



# CAMPO Regional Transportation Plan

## CORVALLIS AREA METROPOLITAN PLANNING ORGANIZATION (CAMPO) REGIONAL TRANSPORTATION PLAN UPDATE

March 30, 2017



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# 1 Introduction

## 1.1 Purpose

The purpose of this transportation plan is to devise strategies and outline a path for the Corvallis Metropolitan Area to achieve its vision and goals for the region's transportation system. The plan is intended to direct future infrastructure developments in a manner that is closely aligned with the lifestyle and the values of the community, particularly those related to the conservation of energy, natural resources and the reduction of Greenhouse Gases (GHG). The plan outlines the area's priority transportation projects and policies, and it provides a blueprint for the orderly allocation of scarce resources. Additionally, it serves as the requisite document for the flow of much needed federal transportation funding to the area. This plan is an update to the Corvallis Area Metropolitan Transportation Plan: Destination 2035, which was adopted in 2012.

## 1.2 Lead Agency

The Corvallis Area Metropolitan Planning Organization (CAMPO) is an association of local governments made up of representatives of Benton County, the cities of Corvallis, Philomath and Adair Village and the Oregon Department of Transportation (ODOT). CAMPO was designated a Metropolitan Planning Organization (MPO) by the Oregon Governor in December 2002 to carry out the federal requirements of the Metropolitan Transportation Planning Process in the Corvallis Urbanized Area.

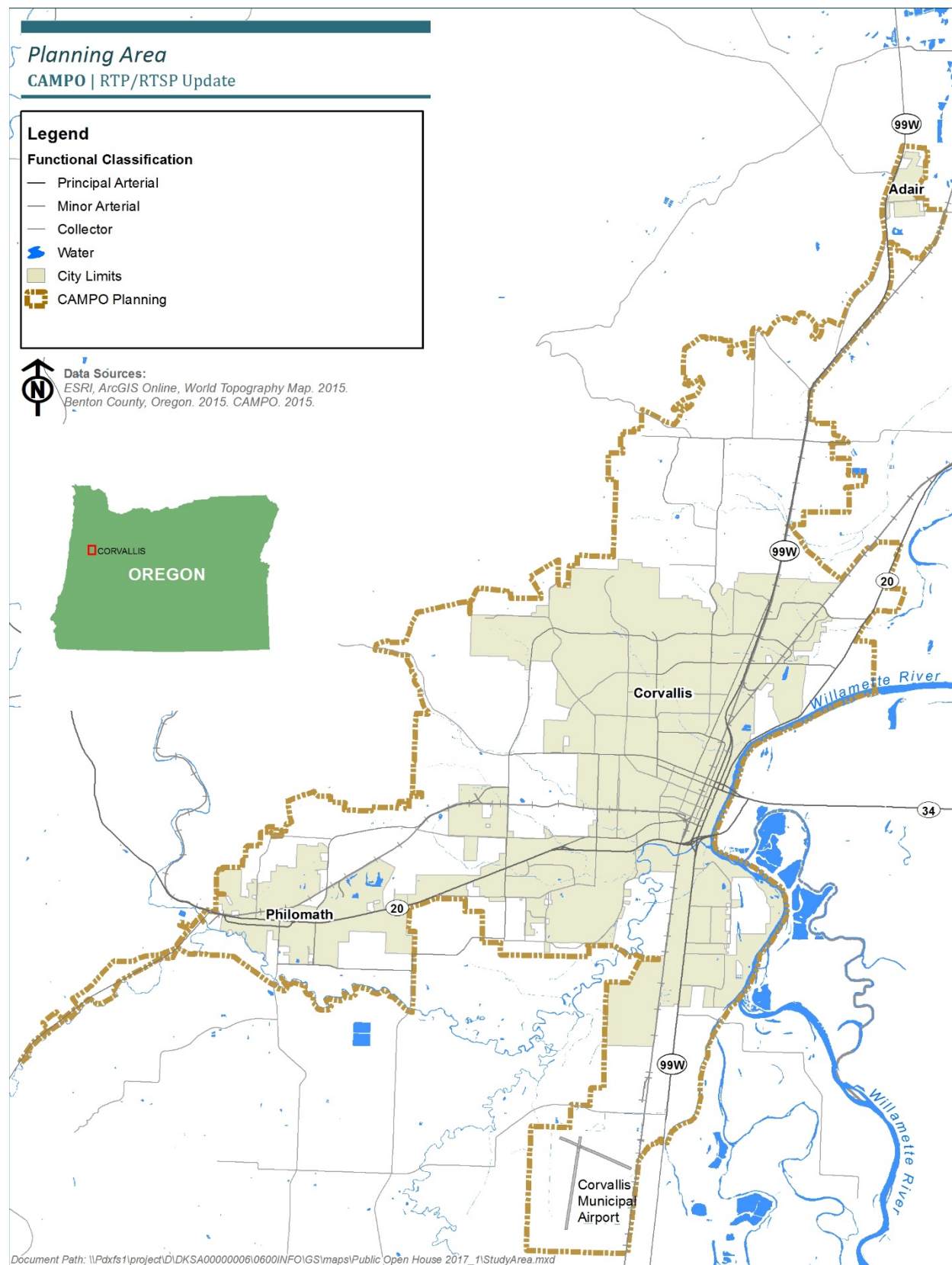
Per a federal requirement (US Code, Title 23) urban areas with a population of 50,000 (called Urbanized Area) are required to form an MPO such as CAMPO. Among the responsibilities of CAMPO is the development and updating of the regional transportation plan for the Corvallis Urbanized Area.

## 1.3 Metropolitan Planning Area

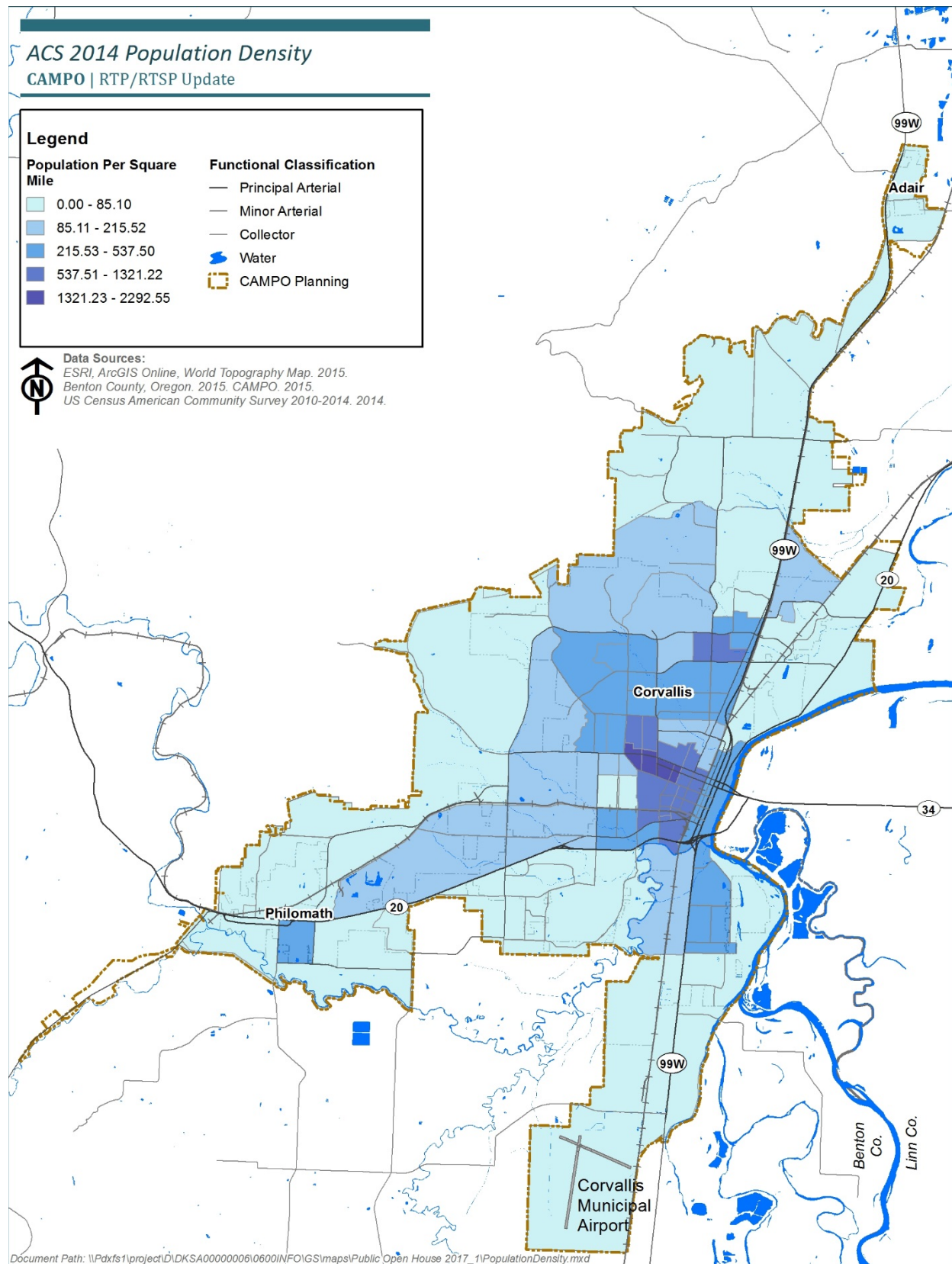
CAMPO's metropolitan planning area expands slightly beyond the Corvallis Urbanized Area boundary as defined by the 2010 US Census. It stretches along Pacific Highway West (OR 99W), from the Corvallis Municipal Airport in the south to Adair Village in the north. The Willamette River forms the eastern boundary of the planning area. The east-west expanse of the area extends along the Newport-Corvallis Highway (US 20/OR 34) to the west of City of Philomath, where US 20 and OR 34 decouple.

The metropolitan planning area includes the entire cities of Corvallis, Philomath and Adair Village and their Urban Growth Boundaries, as well as the parts of Benton County that are in between these cities. The planning area currently includes approximately 70,000 people.

Figure 1: CAMPO Planning Area



**Figure 2: Population Density**





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## 2 Regional Goals

The RTP Update process provided an opportunity to assess and refine the region's transportation goals. A robust examination of existing federal, state and local transportation policy areas that influence CAMPO's mission was performed to inform the goal-setting process. Additionally, the public provided input as the region's transportation goals were updated.

Eight major goals were established to support the long-range vision:

**Goal 1** – Provide for the safe, convenient and efficient movement of people and goods within and between urban centers.

**Goal 2** – Efficiently manage and operate the regional transportation system.

**Goal 3** – Improve the affordability and equitability of the transportation system.

**Goal 4** – Promote public health through transportation policies and investment.

**Goal 5** – Promote the region's economic vitality through transportation policy and investment.

**Goal 6** – Promote environmental sustainability.

**Goal 7** – Coordinate land use and transportation decision-making processes to the extent feasible.

**Goal 8** – Promote and expand transportation options for all people.

Specific policy-level objectives for CAMPO were also developed to support each of the eight goal areas. See Section 10.1 Recommended Policies.

## 3 Regulatory Framework

This Transportation Plan is intended to meet both federal and state requirements for regional transportation plans as described in the applicable Transportation Act during the development of the document. This section describes the federal regulations, and local plans and policies, that influence the content of this document.

### 3.1 Federal Regulations

Since CAMPO's last long-range plan update in 2012, two new federal transportation funding authorization bills have been enacted.

#### *Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21)*

In July 2012, President Obama signed into law the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21). MAP-21 requires states and MPOs to take a performance-based approach to transportation decision making and the development of transportation plans. The following national transportation performance goals were established under MAP-21:

**Table 1: MAP-21 Goals**

<b>Goal Area</b>	<b>National Goal from 23 U.S.C. 150 (b)</b>
<b>Safety</b>	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
<b>Infrastructure condition</b>	To maintain the highway infrastructure asset system in a state of good repair
<b>Congestion reduction</b>	To achieve a significant reduction in congestion on the National Highway System
<b>System reliability</b>	To improve the efficiency of the surface transportation system
<b>Freight movement and economic vitality</b>	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
<b>Environmental sustainability</b>	To enhance the performance of the transportation system while protecting and enhancing the natural environment
<b>Reduced project delivery delays</b>	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

#### *Fixing America's Surface Transportation (FAST) Act*

In December 2015, President Obama signed into law the Fixing America's Surface Transportation (FAST) Act. The FAST Act continues most of the metropolitan planning requirements of MAP-21, and authorizes \$305 billion between 2016 and 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act also added the following requirements for MPO long range plans:

- Include transportation operators in the development of the plan (23 U.S.C. 134[c][1])
- Identify public transportation facilities and intercity bus facilities (23 U.S.C 134[i][2])
- Consult with other planning officials and include interested parties in the planning process, (23 U.S.C 134[g][3])
- Consider resiliency and reliability of the transportation system (23 U.S.C. 134 [h]) and environmental mitigation for stormwater impacts of the transportation system (23 U.S.C. 134(i)(2)(D)).

### **3.2 State Regulatory Context**

Implementation of regionally significant projects and initiatives in Oregon is governed by the Oregon Transportation Plan (OTP) as amended September 20, 2006. The OTP provides a framework for prioritizing multimodal transportation investments statewide. To be implementable, CAMPO's

recommended transportation improvements and strategies must be consistent with the goals and policies outlined in the OTP and other supporting statewide plans approved by the Oregon Transportation Commission.

### 3.3 Local Regulatory Documents

The following local plans are part of the regulatory nexus within CAMPO's planning area:

- Corvallis Transportation System Plan (1996), currently being updated
- Philomath Transportation System Plan (1999), currently being updated
- Benton County TSP (2001), currently being updated
- City of Corvallis Comprehensive Plan (2000), currently being updated
- City of Philomath Comprehensive Plan (2016)
- Adair Village Comprehensive Plan (2006)
- Benton County Comprehensive Plan (2007)
- Corvallis Land Development Code (2014), update process to begin in 2017
- Zoning and development provisions in Philomath Municipal Code (2016)
- Benton County Development Code (2015)

These are the principal documents that define local regulatory processes for implementing transportation projects and initiatives affecting local transportation systems across the region. An overview of each, and a summary of its relevance to CAMPO's regional planning process is provided in Table 2.

**Table 2: Local Regulatory Documents**

Plan Document	Description	Relevance to CAMPO's RTP
<b>Existing Local Transportation System Plans with pending updates:</b> <b>Corvallis (1996)</b> <b>Philomath (1999)</b> <b>Benton County (2001)</b>	Three local agencies within CAMPO's planning area are currently in the process of updating their state-mandated Transportation System Plans (TSPs), which will guide development of transportation facilities for each jurisdiction. TSPs will address improvements to roadways, pedestrian and bicycle facilities, improvements in public transit service, and transportation demand management strategies to support needs identified over a 20-year planning period.	TSPs serve as the primary conduit for implementation of regionally significant projects by responsible local jurisdictions. CAMPO has coordinated regional goals and objectives with local agencies undergoing concurrent plan updates to ensure consistency. Transportation strategies and projects with regional impact that result from the local TSPs, once complete, will need to be incorporated into a future update of CAMPO's RTP.

Plan Document	Description	Relevance to CAMPO's RTP
<b>Corvallis Comprehensive Plan (Adopted 1978; Last Update 2000; New Update Currently in Process.)</b>	<p>The transportation element of the Corvallis Comprehensive Plan contains policies aimed at developing streets, highways, mass transit bicycle and pedestrian facilities, and railroads within the city of Corvallis. It consists of background information and findings, vision statements, and policies that guide long-range planning in the city.</p> <p>The Comprehensive Plan provides the regulatory foundation for future development of the City's transportation system. Transportation strategies recommended in the City's new TSP may be incorporated and formally adopted by the City as part of the Comprehensive Plan update. The current update also includes revisions to policies related to OSU.</p>	<p>As the MPO's central city, Corvallis' Comprehensive Plan has significant relevance in the promulgation and implementation of transportation policies and strategies with regional impact.</p> <p>The RTP process provided an opportunity for the City to participate in updating CAMPO's regional transportation policies, promoting consistency between plans as the City's Comprehensive Plan is updated. Policy changes in the RTP reflect issues that have been evolving since the City's Comprehensive Plan was last updated, such as strategies for managing transportation demand and maximizing the efficiency of the existing transportation system, and the role that the transportation system plays in human health.</p>
<b>Philomath Comprehensive Plan (2016)</b>	<p>The transportation element of the Philomath Comprehensive Plan contains policies that direct the improvement of Philomath's transportation system. The plan emphasizes coordination with ODOT for improvement of the OR20/OR34 corridor, provides access standards, and provides policies for improving the continuity of the City's multi-modal facilities.</p>	<p>Philomath's Comprehensive Plan has relevance in the promulgation and implementation of transportation policies and strategies with regional impacts.</p> <p>The RTP process provided an opportunity for the City to participate in updating CAMPO's regional transportation policies, to help ensure consistency between local and regional plans.</p>

Plan Document	Description	Relevance to CAMPO's RTP
<b>Benton County Comprehensive Plan (2007)</b>	The County's Comprehensive Plan is the official policy guide for decisions about growth, development and conservation of natural resources in Benton County. It incorporates comprehensive plans for the cities of Adair Village, Albany, Corvallis, Monroe and Philomath. The transportation component of the County's Comprehensive Plan emphasizes providing choices of alternative travel modes, maximizing the efficiency of existing facilities, and intertwining quality of life, land use and transportation decision-making.	<p>The transportation goals and policies in the County's Comprehensive plan were considered as new regional goals and policies were developed by CAMPO.</p> <p>The RTP process provided an opportunity for the County to participate in updating CAMPO's regional transportation policies, to help ensure consistency between local and regional plans.</p>
<b>Adair Village Comprehensive Plan (2006)</b>	The transportation element of the Adair Village Comprehensive Plan contains recommendations and policies guiding and regulating the development of multimodal transportation facilities within the City of Adair Village. The transportation element of this plan emphasizes safety, connectivity and alternate route options for new development. Goals include expansion of public mass transit services, development of a bikeway and pedestrian plan and possible exploration of restoring the area's freight rail service.	<p>The transportation goals and policies in Adair's Comprehensive plan were reviewed as new regional goals and policies were developed by CAMPO.</p> <p>The RTP process provided an opportunity for the City to participate in updating CAMPO's regional transportation policies, to help ensure consistency between local and regional plans.</p>
<b>Local City and County Land Development Codes</b>	Local agency land development codes provide the detailed regulations that ensure land is developed in a manner consistent with policies in comprehensive plans.	The RTP process provides a forum for local agencies to discuss and collaborate on implementation strategies, including potential refinements to land development codes, with respect to regional transportation goals.

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### 3.4 Plans Incorporated by Reference

Several plans with regional significance are hereby incorporated into CAMPO's RTP. These include:

- **Benton-Lincoln Counties Special Transportation Fund Program Planning Project (2007).** This plan examined opportunities for Benton and Lincoln counties to coordinate and improve specialized transportation services and public transportation. The plan fulfills a federal requirement for the development of a Coordinated Public Transit-Human Services Transportation Plan in the region. Regional strategies to address needs and gaps identified in the Benton-Lincoln STF plan are hereby incorporated by reference into this RTP.
- **Corvallis Transit Master Plan (2006; to be replaced by a new Transit Development Plan currently in process.)** The Corvallis Transit Master Plan was initially prepared in 2006 to access federal transit funds after achieving MPO status. It provides an overview of the Corvallis Transit System (CTS), operational performance, peer comparison, short-term system redesign proposals and a long-range plan. A Transit Development Plan (TDP) is currently in process which will replace the 2006 Master Plan. The new TDP will expand upon strategies for offering high quality service to areas with densely populated areas, while continuing to serve vulnerable populations. When the new TDP is complete, recommended transit strategies and projects with regional impact will need to be incorporated into a future update of CAMPO's RTP.
- **Central Willamette Valley ITS Plan (2010).** The Central Willamette Valley Intelligent Transportation System (ITS) Plan defines advanced technologies that support regional transportation initiatives such as promoting travel options, optimizing transportation system performance, and reducing the frequency and effects of incidents. The plan was developed collaboratively with a Steering Committee made up of key stakeholders from across the region. The ITS Action Plan includes advanced technologies and management strategies that improve the safety and efficiency of the transportation system and improve the traveler experience for all modes in the Central Willamette Valley. Projects and deployment priorities listed in the ITS Action Plan for the CAMPO region are hereby incorporated by reference into this RTP.
- **CAMPO Transportation Safety Plan (In Process).** CAMPO is currently developing a Transportation Safety Plan for the MPO area, which will help to identify transportation safety concerns for all modes of transportation in the CAMPO area and identify mitigation measures for those concerns. This planning effort is included in CAMPO's UPWP as a separate effort from this RTP update. Upon approval of the CAMPO policy board, this plan will be incorporated as an addendum to the RTP.
- **Philomath Downtown Multimodal Connectivity and Streetscape Improvement Plan (2014).** Reconfiguration of US20/OR34 as a couplet through Philomath's downtown core was completed by the Oregon Department of Transportation in 2007, which successfully improved the flow of traffic through the Philomath downtown corridor but introduced new challenges for pedestrians and bicycles on this corridor. The recommendations of

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this plan for future improvements to US 20 / OR 34 through Philomath are hereby incorporated by reference into CAMPO's RTP.

### 3.5 Other Plans and Policy Documents

A broad review that included both regulatory and non-regulatory planning documents was performed for the RTP update. For more information, refer to the Existing Plans and Policies report in Appendix A.

## 4 Public Involvement

CAMPO's Public Engagement Framework (Appendix B) outlines the MPO's approach to public involvement for all planning work. For the RTP update, a project-specific public involvement plan was also prepared (Appendix C). Major public outreach efforts for this project included both continuous outreach and episodic outreach activities.

### 4.1 Continuous Outreach

Throughout the development of the RTP, members of the public were provided opportunities to comment at all meetings of the Policy Board. Dates, time and location of the meetings were announced in the newspaper. Meeting material (agendas, minutes of the meetings, draft documents, etc.) were made available on the CAMPO website.

### 4.2 Episodic Outreach

In addition to the continuous outreach effort, the plan update process included special outreach and public involvement opportunities.

#### Public Workshops

Two public workshops were held in May 2016 to enable broad audiences to participate in CAMPO's regional scenario planning process. The public workshops were day-long (6-hour) events with interactive computer mapping software that allowed participants to sketch ideas for future growth scenarios on a map and then receive real-time modeling feedback about the implications of their choices.



#### Public Open Houses

Two public open houses were held at key milestones. An open house in September 2016 allowed members of the public to review existing transportation conditions in the region and provide input as regional goals and objectives were developed. A second open house in January 2017 provided an opportunity for community members to review and comment on potential projects and strategies for the region.



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## 5 Planning Area Characteristics

This section provides a review of the existing transportation facilities and their conditions in the planning area.

### 5.1 Geographic and Physical Characteristics

The CAMPO planning area is located in the Willamette Valley of western Oregon, approximately 75 miles south of Portland, 45 miles north of Eugene, and 14 miles southwest of the city of Albany. The CAMPO planning area covers 39.47 square miles (25,260 acres) extending from Adair Village southward to the Corvallis Municipal Airport. The Willamette River forms the eastern boundary and the City of Philomath is on the western edge of the planning area. The cities of Corvallis, Philomath, and Adair Village are wholly within the planning area, as well the parts of Benton County adjacent to those cities. The arterial and collector roadways subject to this plan are under the jurisdiction of Benton County, the City of Corvallis, the Oregon Department of Transportation or Oregon State University. (Arterials and collectors in Philomath and Adair Village are under Benton County's jurisdiction.) Major state highway facilities located within the planning area include the Corvallis to Lebanon Highway (OR 34), the Alsea Highway (OR 34), the Albany-Corvallis Highway (US 20), the Newport-Corvallis Highway (US 20 / OR 34), and Pacific Highway West (OR 99W). Figure 1 depicts the planning area.

The topography is a mix of flat land in the eastern portion with rolling hills and steeper terrain primarily located in the north and western portions. The Willamette River and Marys River are the most prominent water features in the area. Floodplains and numerous wetlands are located near the rivers and creeks that run through the planning area.

#### 5.1.1 Current and Future Land Use

The understanding of interactions between land use and transportation is critical to transportation and land use planning. Location of human activities and lay of the land determine travel patterns, traffic volumes and the need for transportation facilities, while transportation infrastructure influences land use patterns. Figure 3 shows current development types within the planning area.

The central areas of Corvallis and Philomath are characterized by compact grid street patterns, while much of the remainder of the planning area is less dense and features a more circuitous street pattern. Land designated for industrial use in Corvallis tends to be in the southern part of town near the Corvallis Airport, along the railroad corridor, in southwest, around Technology Loop, and east of Pacific Highway West (OR 99W) along Circle and Walnut Boulevards. Land in Philomath designated for industrial use is primarily north of the Newport-Corvallis Highway (US 20/OR 34). Commercial zones in the area are concentrated along major roadway corridors and in downtown Corvallis and Philomath. Public land includes parks and extensive Oregon State University land. Much of the planning area is zoned residential.

Under current land use plans and policies, land uses within the planning area are expected to grow and change as shown in Figure 4.



Figure 3: 2010 Land Use –Development Types

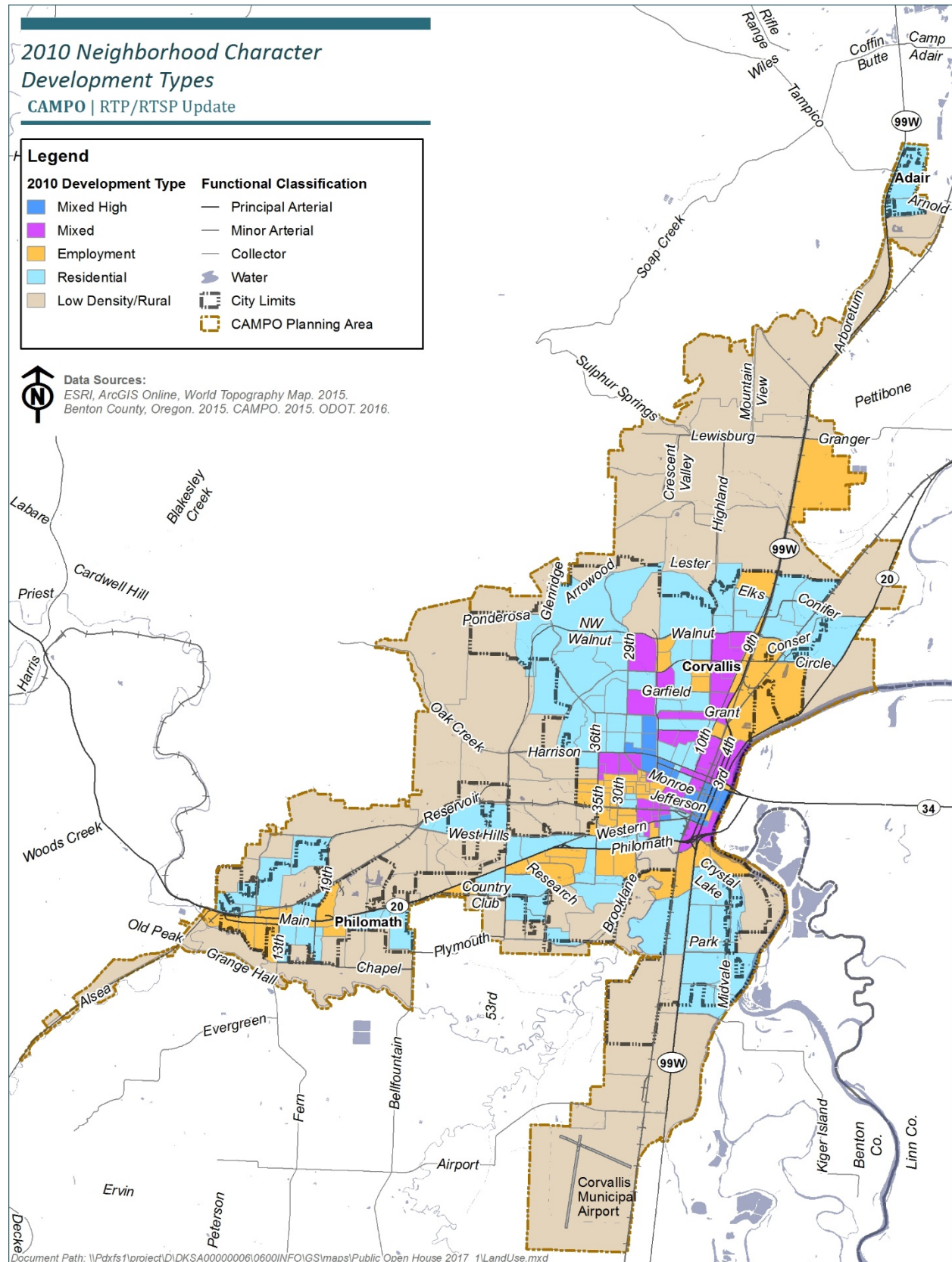
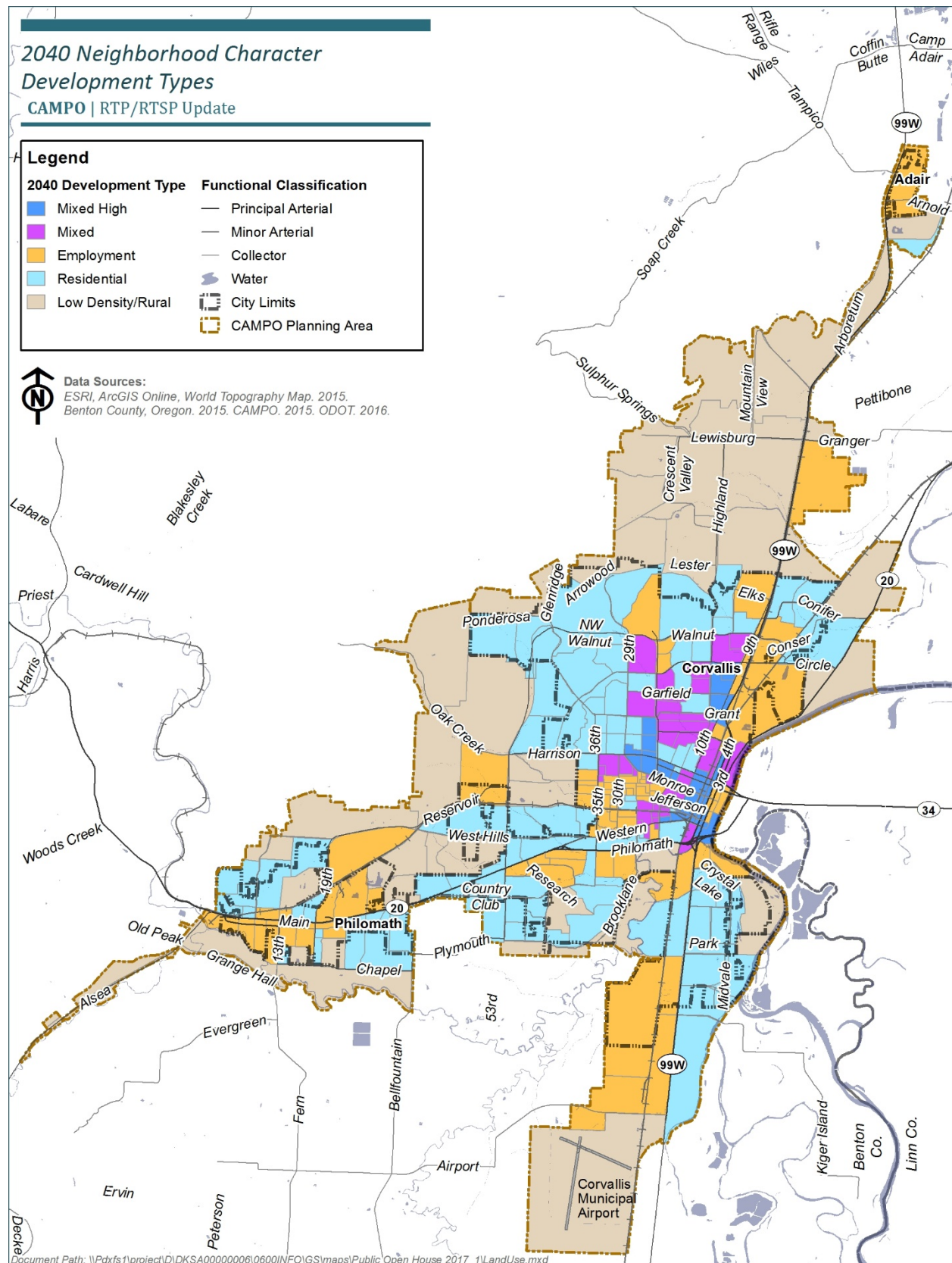


Figure 4. Anticipated 2040 Land Use – Development Types



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#### **5.1.1.1 City of Corvallis**

The City of Corvallis is the primary commercial center of the planning area. The most notable commercial areas of the city include the downtown central business district (CBD), 9<sup>th</sup> Street, Pacific Highway West (OR 99W) in the southern part of the city, Philomath Boulevard and Kings Boulevard. Development in the Corvallis CBD is relatively compact and includes a mixture of uses, such as restaurants, retail shops, gas stations, and banks. Many government and cultural uses are also located in the CBD. The roadway system in the downtown area is characterized by a series of one-way streets with pedestrian facilities. Bicycle amenities, such as covered bicycle parking areas are provided downtown, and a multi-use pathway adjacent to the Willamette River also traverses the downtown area. The City of Corvallis transit center is located in the CBD. The Corvallis Comprehensive Plan identifies several major and minor neighborhood centers, which are located throughout the city, primarily along major arterials.

Much of the industrial land in Corvallis is located in the southern portion of the city, just north of the Corvallis Municipal Airport, along the railroad corridor, and along Circle and Walnut Boulevards east of Pacific Highway West (OR 99W). Corvallis also has a unique Research Technology designation, which is primarily located in the Sunset Research Park and near the Hewlett-Packard campus.

Higher-density residential areas are generally located near major roadways, including the southern portion of Pacific Highway West (OR 99W), around the Oregon State University campus and near other employment centers. Lower-density residential areas are in the northern and southwestern parts of the city.

Most of the agricultural land in the planning area is west of Corvallis. Public Institutional land is another zoning designation that includes Oregon State University and the Corvallis Municipal Airport property. Most of the land designated as Open Space within the city is located near the Willamette and Marys Rivers and on the western edge of the city.

#### **5.1.1.2 City of Philomath**

The City of Philomath is located in the western part of the planning area. The newly constructed couplet on Main and Applegate Streets (Corvallis-Newport Highway / US 20/OR 34) forms the central business district in the city of Philomath. All designated public land (including schools and parks) is located south of Main Street. The Philomath Rodeo Grounds are also located south of Main Street. Industrial uses are located primarily in the northern area of the city. A significant industrial site is the mill property at the intersection of the Newport-Corvallis Highway (US 20/OR 34) and Alsea Highway (OR 34), just west of the Philomath city limits. Most residential uses are located in the northwest and southeast areas of town.

#### **5.1.1.3 City of Adair Village**

Adair Village is located north of Corvallis along Pacific Highway West (OR 99W). The City of Adair Village was built on the site of a World War II military base and its settlement pattern reflects that history. Development in Adair Village is primarily residential, with exceptions including the Santiam Christian School, a convenience store, a restaurant, a drive-through coffee stand and the Oregon Department of Fish and Wildlife office. The 123-acre Adair County Park is located to the east of the city. The northern

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city limit borders the E.E. Wilson Wildlife Area. The City recently expanded its Urban Growth Boundary to include 127.5 acres of land south of the city limits.

#### **5.1.1.4 Unincorporated Benton County**

The unincorporated portions of Benton County between Corvallis and Philomath and between Corvallis and Adair Village are characterized by low-density residential development, including working and hobby farms. Most of these areas are zoned by Benton County as 2-acre, 5-acre or 10-acre residential land. The Benton County Fairgrounds are located west of Corvallis with access from NW 53rd Street.

### **5.1.2 Schools and Parks**

Community focal points, such as schools and parks, are important to understanding travel patterns. These facilities attract pedestrians, bicyclists, transit users, and drivers and have specific transportation needs (e.g., pedestrian safety around schools). Awareness of the location of these facilities is important to planning for an effective regional transportation system.

#### **5.1.2.1 Schools**

Trips to and from school by students, teachers and parents— via bus, walking, bicycling, or driving – affects transportation patterns as well as transportation infrastructure planning and design. Schools also attract people outside of school hours for sports, extracurricular events, and community events held at school facilities. There are 19 public schools located within the planning area. Twelve of the schools are inside the Corvallis city limits, including eight elementary schools, three middle schools, the Corvallis High School, and the College Hill Public Alternative High School. Two elementary schools, a middle school and a high school are within the Philomath city limits, and one elementary school (Mt. View Elementary School) and Crescent Valley High School are in unincorporated Benton County.

There are also several private schools within the study area, including Santiam Christian School in Adair Village, Ashbrook Independent School, Corvallis Montessori School, Corvallis Waldorf School, Good Samaritan School, and Zion Lutheran School in Corvallis. Corvallis is also home to an extension of Linn-Benton Community College – The Benton Center.

#### **5.1.2.2 Oregon State University (OSU)**

OSU is located just west of downtown Corvallis, less than one mile from the Willamette River. The main campus is generally bounded by 9<sup>th</sup> Street to the east, Monroe Street to the north, Hwy 20/34 (Philomath Boulevard) to the south, and 35<sup>th</sup> Street to the west.

The main OSU campus encompasses approximately 530 acres, including 218 campus buildings with over eight million square feet of building space.<sup>1</sup> The campus also has several athletic facilities, such as Reser Stadium, Gill Coliseum, and Goss Stadium. The campus has 5,758 parking spaces for commuters and visitors to campus, as well as 1,138 spaces for residents on campus.<sup>2</sup> The campus also has nearly 9,000 bicycle parking spaces, and 36 percent of the bicycle parking spaces are covered.<sup>3</sup>

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<sup>1</sup> Source: OSU Capital Planning and Development, Space Management, February 2017

<sup>2</sup> Source: OSU Parking Utilization Study 2016-2017: Fall Term

<sup>3</sup> Source: SIC



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OSU students and faculty make up a significant portion of transportation users in Corvallis, and therefore affect regional transportation patterns and planning. OSU is the largest employer in the planning area with 6,228 faculty, staff, and temporary workers as of November 2016.<sup>4</sup> Students are a significant portion of the Corvallis population. Enrollment for Fall 2016 at OSU’s main campus was 24,672, which was a 1 percent increase over 2015 enrollment.<sup>5</sup>

### 5.1.2.3 Parks and Recreational Areas

Parks are important to the transportation system because they are popular destinations for residents and visitors. Parks sometimes need special transportation attention to serve specific park users, such as children. There are 42 parks and open space areas in the planning area, covering more than 2,000 acres. Most of these parks are managed by the City of Corvallis; however, seven parks are located in Philomath and one is in Adair Village. Other recreational facilities in Corvallis are the Osborn Aquatic Center and the Corvallis Senior Center.

## 5.2 Demographics

The population of the Corvallis urbanized area surpassed 50,000 in the 2000 US Census and has continued to grow. Between 2000 and 2010, Benton County overall experienced nearly 10 percent increase in population.

Population projections were developed by DKS Associates, in consultation with CAMPO and local agency staff. These projections are used in the region’s 2040 travel demand model -- the Corvallis/Albany/Lebanon Model (CALM) – to analyze future land use and transportation conditions. As shown in Table 3, by 2040 the CAMPO area is projected to grow by approximately 17,000 people. It is important to note that these projections are based on the population of transportation analysis zones in the model, which in some cases extend beyond the municipal boundaries.

**Table 3: Population**

Jurisdiction	2010 U.S. Census	2040	Change (from 2010 to 2040)
Corvallis	60,001	72,317	21%
Philomath	4,672	4,943	6%
Adair Village	876	1,046	19%
Unincorporated Benton County within the CAMPO planning area Boundary	4,580	8,550	87%
<b>CAMPO</b>	<b>70,129</b>	<b>86,856</b>	<b>24%</b>

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<sup>4</sup> Source: OSU Office of Institutional Research, <http://oregonstate.edu/admin/aa/ir/sites/default/files/employment-nov-2016.pdf>

<sup>5</sup> Main campus enrollment is total enrollment minus Extended Campus enrollment. Source: OSU Office of Institutional Research, <http://oregonstate.edu/admin/aa/ir/sites/default/files/employment-nov-2016.pdf>

Jurisdiction	2010 U.S. Census	2040	Change (from 2010 to 2040)
<b>Nearby Areas</b>			
Northeast Benton County (outside CAMPO)	13,003	15,817	22%
Northwest Linn County (Albany and Lebanon)	77,747	104,129	34%

Source: Census 2010 and 2040 CALM Model

Below are general demographic characteristics for the planning area, including the most recent data from the U.S. Census Bureau. This includes American Community Survey data for all jurisdictions, apart from population and housing counts which are not a part of the American Community Survey. Where appropriate, the characteristics are compared to statewide or countywide data. Because estimates are based on a sample of the population over a five-year period, rather than the full population at one point in time, a margin of error is included with each estimate. Although there may appear to be high margins of error, all Census numbers are within a 90 percent confidence level.

