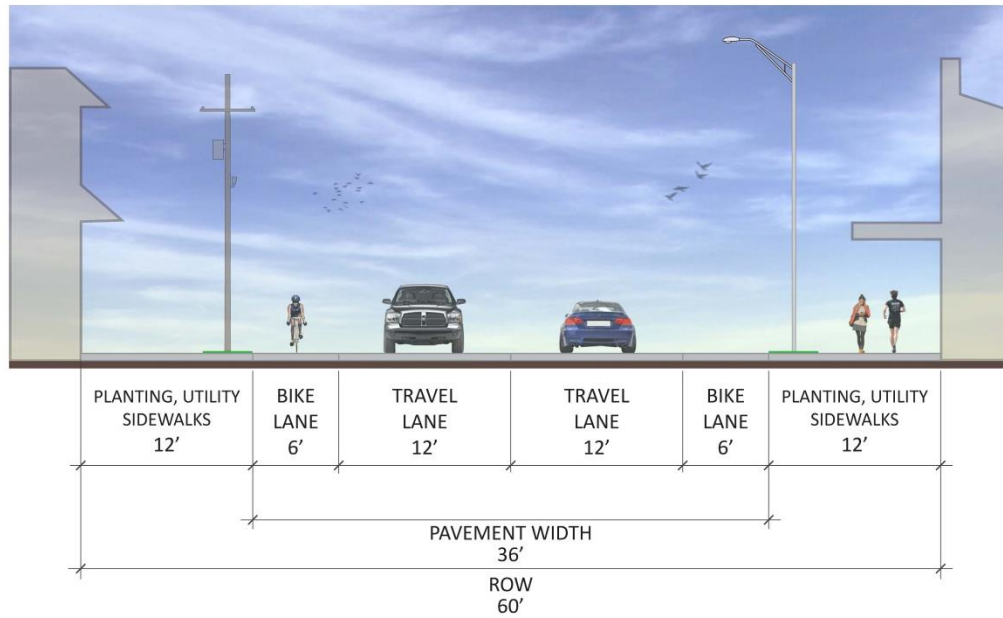


Exhibit 6-4. Urban Arterial Street Cross-Section

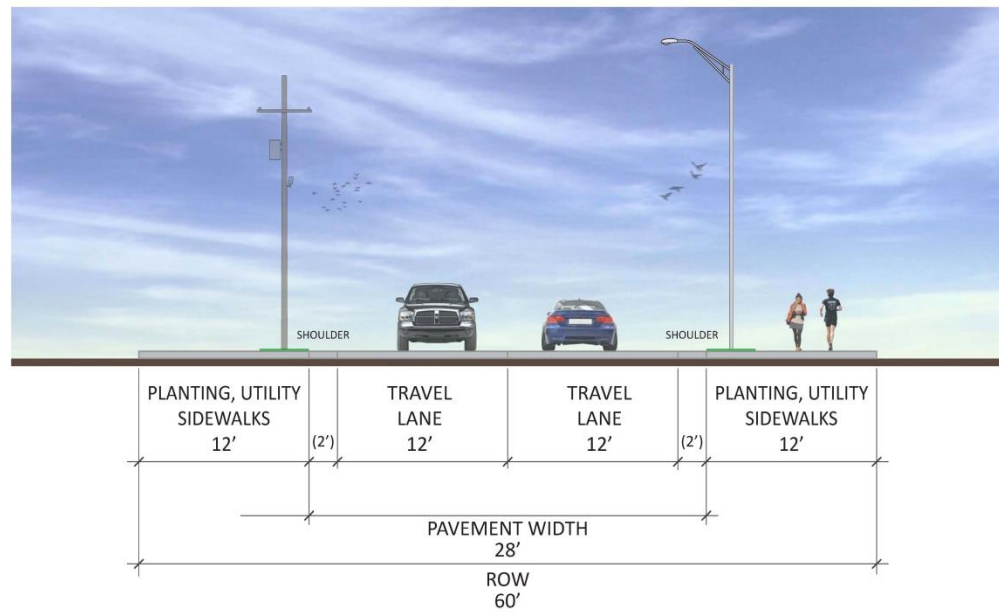


Exhibit 6-5. Urban Major and Minor Collector Street Cross-Section

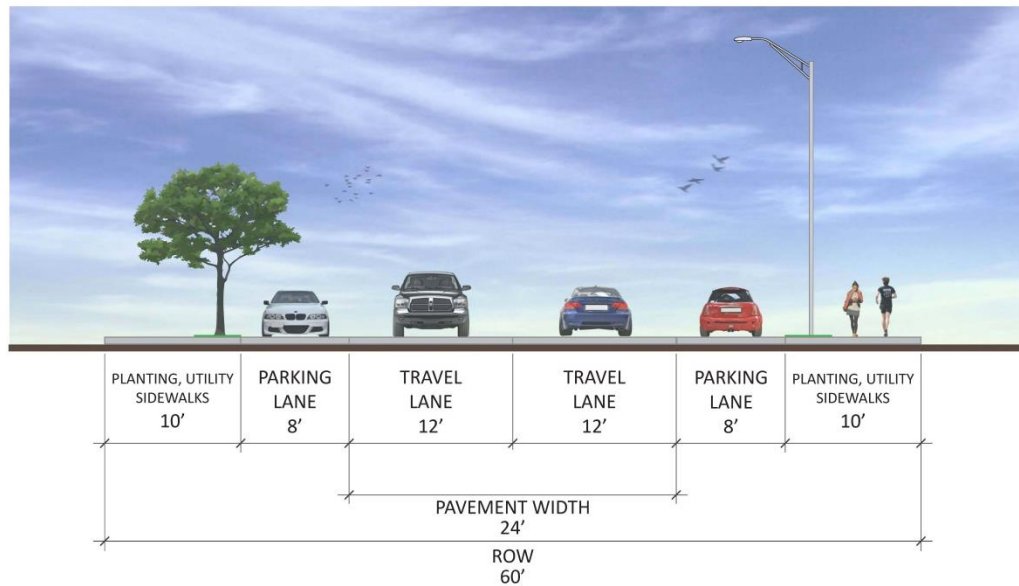


Exhibit 6-6. Urban Local Street Cross-Section

Access Management Policy

Managing access to the County’s road system is necessary to preserve capacity and maintain safety of the County’s arterial and collector system. Capacity is preserved by minimizing the number of points where traffic flow may be disrupted by traffic entering and exiting the roadway. Access management also enhances safety along roadways by minimizing the number of potential conflict points.

Access spacing standards for all driveways and private roads accessing County collector and arterial roadways are provided in Table 6-2 (rural) and 0 (urban).

Access to state facilities is governed by ODOT’s access management standards provided in the most current version of the 1999 Oregon Highway Plan and in Oregon Administrative Rule 734-051. ODOT’s standards also apply to access spacing on County facilities located within the management area of a freeway or expressway interchange, as defined by OAR 734-051.

The Oregon Transportation Planning Rule (TPR) defines access management as a set of measures regulating access to streets, roads, and highways, from public roads and private driveways. The TPR requires that new connections to arterials and state highways be consistent with designated access management categories. This TSP includes an access management policy that maintains and enhances the integrity (i.e., capacity, safety, and level of service) of Gilliam County’s roadways.

Table 6-2. Access Management Spacing Standards for Rural Gilliam County Roadways

Functional Classification	Public Road Spacing	Private Drive Spacing
Collector	¼ mile	1,200 ft
Local Street	200-400 ft	Vary

Table 6-3. Access Management Spacing Standards for Urban Roadways

Functional Classification	Public Road Spacing	Private Drive Spacing
Collector	300 ft	150 ft
Local Street	300 ft	Each Lot

These standards apply to new development or redevelopment; existing accesses are allowed to remain as long as the land use does not change. As a result, access management is a long-term process in which the desired access spacing to a street slowly evolves over time as redevelopment occurs.

