City of Grants Pass

2040 Transportation System Plan

Volume 1

June 2020

Acknowledgments

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1 Executive Summary

Executive Summary

Background and Planning Context

Vision for Grants Pass's Transportation System

Grants Pass' transportation system is experiencing significant change. Recent, emerging and proposed residential, commercial and work-place developments are placing significant pressure on the City's arterial street system and state highways. In 2018, the City Council drafted and adopted its vision for the future:

> Grants Pass is a healthy, vibrant place to live, work, and play; a city connecting people to people with thriving economic, cultural, and recreational opportunities.

To implement the vision (in part), the City has undertaken a significant update to its transportation plan in ways to ensure a well-connected city as it guides new development and implements its Economic Development Strategic Plan (2016).

Need and Purpose for the Plan

Since its original adoption in 1997 and update in 2008, the City's current TSP has provided policy guidance and direction to identify and implement key transportation solutions within the growing urban area. Recent completion of the Redwood Avenue street re-construction with new buffered bike lanes, planter buffers and continuous sidewalks are a noticeable example. But that plan is significantly outdated, as it was predicated on growth assumptions that predated the 2007/2008 Recession.

The need for the 2040 Grants Pass Transportation Systems Plan (TSP) is twofold. First, to effectively manage growth, the City needs to revise its population and traffic forecasts for the next 20-year planning horizon (2020 to 2040) and complete a comprehensive examination of traffic operations and multimodal systems analysis. Second, the City also needs to update its long-term transportation plan with projects and policies that better integrates all modes of travel to fulfill the City's vision of vibrant neighborhoods, orderly growth and a strong economy. The historic and current plan only modestly addresses walking and cycling needs.

The purpose of the 2040 Transportation Systems Plan is to provide an update to the existing plan and identify multimodal transportation improvement plans for the City through the 2040 planning horizon.

Planning Process (written in past-tense)

Grants Pass' 2040 Transportation Systems Plan (Plan) was approved by the City Council to provide an update to the 2008 TSP. The planning process spanned much of 2018 and 2019, with oversight from two key advisory committees:

Technical Advisory Committee (TAC) – The TAC included staff from the various City departments, Josephine County and Josephine Community Transit, Middle Rogue Metropolitan Planning Organization, the Oregon Department of Transportation and others. The TAC met five times and helped guide the TSP technical assessment, affirm plan priorities and advise on the scope and content of material taken to the public open house meetings.

Citizens Advisory Committee (CAC) - The CAC included four members of the community with planning history, representing Grants Pass' neighborhoods and interest groups. The CAC met four times and helped affirm plan priorities and advise on the scope and content of material taken to the public open house meetings.

Public Open House Meetings – Three public open house meetings were held at key junctions of the planning process. Mailers notifying the meetings were sent to each postal resident in Grants Pass. Nearly two dozen residents attended the first open house meeting in September, 2018, and helped identify and affirm the various transportation issues throughout the city. A second, on-line open house meeting was hosted on the City website from August 2-October 14, 2019. The on-line open house meeting was used to share information and collect feedback on a summary of existing transportation issues, and a listing of possible improvements to the City's multimodal networks. The open house was attended by 245 on-line visitors, 44 of which responded to detailed on-line questions. A third on-line and in-person open house meeting was held in April, 2020, and (tbd) participants provided direct

feedback on the Draft 2040 Grants Pass TSP major findings and recommendations.

Structure of the 2040 Grants Pass TSP

Figure 1-1: Figure ES-2: 3-Volume Structure of the 2040 Grants Pass TSP

Volume	Chapter		TSP Plans
Volume 1	1	Purpose of the TSP	
	2	Goals and Objectives	
	3	Transportation Standards and Guidelines	
	4	Impact of Growth	
	5	Multimodal System Plan	Pedestrian System Bicycle System Street System
	6	Implementation Strategies	Freight Mobility Rail, Air, Water and Pipeline Parking
Volume 2		I-5 Exit 55 Interchange Area Management Plan	
		I-5 Exit 58 Interchange Area Management Plan	
		TSP Project Cut Sheets	
		TSP Goals, Objectives and Policies	
		Pedestrian Connectivity Analysis	
		Recommended Access Management Policy	Access Management
		Josephine Community Transit Master Plan (by reference)	Transit
Volume 3		Technical Memoranda #1-#8 Final versions of eight technical memoranda developed in 2018-2019 used to guide the technical development of the 2040 Grants Pass TSP and I-5 Exits 55 and 58 Interchange Area Management Plans.	

As illustrated in Figure ES-2, the 2040 Grants Pass TSP is an assimilation of coordinated plan sections with a three volume document set to best serve a range of readership interest:

Volume 1 Provides elected officials and Staff the overall 2040 Grants Pass TSP summary that focuses on the City's street, pedestrian, and bicycle system plan elements and recommended projects.

Volume 2 Provides City and ODOT Staff more detailed reference documentation to implement key elements of the 2040 Grants Pass TSP, including the Exits 55 and 58 IAMPs (designed as stand-alone documents) and the recommended Access Management Policy for state highways within the Grants Pass UGB). Volume 2 also includes documents that were developed or refined in the planning process, including (a) the refinement of TSP Goals, Objectives and Policies, (b) the Grants Pass Pedestrian Connectivity Analysis (key to the assessment of neighborhood-level pedestrian system needs and improvement priorities), and (c) detailed TSP Project Cut Sheets that summarize detailed information describing the need and context for over 30 top priority projects.

Volume 2 is voluminous, and naturally requires separate documentation from Volume 1.

Volume 3 Is a full summary reference of eight technical memoranda that were developed sequentially in the technical assessment of Grants Pass' transportation system. The eight Memoranda are:

1. Review of Plans (City, County, Region and State Plans)
2. Goals & Objectives
3. Study Area Inventory (multimodal system)
4. Current Conditions (auto/truck, pedestrian, bicycle and transit)
5. Future Conditions
6. Alternatives Analysis (potential multimodal solutions and Preferred Alternative)
7. Implementation
8. Fiscally-Constrained Project Priorities

Volume 1 Overview

Chapter 2 ***Goals and Objectives*** –Provides an overview of the City's Mission Statement and the Goals and Objectives that helped guide 2040 Grants Pass TSP development and its eventual implementation. The full summary of goals, objectives, policies and TSP evaluation criteria is included in *Volume 2*.

Chapter 3 **Transportation Standards and Guidelines** – Outlines the street functional classification, Complete Street Design Guideline and traffic mobility standards (city streets and state highways) by which the City's multimodal street system is developed.

Chapter 4 **Impacts of Growth** – Includes a baseline summary of existing traffic conditions and future population and employment forecasts. From those forecasts future vehicle traffic conditions are estimated and traffic congestion not-spots are identified. The bicycle and pedestrian systems are analyzed with applied, user-based, level of traffic stress indicators. Multimodal improvement options are defined and tested, and the chapter culminate with a summary of future transportation deficiencies that require Plan attention.

Chapter 5 **Multimodal System Plan** – Outlines the six-step process followed to identify and prioritize Grants Pass' multimodal system plan with specific pedestrian, bicycle and street projects.

Pedestrian System Lists and maps needed enhancements to the pedestrian system, including sidewalks, shared-use paths and other pedestrian safety improvement projects that form a more continuous and connected pedestrian network along the City's arterial and collector street, and state highway network. The pedestrian system priority projects are summarized in Figure ES-2.

Bicycle System Lists and maps needed enhancements to the bicycle system, including new bike lanes, cycle tracks and shared-use paths project priorities to help form a more cohesive and connected bicycle system. The priority bicycle system projects are illustrated in Figure ES-3.

Figure 1-2: Pedestrian System Projects

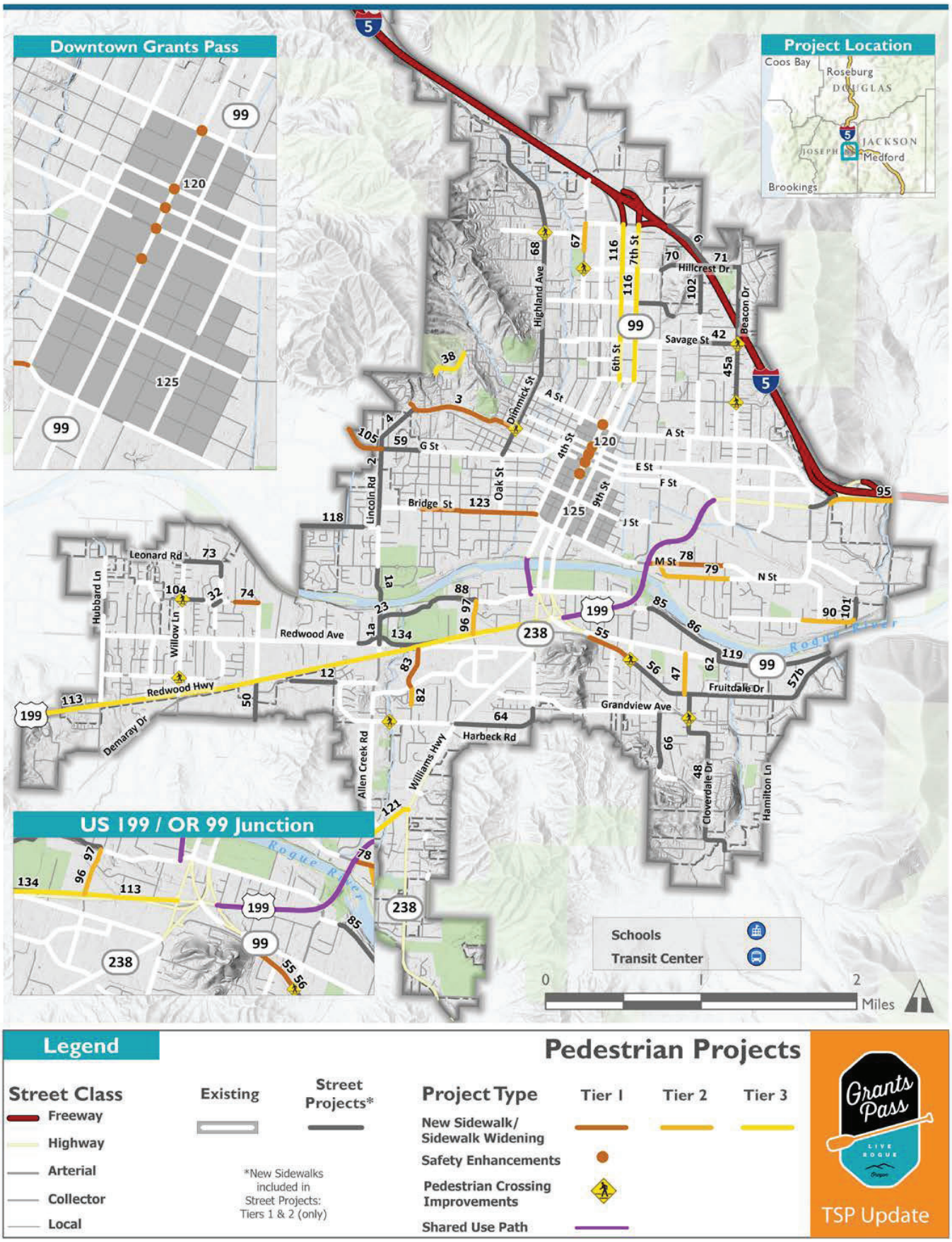


Figure 1-3: Bicycle System Projects

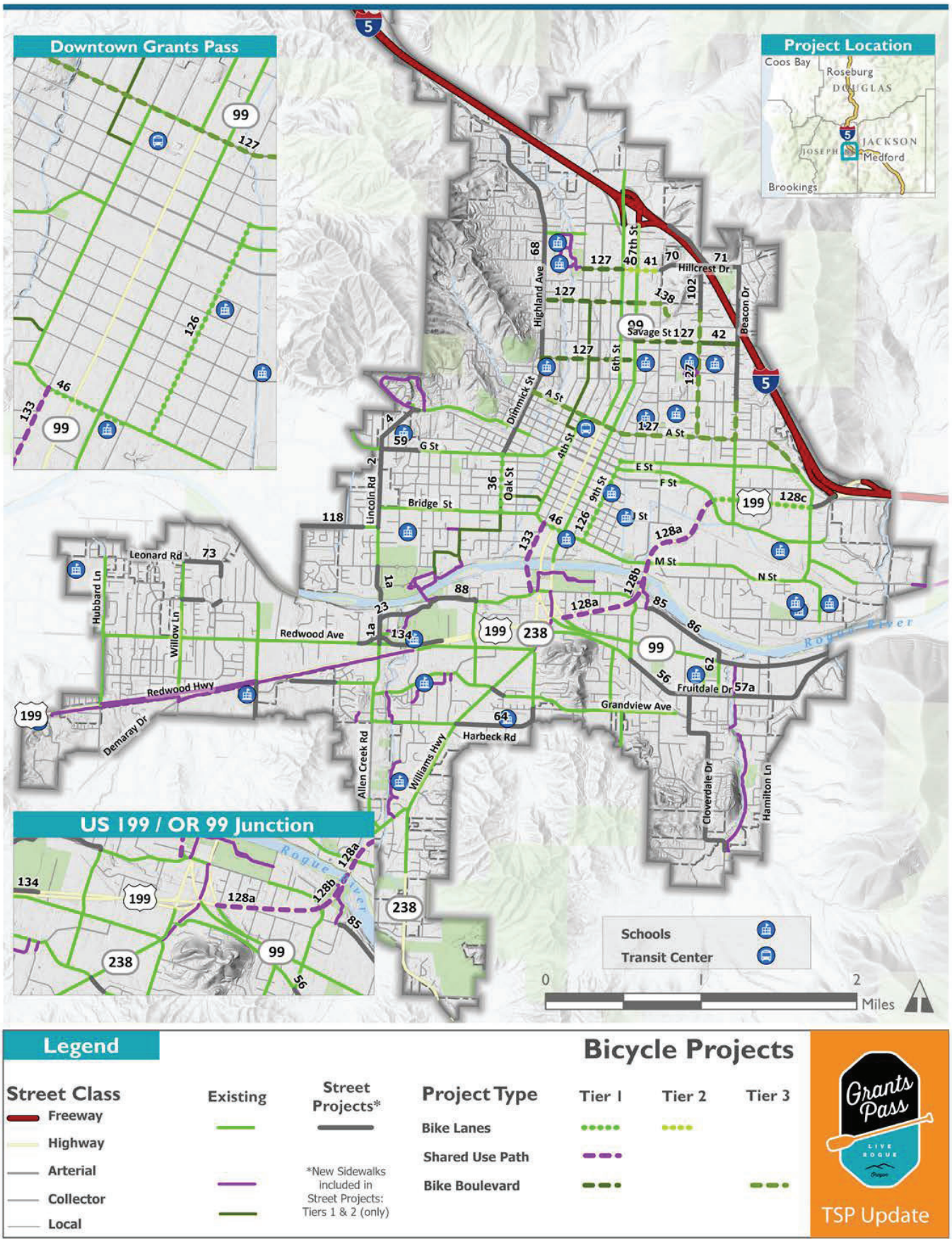
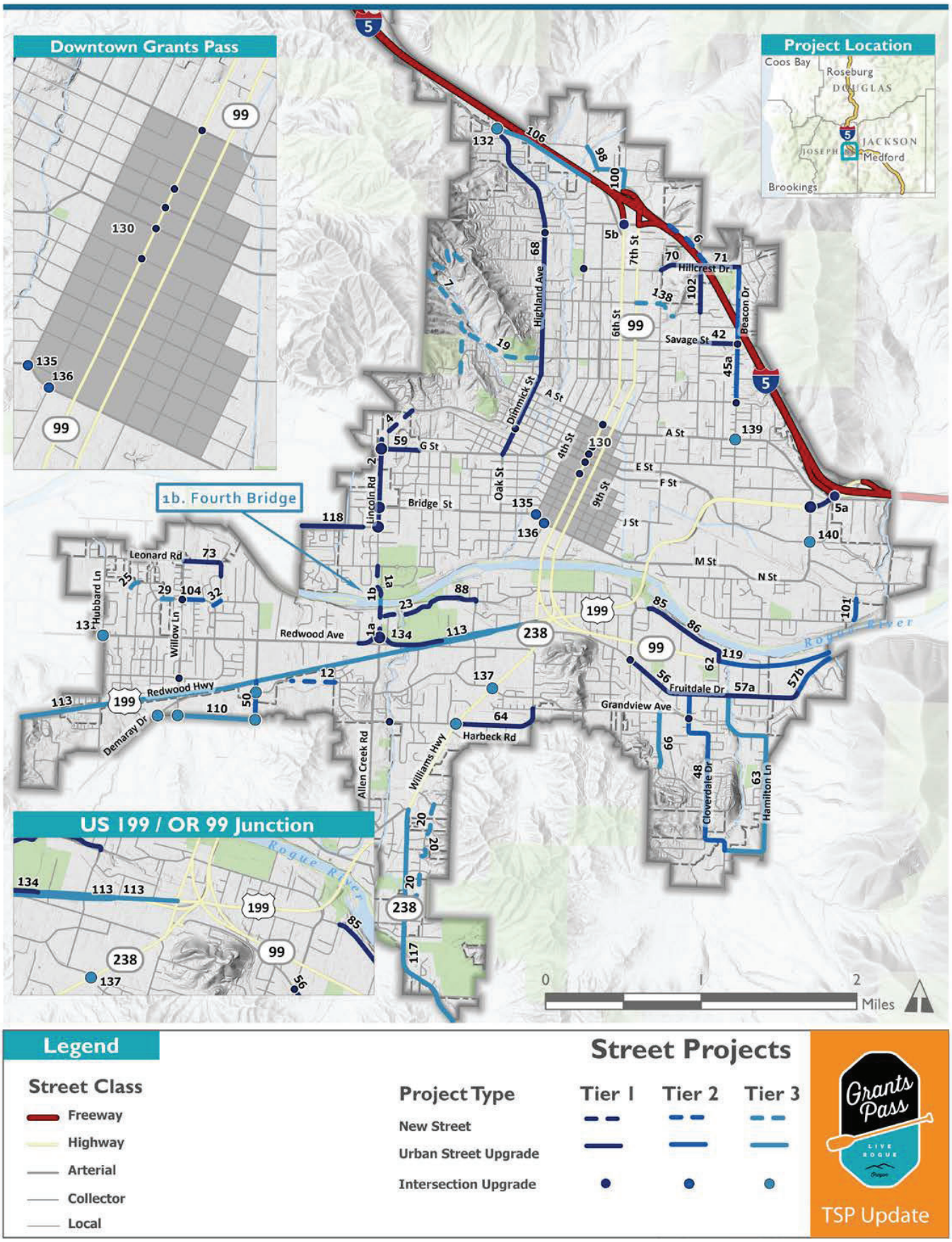


Figure 1-4: Street System Projects



Street System Identifies the needs of the entire street system and recommends planned street improvement projects, many of which include new sidewalks and bicycle lanes. Priority street system projects are illustrated in Figure ES-3.

Chapter 6 **Implementation Strategies** - An overview of additional 2040 Grants Pass TSP components that address specific statewide transportation requirements outlined by in the Transportation Planning Rule. TSP process components reference the City's Local Street Connectivity Development Code standards. Specific TSP components in Chapter 6 include the Freight Mobility Plan (state and regional truck routes), Rail, Air, Water and Pipeline plans, and the recommended Parking Plan and strategy.

Relationship with Other Plans

Implementing the 2040 Transportation Systems Plan will involve coordination with regional and state plans and programs, as shown in Figure ES-5. The following is a brief overview of how the 2040 Transportation System Plan relates to other plans.