The average household size in Corvallis is 2.34 persons per household; Philomath is 2.63 and Adair Village is 3.30. Philomath and Adair Village average household sizes are both higher than that statewide average for Oregon of 2.50. The average household size for the overall CAMPO planning area is 2.27 persons per household.

Per the 2011-2015 American Community Survey (ACS), 87.4 percent of the population of the planning area is Caucasian. Residents of Hispanic or Latino represent 6.9 percent of the population, residents of Asian origin represent 6.2 percent, residents of American Indian or Alaska Native represent 0.7 percent, and residents of Pacific Islands origin represent 0.3 percent. As shown in Figure 8, a greater proportion of minorities are located near the Oregon State University (OSU) campus, the west side of Witham Hill, and near the OR 99W intersection with Walnut Boulevard. (Based on census block groups that exceed the citywide average.)

Several Native American tribes, such as the Confederated Tribes of the Grand Ronde, Confederated Tribes of Siletz Indians, and the Confederated Tribes of Warm Springs, may have interest in the region. Therefore, CAMPO will distribute project information to representatives of those tribes to keep them informed and facilitate their ability to participate in the process.

The majority of the residents in the planning area are between the age of 18 and 64 (69.2 percent), with 22.7 percent of those (or 19,601 residents) being college-aged (18 to 24). The portion of college-aged residents in the planning area is nearly 2.5 times that of the statewide average. Most of these residents live near the OSU campus. (Based on census block groups that exceed the planning area average.)

The 2011-2015 ACS estimates 17.1 percent of residents are under the age of 18, which is 4.8 percent less than statewide; and 13.7 percent are 65 years and older, which is 1.7 percent less than statewide. These residents are generally distributed throughout the planning area. 31.2 percent of residents 65 years and older have a disability, slightly less than the statewide average of 37.6 percent. As shown in Figure 5, high proportions of disabled residents are located near downtown, the Corvallis Country Club,

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just northwest of the OSU campus, and along OR 99W in north Corvallis. (Based on census block groups that exceed the planning area average.)

The median annual household income was \$49,802. Per 2011-2015 ACS, 22.3 percent of individuals living in the planning area had an income below the poverty level at some point in the previous 12 months, compared to the statewide estimate of 16.5 percent. An estimated 8.9 percent of households had incomes below the poverty level during the previous 12 months. As shown in Figure 7, a greater proportion of residents with an income below the poverty level are located near the OSU campus, and portions of north and south Corvallis. (Based on census block groups that exceed the planning area average.)

The U.S. Census Bureau estimates that 2.5 percent (860) households in the planning area have limited ability to speak English. Spanish-speaking households are the most prominent in this category, followed by other Indo-European, East Asian, and Pacific Islander languages.

The Census Bureau estimates that 13.1 percent (10,812) of planning area residents over the age of five speak a language other than English at home, with the most prominent language being Spanish or Spanish Creole. The 2011-2015 ACS estimates that 3,195 residents over the age of 5 speak English worse than very well (3.9 percent).

The U.S. Census Bureau estimates that 8,697 people within the planning area (10.1 percent) have a disability. Senior citizens are the group most likely to have a disability. The U.S. Census Bureau estimates that 3,680 residents ages 65 or older, comprising 3.1 percent of the population, have a disability.

### **5.3 Social Equity Considerations**

Social equity considerations include: (1) Fair and equitable disbursement of transportation services to all people; (2) Providing for the mobility of disadvantaged people; (3) Affordability of services; (4) Community cohesion. To avoid disproportionate effects on disadvantaged groups, all types of users, service providers, and other interested parties need to have opportunities to participate in the regional transportation planning process. Data gathered by the U.S. Census Bureau can help to identify individuals in the CAMPO area who are likely to be underserved.

#### **5.3.1 Environmental Justice and Title VI Populations**

Title VI of the Civil Rights Act of 1964 as updated on October 1, 2012 requires that no person shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance on the grounds of race, color, or national origin. Executive Order 13166, signed by President George W. Bush in 2000, clarified that discrimination based on national origin includes the denial of access for Limited English Proficient persons.

Further, the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income (also known as “Environmental Justice”) was also the subject of an Executive Order signed by President William J. Clinton in 1994. Executive Order 12898 focused federal attention on the environmental and human health effects of governmental actions on minority and low-income populations.

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Figure 5 to Figure 9 show relative densities of these populations by Census Block Group. The following definitions apply:

- Minority populations are those who, when asked to identify their race, do not answer as “white alone”
- Poverty-level populations are those households with incomes less than 100% of the federal poverty threshold
- Disability status is defined as households with one or more persons with a disability. Disabled populations include both households that receive public assistance for a disability and those that do not.

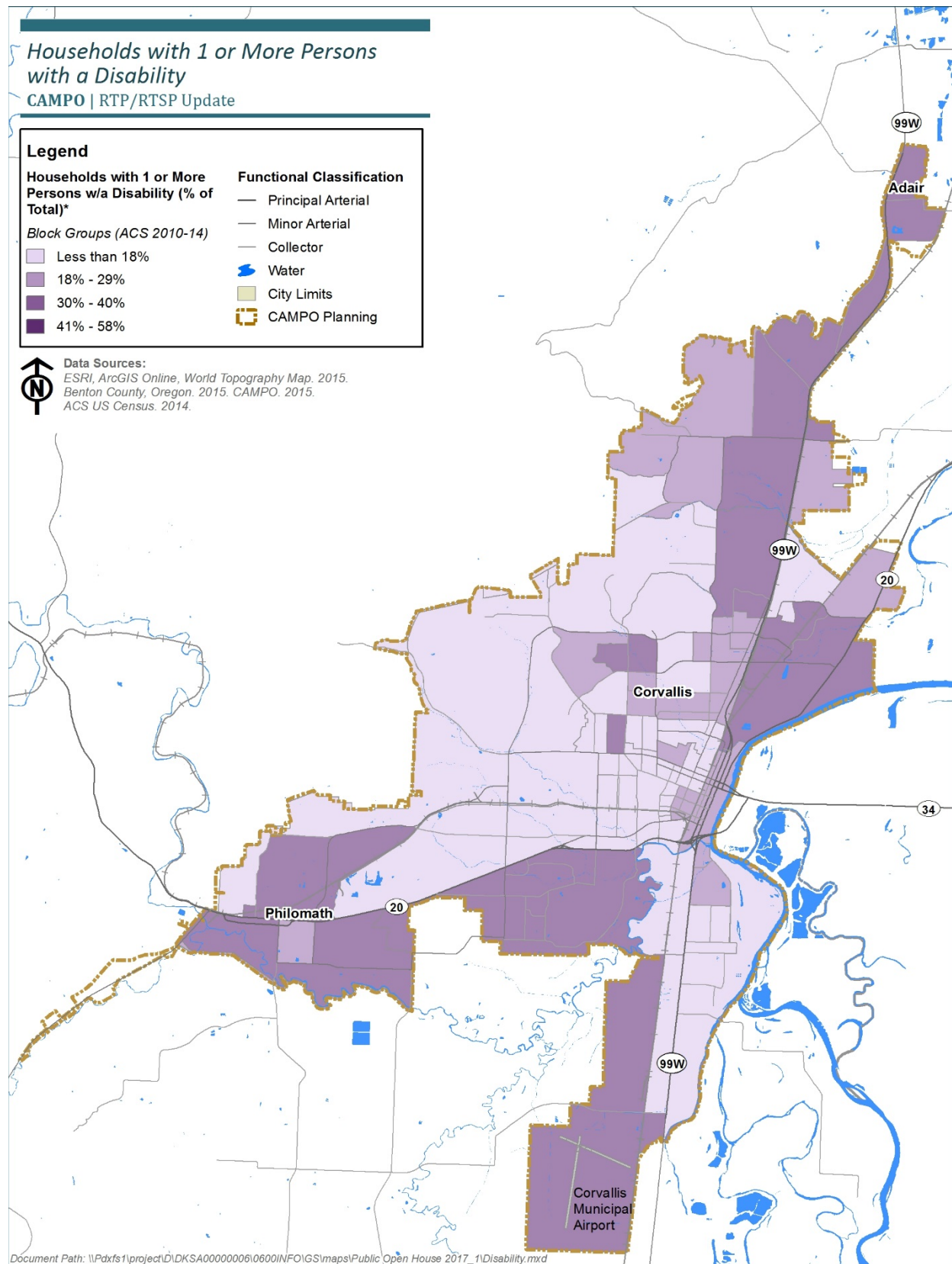
### **5.3.2 Identifying Gaps Affecting Disadvantaged Groups**

To help bridge the gap in facilities or services that may be disproportionately affecting Title VI and environmental justice groups in the planning area, CAMPO may employ a combination of the following measures:

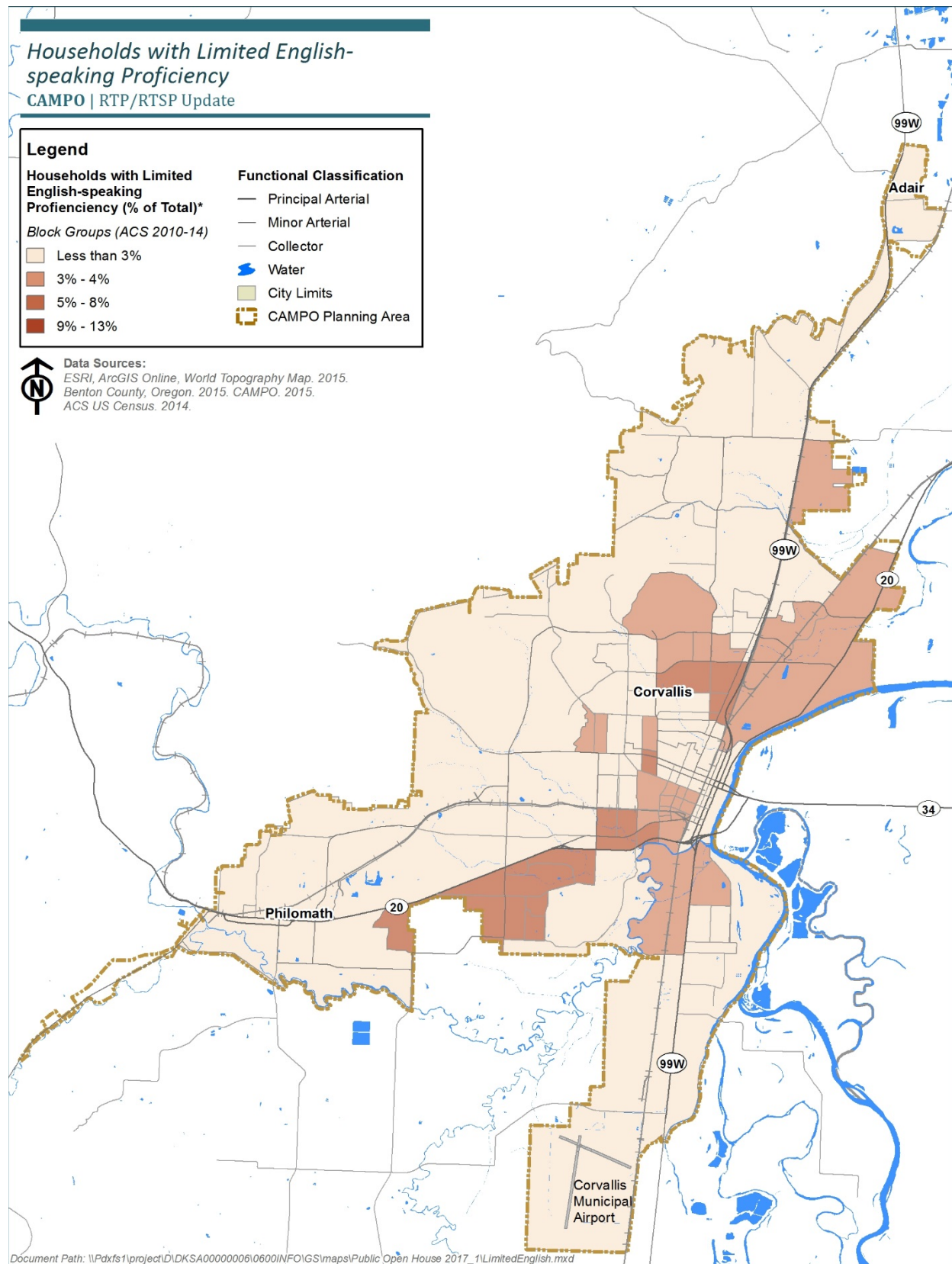
- Consulting with social and religious organizations that serve environmental justice groups and disseminating information to those organizations.
- Purchasing advertisement space and/or placing public notification in Oregon State University and Linn-Benton Community College media, and other publications serving environmental justice groups.
- Providing assistance, upon request, and with 48 hours notice, to the hearing and visually impaired, individuals who are not fluent in English, and others requiring assistance at MPO meetings, hearings, and public events. Public notices of these events shall notify the public of this opportunity. Meetings shall be held in ADA-compliant venues.
- Selecting meeting sites that are easily accessible to environmental justice groups and accessible by alternative transportation modes.



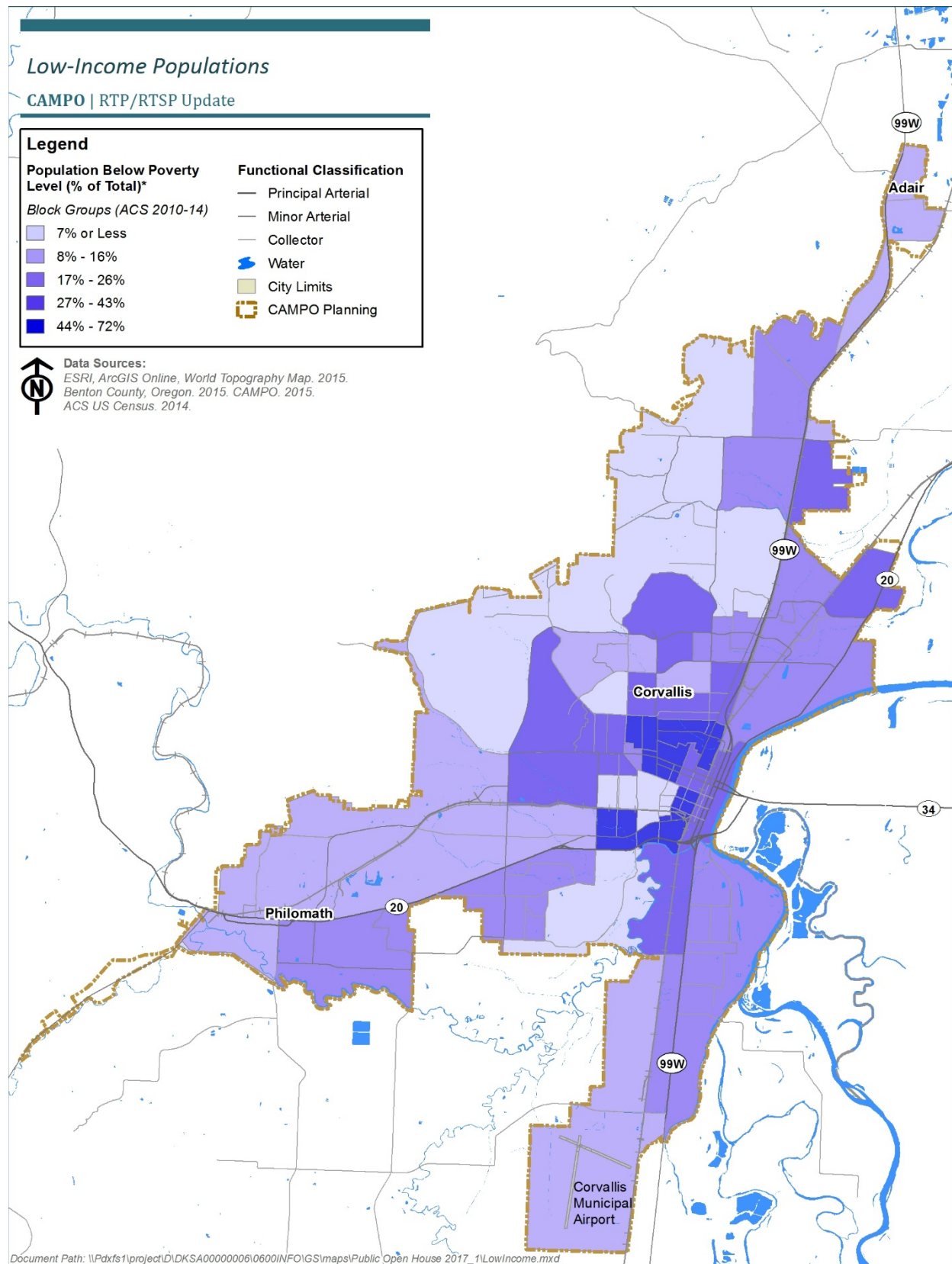
**Figure 5: Disabled Populations**



**Figure 6: Households with Limited English Proficiency**

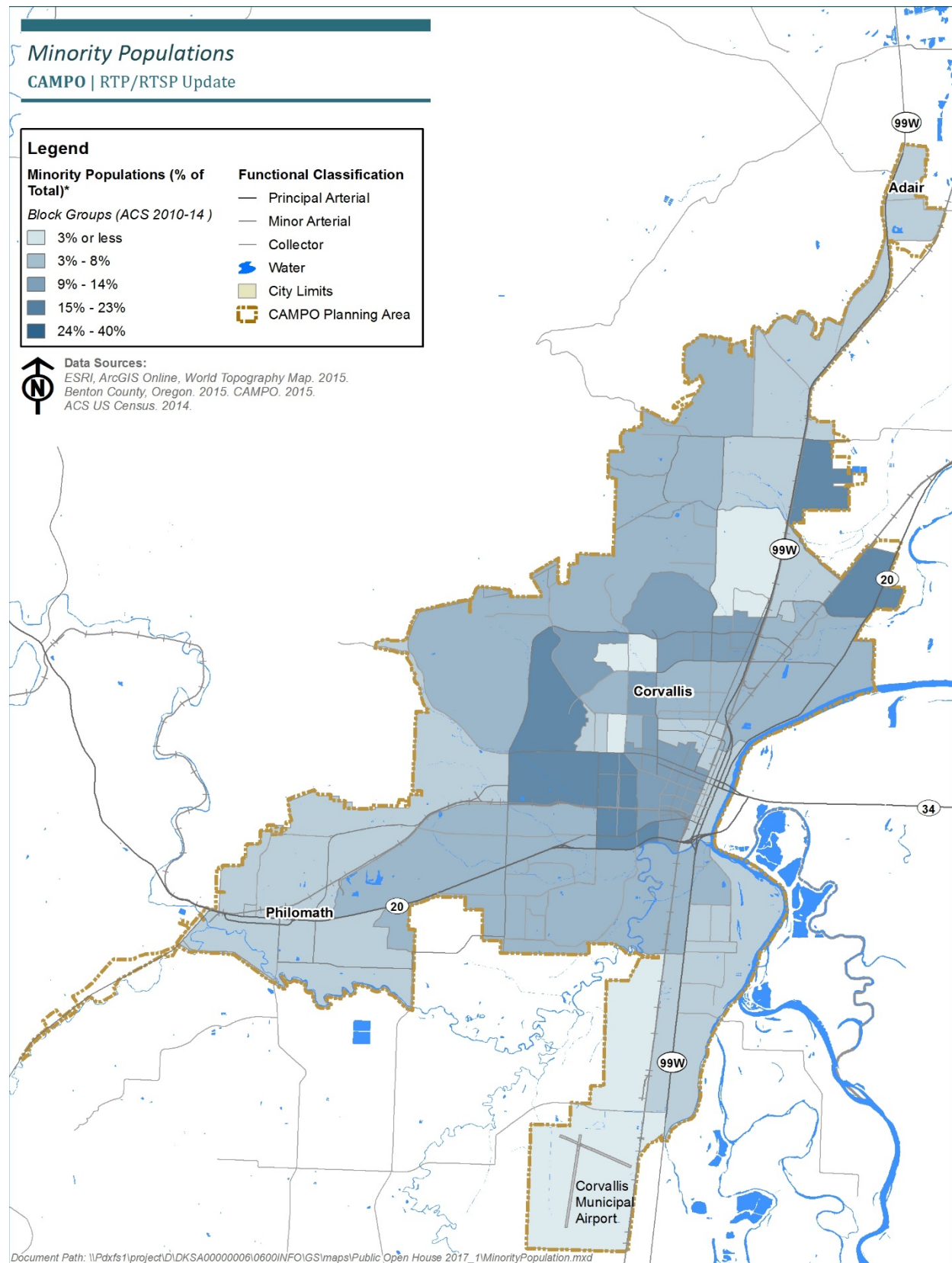


**Figure 7: Poverty Level Populations**

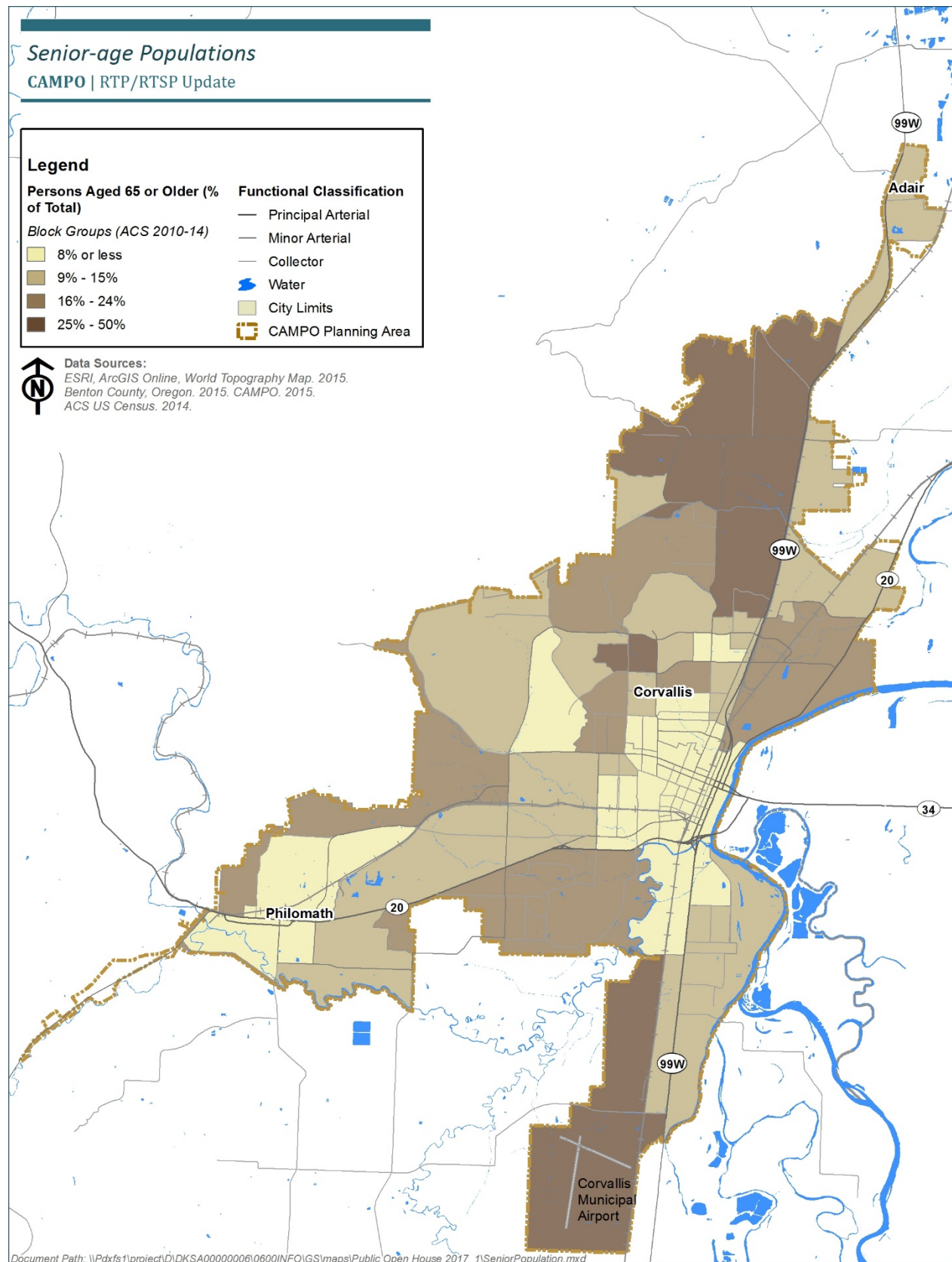




**Figure 8: Minority Populations**



**Figure 9: Population Age 65 and Over**



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## 5.4 Employment Characteristics

Employment characteristics are important to the understanding of travel patterns and particularly work trips. Peak hour periods are used for travel forecasting and determination of needed transportation improvements, facilities, programs and strategies, so employment numbers and employer locations have a significant effect on transportation planning outcomes.

As shown in Table 4, future employment in the CAMPO area is projected to grow by approximately 19,000 new jobs. Future scenarios evaluated by the consulting team will hold to the regional control totals for CAMPO, but the distribution of future employment between jurisdictions may vary between scenarios.

**Table 4: Employment by Jurisdiction**

Jurisdiction	2010	Employment 2040	Change
<b>Corvallis</b>	26,044	39,627	52%
<b>Philomath</b>	1,286	2,116	65%
<b>Adair Village</b>	222	437	97%
<b>Unincorporated Benton County within the MPO boundary</b>	3,928	7,937	102%
<b>CAMPO</b>	<b>31,480</b>	<b>50,117</b>	<b>59%</b>

*Source: Census 2010 / CALM 2040 Model*

The number of new jobs exceeds the number of new people anticipated in the CAMPO planning area by 2040, which indicates that the CAMPO region will continue its trend of importing workers from other areas such as Albany, Lebanon, and areas northeast of the planning area.

Median household income within the planning area is comparable to the statewide median household income. The 2011-2015 ACS estimates statewide median household income in the past 12 months in 2015 was \$51,243 (in 2015 inflation-adjusted dollars). Median household income was estimated to be \$49,802 in the CAMPO planning area, \$42,488 within the City of Corvallis, \$57,150 in Adair Village and \$49,333 in the City of Philomath.

Oregon Employment Department data from October 2016 indicates that major employment sectors throughout Benton County included government (15,050); private educational and health services (6,640); trade, transportation and utilities (4,430); professional and business services (4,420); and leisure and hospitality (4,210). The leisure and hospitality sector saw the largest growth in recent years, increasing 24 percent between the second quarter of 2010 and the second quarter of 2016. The professional and business services sector grew by 19 percent, the construction sector grew by 16 percent, and the education and health services sector grew by 12 percent. The greatest decline was seen in the information sector, which saw a 33 percent decline in overall employment between 2010 and 2016.

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In recent decades, the planning area has seen an increase in service-related and education jobs and a decrease in resource-related jobs. Employment projections developed by the Oregon Employment Department predict an increase in education, health care and social assistance, service, retail and government jobs, with a continued decline in resource-related jobs. Education is one of the most significant employment sectors for the planning area, due to the presence of OSU. These projections are also reflected in the comprehensive plans of Benton County, Philomath, and Corvallis.

## 5.5 Commute Patterns

Commute characteristics and patterns help determine where transportation system needs exist. Census data and Oregon's household activity survey, conducted between 2009 and 2011, indicate that a considerable portion of the planning area workforce and OSU students reside in Albany, Lebanon and Salem. Conversely, many of the planning area residents commute to Albany, Salem, Eugene, Lebanon, or other locations for employment. Interstate 5 (approximately 14 miles east of the planning area), US 20 and OR 99W are important north-south commuter routes. US 20 and OR 34 are principal east-west commuter routes. Residents in the planning area also travel to Albany for shopping and services.

According to the 2011-2015 ACS, 53 percent of residents over the age of 16 in the planning area worked in the planning area. The mean commute time for residents of the planning area was 18.6 minutes, compared with a mean travel time of 22.9 minutes at the statewide level. Within the City of Corvallis, the mean travel time is estimated at 16.4 minutes with 82 percent of workers staying within the planning area. Because of small sample size, this data was not available for Philomath or Adair Village.

Per 2011-2015 ACS estimates, 3.5 percent of households throughout Oregon did not have a motorized vehicle available. In the planning area, 3.4 percent did not have a vehicle available, while 5.2 percent of households in Corvallis, 0.0 percent in Philomath and 0.6 percent of households in Adair Village did not have a vehicle available.

An estimated 71.4 percent of workers 16 years and older throughout Oregon drove alone while commuting to work, according to 2011-2015 ACS data estimates. This compared with 59.4 percent in Corvallis, 70.3 percent in Adair Village, 77.6 percent in Philomath, and 65.4 percent throughout the planning area. Of those in the planning area who did not drive to work alone, an estimated 8.4 percent carpooled, 2.1 percent used public transit, 7.1 percent walked and 9.4 percent used a motorcycle, taxi, bicycle or other means of transportation to get to work. An estimated 7.6 percent worked at home.

The relatively low number of single-occupancy vehicles commuting to work in Corvallis may reflect the presence and high quality of bicycle and pedestrian facilities, transit service, and OSU transit programs. Other factors may include demographics and the large student population.

The location of major employers helps to identify commuter travel patterns, including heavily used corridors and peak-hour transportation needs. According to the Corvallis Chamber of Commerce, major employers within the planning area included the following in 2013:

- Oregon State University (6,228 faculty and staff)
- Samaritan Health Services (2,632 employees)

- 
- Hewlett-Packard (estimated 1,550 employees)
  - Corvallis Clinic (620 employees)
  - Georgia Pacific Corporation – Halsey Mill (620 employees)
  - Corvallis School District (550 employees)
  - City of Corvallis (427 employees)
  - CH2M HILL (400 employees)
  - Benton County (381 employees)
  - FiServe (247 employees)
  - ATS Systems (190 employees)

## 6 Existing Transportation System

The following facilities within CAMPO's planning area serve important national, statewide and regional transportation functions.

### 6.1 Roadways

#### 6.1.1 Roadway Jurisdiction

The public entities that have jurisdictional responsibility for roadways in the planning area include:

- ODOT
- Benton County (including maintenance jurisdiction over roadways in Philomath and Adair Village)
- OSU
- City of Corvallis

#### 6.1.2 Roadway Functional Classification

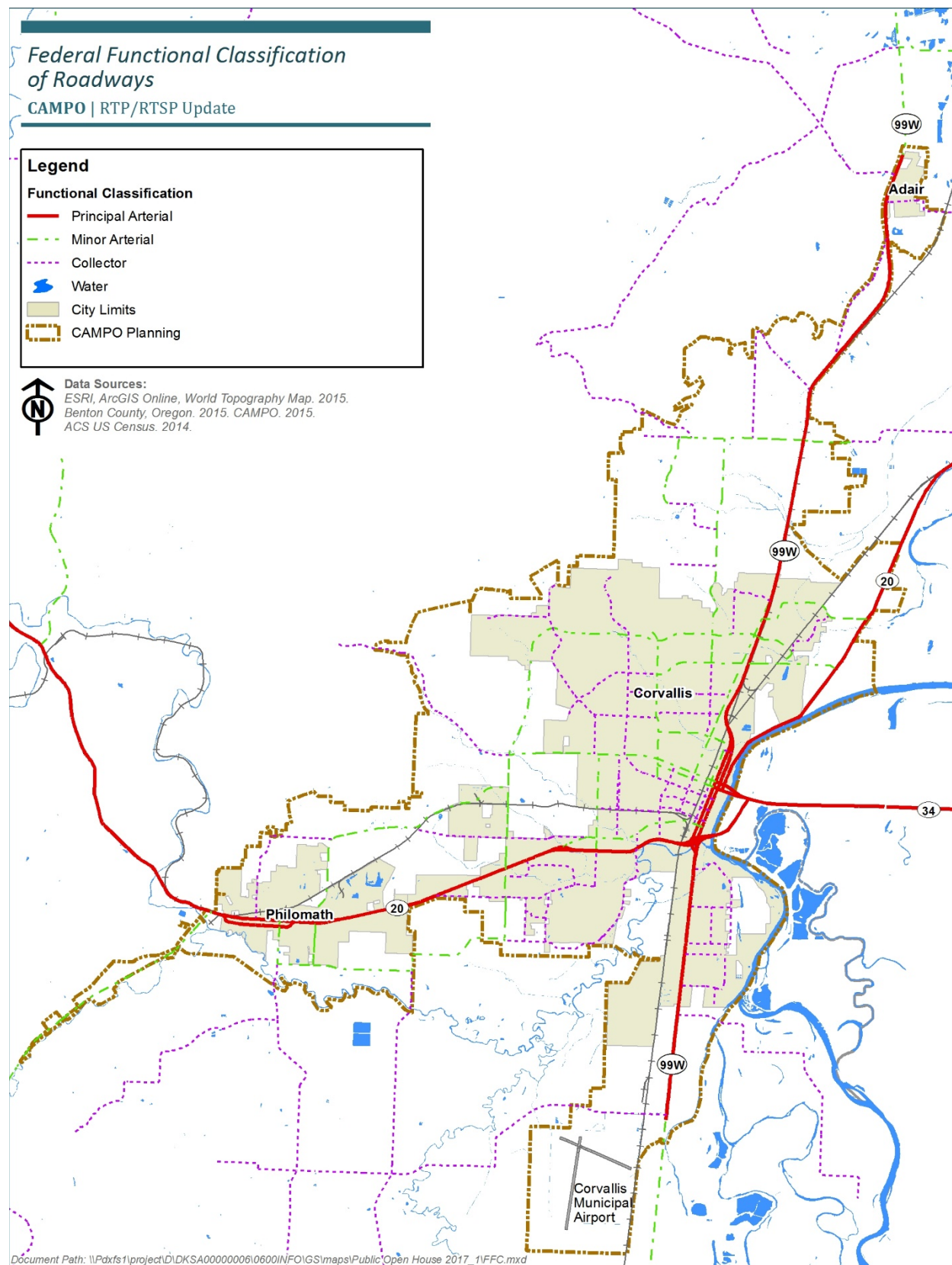
The federal functional classification system groups roadway types based on the levels of mobility and accessibility that they provide. Principal Arterials provide the highest mobility for through traffic and the least accessibility to the adjacent land. Conversely, local streets are designed for the lowest mobility and the highest accessibility. The classification may define the desirable roadway width, right-of-way needs, access spacing, and pedestrian and bicycle facilities.

CAMPO has adopted the roadway functional classifications, as depicted in Figure 10, which includes the following designations: Urban Principal Arterials, Urban Minor Arterials, Urban Collectors.

Recently, the Federal Highway Administration has furtherer segregated Urban Collectors into subcategories of major and minor collectors. Identification of major and minor collectors is currently underway as part of each individual roadway jurisdiction's transportation system planning process. Recommendations will come to CAMPO for regional approval, and future updates of the RTP will include these two collector classifications.



**Figure 10: Functional Classification of Roadways**



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### 6.1.3 Urban Principal Arterials

Urban Principal Arterials are the highest roadway classification and serve larger volumes of regional traffic at higher speeds than roads in the lower classifications. They generally emphasize regional mobility over access to adjacent land uses. Urban Principal Arterials in the planning area include:

- OR 99W
- US 20
- OR 34

ODOT has responsibility for the design, maintenance, repair, and construction of these facilities.

For planning purposes, important national and regional roadways within the planning area are assumed to be arterials and collectors.

### 6.1.4 Minor Arterials

Urban Minor Arterials also are intended to favor mobility over access, but to a lesser extent than Principal Arterials. These roadways provide a higher level of accessibility to adjacent land uses, but less mobility than the Urban Principal Arterials. Urban Minor Arterials in the planning area are:

Located primarily in unincorporated Benton County:

- Reservoir Avenue (West Hills Road to 53rd Street)
- 53rd Street (SW Nash Avenue to Harrison Boulevard)
- Highland Drive (Circle Boulevard to Lewisburg Avenue)
- Crescent Valley Drive (Lewisburg Avenue to Johnson Creek Road)
- Lewisburg Avenue (Crescent Valley Drive to Granger Avenue)
- Airport Avenue (OR 99W to MPO boundary)

Located primarily in Philomath:

- 13th Street (Chapel Drive to Main Street)
- Chapel Drive (13th Street to Bellfountain Road)
- 19th Street (Chapel Drive to West Hills Road)

Located primarily in Corvallis:

- Western Boulevard (Philomath Boulevard to 3<sup>rd</sup> Street)
- Van Buren Avenue (Kings Boulevard to US 20/OR 34)
- 35<sup>th</sup> Street (Harrison Boulevard to US 20/OR 34)
- 53<sup>rd</sup> Street (Harrison Boulevard to Circle Boulevard)
- Kings Boulevard (Monroe Avenue to Walnut Boulevard)
- 9<sup>th</sup> Street (OR 99W to Van Buren Avenue)

- 
- Circle Boulevard (US 20 to Kings Boulevard)
  - Harrison Boulevard (53<sup>rd</sup> Street/Walnut Boulevard to US 20/OR 34)
  - Conifer Boulevard (OR 99W to US 20)
  - Walnut Boulevard (Circle to 53<sup>rd</sup> Street)
  - Buchanan Avenue (5th Street to Kings Boulevard)
  - 5th Street (Van Buren Avenue to Buchanan Avenue)
  - Satinwood Street (Walnut Boulevard to Future Extension of Lester Avenue)

### 6.1.5 Urban Collectors

Urban Collectors are intermediate roadways that typically serve as direct links between local streets and the arterial street system. Mobility and access functions are important for urban collectors. Urban collectors in the planning area include the following:

Located primarily in unincorporated Benton County:

- Arboretum Road (OR 99W to OR 99W)
- Mountain View Drive (OR 99W to Lewisburg Avenue)
- Kiger Island Drive (OR 99W to MPO boundary)
- Bellfountain Road (Plymouth Boulevard to south MPO area)
- West Hills Road (9<sup>th</sup> Street to 19<sup>th</sup> Street north of Philomath)
- Oak Creek Drive (53<sup>rd</sup> Street to MPO boundary)
- Sulphur Springs Road (Lewisburg Avenue to MPO boundary)
- Plymouth Road (53<sup>rd</sup> Street to MPO boundary)
- Hout Street (adjoining Airport Avenue)

Located primarily in Adair Village:

- Arnold Avenue (OR 99W to east MPO boundary)

Located primarily in Corvallis:

- Conser Street (Conifer Boulevard to Walnut Boulevard)
- 15<sup>th</sup> Street (Avery Park Drive to Monroe Avenue)
- 9<sup>th</sup> Street (Van Buren Avenue – Washington Way)
- Highland Drive (Circle Boulevard – Buchanan Avenue)
- Washington Avenue (15<sup>th</sup> Street to 3<sup>rd</sup> Street)
- Washington Way (35<sup>th</sup> Street to 15<sup>th</sup> Street)
- Jefferson Way (15<sup>th</sup> Street to 3<sup>rd</sup> Street)

- 
- Grant Avenue (Kings Boulevard to 9<sup>th</sup> Street)
  - Garfield Avenue (Kings Boulevard to 9<sup>th</sup> Street)
  - Crystal Lake Drive (Park Avenue to 3<sup>rd</sup> Street)
  - Park Avenue (3<sup>rd</sup> Street to Crystal Lake Drive)
  - Midvale Drive (Park Avenue to Goodnight Avenue)
  - 5<sup>th</sup> Street (Western Boulevard to VanBuren Boulevard)
  - Technology Loop (53<sup>rd</sup> Street to Western Boulevard)
  - Brooklane Drive (45<sup>th</sup> Street to Philomath Boulevard)
  - Research Way (Technology Loop to County Club Drive)
  - 45<sup>th</sup> Street (Brooklane Drive to Country Club Drive)
  - 49<sup>th</sup> Street (Country Club Drive to Nash Avenue)
  - Thompson Street (Alexander Avenue to Park Avenue)
  - Goodnight Avenue (OR 99W to Midvale Drive)
  - Alexander Avenue (OR 99W to Crystal Lake Drive)
  - Country Club Drive (Philomath Boulevard to 35<sup>th</sup> Street)
  - 36<sup>th</sup> Street (Witham Hill Drive to Harrison Boulevard)
  - 35<sup>th</sup> Street (Country Club Drive to US 20/OR 34)
  - Witham Hill Drive (Walnut Boulevard to Grant Avenue)
  - Ponderosa Avenue (Witham Hill Drive to MPO boundary)
  - Circle Boulevard (Kings Boulevard to Witham Hill Drive)
  - 29<sup>th</sup> Street (Walnut Boulevard to Harrison Boulevard)
  - 30<sup>th</sup> Street (Harrison Boulevard to Western Boulevard)
  - SW Birdsong Drive (49<sup>th</sup> Street to 45<sup>th</sup> Street)
  - Monroe Avenue (Harrison Boulevard to 3<sup>rd</sup> Street)
  - Conser Street (Walnut Boulevard to Conifer Boulevard Street)
  - Elks Drive (OR 99W to Satinwood)
  - Ingalls Street (Airport Road to Convill)

Located primarily in Philomath:

- North 9<sup>th</sup> Street (West Hills Road to Main Street)
- West Hills Road (9<sup>th</sup> Street to 19<sup>th</sup> Street)

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Other roadways in the planning area are classified as local roads. Local roads or residential streets provide maximum accessibility to adjacent land uses and minimum mobility.