Traffic Operations Standards

Gilliam County has an obligation to maintain a safe, convenient, and economical transportation system. A maximum volume-to-capacity (v/c) ratio of 0.85 during a typical weekday peak hour should be maintained for all City- and County-owned or maintained intersections. At intersections with an ODOT facility, ODOT standards shall apply. For unsignalized intersections, the v/c ratio should be based on the intersection's critical movement. For signalized intersections, the ratio is based on the overall intersection operation.

Systemic Safety Plan

Several projects were identified in Technical Memorandum #5 to address safety concerns and reduce potential for crashes in Gilliam County. The projects have been categorized as hot spot or systemic projects, consistent with the ODOT All Roads Transportation Safety (ARTS) program project classifications.

Background

ODOT allocates Oregon's Highway Safety Improvement Program (HSIP) funds through the ARTS program. The program currently splits funding between hot-spot and systemic safety projects. Hot spot safety projects are individual locations where a unique countermeasure could be applied to reduce the frequency and severity of crashes. Systemic safety projects include multiple locations where many low-cost countermeasures can be applied.

ARTS project funding will be allocated through the 2017-2021 Statewide Transportation Improvement Program (STIP). The project locations are selected based on reported history of fatal and severe injury crashes. The draft 300-percent list for ODOT Region 4 2017-2021 Hotspot Safety projects does not include any projects in Gilliam County. Similarly, the draft 150-percent list of 2017-2021 Systemic Safety projects in Region 4 does not include any projects in Gilliam County.

County Systemic Safety Prioritization Methodology

Although no safety projects in Gilliam County are included in the draft 2017-2021 STIP lists, a set of objective criteria were established to generate a prioritized list of projects that could be considered for future updates to the STIP.

A list of projects was generated based on a review of crash trends and locations with history of crashes in the County, including:

- Projects developed by the consultant team to address safety concerns identified by the PAC;
- Projects identified in ODOT’s Roadway Departure, Intersection, and Pedestrian/Bicycle Safety Implementation Plans;
- Projects identified for locations with geometric and traffic control characteristics where low-cost, systemic countermeasures could reduce risk of roadway departure or intersection crash types.

Draft lists of prioritized Roadway Departure projects and Intersection projects, based on a set of objective criteria outlined in Table 6-4, are provided in Table 6-5 and Table 6-6. The projects are ordered from highest to lowest priority based on the criteria each location satisfies. No systemic pedestrian and bicycle safety projects were identified.

Systemic countermeasures that may be applied for the Roadway Departure projects include centerline rumble strips, edgeline rumble strips, and curve warning signs, as summarized in Table 6-7. Intersection treatments may include additional signage, pavement markings, and mountable raised medians, as shown by the concept in Table 6-8.

Table 6-4. Objective Criteria for Identifying and Prioritizing Systemic Safety Projects

	Roadway Departure Projects	Intersection Projects
Criteria for Identifying Locations for Systemic Projects	<ul style="list-style-type: none"> ▪ ≥1 Fatal or Injury A Crash ▪ ≥2 Injury B or C Crashes ▪ ≥3 PDO Crashes ▪ Presence of Roadway Departure Crashes ▪ Presence of a Horizontal Curve ▪ Higher ADT (or Functional Classification) 	<ul style="list-style-type: none"> ▪ ≥1 Fatal or Injury A Crash ▪ ≥2 Injury B or C Crashes ▪ ≥3 PDO Crashes ▪ Restricted intersection sight distance ▪ Skewed intersection approach ▪ Presence of a high-speed uncontrolled approach ▪ Higher Minor Street ADT (or Functional Classification if ADT is unavailable)

Table 6-5. Systemic Safety Roadway Departure Projects

Road	Start MP	End MP	Number of Reported Crashes (2009-2013)					Number of Roadway Departure Crashes	Presence of a horizontal curve?	ADT* / Functional Class
			Fatal	Inj A	Inj B	Inj C	PDO			
OR 19	40	42	0	1	2	0	1	4	Yes	570 / Arterial
OR 206	33.4	35.2	0	0	1	3	1	5	Yes	360 / Arterial
OR 206	17.6	20.2	0	0	1	2	0	2	Yes	490 / Arterial
Baseline Road	8.9	9.3	0	0	1	1	0	2	Yes	240 / Major Collector
OR 19	15.9	22.2	0	0	1	0	1	1	Yes	170 / Arterial
OR 206	30.68	31.25	0	0	0	0	0	0	No	360 / Arterial

*2013 AADT Obtained from ODOT's Traffic Volume Tables. ADT for County roads was obtained from 24-hour counts conducted in 2014 when possible.




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Table 6-6. Systemic Safety Intersection Projects

Major Road	Minor Road	Number of Reported Crashes (2009-2013)					Restricted intersection sight distance?	Does the intersection have skewed approach?	High speed uncontrolled approach?	ADT / Functional Class	
		Fatal	Inj A	Inj B	Inj C	PDO				Major Road*	Minor Road
OR 19 (Main St)	OR 206 (Walnut St)	0	0	0	0	1	Yes (NB)	No	No	1600 / Arterial	690 / Arterial
OR 19	Eightmile Rd	0	0	0	0	1	No	No	Yes	860 / Arterial	192 / Major Collector
OR 19	Baseline Rd	0	0	0	0	1	No	No	Yes	250 / Arterial	240 / Major Collector
Blalock Canyon Rd	Heritage Ln	0	0	0	0	1	No	Yes	Yes	142 / Major Collector	Minor Collector
OR 206	Lonerock Rd	0	0	0	0	0	Yes (NB)	Yes	Yes	190 / Arterial	173 / Major Collector
OR 19	Cedar Springs Rd	0	0	0	0	0	No	No	Yes	660 / Arterial	Major Collector
Blalock Canyon Rd	Cedar Springs Rd	0	0	0	0	0	Yes (EB)	No	Yes	142 / Major Collector	Major Collector

*2013 AADT Obtained from ODOT's Traffic Volume Tables. ADT for County roads was obtained from 24-hour counts conducted in 2014 when possible.

Table 6-7. Systemic Safety Countermeasure Toolbox for Rural Roadways

Systemic Safety Countermeasure	Description	Documented Effectiveness
<p>Milled Rumble Strip – Centerline</p>  <p>Photo: ODOT</p>	<p>Rumble strips are grooves in the roadway placed on the roadway in such a manner that, as the tires of a vehicle contact them, they produce sound (noise) and vibration. The noise and vibration produced by rumble strips is intended to alert inattentive drivers that they have departed from their lane. They can be placed on the shoulder (if adequate paved shoulder is available) or on the centerline.</p>	<p>38 to 50 percent reduction in injury crashes resulting from head-on and opposite direction sideswipe crashes on rural two-lane roads. (Source: NCHRP Report 641)</p>
<p>Milled Rumble Strip – Shoulder or Edgeline</p> 		<p>26 to 46 percent reduction in single-vehicle run-off-road injury crashes on two-lane rural roads (Source: NCHRP Report 641)</p>
<p>Horizontal Curve Signage</p>  <p>Photo: Speed Concepts: Informational Guide, FHWA</p>	<p>Provide Static Combination Horizontal Alignment/Advisory Curve Warning Sign, Install RECOMMENDED Chevron Signs on Rural Horizontal Curves</p>	<p>13 to 16 percent reduction in run-off-road injury crashes rural two-lane roads. Source: <i>Manual for Selecting Safety Improvements on High Risk Rural Roads</i> (FHWA-SA-14-075)</p>

IMPLEMENTATION PLAN

This section outlines specific transportation system improvement projects as well as a categorization of the identified improvements into two groups: near-term and long-term. The categorization presented reflects the relative time period in which it may be foreseeable for the County and Cities to implement the project; it is not intended to limit the selection of a project or the order in which projects will be implemented. The County will need to periodically update its TSP and will review the need and timing for improvements at those times.

Long-term projects may or may not be feasible within the twenty-year planning horizon, for reasons of both need and resources. However, they represent a vision for an efficient transportation system in the future, and they have been identified to support the preservation of the opportunities as future conditions may warrant them.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the County is to develop in an orderly and efficient way. Consequently, the planned improvements identified should be considered in light of developing infrastructure sequencing plans, and may need to be modified accordingly.