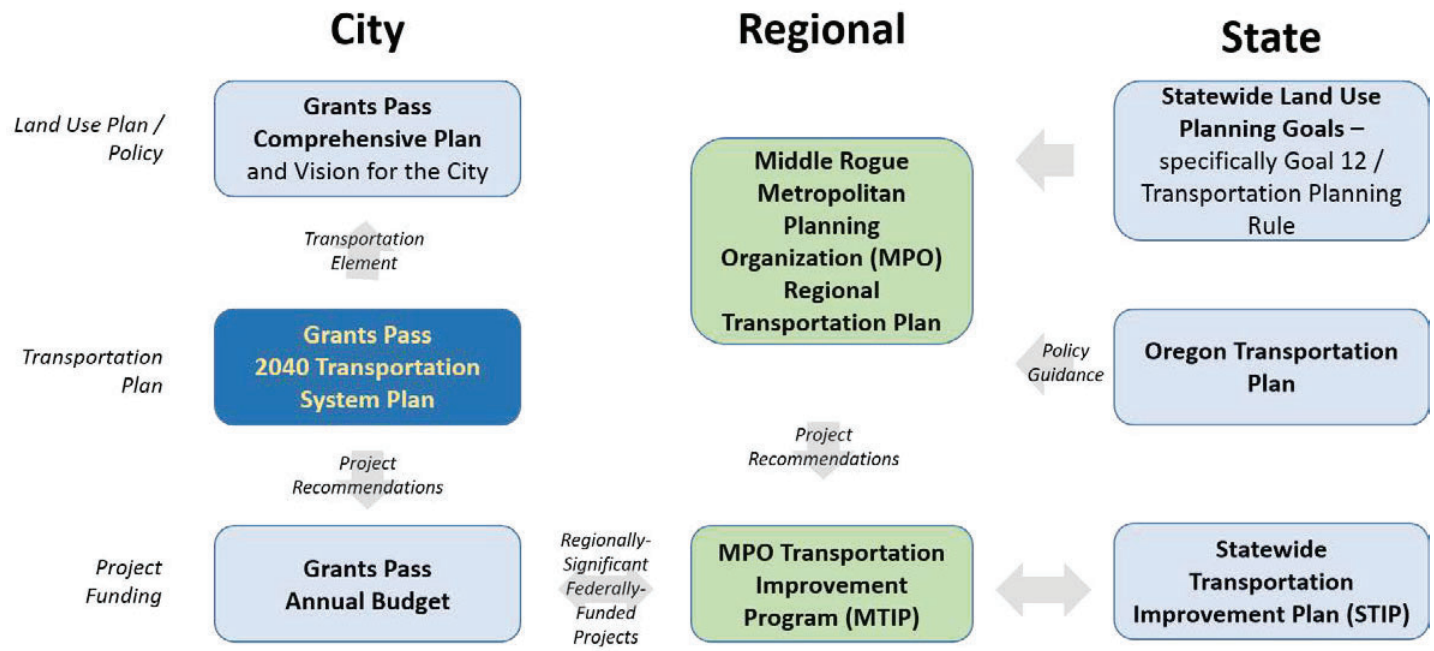
City of Grants Pass Comprehensive Plan

The 2040 Transportation Systems Plan will be the Transportation Element component of the Grants Pass Comprehensive Plan, with updates to the goals and policies that help guide implementation of the City's transportation system and supports the other Elements of the Comprehensive Plan and the overall vision for Grants Pass. Priority projects in the 2040 Transportation System Plan will be selected for annual updates of the City's Annual Budget (transportation).

MRMPO Regional Transportation Plan and MTIP

As a member of the Middle Rogue Metropolitan Planning Organization (MRMPO), Grants Pass will continue to coordinate with the County and State regarding regionally-significant projects (and their funding) within the urban rea. Funding the projects of regional significance in the Grants Pass urban area is coordinated through the MPO's, four-year Transportation Improvement Program, or MTIP.

Figure 1-5: The 2040 Grants Pass TSP in Relations to other City, Regional and State Plans and Programs



2 Goals and Objectives

The TSP goals and objectives were used specifically in the TSP Update process to refine the city's street design standards (see Chapter 4), and evaluate and rank of multimodal project priorities (see Chapter 5).

Goals and Objectives

TSP Mission Statement

At the start of the TSP Update planning process in 2017, the Grants Pass City Council drafted and adopted its vision statement:

> Grants Pass is a healthy, vibrant place to live, work, and play; a city connecting people to people with thriving economic, cultural, and recreational opportunities.

The City's vision is integrated into the transportation planning process and outcomes through the TSP mission statement. Borrowing directly from the city's original Transportation Master Plan (1997) and current TSP (2008), the TSP Update re-establishes this mission statement of enduring relevance:

> The Grants Pass Transportation System Plan has been developed to meet the current and future transportation needs of the Grants Pass Urban Area in ways that:
>
> - Enable the safe, convenient, and efficient movement of people and goods
> - Preserve the quality of life, area amenities, local neighborhoods, and the natural environment
> - Provide for a complete transportation system that allows for choices of travel by walking, bicycle, public transit, and private vehicles
> - Ensure the wise use of public and private investments in transportation facilities and services

Taken together, the city's vision statement and TSP mission statement provide purposeful direction and inspiration for the TSP Update. Achieving a more livable Grants Pass will, in part, result from implementing a TSP that focuses on moving people, not just cars; emphasizing complete streets for all users; and connecting neighborhoods through a more resilient network of city streets, highways, and pedestrian-bicycle pathways.

TSP Guidance

The city's current TSP includes a series of transportation goals, objectives, and policies (originally established in 1997) that have been used to support planned land uses and population growth over the past several decades.

By definition, the TSP goals are relatively broad statements of purpose that reflect Grants Pass's transportation priorities and provide direction for what the community seeks to achieve as articulated in the city's vision and TSP mission statements. TSP objectives are more specific statements of purpose describing how Grants Pass will achieve its goal (or they articulate the desired specific outcomes related to the goal). Unlike goals, objectives are often measurable or quantifiable. Building on the goals and objectives, policies are specific statements of intent and approach used to implement and achieve the TSP goals and objectives.

The city's original goals, objectives, and policies were drafted and adopted as part of the 1997 Transportation Master Plan, and were later refined in 2008. The TSP Update planning process (Volume 3, Technical Memorandum #7) drafts a series of refinements to the city's original transportation goals, objectives, and policies, largely to acknowledge and address issues that have arisen since 2008. These refinements are intended to:

- enhance opportunities for active modes of transportation (walk, bicycle, and transit),
- maximize the efficiency of the existing transportation system,
- coordinate land use planning with transportation planning in urbanizing areas, and
- encourage greater coordination between parties that will fund transportation improvements (city, state, transit agency, and private developers).

TSP Goals and Objectives

The refined objectives used to guide the Grants Pass TSP Update are organized under eight goals:

Goals	Objectives
1 Provide a Comprehensive Transportation System	• Complete the Transportation System • Provide Adequate Mobility for All Travelers • Establish and Maintain Balance in Transportation Investments • Provide Safety for All Travelers • Provide a Multimodal Transportation System • Ensure Accessibility to Transportation for All Travelers • Ensure Streets Within Grants Pass Are Multimodal "Complete Streets" • Adopt New Standards for Mobility and Accessibility
2 Work Together to Meet Transportation Needs	• Encourage Interagency Coordination • Include the Community in Transportation Decisions • Encourage Public and Private Partnerships to Meet Transportation Needs • Integrate Land Use and Transportation Decisions
3 Protect Public Investments in Transportation	• Manage the Transportation System Effectively • Maintain, Preserve, and Rehabilitate Transportation Facilities • Preserve Future Transportation Corridors • Protect Existing Transportation Facilities
4 Support Economic Development and Vitality	• Stimulate Desired Economic Development • Support Tourism • Provide for Goods Movement
5 Protect and Preserve the Natural and Built Environment	• Conserve Energy Resources • Enhance Community Aesthetics • Protect Neighborhoods • Protect Air Quality • Provide for Safe Movement of Hazardous Materials • Mitigate Negative Impacts
6 Ensure Financial Stability	• Secure Adequate Transportation Funding • Ensure Equity in Financing Transportation Facilities and Services • Encourage Private Initiatives • Preserve and Maintain Existing Transportation System Assets
7 Implement Planned Transportation Improvements	• Set Priorities • Construct Needed New Facilities • Preserve and Acquire Future Transportation Corridors • Keep Transportation Plan Current • Encourage Private Sector Participation in Implementation
8 Enhance Community Health	• Provide a Transportation System That Enhances the Health of Residents and Users

Goals and Objectives

How Policies and Evaluation Criteria are Applied

The TSP Update identifies more than 120 policies to implement the goals and objectives. Volume 2 of the TSP Update provides a full summary of the individual policies associated with specific goals and objectives. Volume 2 also outlines the evaluation criteria (20 in total) that are applied directly in the evaluation of multimodal improvement options to gauge whether, and how well, each improvement option meets the applicable TSP objectives.

By applying the TSP evaluation criteria in the planning process, and with thoughtful direction from its technical and citizen advisory committees, Grants Pass has been able to re-draft and prioritize its TSP Update to emphasize:

- **More complete, multimodal streets** to serve travelers of all ages and capabilities,
- **Better connected neighborhoods** achieved through a more resilient network of multimodal streets and pedestrian-bicycle pathways,
- **Continued and effective management** of the city's existing street system rather than major and costly capital improvements (to the extent possible), and
- **Coordinated project and funding plans** with key agency planning partners to more effectively implement TSP Update projects.

3 Transportation Standards and Guidelines

When constructing new streets or upgrading existing streets, Grants Pass administers street design standards and guidelines to help ensure that the multimodal street system functions as intended. These standards and guidelines help the city meet its goals and objectives for a safe and efficient transportation system with efficient public investments.

Street Functional Classification

Streets and highways within the Grants Pass urban network are grouped, or classified, with other streets that share similar characteristics of purpose, design, and function.

City Streets

Grants Pass has adopted street functional classifications to help ensure that streets are built and maintained in accordance with their relationship to the surrounding land use, and that adequate connectivity exists between streets with lower capacities and more local access to streets with higher capacities and greater circulation. **Figure 3-1** illustrates the relationship between mobility and access for streets within the City of Grants Pass.

Figure 3-1: Relationship Between Mobility and Access

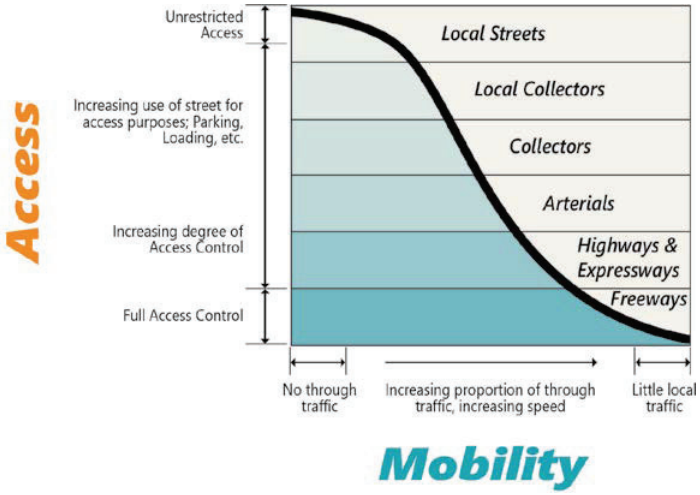


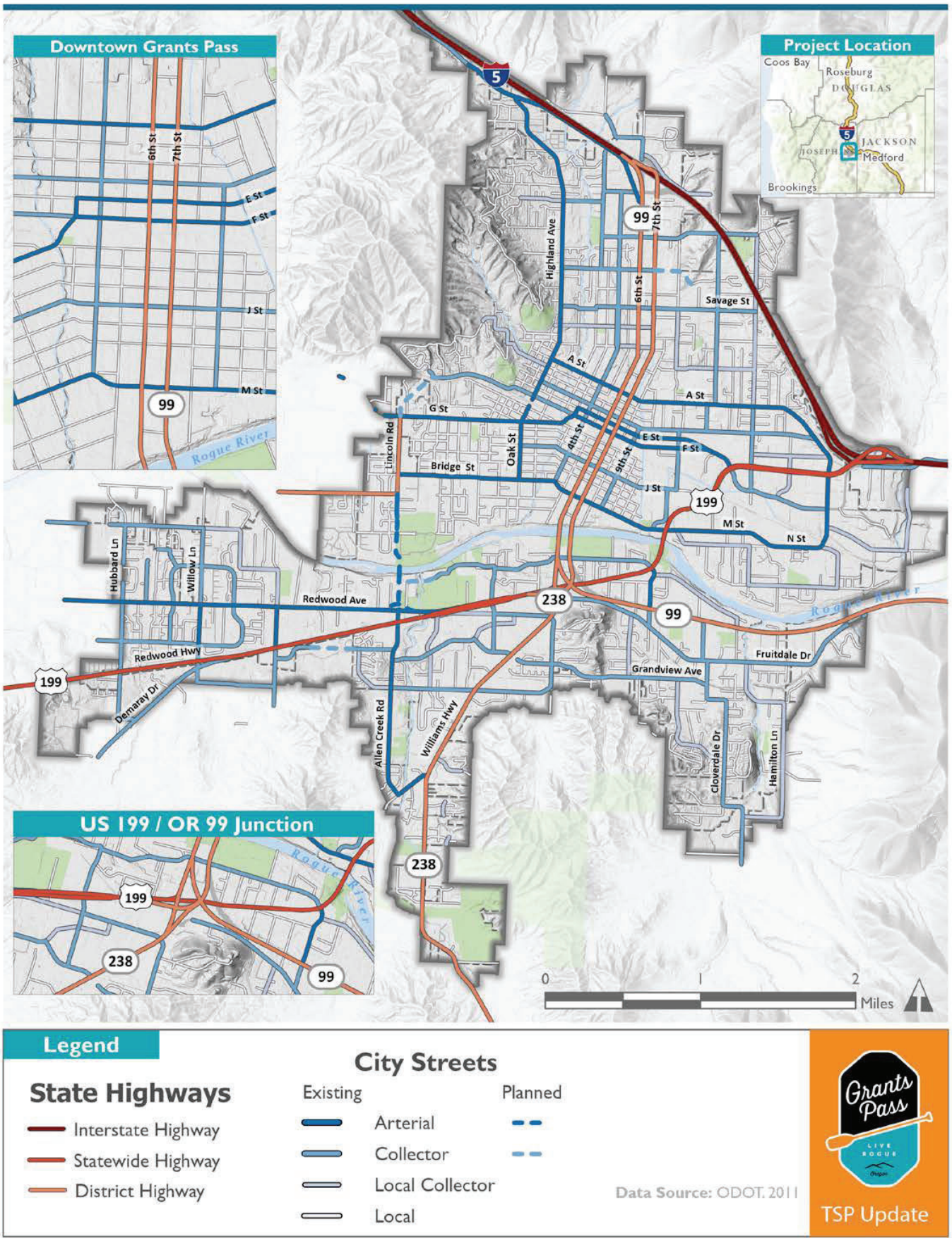
Table 3-1 provides descriptions of the street functional classifications in Grants Pass, their corresponding characteristics and land use context. The city's Street Functional Classification map is illustrated in **Figure 3-2**.

As **Table 3-1** shows, a hierarchy exists in the functional classification structure that is based on a direct relationship between the function of the street and the surrounding land uses and the relationship between mobility and access. For example, commercial developments will generally locate along arterials or collectors because of their high amount of mobility and certain restrictions on access. Likewise, it is desirable to have parks, schools, and residences located along collector or local streets because of their lower traffic volumes and high degree of access.

Table 3-1: Grants Pass Street Functional Classification Descriptions

Street Classification	Description and Land Use Context
Expressway	Portions of US 199 through Grants Pass are currently grade separated and function as a multi-lane expressway with speeds of 50 to 55 miles per hour (mph). The US 199 Expressway Plan recommends further grade separation for US 199 west of OR 99. Expressways serve regional and statewide through-traffic at higher but managed speeds, with no or very limited local land use access.
Arterial	Arterial streets form the primary street network within and through Grants Pass. They provide a continuous system that distributes traffic between different neighborhoods and districts. Arterials are intended to be 2- or 3-lane streets, and carry no more than 20,000 vehicles per day. In some cases arterials may be 4- or 5-lane streets. Examples of Arterial streets include Redwood Avenue, Highland Avenue, A Street, M Street, and Allen Creek Road.
Collector	Collector streets are primarily intended to serve abutting lands and local access needs of neighborhoods. They are intended to carry from 3,000 to 10,000 vehicles per day, including some through traffic. The Collector street serves either residential, commercial, industrial, or mixed land uses. Harbeck Road, Fruitdale Drive, 4th Street, and 10th Street are classified as Collector streets.
Minor Collector	Minor Collector streets carry between 1,200 and 3,000 vehicles per day. While through traffic connectivity is not a typical function, they may carry limited amounts. Compared to Local Streets, Minor Collector routes are identified in Grants Pass to help prioritize pedestrian improvements, and it is possible or likely that they will carry slightly higher traffic volumes on a daily basis. Beacon Drive, Portola Drive, and Haviland Drive are examples of Minor Collector streets.
Local Street	Local Streets are intended to serve the adjacent land without carrying through traffic. These streets are designed to carry less than 1,200 vehicles per day. To maintain low volumes, local residential streets should be designed to encourage low travel speeds. Narrower streets generally improve the neighborhood aesthetics, and discourage speeding as well. They also reduce right-of-way needs, construction cost, storm water run-off, and vegetation clearance. If the forecast volume exceeds 1,200 vehicles per day, as determined in the design stage, the street system configuration should either be changed to reduce the volume through the City's Neighborhood Traffic Calming Program, or the street shall be designed as a Minor Collector route.
Alley	Alley streets provide secondary access to residential properties where street frontages are narrow; where the street is designed with a narrow width to provide limited on-street parking; or where alley access development is desired to increase residential densities. Alleys are intended to provide rear access to individual properties and may provide alternative areas for utility placement.
Cul-De-Sac	Cul-de-sac streets are a type of neighborhood street. They are intended to serve only the adjacent land in residential neighborhoods. These streets shall be short (maximum 150 to 250 feet), serving a maximum of 20 single-family houses. Because the streets are short and the traffic volumes relatively low, the street width can be narrow, allowing for the passage of two lanes of traffic when no vehicles are parked at the curb or one lane of traffic when vehicles are parked at the curb. To encourage local street circulation capability, the use of cul-de-sac streets shall be discouraged, and shall not be permitted if future connections to other streets are likely. Sidewalk connections from a new cul-de-sac shall be provided to other nearby streets and sidewalks.

Figure 3-2: Street Functional Classification Map



State Highways

The Oregon Highway Plan (OHP) guides ODOT's Highway Division in planning, operations, and financing. In accordance with the OHP, ODOT manages state highways into and through Grants Pass including I-5, US 199, OR 99, OR 238, and OR 260. **Figure 3-2** also illustrates the OHP designation for the functional classification of state highways through the Grants Pass urban growth boundary (UGB).

I-5 in the Grants Pass area is a designated as an Interstate Highway and a State Highway Freight route. Interstate Highways provide connections to major cities, regions of the state, and other states. A secondary function in urban areas is to provide connections for regional trips within the metropolitan area. The Interstate Highways are major freight routes and their objective is to provide mobility Freight routes are designated on state highways where annual truck tonnages are moderate to high and if the route provides connectivity to significant freight generating areas of Oregon.

US 199 through the Grants Pass urban area is a designated Statewide Highway, Expressway, and State Highway Freight route. Statewide Highways provide interurban and inter-regional mobility, and provide connections to larger urban areas, ports, and major recreation areas that are not directly served by Interstate Highways. A secondary function is to provide connections for intra-urban and intraregional trips.

OR 99, OR 238, and OR 260 are designated District Highways within the Grants Pass UGB. District Highways are facilities of county-wide significance and function largely as county and city arterials or collectors. They provide connections and links between small urbanized areas, rural centers, and urban hubs, and also serve local access and traffic.