#### **6.1.6 Roadway Widths and Number of Lanes**

Roadway widths for urban collectors generally range from 30 to 40 feet. Widths of urban minor arterials and urban principal arterials may exceed 60 feet. On-street parking is provided on many of the arterials and collectors within central Corvallis and central Philomath.

The number of lanes helps to define the capacity and streetscape of a roadway. Most arterials and collectors in the planning area are two lanes wide, although some Urban Minor Arterials have more. This includes portions of Circle Boulevard (29<sup>th</sup> Street to Conser Street), 9<sup>th</sup> Street (Walnut Boulevard to Harrison Boulevard), and Walnut Boulevard (Witham Hill Drive to Conser Street), which all have four lanes. Portions of Harrison Boulevard and Van Buren Boulevard have three lanes (Kings Boulevard to NW 3<sup>rd</sup> Street). The Urban Principal Arterials range in width from two to five lanes.

#### **6.1.7 Speed Limits**

Posted speed limits affect the capacity and characterize the function of a roadway. Posted speed limits are generally 25 mph through central Corvallis and Philomath, and range from 30 to 45 mph on other arterials and collectors within Corvallis and Philomath. Toward the outer edges of the planning area, speed limits are generally 45 to 50 mph. OR 99W has numerous posted speed changes, resulting in highway sections with speeds between 35 and 55 mph. Much of Philomath Boulevard is posted at 45 mph.

#### **6.1.8 Roadway Congestion**

On a section of roadway, the volume to capacity ratio (V/C) is a comparison of the actual volume of traffic using the road to the maximum volume that the roadway can effectively handle. For planning purpose, V/C is the peak hour traffic volume divided by the hourly capacity of a given roadway segment or intersection. A lower ratio indicates smooth operations and minimal delays. A ratio approaching 1.00 indicates increased congestion and reduced performance. A ratio greater than 1.00 indicates volumes are greater than the roadway or intersection can handle at intended speeds, resulting in slow downs and long delays. ODOT mobility targets for intersections along state highways are based on v/c ratios.

Figure 11 shows peak hour volume to capacity ratios on the roadway network, for the 2010 baseline case in the CAMPO Region.

#### **6.1.9 Intersection Operations**

In evaluating intersection performance, CAMPO considers both V/C and Level of service (LOS). LOS is a “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E indicate progressively worsening operating conditions. LOS F represents conditions where average vehicle delay has become excessive and traffic is highly congested.

There are 61 signalized intersections in Corvallis, four signalized intersections in Philomath, three within unincorporated Benton County, and zero in Adair Village. Intersection mobility targets vary by

jurisdiction of the roadways, however, all intersections under state jurisdiction in Corvallis must comply with the V/C ratios in the Oregon Highway Plan (OHP). The ODOT V/C targets are based on highway classification and posted speeds. A Level of Service (LOS) D is the minimum performance target for intersections under city jurisdiction, and is assumed as the minimum performance target for intersections under Benton County jurisdiction.

A major congested area within CAMPO's planning area is located at the east end of Corvallis, where three highways (US 20, OR 34, and OR 99W) converge and cross over the Willamette River on three bridges. One of these bridges (the Van Buren Bridge, eastbound out of Corvallis) has only one lane. Congestion at these crossings is particularly heavy during peak commute times. During peak commute times, intersections east and west of the single-lane Van Buren Bridge exceed highway capacity and Oregon Highway Plan's Mobility Standards. As shown in Table 5 and Figure 11, low performance intersections within the planning area are concentrated within Corvallis. Intersections in Philomath, Adair Village, and unincorporated Benton County generally experience low V/C ratios.

**Table 5: Low Performance Intersections<sup>6</sup>**

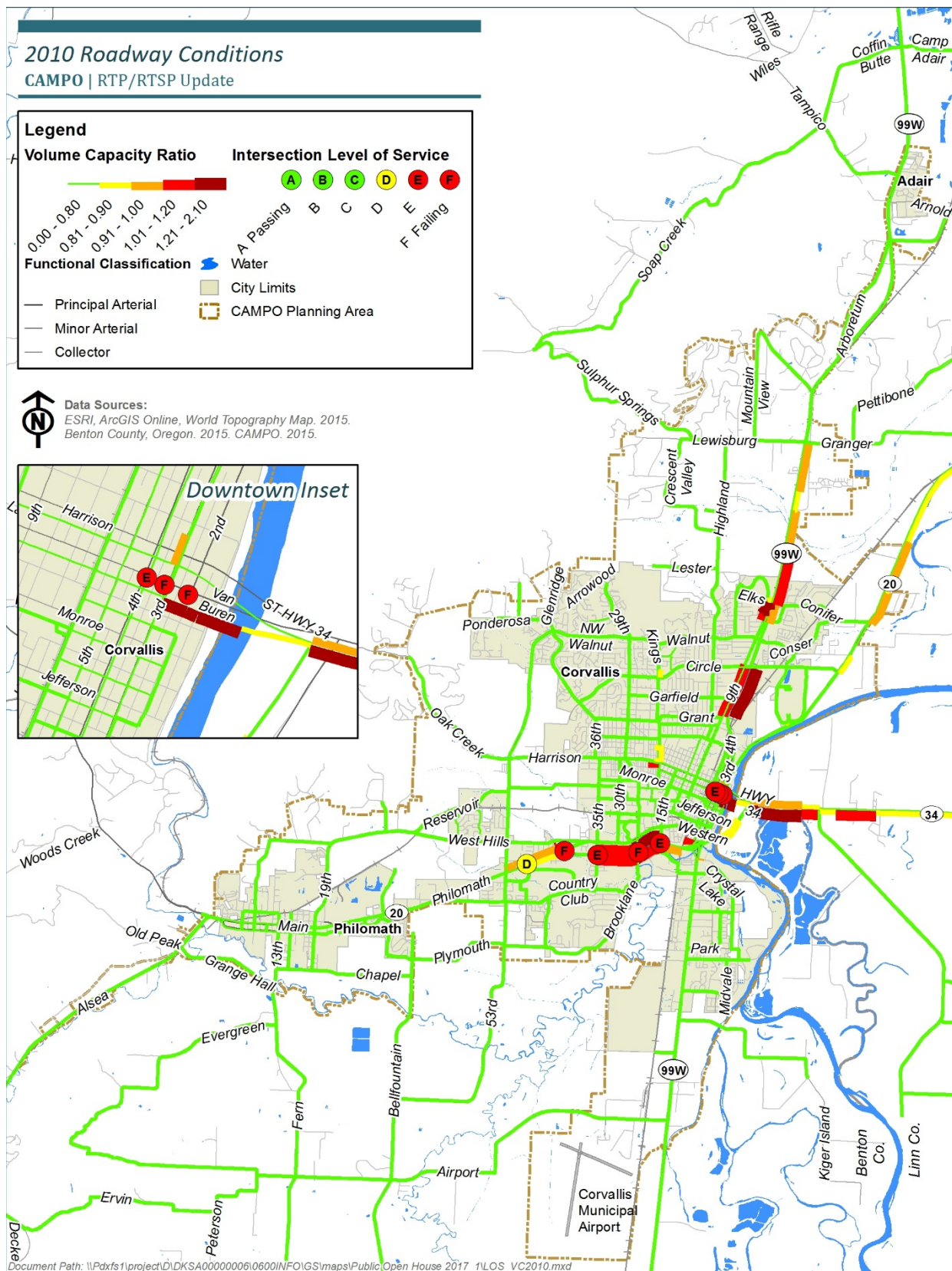
Intersection	Mobility Target per Oregon Highway Plan (V/C)	2010 V/C
<b>US 20/OR 34 &amp; Technology Loop</b>	0.85	0.996
<b>US 20/34 WB &amp; Western Blvd</b>	0.85	0.937
<b>US20/OR34 &amp; 35<sup>th</sup> Street</b>	0.85	0.875
<b>US20/OR34 &amp; 26<sup>th</sup> Street</b>	0.85	0.909
<b>NW 2<sup>nd</sup> Street &amp; NW Van Buren Avenue</b>	0.95	1.175
<b>NW 3<sup>rd</sup> Street &amp; NW Van Buren Avenue</b>	0.95	1.169
<b>US 20/OR34 &amp; 15<sup>th</sup> Street</b>	0.85	0.948
<b>4<sup>th</sup> Street &amp; Van Buren Avenue</b>	0.95	1.091

*Source: Corvallis and Philomath 2016 Transportation System Plans Existing Conditions Reports*

<sup>6</sup>The metric used by the City of Corvallis for measuring the performance of an intersection under the City's jurisdiction is different from the one used by ODOT for the State facilities. The City of Corvallis uses LOS while ODOT uses volume over capacity (v/c) ratios. Also, the City of Corvallis allows an LOS of D for the City's arterials while ODOT's Mobility Standards require improvement of such facilities.

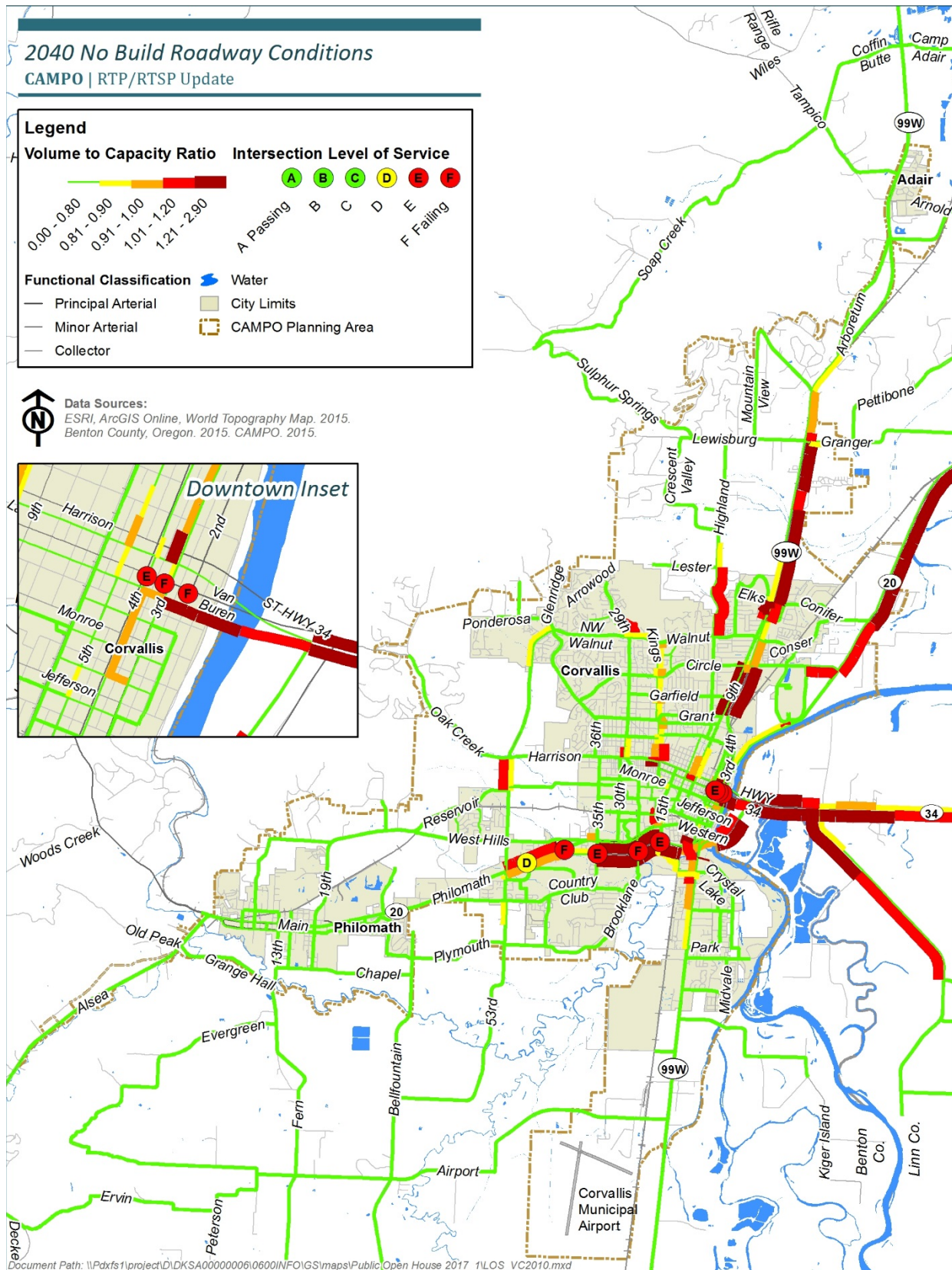


Figure 11: 2010 Roadway Volume to Capacity and Intersection Level of Service



Source: 2010 CALM Model

Figure 12: 2040 No-Build Roadway Volume to Capacity and Intersection Level of Service





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#### 6.1.10 Pavement Condition

Pavement condition is an important element of roadway functionality. All functionally classified arterials and collectors in the planning area are paved. Pavement conditions of roadways in the planning area are periodically monitored for needed improvements. As such, most of the arterials and collectors are in fairly good condition. Asphalt concrete is the primary paving material; however, a few segments (Reservoir Avenue, 9<sup>th</sup> Street in Philomath, 19<sup>th</sup> Street, Crescent Valley Drive) are oil mat, and some are Portland cement concrete (including a segment of Conser Street).

Roadway segments rated “poor” or “very poor” in the most recent Benton County review (2015) include:

- Rivergreen Avenue SW (Villa Drive SE— Charlotte Place SE)
- Rivergreen Avenue SW (Hathaway Drive SE— Midvale Drive SE)
- 9<sup>th</sup> Street SW (Madison Avenue – Monroe Avenue)
- Allen Street (Avery Avenue – End County Road)
- 3 Mile Lane SE (OR 99 W – Booneville Drive)
- Highland Drive NW (Hayes Avenue NW – Garfield Avenue NW)
- Country Club Drive SW (US 20/34 – End of surface)
- Highland Drive NW (Cleveland Avenue NW – Spruce Avenue NW)
- Walnut Boulevard NW (Oak Avenue NW – Highland Drive NW)
- Walnut Boulevard NW (Jack London Street NW – Belvue Street NW)
- 20<sup>th</sup> Place N (College Street – End County Road)
- 15<sup>th</sup> Street SW (E Avenue SW – Western Boulevard SW)
- 15<sup>th</sup> Street SW (Western Boulevard – A Avenue SW)
- 15<sup>th</sup> Street SW (Washington Avenue SE – Jefferson Way SE)
- Elks Drive NW (OR 99 W – 9<sup>th</sup> Street NW)
- Grant Avenue NW (30<sup>th</sup> Street NW – Grant Place NW)
- Grant Avenue NW (28<sup>th</sup> Street NW – 29<sup>th</sup> Street NW)
- Grant Avenue NW (20<sup>th</sup> Street NW – Kings Boulevard NW)
- Vandenberg Avenue NE (OR 99 W – East end of USFW)
- Conifer Boulevard NW (Lancaster Street NE – Powderhorn Drive NE)
- Grant Ave NW (25<sup>th</sup> Street NW – 26<sup>th</sup> Street NW)<sup>7</sup>

In the most recent ODOT review (2014), most of the state routes within the planning area were rated “good” or “very good” and none were rated “very poor.” State highway segments that were rated “poor” that were partially or completely within the planning area included US 20 between mileposts 46.12- 52.4; 55.4-56.9; and

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<sup>7</sup> Benton County Pavement Condition Ratings Report, 2015.

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49.87-50.79, for a total of 4.82 miles. Additionally, 7.21 miles of OR 99W within the planning area were rated poor between mileposts 74.99-77.94 and 82.24-86.5.<sup>8</sup>

### 6.1.11 Bridges

There are many bridges in the planning area, including city, county, and state bridges. Figure 13 shows bridge locations and jurisdiction.

The most current bridge inspection data from ODOT identifies several bridges within the planning area as deficient or in need of urgent maintenance. The bridges were evaluated using a sufficiency rating established by the American Association of State Highway and Transportation Officials (AASHTO) which looks at the structural condition of bridges. Bridges rated from 100-80 are considered non-deficient; 80-50 generally require rehabilitation; below 50 need to be replaced or rehabilitated. The lowest sufficiency rating indicates the highest need for improvement. Functionally obsolete bridges are rated for deck geometry, low clearance, approach roadway alignment, structural condition, and waterway adequacy. If a bridge is both structurally deficient and functionally obsolete, it is classified only as structurally deficient.

Table 6 lists bridges with sufficiency ratings lower than 80. While no bridges were listed as critical concerns, many were listed as urgent concerns. Concerns on major bridges include vertical clearance, low service life, paint condition, and load capacity.

#### **Corvallis:**

There are 63 bridges within the Corvallis Urban Growth Boundary (UGB), with 24 located along state facilities and 39 along city or county facilities, as shown in Figure 13, Ten of the bridges are located along OR 99W, which is classified as a Tier 2 lifeline route<sup>9</sup>, while 13 are along US 20/OR 34 and OR 34, which are classified as Tier 3 lifeline routes<sup>10</sup>. Two bridges in Corvallis have defined weight restrictions. The bridge along Bridgeway Avenue over Mill Race, just east of OR 99W, has a defined weight restriction of 6,000 pounds, while the Van Buren Street Bridge (aka OR 34 eastbound) over the Willamette River has a defined weight restriction of 20,000 pounds for a single axle or 34,000 pounds for tandem axles.

#### **Philomath:**

There are three bridges within the Philomath UGB, two of which are located within city limits, and one which is located outside of the city but within the UGB. The first bridge is located west of Green Street (at mile point 51.31) on US 20/OR 34, which is considered a Tier 3 lifeline route. The second is located on Applegate Street

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<sup>8</sup> Oregon Department of Transportation. 2014 Pavement Condition Report. 2015. Available online at: [https://www.oregon.gov/ODOT/HWY/CONSTRUCTION/docs/pavement/2014\\_condition\\_report.pdf](https://www.oregon.gov/ODOT/HWY/CONSTRUCTION/docs/pavement/2014_condition_report.pdf)[https://www.oregon.gov/ODOT/HWY/CONSTRUCTION/docs/pavement/2014\\_condition\\_report.pdf](https://www.oregon.gov/ODOT/HWY/CONSTRUCTION/docs/pavement/2014_condition_report.pdf). Accessed on July 17, 2016.

<sup>9</sup> Lifeline Routes are state-designated emergency routes. Tier 2 roadway segments extend the reach of the Tier 1 Lifeline Route system and provide lifeline route redundancy in the Willamette Valley.

<sup>10</sup> Tier 3 roadway segments help to provide additional connectivity to create an interconnected network of redundant paths together with Tier 1 and 2 roadways.

east of 23<sup>rd</sup> Street, and the final bridge within the UGB is located on Chapel Drive west of Cattle Drive. All three bridges cross Newton Creek, are classified as sufficient, and do not have any restrictions.<sup>11</sup>

#### Outside UGB:

There are six bridges within the planning area that are outside of the Corvallis and Philomath UGBs. Four are maintained by Benton County and one is maintained by ODOT.

**Table 6: Bridges Requiring Attention**

Bridge ID	Highway and Features Crossed	Mile Post	Sufficiency Rating	Last Inspection Date
<b>Sufficiency Rating Less than 50</b>				
16233A	Sign truss bridge / OR 99W	84.17	0	5/27/2015
17230	Bike path crossing / OR 99W	84.09	0	5/27/2015
17145	Sign Cantilever Br, Hwy 33 WB	56.15	0	5/27/2015
03C16	NW 8th St / Dixon Creek	0	45	10/1/1993
00706	OR 99W / Marys River	84.14	47.9	6/18/2015
02728	OR 34 / Willamette River	0.13	48.6	6/25/2014
<b>Sufficiency Rating 50-80</b>				
07321	OR 99W / WPRR	82.61	53.3	5/27/2015
09179	OR 34 / Willamette River	0.13	56.3	10/22/2014
08975	Dunawi Creek, Hwy 20/34 frontage road to ODOT maintenance facility	54.44	58	9/3/2014
07019	OR 99W / Marys River	84.21	58.1	6/18/2015
5216A	SE 15th St / Marys River	0.1	58.5	7/15/2014
08628	Oak Creek / US 20	55.16	59	9/3/2014
00771	OR 34 / Marys River	58.42	59.4	1/20/2016
22141	Oxford Circle / Stewart Slough	8.64	64.6	7/17/2014
14521	NE Elliot Circle / Small Creek	1.09	65.1	7/11/2007
07T24	SW Western Blvd / Oak Creek	0.86	70.6	7/15/2014
08616	US 20, OR 34 / OR 99W SB	55.86	71.4	5/28/2015
16874	US 20, OR 34 / 3rd & 4th Streets	55.96	74.1	5/28/2015
14444	SE Kiger Island Drive/ Willamette River Arm	0.5	74.2	7/19/2014
14516	NW Crescent Valley Drive / Jackson Creek	0.54	74.7	7/11/2014
14516	Jackson Creek / NW Crescent Valley Drive	.54	74.7	7/11/2014
03C27	SE Bridgeway Ave / Mill Race	0.05	74.9	7/19/2015
03C155	NW Oak Creek Drive / Oak Creek	0.4	76	7/19/2014
08617	US 20 over WPRR	55.73	76.8	5/28/2015
08815	Fern Road / Marys River	0.7	77.2	7/13/2014
03C08	Dixon Creek over NW Garfield Ave	0.80	77.4	7/16/2014
17053	US 20, OR 34 / SW 3rd Street	55.96	77.5	5/28/2015

<sup>11</sup> Oregon Department of Transportation. *ODOT TransGIS: Structures Layer*. 2014. Accessed December 2015.  
<<https://gis.odot.state.or.us/transgis/>>

Bridge ID	Highway and Features Crossed	Mile Post	Sufficiency Rating	Last Inspection Date
16873	US 20, OR 34 / Willamette River	56.15	77.9	5/28/2015
00420A	OR 99W / Jackson Creek	79.97	78.1	5/27/2015
0M054	Culvert, OR 99W	81.54	78.2	5/6/2013
20749	Washington Way crossing Oak Creek	0.00	79	7/15/2014
003C32	NW Oak Creek Drive / Oak Creek	1.95	79	7/9/2014

Source: ODOT PONTIS Bridge Inspection Reports, 2015

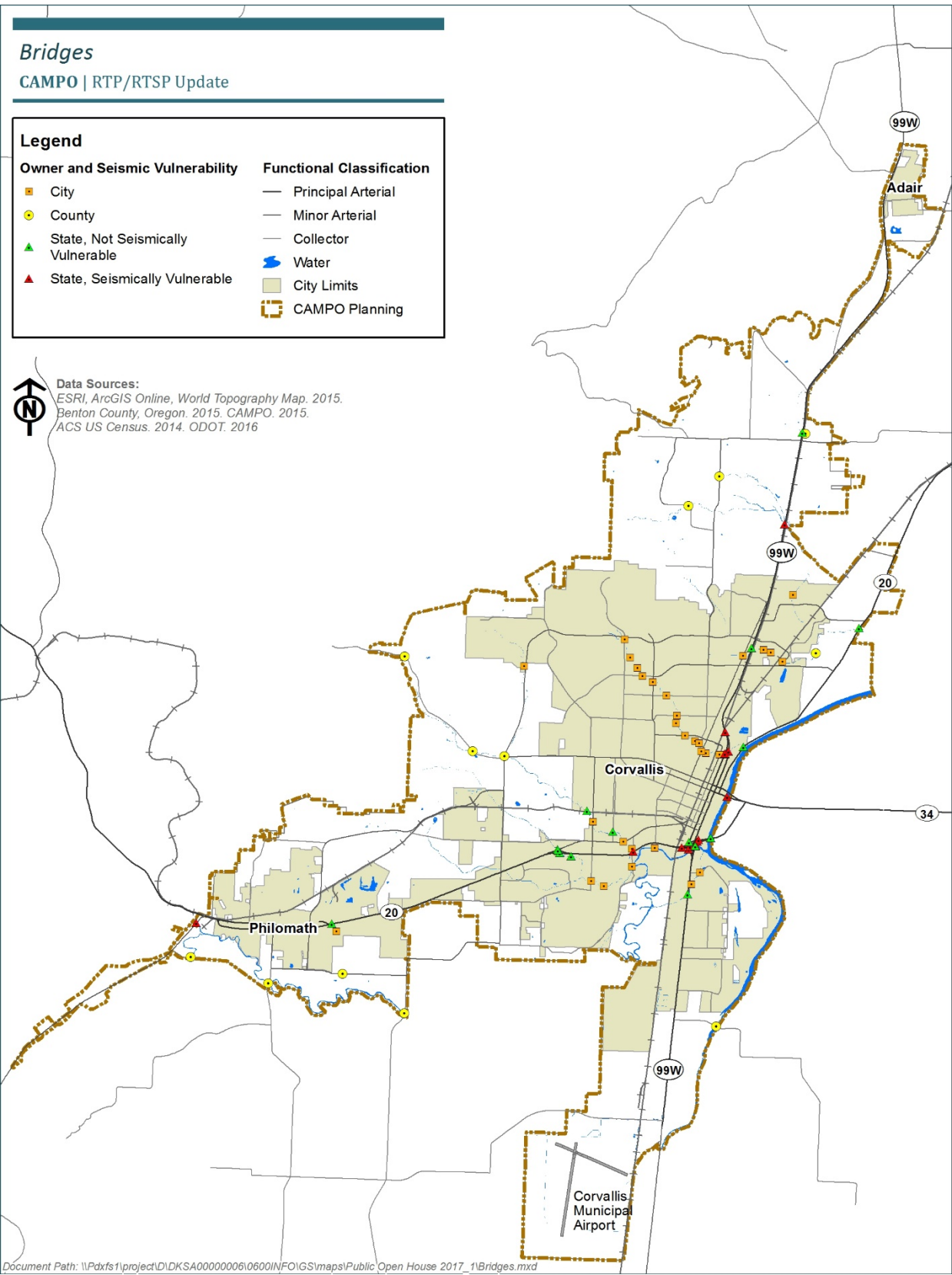
ODOT has also prepared an assessment of seismic vulnerability for bridge on the transportation network. Table 7 lists bridges within the CAMPO MPO area that have been identified as seismically vulnerable, or potentially vulnerable.

**Table 7. Seismically Vulnerable Bridges**

Bridge ID	Highway Carried	Feature Crossed	Seismic Rating
<b>00706</b>	OR 99W NB	Marys River	Vulnerable
<b>00771</b>	OR 34	Marys River	Vulnerable
<b>07019</b>	OR 99W SB	Marys River	Vulnerable
<b>07321</b>	OR 99W	WPRR	Vulnerable
<b>08616</b>	US 20 EB	US20 SB	Vulnerable
<b>02728</b>	OR 34 EB	Willamette River	Vulnerable
<b>08617</b>	US 20	WPRR	Vulnerable
<b>16001</b>	OR 99W NB	Dixon Creek	Vulnerable
<b>16002</b>	OR 99W SB	Dixon Creek	Vulnerable
<b>09179</b>	OR 34 WB	Willamette River	Potentially Vulnerable
<b>08628</b>	US 20	Oak Creek	Potentially Vulnerable
<b>16873</b>	OR 34	Willamette River	Potentially Vulnerable
<b>16874</b>	OR 34	3 <sup>rd</sup> and 4 <sup>th</sup> Streets	Potentially Vulnerable
<b>16875</b>	OR 99W	Marys River	Potentially Vulnerable
<b>17053</b>	OR 34	SW 3 <sup>rd</sup> Street	Potentially Vulnerable
<b>00420A</b>	OR 99W	Jackson Creek	Potentially Vulnerable

Source: 2016 Bridge Condition Report and Tunnel Data, ODOT Bridge Section

Figure 13: Bridges



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### 6.1.12 Freight Routes

Efficient truck movement plays a vital role in the economical movement of raw materials and finished products. The designation of through truck routes and designs that accommodate larger vehicles provide for this efficient movement while maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. Within the planning area, US 20/OR 34, OR 99W, and OR 34 are classified as both Oregon Freight Routes and National Highway System (NHS) Routes, while US 20 is classified as a NHS route. NHS routes must accommodate trucks, and generally require 12-foot travel lanes, but 11-foot travel lanes are allowed within Special Transportation Areas with lower truck volumes.

A major element of traffic in the planning area is freight movement via truck on the two designated statewide freight routes that extend through the planning area. US 20/OR 34 stretching from Interstate 5 through Corvallis and Philomath to the City of Newport is a freight route and part of the National Highway System (NHS). The second freight route is OR 99W, which was designated in 2005.

Although much of the freight traffic originates outside the planning area and travels through the area, there are numerous business locations in or near the planning area that generate significant amounts of freight traffic, including timber agricultural industries, garbage loads to Coffin Butte, and freight delivery to stores within the planning area. Heavy vehicles account for approximately three percent of the traffic on US 20-OR 34 and OR 99W, four percent of the traffic on OR 34<sup>12</sup>, and one percent of the traffic on US 20 through Corvallis during an average weekday.

Philomath has a series of city-designated truck routes, including US 20/OR 34, Plymouth Drive, Chapel Drive, Fern Road/13<sup>th</sup> Street, Grange Hall Road (in Benton County), Industrial Road, Bellfountain Road, and 19<sup>th</sup> Street/West Hills Road.

The Corvallis Transportation System Plan (1996) does not list any city-identified truck routes. The Van Buren Bridge and northbound Marys River Bridge, both through-truss bridges, can present limitations to truck traffic due to their limited vertical height clearances. The Van Buren Bridge vertical clearance is 15 feet 11 inches and the Marys River Bridge has a clearance greater than 16 feet. Both bridges accommodate standard truck / trailer configurations, since these clearances are not a limitation to such loads. Over-height loads, however, are affected by these bridges. Over-height loads headed east from Corvallis are detoured through the ODOT office facility located on Philomath Boulevard, and then across the river via the Corvallis Bypass. The official route for eastbound trucks weighing more than 80,000 pounds is a detour route via the ODOT office facility and the Corvallis Bypass.

ODOT has identified several pinch points along highways in the planning area that restrict the movement of over-dimension loads.<sup>13</sup> The pinch points include the following:

- Trucks with wide and long loads traveling westbound on OR 34 (aka Harrison Boulevard) have trouble making the turn to northbound OR 99W (aka 3<sup>rd</sup> Street). This pinch point is classified as low priority since over-dimensional trucks can use the adjacent lane to make the turn.

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<sup>12</sup> Automatic Traffic Recorders (22-020), OR34; MP 3.92, 0.89 miles east of Riverside Drive; Corvallis-Lebanon Highway No. 210, 2014.

<sup>13</sup> Highway Over-Dimension Load Pinch Points (HOLPP) Study – Pinch Point Report for Region 2/Maintenance District 4, DRAFT, Oregon Department of Transportation, August 21, 2015.

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- The vertical clearance for northbound and southbound OR 99W at the OR 34 overpass is approximately one to two feet below the design standard. These pinch points are classified as low priority.
  - The vertical clearance for the Van Buren Street Bridge (OR 34 eastbound) is about one foot below the design standard. The bridge is also weight-restricted. This location is classified as a high priority pinch point, as these are the only vertical clearance and weight restrictions along the route.



Figure 14. Freight Routes

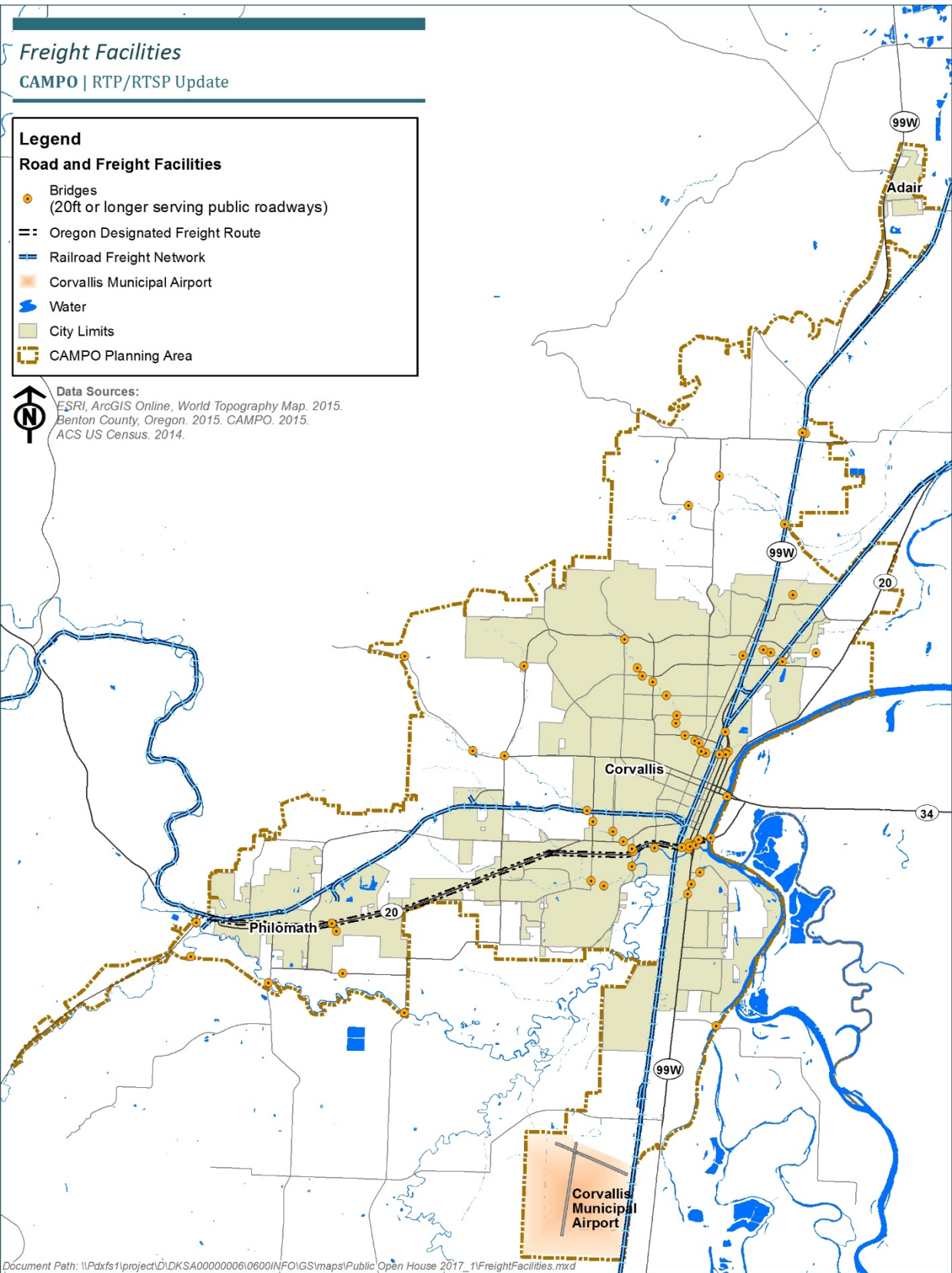
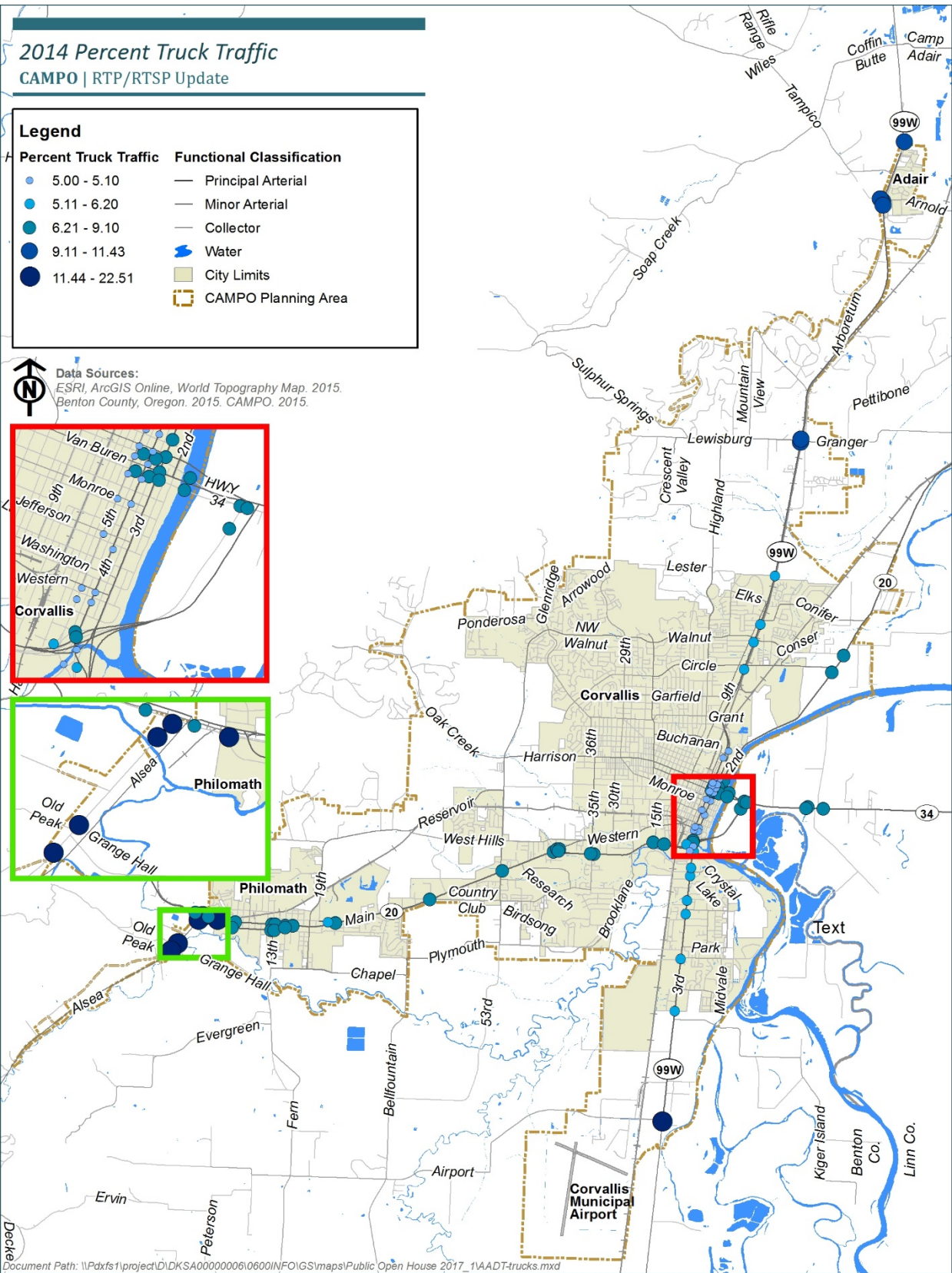


Figure 15: Percent Truck Traffic (2014)



## 6.2 Current and Future Travel Demand

The following indicators were used to compare current and future travel demand across the CAMPO planning area:

- Total number of vehicle miles travelled during the pm peak period
- The average time needed to complete a single trip during the pm peak period
- The total hours of delay experienced by the driving public during the pm peak period
- The percent of roadways exceeding established mobility standards.