The planned transportation improvement alternatives in Gilliam County include those identified to address various types of transportation issues, which generally include:

- *Operations:* These projects provide the roadway capacity needed to accommodate future traffic flows and reduce delay.
- *Safety:* These projects consider opportunities to improve existing facilities to reduce probability and severity of crashes. These projects include those identified as part of the Systemic Safety Plan for the County.
- *Pedestrian and Bicycle Enhancements:* These projects improve existing facilities or create new facilities that provide greater connectivity and increase access to pedestrian and bicycle routes.
- *Heavy Maintenance:* These projects address the needs identified by the County that relate to roadway, roadside, or drainage and cannot be conducted as part of regular maintenance activities.
- *Full Reconstruction:* These projects include reconstruction of the roadway including removal of existing roadway and placement of aggregate base and asphalt pavement.
- *Feasibility Studies:* These projects have identified the need for some level of long-term improvements to different roadway segments or intersections. Given the size and complexity, a more detailed evaluation of potential improvements has been identified that is beyond the scope of the TSP.
- *Pilot Projects:* Pilot projects are innovative projects that can be done on an interim basis and can be reversed if needed.
- *Programs/Policies:* The programs and policies reflect changes to County or City operations or code that has an impact on the transportation system.

While site-specific projects, such as adding turn lanes at an existing intersection, have been included to improve conditions at particular locations, the alternatives collectively reflect a broader goal which is to develop an efficient transportation network that will reduce reliance on the state highways and limit potential for motor vehicle crashes while encouraging economic activity.

Roadway Transportation Improvements

The preferred near- and long-term transportation improvements within unincorporated areas of Gilliam County are listed in Table 6-9. The table includes a project letter for reference to the project location illustrated in Figure 6-2. Additionally, the table includes preliminary cost estimates with 30-percent contingency for the projects, excluding right-of-way. Potential non-binding funding sources were also identified for each project and are subject to negotiation at the time of project execution. Projects that were identified but not expected to receive funding within the TSP horizon were identified *as Vision Projects*. *Cost estimate calculations and assumptions are provided in Attachment A. Project prospectus sheets, documenting concepts for each alternative, are provided in Attachment B.*

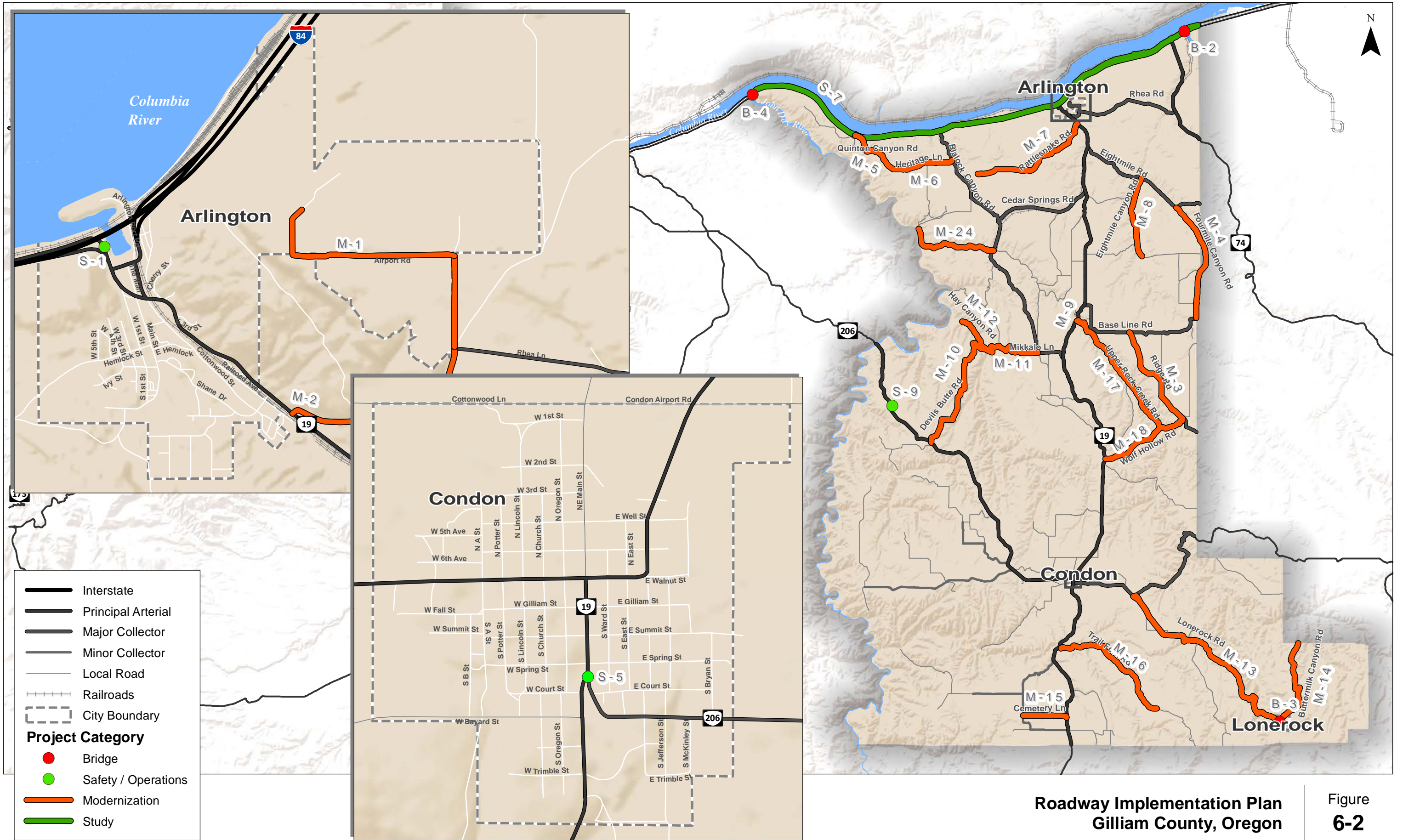
The implementation plan incorporates the preferred financing plan, which identifies that a limited amount of money will be available to fund projects. As a result, only improvements that are planned for implementation and are expected to have funding are shown in the near-term time frame. The long-term project timeline reflects the fact that some projects are not needed immediately and that it will take time to accumulate the funds to build those projects.