See Volume 3 (Technical Memorandum #1) for a detailed summary description of the OHP state highway function classifications and management objectives for state highways within the Grants Pass UGB.

Complete Street Design Guideline

Multimodal Street Cross-Sections

Street design standards are created based in part on the street functional classification to ensure that the function of the street is reflected in its design. Street standards ensure that street design is consistent with the look and feel of the surrounding land use, and meets the expectations of motorists, pedestrians, and cyclists for the area through which they are traveling, and meets the safety requirements of the city and other agencies.

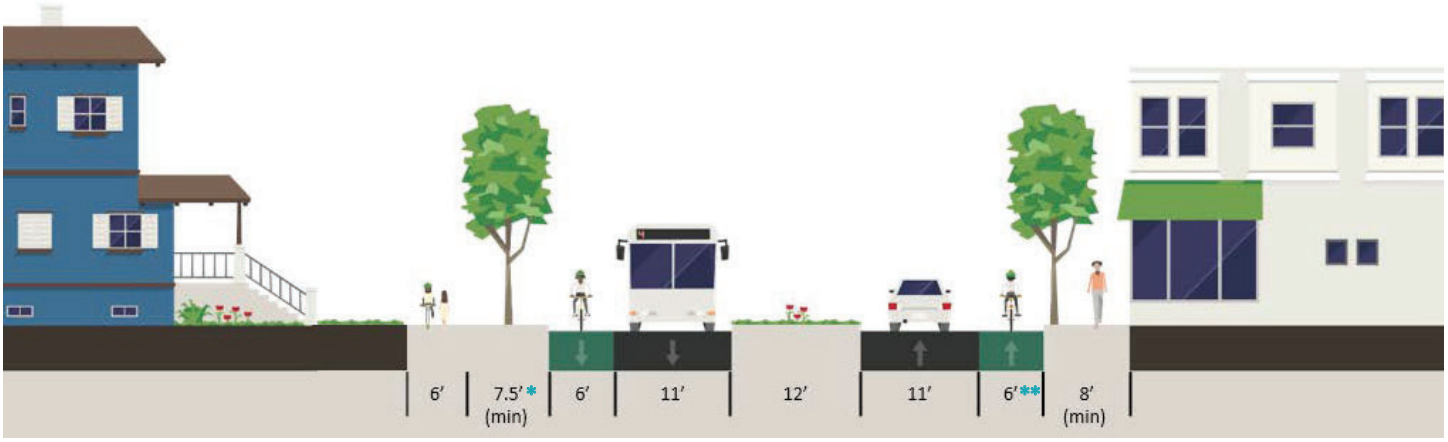
Complete Streets are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. There is no singular design prescription for Complete Streets; each one is unique and responds to its community context. A complete street may include: sidewalks, bike lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, and in some places narrower travel lanes.

As part of development of the TSP, the city identified minor refinements to the Grants Pass street design standards and Development Code (Article 27, Schedule 27-3) to better implement the policy of Complete Streets. **Figure 3-3** illustrates the city's Complete Streets Design Guideline. These guidelines provide design professionals and developers the necessary information to design and construct streets to the City's desired standards. Street standards specify the widths and number of lanes recommended for each classification as well as bicycle facility, landscaping, pedestrian facilities, curb, and gutter requirements necessary to match the surrounding land uses with the intended function of each street class.

It is the intent, by implementation of the Complete Street Design Guideline, to achieve a better and balanced, multi-modal streetscape that is reflective of Grants Pass' transportation and land use policies, while also seeking to minimize the growing costs of right-of-way and street construction.

Figure 3-3: Grants Pass Complete Street Design Guidelines

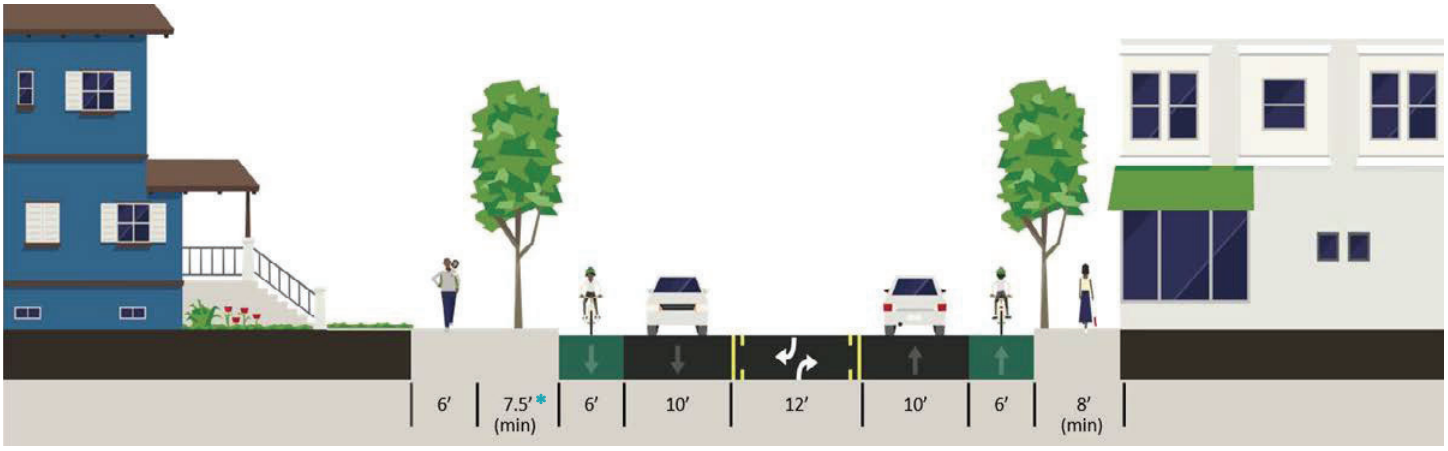
Arterial Street



Traffic Management	Design Speed (mph)	Managed Speed (mph)	Maximum Average Daily Traffic	Through-traffic Connectivity	Traffic Calming	Maximum Degree of Curve	Maximum Grade
	25-45	25-35	20,000	Primary	Not Permitted	12 degrees	10%

* At designated bus stops the planter strip shall be paved to provide landing pads for pedestrian boarding and alighting transit vehicles.
** See Figure 3-4 – Bicycle Facility Types – Buffered Bike Lanes.

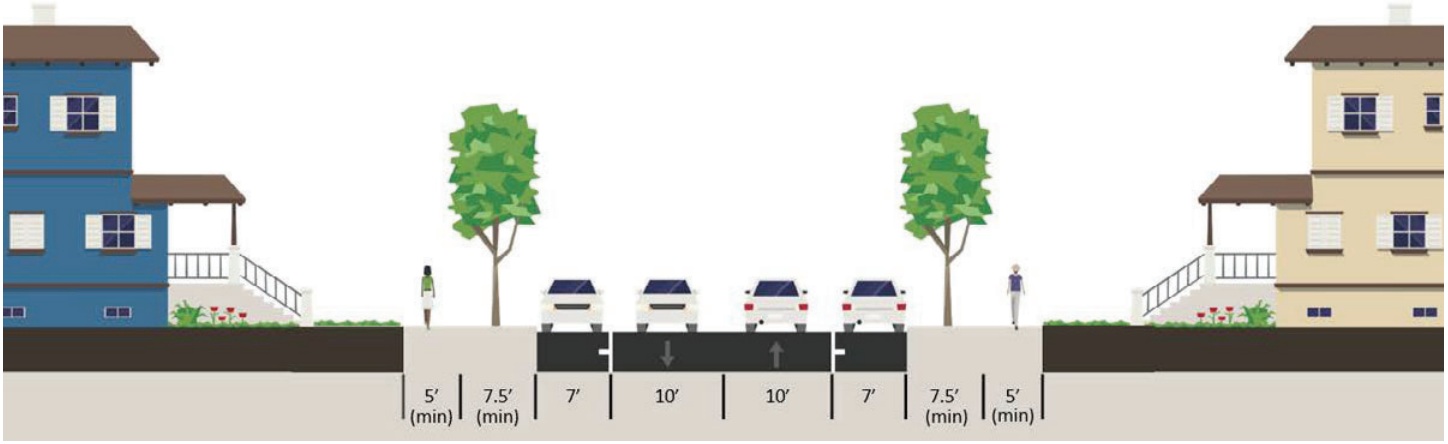
Collector Street



Traffic Management	Design Speed (mph)	Managed Speed (mph)	Maximum Average Daily Traffic	Through-traffic Connectivity	Traffic Calming	Maximum Degree of Curve	Maximum Grade
	25–35	25–30	10,000	Typical	Permissible/ Not Typical	57 degrees	10%

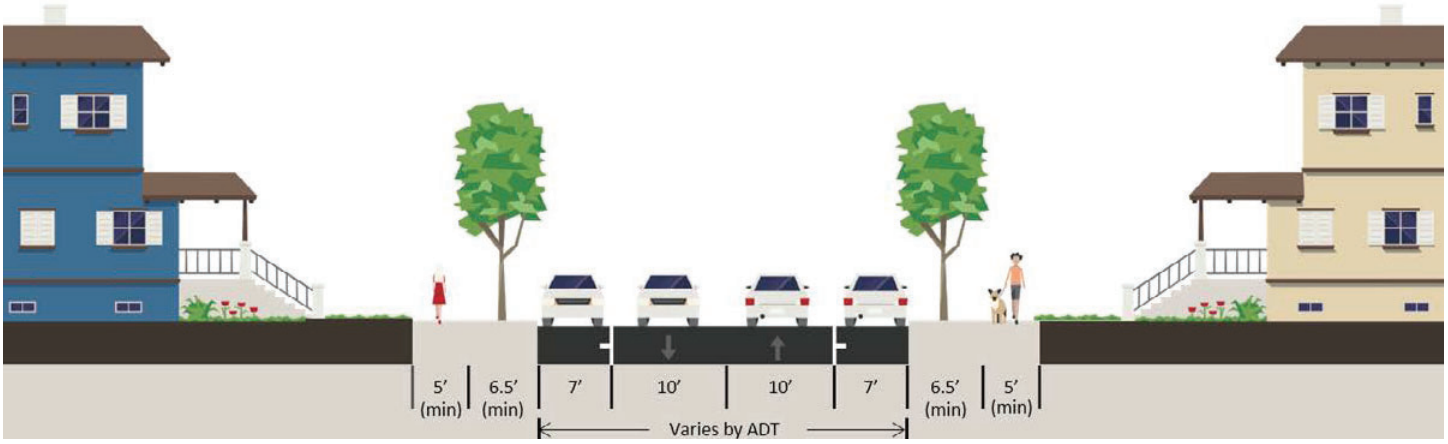
* At designated bus stops the planter strip shall be paved to provide landing pads for pedestrian boarding and alighting transit vehicles.

Local Collector Street



Traffic Management	Design Speed (mph)	Managed Speed (mph)	Maximum Average Daily Traffic	Through-traffic Connectivity	Traffic Calming	Maximum Degree of Curve	Maximum Grade
	25–30	25	3,000	Not Typical	Permissible	57 degrees	12%

Local Street



Traffic Management	Design Speed (mph)	Managed Speed (mph)	Maximum Average Daily Traffic	Through-traffic Connectivity	Traffic Calming	Maximum Degree of Curve	Maximum Grade
	15–25	15–20	3,000	Not Permissible	Typical	57 degrees	15%–18%

Revising the Bicycle Planning Language

The City of Grants Pass can continue proactively planning for bicycle facilities by expanding upon and clarifying the definitions of the various bicycle facilities, especially for the on-street bicycle system.

Figure 3-4 illustrates the basic forms of bikeway facilities as defined by the Association of American State Highway Transportation Officials (AASHTO). Guidance is provided by The Manual of Uniform Traffic Control Devices (MUTCD) provides guidance on pavement markings and signage. Consistent with the MUTCD, the City of Grants Pass should adhere to the definitions of terms related to bicycle facilities provided in **Figure 3-4**, below.

By defining these terms and creating a common understanding, the city will advance consistent dialogue between itself and the community regarding bicycle facility planning and design in the context of multimodal systems development.

Figure 3-4: Bicycle Facility Types

Shared Lane

On a shared street, bicyclists and motorists use the same travel lane. Shared-lane bicycle routes can be placed on streets with wide outside travel lanes, along streets with bicycle route signing, or along local streets where motorists have to weave into the lane in order to safely pass a bicyclist.

Bike Lane

Bike lanes designate an exclusive space for bicyclists through the use pavement markings and signs. Bike lanes are located adjacent to motor vehicle travel lanes and flow in the same direction as motor vehicle traffic. Bike lanes enable bicyclists to ride at their preferred speed with minimal interference from prevailing traffic conditions.

Buffered Bike Lane

Buffered bike lanes are conventional bike lanes paired with a designated buffer space that separates the bike lane from the adjacent motor vehicle travel lane and/or parking lane.

Note: A buffered bike lane is preferred on arterial streets with higher traffic volume (> 15,000 average daily traffic) and / or higher design speeds (> 25 miles per hour)

Raised Cycle Track

Raised cycle tracks are bicycle facilities that are vertically separated from motor vehicle traffic. Many are paired with a furnishing zone between the cycle track and the motor vehicle travel lane and/or pedestrian area.

Two-way Cycle Track

A two-way cycle track may be configured as a protected cycle track (at street level with a parking lane or other barrier between the cycle track and the motor vehicle travel lane) or as a raised cycle track to provide vertical separation from the adjacent motor vehicle lane.

Shared-use Path

A shared-use path is a bikeway that is physically separated from motorized vehicular traffic by an open space or barrier, and is either within the public right-of-way or within an independent alignment. Shared-use paths are also used by pedestrians (including skaters, users of manual and motorized wheelchairs, and joggers) and other authorized motorized and nonmotorized users. Shared-use paths may be the preferred facility for any cyclist uncomfortable with riding on public roadways alongside motor vehicles.

Sources: *Urban Bikeway Design Guide, National Association of Transportation Officials, 2nd Edition, 2014; Guide for speed with minimal interference from prevailing traffic conditions.*

Traffic Mobility Standards

Mobility standards, or targets, are the thresholds set by the City of Grants Pass and ODOT that define the maximum level of motor vehicle congestion that is acceptable by street type. These mobility standards are used to help the city ensure that transportation facilities are improved in a timely manner to support the city's plans for new growth.

Table 3-2: City Street Mobility Street Targets

Grants Pass – Minimum Performance Standards		
	Level of Service (LOS)	Volume-to-Capacity (v/c)
Signalized Intersections		
City Steets	D (total intersection	1.0 (sum critical movements)
Affected State Highways	E (individual approach)	
Unsignalized Intersections		
Arterial or Collector Street Approach	D	
Other Street Approach	E	
No movement serving more than 20 peak hour vehicles	E	
Affected State Highways	City's minimum performance standards apply, in addition to applicable standards from Oregon Highway Plan (see section 4.1.4)	

City Streets

The Grants Pass TSP compares the performance of UGB area intersections to mobility targets and standards to indicate whether traffic operations at those intersections maintain the minimum levels of efficiency for motor vehicle travel. As **Table 3-2** shows, two mobility target measures are used to gauge intersection traffic operations in the study area:

Level of Service (LOS) is a "report card" rating (A through F) based on the average delay experienced by motor vehicle drivers at intersections. A rating of LOS A through LOS C indicates driving conditions where motorists can travel through intersections with little or no delay. LOS D and LOS E are progressively worse operating conditions. LOS F represents travel conditions where delay is excessive and highly congested.

The Volume-to-Capacity (v/c) ratio is the decimal representation (between 0.00 and 1.00) of the proportion of occupied capacity. Capacity is defined as the maximum motor vehicle throughput in one hour at an intersection turn movement or approach leg. Intersection v/c is the peak-hour traffic divided by the hourly capacity of the intersection or movement. A ratio closer to 0 generally indicates smooth traffic operations and minimal delays. A ratio closer to 1.00 indicates increased congested and reduced intersection performance. A ratio exceeding 1.00 indicates that an individual turn movement, leg or total intersection is oversaturated, which typically results in excessive vehicle queues and long delays.

Intersection mobility targets vary by jurisdiction within the Grants Pass urban area:

- *LOS D is the adopted minimum performance target for both signalized and unsignalized intersections under city jurisdiction.*
- *All intersections under state jurisdiction in Grants Pass must comply with the v/c mobility targets, as they are defined in the OHP, as outlined in Appendix A of the OHP. The ODOT v/c targets are based on the state's classification of highways and posted speed limits.*

State Highways

The OHP sets mobility targets for ensuring a reliable and acceptable level of mobility on the state highway system. Each intersection along state highways within the Grants Pass UGB has a mobility target requiring that the highway operate at or below a specified v/c ratio. **Table 3-3** lists the mobility targets for state highways in Grants Pass.

Table 3-3: State Highway Mobility Targets

	Volume-to-Capacity Ratio	
State Highways	OHP1[1]	HDM3[2]
I-5	0.85	.75
US 199	0.85	.75
OR 99 On- and Off-ramp Intersections	0.85	0.75
OR 99	0.95	0.85
OR 99 STA – A Street to M Street (recommended – see below)	1.00	0.90
OR 238	0.95	0.85
OR 260	0.95	0.85
District/Local Interest Roads	0.95	0.85

Source: Oregon Highway Plan, 2015.

Recommended OHP Refinement

Designate OR 99 on STA in Downtown Grants Pass

The examination of pedestrian, bicycle, and vehicle crash history; projected vehicle traffic conditions; and levels of bicycle and pedestrian stress (see Chapter 3) within the downtown area indicate a need to consider changing the state highway classification of OR 99. Both residents and merchants are interested in creating a more inviting travel environment for pedestrians, bicyclists, and transit riders accessing businesses and civic activity centers in downtown Grants Pass.

The OHP provides special designations for state highways within what are called Special Transportation Areas (STAs), which are designated districts of compact development located along a state highway. The primary objective of a STA is to provide access to and circulation among community activities, businesses, and residences and to accommodate pedestrian, bicycle, and transit movement along and across the highway. Although traffic moves through an STA and automobiles may play an important role in accessing an STA, convenience of movement within an STA is focused on pedestrian, bicycle, and transit modes, not automobiles. STAs look like traditional "Main Streets" and are generally located on both sides of a state highway. Direct street connections and shared on-street parking are encouraged. Local auto, pedestrian, bicycle, and transit movements to the area are generally as important as the through movement.

ODOT and the Oregon Transportation Commission should designate the portion of OR 99 along the 6th Street/7th Street one-way couplet (from A Street to M Street) as an STA, in recognition of the existing street spacing. As follow-up to the Grants Pass TSP Update, the City of Grants Pass and ODOT should complete a specific report outlining a proposal to the Oregon Transportation Commission that requests designation of the OR 99 STA and an amendment to the OHP.

City Adopt State Highway Access Management Policy

Volume 2 summarizes the recommended access management policies and standards for state highways within the Grants Pass urban area, consistent with the OHP. As adopted by the City of Grants Pass, the TSP access management policy will be the controlling document and policy with regards to access management within the Grants Pass UGB.

1 Association of American State Highway Transportation Officials. Guide for the Development of Bicycle Facilities, Washington, D.C. 1999.
2 Manual of Uniform Traffic Control Devices, U.S. Department of Transportation - Federal Highways Administration, 2004.

4 Impacts of Growth

Placeholder

Existing Traffic Conditions

Commute-to-Work Mode Share

As illustrated in **Figure 4-1**, resident workers in Grants Pass are most likely to drive alone (84%) in their commute-to-work trip[1]. There is a notable work force that either shares a ride to work (8%) or telecommutes (4%). Only a very small portion of Grants Pass' work force takes transit, cycles or walks to work (4%).