In Oregon, mobility standards for routes under ODOT's jurisdiction within metropolitan planning areas are established by the Oregon Highway Plan. The portion of US 20 between the junction with OR 99W and the western planning area boundary in Philomath is considered a freight route on a statewide highway with a target V/C ratio not to exceed 0.85. For comparative purposes, a target V/C ratio of 0.90 was used for all other principal arterials in CAMPO's network, and a target V/C of 0.95 was used for all other minor arterials and collectors. Table 8 shows how future travel demand in 2040 without further investment in the transportation system would compare to the 2010 baseline case.

Without further investment in the transportation system, drivers can expect an average trip to take 0.61 minutes (about 37 seconds) longer in 2040 than it did in 2010. Peak hour delays on all routes in 2040 are expected to be more than double the delays experienced in 2010. On freight routes, peak hour delays in 2040 are projected at 2.6 times the 2010 baseline. As more miles of principal arterial routes reach capacity over time, localized congestion on minor arterial routes and collectors is also expected to increase as drivers seek alternate routes.

**Table 8. Travel Demand Indicators for the CAMPO Planning Area**

Travel Demand Indicators for the CAMPO Planning Area	2010	2040 No-Build
<b>Total Daily Vehicle Miles Travelled</b>		
Trips originating and ending inside the CAMPO Planning Area:	401,828	590,695
All trips, including those with an origin and/or destination outside the CAMPO Planning Area:	723,633	1,015,825
Average Peak Period Trip Time (minutes)	4.95 minutes	5.56 minutes
System-wide Peak Hour Delay (hours)	322 hours	672 hours
Peak Hour Delay on Freight/Truck Routes (hours)	174 hours	454 hours
Percent of US 20 with PM Peak Period V/C $\geq$ 0.85*	18.0%	27.0%
Percent of All Other Principal Arterials with PM Peak Period V/C $\geq$ 0.90	14.8%	23.3%
Percent of Minor Arterials with PM Peak Link V/C $\geq$ 0.95	0.1%	3.2%
Percent of Collector Routes with PM Peak Link V/C $\geq$ 0.95	0.1%	0.3%
<i>*Includes only that portion of US20 that is designated by ODOT as a statewide freight route, which is the segment from the junction of OR 99W to the western Philomath city limits.</i>		

In identifying future projects and investment strategies for the region, CAMPO uses a combination of findings and interpretations from the region's travel demand model, and the judgment of transportation and land use professionals, based on their intimate knowledge of local needs.

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## 6.3 Transit System

The transit system is composed of a mix of public and private fixed-route and demand-response providers.

The Corvallis Transit System (CTS) is the primary fixed-route transit service inside the planning area, providing service within the City of Corvallis and the surrounding area. CTS is also the planning area's primary recipient of Federal Transit Administration (FTA) Sections 5307 funds.

Other fixed routes serving CAMPO's planning area include:

- Philomath Connection, operated by CTS on behalf of the City of Philomath and providing service within and between Philomath and Corvallis
- 99 Express with service to Adair Village, operated by Benton County on behalf of Adair Village
- Linn-Benton Loop, administered by a multi-agency partnership, providing connections between Corvallis and Albany
- The Oregon State University Beaver Bus, operated by OSU's Transportation Services, providing circulation on campus

Several intercity services offer connections to the coast or up and down the I-5 corridor. These include:

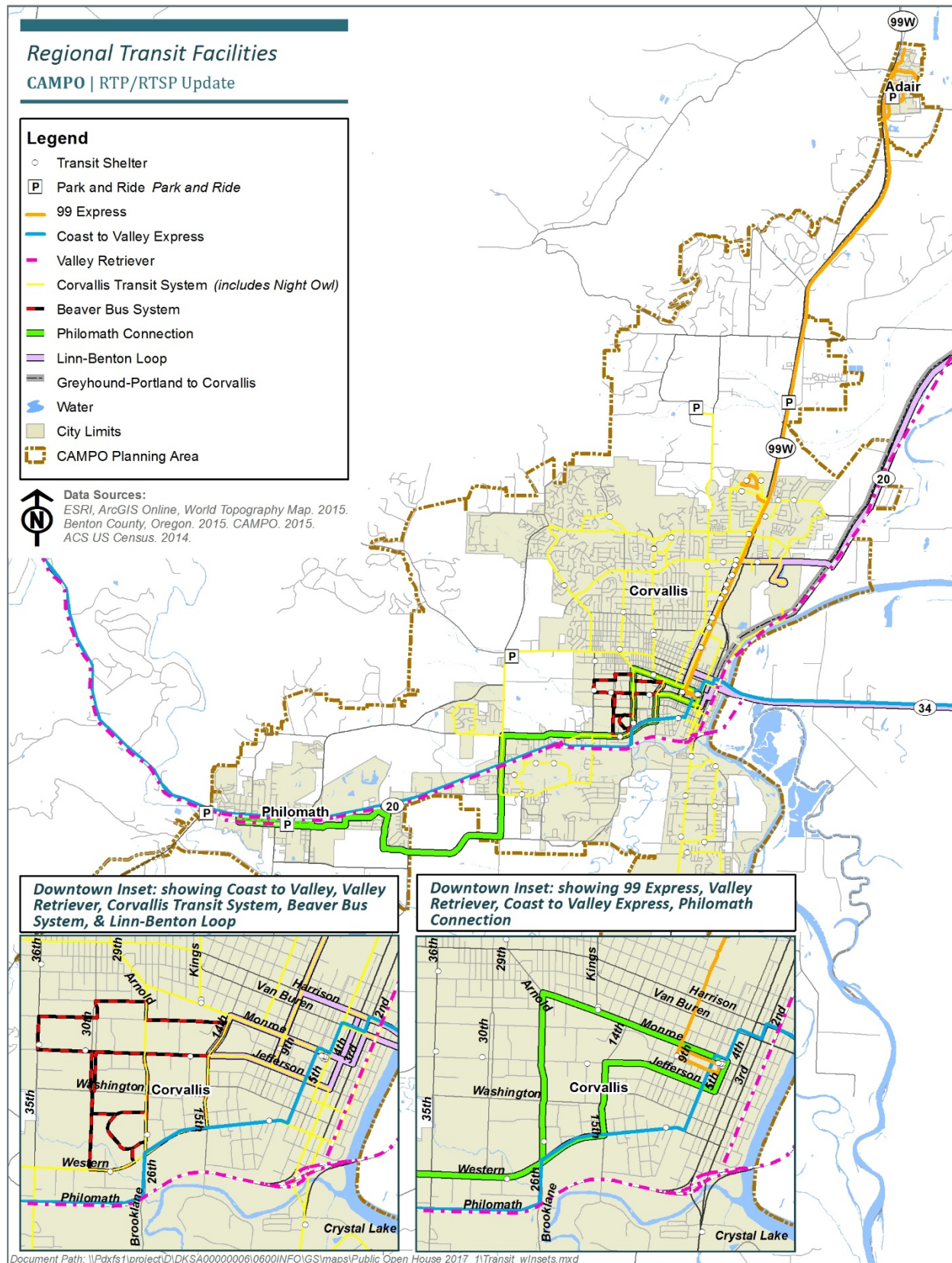
- Coast to Valley Express, which is operated as a partnership between Benton County and Lincoln County Transit connecting Albany, Corvallis and Newport.
- Valley Retriever, a private transit provider, providing connections between Corvallis, Salem, Portland and Newport
- Amtrak, Greyhound and the Bolt Bus all serve Albany, and are accessible to CAMPO residents via the Linn-Benton Loop, Coast to Valley Express and Valley Retriever.

There is also demand-response service provided by Benton County for seniors and those with a disability.

Figure 16 shows all transit services in the CAMPO Planning area. All buses operated by public agencies in the planning area are equipped with bike racks and either wheelchair lifts or ramps. Additional detail on CTS and other regional services is provided below.



Figure 16: Transit Service



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### **6.3.1 Corvallis Transit System (CTS)**

CTS provides 15 fixed routes in the study area. Eight of these provide local weekday service Monday through Saturday, four provide peak-hour service for work and school commutes, and three operate as late night “Night Owl” services on Thursday, Friday and Saturday nights.

The City is responsible for providing complementary ADA paratransit service for those who cannot use the fixed-route service due to a disability.

On February 1, 2011, per a decision of the City of Corvallis City Council, CTS became a fareless system. In place of fare box revenue, the City Council has established a monthly Transit Operations Fee (TOF) that is collected from all utility accounts in the City of Corvallis. The system has experienced notable increases in ridership since eliminating fares. The TOF and an annual direct contribution from OSU provide local match for funding from the Federal Transit Administration.

### **6.3.2 Philomath Connection**

The Philomath Connection is a sub-recipient of FTA Section 5307 funds administered by the City of Corvallis and provides fixed-route transit service between Philomath, Corvallis Transit Center, and Oregon State University. Main Street US 20/OR 34 is the primary roadway of travel on the route. The service operates Monday through Saturday.

### **6.3.3 Linn-Benton Loop**

The Linn-Benton Loop is the transit service between Corvallis and Albany, managed by the City of Albany. The service is currently funded through voluntary contributions by multiple agencies and institutions but there is no formal interagency agreement for sustainable funding.

The Loop operates Monday through Saturday connects with the Corvallis Transit System, Philomath Connection, and the Albany Transit System. There are three loop routes:

- Albany/US 20/Corvallis Loop
- Albany/OR 34/Corvallis Express Loop
- Albany/OR 99/34/Corvallis Reverse Loop

In addition to designated stops, the Loop buses will make stops on an on-call basis at several locations.

### **6.3.4 Coast to Valley Express**

The Coast to Valley Express is funded through the Benton County Special Transportation Fund (STF) and provides public transportation between Albany, Corvallis and Newport. This service which operates seven days per week, is provided in partnership with Lincoln County Transit, with each provider alternating trips between Albany and Newport.

### **6.3.5 99 Express**

Benton County provides the 99 Express service linking Adair Village with Corvallis. The service provides four runs daily, Monday through Friday, and is available to the public.

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### **6.3.6 Beaver Bus**

OSU offers a free campus shuttle service to students, staff, and visitors traveling within campus. The Beaver Bus has four fixed shuttle routes – North, West 1, West 2 and East - which serve the OSU campus and provide connections to CTS, Philomath Connection, and Linn-Benton Loop. The four shuttles operate between 7am and 7pm, 33 weeks a year, and one shuttle continues operation during school breaks and summer term.

### **6.3.7 Greyhound**

Greyhound provides intercity passenger service from Corvallis, seven days per week, with direct routes to cities north and south of Corvallis along the I90 corridor, and accessibility to many other national destinations.

### **6.3.8 Valley Retriever**

The Valley Retriever is a privately operated inter-city transit service based in Newport, Oregon and operated under a contract with Greyhound. It stops in Corvallis, and it connects with the Amtrak Station in Albany.

### **6.3.9 Human Services Transportation and Other Transportation Services**

In 2007, a Coordinated Public Transit-Human Services Transportation Plan was developed jointly for Lincoln and Benton Counties, which covers the planning area. An update to the coordinated plan is currently in process. The following human services transportation options and other publicly available transportation services are currently present within CAMPO's planning area.

#### **6.3.9.1 HUT Airport Shuttle**

The HUT Airport Shuttle provides publicly available service from the Portland International Airport and the cities to the south of Portland, including Corvallis and Albany. The route stops at the Corvallis Hilton Garden Inn (2500 SW Western Boulevard) to OSU (2301 SW Jefferson Street) and to the Albany Phoenix Inn Suites before terminating at the Portland International Airport. There are also stops in Salem and Woodburn. The Shuttle runs seven days a week.

#### **6.3.9.2 Dial-A-Bus**

Benton County is the recipient of State of Oregon Special Transportation Funds (STF), as well as Federal 5310 *Mobility for the Elderly and Persons With Disabilities* funds, and offers demand response dial-a-ride service for people with disabilities or seniors 60 years and older, seven days a week, throughout Benton County. Services are provided through a non-profit contractor, Benton County Dial a Bus, Inc. Sunday service is limited. The Corvallis Transit System also contracts with Benton County to provide its required complimentary ADA paratransit services.

#### **6.3.9.1 Senior Companion Program**

The Senior Companion Program operates in Benton, Linn, and Lincoln Counties, linking trained "senior companions" with seniors or people with disabilities to provide, among other services, transportation to medical appointments, grocery stores, social events, or other personal destinations. The Senior Companion Program is a volunteer program sponsored Samaritan Pacific Health Services.



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#### **6.3.9.2 Cascades West Ride Line**

Cascades West Ride Line is a non-emergency medical transportation brokerage operated by the Oregon Cascades West Council of Governments. Ride Line coordinates the transportation needs of Medicaid clients in Linn, Benton, and Lincoln Counties with transit and other transportation providers.

#### **6.3.9.3 Transportation Services for Public Schools**

The Corvallis School District contracts with First Student to provide bus transportation for students living farther than one mile from the schools. First Student also provides service to two alternative schools and a childcare facility on the OSU campus (Bates Hall). The Corvallis Transit System also provides connections with Crescent Valley High School and a public park and ride lot on the school campus. The Mid-Columbia Bus Company provides school bus service for the Philomath School District.

#### **6.3.9.4 Taxi and Limousine Services**

There are several private companies that provide taxi and limousine services in the Corvallis area. Services are upon demand and door-to-door. Reservations are accepted and rides can be arranged to the Portland or Eugene airports.

#### **6.3.9.5 Private Retirement Facility Vehicle Services**

Various retirement communities or centers provide transportation services to residents for shopping, medical, leisure, or other activities.

### **6.4 Pedestrian System**

Pedestrian facilities that are accessible, convenient, and safe to use are essential components of the transportation system. As the *Oregon Bicycle and Pedestrian Plan* (OBPP) explains, virtually everyone is a pedestrian at some point during the day and therefore benefits from accessible facilities. Pedestrians include children walking to and from school, people using wheelchairs or other forms of mobility assistance, people walking to lunch, and people walking to and from their vehicles. In addition, walking meets the commuting, recreational, and social transportation needs for a significant portion of the population that cannot or chooses not to drive. The community's pedestrian system also offers recreational opportunities for both local and out-of-town users, potentially stimulating economic growth and tourism.

Per the OBPP, pedestrian facilities are defined as any facilities used by a pedestrian, including walkways, traffic signals, crosswalks, curb ramps, and other amenities such as illumination or benches. The planning area has several different types of walkways, which are defined in the OBPP as "transportation facilities built for use by pedestrians and persons in wheelchairs," including the following:

**Sidewalks:** Sidewalks are separated from the roadway with a curb and/or planting strip. ODOT's minimum standard sidewalk width is 6 feet. The City of Corvallis requires 6-foot minimum sidewalks and a 12-foot minimum planted buffer on arterials and collectors. Adair Village has adopted these standards as well. Philomath requires 6-foot to 12-foot sidewalks with a 6-foot to 9.5-foot planted buffer on all arterials and collectors. The Main Street arterials are to have 12-foot sidewalks with no planted buffer.

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**Multi-Use Paths:** Multi-use paths are used by a variety of non-motorized users, including pedestrians, bicyclists, skaters, and runners. Multi-use paths may be paved or unpaved, and are often 10 or 12 feet wide – significantly wider than the average sidewalk. Multi-use paths are discussed in detail in the bicycle section.

**Roadway shoulders:** Roadway shoulders often serve as pedestrian routes in rural areas. On roadways with low traffic volumes (i.e. fewer than 3,000 vehicles per day), roadway shoulders are often adequate for pedestrian travel. These roadways should have shoulders wide enough so that both pedestrians and bicyclists can use them, usually 6 feet or greater. There are several roadways like this in the planning area. In cases where the shoulder is not adequate, signage is often posted to alert vehicle drivers of pedestrians on the roadway.

**Pedestrian Activated Crosswalks:** A midblock designated crossing for pedestrians that includes a push button for activating a blinking yield light, a marked crosswalk, and a raised median for pedestrian refuge. Upon the activation by a pedestrian, the yield light starts blinking and signals to the motorists the presence of a pedestrian who intends to cross the street. Vehicles stop before the crosswalk and allow the pedestrian to safely cross the street. In the CAMPO region, portions of South 3rd Street, 9<sup>th</sup> Street, and Circle Boulevard in Corvallis have pedestrian activated crosswalks.

#### 6.4.1 Existing Sidewalks

The pedestrian system in the planning area is comprehensive in certain areas, such as in downtown Corvallis, around OSU, and along most arterial and collector roadways within Corvallis city limits. Sidewalks are lacking in other areas, such as on the outskirts of the planning area and on roadways in unincorporated areas. Figure 17 shows gaps in the region’s sidewalk system on roadways with collector status and higher. Sidewalk obstructions and encroachments, typically mailboxes, overgrown vegetation, and utility poles, impede safe and accessible pedestrian travel in some areas.

Philomath and Corvallis have development codes requiring the installation of sidewalks on both sides of roadways as property develops or redevelops.





Existing sidewalk widths along arterials and collectors vary from 5 feet with no separation from the roadway to 10 feet with planted buffers. Multi-use paths provide alternatives to sidewalks on some roadways, like 53<sup>rd</sup> Street, US 20/OR 34, and Walnut Boulevard. Most of these facilities are in good or fair condition.

Some sidewalks and multi-use paths along arterials and collectors have older curb ramps that are not in compliance with new Americans with Disabilities Act (ADA) standards and guidelines due to the lack of truncated domes or other detectable warning. Some sidewalks lack ramps entirely.

Other deficiencies include ramps of insufficient width (less than 36 inches), ramps that are not aligned with the pedestrian flow, excessive slope (maximum of 1:12), excessive cross-slope (maximum of 1:50), inadequate landings, and obstacles in the pedestrian path.

Table 9 shows sample sidewalk conditions and their corresponding rating.

**Table 9: Sidewalk Condition Examples**

<b>Good</b>	Smooth surface without cracks; ADA compliant width and grades	
<b>Fair</b>	Fairly smooth surface, with some cracks and uneven settling of sidewalk panels, ADA compliant width and grades.	
<b>Poor</b>	Rough surface, with numerous cracks and severe settlement. Non-ADA compliant due to surface condition or obstructions.	
<b>Extended Curb Pathway</b>	Portion of the roadway separated by an extruded curb. Variable pathway conditions.	

#### **6.4.1.1 Corvallis Sidewalks**

The downtown core of Corvallis is pedestrian friendly. First Street is a “slow street” that provides through access and parking for motor vehicles, as well as wide sidewalks and a multi-use path for pedestrians and bicyclists. The area between Harrison Boulevard and Western Boulevard from the Willamette River to 5<sup>th</sup> Street has employed the use of wide sidewalks, raised crosswalks, generous planted buffers, street furniture (benches, planted trash receptacles, pedestrian-scale lighting, etc.), textured corner treatments, and art that fosters a dynamic pedestrian environment. The downtown area also has land uses that are conducive to pedestrian travel, with attractive shops and cafes that front the street and have outdoor seating. The 3<sup>rd</sup> and 4<sup>th</sup> Street couplet serves as OR 99W through town and has significantly more traffic than 1<sup>st</sup> Street and 2<sup>nd</sup> Street. Pedestrian access from the university to the Willamette River is good.

Arterials and collectors outside of the downtown and university areas of Corvallis have 5-foot to 6-foot sidewalks in variable condition. Some have no separation from the roadway, others have narrow planted buffers, and the newest sidewalks and roadways have wide planted buffers. The newer sidewalks are in good condition and meet ADA guidelines, particularly in the newest developments. Some sidewalks in older neighborhoods are experiencing varying severities of cracking and heaving from tree roots and water damage.

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Due to the phasing of development, sections of sidewalk may be missing in the Corvallis sidewalk system. These and other ‘gaps’ have been identified by the City as key areas to address, to safely connect neighborhoods and provide access to schools, transit, multi-use paths, and employment or shopping areas. Major roadways with identified sidewalk gaps include:

- Highland Drive (west side between Conifer Boulevard and Meadow Ridge Place)
- Technology Loop (400 feet on south side)
- Research Way (400 feet on north side)
- 35<sup>th</sup> Street/Whiteside Drive (300 feet on east side from Knollbrook to Long Avenues)
- Conser Street (150 feet on west side from Village Green Creek to Lorvik Place)
- Harrison Boulevard (635 feet on north side from LDS Church to multi-use path)
- Rivergreen Avenue (1,125 feet on south side from west sidewalk end and Riverbend Park)

Sidewalks or multi-use paths are largely absent in the areas outside of Corvallis and Philomath city limits, particularly in the older residential areas north of Corvallis along Highland Drive, Crescent Valley Drive, Lewisburg Avenue, and Mountain View Drive. Pedestrians walk on the shoulder or in the bicycle lane on these roadways. Pedestrians walk in the street in areas that were urbanized under Benton County standards and later annexed.

#### **6.4.1.2 Philomath Sidewalks**

Sidewalks along Philomath’s arterial and collector roadways are present but are often narrow and need repair. The City and ODOT have been working to improve ADA-compliance and many curb ramps along Main Street meet current ADA standards.

In the downtown area of Philomath, sidewalks exist on both sides of Main Street (US 20/OR 34). These sidewalks were enhanced when Main Street and Applegate Street in Philomath were converted into a one-way couplet. As part of this conversion, 6.5-foot sidewalks were built on Main Street and Applegate Street from 14<sup>th</sup> Street to Green Street, and an additional pedestrian-activated crosswalk was located at the intersection of 7<sup>th</sup> Street and Main Street.

The pre-existing sidewalks on Main Street and Applegate Street extend from 7<sup>th</sup> Street to 19<sup>th</sup> Street. On the north side, from the east side of town to 15<sup>th</sup> Street, the sidewalk is approximately 5 feet wide with a 10-foot-wide planting strip. New street trees have been planted, and many corners have curb ramps.

On the north side from 15<sup>th</sup> Street to 12<sup>th</sup> Street, there are 6-foot sidewalks with a 6-foot buffer. There is also on-street parking and decorative street lighting in this area. From 12<sup>th</sup> Street west to 8<sup>th</sup> Street on the north side, the sidewalk is 4 feet wide with a 10-foot planting strip and no on-street parking. From 8<sup>th</sup> Street west, the sidewalk is 6 feet wide with poles obstructing pedestrian passage and no buffer. On the south side, the 4-foot sidewalk is largely continuous with a 10-foot planting strip.

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On arterial and collector roadways outside of the downtown area, sidewalks are in variable condition and may lack curb ramps. Sidewalks are intermittent on 9<sup>th</sup> Street, 13<sup>th</sup> Street, 19<sup>th</sup> Street, and Bellfountain Road.

Analysis completed as part of the Philomath Safe Routes to School Plan has identified the following areas as key routes to school which would benefit from sidewalks, crosswalks, multi-use paths, or other pedestrian enhancements:

- Pioneer Street (Adelaide Drive – 9<sup>th</sup> Street)
- Pioneer Street (9<sup>th</sup> Street – 13<sup>th</sup> Street)
- 11<sup>th</sup> Street (Quail Glen Drive – Pioneer Street)
- College Street (Pioneer Street & 13<sup>th</sup> – Main & 17<sup>th</sup> Street)
- Main Street & 17<sup>th</sup> (intersection)
- Philomath Rodeo Grounds
- Cedar Street (13<sup>th</sup> Street – Willow Lane & 15<sup>th</sup> Street)
- Area between Willow Lane and Cedar Street
- 17<sup>th</sup> Street (Applegate Street – 19<sup>th</sup> Street & Cedar Street)
- Applegate Street (16<sup>th</sup> Street – 21<sup>st</sup> Street)
- Philomath High School and Middle School Campus
- Applegate & 21<sup>st</sup> Street (intersection)
- Applegate Street (21<sup>st</sup> Street – 29<sup>th</sup> Street)

#### **6.4.1.3 Adair Village Sidewalks**

Sidewalks are intermittent in Adair Village, and older parts of the city, such as Arnold Avenue, lack curb ramps. The sidewalk on the south side of Arnold Avenue has a wide planted buffer, but sidewalks on the north side of Arnold Avenue are adjacent to the curb. Sidewalks and shoulders end at the entrance to Adair County Park. Sidewalks in newer developments are in good condition and ADA accessible.

#### **6.4.2 Existing Sidewalk Replacement / Construction Programs**

The City of Corvallis has a Sidewalk Safety Program to systematically replace and repair sidewalks, and construct ADA ramps over time. Each year, one of eleven sidewalk districts is surveyed for sidewalks in need of repairs. The City then works with property owners to improve the safety and condition of the sidewalk by making the necessary repairs. The cost of the sidewalk repairs is funded by the Sidewalk Maintenance Fee paid by all Corvallis utility accounts.

The City of Philomath has a sidewalk construction/replacement program that has been successful by working with residents to repair or construct sidewalks along improved streets with curbs and gutters. The targeted areas during the first three years of the program included all of Applegate Street and

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adjacent side streets, and the second phase will focus on Newton and Green Streets between 24<sup>th</sup> and 26<sup>th</sup>, as well as along 26<sup>th</sup> Street.

There is no comparable program for Adair Village.

### 6.4.3 Pedestrian Destinations

Major pedestrian destinations are located in the following areas of the region:

**Downtown** – Corvallis and Philomath have downtown cores that are destinations for pedestrians.

**Schools (including OSU and Reser Stadium)** – Most of the arterial and collector streets around schools in the planning area have sidewalks on at least one side of the street and are generally in good or fair condition. The exceptions are Crescent Valley High School and Mountain View Elementary School.

**Parks/Recreation Centers** – Most of the parks in the Corvallis Planning area are accessible by sidewalk or multi-use path. Other parks are accessible by bicycle or by walking on a wide shoulder or bicycle lane.

**Shopping / retail centers** – Shopping/retail centers are located throughout the region, clustered in downtown Philomath and Corvallis, along US 20/OR 34, 9<sup>th</sup> Street, Circle Boulevard, and Walnut Boulevard. Most of these shopping and retail centers are accessible on sidewalks. However, the high traffic volumes and curbside sidewalks can make the walking experience uncomfortable and unsafe. In some corridors, numerous driveways pose safety hazards for pedestrians, since motorists are typically looking for gaps in traffic to enter the street, rather than looking for pedestrians crossing driveways. Additionally, many retail and shopping areas have limited pedestrian access from the sidewalk to the business itself, forcing pedestrians to walk through a large parking lot without a clear walkway.

**Employment centers** – Employment centers in the planning area include County and City offices in the Corvallis downtown core, retail services mentioned above, OSU, Hewlett Packard, CH2M HILL, Good Samaritan Regional Medical Center, Samaritan Health Services, the Corvallis Clinic, Linn-Benton Community College (satellite campus), Corvallis School District, Georgia Pacific, United States Environmental Protection Agency Research Laboratory, Hollingsworth & Vose, the Sunset Center Technology/Research business park, and smaller businesses and industry throughout the region. Major employment centers have good sidewalk connectivity and access, and some have internal pathway systems that improve pedestrian access.

### 6.4.4 Pedestrian System Deficiencies

Although many of the arterials and collectors in the planning area have adequate pedestrian facilities and a complementary multi-use path system, there are still several barriers pedestrians must overcome:

- Auto-Oriented Land Uses
- Limited Crossings
- Lack of Handicapped Accessibility
- Poor Sidewalk Connectivity
- Poor sidewalk Condition

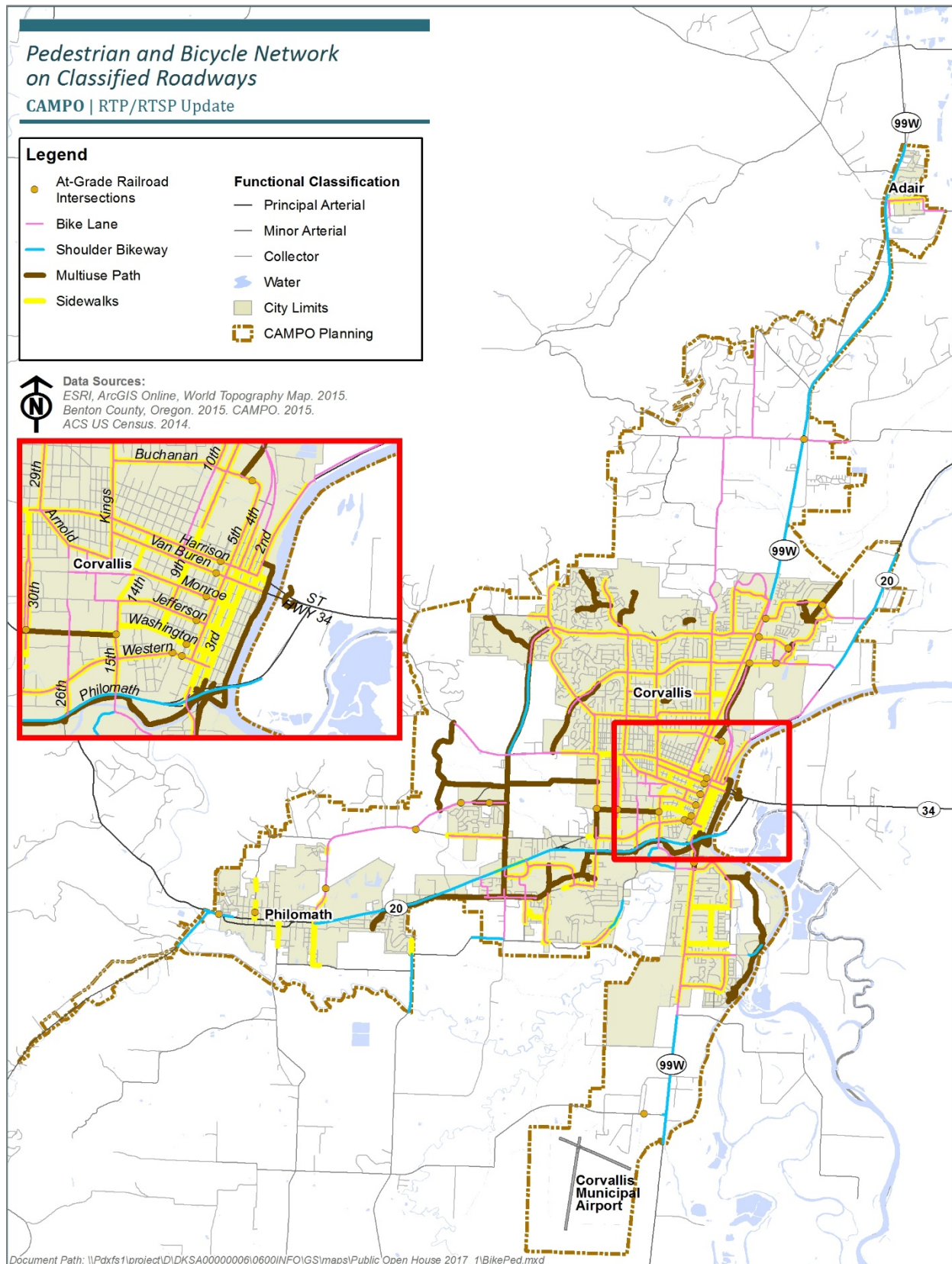


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#### **6.4.4.1 Auto-Oriented Land Uses**

Auto-oriented land uses clustered outside of the downtown cores force many pedestrians to walk along and cross high-volume arterial roadways to access destinations. Many of these roadways have sidewalks, but they are only 5 feet wide and adjacent to the curb (no planter strips). The lack of a buffer next to high-speed traffic can make walking uncomfortable and potentially dangerous. Further, as noted above, driveway cuts can pose safety hazards for pedestrians.

Figure 17: Pedestrian and Bicycle Network



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#### **6.4.4.2 Limited Crossings**

Crossing larger arterials like 9<sup>th</sup> Street, Circle Boulevard, Walnut Boulevard, Philomath Boulevard, and portions of US 20, OR 34, and OR 99W is challenging due to long distances between signalized intersections and marked crossings. Gaps, or opportunities to cross the roadway, are decreasing due to increasing traffic volumes and signal timing that has not been adjusted to reflect the changing roadway conditions. These conditions discourage pedestrians from walking to services along the roadway and may endanger those who choose to dart across the roadway to reach their desired destinations. Well-spaced pedestrian-activated crosswalks have been installed in some areas on larger arterials in the region, to mitigate pedestrian safety concerns.

#### **6.4.4.3 Lack of Handicapped Accessibility**

Portions of the arterial and collector street systems lack ADA-compliant curb ramps and driveway cuts. This can make traveling by wheelchair or motorized mobility device challenging, if not impossible.

#### **6.4.4.4 Poor Sidewalk Connectivity**

Though sidewalk connectivity and condition are generally good in the urbanized areas of Philomath and Corvallis, older residential areas in unincorporated Benton County north of Corvallis and Philomath lack sidewalks and, in many cases, a shoulder or bicycle lane that would provide pedestrians with a place to walk beside the roadway. Areas of concern are along Highland Drive, Mountain View Drive, and Granger Avenue, where pedestrians have been observed walking along the shoulder or in the roadway to access schools in the vicinity. Sidewalks are typically not present in areas that were urbanized under Benton County standards and later annexed.

### **6.5 Bicycle System**

Jurisdictions in the planning area have championed good bicycle facilities since the early 1970s, and their efforts have paid off. The League of American Bicyclists has named Corvallis a Bicycle-Friendly Community and has awarded Corvallis its “Gold Award.” Although this was the highest designation at the inception of the League’s Bicycle Friendly Community program, two additional levels, Platinum and Diamond, have since been added to encourage communities to continue to improve conditions for bicyclists through newer best practices. Approximately 97 percent of the collector and arterial roadways in Corvallis have bike lanes (45 miles) and there are 16 miles of multi-use paths.

According to American Community Survey data for 2014 published by the US Census, 8 percent of the residents in the Corvallis Urbanized Area commute to work by bicycle.<sup>14</sup> These percentages do not include the large university student population or the people who ride their bicycle to school, stores, libraries, parks, and on recreational rides. These groups make up a much larger number of people riding bicycles in the community.

The City of Philomath prides itself on being a “gateway to the getaway” and providing access to numerous outdoor activities, including bicycling. The Philomath Boulevard multi-use path runs along the US 20/OR 34, providing an integral link between Philomath and the downtown Corvallis riverfront, as

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<sup>14</sup> U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates. (Table B08301 Means of Transportation to Work). <http://www.census.gov/> (Accessed September 23, 2016).

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well as other rural bicycle touring roads. It is a very popular destination for both recreationalists and commuters. Adair Village has integrated bicycle lanes into its community, providing access to schools, parks, and residential areas.

Touring and recreational bicycling are popular due to the area's proximity to scenic rural roads. The area is often targeted for bicycle races and charity rides, which bring hundreds of visitors to the area for bike-specific events.

Regional bicycle connectivity is good throughout the planning area, although some highways are more conducive to bicycling than others. OR 99W and OR 34 link the three communities and have good shoulders for bicycling within the planning area. US 20, on the other hand, is generally seen as unsafe for bicyclists. A long-term planning effort is seeking to address this deficit through the development of a multi-use path along the same corridor.

While facilities on these highways are limited through downtown Corvallis and Philomath, there are good parallel routes on local roadways. For bicyclists who prefer routes with lower traffic volumes and speeds, there are many alternative routes to and from each city in the planning area. Many of the alternate routes have dedicated bicycle facilities, low traffic volumes, or, in many cases, a parallel multi-use path. Figure 17 shows the different types of bicycle facilities in the planning area.

### 6.5.1 Types of Bicycle Facilities

Bicycles are allowed on all roadways in Corvallis and the surrounding areas. "Bikeways" are defined as preferential roadways that have facilities to accommodate bicycles. Accommodation can be a bicycle route designation or bicycle lane striping. Multi-use paths are facilities separated from a roadway for use by cyclists, pedestrians, skaters, runners, or others.

The following types of bikeways, recognized by AASHTO's *Guide for the Development of Bicycle Facilities* (1999) and the *Oregon Bicycle and Pedestrian Plan* (1995)<sup>15</sup>, are found in the planning area:

**Shared Roadway:** Shared roadways include roadways on which bicyclists and motorists share the same travel lane. This is the most common type of bikeway. The most suitable roadways for shared bicycle use are those with low speeds (25 mph or less) or low traffic volumes (3,000 ADT or less). In the Corvallis area, some shared roadways have 'sharrow' pavement markings indicating shared travel lanes. These are typically used on short segments that represent gaps in the on-street bike lane network.

**Shoulder Bikeway:** These are paved roadways that have striped shoulders wide enough for bicycle travel. ODOT recommends a 6-foot paved shoulder to adequately provide for bicyclists, or 4-foot minimum in constrained areas. Roadways with shoulders less than 4 feet are considered shared roadways. Sometimes shoulder bikeways are signed to alert motorists to expect bicycle travel along the roadway.

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<sup>15</sup> The Oregon Bicycle and Pedestrian Plan was being updated at the time of this writing, and the final plan was not yet available.

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**Bike Lane:** Bike lanes are portions of the roadway designated specifically for bicycle travel via a striped lane and pavement stencils. The standard width for a bicycle lane is 6 feet. The minimum width of a bicycle lane against a curb or adjacent to a parking lane is 5 feet. A bicycle lane may be as narrow as 4 feet, but only in very constrained situations. Bike lanes are most appropriate on arterials and major collectors, where high traffic volumes and speeds warrant greater separation.

**Multi-Use Path:** Multi-use paths are paved pathways that are physically separated from the roadway and shared by all non-motorized users, including walkers, joggers, skaters, and bicyclists. In general, multi-use paths are desirable for recreational uses, particularly by families and children. They are also preferred for corridors where there are few intersections or crossings, to reduce the potential for conflicts with motor vehicles.

### 6.5.2 Existing Bikeway Locations

Existing bicycle lanes and shoulder bikeways are shown on Figure 17. There are approximately 80 miles of dedicated bicycle facilities in the planning area, and 96 percent of arterial and collector roadways within the Corvallis city limits have established bike lanes. Adair Village has one striped bicycle lane on Arnold Avenue and Philomath has striped bicycle lanes on 19<sup>th</sup> Street, Applegate Street, and Main Street.

A traditional grid pattern and good street connectivity in Philomath and Corvallis present many options for bicyclists to travel throughout the area on shared roadways. In addition to having an extensive network of on-street facilities, the planning area also contains a complementary network of multi-use paths. These include the Campus Way path, Philomath Boulevard path, the Riverfront path, and the Walnut Boulevard/53<sup>rd</sup> Street path.

### 6.5.3 Existing Bikeway Conditions

#### 6.5.3.1 Bicycle Lanes

Most of the existing on-street bicycle facilities are of standard width and in good condition. There are, however, some existing bicycle facilities with suboptimal designs. One example is a narrower than standard bicycle lane. This treatment has been used throughout the region to include a striped facility on the roadway under conditions where limited pavement width is available or retaining on-street parking is desired.

#### 6.5.3.2 Multi-Use Paths

Most of the multi-use paths in the planning area are in good condition and sometimes provide connectivity that cannot be achieved on street. Examples are the multi-use path from Witham Hill Drive to Harrison Boulevard, the Campus Way path between 35<sup>th</sup> and 53<sup>rd</sup> Streets, and the path adjacent to the railroad from Buchanan Avenue to OR 99W and Circle Boulevard, as well as numerous short paths that connect cul-de-sacs, link schools and neighborhoods, and circulate through parks. These paths provide excellent recreational opportunities and good places for young or inexperienced bicyclists to develop riding skills. Most of the paths are 8 to 10 feet wide and constructed of asphalt. The exception is the Riverfront path in Corvallis, which is generally 12 feet wide and constructed of concrete. A 12-foot path also exists along the Willamette River from Rivergreen Avenue through Willamette Park.

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Some older paths have not been reconstructed since they were built and are showing the effects of time. Many are too narrow for the number of people using them. Others are experiencing buckling, heaving, and cracking, which can be both uncomfortable and hazardous for users. Additionally, some of the older paths, like the pathway along 53<sup>rd</sup> Street, have numerous conflicts for bicyclists and other path users as they cross multiple driveways and roadways. The Philomath Boulevard Multi-Use Path (Willamette River to City of Philomath) and Campus Way Multi-Use Path (35<sup>th</sup> to 53<sup>rd</sup> Streets) were reconstructed in 2009-2010 with ARRA funding.

#### **6.5.4 Shoulder Bikeways**

Most of the shoulder bikeways in the area are in very good condition and have adequate width. Some roadways have narrow shoulders but low traffic volumes, like Bellfountain Road and Plymouth Drive. Other sections have areas where the shoulder narrows to accommodate a turn lane, which creates a conflict point for bicyclists and turning motor vehicles.