Table 6-9. Planned Transportation Improvements in Gilliam County

ID	Name	Description	Category	Cost Estimate ¹	Potential Funding Source			
					ODOT/ State	County	Cities	Private
Short-Term Projects								
B-2	I-84 EB Bridge	Widen the I-84 eastbound bridge at MP 148.6 (Willow Creek) to meet current standards.	Bridge	\$160,000	X			
B-4	I-84: John Day River Bridge Deck Overlay	Bridge deck overlay on I-84 from MP 114.45 to 114.75. Preliminary engineering scheduled for 2016, and construction scheduled for 2018.	Bridge	\$2,482,000	X			
M-1	Airport Road	Overlay Airport Road with 2" of asphalt and add 2' gravel shoulders from the intersection of Rhea Road to the end of the Arlington Mesa industrial base. Airport Road was previously widened several years ago. This project will be completed in conjunction with Rhea Lane.	Feasibility Study	\$109,200	X	X	X	X
M-2	Rhea Lane	Overlay with 5 inches of recycled asphalt and the addition of 2-ft gravel shoulders from OR 19 to Airport Road to serve the higher truck volumes associated with the Arlington Mesa Industrial Park. This project will be done in conjunction with Airport Road.	Heavy Maintenance	\$837,330	X	X	X	X
M-3	Ridge Road	Upgrade roadway to Major Collector standards from Baseline Road to County limits to support the freight traffic that uses this route to transport hay, cattle, and wheat from Gilliam and SW Morrow County to I-84. The project includes 2 inches of overlay on existing asphalt and paving the currently unpaved section. Two foot gravel shoulders will be added where possible.	Heavy Maintenance	\$1,177,735		X		
M-4	Fourmile Canyon Road	Upgrade roadway to Major Collector standards from Fairview Lane to Baseline Road by paving the road and adding 2' gravel shoulders where possible to support the truck traffic that carries wheat out of Morrow and Gilliam County.	Full Reconstruction	\$1,015,820		X		
M-7	Rattlesnake Road	Reclassify roadway to Minor Collector to support the increased ADT using the road due to new wind farms recently completed. Road improvements have already been completed to the Minor Collector cross-section guidelines.	Policy	\$0		X		
M-14	Buttermilk Canyon Road	Downgrade from Minor Collector to Local Road from City of Lonerock to East County Limit. This route is just a back route into the Lonerock community from Morrow County.	Policy	\$0				
M-15	Cemetery Road	Upgrade Road to Minor Collector to serve the wheat area as part of Wehrli Canyon loop. Project includes paving the surface. Widening has already been completed.	Heavy Maintenance	\$100,000		X		
M-16	Trail Fork Road	Downgrade from Minor Collector to Local Road because the land is all in CRP now (set aside for wildlife grazing) and serves limited residences.	Policy	\$0				
M-17	Upper Rock Creek Road	Downgrade from Major Collector to Minor Collector from Wolf Hollow Road to OR 19. The road does not serve the traffic levels associated with a Major Collector as hay is produced and used locally to feed cattle rather than being shipped out.	Policy	\$0				
M-18	Wolf Hollow Road	Downgrade from Major Collector to Minor Collector from OR 19 to Ridge Road as it only serves as an alternate route.	Policy	\$0				
S-1	I-84 Westbound On-Ramp in Arlington	Replace existing sign with larger sign and add pavement markings to indicate correct direction for drivers.	Operations	\$3,000	X			
S-8	Systemic Safety Projects	Install systemic safety treatments at the locations identified in the Systemic Safety Plan to reduce roadway departure crashes and intersection crashes.	Safety	\$10,000	X	X	X	
S-7	I-84 ITS Warning System throughout County	Evaluate effectiveness and feasibility of ITS treatments to provide warnings to drivers when roadway conditions are icy.	Feasibility Study	\$15,000	X			
Medium and Long-Term Projects								
B-3	Lonerock Road Bridge Replacement	Replace Lonerock Road bridge if it cannot be repaired.	Bridge	\$2,000,000		X		
M-5	Quinton Canyon Road	Upgrade roadway to Minor Collector standards from Heritage Lane to I-84 interchange to serve the wind farms on the bluff and agricultural land. Project includes widening from the current 18' roadway width to 20' and paving the second from I-84 to the top of the hill. Widening requires significant cost due to rock bluff.	Heavy Maintenance	\$1,000,000		X		X
M-6	Heritage Lane	Upgrade roadway to Minor Collector standards from Blalock Canyon Road to Quinton Canyon Road to serve wind farms and agricultural land. Project includes removing S-curves and paving the west end of the road.	Heavy Maintenance	\$325,000		X		
M-8	Eightmile Canyon Road	Upgrade roadway to Minor Collector standards to support the increased truck traffic using this route due to the new irrigated farming in the area and the traffic associated with homes. Project includes paving the road and adding 2' gravel shoulders	Heavy Maintenance	\$1,015,846		X		

ID	Name	Description	Category	Cost Estimate ¹	Potential Funding Source			
					ODOT/ State	County	Cities	Private
		where possible.						
M-10	Devils Butte Rd	Upgrade roadway to a Minor Collector to serve State Park traffic from Hay Canyon Road to OR 206. Project includes culvert extensions, widening shoulders, and improving sight lines for trucks and vehicles pulling boat trailers.	Heavy Maintenance	\$156,000	X	X		X
M-11	Mikkalo Ln	Upgrade roadway to a Minor Collector to serve State Park traffic from Hay Canyon Road to OR 19. Project includes culvert extensions, widening shoulders, and sight improvements.	Heavy Maintenance	\$61,100	X	X		
M-12	Hay Canyon Rd	Upgrade roadway to a Minor Collector to serve State Park traffic from Devils Butte Road to the Cottonwood Canyon State Park. Project includes road realignment and reconstruction to avoid eroding road adjacent to river.	Full Reconstruction	\$2,752,422	X	X		
M-13	Lonerock Road	Upgrade from Minor Collector to Major Collector from OR 206 to City of Lonerock to support the cattle and hay operations and serve the Lonerock community. Project includes some grade improvements on the east side of the Ericson grade.	Heavy Maintenance	\$500,000				
M-24	Lower Rock Creek Road	Improve roadway (widen, add shoulders, curve signage, etc.) due to high recreational traffic associated with river access.	Operations	\$400,000		X		
S-5	E Bayard Street/Main Street Intersection Reconfiguration	Reconfigure intersection to two-way stop-controlled intersection to improve sight distance for westbound approach.	Safety / Operations	\$106,000	X		X	
S-9	Snow Drifts on OR 206	Evaluate the occurrence of snow drifts on OR 206 near milepost 22	Study	\$1,000	X	X		
Vision Projects								
S-4	Main Street/Walnut Street Intersection Reconfiguration	Reconfigure the intersection to a two-way stop-controlled intersection.	Project	\$10,000	X		X	
S-6	Lonerock Road/OR 206 Intersection	Reconfigure the intersection to bring the eastern leg of OR 206 to a stop perpendicular to Lonerock Road to provide adequate sight distance at this intersection.	Project	\$150,000	X	X		

¹ Cost estimate is planning level only. Does not include right-of-way costs.



Roadway Implementation Plan
Gilliam County, Oregon

Figure
6-2

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The total cost of projects, policies, programs, and feasibility studies shown in Table 6-9 that are expected to be implemented in the near-term is approximately \$6,000,000. This includes a \$2.5 million bridge deck overlay project that will be completed by ODOT and the upgrade of multiple County roadways to meet standards by widening and adding paved shoulders. In addition, several low-cost systemic safety projects are included in the near-term projects, including edgeline rumble strips on state highways and enhanced signing and striping to improve safety at key intersections as identified by the criteria in the Systemic Safety Plan.

PEDESTRIAN AND BICYCLE SYSTEM PLAN

The future population growth in the incorporated areas of Arlington and Condon will increase the need to expand the existing sidewalks in the Cities and to provide new paths in and around the incorporated areas to encourage residents and visitors to ride bicycles for transportation. Providing a connected network of pedestrian and bicycle facilities is important for:

- Serving shorter trips from neighborhoods to area activity centers, such as schools, churches, and neighborhood commercial uses;
- Providing access to regional park and ride lots to enhance intermodal connections; and
- Meeting residents' and visitors' recreational needs, further promoting economic activity in the County.

In rural Gilliam County, bicycle and pedestrian design standards provide paved shoulders on arterials and minimum two-foot paved or unpaved shoulders on all other, lower volume roads to facilitate pedestrian and bicycle travel. Table 6-10 includes a feasibility study and pilot project of bike rest areas at strategic locations along OR 206 where cyclists can rest, get water, and fix their bikes. These bike rest areas may also provide opportunities for local businesses to advertise and provide wayfinding signage to direct tourists to local businesses. Table 6-7 provides an example of a bicycle rest area. The cities of Arlington and Condon should also add bicycle parking within their downtown areas. Exhibit 6-8 shows an example of a decorative bicycle rack that can be used in the downtown areas and add to the main street character.

Within the cities, the standards for arterials include a bike lane to provide space for bicyclists to ride separate from vehicles. Bicyclists are expected to share the road with vehicles on the other local roads in the cities due to the low speeds and low volumes. Arterials, collectors, and local streets should include sidewalks as they are developed within the city limits. A complete connected sidewalk network will encourage walking as a mode of transportation within the City. Key gaps in the existing sidewalk infrastructure as well as locations with sidewalks in need of repair are identified in Figure 6-3 and included in Table 6-10.