The TSP addresses a number of factors that may affect city resident mode choice for work trips and perhaps other trip purposes:

- A limited number of Rogue River crossings - the river is a barrier separating residential neighborhoods from local employment centers and other important destinations.
- An incomplete non-motorized network – a need to build important sidewalks, bicycle lanes, and pathways for a more comprehensive and direct non-motorized system.
- Access to transit - Improving walk and bike access to transit, ensuring safe and efficient connections for those who rely on public transportation, and help make it a more viable travel choice for others.

Multimodal Traffic Counts

The study examined multimodal traffic counts and patterns for several time periods of the typical weekday in Grants Pass, including the morning AM peak hour, mid-day peak hour and prevailing afternoon peak hour. Volume 3, Technical Memorandum #4 (Existing Conditions) summarizes each of these time periods. The afternoon peak hour is selected as the time period to evaluate peak traffic conditions for the TSP update.

1 U.S. Census Bureau, 2012-2016 American Community Survey.

Figure 4-1: Grants Pass Commute-to-Work Mode Share

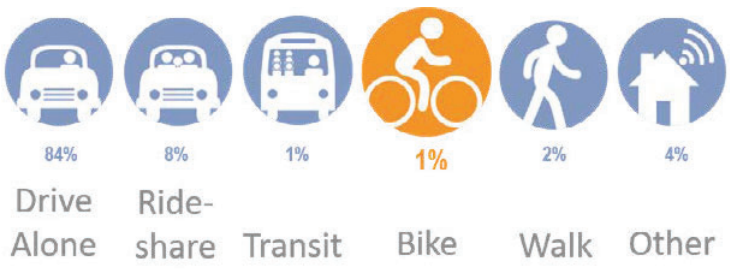


Figure 4-2 summarize bicycle, pedestrian, and vehicle volumes in Grants Pass during the afternoon peak hour. As shown, highways US 199, OR 238 and OR 99 serve as important work commuter corridors in the morning and late afternoon. The late afternoon is the highest one-hour vehicle travel period in the day. Other important local commuter routes include G Street, Bridge Street, Redwood Avenue and Fruitdale Drive.

Vehicle travel is also steadily high during the noon hour. During the noon hour pedestrian trips are higher in the downtown area than the morning and afternoon peak hours. Pedestrian traffic picks back up again in downtown during the evening hours. Bicycle traffic is relatively low and varies throughout the day across the city, but is routinely highest in the city center area and connections to Grants Pass High School.

Pedestrian System

Sidewalk and Pathway Inventory

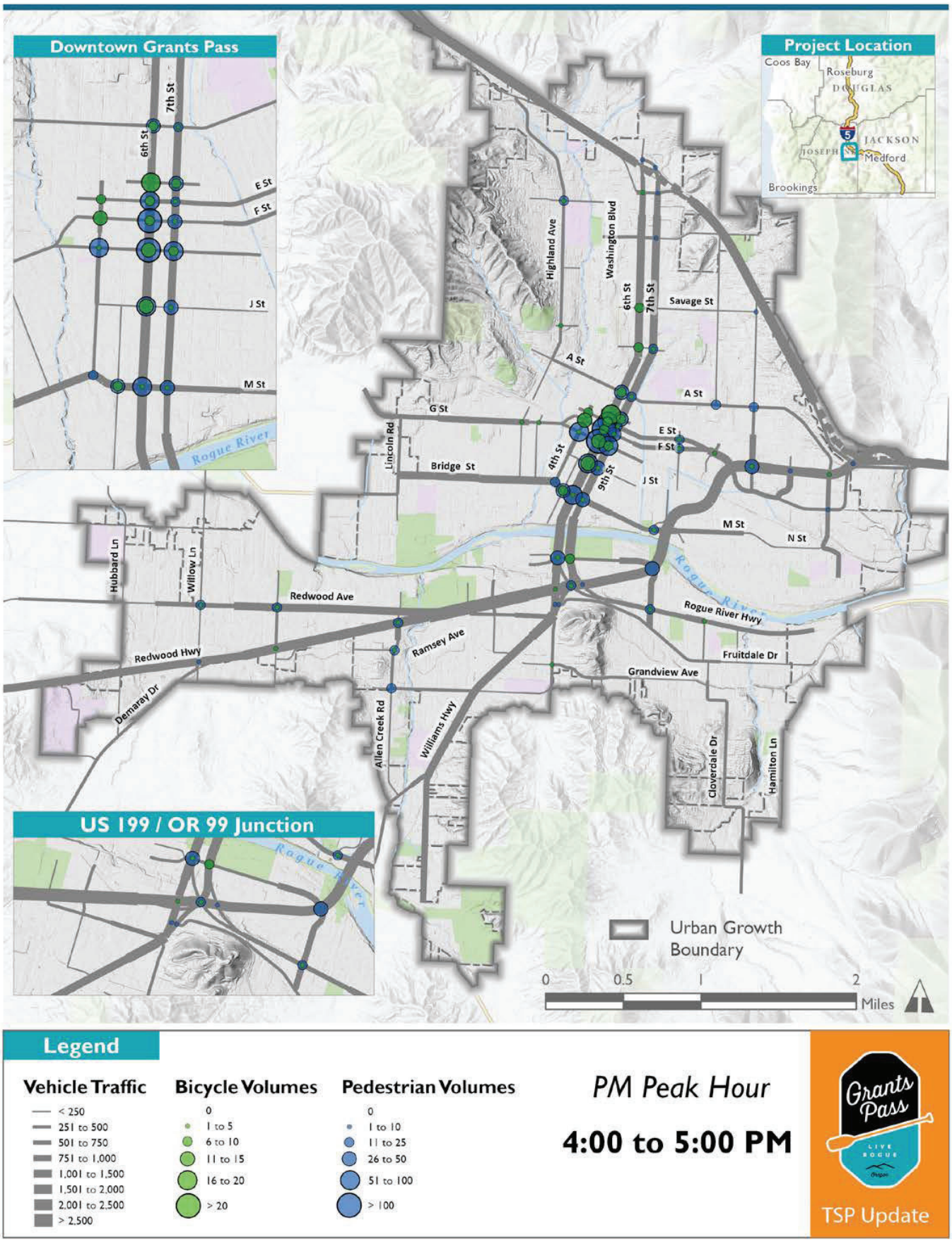
Many of the city's older, downtown streets are complete with sidewalks. Within the city's newer developments, public streets (local, collector and arterial streets) have been constructed or reconstructed to current urban standards (e.g. Redwood Avenue and Hubbard Lane as examples). **Figure 4-3** illustrates the network of sidewalk and pathways in the Grants Pass urban area, including major pedestrian trip generators.

Subdivisions developed in the 1960s, 1970s and 1980s, however, often neglected sidewalk construction, especially along local streets. Subdivisions lacking sidewalks are found on either sides of Fruitdale Drive, Highland Avenue and Bridge Street as example.

Popular shared-use pathways are found in multiple sections of the city, including:

- Rogue River Pedestrian-Bike Bridge linking Reinhardt and Tussing Parks
- Riverside Park, south of the Rogue River
- Fruitdale Creek

Figure 4-2: Multimodal Traffic Volumes: 4-5 pm



- Along Gilbert Creek near Highland Elementary and North Middle School
- US 199 (south side) west of the fairgrounds
- West of Allen Dale Elementary near Allen Creek
- Loop Route along Sunnyview Place
- Redwood Park loop

Connectivity Measures and Performance

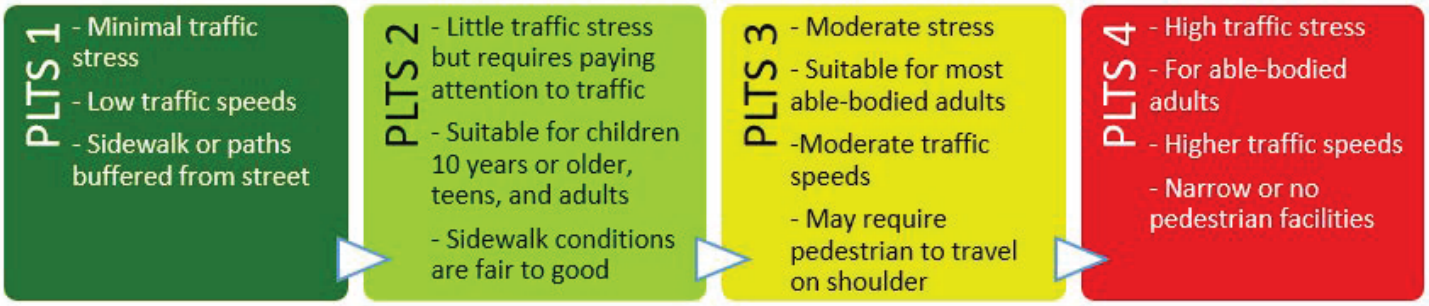
Volume 2 provides a detailed analysis and mapping of pedestrian system connectivity throughout the Grants Pass urban area. The Pedestrian Connectivity Analysis identifies notable gaps in the sidewalk network and important street light enhancements to improve pedestrian access, circulation and safety. The urban area also lacks a comprehensive pathway network linking these local but isolated recreation/exercise routes.

Pedestrian Level of Traffic Stress (PLTS)

PLTS is a high-level inventory and walkability/connectivity performance rating system of pedestrian facilities, one that doesn't require significant amounts of data. The PLTS methodology classifies street segments according to the level of pressure or strain, or comfort level, experienced by pedestrians and other sidewalk users. Other users include non-motorized forms of transportation as well as motorized power chairs and scooters.

Methodology

PLTS incorporates street data to estimate the pedestrian's view of comfort and perceived safety. PLTS defines four levels of traffic stress as follows:



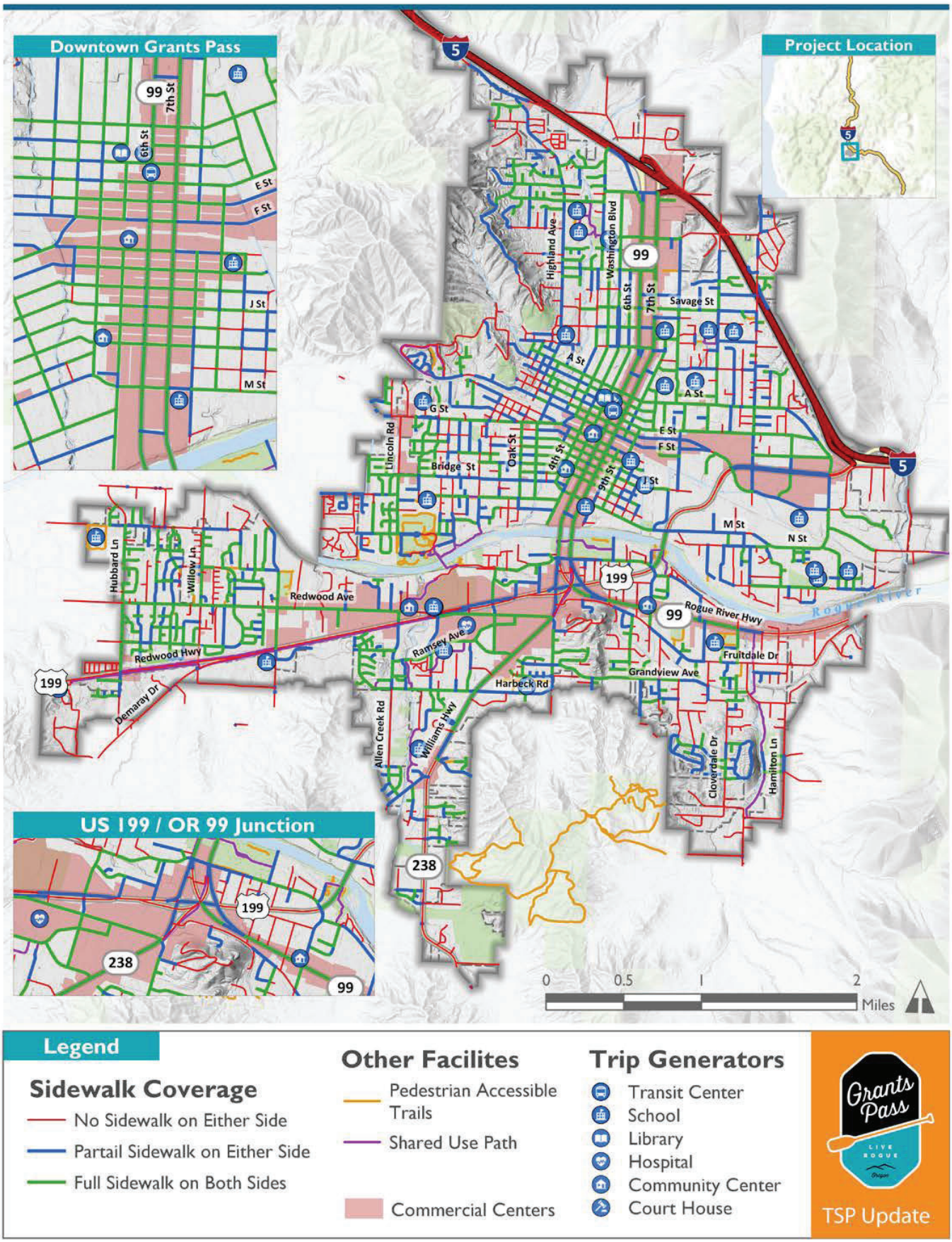
PLTS Targets

PLTS 2 is generally a reasonable minimum target for pedestrian routes. This level of accommodation will generally be acceptable to the majority of users. Higher stress levels may be acceptable in limited areas depending on the land use, population types, and roadway classifications, but they will generally not be comfortable for most users. Each land use has specific needs for the pedestrian network and study areas should have multiple targets for the different areas.

Facilities within a quarter mile of schools, and routes heavily used by children should use a target of PLTS 1. This is because of the large number of children that may use the system with little or no adult supervision. The area around elementary schools should contain no PLTS 3 or 4 because of the associated safety concerns and the discouraging effect that such facilities have on walking rates. Pedestrian facilities near middle and high schools may include PLTS 2, since the students are in the older age group, but PLTS 1 routes are ideal.

Other land uses should also have a target of PLTS 1; these include downtown cores, medical facilities, areas near assisted living/retirement centers, and transit stops. Downtown cores, for example, should have wide sidewalks with street furniture. Roadways near medical facilities and residential retirement complexes should have sidewalks in good condition with adequate width.

Figure 4-3: Existing Pedestrian Network



PLTS Scores

Consistent with the APM, the worst of the four PLTS categories is reported and mapped. **Figure 4-4** illustrates the PLTS scores for all state highways and city collector and arterial streets within the Grants Pass urban area. Key PLTS findings are:

- North of Evelyn Avenue, 6th and 7th Street (OR 99) sidewalks lack sufficient width and/or buffer width given the prevailing, higher-intensity land use.
- US 199 either lacks sufficient buffering between existing sidewalks and the outside vehicle lane (from E Street to Agness Avenue), or is missing sidewalks altogether (e.g. Rogue River Bridge)
- Several city collector or arterial streets lack sidewalks, including portions of M Street, Allen Creek Road, Fruitdale Drive, and Cloverdale Drive.
- G Street lacks sufficient buffering between existing sidewalks and the vehicle lanes, although several segments have recently been constructed.

Pedestrian Safety Evaluation

From 2010 through 2015[2] there were 102 pedestrian crashes within the Grants Pass urban area. As shown in **Figure 4-5**, the location and density of pedestrian crashes in Grants Pass generally parallels the level of pedestrian activity (see **Figures 3-5**).

Notable areas with significant pedestrian crash history include:

- Downtown Grants Pass, along 6th/7th Streets (OR 99)
- 6th/7th Streets (OR 99) at Morgan Lane (near I-5)
- G Street, west of downtown
- M Street at 6th and 7th Streets
- US 199 between F Street and Terry Lane
- US 199 near Redwood Avenue
- A Street near Grants Pass High School
- OR 99 at Parkdale Drive
- OR 238 between Union Avenue and Fruitdale Drive
- Redwood Avenue

Of note, the city recently reconstructed Redwood Avenue between Allen Creek Road and Hubbard Lane. These improvements will likely abate the historic crash history, and continued monitoring is warranted.

Volume 2 provides a detailed mapping and analysis of pedestrian crashes throughout the Grants Pass urban area. Volume 3, Technical Memorandum #4 (Existing Conditions) includes a detailed summary of the causes of vehicle-pedestrian crashes and prevailing environmental and driver characteristics specific to the eight (8) pedestrian fatalities in the Grants Pass urban area during the 2010-2015 period.

Bicycle System

Existing Bicycle Facilities

Bicycle facilities provide improved mobility for users wishing to engage in active transportation and support a healthy lifestyle. Compared to pedestrian travel, bicycling is more suitable for longer trips. Bicycle facilities include bike lanes, bike boulevards, and multi-use paths. **Figure 4-66** summarizes the network of on-street bicycle facilities and off-street pathways and trails within the Grants Pass urban area.