#### **6.5.5 Destinations for Bicyclists**

Major destinations for bicyclists are primarily the same as those for pedestrians: downtowns, schools, employment centers, shopping centers, neighborhood commercial areas, and parks and recreation. In addition, OR 99W, OR 34, and US 20 provide regional connections to other highways and county roads in nearby cities such as Albany, Lebanon, Independence, Monmouth, and Salem, as well as to destinations along the Oregon Coast.

#### **6.5.6 Bicycle System Challenges**

Bicycling through the planning area is generally easy and accessible, and the area highlights some of the best practices for bicycle facility planning and implementation in the country. Recognizing and addressing the following deficiencies will improve the quality, connectivity, and rate of bicycling in the region by eliminating hazards and completing regional connections:

##### **6.5.6.1 Railroad track crossings**

Several Portland & Western mainline tracks and spurs that cross the region intersect with roadways at some point. Angled crossings of railroad tracks are extremely difficult for bicyclists to cross, particularly when the rails and roadway are wet. Asphalt surrounding the flange of the rail tends to crumble and buckle over time. It is important to address railroad crossings where a bicycle facility crosses the rail line. Specific locations of concern are Avery Avenue and Allen Street, and 6th Street and Washington Way.

##### **6.5.6.2 Substandard facilities**

Some facilities in the region do not adhere to current design standards and best practices; for example, where a bicycle lane is narrow, or adjacent to parallel parking or to the rear of diagonal head-in parking. Identifying these facilities and planning a systematic modification and modernization program is a good next step. Many of these discrepancies will be eliminated as streets are brought up to standard.

##### **6.5.6.3 Gaps in the bikeway system**

Although the bicycle facility network is quite comprehensive in the planning area, there are still gaps that are challenging for bicyclists. These gaps exist because of financial or political constraints. To close



the gaps would require adding vehicle restrictions, removing on-street parking or street trees, or bringing the entire street up to current standards, which can be financially challenging.

#### 6.5.6.4 Future development

As the area continues to grow, it is increasingly important to recognize the benefits of good connectivity for bicyclists and pedestrians. Past efforts to provide connectivity between cul-de-sacs and major roadways have been good, and these practices should continue to be required for all new development. Developers should be encouraged to improve access and connectivity by implementing pedestrian and bicycle-friendly designs, such as clear pathways from on-street facilities, covered bicycle parking, internal trail systems, and storefronts oriented to the roadway. In addition, concepts such as separated or buffered bike lanes which have proven effective in other urban areas could be appropriate to consider for the CAMPO planning area.

## 6.6 Transportation Safety

Between 2010 and 2014, 3,125 crashes were reported in the Corvallis Urbanized Area, per the ODOT Crash Analysis & Reporting Unit. Most crashes occurred on arterial streets, with approximately 41 percent occurring on urban minor arterials and 32 percent occurring on urban primary arterials. Approximately 14 percent of crashes during this period occurred on urban collectors, 12 percent on urban local roads, and approximately 1 percent occurred on rural roads. Most crashes (85 percent) occurred in Corvallis, while 12 percent occurred in unincorporated Benton County, 3 percent occurred in Philomath, and less than 1 percent occurred in Adair Village. Of these reported crashes, 55 percent sustained property damage only, 45 percent involved injuries, and six of the crashes involved fatalities.

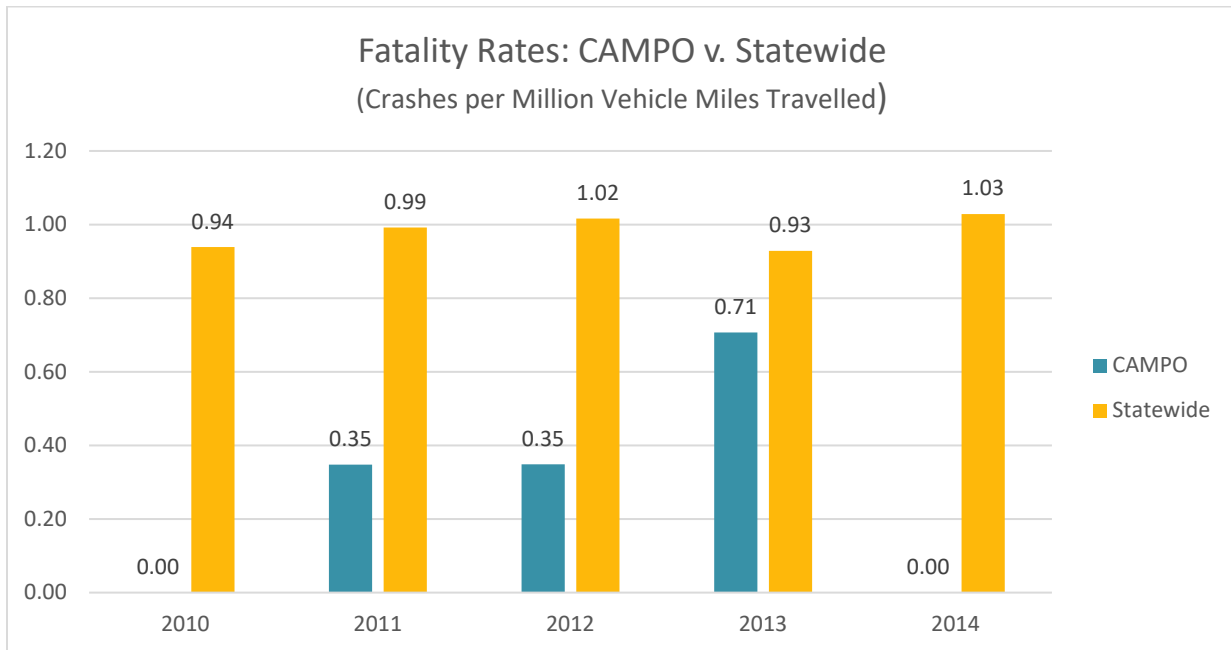
Table 10 shows a summary of fatalities and serious injuries for the CAMPO region for the five-year period from 2010 to 2014. Figure 18 and Figure 19 show how fatalities and serious injury rates for CAMPO's transportation system compare to statewide rates. The region has had lower fatality rates than the statewide average; however, in more than one recent year CAMPO's serious injury rate has exceeded the statewide average.

**Table 10: Recent Safety Trends in the CAMPO Region**

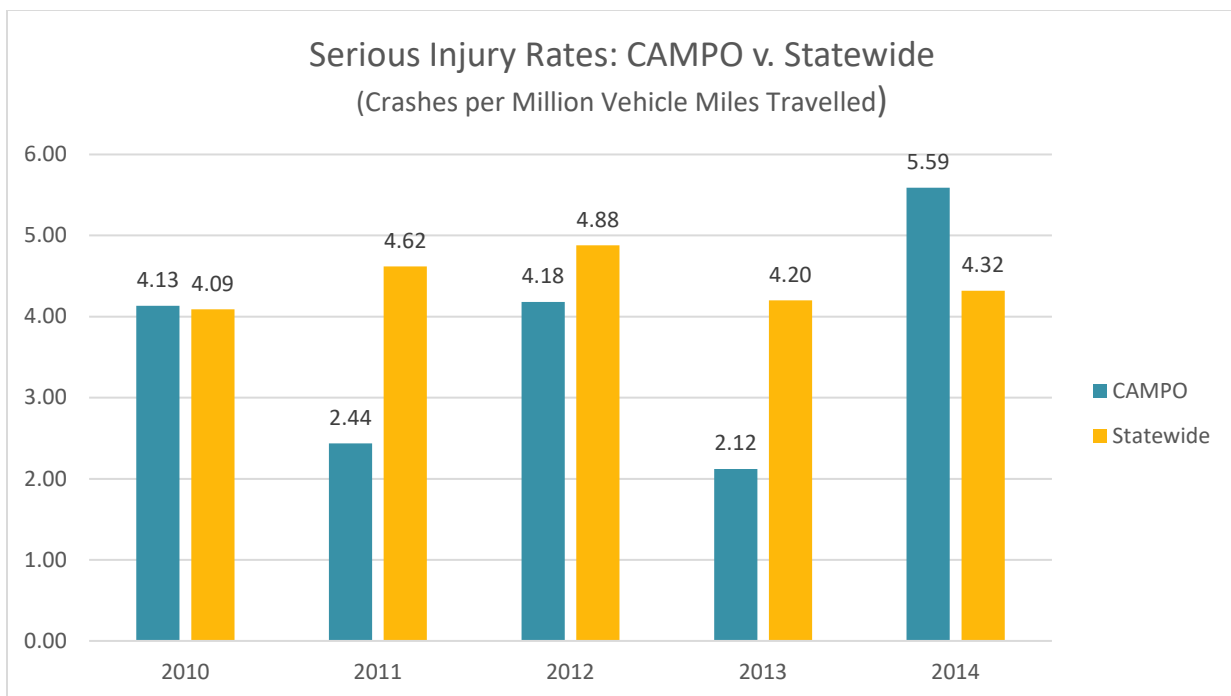
CORVALLIS Urbanized Area	2010	2011	2012	2013	2014
<b>Annual VMT*</b>	290,314,901	287,321,821	287,099,356	283,021,197	286,215,225
<b>Fatalities* (F)</b>	0	1	1	2	0
<b>Fatality Rate</b>	0.00	0.35	0.35	0.71	0.00
<b>Serious Injuries (A)</b>	12	7	12	6	16
<b>Serious Injury Rate</b>	4.13	2.44	4.18	2.12	5.59
<b>Non-motorist (Ped/Bike) Fatalities and Serious Injuries</b>	5	3	4	2	6

\* VMT : Highway Performance Monitoring System (HPMS) Estimates; Fatalities & Injuries: ODOT Crash Data System (CDS)

**Figure 18: Comparison of CAMPO and Statewide Fatality Rates**



**Figure 19: Comparison of CAMPO and Statewide Serious Injury Rates**



The locations of crashes occurring between 2010 and 2014 are shown on Figure 20 and Figure 21.

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#### ***6.6.1.1 Crashes on Principal Arterials***

From 2010 through 2014, 1014 crashes were reported along principal arterials (U.S. and State Highway segments) within the planning area, including 497 injury crashes and 517 property damage only crashes.

There were four crashes involving fatalities along these routes. Two of the fatal crashes occurred on OR 99W, one fatal accident occurred on US 20/OR 34 going towards Newport, and one occurred on US 20 heading toward Albany. One of the crashes involved a pedestrian fatality. Causes included improper lane usage, speed, fatigue, or other impairments.

The number of traffic incidents on state routes within the planning area ranged from 122 to 160 crashes per year, with a low of 122 crashes in 2013 and a high of 160 crashes in 2010.

The most common type of crash was a rear-end collision, which comprised 51 percent (354 crashes) of all crashes over the 5-year period. Turning crashes made up 17 percent (122 crashes) of the crash total. The majority of crashes on state routes occurred on dry surfaces and during the day (57 percent or 399 crashes).

#### ***6.6.1.2 Pedestrian and Bicyclist Crashes – U.S. and State Routes***

From 2010 through 2014, crashes involving pedestrians or cyclists were most prevalent on OR 99W and US 20/OR 34. Nineteen crashes involving a pedestrian or bicyclist resulted in serious injuries over the five-year analysis period. There was one pedestrian fatality.

Figure 20: Crash Data

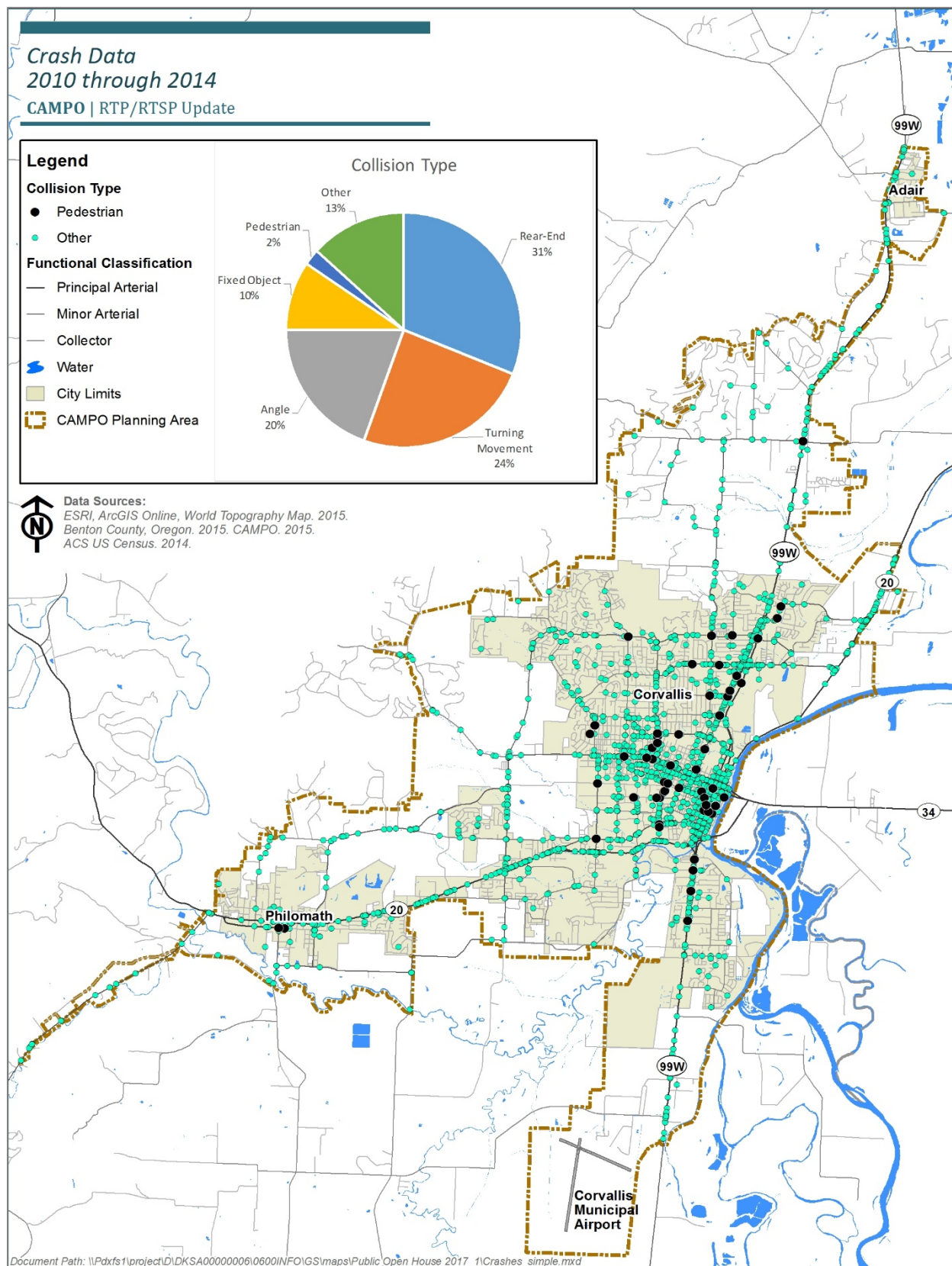
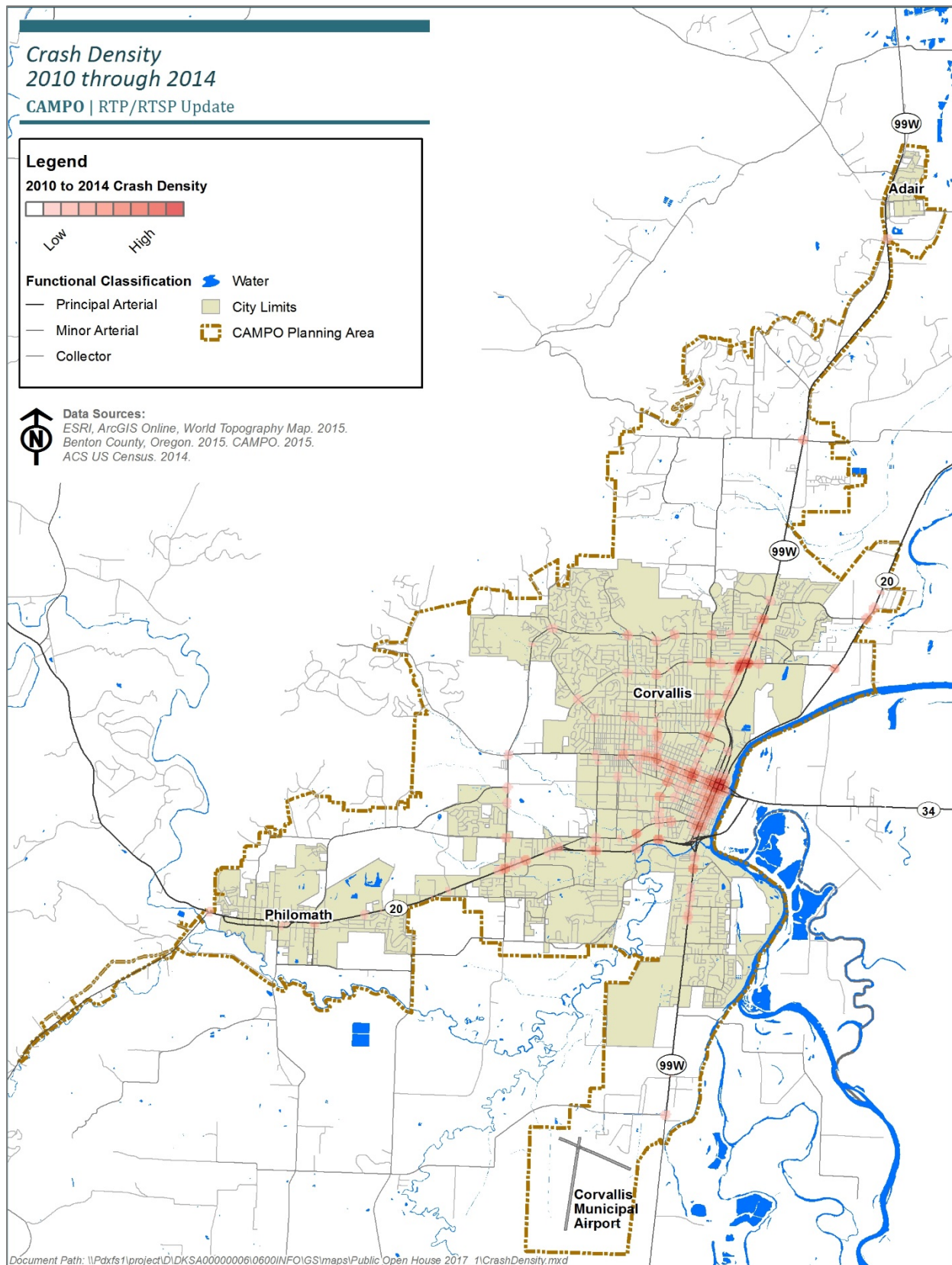


Figure 21: Crash Density





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## 6.7 Parking

Parking policies and practices strongly influence people's choice of transportation modes. Policies that result in readily available parking spaces encourage the use of Single Occupancy Vehicles (SOVs) and compete with the promotion of alternative modes of transportation. Zoning regulations that require a certain number of parking spaces to be provided as a condition of development approval are an example of policies that increase the supply of parking. Public and private employers contribute to the use of SOVs by offering free or discounted parking to their employees.

Within the planning area there is a combination of public and private parking spaces. Public parking includes on-street and off-street facilities, while private parking is located off-street. There is one parking structure on the OSU campus. On-street parking is allowed in most areas of the central business district. The City of Corvallis completed a Downtown Parking Management Plan in 2002<sup>16</sup>, updated with a parking utilization study in the spring of 2012<sup>17</sup>, and staffs a committee that focuses on downtown parking issues. Oregon State University also completes an annual parking utilization study.<sup>18</sup> In 2015, the City of Corvallis and OSU completed a joint project assessing on-street parking in neighborhoods surrounding OSU and downtown Corvallis.

## 6.8 Transportation Demand Management

Over the past few decades, nationwide auto trips and vehicle miles traveled have grown at a faster rate than population. Transportation demand management strategies (also referred to as Transportation Options or TDM Programs) are designed to curb this trend. TDM strategies address the demand side of transportation to make more efficient use of the transportation infrastructure.

Specifically, demand management strategies attempt to reduce the lengths and volumes of trips by increasing transit ridership, vehicle occupancy (from single-occupancy to multiple-occupancy), telecommuting or working from home, walking, and bicycling. Implementation of demand management strategies reduces dependence on the single-occupant vehicle, thereby reducing traffic congestion, vehicle emissions, and fuel consumption. Additionally, many transportation options for both commute and non-commute trips increase physical activity, in turn promoting healthier more active lifestyles. To accomplish these objectives, TDM programs use incentives and disincentives to influence changes in travel behavior. Most travel change behaviors have a positive economic impact in personal spending through savings realized by sharing commute costs.

TDM involves providing quality transit, rideshare, bicycle and pedestrian systems. The details of these facilities are discussed in the sections above. This section discusses other services and programs that are aimed at encouraging the use of transportation options and reducing the use of SOVs.

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<sup>16</sup> Corvallis Downtown Parking Study, Phase 2: Parking Management Plan, June 2002, Kittleson and Associates, Inc., Portland OR

<sup>17</sup> <http://www.corvallisoregon.gov/index.aspx?page=863> (Accessed September 23, 2016)

<sup>18</sup> OSU Parking Utilization Studies, <http://fa.oregonstate.edu/university-land-use-planning/campus-master-plan/parking-utilization-studies>.

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### 6.8.1 Existing Program

The City of Corvallis and Oregon Cascades West Council of Governments provide TDM services and programs to residents within and commuters to the planning area. Both agencies use grants administered by ODOT as a funding source for their programs. TDM measures in the planning area include:

- The Corvallis School District 509J's Safe Routes to Schools program is an effort to increase active transportation and daily physical activity by encouraging students to walk or bike to school. Corvallis has a designated Safe Routes to Schools coordinator who organizes monthly bike/walk to school events. Schools have reported 80 percent of students walking or biking to school on those days. The program also recommends walk and bike routes for students to access each elementary school.
- Education and Outreach: The City of Corvallis fosters bicycle education programs, including Get There Corvallis, a two-week event with bike to work days, clinics, free commuter breakfasts, and equipment giveaways. Additionally, the City promotes the annual Bike Commute Challenge and has a Bicycle and Pedestrian Advisory Board that meets monthly. The City of Corvallis supports a TDM position that works directly with employers to manage programs that provide incentives for employees to bike, walk, or carpool to work. There are currently 20 businesses, representing about 8,000 employees, participating in this program.
- Oregon Cascades West Council of Governments (OCWCOG) operates a regional TDM program that includes Rideshare, online ride matching, support to the Valley Vanpool that serves the planning area, an employee trip reduction program, and other advocacy and information services for reducing single occupancy vehicle trips. The service supports commuters in Benton, Lincoln, and Linn counties with connections to major cities such as Portland, Salem, and Eugene.

### 6.8.2 Park and Ride Facilities

Park and ride lots are a popular and effective strategy to reduce the number of people driving alone, and can provide layover stops for car/vanpools and in some cases, fixed route transit. There are at least twelve sites that serve as park and ride lots within the planning area, including three formal lots and nine informal lots. There may be additional sites, including church parking lots, fringe parking on large retail lots, or parking at another commuter's home, which are not accounted for.

Although most of these sites are not within the planning area, they serve those traveling to and from the Area. For example, Corvallis and Philomath residents drive to the I-5/OR 34 lot to connect with rides to Salem, Eugene, or Portland. A resident of Wren may use the site at the intersection of US 20 and OR 223 to commute to Corvallis for employment or to attend school.

Formal lots are located at:

- I-5/ Corvallis-to-Lebanon Highway (OR 34)
- Hickory Street (North Albany Road)
- Fescue Street/I-5 (Albany)

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Informal lots are located at:

- Applegate and 11<sup>th</sup> (Philomath Public Library)
- 1<sup>st</sup> and Harrison Street (behind Super 8 Motel in Corvallis)
- 7<sup>th</sup> and Oak (Lebanon)
- Arboretum Road/OR 99W (Adair Village)
- US 20/OR 34/OR 228 (Wren)
- US 20/OR 34/OR 180 (near Blodgett)
- I-5/Ankeny Hill Road (Jefferson)
- I-5/Exit 238 (between Millersburg and Jefferson)

### 6.8.3 Employer-Based TDM Programs

As mentioned previously, the City of Corvallis encourages companies and organizations within the planning area to implement their own TDM programs. Techniques for TDM include carpool programs, shuttle programs, paid and unpaid incentives to use non-SOVs, and telework programs. The City and OCWCOG jointly developed an ETC Challenge program awarding employers three levels of recognition for completing various things such as doing transportation options outreach via employee newsletters or email, hosting transportation events at the worksite, or providing preferential carpool parking, on-site covered bicycle parking, among other things. The following employer-based TDM programs received recognition from the City in 2015.

#### 6.8.3.1 Oregon State University

OSU is Corvallis' largest employer and received the city's highest award for their participation in the ETC program in 2015. TDM programs at OSU include:

- Free on-campus shuttles
- Guaranteed emergency ride home service for those who carpool, vanpool, or ride the bus to work
- Pre-paid Philomath Connection transit passes for faculty and staff
- Participation in Cascades West carpool matching service, or other vehicle pool matching services
- Preferred parking for vanpools that are renting government-owned vehicles
- Some alternative work and class schedules available
- Some telecommuting and distance education opportunities

Increasing parking fees<sup>19</sup>, while primarily done in response to the cost of managing parking facilities, also helps to discourage SOV travel.

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<sup>19</sup>Oregon State University, 2005. [http://cpd.oregonstate.edu/files/import/cmp\\_ch06\\_jan2005.pdf](http://cpd.oregonstate.edu/files/import/cmp_ch06_jan2005.pdf) Accessed on March 11, 2016.

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#### 6.8.3.2 First Alternative Cooperative

First Alternative Cooperative is a grocery co-op with two locations in Corvallis. The co-op encourages their staff and customers to use alternatives to single-occupancy vehicles through the following TDM strategies:

- Offers a punch card for walking or biking to the co-op that rewards staff and customers with dollars off groceries and entries into drawings for prizes such as bicycle tune-ups
- Provides extensive covered bike parking at store locations, including parking for bicycles with trailers
- Co-op's semi-monthly newsletter is delivered by bicycle<sup>20</sup>

#### 6.8.3.3 Samaritan Health Services

Samaritan Health Services operate several health facilities in Corvallis and is one of the MPO's largest employers. TDM strategies at some of their locations include:

- Encouraging use of alternative modes of transportation in new employee orientations
- Offering secure and convenient bike parking and shower facilities to encourage biking
- Employee carpool campaign<sup>21</sup>

#### 6.8.4 TDM Program Gaps

Enhancements and expansions to the existing programs are essential for the TDM strategies to be effective and attract additional users. Ensuring that land use and development patterns support alternative modes is a critical component of an overall approach to reducing SOV and increasing the efficiency of the public transportation infrastructure.

Land use techniques include:

- Parking standards that are adequate but do not promote SOV uses,
- Increasing densities, especially along transit routes,
- Encouraging transit-oriented development,
- Mixing uses to shorten trips and make biking and walking more viable,
- Ensuring developments are designed to invite pedestrian, transit and bicycle access; and
- Establishing bike boulevards (also termed neighborhood greenways), which provide a safe and comfortable experience for less skilled bicyclists.

Other "Smart Growth" techniques should continue to be expanded and refined by the jurisdictions in the planning area.

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<sup>20</sup> First Alternative Cooperative, 2016. Available online at: <http://firstalt.coop/programs/sustainability-practices/> Accessed on March 11, 2016.

<sup>21</sup> Corvallis Advocate, 2014. Available online at: <http://www.corvallisadvocate.com/2014/the-boss-wants-you-to-drive-less/> Accessed on March 11, 2016.

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Additional investment in the TDM program itself is also necessary to expand assistance to employers, expand transit and vanpool subsidies, assist commuters in the formation of vanpools and carpools, and effectively communicate with the traveling public and employers about transportation options. It may prove beneficial to augment the current TDM program with additional techniques. Research into alternative commuting options consistently points to financial incentives/disincentives as one of, if not the most, useful and cost-effective TDM options. Financial incentives/disincentives that may prove effective within the planning area include modifications to parking pricing by employers (currently employers within the planning area do not charge employees for parking) and increasing the price of on-street metered parking.

TDM strategies are not a final solution to traffic congestion and its resulting problems (lost time, wasted fuel, etc.). When considered individually, the impacts of most TDM strategies appear modest, affecting just a small percentage of total vehicle travel. However, their effects are cumulative and synergistic. A comprehensive TDM program that includes an appropriate combination of complementary strategies can have significant impacts and is often the most cost effective solution to common transportation problems when all costs and benefits are considered. If TDM strategies are implemented in just one small location, the effects to overall regional travel may be negligible, but if TDM strategies are incorporated into a broader region, significant reductions in single-occupant automobiles can happen.

## **6.9 Air Facilities**

### **6.9.1 Public Air Facilities**

The Corvallis Municipal Airport is a Federal Aviation Administration (FAA) designated "Regional" General Aviation Airport located approximately four miles south of downtown Corvallis in the southern portion of the planning area. Roadway access to the Corvallis Municipal Airport from the north and south is provided via OR 99W and Airport Avenue. Access from the west is via Bellfountain Road and Airport Avenue.

The airport is open to the public and currently handles all types of aviation services except commercial passenger air service. Currently, commercial airline passengers are served by Mahlon-Sweet Field in Eugene, (approximately 30 miles south), and Portland International Airport in Portland (approximately 80 miles north).

The Corvallis Municipal Airport currently has one fixed-base operator. Corvallis Aero Service, Inc. provides fuel, maintenance services, overnight hangar parking, auto rental arrangements, and flight training services (ground school, pilot supplies, testing center, aircraft rental, and flight instruction including helicopter training). The airport has four Special Aviation Service Operations: Frontier Flight Service is a flight training facility specializing in training of Japanese students; REACH Air Medical Service which is an air ambulance helicopter service; and two private T-hangar groups. The airport averages 100,000 operations per year, with approximately 154 aircraft based at the field.

Approximately 77 percent of the operations are local general aviation, 21 percent are transient general aviation, and 2 percent are military. Of the 145 aircraft based on the field, 123 are single engine



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airplanes, 11 are multi-engine airplanes, three are multi-prop airplanes, two are jet airplanes, and five are helicopters.

There are two asphalt runways, both in good condition. Runway 17/35 is 5,900 feet long by 150 feet wide and has the following weight limits: 35,000 pounds for single-wheel, 73,000 pounds for double-wheel, and 100,000 pounds for double-tandem aircraft. Runway 9/27 is 3,335 feet long by 75 feet wide and has the following weight limits: 51,000 pounds for single-wheel, 65,000 pounds for double-wheel, and 100,000 pounds for double-tandem aircraft. The airport provides a mix of 102 publicly- and privately-owned T-hangar spaces and 46 tie-downs.

The City of Corvallis Public Works Department manages the airport. The facility's operations are fully self-funded, with revenue sources that include land and building rents, tie-down and T-hangar rents, a fuel sales fee, and sales of grass seed from airport-owned acreage. Improvements made by the City include utility systems, aircraft T-hangar storage, lighting, navigational aids, and runway and taxiway improvements.

The *Corvallis Municipal Airport Master Plan* (2013) recognizes the airport's value as a General Aviation airport and acknowledges that commercial service is not anticipated in the planning horizon. The plan also states that the airport will continue to serve private and corporate aircraft and will maintain facilities for air-freight carrier service. Airfreight providers in the planning area, such as Federal Express and United Parcel Service, use the Corvallis Municipal Airport. It recommends extending runway 17/35 both north and south by 600 feet and constructing a new terminal building. Benton County has adopted an airport overlay zone to protect the airport's viability. The Metropolitan Transportation Plan includes the recommendations of the Corvallis Municipal Airport Master Plan.

The City has goals for increased development at the Corvallis Airport Industrial Park. To that end, an Airport Industrial Park Development Plan was completed in 2012 and revised in 2015. Concurrent with development of the plan, City staff and Benton County staff worked together to create a new Special Use – Airport Industrial Park zone to reduce conflict between governing documents and provide clarity in permitted uses and development standards. Currently, nearly twenty high technology, light manufacturing, and services businesses have located at the 220-acre park, which is zoned for airport and industrial activities. To accommodate growth at the Airport Industrial Park and provide future connection to property the north, Hout Road was recently reclassified and improved to the standards of an Urban Collector.

Many residents in the planning area choose to fly out of the Portland International Airport or the Eugene Airport. Public transportation options linking Planning area residents to these airports include the HUT Shuttle (Portland) and Omni Shuttle (Eugene).

### **6.9.2 Private Air Facilities**

There are two private air facilities located within the planning area, as shown in Table 11.

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**Table 11: Private Air Facilities in the Planning Area**

Airport Name	Use	Location
<b>Dunning Vineyards</b>	Private; permission required prior to landing. One aircraft based at the facility.	3 miles north of downtown Corvallis
<b>Good Samaritan Hospital Heliport</b>	Private; permission required prior to landing. One helicopter based at the facility.	South of Elks Drive in Corvallis

Additionally, there are several private air facilities located just outside the planning area. The Flying Tom Airport, which has two aircraft based at the field, is located just outside Planning area boundaries to the east of OR 99W, just south of Adair Village. The Joyner Airport, which has one aircraft based at the field, is located on Granger Avenue, just east of the planning area. The Winn Airport has three aircraft based at the field, and is located just east of the planning area, north of Garden Avenue.

## 6.10 Rail System

### 6.10.1 Freight Rail

Portland & Western Railroad (P&WR) is the primary provider of rail service within the planning area. This short-line railroad is one of the wholly owned subsidiaries of Genessee & Wyoming, Inc., a leading operator of regional railroads, switching services, and rail car leasing based in Greenwich, Connecticut. The rail lines connect with the P&WR line in Newberg, which then heads to Portland.

A portion of rail along the Corvallis-Monroe line, known as the Bailey Branch, connects to the planning area from the south. Shut down since 2007 due to safety concerns, one portion was recently sold to Venell Farms of Corvallis, which is operating under an agreement with Albany & Eastern Railroad of Lebanon. The County purchased the remaining portion under the rail banking program.

Short-line rail tracks within the planning area include:

#### 6.10.1.1 Westside Branch

This route runs south from Yamhill County through Corvallis to Monroe, parallel with OR 99W. The 5.35-mile stretch owned by Venell Farms runs from milepost 687.6 near Corvallis to milepost 682.25 near Greenberry, and is operated under a contract with Albany & Eastern Railroad.

Currently, the line turns west just south of Adair Village, where the rail line is located just east of the planning area boundary. The line runs through downtown Corvallis. Within the planning area the line is classified as Class 2 track and, south of Corvallis, as Excepted Track. The classifications relate to the maximum operating speed allowed on the track. Freight trains operating on Class 2 track are limited to a maximum of 25 mph and passenger trains may not exceed 30 mph. Operations on Excepted Track are limited to a maximum of 10 mph and no passengers or hazardous materials can be carried on this type of track.

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#### 6.10.1.2 Toledo Branch

This route runs 75.4 miles between Albany and Toledo, through central Corvallis and central Philomath. The track is owned by the Union Pacific Railroad, but P&WR leases the rights to the track. This branch serves the Georgia Pacific paper mill in Toledo, which is P&WR's largest single customer. P&WR has a road-switcher in Corvallis.

The portion of the line from Albany to Corvallis (12 miles) is Class 3 track (maximum 40 mph for freight and 60 mph for passengers) that consists primarily of heavy rail and carries the heaviest rail traffic on the P&WR system. At Albany, the line crosses the Willamette River on a 140-foot through-truss span. The timber trestle portion needs repair. Between Corvallis and Toledo (63.4 miles) the line is generally Class 2. Issues along this segment of the line include poor drainage in some areas, steep grades, and a tunnel with limited clearance. Another issue is the interaction between trains and vehicles at the numerous at-grade crossings in the planning area.

The line carries approximately one million gross tons of freight per year. Per ODOT, the primary commodities transported through the planning area include: wood chips, scrap paper, brown rolled paper (pulp board), logs, dimensioned lumber, feed pellets, feed grains, fertilizer, dairy feed (cottonseed meal), wheat, oats, grass seed, newsprint, scrap iron and steel, finished steel, and treated utility poles.

The recent *Toledo Sweet Home Rail Corridor Feasibility Study* (2005) examined the potential of the railway corridor to support future economic development. That study found that the rail system in the planning area is generally underused for freight purposes.

#### 6.10.2 Passenger Rail

There is no passenger rail service within the planning area. The nearest Amtrak train station is in Albany, approximately 11 miles from Corvallis. Amtrak (Cascades and Coast Starlight services) stops in Albany, and travels both north to Vancouver, British Columbia, and south to San Diego, California (Coast Starlight train only).

Local Amtrak officials classify the level of passenger demand at the Albany station as moderate (below full capacity). Current track conditions in the planning area limit maximum passenger train speed to 30-60 mph north and east of Corvallis and preclude service in Corvallis. No section of rail within the planning area is capable of accommodating train speeds over 60 mph. Special excursion trains, on rare occasion, travel roundtrip to the Oregon Coast or from the north or south through the planning area.

The *Benton County Comprehensive Plan* (2001) recommends that the region consider tying into a Willamette Valley commuter line at some point in the future. Passenger rail service to Corvallis is discussed as an option in the *Oregon State Rail Plan* (2014).

#### 6.10.3 At-Grade Rail Crossings

Most of the rail crossings in the planning area are at-grade. These crossings can cause conflicts between trains and vehicles, pedestrians, and bicyclists, as well as delays for roadway users, especially during peak traffic periods. These conflicts are most noticeable where both north-south and east-west rail lines are located. See Figure 17 for locations of at-grade crossings.

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## 6.11 Waterways and Pipelines

**Waterways.** The Willamette River and Marys River are the only navigable waterways within Planning area boundaries. The Willamette River is located at the eastern edge of the planning area. Within the planning area, both rivers are used for active and passive recreation, but most recreation occurs on the Willamette. Neither river is currently used for commercial navigation. According to the 2001 *Benton County Transportation System Plan*, stationary bridge crossings in Corvallis and Albany cap the height and width of vessels able to utilize the river, and the viability of the Willamette River as a transportation link is limited. This section of the Willamette River is maintained by the Army Corps of Engineers.

The Marys River is located in the southern portion of the planning area. The Marys is not seen as a viable option for transportation services, particularly given the depth constraints near the confluence with the Willamette River in the southeastern portion of the planning area.

**Pipelines.** No significant through-transmission, oil or gas pipelines exist within Planning area boundaries. Transmission lines for electricity, telephone, cable, and internet service exist throughout the planning area. Electric transmission lines are located in the northern portion of the planning area. Water pipelines convey water from the City of Corvallis' watershed on Marys Peak to the City's water system. There are no known capacity constraints for pipeline or transmission line service within Planning area boundaries.

## 7 Future Scenarios

For this RTP update, CAMPO used a scenario planning approach. Scenario planning is recognized by the Federal Highway Administration as a best practice for coordinating land use and transportation policy across multiple jurisdictions. It is a process that supports decision-making for long-term plans by constructing and evaluating hypothetical ("what if...?") alternative future scenarios that describe potential conditions in the region years into the future—in this case, for the year 2040. Scenarios allow community members and leaders to express ideas and preferences regarding future growth, to learn about trade-offs and impacts.

In 2010, Oregon passed Senate Bill 1059, which required local governments within a metropolitan planning area to consider how transportation plans could be altered to reduce greenhouse gas (GHG) emissions. The Oregon legislature recommended a scenario planning process to identify strategies for reducing GHG. GHG reduction targets were subsequently established for metropolitan areas throughout the state, and for the Corvallis, a target of 21 percent voluntary reduction in GHG emissions below 2005 levels was recommended by the year 2035.

To assist local jurisdictions in the CAMPO region with responding to the new GHG targets, CAMPO volunteered to analyze the effects of potential policy scenarios on the reduction of future transportation-generated GHG emissions. CAMPO's scenario planning effort began in 2014 as a way to quantify future GHG under different policy scenarios; however, the process also provided additional information about the effects of potential policies on community livability and sustainability that was valuable during the planning process.