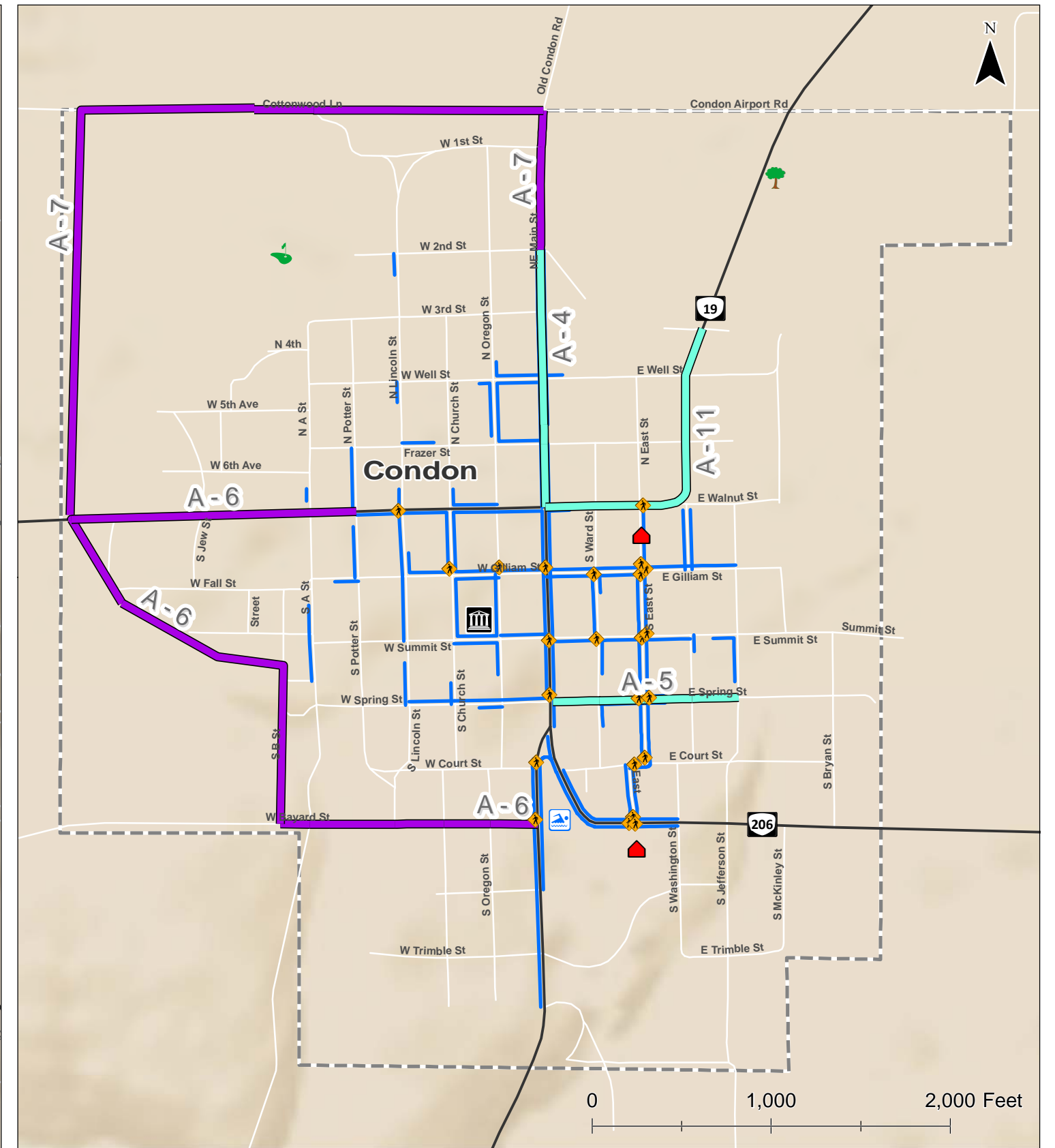
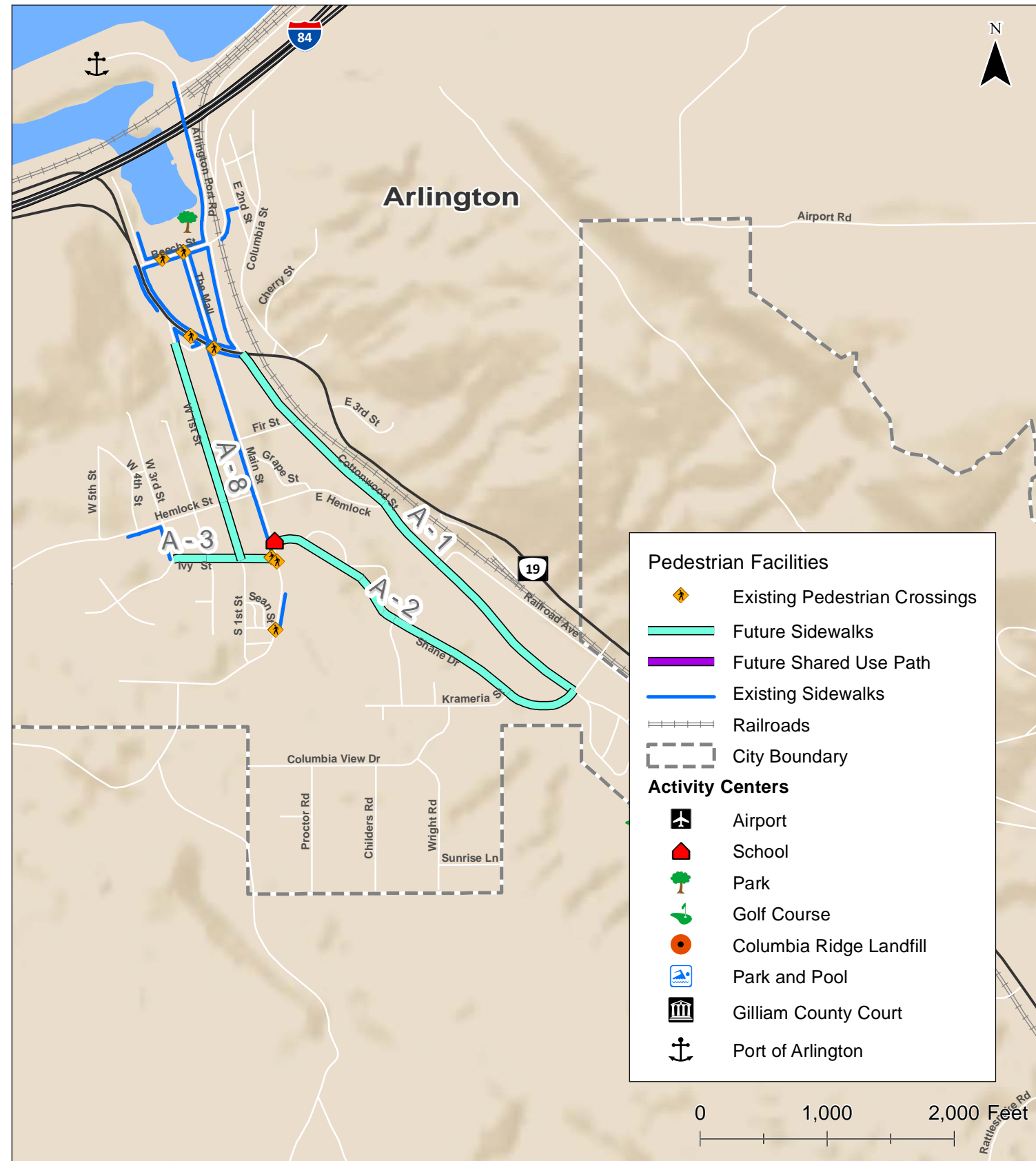
Exhibit 6-7. Example of bicycle rest area