Figure 4-4: Pedestrian Level of Traffic Stress

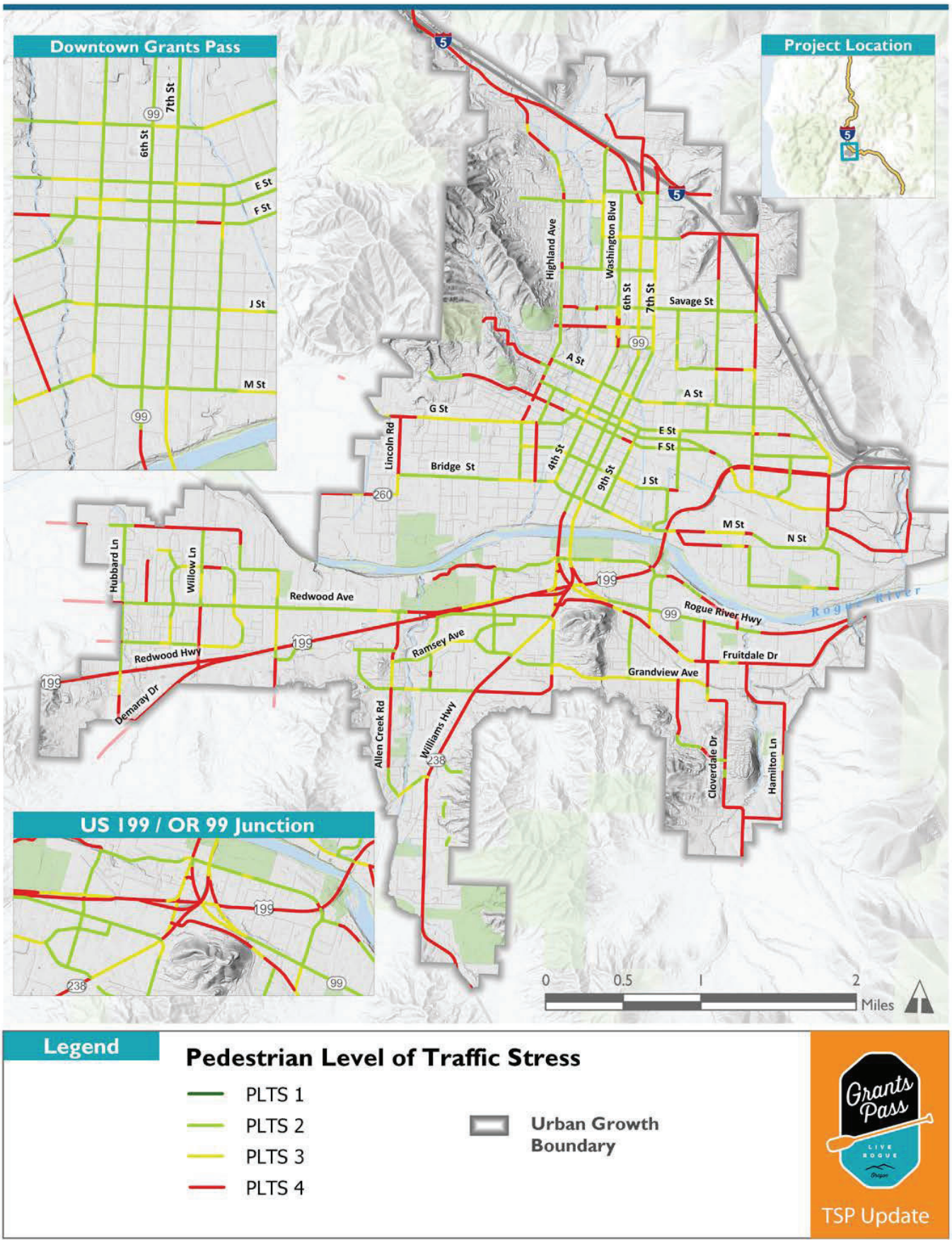
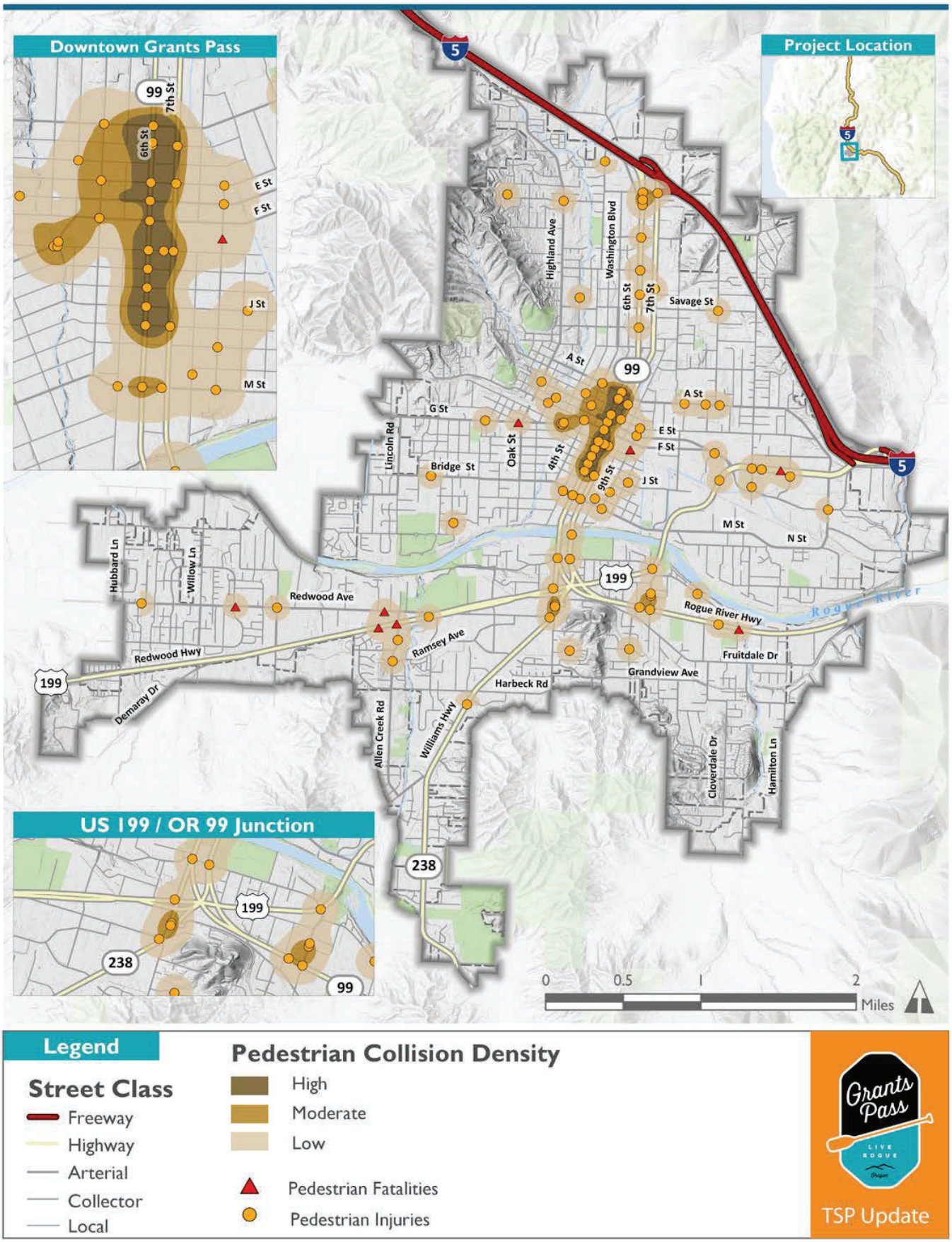


Figure 4-5: Pedestrian Crashes: 2010-2015



On-street bike lane facilities along state highways and City arterials and collectors form most of the bicycle network in Grants Pass. **Figure 4-7** also summarizes bike lane coverage by street functional class for the City.

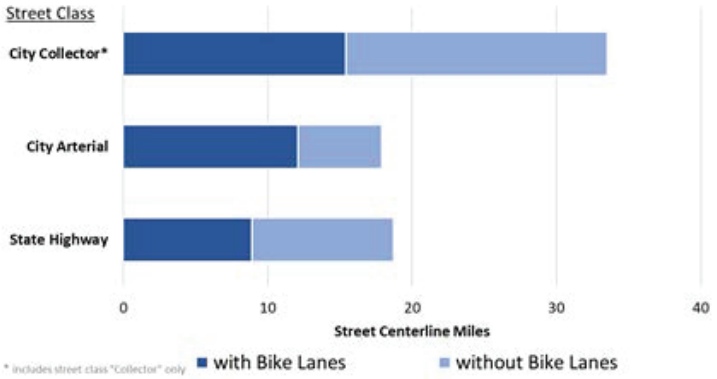
The City recently completed signing and pavement improvements to establish bike boulevards on routes such as Bridge Street and 3rd Street. Grants Pass also has off-street bicycle facilities, which include a total of about nine miles in multi-use paths, mostly parallel to US-199 and Fruitdale Creek.

Connectivity and Performance

A number of gaps have been identified in the City's bicycle network. Bicycle improvements along the following key arterial and collector streets would contribute to establishing a more comprehensive bicycle network:

- Highland Avenue
- 6th Street (through City center)
- Beacon Drive
- 'A' Street
- Savage Street
- 'J' Street
- Allen Creek Road
- Harbeck Road
- Cloverlawn Drive

Figure 4-6: Bike Lane Coverage by Major Street Class



Bicycle Level of Traffic Stress (BLTS)

BLTS is the bicycle counterpart to PLTS. BLTS serves as a high-level inventory and bikeability/connectivity performance rating. Similar to the PLTS methodology, BLTS classifies street segments according to the level of pressure or strain experienced by bicyclists.

Methodology

BLTS uses data on the characteristics of bike facilities and streets to estimate bicyclists' likely view of comfort and perceived safety. The data used to calculate BLTS may differ based on the type of bike facility being evaluated. For separated bike facilities, most – if not all – the characteristics used to calculate BLTS may not be applicable, and a BLTS of 1 is assigned. For on street facilities, the following data are factored into the calculation of BLTS:

- The number of vehicle travel lanes
- Posted speed
- Total buffer width
- Bike lane blockages

BLTS uses four levels of traffic stress as shown below:

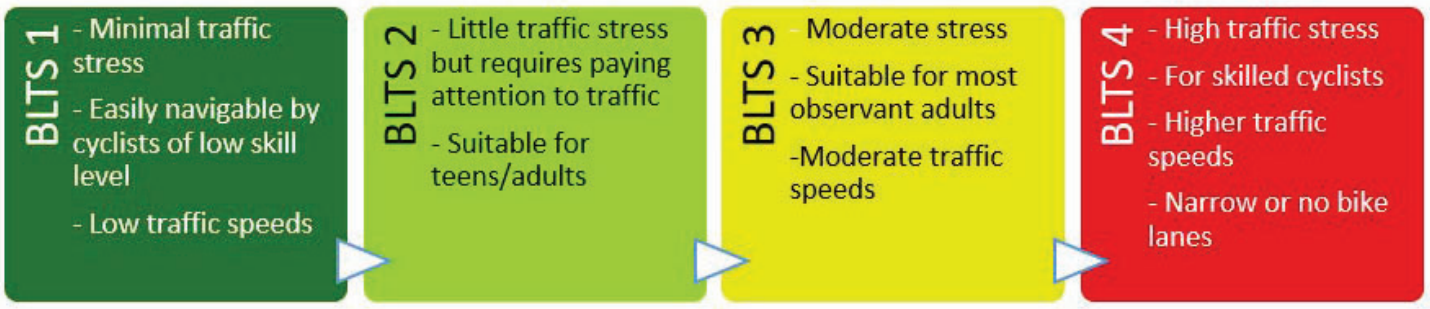
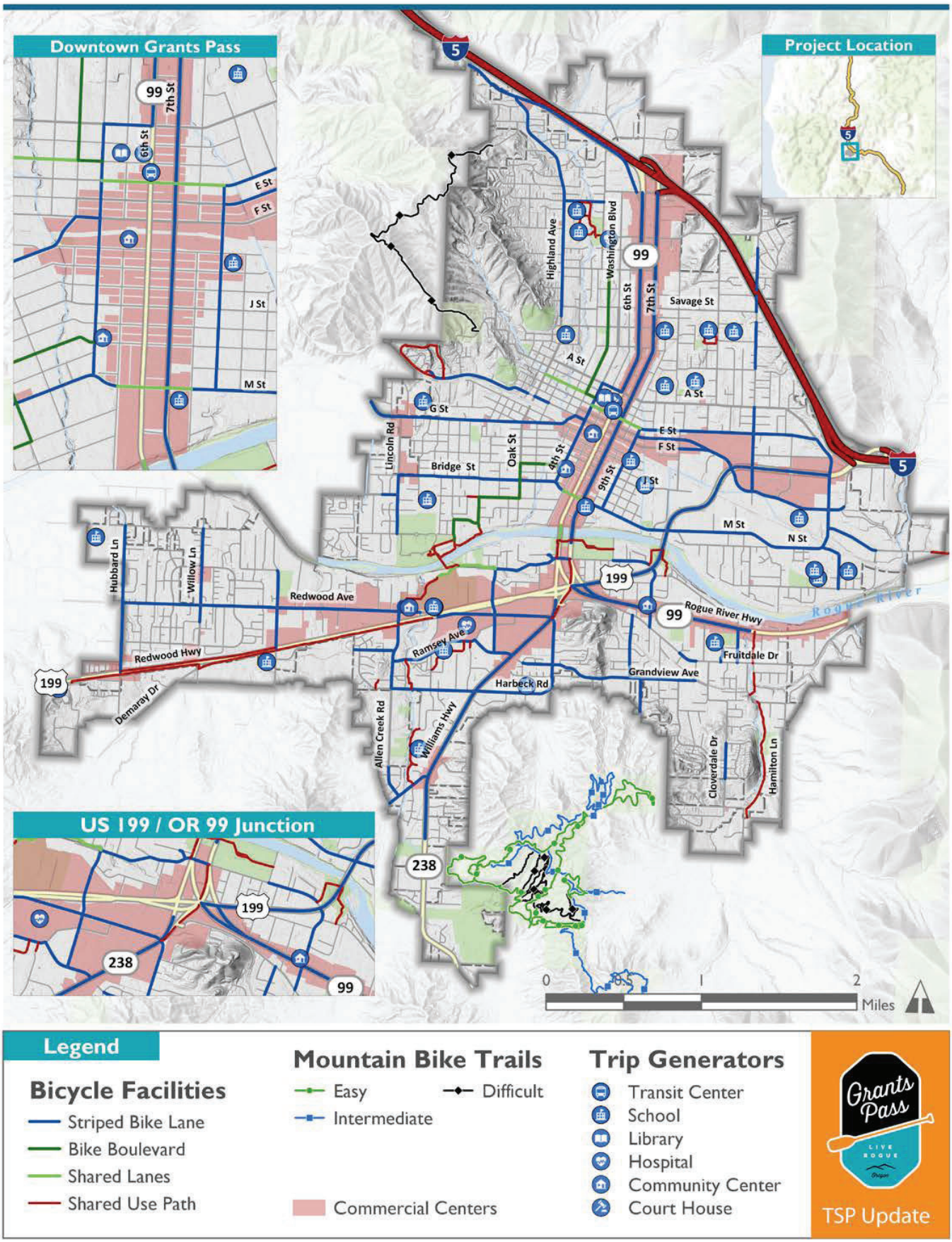


Figure 4-7: Existing Bicycle Network



BLTS Targets

Similar to PLTS, BLTS 2 is generally a reasonable minimum target for bicycle routes and will provide reasonable accommodation to most bicyclists. Higher stress level bicycle routes may still see significant use among confident and skilled bicyclists but will not be attractive to other users. For bike routes used frequently by younger children, it is recommended that a target of BLTS 1 be used wherever possible. A target of BLTS 1 may also be established for other areas with certain land use, demographic, and network characteristics (e.g., downtown cores and transit stops).

BLTS Scores

Figure 4-8 illustrates the current BLTS rating of the Grants Pass collector and arterial streets and state highways. Key BLTS findings are:

- Existing bike lanes on 6th and 7th Streets (OR 99), US 199 (between Agness Avenue and E Street), and OR 99 (east of US 199) are insufficiently buffered from though traffic lanes given the number of vehicle travel lanes and posted speed limits. Buffered bike lanes will likely yield acceptable BLTS ratings.
- US 199 lacks bike lanes west of the E Street to Redwood Avenue, as is reflected in the BLTS score. From E Street to OR 99 there are sufficiently wide shoulders that can be designated as wide bike lanes.
- Shoulder lanes are insufficiently buffered and designated as bike lanes on OR 238.

Bike Safety Evaluation

For the six -year period 2010-2015, there were approximately 90 crashes involving bicyclists. Most of the bicycle crashes recorded for this period occurred along streets and segments with high traffic volumes.

Areas with the highest density of bicycle crashes include:

- The downtown core
- Near the intersection of Hwy 238 and Union Ave/ Harbeck Road
- Near the intersections of US 199 at Allen Creek Road and Redwood Ave
- Near the intersection of US 199 and 'M' Street

Figure 4-9 maps the location of recent bicycle crashes within the Grants Pass urban area.

Volume 3, Technical Memorandum #4 (Existing Conditions) includes a detailed summary of the causes of vehicle-bicycle crashes and prevailing environmental and driver characteristics specific to the eight (8) pedestrian fatalities in the Grants Pass urban area during the 2010-2015 period.

Vehicle System

Summarized in this section are the adopted city and state traffic mobility targets and standards, study area intersections and existing peak hour traffic operations and vehicle crash history. **Figure 4-11** summarizes the study area, including 100 key intersections along the state highways and city arterial/collector street network.

Intersection Traffic Operations

Of the 100 study intersections, nine intersections are found to not meet performance targets for the peak hour. At these nine intersections, motorists experience delays in excess of the standards established by ODOT and Grants Pass, for State and City streets, respectively. The nine intersections are located along crucial State and City routes and major junctions. Four of these identified intersections are in the area of the confluence of US 199, OR 99, and Hwy 238. Three of the identified intersections are located along 'M' Street/Bridge Street in the downtown core. The last two intersections are on 'E' Street/'F' Street, near most of the City's big box stores, east of the downtown core.

Volume 3, Technical Memorandum #4 (Existing Conditions) includes a detailed summary of the procedures taken to confirm the peak hour traffic volumes used in the study, the operation performance measures and mobility targets applied to city street and state highway intersections, and the detailed analysis outcomes, in the form of mobility scores.

Figure 4-8: Bicycle Level of Traffic Stress

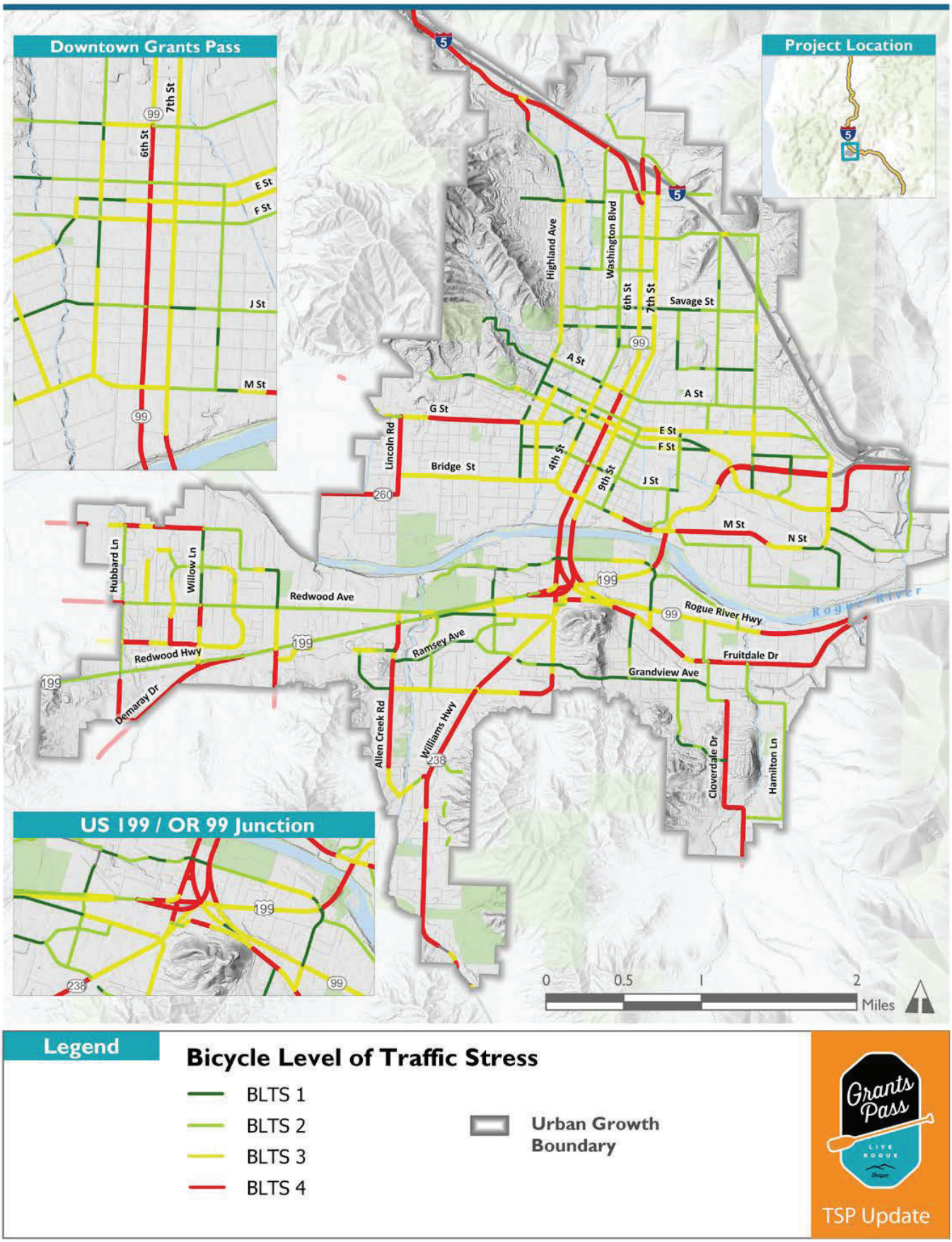
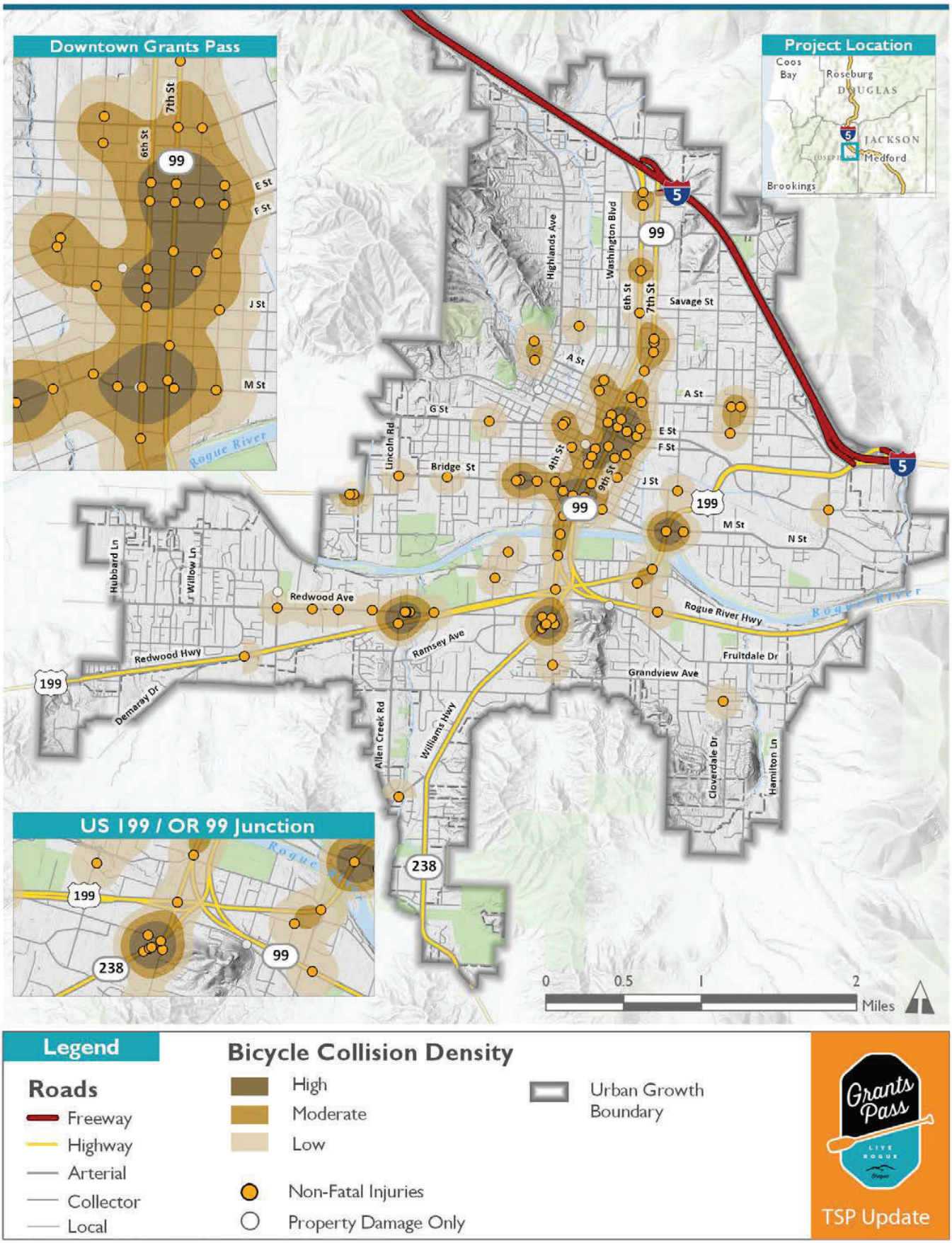