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## 7.1 Scenario Planning Process

CAMPO's process involved three phases:

- Phase 1 – A Strategic Assessment of GHG estimates for a baseline year (2010) and a future year (2035) under existing plan and policy trends (the “Trend Scenario”).
- Phase 2 – A technical analysis of the effects of potential policy changes on future GHG. This phase evaluated the effect of new policies and policy combinations (“Alternate Policy Scenarios”) on not only GHG emissions but also public health, sustainability and social equity considerations.
- Phase 3 – Regional workshops to collect ideas and feedback from community members on future growth patterns and transportation investments. (“Workshop Scenarios”)

## 7.2 Scenario Evaluation Process and Findings

### 7.2.1 Phase 1: The Trend Scenario

In 2014, CAMPO, ODOT, and Oregon Department of Land Conservation and Development prepared the Phase I Strategic Assessment report that summarizes VMT and greenhouse gas estimates for the baseline year (2010) and the year 2035 under existing plan and policy trends. The purpose of this analysis was to:

- Evaluate recent trends in transportation policy, technology and behavior;
- Assess how far existing plans help the region reach certain goals, such as its greenhouse gas reduction target;
- Identify alternative paths to achieving these goals; and
- Provide information to help inform future plan updates.

The Regional Strategic Planning Model (RSPM)<sup>22</sup> was used, with inputs from Census data, CAMPO's travel demand model, and adopted local plans, to estimate VMT and greenhouse gas emissions for 2035 within the CAMPO planning area.

The region's target for reducing greenhouse gas emissions is 21 percent per capita by 2035 from 2005 levels. Phase I of CAMPO's scenario planning process found that:

- By implementing adopted plans, greenhouse gas emissions will decline. Implementing the region's adopted plans alone results in a 2.1 percent reduction in greenhouse gas emissions per capita. In combination with potential state-led actions, such as ambitious pricing strategies that are currently not being implemented, but may be in the future, an 18.5 percent reduction could be achieved.

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<sup>22</sup> RSPM is part of the national *VisionEval* project that is merging the successful GreenSTEP family of strategic planning models into a common open-source programming framework supported by a multi-agency partnership to share its use and development. For more information on model development, data sources, assumptions and research, see <https://gregorbj.github.io/VisionEval/>.



- Additional analysis, called sensitivity testing, indicates that reaching the region’s 21 percent reduction target adopted by the Land Conservation and Development Commission is feasible. There are a variety of policies and actions that the region could pursue that would enable it to meet the greenhouse gas emissions target.
- The Strategic Assessment demonstrates that reaching the target is feasible, but it requires a collaborative effort that includes both action at the local level and the state level. It further demonstrates that the region has options for what types of strategies (i.e. community design, marketing and incentives, or a combination of both) it considers locally.

A summary of key findings for the Trend Scenario, based on assessment of currently adopted plans, is provided in Table 12.

**Table 12: Findings from Strategic Assessment of Adopted Plans**

Category	Output	2010	2035	Percent Change
Environment	Annual greenhouse gas emissions per capita from light vehicles including reductions from vehicle changes (metric tons)	2.2	0.9	<b>-61%</b>
	Reduction in greenhouse gas emissions per capita from implementation of adopted plans <sup>23</sup>	n/a	n/a	<b>2.1%</b>
	Reduction in greenhouse gas emissions per capita from implementation of adopted plans and potential state-led actions <sup>24</sup>	n/a	n/a	<b>18.5%</b>
	Clean Air Act <sup>25</sup> criteria pollutants (million kilograms per day)	17.7	7.1	<b>-60%</b>
Land Use	Urbanized Area (acres)	9,615	11,014	<b>15%</b>
	Core districts share of total dwelling units	39%	37%	
	Residents living in mixed-use areas	14.4%	14.7%	-
	Housing type (Single-family: Multi-family)	63:37	59:41	-
Mobility	Daily vehicle miles traveled per capita	22.0	22.7	<b>3%</b>
	Annual walking trips per capita	131	134	<b>2%</b>
	Daily miles traveled by bicycle per capita	0.4	0.5	<b>35%</b>

<sup>23</sup> RSPM is a strategic model initially built to estimate greenhouse gas emissions. The model was supplemented with additional output indicators that are less robust, but sufficient to gauge relative impacts between scenarios. More detailed models should be used in implementation.

<sup>24</sup> The greenhouse gas emissions reduction target for the Corvallis metropolitan planning area is 21 percent per capita. The RSPM results indicate that implementation of local plans alone will reduce emissions by 2.1 percent between 2005-2035. Incorporating actions identified in the Statewide Transportation Strategy, which are not currently adopted, will reduce emissions by 18.5 percent. Two versions of the 2035 results are presented to illustrate the importance of coordinated and comprehensive actions by both state and local governments to achieve the emissions reduction targets. The remaining outputs represent results for implementing adopted plans only.

<sup>25</sup> Clean Air Act criteria pollutants include ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and lead.

Category	Output	2010	2035	Percent Change
<b>Economy</b>	Annual all vehicle delay per capita (hours)	20.2	23.0	<b>14%</b>
	Daily household parking costs	\$0.24	\$1.04	<b>330%</b>
	Annual household vehicle operating costs (fuel, taxes, parking)	\$2,369	\$2,684	<b>13%</b>
	Annual household vehicle ownership costs (depreciation, vehicle maintenance, tires, finance charges, insurance, registration)	\$5,975	\$7,198	<b>20%</b>
<b>Energy</b>	Annual all vehicle fuel consumption per capita (gallons)	374	173	<b>-54%</b>
	Average all vehicle fuel efficiency (miles per gallon)	24	54	<b>122%</b>
	Annual external social costs per household (unpaid)	\$1,062	\$819	<b>-26%</b>
<i>Note:</i> Per capita includes both household and group quarter residents. All costs reported per household only. Greenhouse gas emissions cover all light vehicle travel on MPO roads. All dollar values are reported in 2005 dollars, accounting for inflation.				

### 7.2.2 Phase 2: Alternate Policy Scenarios

In 2016, CAMPO completed Phase II of the scenario planning process, which involved analyzing specific land use and transportation planning policies to gauge their potential for reducing future GHG emissions as well as their impact on future sustainability, public health, and social equity.

Policy topics that were identified for analysis by CAMPO in collaboration with local agency staff included land use changes, parking fee changes, alternative modes, and transportation options.

Table 13 provides a summary of assumptions for individual policies in isolation.

**Table 13: Description of Individual Policy Scenarios**

Land Use Policy Scenarios		Trend 2040	Land Use Policy Scenario 2040
<b>1</b>	Decrease developments in central area and direct new developments to outer areas	363 new households to Philomath; 600 new households to Adair Village	914 new households to Philomath; 1333 new households to Adair Village
<b>2</b>	Increase developments in central areas	374 new households in central/downtown Corvallis	1,657 new households in central/downtown Corvallis
<b>3</b>	Most new development is concentrated near South Corvallis TOD	2,580 new households in S Corvallis area	3,863 new households in S Corvallis area
Alternative Mode Scenarios		Trend 2040	Alt Modes Policy Scenario 2040
<b>1</b>	Increase transit frequency	15 & 30 min headways pm peak	15 min headways pm peak (11.94 services miles per capita)

<b>2</b>	Expand transit to Philomath and Adair Village with increased frequency	11.94 service miles per capita 15 & 30 min headways pm peak	12.24 service miles per capita 15 min headways pm peak
<b>3</b>	Expand bicycle facilities	20% diversion of short trips to bike (region-wide)	12-24% bike diversion (higher for districts surrounding OSU, results in higher overall diversion due to larger population in area)
Transportation Options		Trend 2040	Transp. Options Scenario 2040
<b>1</b>	Marketing programs		
	Home-based	5%	5.2%
	Work-based	3%	5.4%
<b>2</b>	Expanded car sharing	50 vehicles	50 vehicles

Table 14 shows the criteria used to quantify the impacts of each policy scenario on future GHG, sustainability, public health and equity.

**Table 14: Scenario Evaluation Criteria**

Evaluation Criteria	Measures Used
<b>Future GHG</b>	Annual GHG Emissions
<b>Sustainability</b>	Daily VMT
	Annual Auto Delay
	Percent Population in Mixed Use Areas
	Daily Air Quality Pollutants
<b>Public Health</b>	Daily Accidents
	Annual Societal Costs (safety, pollution, energy security)
	Light Vehicle/Bicycle Diversion
	Annual Walk Trips
<b>Equity</b>	Travel Costs as a Percent of Household Income
	Travel Costs as a Percent of Income for Low-Income Households
	Automobiles Owned per Household
	Job Accessibility

Analysis showed that individual policy changes in isolation resulted in small impacts relative to the Trend Scenario (typically 1-2 percent); however, policy combinations had a larger impact (typically 2-4 percent).

#### **7.2.2.1 Policies in Isolation**

Key findings for each policy in isolation are summarized below and shown in Figure 22.

#### **Land Use Policy Findings**

- Increased density and mixed use are important for obtaining regional goals.

- 
- Land use policies is most effective policy at increasing walk trips, reduced accidents, and reducing travel costs for low income households.
  - Adair-Philomath growth scenario enabled the highest increase in those living above the minimum density threshold of mixed use areas.
  - Corvallis growth scenarios has the most benefit to low income households.

#### **Parking Policy Findings**

- Parking policies are particularly effective in reducing VMT, delay, and emissions
- Enhanced alternative modes will offset increased household transportation costs from parking
- Fees are most effective and synergistic with residential permits
- Increasing parking fees has more impact than cash-out programs
- Parking policies showed little impact on reducing auto ownership

#### **Alternative Mode Findings**

- Transit is the most effective of policies analyzed, positively impacting each indicator
- Transit has the greatest GHG and VMT reduction, household travel cost reduction, and auto ownership
- Bike improvements has a larger impact than transit on reducing accidents

#### **Transportation Options Findings**

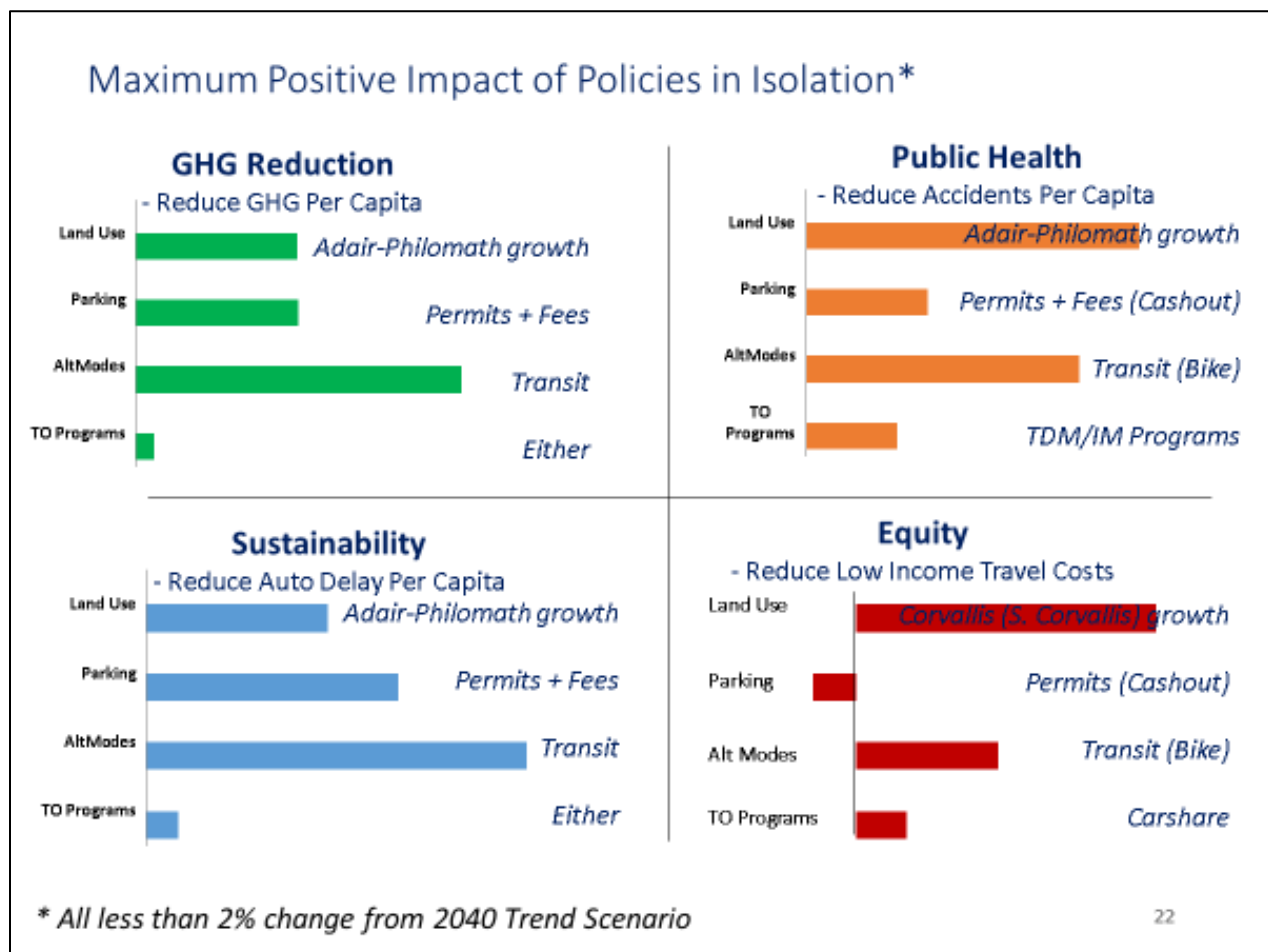
- Transportation options tested have a positive benefit across all of CAMPO's evaluation criteria
- Smaller impacts (and program costs) than other policies tested, however policies tested were conservative
- Work/home-based demand management programs best impact is on reducing accidents
- Car sharing can lower auto ownership (e.g., no 2nd car), resulting in reduced household travel costs

For the charts shown in Figure 22, a single representative metric was chosen to represent each criterion. The bars show the relative impacts of each individual policy, in order to identify which policies are most effective in reaching desired outcomes. For example, strategic policies related to land use can be valuable tools for reducing accidents and travel costs. Policies that limit parking or add parking fees can be helpful in reducing single occupancy vehicles, but also negatively impact travel costs. Policies that promote alternative modes are helpful for reducing GHG emissions and delay. Policies that encourage transportation options have the least impact, but may also be less costly to implement than other policies, and can be valuable for reducing accidents and travel costs.

Examining policies in isolation also allowed analysis of the social equity impacts of various transportation policies. For example, car sharing and bike diversion policies have positive benefits for

low income households, whereas downtown parking fee increases are detrimental for low income households.

**Figure 22: Effects of Alternate Policy Scenarios in Isolation**



#### 7.2.2.2 Policy Combinations

Table 15 shows how policies described above were bundled into five potential policy combinations with different levels of emphasis on land use, parking alternative modes and transportation options. The effects of each policy bundle on future GHG, sustainability, public health and equity were then analyzed and compared.



Table 15: Policy Bundles

	Land Use	Parking	Alternative Modes	Transportation Options
<b>A</b>	<b>Trend Scenario</b>	<ul style="list-style-type: none"> <li>Expanded parking districts</li> <li>Increased fees downtown</li> <li>Cash out parking</li> </ul>	<ul style="list-style-type: none"> <li>Expand bicycle facilities</li> </ul>	<ul style="list-style-type: none"> <li>Home/Work-based marketing</li> <li>Car Sharing</li> </ul>
<b>B</b>	<b>Trend Scenario</b>	<ul style="list-style-type: none"> <li>Cash-out Parking</li> </ul>	<ul style="list-style-type: none"> <li>Increased transit frequency</li> <li>Expand bicycle facilities</li> </ul>	<ul style="list-style-type: none"> <li>Home/Work-based Marketing</li> <li>Car Sharing</li> </ul>
<b>C</b>	Decrease developments in central area and direct new developments to outer areas	<ul style="list-style-type: none"> <li>Expanded parking districts</li> </ul>	<ul style="list-style-type: none"> <li>Expand transit to Philomath and Adair Village</li> </ul>	<ul style="list-style-type: none"> <li>Home/Work-based Marketing</li> </ul>
<b>D</b>	Increase development in central areas	<ul style="list-style-type: none"> <li>Expanded parking districts</li> <li>Increased fees downtown</li> </ul>	<ul style="list-style-type: none"> <li>Increased transit frequency</li> <li>Expand bicycle facilities</li> </ul>	<ul style="list-style-type: none"> <li>Home/Work-based Marketing</li> <li>Car Sharing</li> </ul>
<b>E</b>	New development is concentrated near south Corvallis TOD	<ul style="list-style-type: none"> <li>Expanded parking districts</li> <li>Increased fees downtown</li> <li>Cashout parking</li> </ul>	<ul style="list-style-type: none"> <li>Increased transit frequency</li> <li>Expand bicycle facilities</li> </ul>	<ul style="list-style-type: none"> <li>Home/Work-based Marketing</li> <li>Car Sharing</li> </ul>

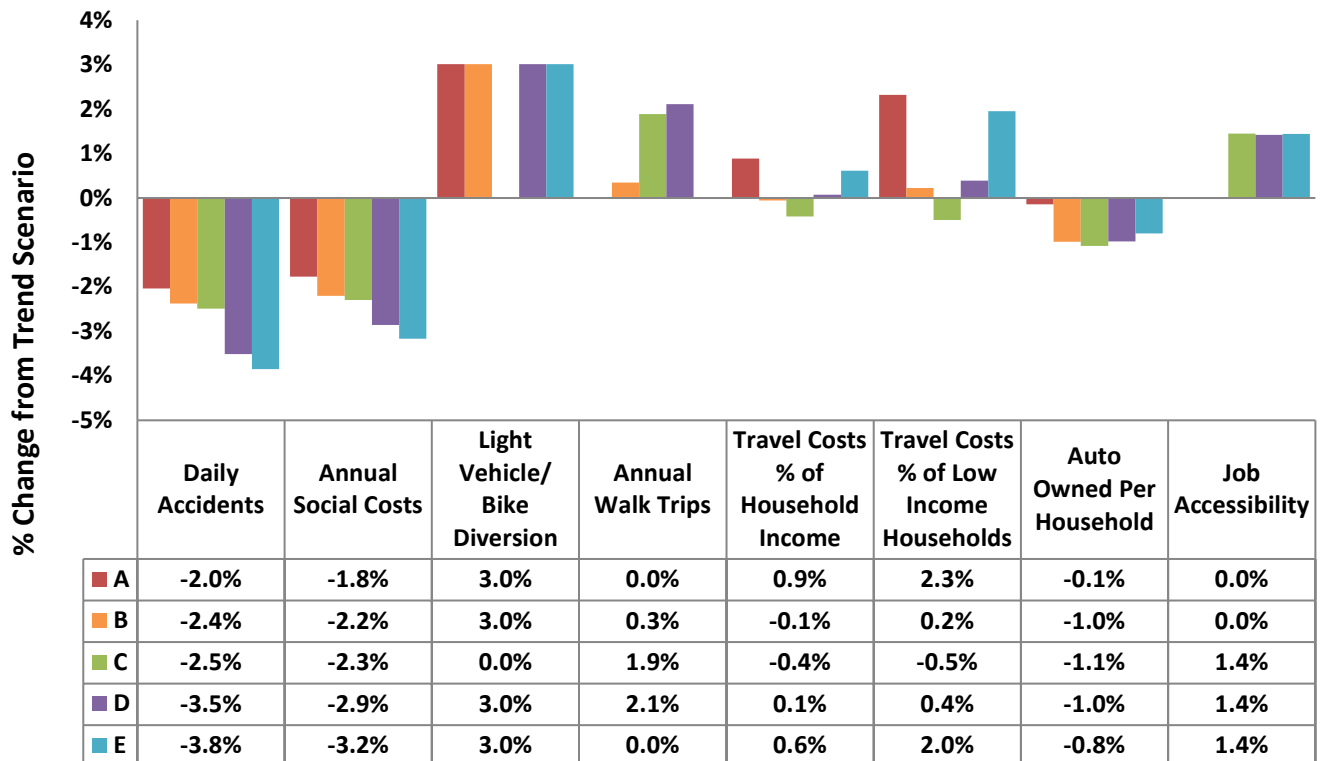
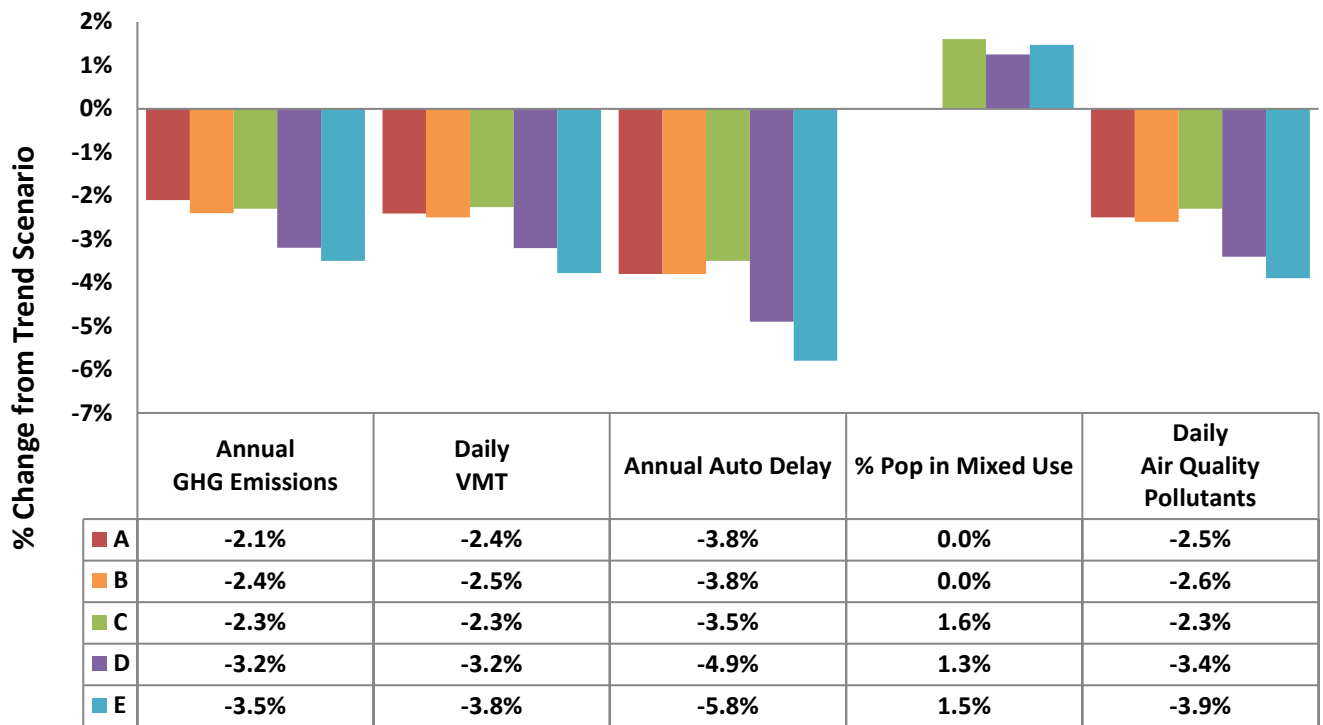
Key findings for the policy bundle analysis are summarized in Figure 23.

All policy bundles tested showed improvement over the Trend Scenario, except that some scenarios with parking policies that increased fees or had cash-out parking incentives to reduce parking demand had a slightly adverse effect on household cost indicators.

Policy Bundles A, B and C show the threshold of benefits available without transit oriented development in central or south Corvallis. These bundles had limited walking benefits. Policy bundle C with growth-supportive policies for Philomath and Adair Village was not much different than the trend scenario.

Policy bundle “E” included the most ambitious combination of new policies, including concentrating new transit-oriented development near south Corvallis, expanding parking districts, increasing parking fees downtown, providing cash-out parking programs for employees, increasing transit frequency, expanding bicycle facilities, and increasing programs for promoting transportation options. This policy bundle was the top performer in most of the evaluation categories; however, policy bundle E did *not* out-perform the trend scenario for equity measures that considered household transportation costs. Other policy combinations also had lower impacts to household transportation costs than policy bundle E. This finding provides a cautionary point for policymakers as they work to improve the region’s overall quality of life while avoiding disproportionate impacts on lower income populations.

Figure 23: Policy Bundle Findings



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### 7.2.3 Phase 3: Regional Workshop Scenarios

In May 2016, CAMPO held two regional workshops to solicit ideas and input on future growth patterns. Because technical analyses in Phase 1 had shown that policies related to land use and alternative transportation modes offered the greatest potential for positive benefits, workshop exercises were geared toward collecting participant ideas for distributing future housing and jobs across the region, and identifying priority transit and non-motorized improvements to support desired land use patterns.



*CommunityViz®* software was used with light tables to provide a large shared interactive computer screen. Participants used infrared pens to spatially represent their ideas for future growth on tabletop maps, and could view the effects of their land use and transportation choices on regional indicators in real time.

Major discussion themes at the workshops included fostering a regional balance of development, increasing development in central areas, facilitating transit-friendly mixed-use development, enhancing university life, and emphasizing environmental sustainability. Small discussion groups identified transportation and land use issues that they would like to see addressed. Common concerns and desires were:

- Ensuring a balance of jobs and housing
- Enabling reductions in VMT through land use decisions
- Providing adequate affordable housing in mixed-use central areas
- Satisfying daily needs without having to use a car
- Meeting the needs of the disadvantaged – elderly, children, disabled
- Enhancing safety
- Maintaining access to open green space

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After the workshops, the CAMPO RTP project team synthesized scenarios suggested by participants, and proposed three additional analysis scenarios, based on these themes:

- A **Regional Balance** scenario steered new growth toward Philomath, Adair Village, and South Corvallis. This scenario provided mostly single family housing and sought to balance growth across the major population centers of the region. Under this scenario, future transit investment emphasized connections between the Corvallis, Philomath and Adair city centers.
- A **New Centers** scenario focused on creating sometimes new, small-but-dense, close-in centers that could be readily accessible to downtown via transit. Under this scenario, transit investment emphasized connecting new mixed use centers with each other and with the urban core.
- An **Infill** scenario placed relatively more growth in downtown Corvallis, around OSU, and in other existing economic centers. Consistent with an infill strategy, it also increased the ratio of multifamily housing in the region. This scenario emphasized future transit investment on the Linn-Benton Loop between Corvallis and Albany.

Figure 24 shows how the three workshop scenario concepts compared spatially with the Trend Scenario.

Figure 25 shows comparative findings for the workshop scenarios. Compared to the trend scenario, Both Infill and New Centers would reduce daily vehicle miles travelled per capita (1.5-1.6% reduction), annual automobile delays per capita (2.4- 2.5% reduction) and air pollutants (1.7% reduction). The Infill scenario was projected to result in the greatest increase in walking trips (4.7%), and the New Centers scenario promoted the greatest shift from motorized light passenger vehicles to bicycle trips (5.1%).

A notable finding for social equity consideration is that travel costs as a percent of household income were expected to increase for low-income households under all three scenarios; however, increased costs under the Infill scenario for this indicator (7.3%) were lower than the other two scenarios (9.3%-9.8%).

Figure 24: Workshop Scenario Concepts

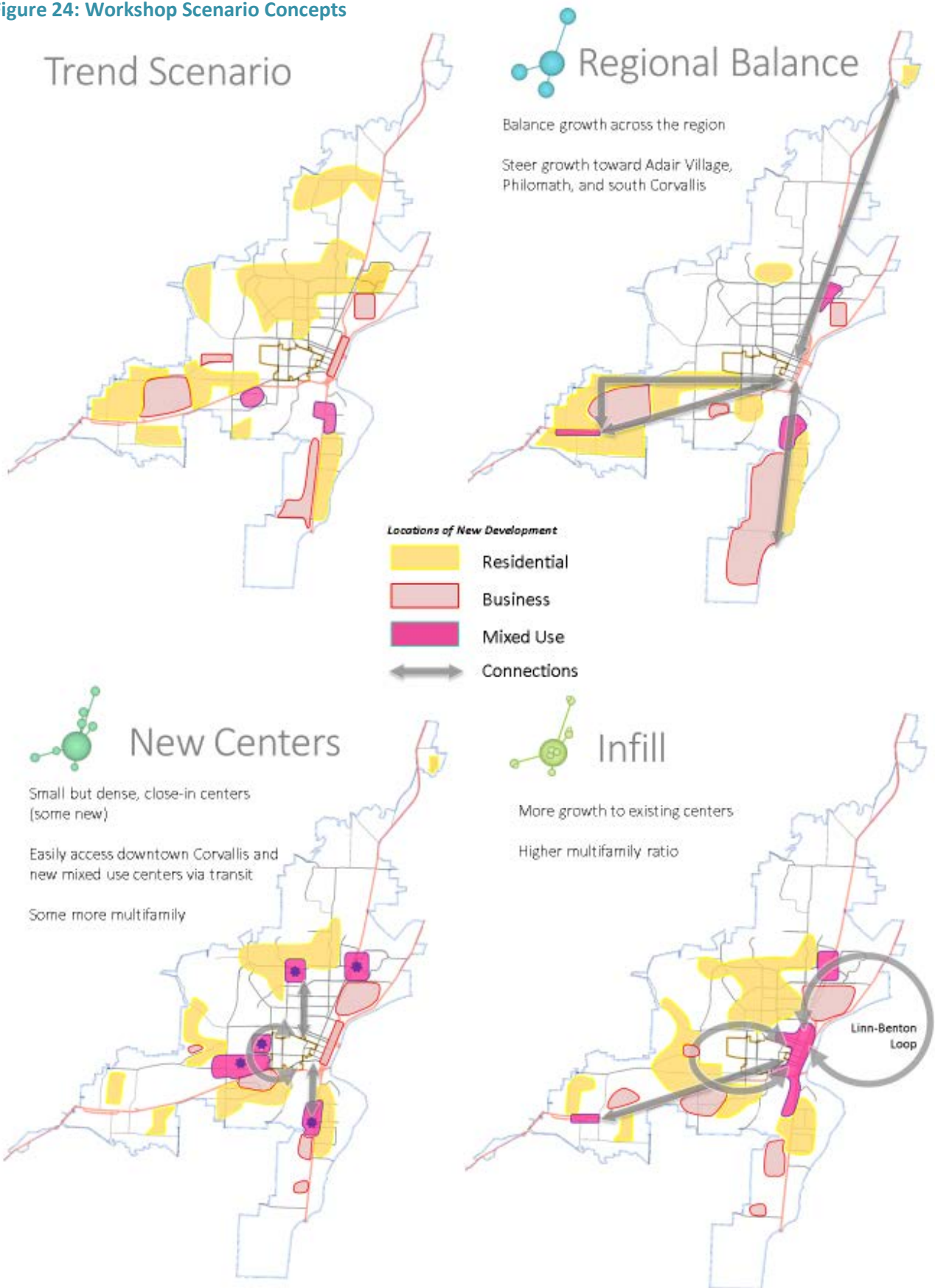


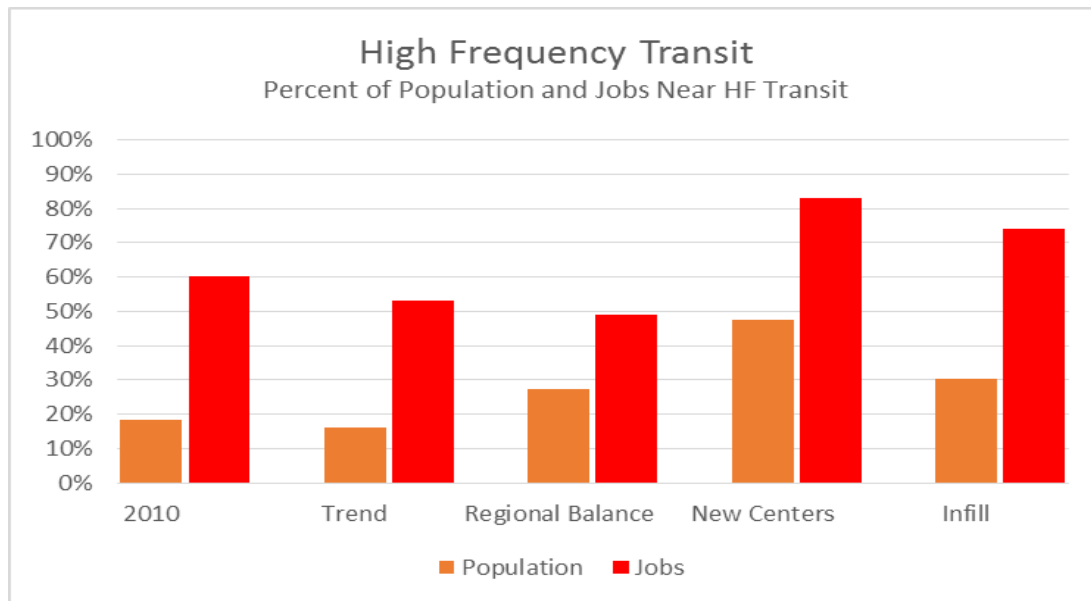
Figure 25. Workshop Scenario Findings Summary



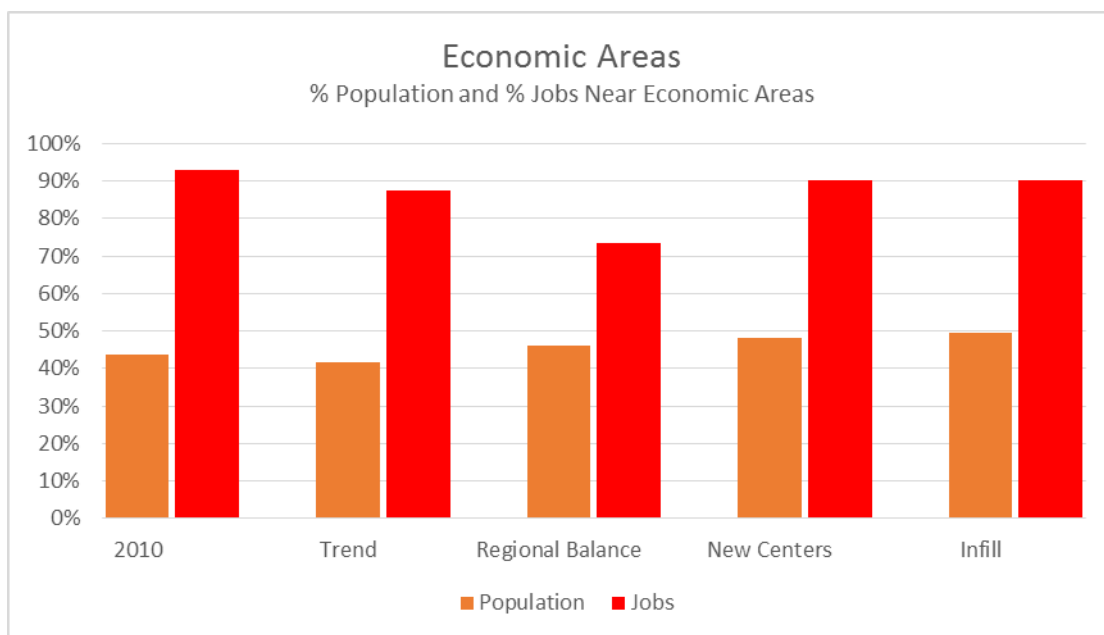


In addition to RSPM output, spatial analyses using *CommunityViz®* in this third phase of scenario planning allowed comparison of additional proximity measures. Figure 26 to Figure 28 provide several examples. A summary of the workshop scenario synthesis process and methodology is provided as Appendix G.

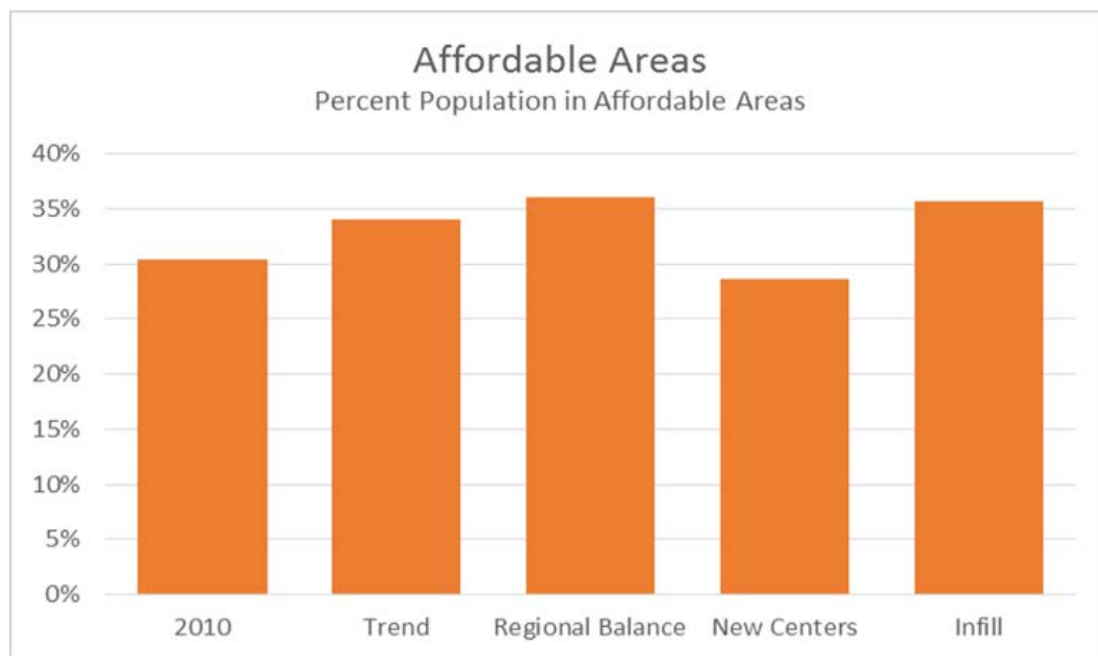
**Figure 26: Proximity to High Frequency Transit**



**Figure 27: Proximity to Economic Centers**



**Figure 28: Population in Affordable Areas**



### 7.3 Recommendations from the Regional Scenario Planning Process

When updating their local plans and codes, CAMPO recommends that transportation jurisdictions consider these four overarching findings from the regional scenario planning process:

- Increasing density and mixed use areas are important strategies for achieving future GHG reduction targets. These land use strategies also increase the viability of high frequency transit service.
- Land development practices that are transit-supportive can also reduce household travel costs and automobile ownership, helping to offset social equity concerns in areas where housing affordability is an issue.
- Investing in bicycle infrastructure can reduce accidents, and should be part of each jurisdiction's safety investment program.
- Increasing the cost of parking is particularly effective in reducing VMT, delay and emissions. For maximum effect, parking fees could be paired with a residential parking permit program, as well as investment in transit service and non-motorized infrastructure.

## 8 Performance Measures and Targets

In 2012, new federal performance planning requirements were introduced for states and MPO's, including the development of performance measures and future performance targets. The current federal law will also require CAMPO's to provide a system performance report in each future RTP update.

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Federal rules guidance needed for development of performance measures and target setting has taken several years to unfold. CAMPO is currently working with ODOT and other MPO's across Oregon to define measures and set targets in areas of safety, pavement and bridge condition, asset management, and system performance.

Under federal law, MPO targets must be set within 180 days of state targets. Federal safety performance measure rules were published on March 15, 2016, with an effective date of April 14, 2016. A baseline safety performance report for the CAMPO region is provided in the Existing Transportation Conditions chapter (See section 6.6.) ODOT is currently working with MPO's around the state to establish statewide safety performance measures and targets by April 2017, setting the schedule for MPO safety targets to be adopted by October 2017.

Federal performance measures related to pavement and bridge condition, freight system performance and congestion management were promulgated in January 2017. Therefore, CAMPO anticipates a future amendment to this RTP, to establish measures and targets, and to provide an initial baseline performance report for these additional performance topics.

## **9 Mitigation Activities**

According to federal requirements, MPO plans must include a discussion of types of potential environmental consideration activities and potential steps to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. This requirement is met through discussions with Federal, State, and tribal wildlife, land management, and regulatory agencies.

Federal regulations stipulate that metropolitan planning organizations consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of a long-range transportation plan.

The region's approach to transportation investment is inherently environmentally friendly. A significant emphasis on investment policies that promote transportation options, including walking, biking and transit, not only have the benefit of improving the health and livability of the region, they offer the potential to reduce dependence on single-occupant vehicles as the principle mode of transportation. Benefits to CAMPO's approach include the potential for reductions in traffic congestion, VMT, fossil fuel consumption and greenhouse gas emissions.

### **9.1 Consultation**

CAMPO has engaged in consultation activities with responsible resource agencies and stakeholders as described below.

#### **9.1.1 Environmental Resource Agencies**

A former forum for coordination between transportation and environmental resource agencies, known as the Collaborative Environmental and Transportation Agreement for Streamlining (CETAS) has been

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dissolved since CAMPO's last RTP update, and there is no longer a formal forum for coordinated environmental review of public plans and projects that are subject to the National Environmental Policy Act (NEPA).