Exhibit 6-8. Example of decorative bicycle parking

Table 6-10. Planned Pedestrian and Bicycle Improvements in Gilliam County

ID	Name	Description	Category	Cost Estimate ¹	Potential Funding Source			
					ODOT/ State	County	Cities	Private
Short-Term Projects								
A-3	Ivy Street Sidewalks (Arlington)	Install sidewalks from 3rd Street to Main Street in Arlington, connecting to the Columbia Hills Manor Independent Living Center	Ped/Bike	\$147,000			X	
A-4	Sidewalks on East Side of Main Street (Condon)	Replace sidewalks on the east side of Main Street from 3rd Street to OR 206/Walnut Street	Ped/Bike	\$83,000			X	
A-5	Sidewalks on E Spring Street	Install sidewalks from S East Street to S Jefferson Street, connecting to ball fields	Ped/Bike	\$25,000			X	
A-9	OR 206 Cyclist Rest Areas	Evaluate feasibility and cost of providing bicyclist rest areas with water stations and bike tools at strategic locations along OR 206 in the County. Implement as pilot project.	Feasibility Study / Pilot Project	\$5,000	X	X		
A-10	Bicycle Parking	Add bicycle parking in downtown areas of Condon and Arlington	Ped/Bike	\$3,500			X	
A-11	OR 19 Sidewalks	Add sidewalks from Main Street to the Fairgrounds driveway in Condon.	Ped/Bike	\$300,000	X		X	
Medium- & Long-Term Projects								
A-1	Cottonwood Street Sidewalks (Arlington)	Install sidewalks from Shane Drive to OR 19	Ped/Bike	\$508,000			X	
A-2	Shane Drive Sidewalks (Arlington)	Install sidewalks from Main Street to Cottonwood Street	Ped/Bike	\$414,000			X	
A-6	Inner Pedestrian Recreational Route West of Condon	Create recreational unpaved walking path east of Condon for residents from W Bayard Street/Potter Street to OR 206	Ped/Bike	\$87,750		X	X	
A-7	Outer Pedestrian Recreational Route West of Condon	Create recreational unpaved walking path east of Condon for residents from W Bayard Street to Cottonwood Street/Main Street	Ped/Bike	\$109,200		X	X	
A-8	W 1st Street Sidewalks	Install sidewalks from Cedar Street to Ivy Street	Ped/Bike	\$277,000			X	
A-12	Pedestrian crossings in Condon	Provide an enhanced pedestrian crossing of OR 19 as it enters town, east of Main Street	Ped/Bike	\$10,000	X		X	



**Pedestrian System Implementation Plan
Gilliam County, Oregon**

**Figure
6-3**

K:\H_Perland\proj\17679 - Gilliam County TSP\gis\memo 616-3 Planned Pedestrian System.mxd - agriffin - 6:51 PM 4/23/2015

PUBLIC TRANSPORTATION PLAN

Gilliam County Special Transportation (GCST) operates a dial-a-ride transit service for the County. The service provides approximately 10,000 trips each year and can be used by the general public for any use. About 80 percent of the trips serve seniors or people with disabilities. Residents call in advance to schedule their rides any time Monday through Friday from 7:00 am to 6:00 pm. Currently, all rides are provided by volunteer drivers. GCST is funded through grants, donations, and medical mileage reimbursement programs but currently has a need for additional funding to cover driver salaries, vehicle maintenance and capital costs, and training programs.

Gilliam County is an Oregon Special Transportation Fund Agency and is therefore responsible for developing a Human Services – Public Transportation Coordinated Plan (“Coordinated Plan”) that must be updated every five years. This plan identifies transit projects, focusing on addressing the needs for three target populations: older adults, people with disabilities, and people with low incomes. It is intended to help focus regional resources on strategies with the greatest benefit to the target populations and transportation service providers. Gilliam County will be updating its Coordinated Plan with a grant from ODOT in 2015 and 2016.

AIR SERVICE

Two airports serve Gilliam County. The Condon State Airport is located just outside the City of Condon. It is owned and operated by the State of Oregon Department of Aviation (ODA) and is included in the National Plan of Integrated Airport Systems (NPIAS), making it eligible for federal funding. The airport plays a supportive role in the current transportation system, providing geographic coverage and access to the state’s airport



system. The airport also serves as a base for agricultural spraying operations. To encourage future airport development, the City of Condon is planning to provide water service to the airport. A study is recommended to determine if upgrades are needed for any of the airport facilities to serve the future growth and activity.

The Arlington Municipal Airport is located adjacent to the Arlington Mesa Industrial Park, in the Enterprise Zone within the City Limits of Arlington. The airport’s runway is a gravel and dirt/turf surface that was reported in poor condition in 2013. The Arlington Municipal Airport has municipal water and sewer available on the adjacent Arlington Mesa Industrial Park along with Fiber Optic Conduit. Based on the opportunities available for industrial uses and the existing industrial uses at the airport, a feasibility study is recommended to determine the cost to pave and maintain the runway at the Arlington Airport.

MARINE SYSTEM PLAN

Gilliam County is located on the Columbia River, a major water transportation route. The Port of Arlington manages river cargo and marina operations. The Port has a Barge Facility available for river access and a grain silo. Farmers in the region use the Port to export grain, which is an important economic activity for the County. From the Columbia River, the grain can travel to Portland and be exported internationally.

The marina also provides access to the river for recreational purposes and is in the process of adding a fuel dock to its amenities.

RAIL SERVICE

Union Pacific (UP) provides freight rail service through Gilliam County. There is currently no passenger rail service in the County. UP Rail lines follow I-84 and the Columbia River and provide access to Portland and the Hinkle Railyard in Hermiston.

Rail service is also available between Arlington and the Columbia Ridge Landfill and Recycling Center, located approximately 10 miles south of the primary Columbia River line in Arlington, as shown in Exhibit 6-9. The landfill receives solid waste by rail from major metropolitan areas up and down the west coast. All trains on the branch are operated by Watco Companies through their Palouse River and Coulee City Railroad. The Watco line is a Class III or short-line railroad with annual operated revenue of less than 20 million dollars (1991 dollars). Class III railroads are typically local short-line railroads serving a small number of towns and industries or hauling cars for one or more larger railroads. Six unit trains run on this branch per week. The train speed from I-84 to the end of the line at the Columbia Ridge Landfill and Recycling Center is 25 mph. The track is in good condition and is regularly maintained. New rail crossovers should be added in the near-term at Shutler Station to support rail operations.

There are two crossings of the Watco line within the City of Arlington and two along Cedar Springs Road. The City, County, and Waste Management should maintain coordination with UP and Watco to minimize delay and maintain emergency vehicle access.



Exhibit 6-9. Existing Watco Rail Line and Shuttler Station

PIPELINE AND TRANSMISSION SYSTEM PLAN

Pipeline transportation within the Gilliam County area includes numerous substations and transmission lines, which are currently being upgraded. These transmission lines are maintained by Pacific Gas Transmission and provide access to the main power grid at multiple locations.

Future extension of a high-speed broadband service is planned from Idaho along the Columbia River. Gilliam County may be able to provide broadband services to its citizens through this line. A broadband internet connection could allow for implementation of Intelligent Transportation Solutions along I-84 that could have a positive effect on transportation safety and mobility. Other benefits of this added service could spur economic development.

TRANSPORTATION FINANCE ELEMENT

Funding for transportation projects is increasingly in short supply as existing infrastructure ages and transportation demands increase. This section provides a means for evaluating the likelihood that projects can be funded within the timelines identified in the TSP and defines priorities based on available funding opportunities.

The TPR requires that the Gilliam County TSP address transportation funding, including the following elements:

- A list of planned transportation facilities and major improvements;
- A general estimate of the timing for planned transportation facilities and major improvements;
- Determination of rough cost estimates for the transportation facilities and major investments identified in the TSP; and,
- A discussion of existing and potential financing sources for each transportation facility and major improvement (which can be described in terms of guidelines or local policies).

Current Gilliam County Transportation Funding Revenues

Gilliam County has had an annual revenue of approximately \$1.3 million per year over the past ten years. As shown in Exhibit 6-10, this funding comes from a variety of sources. The largest portions come from the property tax assessments, the Special County Allotment, and the State Highway Fund Apportionment.