Figure 4-9: Bicycle Crashes: 2011-2015



The TSP mobility targets are described in detail in Section 3.

Figure 4-11 maps the summary v/c (state highway) and LOS (city street) mobility scores indicating which intersections are either under capacity, approach capacity or at or over capacity within the study area.

Signalized Intersections

The following signalized intersections do not meet the TSP mobility target under existing peak hour traffic conditions.

- OR 99 (southbound, 6th Street) and 'M' Street –'M' Street is classified as a Minor Arterial and links residential neighborhoods on either sides of Highway 99 to the Grants Pass city center. "M" Street is the only continuous, east-west arterial between the Rogue River and the Central Oregon and Pacific Railroad. This is the only intersection in the Grants Pass study area with a v/c ratio exceeding 1.00.
- US 199 and Ringuette Street – US 199 is a principal arterial and serves as a primary east-west route in Grants Pass. In addition to providing connections to OR 99, OR 238, and I-5, nearly all traffic traveling east-west south of the river in Grants Pass must make use of US 199. Ringuette serves as a major access and egress for the Asante Medical Center and commercial development.
- US 199 and 'E' Street – At its intersection with US 199, 'E' Street is classified as a principal arterial. E Street serves as a major east-west connection, north of and parallel to the railroad. It represents a higher speed and higher capacity alternative to the neighborhood routes it parallels and provides access to most of the big box stores in Grants Pass as well as to I-5 and OR 238 via US 199.
- US 199 and Hwy 238 – This is the intersection of two state routes, which serve as the major east-west and north-south corridors in Grants Pass. Limited river crossings and the lack of practical alternatives for east-west travel south of the river in Grants Pass means that high volumes of traffic are routed through this intersection.

Vehicle Safety Evaluation

Figure 4-10 maps the location of recent vehicle crashes within the Grants Pass urban area.

In general, the highest densities of vehicle crashes are observed along routes with higher volumes and/or higher speeds. Areas with the highest density of vehicle crashes include:

- OR 99, especially near the interchange with I-5 and between A Street and US 199
- US 199, especially between Allen Creek Road and OR 99, Between Parkdale Drive and 'M' Street, and between 'E' Street and Terry Lane
- City streets in the vicinity of the downtown core

Volume 3, Technical Memorandum #4 (Existing Conditions) includes a detailed summary of the causes of vehicle and prevailing environmental and driver characteristics in the Grants Pass urban area during the 2010-2015 period. This analysis includes a review of intersection crash history, intersection crash rates, and ODOT Safety Priority Index System (SPIS) data.

Growth Forecasts

Population, Housing and Employment Forecasts

The City of Grants Pass incorporates the official population forecasts for year 2040 prepared by the Population Research Center at Portland State University (PSU). As shown in **Figure 4-12**, by 2040 there are slightly more than 57,500 people estimated living within the Grants Pass urban area. PSU's base year is 2015. These population forecasts reflect an annual average growth rate of about 1.43%.

Grants Pass Oregon Small Urban Model Outputs

The Oregon Department of Transportation (ODOT) has developed and refined an Oregon Small Urban Model (OSUM) for the Grants Pass urban area. The Grants Pass OSUM base year is 2010 and planning horizon is 2040, and was used as the base model resource for the Regional Transportation Plan (RTP), completed in 2017.

Figure 4-10: Vehicle Crashes: 2011-2015

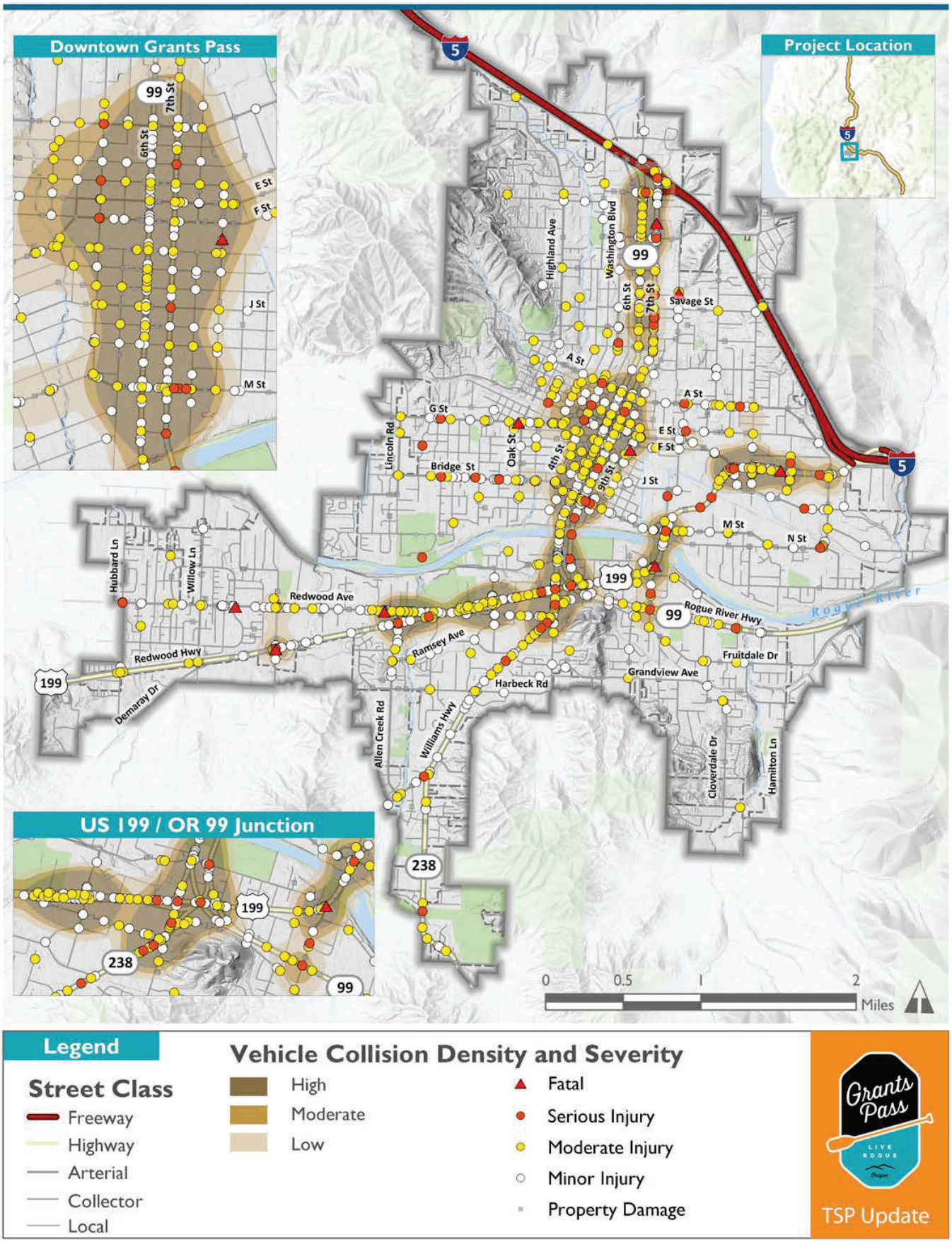
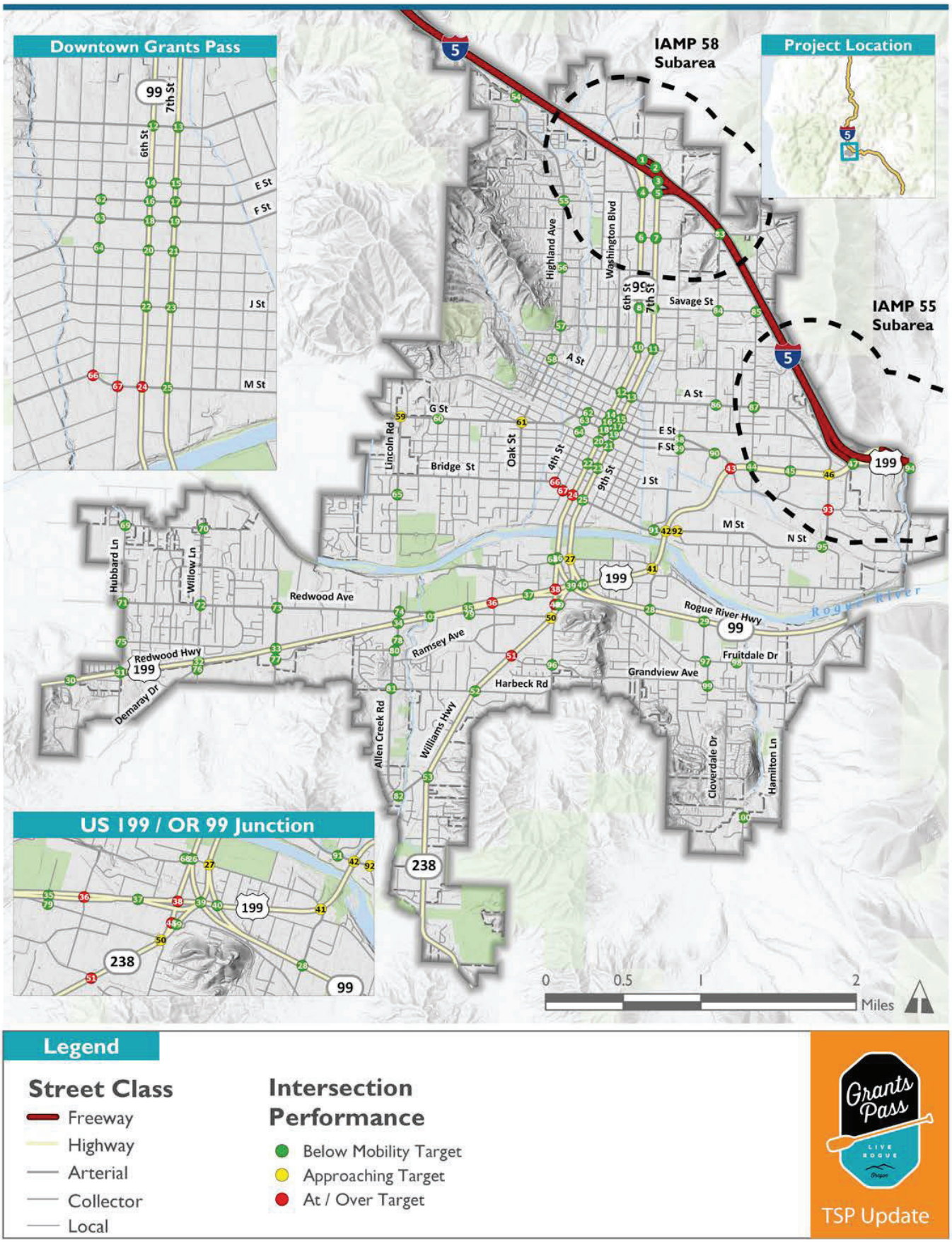


Figure 4-11: Existing Traffic Operations



Future housing, a surrogate of population, and employment forecasts are included in the OSUM Travel Model, as summarized in **Figure 4-13**.

The higher rate of growth in housing units (when compared to population growth) is an indicator of a more elderly population and smaller family size in Grants Pass over the next 20 plus year. The rate of growth in employment is much lower than housing, averaging about 0.75% per year, see **Figure 4-14**.

Figure 4-15 and **Figure 4-16** illustrate the net new housing and employment growth, respectively, by transportation analysis zone (TAZ) within the urban area. As shown, the majority of new housing growth is located in the southwest and southeast area of Grants Pass, with some continued housing development growth west of Highland Avenue in northwest, and some modest growth north of I-5. Employmenn growth is centralized in the north OR 99 corridor, in the central eastside commercial and industrial areas, and along US 199 west of OR 99.

Figure 4-12: Grants Pass Population

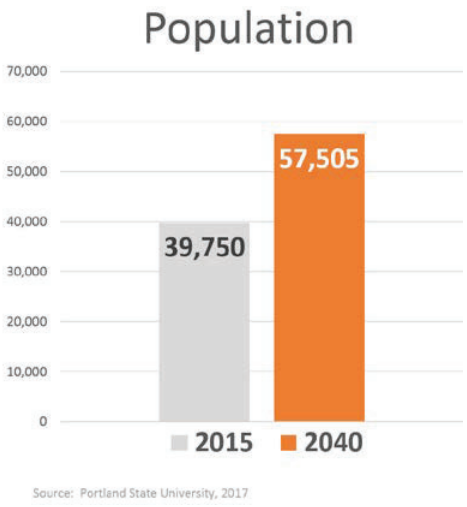


Figure 4-13: Grants Pass Housing Growth

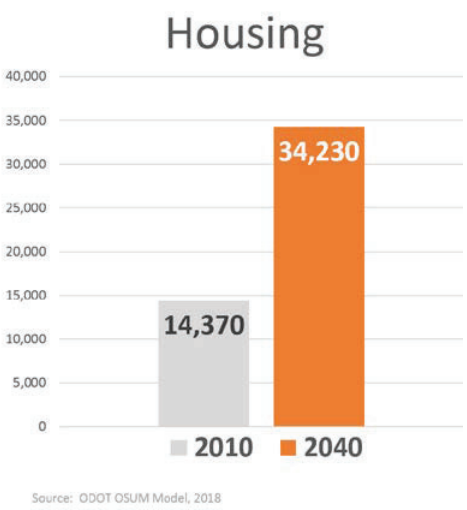


Figure 4-14: Grants Pass Employment Growth

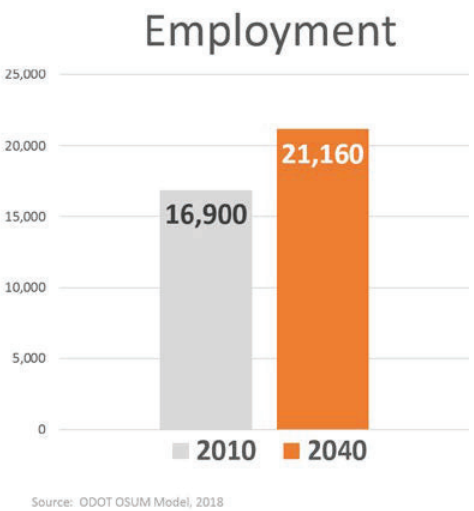


Figure 4-15: Net New Housing Growth (2010-2040)