To solicit input and feedback on the RTP, CAMPO reached out to state and federal agencies with responsibilities related to environmental and transportation matters who were former participants on CETAS. This included:

- Federal Highway Administration (FHWA);
- National Oceanic and Atmospheric Administration (NOAA);
- Oregon Department of Land Conservation and Development (DLCD);
- Oregon Department of Environmental Quality (DEQ);
- Oregon Department of Fish and Wildlife (ODFW);
- Oregon Division of State Lands (DSL);
- State Historic Preservation Office (SHPO);
- Oregon Department of Transportation (ODOT);
- US Army Corps of Engineers (USACE);
- US Environmental Protection Agency (EPA); and
- US Fish and Wildlife Service (USFWS).

### **9.1.2 Indian Tribes**

There is no Indian reservation within or adjacent to the CAMPO Area. There are, however, two federally recognized Indian tribes within a 50-mile radius of the MPO boundaries. These are the Confederated Indian Tribes of Siletz Indians located in Lincoln County (50 miles to the west) and the Confederated Indian Tribes of Grand Ronde located in Polk County (40 miles to the north). Public notifications of review opportunities for CAMPO's plans and programs are widely distributed and cover these groups.

## **9.2 Environmental Considerations**

### **9.2.1 Air Quality and Greenhouse Gas**

The CAMPO Planning area enjoys relatively clean air and is not designated as non-attainment by the EPA for any criteria pollutants.

GHG emissions from transportation sources has been the subject of recent legislation in Oregon. Refer to Section 7.2.1 and Appendix E for information on current and forecasted GHG emissions from transportation sources.

### **9.2.2 Stormwater from Transportation Sources**

Stormwater runoff from land and impervious areas such as paved streets, pathways, sidewalks parking lots, and building rooftops during rainfall and snow events may contain pollutants that could adversely

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affect water quality. Having a separate stormwater drainage system alleviates some of the residual effects of stormwater runoff.

Within the CAMPO planning area, Benton County and the cities of Philomath and Corvallis are required by the Oregon Department of Environmental Quality to have stormwater conveyance systems independent from their sewer systems. Local transportation systems plans for these jurisdictions include design standards and strategies for treating and managing storm water from transportation facilities. For more information on stormwater drainage basins and permitting requirements, refer to Appendix G.

### **9.2.3 Other Environmental Factors**

A complete summary of environmental resources, including reference maps, can be found in Appendix G. Prior to project implementation, information in Appendix G will be used to screen recommended regional projects for potential mitigation needs related to these resource categories:

- Soils
- Water Bodies Subject to the Clean Water Act
- Critical, Threatened, Endangered, and Sensitive Fish and Wildlife Habitats
- Fish Passage Barriers
- Flood Plains
- Forest Lands and Zones
- Historic Sites, Buildings and Districts
- Natural Features and Greenbelts
- Natural Hazard Areas
- Parks, Recreational Sites and Trails
- Protected Riparian Corridors
- Stormwater Basins and Drainage
- Wetlands and Wetland Mitigation Banks
- Willamette River Greenway
- Environmental Justice

## **10 Recommended System**

This section includes regional policy and project recommendations for CAMPO area through the horizon year 2040, as well as transportation safety and security strategies and recommendations for a coordinated approach to operating and maintaining the system.

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## 10.1 Recommended Policies

### 10.1.1 Commitment to Sustainability

Agencies in the CAMPO region are increasingly taking steps to ensure that community livability is not only preserved, but enhanced, for future generations. By implementing sustainable practices into their plans, they are demonstrating a commitment to eliminating the practice of planning for the present at the expense of the future.

One could simply call “sustainability” living with the future in mind. A classic definition comes from the Brundtland Commission’s 1987 report<sup>26</sup>, which defined sustainable development as “development which meets the needs of current generations without compromising the ability of future generations to meet their own needs.” To be sustainable in planning policy means to plan actions that will avoid significantly depleting nonrenewable resources or permanently altering the natural or human environment in a negative way.

Three overarching principles guide CAMPO’s approach to sustainable transportation planning: (1) stewardship of the environment, (2) social equity, and (3) economic vitality of the community. These themes are interwoven throughout CAMPO’s goals and policy-level objectives, and they help guide the selection of transportation investments for the region.

Stewardship of the Environment includes:

- Measures that reduce depletion of non-renewable resources
- Measures that reduce air pollution, particularly Greenhouse Gases (GHG)
- Measures that reduce noise pollution
- Measures that reduce water pollution
- Measures that reduce hydrologic impacts
- Measures that reduce habitat and ecological degradation

Social Equity includes:

- Fair and equitable disbursement of transportation services to all people
- Providing for the mobility of disadvantaged people
- Affordability of services
- Community cohesion
- Aesthetics of built environment.

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<sup>26</sup> *Report of the World Commission on Environment and Development*, United Nations General Assembly 42/187, 19th Plenary Meeting, December 11, 1987.



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Economic Vitality includes:

- Creation of jobs
- Considerations of infrastructure costs
- Consideration of costs to consumers
- Efforts to reduce traffic congestions
- Consideration of impacts on non-renewable resources.

### 10.1.2 CAMPO Policy-Level Objectives

CAMPO has adopted the policy-level objectives listed in Table 16 to support the region’s long-range goals for the transportation system.

**Table 16: Regional Objectives**

GOAL 1 – Provide for the safe, convenient and efficient movement of people and goods within and between urban centers	
<b>Objective 1A</b>	Provide for the safety of all modes of transportation
<b>Objective 1B</b>	Provide for the efficient connectivity of origin and destination of trips
<b>Objective 1C</b>	Identify and prioritize safety improvements that can reduce the number and frequency of serious crashes in the planning area.
<b>Objective 1D</b>	Monitor regional crash data to evaluate the effectiveness of investments.
<b>Objective 1E</b>	Reduce damage to or loss of life and property by protecting critical transportation facilities from natural disaster.
<b>Objective 1AF</b>	Maintain efficient through-movement of freight on major truck routes by balancing multi-modal needs with State’s vehicle mobility standards for OR 20, OR 99W and OR 34.
GOAL 2 – Efficiently manage and operate the regional transportation system	
<b>Objective 2A</b>	Reduce traffic congestion and improve travel times by prioritizing intelligent transportation systems and travel demand management strategies before expanding the existing roadway system.
<b>Objective 2B</b>	Evaluate options for increasing transit system capacity, to replace or delay the need for roadway network expansion.
<b>Objective 2C</b>	Secure adequate funding for maintenance of the regional transportation system.
<b>Objective 2D</b>	Provide a forum for transportation service providers to collaborate as an organized collective, to increase operational efficiencies, eliminate service redundancies and streamline connections.
<b>Objective 2E</b>	Reduce future vehicle miles travelled through a combination of Transportation Options investments, commute trip reduction programs, reduced reliance on single occupancy vehicles, and other travel demand management strategies.
GOAL 3 – Improve the affordability and equitability of the transportation system	
<b>Objective 3A</b>	Provide access to affordable transportation options throughout the region.
<b>Objective 3B</b>	Avoid the division or isolation of neighborhoods due to transportation projects.
<b>Objective 3C</b>	Provide efficient options for transportation-disadvantaged populations and to areas of affordable housing.
<b>Objective 3D</b>	Inventory and resolve ADA compliance issues on the transportation system.

<b>Objective 3E</b>	Support Title VI of the Civil Rights Act and Environmental Justice (minority and low income populations and other protected classes of people) as transportation plans and projects are developed.
<b>Objective 3F</b>	Seek out and consider the needs of the traditionally underserved.
<b>GOAL 4 – Promote public health through transportation policies and investment</b>	
<b>Objective 4A</b>	Facilitate Transportation Options (such as walking, bicycling and taking transit).
<b>Objective 4B</b>	Reduce air pollution from transportation sources.
<b>Objective 4C</b>	Seek input from public health experts to consider and evaluate the health impacts of transportation policies, plans and projects.
<b>GOAL 5 – Promote the region’s economic vitality through transportation policy and investment</b>	
<b>Objective 5A</b>	Ensure economic centers are easily accessible via all modes of transportation.
<b>Objective 5B</b>	Leverage transportation improvements to increase tourism and expand local economies.
<b>Objective 5C</b>	Endorse the freight mobility strategies in city and county TSP’s.
<b>Objective 5D</b>	Facilitate efficient and convenient commercial vehicle access to the Corvallis airport and short line railroads in the region.
<b>Objective 5E</b>	Seek input from regional economic professionals and freight interests to consider and evaluate the economic impacts of transportation policies, plans and projects.
<b>GOAL 6 – Promote Environmental Sustainability</b>	
<b>Objective 6A</b>	Reduce GHG emissions in the Corvallis Metropolitan Area.
<b>Objective 6B</b>	Promote travel demand management and the use of alternative modes to reduce environmental impacts from transportation.
<b>Objective 6C</b>	Encourage and promote environmentally sustainable practices in roadway and transportation facility maintenance and construction.
<b>Objective 6D</b>	Consider and evaluate the sustainability of transportation policies, plans and projects.
<b>GOAL 7 – Coordinate Land Use and Transportation Decision-Making Processes to the Extent Feasible</b>	
<b>Objective 7A</b>	Share findings from CAMPO’s Strategic Assessment and scenario planning work with local agencies.
<b>Objective 7B</b>	Encourage smart growth principles and policies that support transit-oriented development.
<b>GOAL 8 – Promote and Expand Transportation Options</b>	
<b>Objective 8A</b>	Inventory and address gaps in sidewalks, trails and bicycle routes to improved non-motorized connectivity.
<b>Objective 8B</b>	Support local and regional travel demand management programs that lead to increased walking, bicycling and transit use.
<b>Objective 8C</b>	Support local agency efforts to increase the convenience of transit, and improve non-motorized access to transit.
<b>Objective 8D</b>	Consider all transportation options (such as walking, bicycling and taking transit) when developing solutions for transportation plans and projects.
<b>Objective 8E</b>	Promote walking, biking and transit usage as alternatives to solo driving.

## 10.2 Capital Investment

Capital investments include improvements to address safety and traffic operations, as well as multimodal system enhancements. Due to financial constraints, it will not likely be possible to address all identified improvement needs over the planning period. CAMPO has coordinated with local agencies to identify and prioritize projects for which funding may be reasonably anticipated by 2040.

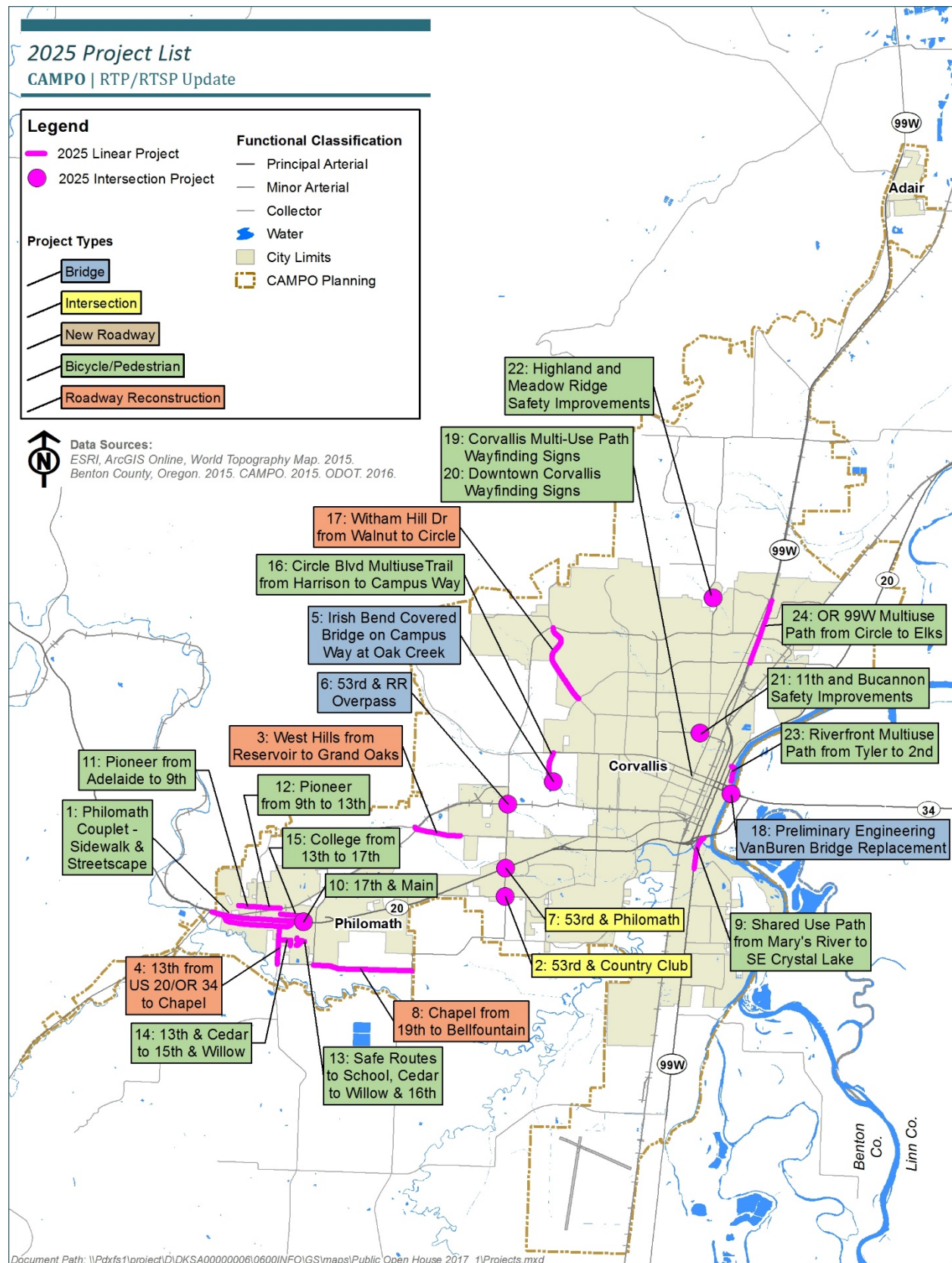
Table 17 and Figure 29 show anticipate projects to be completed within the CAMPO planning area in the near-term (implementation by 2025). Table 18 and Figure 30 show long-term projects for implementation by 2040. It should be noted that local Transportation System Plans are currently under development for the cities of Corvallis and Philomath. Following their completion, it is anticipated that the list of recommended projects for the region may be revised to reflect updated needs and priorities.

**Table 17: Near-Term Capital Investments**

NEAR-TERM PROJECTS (IMPLEMENTED BY 2025)		
ID	Description	Agency Sponsor
1	Philomath Couplet (US20/OR34): Implement City of Philomath Sidewalk and Streetscape Plan. Construct shared multi-use path and connect to Applegate Street.	ODOT/Philomath/ Benton County
2	53rd Street and Country Club Intersection: Improve intersection movements by constructing roundabout in conjunction with development	Corvallis
3	West Hills Road, from Grand Oaks to Reservoir Avenue: Construct with curb and gutter (Urbanization).	Benton County
4	13th Street, from Main Street (US20/OR34) to Chapel Drive in Philomath: Construct curb and gutter (Urbanization).	Benton County
5	Irish Bend Covered Bridge at Oak Creek and Campus Way: Fumigate and paint the bridge, conduct fire suppression and load rating.	Benton County
6	53rd Street and Railroad Overpass: Acquire right of way and reconstruct the crossing	Benton County
7	53rd Street and Philomath Boulevard: Improve intersection	Corvallis
8	Chapel Drive, from 19th Street to Bellfountain Road in Philomath: Add paved shoulders	Benton County
9	Marys River to SE Crystal Lake (east side of OR 99W): Construct separated multi-use path	Corvallis
10	Main Street and 17th Streets Intersection in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County
11	Pioneer Street, from Adelaide Drive to 9th Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County

NEAR-TERM PROJECTS (IMPLEMENTED BY 2025)		
ID	Description	Agency Sponsor
12	Pioneer Street, from 9th Street to 13th Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County
13	Multi-use path near Willow Lane and Cedar Street in Philomath: Construct as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County
14	Cedar Street and 13th Street to Willow Lane and 15th Street: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School plan	Philomath/ Benton County
15	College Street, from 13th Street to 17th Street, in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County
16	Circle Boulevard Multi-use Path: Extend, from Harrison to Campus Way	Corvallis
17	Witham Hill Drive, between Walnut Boulevard and Circle Boulevard: Repair slide	Corvallis
18	VanBuren Bridge Replacement (Preliminary Engineering): Perform Preliminary Engineering for the construction of a new eastbound two lane bridge over the Willamette River	ODOT
19	Multi-use Paths in Corvallis: Install way finding signage	Corvallis
20	Downtown Corvallis: Install way finding signage	Corvallis
21	11th Street and Buchanan Avenue Intersection: Pedestrian improvements	Corvallis
22	Highland Drive and Meadow Ridge Place: Improve pedestrian safety	Corvallis
23	Riverfront Multi-use Path, from Tyler to 2nd Street: Extend the multi-use path	Corvallis
24	OR 99W Multi-use Path: Extend the multi-use path, from Circle Boulevard to Elks Drive	ODOT/Corvallis
24	Pavement preservation and maintenance projects will be identified on an annual basis	MPO-Wide
26	Perform sidewalk infill where curb and gutter exist (Ongoing)	MPO-Wide
27	Install ADA ramps and retrofit sidewalks (Ongoing)	MPO-Wide

Figure 29: Near-Term Projects Planned by 2025





**Table 18: Long-Term Capital Investments**

LONG-TERM PROJECTS (IMPLEMENTED BY 2040)		
ID	Description	Agency Sponsor
1	35th Street, from Western to Campus Way: Improve to urban standard and improve railroad crossing	Corvallis
2	OR 99W at Goodnight or Rivergreen Avenue: Improve Intersection	ODOT/Corvallis
3	West Hills Road, from 53rd to Western Boulevard: Reconstruct to urban standards	Corvallis
4	13th Street in Philomath, from Main Street (US 20/OR 34) to Chapel Drive: Reconstruct to urban standards	Philomath/ Benton County
5	US 20/OR 34 and Alsea Highway Intersection in Philomath: Install traffic signal or roundabout, if feasible, when warranted	ODOT/Philomath/ Benton County
6	US 20/OR 34/Main Street at 26th Street in Philomath: Install traffic signal or roundabout, if feasible, when warranted	ODOT/Philomath/ Benton County
7	Circle Boulevard and 29th Street: Install traffic signal	Corvallis
8	OR 99W at Airport Avenue: Install traffic signal or roundabout, if feasible, when warranted	ODOT/Corvallis
9	Conifer Avenue at 9th Street and OR 99W: Reconfigure intersection with the hospitals expansion plan	Corvallis
10	OR 99W and Walnut Boulevard Intersection: Add right turn lane for eastbound to southbound movements	ODOT/Corvallis
11	Rodeo Grounds, from 11th Street to 13th Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School plan	Philomath/ Benton County
12	11th Street, from Quail Glen Drive to Pioneer Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School plan	Philomath/ Benton County
13	Crystal Lake Drive, from Alexander to Park: Reconstruct to urban standards	Benton County
14	Country Club Drive, from 45th to 35th: Reconstruct to urban standards	Corvallis
15	Witham Hill Drive, from Circle to Grant: Improve bike lanes and construct sidewalks on east side	Corvallis
16	OR 99W at Kiger Island Drive: Install traffic signal or roundabout, if feasible, when warranted	ODOT/Corvallis
17	Clemens Mill Road in Philomath: Relocate road to align with 26th Street	Philomath/ Benton County
18	OR 99W in Adair Village: Install traffic signal or roundabout, if feasible, on OR 99W at Arnold Avenue or Ryals Avenue when warranted	ODOT/Adair/ Benton County
19	Chapel Drive, from 13th Street to 19th Street in Philomath: Construct to urban standards	Benton County



LONG-TERM PROJECTS (IMPLEMENTED BY 2040)		
ID	Description	Agency Sponsor
20	US20/OR34: Construct off-ramp from eastbound US20/OR34 to southbound OR 99W	ODOT

Figure 30: Long-Term Projects Planned by 2040

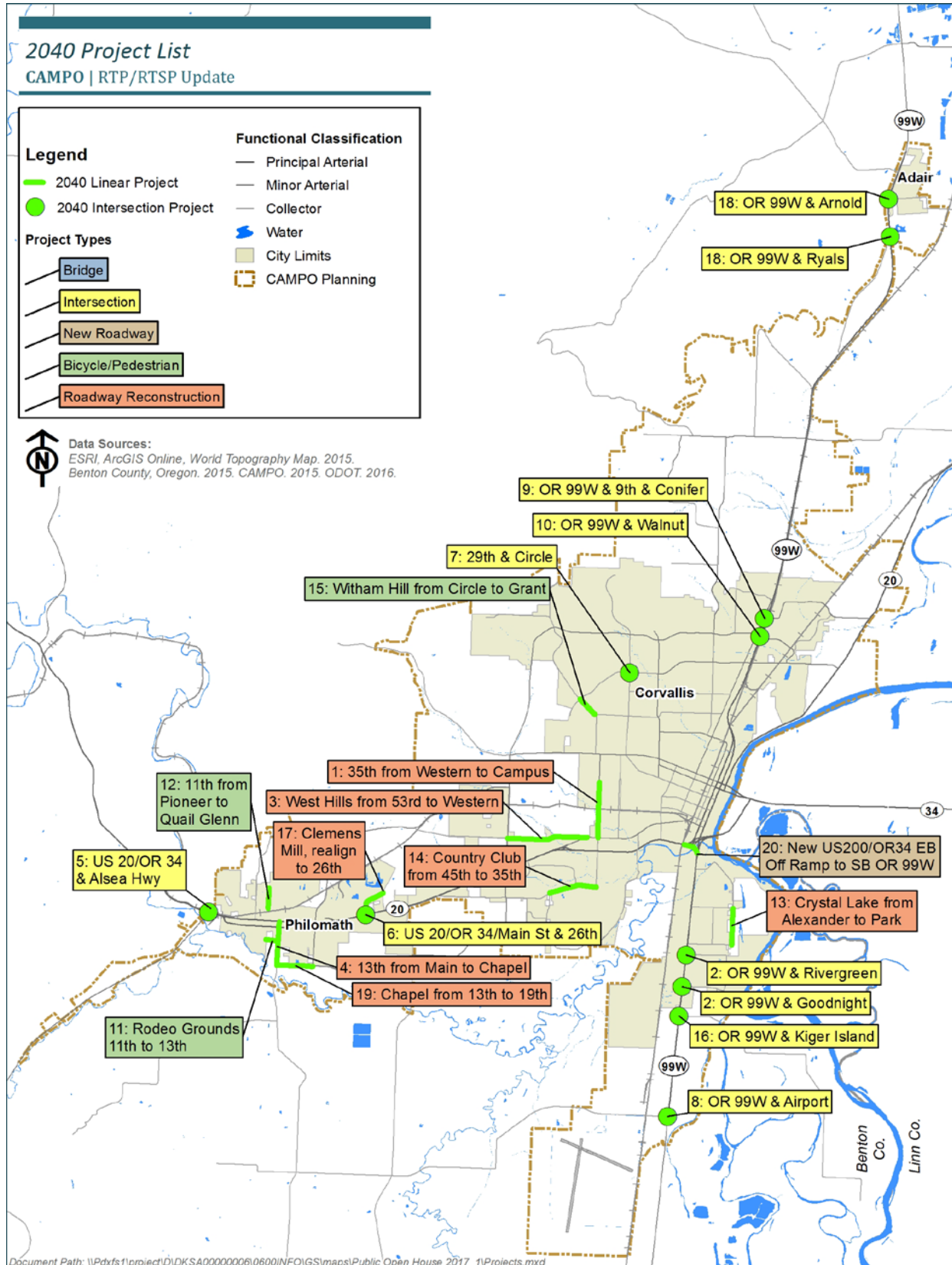
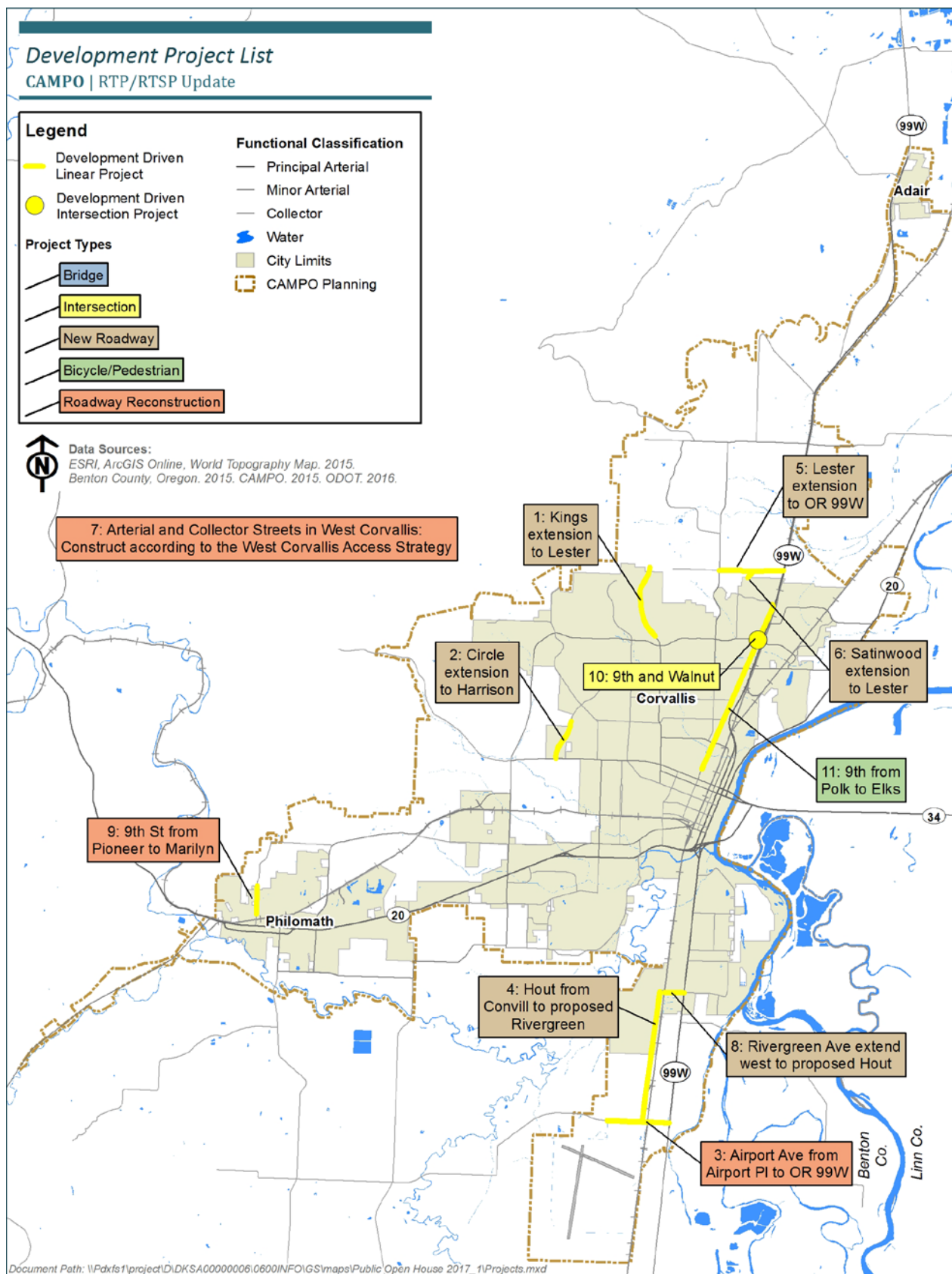


Table 19 and Figure 31 shows those projects that are expected to be completed when development occurs in the area and will be financed with system development charges (SDC fees) from developers. SDC fees are one-time fees imposed on new land development, and some types of redevelopment, to help defray the impacts on transportation facilities and other public infrastructure caused by development. The fee is intended to recover a fair share of the costs of existing and planned facilities that provide capacity to serve new growth.

**Table 19: Development-Funded Projects**

PROJECTS FUNDED BY DEVELOPMENT		
ID	Description	Agency Sponsor
1	Kings Boulevard: Extend Kings Boulevard to Lester Avenue	Corvallis
2	Circle Boulevard: Extend westward to Harrison Boulevard	Corvallis
3	Airport Avenue from Airport Place to OR 99W: Upgrade to urban standards and construct a roundabout	Corvallis
4	Hout Street: Extend from Convil Avenue north to the proposed extension of Rivergreen	Corvallis
5	Lester Avenue: Extend eastward to OR 99W	Corvallis
6	Satinwood Drive: Extend to Lester	Corvallis
7	Arterial and Collector streets in West Corvallis: Construct according to the West Corvallis Access Strategy	Corvallis
8	Rivergreen Avenue: Extend Rivergreen Avenue west of OR99W to proposed extension of Hout	Corvallis
9	9 <sup>th</sup> Street, from Pioneer Avenue to Maryland Avenue in Philomath: reconstruct roadway	Philomath/ Benton County
10	9th Street and Walnut: Add southbound right turn lane to westbound Walnut, as part of the Good Samaritan Regional Hospital expansion project	Corvallis
11	9th Street, from Elks Drive to Polk Avenue: Widen bike lanes to 6 feet	Corvallis

Figure 31: Projects to be Funded by Private Development



If additional funding should become available within the planning period, the list of illustrative projects in Table 20 and Figure 32 show additional investments that CAMPO would consider to address transportation needs across the region.

Note that the illustrative list includes all bridges identified by ODOT as seismically vulnerable or potentially seismically vulnerable. These bridges are in future phases of ODOT's plan for replacement or seismic retrofit, but funding for the work has not yet been identified.

**Table 20: Illustrative Projects (No Funding Identified)**

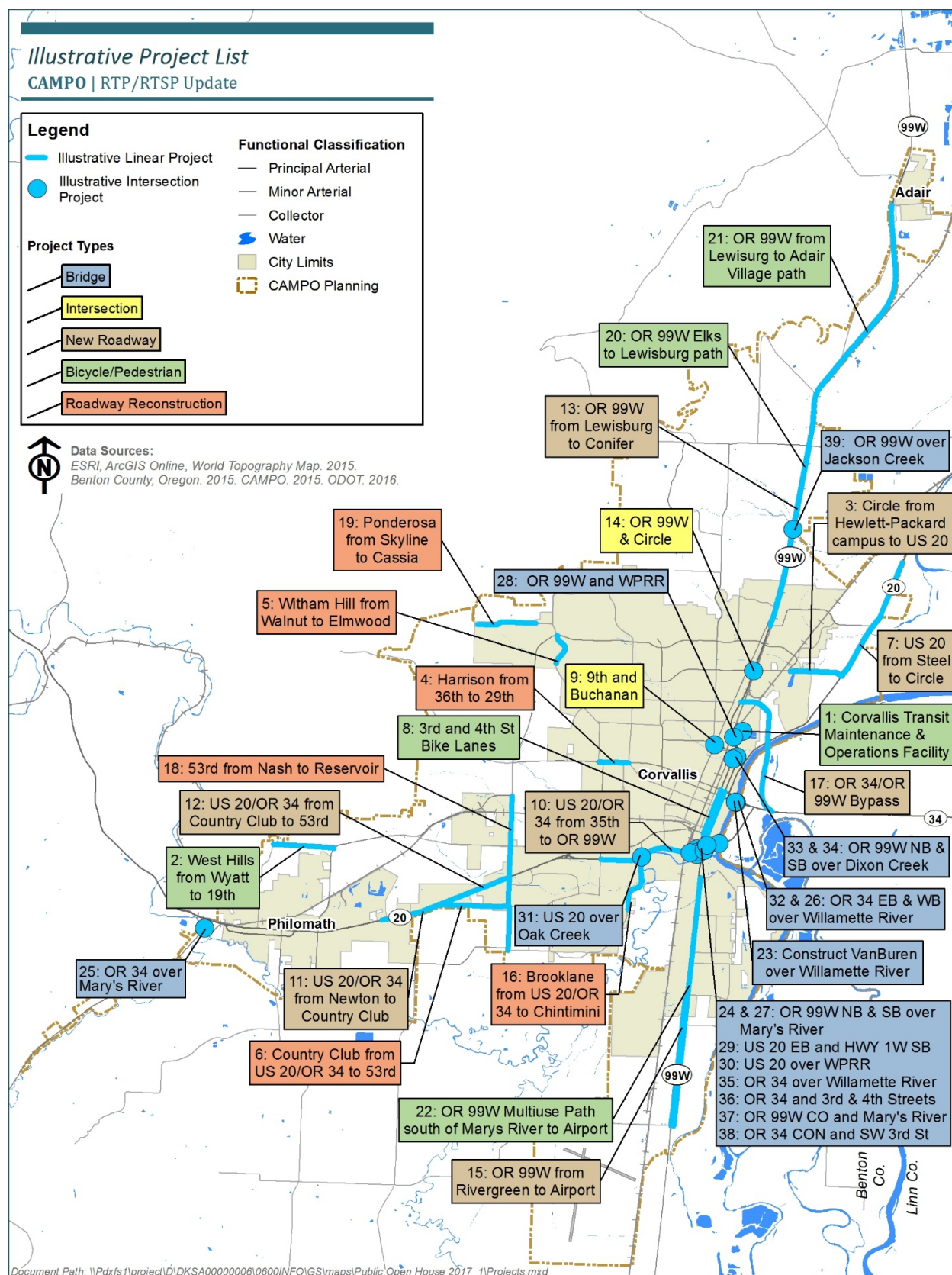
ILLUSTRATIVE PROJECTS		
ID	Description	Agency Sponsor
1	Transit Maintenance and Operations Facility: Construct City of Corvallis Transit Maintenance and Operation Facility at the Corvallis Public Works complex	Corvallis
2	West Hills Road, from Wyatt Lane to N 19th Street in Philomath: Widen and add bike lanes	Benton County
3	Circle Boulevard, from Hewlett-Packard campus to US 20: Add travel lanes	Benton County
4	Harrison Boulevard, from 36th to 29th: Improve to full urban standards	Corvallis
5	Witham Hill Drive, from Walnut to Elmwood: Complete hillside stabilization and improve to urban standards	Corvallis
6	Country Club Drive, from 53rd Street to US 20/OR 34: Improve to urban standards and improve alignment	Benton County
7	US 20, from Steele Avenue (MPO Boundary) to Circle Boulevard: Widen to 4 lanes with left turn lanes	ODOT
8	3 <sup>rd</sup> and 4 <sup>th</sup> Streets Bike Lanes: Construct bike lanes along 3 <sup>rd</sup> and 4 <sup>th</sup> Streets in downtown Corvallis	Corvallis
9	Buchanan at 9 <sup>th</sup> Street: Construct left turn lanes on Buchanan Avenue (eastbound)	Corvallis
10	US 20/OR 34, from SW 35th St to OR 99W overpass: Widen to four lanes with left turn refuges	ODOT
11	US 20/OR 34, from Newton Creek to Country Club: Reconstruct to four lanes with left-turn refuges, bike lanes and sidewalks	ODOT
12	US 20/OR 34, from Country Club to 53rd Street: Reconstruct to four lanes with left-turn refuges, bike lanes and sidewalks	ODOT
13	OR 99W, from Lewisburg Road to Conifer Boulevard: Widen to four lanes	ODOT
14	OR 99W/Circle Drive Intersection: Construct northbound right-turn lane	Corvallis
15	OR 99W, from Rivergreen Avenue to Airport: Widen OR 99W from 2 lanes to 4 with left turn lanes at major intersections to 500 ft. south of Airport	ODOT

ILLUSTRATIVE PROJECTS		
ID	Description	Agency Sponsor
16	Brooklane Drive, from US 20/OR 34 to Chintimini: Reconstruct to urban standards and realign	Corvallis
17	OR 34/US 20: Construct a north bypass to connect OR34 to US 20 and possibly to OR 99W, including a new crossing over the Willamette River	ODOT
18	53rd Street, from Reservoir Road to Nash Avenue: Reconstruct 53rd Street, including railroad overpass	Benton County
19	Ponderosa Avenue, from Skyline to Cassia Place: Reconstruct to urban standards and improve alignment	Corvallis
20	OR 99W multi-use path, from Elks Drive to Lewisburg Road: Construct multi-use path	Corvallis
21	OR 99W multi-use path, from Lewisburg Road to Adair Village: Construct multi-use path	Corvallis
22	OR 99W, south of Marys River: Construct multi-use path on both sides of the road per the recommendations of the South Corvallis Area Refinement Plan	Corvallis
23	Van Buren Bridge: Construct a new eastbound two lane bridge over the Willamette River	ODOT
24	OR 99W northbound bridge over Marys River (00706): Seismic Upgrade	ODOT
25	OR 34 bridge over Marys River (00771): Seismic Upgrade	ODOT
26	OR 34 eastbound bridge over Willamette River (02728): Seismic Upgrade	ODOT
27	OR 99W southbound bridge over Marys River (07019): Seismic Upgrade	ODOT
28	OR 99W bridge over Western Pacific Railroad (07321): Seismic Upgrade	ODOT
29	US 20 eastbound bridge over Oak Creek (08616): Seismic Upgrade	ODOT
30	US 20 bridge over Western Pacific Railroad (08617): Seismic Upgrade	ODOT
31	US 20 bridge over Oak Creek (08628): Seismic upgrade	ODOT
32	OR 34 westbound bridge over Willamette River (09179): Seismic upgrade	ODOT
33	OR 99W northbound bridge over Dixon Creek (16001): Seismic upgrade	ODOT
34	OR 99W southbound bridge over Dixon Creek (16002): Seismic upgrade	ODOT
35	OR 34 bridge over Willamette River (16873): Seismic upgrade	ODOT



ILLUSTRATIVE PROJECTS		
ID	Description	Agency Sponsor
36	OR 34 bridge over 3 <sup>rd</sup> and 4 <sup>th</sup> Streets (16874): Seismic upgrade	ODOT
37	OR 99W bridge over Marys River (16875): Seismic upgrade	ODOT
38	OR 34 bridge over SW 3 <sup>rd</sup> Street (17053): Seismic upgrade	ODOT
39	OR 99W bridge over Jackson Creek (00420A): Seismic upgrade	ODOT
<b>Illustrative Projects Outside of MPO Impacting MPO Transportation System</b>		
	Corvallis to Albany: Study and determine the path of a bicycle facility between Corvallis and Albany	
	US 20, Corvallis to Albany: Implement recommendations of the US 20 Safety Study	
	OR 34 at South bypass: Construct an interchange at OR 34 and South Bypass	
	OR 34 at South bypass: Construct a north bypass and a river crossing to connect to US 20	

Figure 32. Illustrative Projects



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### 10.3 Transit and Transportation Options

The project lists provided in Section 10.2 includes recommended improvements for non-motorized travel in the region. In addition, the following transit and transportation options strategies are recommended.

**Table 21. Intra-City Transit Recommendations (Corvallis Transit System)**

ID	Description
1	The RTP puts a great emphasis on the expansion of the transit service and promotion of transportation options. In addressing transportation issues, transit and other transportation options solutions should be considered prior to the enhancement of driving capacities.
2	The City of Corvallis is currently developing a Transit Development Plan for the enhancement of transit service in Corvallis. The Transit Development Plan will review the state of transit service and will recommend projects and policies for its improvement.
3	Upon the completion of the Transit Development Plan, the RTP will be amended to adopt the Transit Development Plan in its entirety.

**Table 22. Intercity Transit Recommendations**

ID	Description
1	Provide for the promotion and expansion of all transit services between the CAMPO Area and surrounding communities.
2	<b>Linn-Benton Loop:</b> Continue providing technical and administrative support to the to the Governing Board of the Linn-Benton Loop Transit Service
3	<b>Linn-Benton Loop:</b> Research to identify and establish a reliable funding mechanism for the operation and expansion of the Linn-Benton Loop Service.
4	<b>99 Express (Between Corvallis and Adair Village):</b> Promote and expand the public transit service between Corvallis and Adair Village
5	<b>Philomath Connection (Between Corvallis and Philomath)</b> The Philomath Connection transit service is part of the Corvallis Transit System. Recommendations for the improvement of this service will be identified in the City of Corvallis Transit Development Plan

**Table 23. Transportation Options**

ID	Description
1	The City of Corvallis is a recipient of state's Transportation Option funds. These annual funds are allocated to the promotion of alternative modes of transportation.
2	It is a policy of the City of Corvallis to construct roadway with bicycle and pedestrian facilities.