Exhibit 6-11 shows that the County has spent the majority of its revenue each year over the past four years, with the expenditures exceeding the revenue in fiscal years 2011 and 2012. As shown in Exhibit 6-12, the majority of the transportation expenditures were used for maintenance activities, leaving little funding left over to complete capital improvement projects. The County Roadmaster indicated that he typically includes at least one improvement, such as paving a new road, project per year in his budget and work schedule.

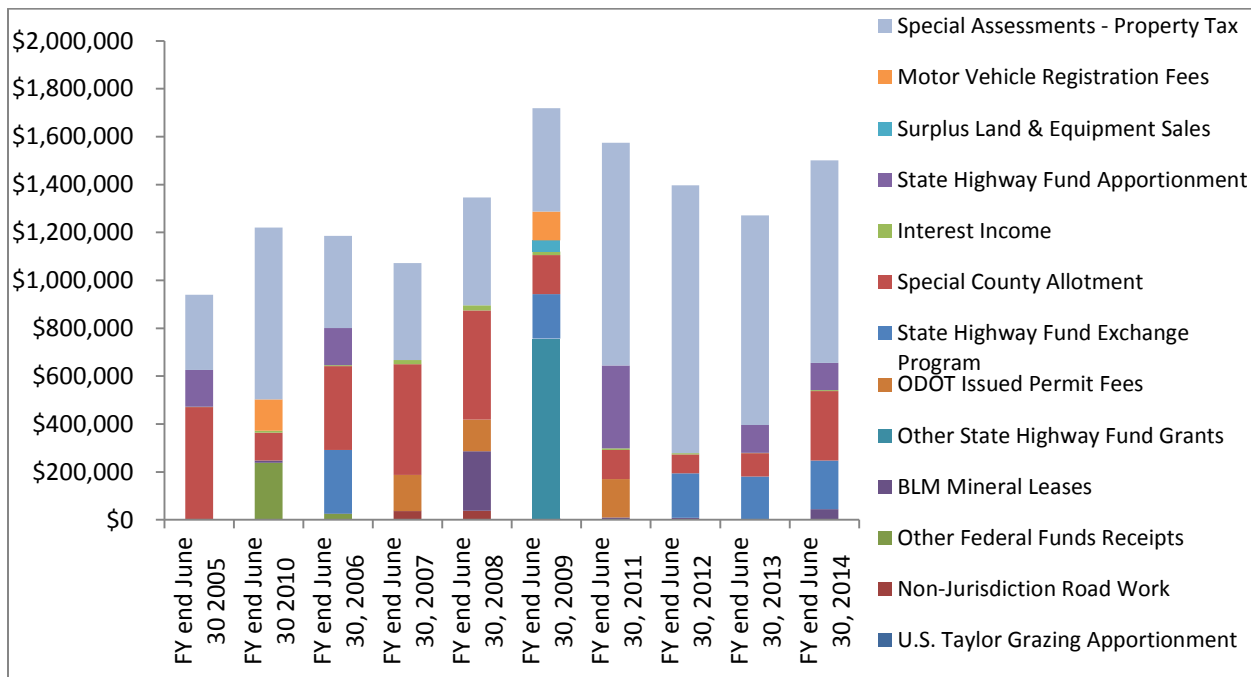


Exhibit 6-10. Gilliam County Transportation Revenue Sources (2005 – 2014)

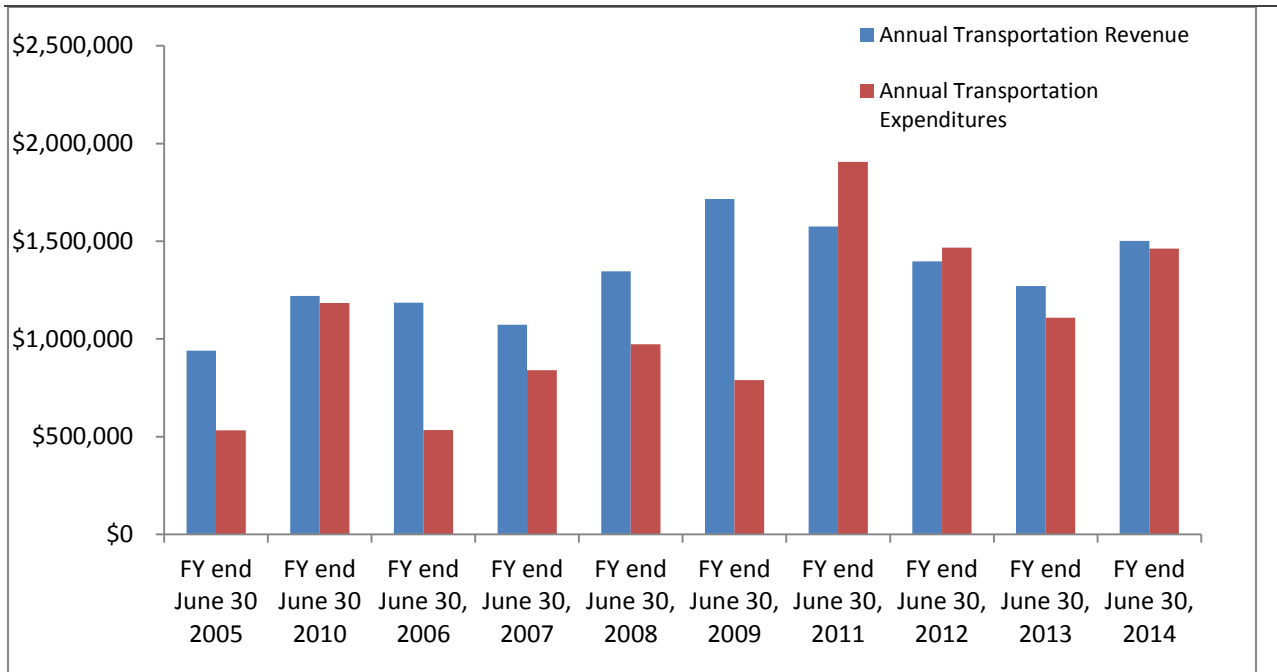


Exhibit 6-11. Gilliam County Transportation Revenue Compared to Transportation Expenditures (2005 – 2014)

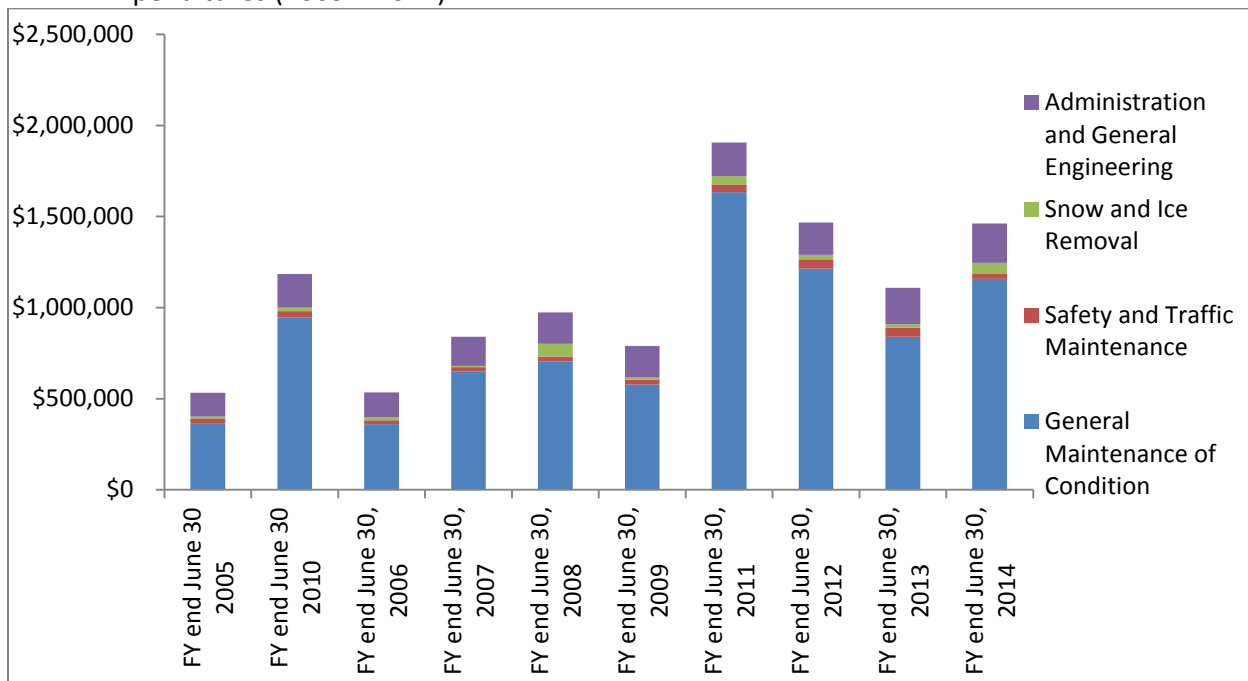


Exhibit 6-12. Gilliam County Transportation Expenditures (2005 – 2014)