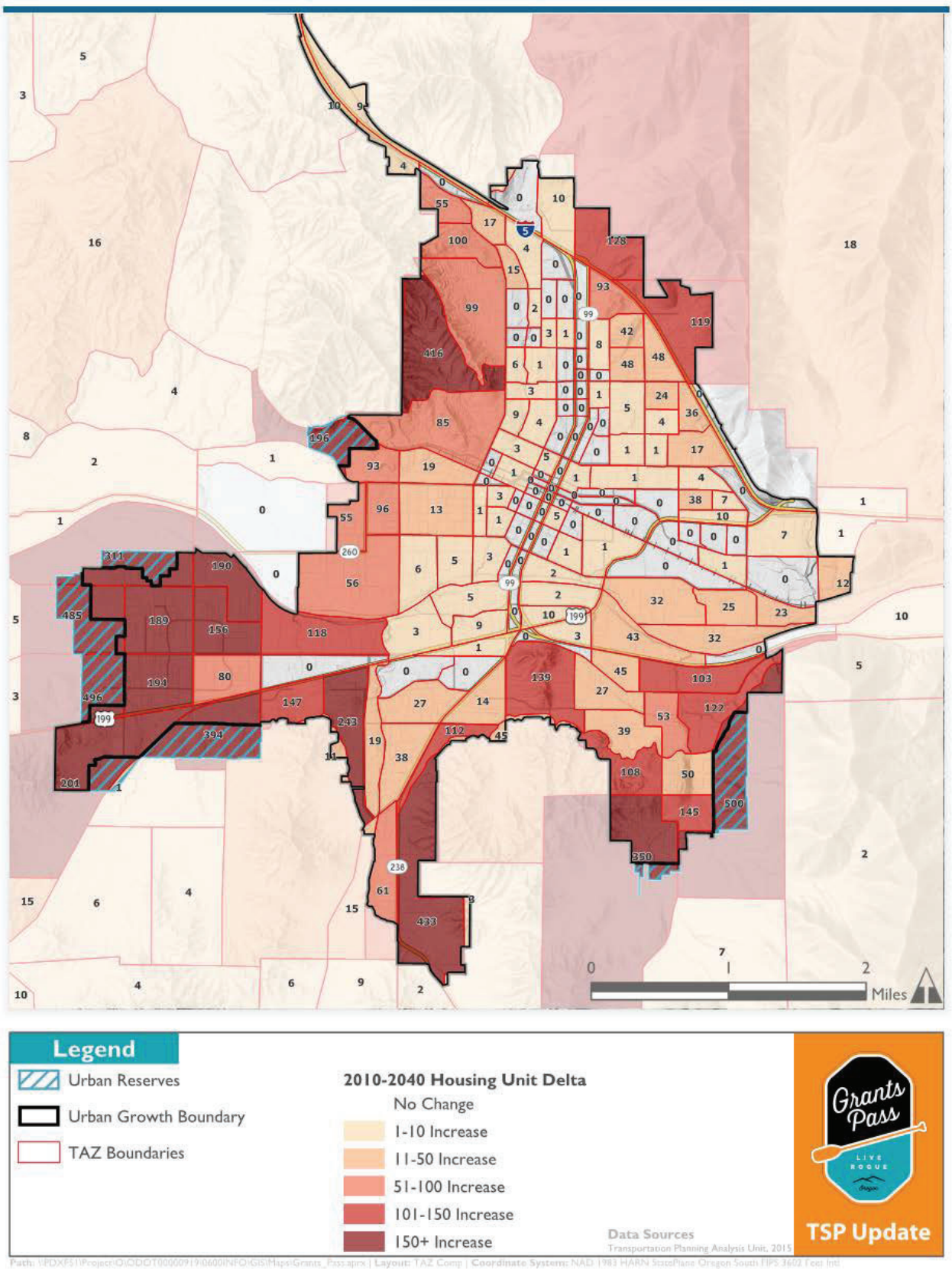
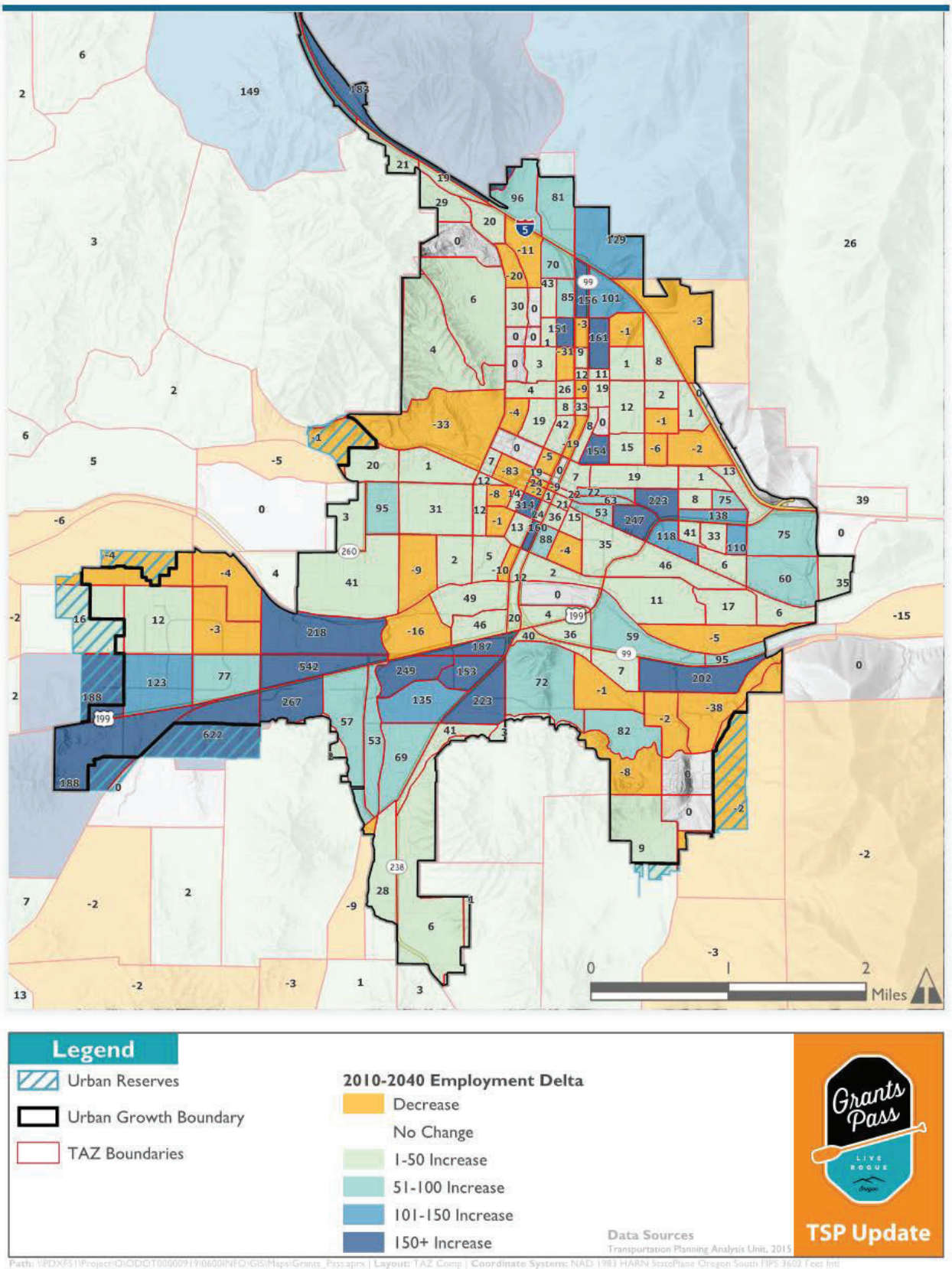


Figure 4-16: Net New Employment Growth (2010-2040)



Future Traffic Conditions

Base Year – 2010

Figure 4-17 maps the PM peak hour traffic volumes in the Grants Pass UGB for base year 2010. The highest traffic volumes are observed on I-5 and the State Highways. Significant traffic volumes are also observed on City arterials including 'E' Street, 'F' Street, 'G' Street, 'M' Street, Bridge Street, Redwood Avenue, and Cloverlawn Drive. The OR 99 and US 199 river crossings represent the highest link volumes within the UGB. A total of approximately 3,300 and 3,900 vehicles travel northbound and southbound, respectively across these river crossings during the PM peak hour.

Figure 4-18 maps the volume to capacity (v/c) ratios for the links in the Grants Pass OSUM during the PM peak hour. The map identifies a few locations where traffic volumes approach or exceed capacity in at least one direction:

- The river crossings for both OR 99 and US 199
- US 199 between Parkdale Drive and Terry Lane
- US 199 between the 'Y' and Willow Lane
- Redwood Avenue between US 199 and Dowell Road
- Bridge/'M' Street between Pine Street and 7th Street
- 'G' Street between Booth Street and Westholm Avenue
- Parkdale Drive

The locations noted in the bullets above correspond to critical routes in Grants Pass' street network where there are not easily accessible alternatives. Crossing the Rogue River within the Grants Pass UGB requires use of either OR 99 or US 199. US 199 must be used by motorists traveling east-west south of the river and provides connection to major City arterials and I-5. Bridge/'M' Street and 'G' Street (into 'E' and 'F' Streets) represent the only continuous east-west connections that pass through City center – one on each side of the railroad tracks.

Future Planning Horizon – 2040 (No-Build)

Figure 4-19 maps the PM peak hour (or design hour) traffic volumes for streets in the Grants Pass UGB for the planning horizon year, 2040. Similar to the PM peak hour traffic volumes for 2010 (shown in **Figure 4-17**), the highest traffic volumes are seen on I-5, the State highways, and a number of key City arterials, including 'E' Street, 'F' Street, 'G' Street, 'M' Street, Bridge Street, Redwood Avenue, and Cloverlawn Drive.

The highest levels of traffic growth from 2010 to 2040 are found in the following locations:

State Highways

- I-5
- US 199, especially between 'M' Street and Willow Lane
- OR 99, especially between Morgan Lane and US 199
- OR 238, especially north of Harbeck Road

City Streets

- 'A' Street, west of OR 99
- 'G' Street
- 'E' and 'F' Streets, east of OR 99
- 'M' and 'N' Streets east of US 199
- Cloverlawn Drive
- Willow Lane
- Dowell Road

The above City routes provide access from OR 99 and US 199 to some of the areas of Grants Pass for which the highest growth in households are projected on the periphery of the UGB.

Figure 4-17: PM Peak Hour (Design Hour) Traffic Volumes (2010)

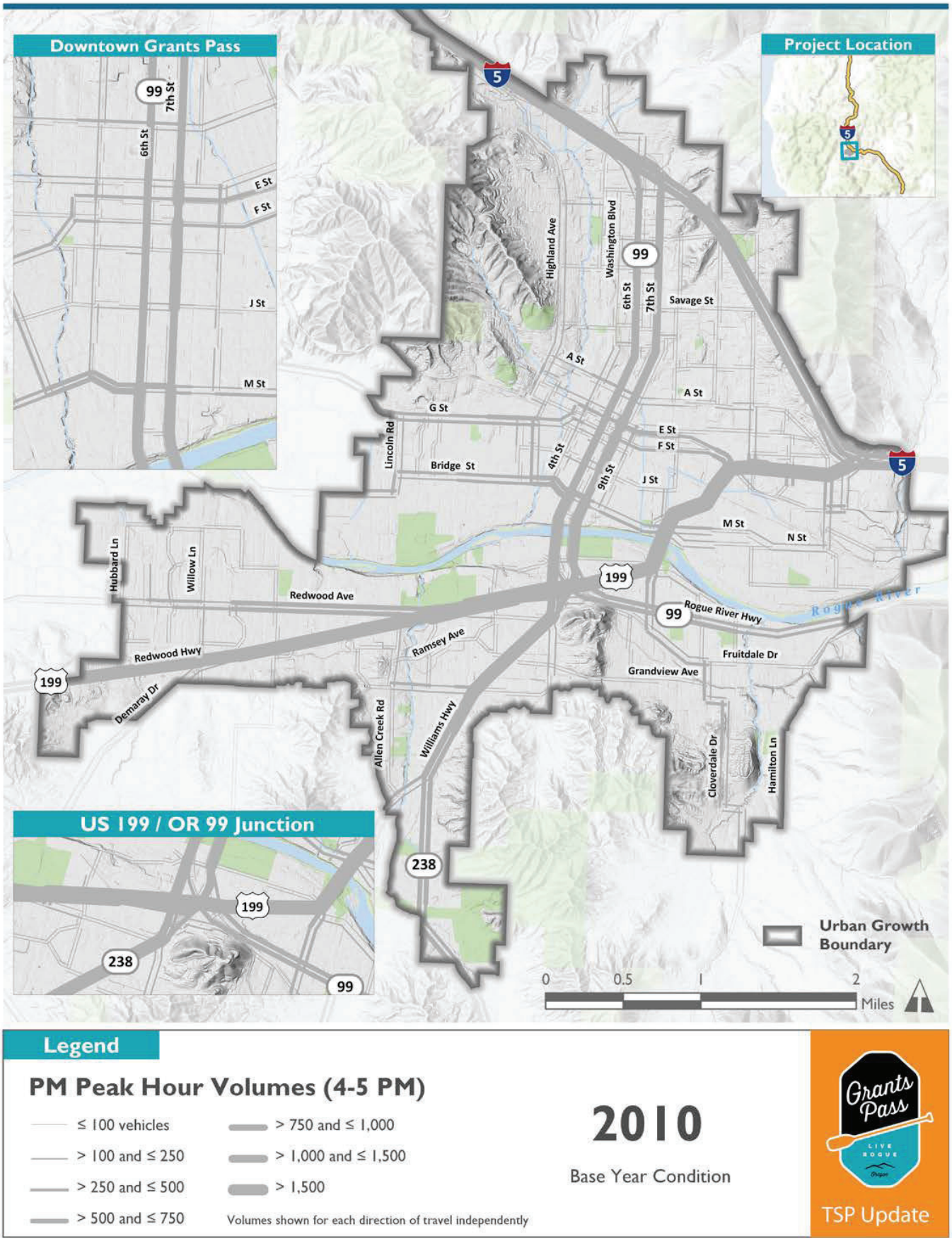


Figure 4-18: PM Peak Hour Volume to Capacity (v/c) Ratios (2010)

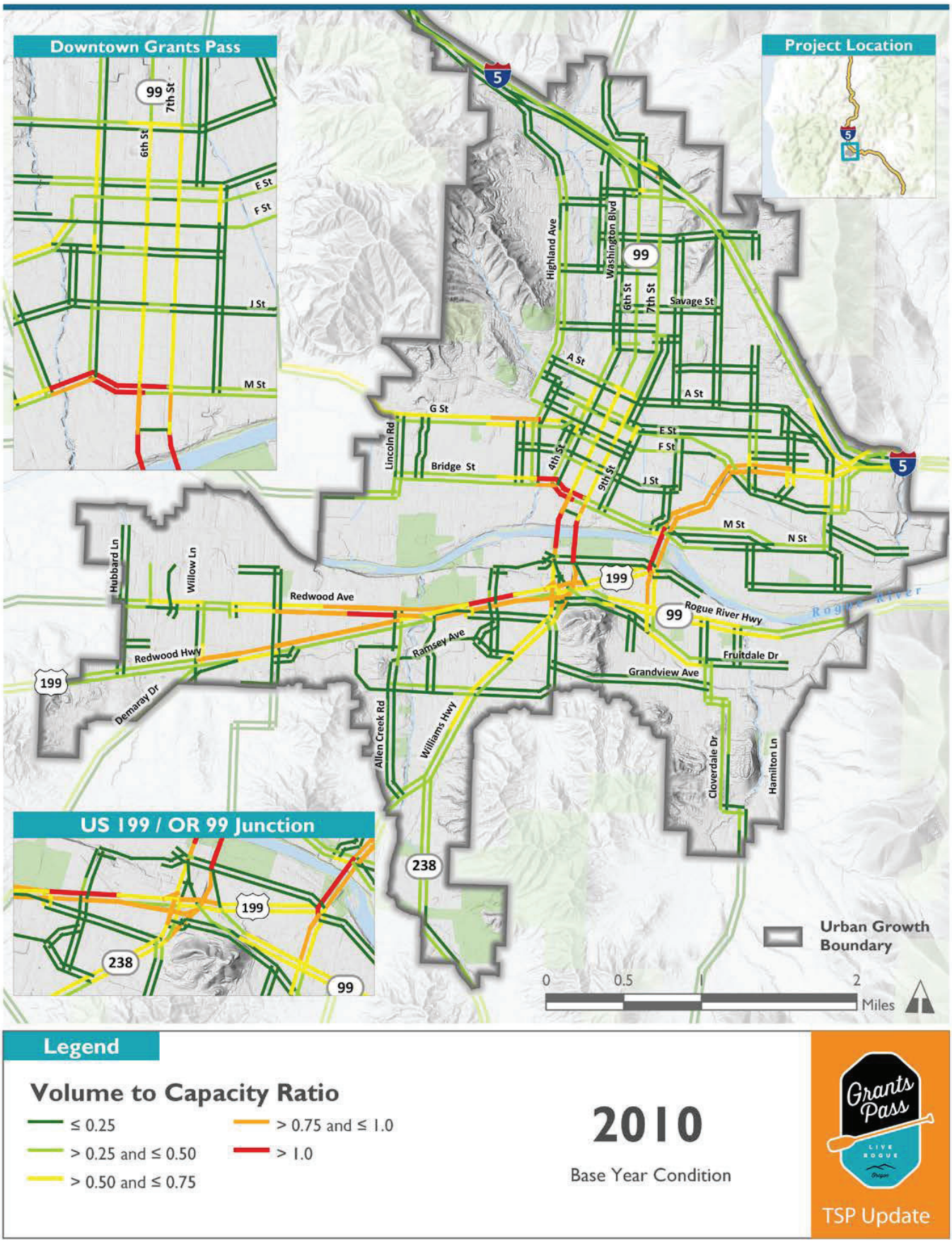


Figure 4-19: PM Peak Hour Traffic Volumes (2040)

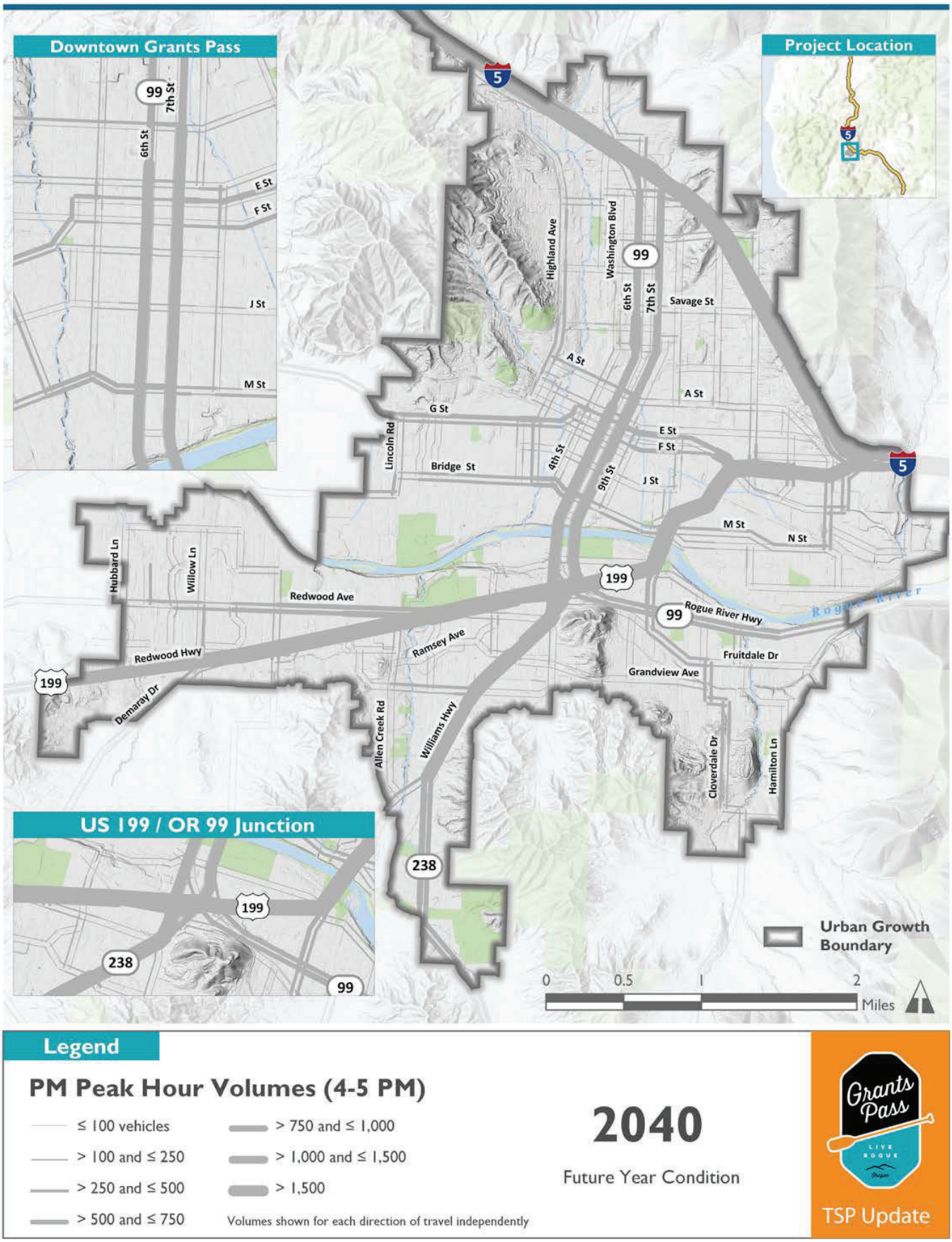


Figure 4-20 maps the peak hour volume to capacity (v/c) ratios for year 2040. The links shown to have v/c ratios approaching or exceeding 1.0 in 2010 perform similarly in 2040. By 2040 v/c ratios deteriorate and exceed 1.0 at a number of locations:

- OR 99 through City center
- US 199 between Terry Lane and the Exit 55 I-5 interchange
- OR 238 north of Harbeck Road
- OR 99 between the 'Y' and Hamilton Lane
- The river crossings for both OR 99 and US 199
- US 199 between Parkdale Drive and Terry Lane
- US 199 between the 'Y' and Willow Lane
- Willow Lane
- Short segments of 'A' Street and 4th Street in City center

Similar to 2010, the 2040 v/c ratios correspond to critical routes and junctions in Grants Pass' street network. In the vicinity of the 'Y,' all of the major routes meeting at that series of intersections (OR 99, OR 238, and US 199) are identified as having traffic volumes nearing or exceeding capacity. Other routes that are shown to perform at levels that approach or exceed mobility standards include the primary east-west City arterials north of the river, 'G' Street and Bridge/'M' Street, Redwood Avenue, and Parkdale Drive. These routes serve as primary access to areas with high levels of expected growth in households by 2040.