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## 10.4 Transportation Safety and Security Strategies

### 10.4.1 Improving the Safety and Security of the Transportation System

Projects recommended for implementation in Section 10.2 include capital investments to improve the overall safety of the transportation system. In addition, the recommended measures below provide for the security of the transportation system and will help to maintain essential transportation services during an emergency, or efficiently restore lost services and damaged facilities soon after.

**Security Measures.** In providing for the security of the transportation system, the 4-D approach is recommended: Deter, Detect, Defend and Design.

The object of deterrence is to reduce the possibility of inflicting damages to the transportation system and its users. Local governments can implement the following measures to deter malicious actions against their critical transportation assets, when necessary:

- Conduct a test of vulnerability of the critical transportation assets;
- Randomly monitor and inspect critical assets for the possibility of malicious acts;
- Maintain a “standoff zone” around critical bridges or other transportation facilities.

While defending the security of transportation infrastructure is mainly the job of law enforcement and the national security agencies, local governments can take the following measures to help detect possible threats to the transportation system:

- Increase the use of Intelligent Transportation System (ITS) technology in surveillance and monitoring of the critical transportation assets;
- Establish regular reports on the condition of transportation facilities and schedule regular maintenance of the facilities

Design refers to a specific approach in the design of critical infrastructure that lessens the vulnerability of the structures to any malicious act. Transportation agencies can utilize design as a means of securing the transportation system. In recent years, national guidelines have been developed on structural designs that enhance security.

**Safety Mitigation Measures.** Mitigation is defined as actions that are taken before or after an emergency to eliminate or reduce the long-term risk to human life and property. Mitigation in this context is a multifaceted process that includes development of:

- Preparedness plans – actions to train, exercise, identify resource and lay out procedures for emergency decisions
- Response - actions to be taken before, during and after the occurrence of a disaster
- Recovery - actions to minimize the impacts of disasters on services as well as those that mobilize resources to mitigate the situation

The county and cities’ emergency management offices are well-equipped to respond to emergencies. Benton County Emergency Management has produced preparedness plans and procedures for

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managing the impacts of a wide range of disasters. Several of these publications include recommendations for the fleet and procedures for transporting affected public during emergencies.

Transportation measures that are recommended here are those that would help to facilitate emergency movement of residents within and out of the planning area. The most reasonably anticipated of these movements would be:

- Identification of all Life Line Routes, i.e. to the regional medical centers (Good Samaritan and Corvallis Clinic)
- Prioritization of maintenance of Life Line Routes
- Rapid departure from OSU athletic facilities
- Mass evacuation of the area

The 1996 City of Corvallis Transportation System Plan included recommendations to improve lifeline routes for managing emergencies. County publications, as noted above, provide procedures for emergency management during and following disasters. In addition to these recommendations, CAMPO encourages the following interagency actions:

- Coordination of operation among local and state transportation agencies, law enforcement, emergency management and medical institutions
- Mapping out lifeline and evacuation routes to identify and mitigate possible impediments
- Synchronization of traffic lights or any other measures that would facilitate the directional flow of traffic during an emergency
- Identification of the potential capacity of the transportation system
- Mobilization of incident response units.

The Corvallis Transit System (CTS) regularly takes measures to improve the safety and security of the transit system. Measures that have been taken in the recent years as well as those that are planned for the future include:

- Cameras have been installed in the Downtown Transit Center
- Implementation of drivers' training on Defensive Driving and Drug and Alcohol Prevention Programs
- Implementation of a Vehicle Inspection and Maintenance Program

CTS also embraces the use of Intelligent Transportation System (ITS) devices to enhance safety and security. Examples include:

- Installation of on-board cameras;
- Replacement of the Vehicle Information System (VIS) which includes safety features, such as a panic button
- Replacement of the radio communication system between the buses and the dispatch center.

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### **10.4.2 Reducing the Vulnerability of Infrastructure to Natural Disaster**

Federal planning regulations requires that metropolitan transportation plans include specific strategies for reducing the vulnerability of transportation infrastructure to natural disaster. Coordinated efforts between state and local governmental agencies have long been in place for this purpose in the CAMPO area. The region's primary objectives in case of a natural disaster is to protect transportation system assets and the life safety of its users. CAMPO member agencies have worked together to identify existing public agency resources which could be marshalled in the event of a natural disaster, as well as critical infrastructure and possible disaster events which could threaten the region.

#### ***10.4.2.1 Resources and Coordination***

Appendix H provides a summary of state and regional planning documents that contain the coordination protocols that are observed in event of a natural disaster.

#### ***10.4.2.2 Identification of Critical Assets***

Security programs are developed to protect critical assets and its users from any disastrous incidents. Regional coordination processes outlined in Appendix H include consideration of the area's critical transportation assets.

- Transportation Infrastructure (Roads and Bridges)
- Transportation Facilities (Airport, Depots, Parking)
- Public Transportation (Buses, Bus Facility and Transit Center)
- Railroad Assets

#### ***10.4.2.3 Identification of Possible Disasters***

It is difficult to identify all possible disasters that would damage transportation system facilities and interrupt operation services. For planning purposes, the most likely known disasters are categorized into natural and human-caused. While some of these disasters may happen outside of the MPO Planning area, their impacts on our transportation and other resources could be severe. The following potential natural disasters pose risks for the regional transportation system and are considered in the regional coordination protocols provided in Appendix H:

- Flood
- Earthquake
- Tsunami
- Weather-Related Events
- Landslides
- Fires
- Volcanic Hazard
- Dam Break



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## 10.5 Management and Operation of the Transportation System

23 USC 101 (a) defines transportation systems management and operations as follows:

*The term “transportation systems management and operations” means integrated strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of the transportation system.*

This includes:

- Actions such as traffic detection and surveillance, corridor management, arterial management, active transportation and demand management, work zone management, emergency management, traveler information services, congestion pricing, parking management, automated enforcement, traffic control, commercial vehicle operations, freight management, and coordination of highway, rail, transit, bicycle, and pedestrian operations; and
- Coordination of the implementation of regional transportation system management and operations investments (such as traffic incident management, traveler information services, emergency management, roadway weather management, intelligent transportation systems, communication networks, and information sharing systems) requiring agreements, integration, and interoperability to achieve targeted system performance, reliability, safety, and customer service levels.

### 10.5.1 Transportation System Management

CAMPO supports the following system management strategies that are currently under consideration in local transportation planning efforts:

- **Operation Improvements.** Synchronization of consecutive traffic lights, reconfiguration and geometric modification of intersections, and facilitating the movement of buses are examples of operational changes that improve flow of traffic and reduce travel time.
- **Intelligent Transportation System (ITS).** ITS is the application of modern technologies to improve traffic flow, safety and communication. Examples of ITS are deployment of traffic monitoring cameras and remote management of green time at intersections, advanced roadway information on roadway conditions, delays and guidance to alternative route, and incident management.
- **Congestion Management.** Congestion management includes improvements to reduce traffic congestion, mostly during peak hours, such as working with major employers to allow flex time, staggered working hours and/or, telecommuting. Congestion management generally includes other techniques such as traffic operation improvements described above and preferential treatment of buses or other pooling vehicles.

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- **Access Management.** Access management is an effective way of enhancing roadway capacity. This requires adoption of policies that limit the number of accesses for each class of roadway coupled with combining several adjacent accesses into a single driveway, purchasing property access rights and the construction of access roads and fringe roads.
  - **Parking Policies.** Parking policies that charge the true cost of parking, reduce the availability of long-term parking lots in the core urban area, and favor the use of alternative modes of transportation can be an effective disincentive to driving.
  - **Travel Demand Management.** Including strategies outlined in Section 10.5.2.

### 10.5.2 Travel Demand Management

The following strategies are recommended for managing travel demand in the CAMPO region. These are currently under consideration in local transportation planning efforts:

- **Trip Reduction Strategies.** This includes restrictive techniques aimed at reducing travel demand in urban areas. Successful implementation of these techniques generally requires the adoption and enforcement of stringent municipal policies, such as:
  - *Employer Trip Reduction Programs:* Encourages major employers, possibly by providing incentives and disincentives, to reduce the number of auto trips to and from the place of employment. The employer, in return, provides incentives for the use of alternative modes of transportation and may provide disincentives for the use of single occupancy vehicles by its employees. A similar measure could curb student driving to schools.
  - *Adoption of Travel Reduction Ordinances (TROs):* The city or the county adopts an ordinance requiring all major employers to reduce the number of single occupancy vehicles generated. The ordinance generally requires trip reduction by a certain percentage over a period of time.
  - *Implementation of Exaction Fees/User Fees:* Requires paying per mile or a fixed usage fee for driving a personal vehicle. The most common form of this levy is the federal and state gasoline tax paid at gas stations
- **Transit Improvements.** CAMPO supports investment in the transit system to reduce travel demand by shifting trips from single occupancy vehicles to public transit. This will require requires expansion of the transit system over time by adding new routes and increasing frequency and the overall quality of transit service. Efficient transit service requires high-density land uses and a steady source of local funding, in addition to the federal and state funds.
- **Incentives for Use of Alternative Modes of Transportation.** This includes enhancing transit service, enhancing pedestrian and bikeway facilities, improving carpooling and vanpooling, free downtown shuttles and encouraging telecommuting.

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- **Provision of Bike and Pedestrian Facilities.** A rich and well-connected network of bikeways and walkways can reduce the number of vehicular trips and vehicle miles of travel. Studies have found a direct relationship between the construction of bikeway facilities and the increase in bicycle use. Other studies support that increase in bicycle use reduces the number of auto trips. Rietveld and Daniel (2004) found that the use of bicycle transportation increases in cities where cycling is relatively easier (fewer hindrances along cycling routes) and safer.
  - **Disincentives for Use of Single Occupancy Vehicles.** Policies to restrict the use of parking, particularly, long term parking; preferential treatment of carpooling and vanpooling vehicles, levying exaction and usage fees and higher levels of traffic congestion act as disincentives to SOV use.
  - **Park and Ride Facilities.** An effective way of managing travel demand is the development of park and ride facilities in the fringe of the urban area. Park and Ride lots provide opportunities for commuters to park their vehicle and share the ride for the main portion of their trip either in public transit or by carpooling and vanpooling.

### 10.5.3 Current Management and Operation Practices

Jurisdictions within the Corvallis Area MPO have a long history of cooperation in creating an integrated transportation system, resulting in the following initiatives:

- **Pavement Management System.** In 2005, members of the Corvallis Area MPO agreed to develop a single Pavement Management System for the Planning Area. ODOT provided State Planning and Research (SPR) funds to Benton County for the development and implementation of this program. The result is an up-to-date database on surface condition of classified roadways in the Planning Area. This database is maintained and updated regularly. The output of this system is utilized in funding prioritization of roadways in need of repaving and resurfacing.
- **ODOT's Region 2 Incident Response.** This program consists of a fleet of vehicles that continually patrol Region 2 roadways. These vehicles provide assistance, such as free gas and flat tire repair, to resume the regular flow of vehicles as quickly as possible. They also provide quick incident response by arriving early to the scene and coordinating emergency response activities.
- **Corvallis Area Law Enforcement Partnership.** This partnership consists of Benton County Sheriff Department, the City of Corvallis Police Department, Oregon State University (OSU), Oregon Liquor Control Commission and OSU Department of Public Safety. Among the many functions of the partnership are traffic incident response, emergency response, traffic law enforcement and emergency management.
- **Other Operation and Management Programs.** There are several other operation and management programs in the Planning Area. Examples are Benton County Emergency Management, Benton County Emergency Council, the Equipment Sharing Program and the Benton County Public Works Repair Shop (which provides vehicular maintenance services to all entities in the region).

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#### **10.5.4 Recommended Management and Operational Strategies for the CAMPO Region**

CAMPO will undertake the following measures to support state and local agency management and operation of the transportation system:

- Support the current practices outlined in Section 10.5.3.
- Place greater emphasis on the optimization of the existing transportation system, consistent with the goals of the Metropolitan Transportation Plan. As a means of ensuring this recommendation, the MPO has adopted a policy that allocates more than half of its Surface Transportation Program (STP) funds to the preservation of the existing transportation system.
- Work with local jurisdictions and ODOT for implementation of the Central Willamette Valley ITS Plan as it applies to the CAMPO area.
- Evaluate the formation of an incident response team for the planning area. The incident response team would include representatives of ODOT, local traffic engineers, law enforcement, paramedics, fire department, towing services and other pertinent agencies. The function of the team will be responding to any traffic delaying incident within the planning area to reduce delay time.
- Work with the engineering departments of member agencies to promote the use of ITS technologies and to enhance the efficiency and safety of the transportation system.

#### **10.6 Recommended Studies**

The following studies and data collection efforts are recommended to support CAMPO's work:

- Periodic review and safety audits at high accident locations
- Inventory of ADA compliance issues on collectors and arterials across the region
- Regional bicycle facilities and network plan
- Development of regional guidelines for sustainable construction practices

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## 11 Financial Plan

Federal regulations require MPOs to prepare a financial plan that demonstrates how planned projects can be implemented. CAMPO's financial plan must indicate the public and private resources that are reasonably expected to be available to carry out the plan.

### 11.1 Revenue Sources

The planning area uses six primary revenue sources to fund transportation expenses:

- Federal Transportation Program Funding
- State Highway Fund distributions
- Transportation System Development Charges
- Franchise Fees (Philomath)
- Street Utility Fee (Philomath)
- Local transportation maintenance fee (Corvallis)

Other revenue sources include accrued interest and other service charges.

#### 11.1.1 Federal Transportation Programs

The current federal transportation funding law, the Fixing America's Surface Transportation (FAST) Act, was signed into law in December of 2015, and provides a five-year allocation of funds through various programs. The FAST Act distributes money from the Federal Highway Trust Fund, which receives money from federal motor vehicle fuel tax, truck-related weight-mile charges, and through Congressional transfers from the General Fund of the US Treasury. These federal funds flow to states and MPOs that use them primarily for safety, highway, bridge and transit projects. Local cities and counties have access to several federal transportation funding programs through CAMPO. The City of Corvallis is the designated recipient for federal transit program funds.

Federal funds flow to states through the Surface Transportation Block Group Program (STBGP) by formula, and are distributed to a variety of programs for specific purposes.<sup>27</sup> ODOT relies on these distributions to fund many of the safety, highway, and bridge improvement projects identified in the Statewide Transportation Improvement Program (STIP), and the majority of federal funding goes to state highways. A portion of STBGP funding is allocated to CAMPO which is then distributed to its member agencies including Corvallis, Philomath, and Adair Village for use in improving and maintaining its collector and arterial street system. STBGP funding is the primary source of funding that falls under CAMPO's purview.

#### 11.1.2 State Highway Fund

The State Highway Fund generates revenues primarily through the state motor vehicle fuel tax, vehicle registration fees, and truck weight-mile fees. It also receives distributions from the federal Highway

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<sup>27</sup> Formerly known as the Surface Transportation Program (STP), it was renamed as part of the Federal 2015 FAST Act.

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Trust Fund, which is largely funded from the federal fuel tax. The state revenue sources are generally dedicated to debt service, highway maintenance, and agency (ODOT) operations.

A portion of these State Highway Trust Fund monies is allocated on a per capita basis to local cities including Corvallis. By statute, the money may be used for any road-related purpose, including walking, biking, bridge, street, signal, and safety improvements. State law requires that a minimum of one percent of the state fuel tax and vehicle registration funds received be set aside for construction and maintenance of walking and bicycling facilities.

To offset the declining revenue to the State Highway Trust Fund, Oregon House Bill 2001, also known as the Oregon Jobs and Transportation Act (JTA) was passed in 2009. The JTA increased transportation-related fees including the state fuel tax and vehicle registration fees, effective January 1, 2011. The state fuel tax is currently 30 cents per gallon. Oregon vehicle registration fees are collected as a fixed amount at the time a vehicle is registered with the Department of Motor Vehicles. Vehicle registration fees in Oregon are currently \$43 per vehicle per year for passenger cars, with higher fees for other heavy vehicle classifications.

The federal and state fuel tax funds have previously failed to keep up with cost increases and inflation. With improved vehicle fuel efficiency, changes in travel behavior, and policies aimed at reducing vehicle miles traveled, the real revenue collected has gradually eroded over time. Even with increases from the JTA, these fees and taxes are not indexed to general cost inflation, and, over time, the value of the revenues will decline as costs to deliver services increase.

### **11.1.3 Local Revenue Sources**

#### **11.1.3.1 Transportation System Development Charges**

Corvallis and Philomath collect system development charges (SDCs) from new developments, which are intended to offset the burden of development on the transportation system. SDCs are one-time fees and State law restricts the use of SDC funds to capacity-adding projects. Capacity adding projects include the construction of new turn lanes, bike lanes, and traffic signals. SDCs cannot be used to maintain the existing street system. The transportation SDC rate is indexed to construction costs.

#### **11.1.3.2 Franchise Fees**

Corvallis and Philomath collect franchise fees from companies that utilize the public right-of-way to provide their services. Franchise fees can be used for any legal purpose. Currently, franchise fees collected from Comcast (cable and internet provider), Pioneer (telephone provider), and Republic Services (recycling and waste) are deposited into the City's street fund. After 2016, franchise fees from Comcast will be deposited into the City's general fund and will not be available for street projects. To make up for lost revenue, the City will double the street utility fee rates.

#### **11.1.3.3 Street Utility Fee**

Philomath collects a street utility fee is a recurring monthly charge that is paid by all residences and businesses within the city to support the provision and maintenance of the local street system. The City collects the fee through its regular utility billing. The City bases the fee on number and type of



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residential units, with category-based flat rates for non-residential customers. Rates will be increasing in 2016, to compensate for lower franchise fees as discussed above. Philomath's Street Utility Fee structure is shown in Table 24.

**Table 24: Philomath Street Utility Fee Rates (2015 Dollars)**

Customer Type	Monthly Rates (2015)	Monthly Rates (2016+)
<b>Single Family House</b>	\$2.00/each	\$4.00/each
<b>Duplex</b>	\$3.50/each	\$7.00/each
<b>Multi-residential</b>	\$1.60/unit	\$3.20/unit
<b>Non-Residential (fees depend on user category)</b>	\$6.80 - \$22.75	\$13.60 - \$45.50

Existing law places no express restrictions on the use of street utility fee funds, other than the restrictions that normally apply to the use of government funds. However, The City of Philomath has established clear guidance for program administration that defines the amount, composition, and use of revenues from the street utility fee in authorizing Resolution No. 03-13. Funds collected shall be dedicated and used exclusively for street maintenance and reconstruction to provide a safe and functioning street system. The overall amount collected by the fee shall be equal to the amount of additional revenue needed to accomplish a reasonable pavement management program. The street utility fee structure is designed so that residential developments account for 75 percent of total revenue, and non-residential developments account for 25 percent of total revenue.

#### **11.1.3.4 Transit Operations Fee**

The City of Corvallis charges a monthly fee to City utility customers to generate revenue to support the Corvallis Transit System operations. The money raise from this fee is dedicated to the transit system and cannot be used for any other purpose. As of February 1, 2012, the amount for single-family residential customers is \$3.73 per month, the amount for multi-family residential customers is \$2.58 per housing unit per month, and the amount for commercial and industrial customers is based on the type of business, and thus, is different for each one. The fee schedule is reviewed annually in January, using trip generation methodology developed by the Institute of Traffic Engineers and current average gasoline prices on the west coast. Further information may be found on the City's website at: <https://www.corvallisoregon.gov/modules/showdocument.aspx?documentid=4125>

#### **11.1.3.5 Transportation Maintenance Fee**

Corvallis has a transportation maintenance fee that is collected with utility bills monthly from property owners and businesses in the city. The current rate is \$0.074 per trip end generated, which works out to a total single-family residential bill of \$0.71 per month. The annual average fee collected over the past five years is about \$435,000. The fee program began in 2006 as a way to augment declining state fuel tax funds. Starting in 2012, the fee is reviewed annually to adjust for construction cost changes, based on the published Engineering News Record Construction Cost Index for Seattle. The revenue collected from the transportation maintenance fee must be applied toward pavement preservation. There is no

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sunset provision for the program; however, it will be reviewed every five years to evaluate the success of activities and appropriateness of the fee. For more information, refer to the City's web site at:

<http://www.corvallisoregon.gov/index.aspx?page=169>

Corvallis additionally has a Sidewalk Maintenance Fee, also collected with utility bills, that generates approximately \$150,000 annually. This money is dedicated to paying for repairs to structural defects on public sidewalks.

#### **11.1.4 Potential Additional Funding Sources**

New transportation funding options include local taxes, assessments and charges, and state and federal appropriations, grants, and loans. Factors that constrain these resources include the willingness of local leadership and the electorate to burden citizens and businesses with taxes and fees; the portion of available local funds dedicated or diverted to transportation issues from other competing programs; and the availability of additional state and federal funds.

CAMPO and its member agencies should consider all opportunities for providing or enhancing funding for the transportation improvements to be included in the RTP. Some agencies have used the following sources to fund the capital and maintenance aspects of their transportation programs.

##### **11.1.4.1 Local Gas Tax**

Seventeen cities and two counties in Oregon have adopted local gas taxes ranging from one to ten cents per gallon.<sup>28</sup> The fuel distributors pay collected taxes to the jurisdictions monthly. Some agencies increase the local gas tax during the summer months to place more of a burden on visitors than on year-round residents. CAMPO member agencies also may want to implement a local gas tax. The process for presenting such a tax to voters would need to be consistent with Oregon State law (ORS 319.950) as well as the laws of the city.

It is important to consider that if one city were to implement a local gas tax alone, there could be significant "leakage" of the potential taxes if drivers switch to buying fuel outside the city. If jurisdictions were to coordinate to create a regional gas tax, this would be less of a concern.

##### **11.1.4.2 ODOT Statewide Transportation Improvement Program (STIP) Enhance Funding**

ODOT has modified the process for selecting projects that receive STIP funding to allow local agencies to receive funding for projects off the state system. Projects that enhance system connectivity and improve multi-modal travel options are the focus. The updated RTP prepares CAMPO to apply for STIP funding.

##### **11.1.4.3 ODOT Highway Safety Improvement Program (HSIP) Funding**

With significantly more funding under the HSIP and direction from the Federal Highway Administration to address safety challenges on all public roads, ODOT has committed to increase the amount of funding available for safety projects on local roads. ODOT distributes safety funding to each ODOT region, which

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<sup>28</sup> Includes Portland's recently approved temporary 4-year tax at 10 cents per gallon, the highest in the state. For other jurisdictions, see Current Oregon Fuel Tax Rates at [http://www.oregon.gov/odot/cs/ftg/pages/current\\_ft\\_rates.aspx](http://www.oregon.gov/odot/cs/ftg/pages/current_ft_rates.aspx)

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then collaborate with local governments to select projects that can reduce fatalities and serious injuries, regardless of whether they lie on a local road or a state highway.

ODOT's All Roads Transportation Safety (ARTS) Program includes two separate processes for location-specific hot spots and wide-application systemic projects. The 2016-2018 selection cycle projects have been selected, and the 2019-2021 selection cycle is in progress.

#### ***11.1.4.4 Federal Competitive Grant and Loan Programs***

The FAST Act authorizes a number of competitive grant and loan programs, such as the Transportation Investment Generating Economic Recovery (TIGER) grant program. Competitive grant and loan programs would require CAMPO to complete an application that makes a compelling case for a specific project, often multi-jurisdictional. Some of these programs focus on a particular outcome or mode of transportation. For example, the new FASTLANE grants focus on freight movement.

#### ***11.1.4.5 General Fund Revenues***

Cities within the planning area can allocate General Fund revenues to pay for their transportation programs, at the discretion of the city councils. General Fund revenues primarily include property taxes, use taxes, and any other miscellaneous taxes and fees imposed by the city. As a part of cities' annual budget process, competing community priorities set by the city council constrain the funding potential for transportation projects. General Fund resources could fund any aspect of the program, from capital improvements to operations, maintenance, and administration. Additional revenues available from this source are only available to the extent that the city council either increases general fund revenues or directs and diverts funding from other city programs to transportation.

#### ***11.1.4.6 Local Improvement Districts***

Local Improvement Districts (LIDs) can fund capital transportation projects that benefit a specific group of property owners. LIDs require owner/voter approval and a specific project definition. Assessments against benefiting properties pay for improvements. LIDs can supply match for other funds where a project has system wide benefit beyond benefiting the adjacent properties. LIDs are often used for sidewalks and pedestrian amenities that provide local benefit to residents along the subject street. Property owners pay fees through property tax bills over a specified number of years.

#### ***11.1.4.7 Local Lodging Tax***

A lodging tax, also known as a transient room tax, is a tax paid by occupants of hotels, motels, and other short-term rentals. This allows a city to offset the impact of visitors on the transportation system, similar to the way street utility fees offset the impact of residents and SDCs of new development. The State of Oregon and the City of Corvallis both impose a transient room tax. Philomath and Adair Village may consider this valid option for revenue generation, however, with few lodging options in both cities, it may not be very effective.

#### ***11.1.4.8 Debt Financing***

While not a direct funding source, debt financing can be used to mitigate the immediate impacts of significant capital improvement projects and spread costs over the useful life of a project. Though interest costs are incurred, the use of debt financing can serve not only as a practical means of funding

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major improvements, but is also viewed as an equitable funding strategy, spreading the burden of repayment over existing and future customers who will benefit from the projects. The obvious caution in relying on debt service is that a funding source must still be identified to fulfill annual repayment obligations.

The Oregon Transportation Infrastructure Bank (OTIB) is a potential source for cities to borrow funds for transportation improvement projects. The OTIB is a statewide revolving loan fund. Projects eligible to receive funding include roadway improvements, bicycle and pedestrian access, and transit capital projects. Potential projects are rated by OTIB staff along with a regional advisory committee and require approval from the Oregon Transportation Commission<sup>29</sup>.

## 11.2 Revenue Assumptions

ODOT has developed projections for reasonably anticipated federal and state revenues available for transportation projects statewide. The state's financial assumptions through the year 2047 are provided in Appendix H. CAMPO's estimated apportionment under the federal Surface Transportation Block Grant Program, which is the primary source of federal funding under CAMPO's purview, is shown in Table 25.

For other state and federal revenue sources managed by ODOT, projecting the amounts that may flow to the CAMPO region is less straightforward, as the distribution of funds in many programs depends on factors outside of the region's control. For state and federal funding programs where an allocation for the CAMPO area is not specified, an amount equal to 1.8% of statewide revenues was assumed, based on the ratio of CAMPO area 2010 population to the 2010 statewide population. Table 26 lists other state and federal revenue sources anticipated to be available for projects within the CAMPO planning area.

Similarly, local funding streams are dependent on many external factors and used for purposes beyond the funding of regionally significant transportation projects and programs listed in CAMPO's RTP. While an accurate prediction of specific local revenues for CAMPO projects over the 20-year planning period is not feasible, CAMPO coordinated with each agency to confirm the reasonable availability of funds and their intention to commit funds for the projects identified in this plan.

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<sup>29</sup> Oregon Transportation Infrastructure Bank, <http://www.oregon.gov/ODOT/cs/fs/Pages/otib.aspx>

**Table 25: Surface Transportation Block Grant Funding Available for Local Agency Projects in the CAMPO Area**

Corvallis Area MPO Surface Transportation Block Grant Apportionment (Year of Revenue Dollars)			
YEAR			
2017	\$755,957		
2018	\$772,588		
2019	\$789,585		
2020	\$806,956		
2021	\$824,709		
2022	\$842,852		
2023	\$861,395		
2024	\$880,346		
2025	\$899,714		
		<b>Total 2017-2025:</b>	<b>\$7,434,102</b>
2026	\$919,507		
2027	\$939,736		
2028	\$960,411		
2029	\$981,540		
2030	\$1,003,133		
2031	\$1,025,202		
2032	\$1,047,757		
2033	\$1,254,312		
2034	\$1,281,907		
2035	\$1,310,109		
2036	\$1,338,931		
2037	\$1,368,387		
2038	\$1,398,492		
2039	\$1,429,259		
2040	\$1,460,703		
		<b>Total 2026-2040:</b>	<b>\$17,719,385</b>
Source: ODOT Financial Assumptions for the Development of Metropolitan Transportation Plans, SFY 2018-2047 (Long-Range Revenue Tables Near Final 2016 V3.xls)			

**Table 26. Other State and Federal Funding Programs**

Funding Program	Estimated CAMPO Amounts 2017-2025	Estimated CAMPO Amounts 2026-2040
	(Based on 1.8% of Statewide Programs)	
Additional Funding Available for Streets and Bridges:		
Highway Freight Program	\$ 2,465,725.36	\$ 5,350,642.33
Discretionary for Modernization - State	\$ 1,852,497.45	\$ 4,025,337.83
Discretionary for Modernization - Local	\$ 1,852,497.45	\$ 4,025,337.83
County STBGP Allocation	\$ 3,060,647.95	\$ 6,641,166.73
Other Local Allocations	\$ 14,766,894.17	\$ 32,045,276.96
Local Bridge	\$ 4,783,177.69	\$ 10,380,941.72
Rail Highway Crossings	\$ 532,684.54	\$ 1,158,726.17
Highway Safety Improvement Program	\$ 2,440,097.92	\$ 5,295,726.39
Miscellaneous	<u>\$ 552,820.38</u>	<u>\$ 1,197,167.32</u>
Estimated Additional Funding for Streets and Bridges	\$ 32,307,042.91	\$ 70,120,323.28
Funding for Transit and Non-Motorized Transportation:		
FTA 5310 Set-Aside (STBGP)	\$ 2,399,826.24	\$ 5,130,978.60
CMAQ	\$ 3,274,820.09	\$ 7,106,121.63
TDM	\$ 386,242.06	\$ 838,383.23
Special Transportation Fund - Benton County	\$ 3,472,849	\$ 9,500,516
Lottery Distribution - Corvallis	\$ 2,550,000	\$ 22,330,000
FTA Seniors and Disabilities Funds	\$ 1,000,000	\$ 1,600,000
STBGP Flexed to FTA 5310	\$ 3,000,000	\$ 6,400,000
Transportation Alternatives - Non-TMA's	<u>\$ 975,673.06</u>	<u>\$ 2,077,652.77</u>
Estimated Funding for Transit and Non-Motorized Transportation	\$ 17,059,410.44	\$ 54,983,652.22
Estimated Funding for Planning and Studies:		
TGM	\$ 735,873.49	\$ 1,596,223.10
Metro Planning	<u>\$ 735,873.49</u>	<u>\$ 1,596,223.10</u>
Total Estimated Planning Funds	\$ 1,471,746.98	\$ 3,192,446.19
Source: Derived from ODOT Financial Assumptions for the Development of Metropolitan Transportation Plans, SFY 2018-2047 (Long-Range Revenue Tables Near Final 2016 V3.xls). Where allocations were specified for CAMPO or a CAMPO member agency, those amounts were used. Where no allocation for the CAMPO region was specified, 2% of the statewide allocation was assumed.		



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### 11.3 Cost Estimate Methodology

Project costs in this plan have been estimated by local agency engineering staff, based on their professional knowledge and experience in implementing similar projects. For projects that are carried forward from the 2035 RTP, a 5 percent increase was added to compensate for inflation. Historically some flexibility has been needed when identifying the year of implementation for each project. Therefore, rather than assuming specific years, project costs were averaged for both short-term and long-term schedules. To develop averaged costs, projects anticipated to be completed by 2025 were estimated using an assumed funding year of 2022. Projects anticipated to be completed by 2040 were estimated using an assumed funding year of 2032.

### 11.4 Included Projects

Table 27 and Table 28 provide an anticipated funding plan for capital projects recommended for implementation in Section 10.2.

To demonstrate that the RTP is financially constrained, planned projects were matched with potential funding sources. A comparison of anticipated STBGP revenues under CAMPO's purview to costs of projects anticipated to be funded by this principal revenue source for CAMPO was then performed. For projects that are expected to be funded through other state and federal programs, total project amounts were compared to an estimated allocation based on a ratio of CAMPO to statewide populations. For projects that are anticipated to be funded by local jurisdictions, CAMPO coordinated with each agency sponsor to confirm the reasonable availability of funds and their intention to commit funds for the projects identified in this plan.

Projects anticipated to be funded by development are considered "included projects", but because they are dependent on market factors, they have not been assigned to the short-term or long-term schedule of costs.

### 11.5 Exempt/Illustrative Projects

Desired projects for which funding has not been identified are included in the illustrative list in Table 20 (Section 10.2). Should additional funding become available, CAMPO would select projects from the illustrative list to address identified transportation needs.

**Table 27: Funding Plan for Near-Term Projects (by 2025)**

NEAR-TERM PROJECTS (IMPLEMENTED BY 2025)			Planning Level Cost by Primary Funding Source (2022 Dollars)		
ID	Description	Agency Sponsor	CAMPO STBGP	Other ODOT State and Federal Funding	Local Funding
1	Philomath Couplet (US20/OR34): Implement City of Philomath Sidewalk and Streetscape Plan. Construct shared multi-use path and connect to Applegate Street	ODOT/Philomath/ Benton County		\$3,400,000	\$9,300,000
2	53rd Street and Country Club Intersection: Improve intersection movements by constructing roundabout in conjunction with development	Benton County			\$1,000,000
3	West Hills Road, from Grand Oaks to Reservoir Avenue: Construct with curb and gutter (Urbanization).	Benton County			\$2,800,000
4	13th Street, from Main Street (US20/OR34) to Chapel Drive in Philomath: Construct curb and gutter (Urbanization)	Philomath/ Benton County			\$3,500,000
5	Irish Bend Covered Bridge at Oak Creek and Campus Way: Fumigate and paint the bridge, conduct fire suppression and load rating	Corvallis		\$350,000	
6	53rd Street and Railroad Overpass: Acquire right of way and reconstruct the crossing	Benton County		\$7,100,000	
7	53rd Street and Philomath Boulevard: Improve intersection	Corvallis	\$500,000		
8	Chapel Drive, from 19th Street to Bellfountain Road in Philomath: Add paved shoulders	Philomath/ Benton County		\$1,314,000	
9	Marys River to SE Crystal Lake (east side of OR 99W): Construct separated multi-use path	Corvallis	\$750,000		
10	Main Street and 17th Streets Intersection in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County		\$37,000	
11	Pioneer Street, from Adelaide Drive to 9th Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County		\$25,000	

NEAR-TERM PROJECTS (IMPLEMENTED BY 2025)			Planning Level Cost by Primary Funding Source (2022 Dollars)		
ID	Description	Agency Sponsor	CAMPO STBGP	Other ODOT State and Federal Funding	Local Funding
12	Pioneer Street, from 9th Street to 13th Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County		\$10,000	
13	Multi-use path near Willow Lane and Cedar Street in Philomath: Construct as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County		\$139,000	
14	Cedar Street and 13th Street to Willow Lane and 15th Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County		\$25,000	
15	College Street, from 13th Street to 17th Street, in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School Plan	Philomath/ Benton County		\$22,000	
16	Circle Boulevard Multi-use Path: Extend, from Harrison to Campus Way	Corvallis		\$835,000	
17	Witham Hill Drive, between Walnut Boulevard and Circle Boulevard: Repair slide	Corvallis			\$900,000
18	VanBuren Bridge Replacement (Preliminary Engineering): perform Preliminary Engineering for the construction of a new eastbound two lane bridge over the Willamette River	ODOT		\$2,000,000	
19	Multi-use Paths in Corvallis: Install way finding signage	Corvallis			\$50,000
20	Downtown Corvallis: Install way finding signage	Corvallis			\$372,000
21	11th Street and Buchanan Avenue Intersection: Pedestrian Improvements	Corvallis		\$100,000	
22	Highland Drive and Meadow Ridge Place: Improve pedestrian safety	Corvallis		\$375,000	
23	Riverfront Multi-use Path, from Tyler to 2nd Street: Extend the multi-use path	Corvallis		216,000	
24	OR 99W Multi-use Path: Extend the multi-use path, from Circle Boulevard to Elks Drive	ODOT/Corvallis		\$1,000,000	

NEAR-TERM PROJECTS (IMPLEMENTED BY 2025)			Planning Level Cost by Primary Funding Source (2022 Dollars)		
ID	Description	Agency Sponsor	CAMPO STBGP	Other ODOT State and Federal Funding	Local Funding
	Pavement preservation and maintenance projects will be identified on an annual basis	MPO-Wide	\$6,200,000		
	Perform sidewalk infill where curb and gutter exist (Ongoing)	MPO-Wide			\$1,350,000
	Install ADA ramps and retrofit sidewalks (Ongoing)	MPO-Wide			\$1,000,000
	<b>TOTAL CAMPO STBGP EXPENDITURES 2025</b>		<b>\$7,450,000</b>		
	<b>ANTICIPATED CAMPO STBGP REVENUE BY 2025</b>		<b>\$7,434,102</b>		

**Table 28: Funding Plan for Long-Term Projects (by 2040)**

LONG-TERM PROJECTS (IMPLEMENTED BY 2040)			Planning Level Cost by Primary Funding Source (2032 Dollars)		
ID	Description	Agency Sponsor	CAMPO STBGP	Other ODOT State and Federal Funding	Local Funding
<b>1</b>	35th Street, from Western to Campus Way: Improve to urban standard and improve railroad crossing	Corvallis	\$1,395,000		
<b>2</b>	OR 99W at Goodnight or Rivergreen Avenue: Improve intersection	ODOT/Corvallis		\$465,000	
<b>3</b>	West Hills Road, from 53rd to Western Boulevard: Reconstruct to urban standards	Corvallis	\$2,626,000		
<b>4</b>	13th Street in Philomath, from Main Street (US 20/OR 34) to Chapel Drive: Reconstruct to urban standards	Philomath/ Benton County	\$3,491,000		
<b>5</b>	US 20/OR 34 and Alsea Highway Intersection in Philomath: Install traffic signal or roundabout, if feasible, when warranted	ODOT/Philomath/ Benton County		\$464,000	
<b>6</b>	US 20/OR 34/Main Street at 26th Street in Philomath: Install traffic signal or roundabout, if feasible, when warranted	ODOT/Philomath/ Benton County		\$464,000	
<b>7</b>	Circle Boulevard and 29th Street: Install traffic signal	Corvallis		\$464,000	
<b>8</b>	OR 99W at Airport Avenue: Install traffic signal or roundabout, if feasible, when warranted	ODOT/Corvallis		\$464,000	

LONG-TERM PROJECTS (IMPLEMENTED BY 2040)			Planning Level Cost by Primary Funding Source (2032 Dollars)		
ID	Description	Agency Sponsor	CAMPO STBGP	Other ODOT State and Federal Funding	Local Funding
9	Conifer Avenue at 9th Street and OR 99W: Reconfigure intersection with the hospitals expansion plan	Corvallis	\$105,000		
10	OR 99W and Walnut Boulevard Intersection: Add right turn lane for eastbound to southbound movements	ODOT/Corvallis		\$8,380,000	
11	Rodeo Grounds, from 11th Street to 13th Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School plan	Philomath/ Benton County		\$79,000	
12	11th Street, from Quail Glen Drive to Pioneer Street in Philomath: Improve bicycle and pedestrian facilities as outlined in the Philomath Safe Routes to School plan	Philomath/ Benton County		\$60,000	
13	Crystal Lake Drive, from Alexander to Park: Reconstruct to urban standards	Benton County	\$4,000,000		
14	Country Club Drive, from 45th to 35th: Reconstruct to urban standards	Corvallis	\$1,278,000		
15	Witham Hill Drive, from Circle to Grant: Improve bike lanes and construct sidewalks on east side	Corvallis	\$829,000		
16	OR 99W at Kiger Island Drive: Install traffic signal or roundabout, if feasible, when warranted	ODOT/Corvallis		\$390,092	
17	Clemens Mill Road in Philomath: Relocate road to align with 26th Street	Philomath/ Benton County	\$924,000		
18	OR 99W in Adair Village: Install traffic signal or roundabout, if feasible, on OR 99W at Arnold Avenue or Ryals Avenue when warranted	ODOT/Adair/Benton County		\$656,000	
19	Chapel Drive, from 13th Street to 19th Street in Philomath: Construct to urban standards	Benton County	\$2,100,000		
20	US20/OR34: Construct off-ramp from eastbound US20/OR34 to southbound OR 99W	ODOT		To be determined	
<b>TOTAL CAMPO STBGP EXPENDITURES BY 2040</b>			<b>\$16,748,000</b>		
<b>MAXIMUM ANTICIPATED CAMPO STBGP REVENUE BY 2040</b>			<b>\$17,719,385</b>		