Transportation Funding Options

Gilliam County faces two inter-related financing issues: how to finance operations and maintenance and how to finance capital projects. Presently, all public works funding is devoted to operations and maintenance; there is no funding for capital projects. The total funding needed to accomplish all of



the near-term alternatives summarized in this plan would approach \$7,000,000. A *comprehensive table summarizing all modal alternatives and their cost estimate is provided in Attachment C.*

Potential strategies for addressing these needs in Gilliam County may generally be grouped into three categories: secure more external funding, identify public/private sponsorship opportunities, and raise local revenue through user fees and taxes. Observations on the use of these strategies are discussed below. They are not all mutually exclusive.

Identify Additional Grant Opportunities

ODOT offers multiple grant opportunities to support transportation projects. The County and Cities should identified grants from those summarized in Table 6-11 that are applicable to their projects. Some of these programs require a local match. The County and Cities should begin identifying these programs early in order to plan for the funding necessary to satisfy a local match. Using local dollars as a match for a grant opportunity is a strategy to stretch the local funding even farther.

Table 6-11. Grant Opportunities

Source ID	Source Title	Award Cycle	Intended Use	Applicable Project Types	Administration Agency	Deadline	Local Match	Website
1	Rivers, Trails, and Conservation Assistance Program	Annual	Technical assistance for recreation and conservation projects.	Shared-use paths	National Park Service	August	None	http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html
2	Highway Safety Improvement Program	Annual	Address safety issues on highways and High Risk Rural Roads	All	ODOT	Varies	10%	www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/highway_safety_program.shtml
3	Oregon Parks and Recreation Local Government Grants	Annual	Primary use is recreation; transportation allowed. Construction limited to outside road right-of-way, only in public parks or designated recreation areas	Shared-use paths	OPRD	Varies	20%	http://www.oregon.gov/OPRD/GRANTS/local.shtml
4	Recreational Trails Program	Annual	Recreational trail-related projects, such as hiking, running, bicycling, off-road motorcycling, and all-terrain vehicle riding.	Shared-use paths	OPRD	Varies	20%	http://www.oregon.gov/OPRD/GRANTS/trails.shtml
5	Land and Water Conservation Fund	Annual	Acquire land for public outdoor recreation or develop basic outdoor recreation facilities	Shared-use paths, bikeways, sidewalks	OPRD	Varies	50%	http://www.oregon.gov/OPRD/GRANTS/lwcf.shtml
6	Statewide Transportation Improvement Program	Biennial	Multi-year, statewide, intermodal program of transportation projects	Sidewalk, bikeways, crossing improvements	ODOT	Varies	Varies	http://www.oregon.gov/ODOT/HWY/STIP/
7	ATV Grant Program	Annual	Operation and maintenance, law enforcement, emergency medical services, land acquisition, leases, planning, development, and safety education in Oregon's OHV (off-highway vehicle) recreation areas	Shared-use paths	OPRD	February / April	20%	http://www.oregon.gov/oprd/ATV/pages/grants.aspx
8	Immediate Opportunity Funds	Biennial	Support primary economic development through the construction and improvement of street and roads.	All	ODOT	On-going	50%	http://www.oregon.gov/ODOT/TD/EA/reports/IOF_PolicyGuidelines2015%20doc.pdf
9	Enhance (STIP)	Biennial	Activities that enhance, expand, or improve the transportation system. Projects that improve or enhance the state's multimodal transportation system.	All	ODOT	August	10%	http://www.oregon.gov/ODOT/TD/STIP/Pages/WhatsChanged.aspx
10	ConnectOregon	Biennial	Non-highway transportation projects that promote economic development in Oregon.	Non-highway modes	ODOT	November	20%	http://www.oregon.gov/ODOT/TD/TP/pages/connector.aspx
11	All Roads Transportation Safety (ARTS)	Biennial	Address safety needs on all public roads in Oregon; reduce fatal and serious injury crashes.	All hot spot and systemic safety projects	ODOT	Varies	8%	http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/ARTS.aspx

Public/Private Sponsorship Opportunities

Public/Private sponsorships involve a private entity such as a local business owner working with the public agency to fund a project. In return for their investment in the community, these business owners often have recognition for their role, providing a marketing venue for the business. In Gilliam County, one potential opportunity for this type of partnership is the pilot project for bicycle rest areas. Private organizations that sponsor a rest area should have the opportunity to provide an advertisement and map at these locations directing cyclists to their community and business.

Local Taxes and User Fees

Many types of user fees and taxes may be collected to finance road construction and operations. On that premise, it is assumed that the County will need to develop local revenue sources to supplement or replace federal resources if it hopes to maintain current levels of service and assuming that changes in state of federal financing, coupled with efficiency measures are not enough to close the funding gap. Table 6-12 lists options that the County and Cities may wish to consider for funding local roads. The sources include a mix of fees and taxes, some of which if implemented would have implications for other aspects of the County and City budgets. Some of these fees could also be used to provide a local match to obtain greater federal or state funding, further stretching local dollars.

Development Code Updates

In order to fund sidewalk projects, a change to the development code may be beneficial to local jurisdictions. The development code identifies the requirements that a developer must meet before obtaining permission to build. Local jurisdictions may choose to require developers to complete sidewalks in locations where they are identified in the TSP and enforce the completion through the development code. The jurisdiction may also choose to collect a payment in lieu of sidewalk construction from the developers and then use the money to construct complete sections of sidewalk when enough is collected to create efficiencies.

Table 6-12. Local Taxes and User Fee Options

Source	Description	Comments
General Fund	Property taxes from the county's permanent tax rate.	Diverting general fund revenue to the Road Fund would have significant consequences for other county services.
Supplemental 5-year Serial Levy	Voter approved property tax levied in addition to the county's permanent tax rate.	A road fund serial levy would have to be approved by voters every five years. A one-time approval would buy time for the county to develop other options. This method could fund operations and capital programs, some of which might reduce future maintenance requirements.
Road Utility Fee	Monthly user fee with revenue dedicated to road operations. May be enacted legislatively but could be challenged and brought to a vote.	This type of fee is becoming more common in cities but would require substantial investment in rate studies, administrative staffing, software and computer systems to enable the county to collect the revenue. This source is generally better suited to funding operations than for capital improvements, but it may free up existing resources for capital projects.
Vehicle Registration Fee	An extra fee on all registered motor vehicles in the county. May be authorized legislatively but could be challenged and brought to a vote.	State must be willing to act as a collection agent for the county, otherwise would be easy to implement. This source could fund operations or capital programs.
Motor Vehicle Title Fee	Require that all motor vehicles registered in the county also have their title recorded as personal property with the County.	This would generate two sources of revenue: from the fee itself and from personal property taxes levied on motor vehicles. This could be problematic for renters and would increase taxable property that the Assessor must account for.
County Gas Tax	May be enacted legislatively but could be challenged and brought to a vote.	A local-option fuel tax would be easy to collect because the infrastructure is already in place. Would generate revenue for the county from motorists passing through the county. This method could fund operations and capital programs.

ATTACHMENTS

Attachment A. Cost Estimate Calculations

Attachment B. Project Prospectus Sheets

Attachment C. Planned TSP Alternatives