Future Traffic Operations

Mobility Targets

The Grants Pass TSP compares the study area intersection future traffic operations to mobility targets and standards established for state highway and city street intersections summarized in Section 4. Further details on the traffic analysis methodology is included in Volume 3, Technical Memorandum #5 (Future Conditions).

Intersection Traffic Operations

Figure 4-21 summarizes the estimated levels of future performance for the 100 study intersections relative to ODOT and City- mobility targets established for State and local facilities, respectively. Volume 3 (Technical Memorandum #5) contains a detailed listing of the operations analysis output for each of the study's 100 intersections, and identifies the year in which intersection fail the mobility targets.

Problem Signalized Intersections

By 2040, a total of 20 study intersections are expected to have v/c ratios or Level of Service (LOS) ratings that fail to meet these established targets. Nine of these 20 intersections were found to perform at failing levels during the PM peak hour in the existing condition, and discussion of those nine intersections can be found in Technical Memorandum 4. The other 11 intersections did not fail to meet established mobility targets in 2018, but have their performance deteriorate to those levels by 2040. These 11 intersections are listed and discussed below.

US 199 and Dowell Road – US 199 is a highway with Statewide significance and runs primarily east-west through Grants Pass. South of the Rogue River in Grants Pass, there are no continuous local routes running east-west so motorists must use US 199 to complete east-west trips. In addition, US 199 represents one of only two routes that provide means to cross the river within the UGB. Dowell Road is a collector and is located in an area expected to support significant levels of new residential growth by 2040, further increasing travel demand along the US 199 corridor.

US 199 and Allen Creek Road – The intersection of US 199 and Allen Creek Road is located approximately 0.8 miles east of the intersection of US 199 and Dowell Road. Discussion of the intersection of US 199 and Dowell (immediately above) details factors contributing the failure of both of these intersections to meet mobility targets by 2040. Similar to Dowell Road, Allen Creek Road serves a corridor of southwest Grants Pass in which significant growth in the number of households is expected.

Figure 4-20: PM Peak Hour Volume to Capacity Ratios (2040)

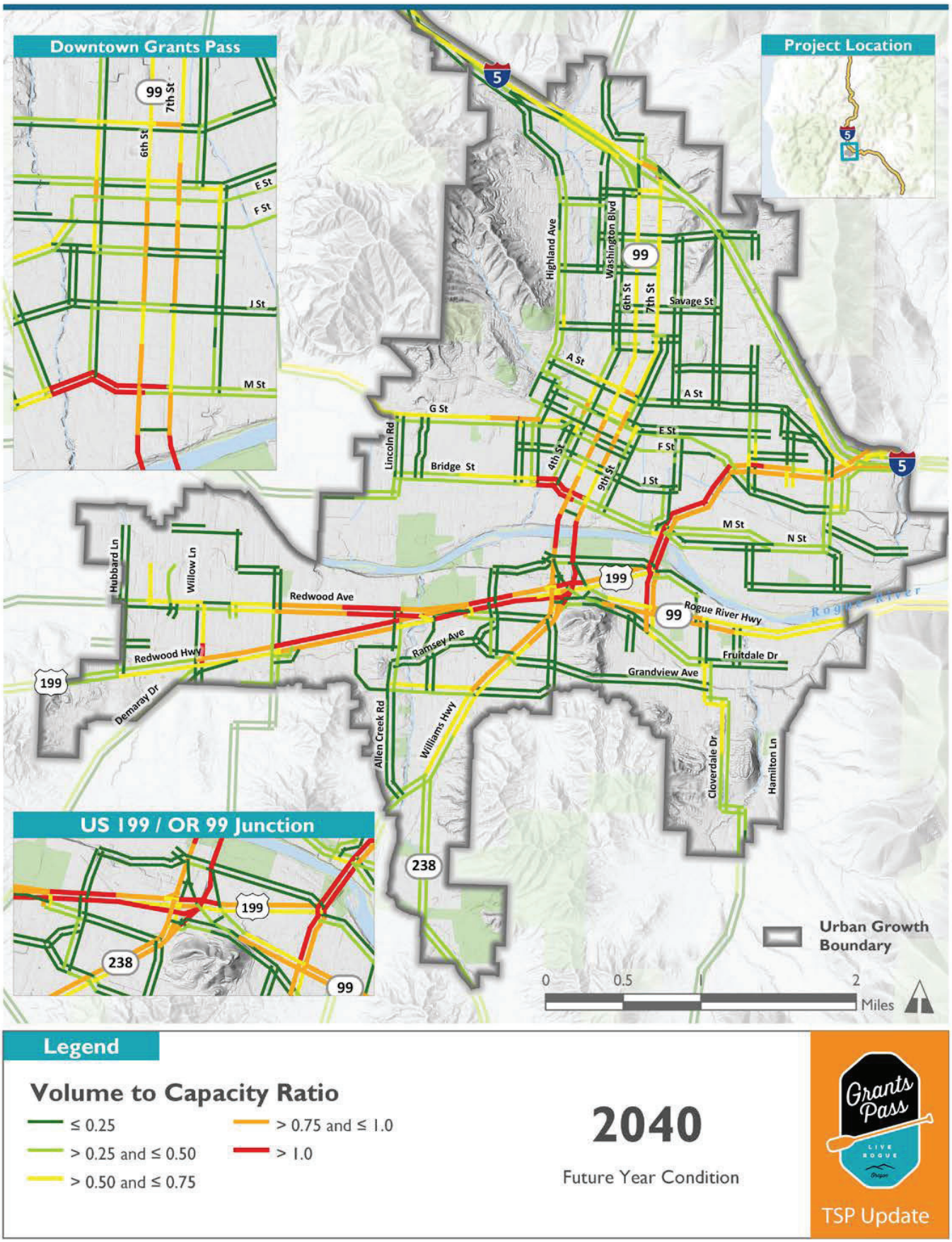
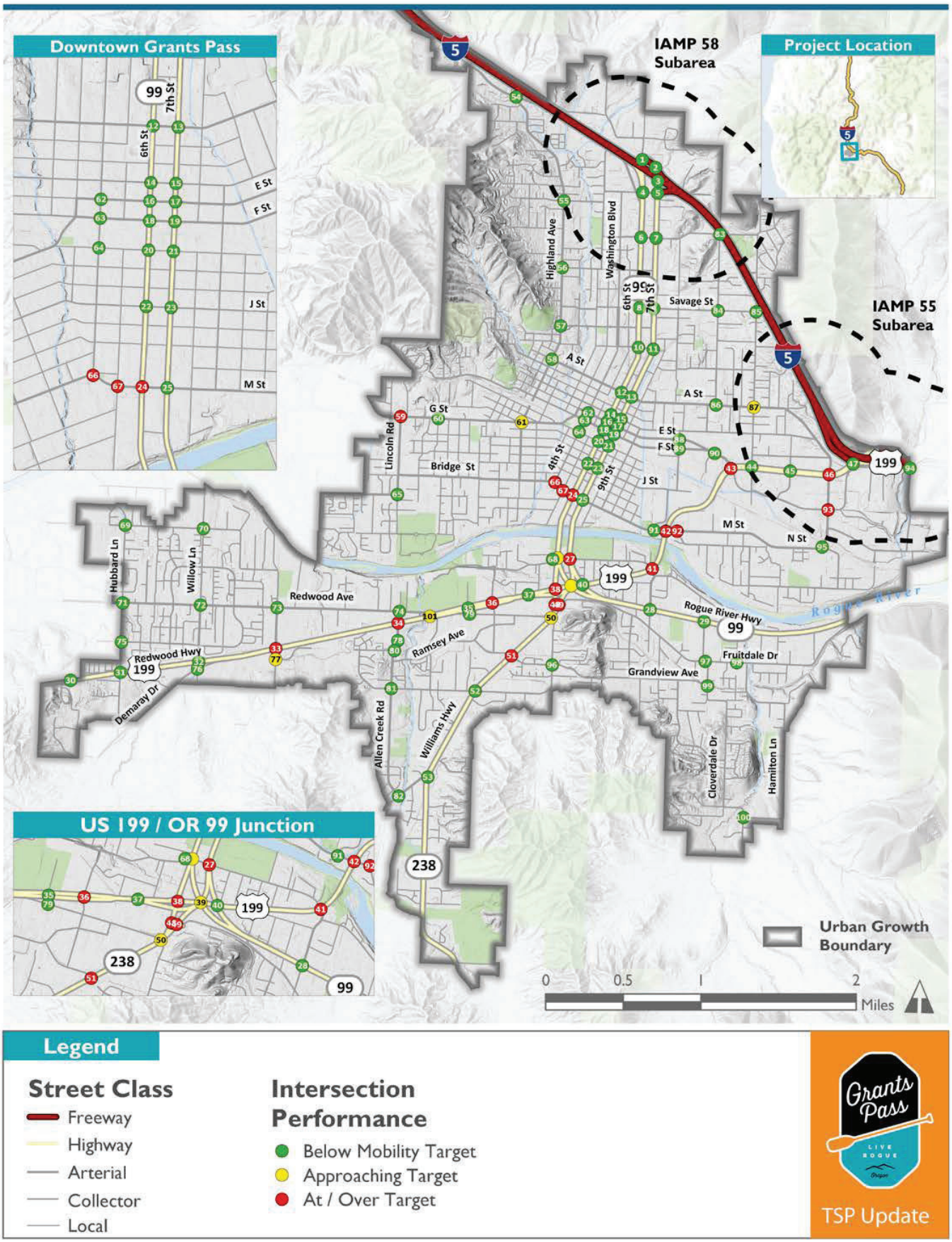


Figure 4-21: Future Intersection Traffic Operations (2040)



US 199 and Parkdale Drive/Park Street – Discussion of the above intersections detail US 199's role in the Grants Pass street network. Between 2018 and 2040, significant increases in traffic volumes are expected on Parkdale Drive, which meets US 199 at this intersection. Parkdale leads to Fruitdale and Cloverlawn, routes that provide key access to southeast Grants Pass. Significant residential growth is expected in this area over the next approximately 20 years.

US 199 and 'M' Street – Just north of the bridge carrying US 199 across the river, US 199 intersects 'M' Street, a City arterial and serves as the only continuous east-west route in Grants Pass north of the river and south of the railroad tracks. 'M' Street provides access to residential areas on both sides of City center and also provides an alternative route for access to I-5.

US 199 and Agness Ave – Agness Ave is an arterial and serves to collect traffic from a number of east-west routes ('N' Street, 'F' Street, and 'D' Street) on either side of its intersection with US 199. For traffic using local arterials and collectors to travel east-west in Grants Pass, Agness Ave serves as the most viable access to and from I-5.

OR 238 and Union Ave/Harbeck Road – OR 238 serves as the primary north-south corridor south of US 199. Between 2018 and 2040, both OR 238 and Harbeck Road are expected to experience high rates of growth in traffic volumes. As demonstrated in **Figure 4-15** and **Figure 4-16**, significant levels of residential and employment growth are expected along these corridors.

OR 99/7th Street and Park Street – At this intersection, OR 99/7th Street serves as the northbound access to City center and the most direct access to most residential areas north of the river. Traffic originating from OR 99 south of the river, OR 239 NB, and US 199 all converge at this intersection just before crossing the river into City center. The intersection has an unusual configuration and signal phasing.

Unsignalized Intersections

OR 238 NB off-ramp to 7th Street and Fruitdale Drive – Fruitdale is a collector at intersects the OR 238 NB off-ramp to 7th Street only about 100 feet from its western terminus at its intersection with US 199. The intersection of Fruitdale and US 199 failed to meet mobility targets in the current condition and is discussed in Technical Memorandum 4. At both of these intersections, Fruitdale is the minor street and motorists on Fruitdale must navigate onto an intersecting route with higher volumes and higher speeds. At this intersection, there is very limited queuing space for vehicles traveling eastbound.

'M' Street and 'N' Street – 'M' Street is a City arterial and serves as the only continuous east-west route in Grants Pass north of the river and south of the railroad tracks. The intersection of 'M' and 'N' Streets is located only about 300 feet from the intersection of US 199 and 'M' Street, a high volume signalized intersection that is also identified as failing to meet mobility targets in 2040. High volumes of traffic using 'M' to access residential areas on both sides of City center or as an alternative to US 199 to access I-5 likely make it difficult for motorists on 'N' and the opposite driveway to safely navigate into traffic.

'G' Street/Upper River Road and Lincoln Road/OR 260 – 'G' Street is an east-west arterial and serves residential areas west of City center. Additionally, 'G' Street conveniently transitions into 'E' and 'F' Streets, which together form one of the only continuous east-west routes in Grants Pass. Between 2018 and 2040, significant levels of new residential growth are expected west of City center, creating additional travel demand along the 'G' Street corridor.

'G' Street and Oak Street/Dimmick Street – The discussion of the intersection of 'G' Street/Upper River Road and Lincoln Road/OR 260, found immediately above, describes the role of 'G' Street in Grants Pass' street network and likely causes of increased travel demand along the corridor between 2018 and 2040.

Future Pedestrian, Bicycle, and Transit Conditions

Pedestrian System

As discussed above, **Figure 4-43** illustrates the city collector/arterial street and state highway segments with high pedestrian level of traffic stress (PLTS) scores (PLTS 3 and 4). The study notes those street routes with both high PLTS and higher (future) traffic growth rates in the urban area for priority plan treatments to improve pedestrian facilities and network connections.

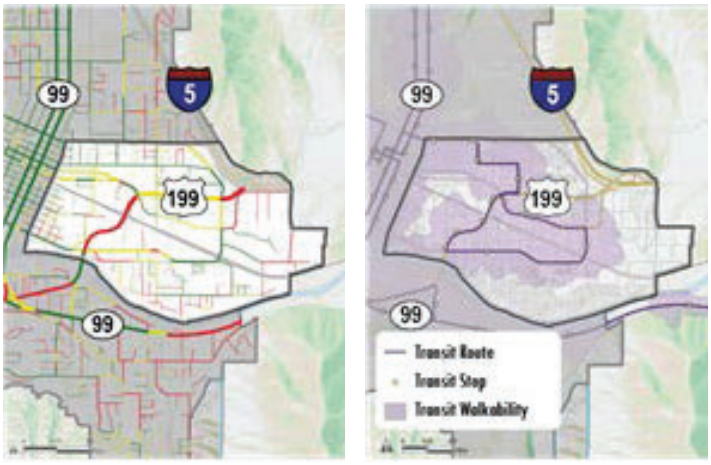
Bicycle System

As also discussed above, **Figure 4-86** illustrates the city collector/arterial street and state highway segments with high bicycle level of traffic stress (BLTS) scores (BLTS 3 and 4). Again, street routes with both high PLTS and higher (future) traffic growth rates are candidate street segments for priority plan treatments to improve bicycle facilities and network connections.

Transit System

The TSP update process includes evaluation and prioritization of pedestrian and bicycle system enhancements that improve connections to Josephine Community Transit (JCT) services. JCT's future transit plan network is mapped and compared to the PLTS scoring for the Grants Pass collector/arterial street and state highway network, see **Figure 4-22**. As shown, there are several street and highway segments that serve existing or planned JCT operations. These findings are included in the prioritization of pedestrian (and also possible bicycle) system improvements as part of the TSP update. Key transit street routes include:

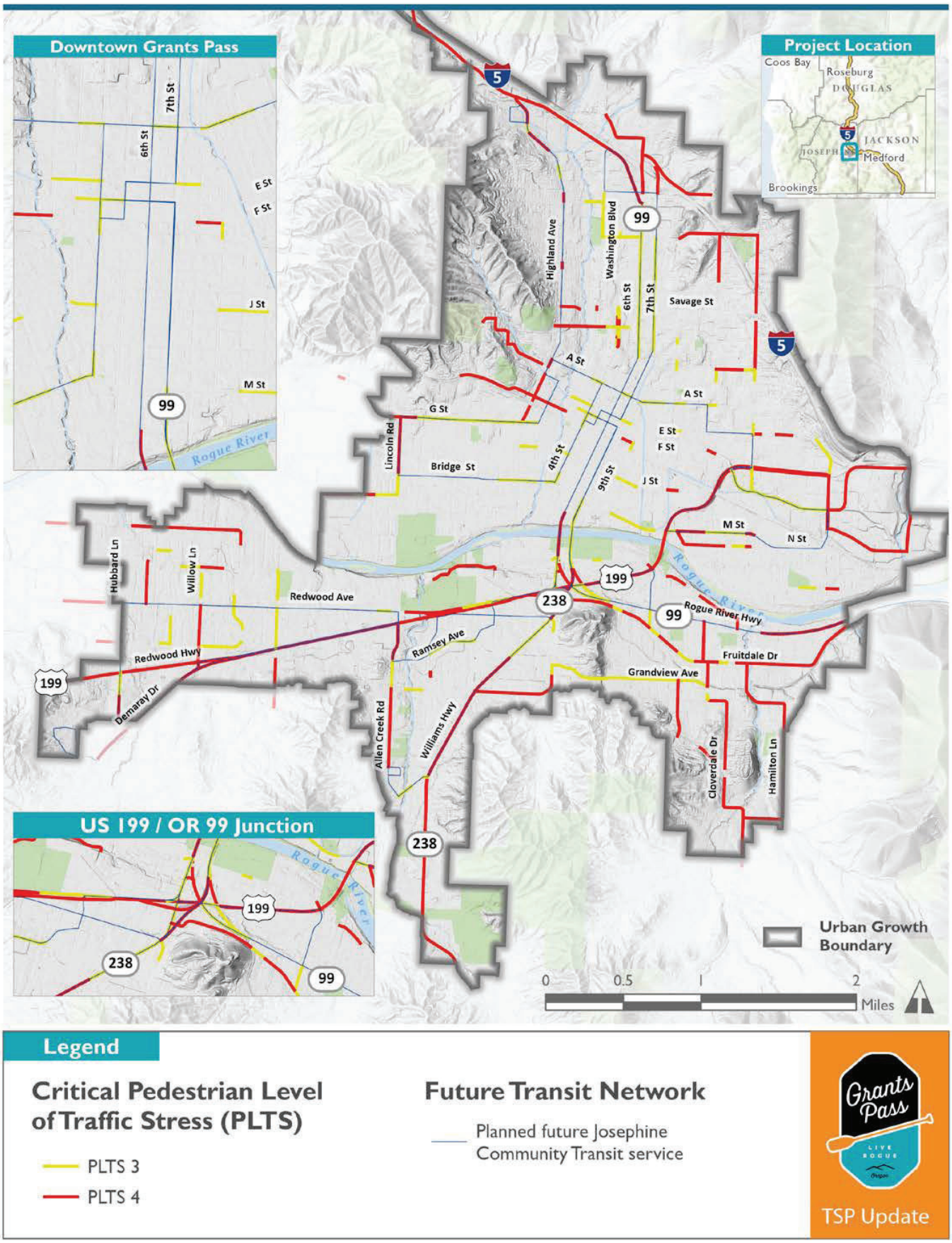
- Highland Avenue – missing sidewalks along planned transit route
- 6th and 7th Streets (OR 99 – north of Evelyn Street) - lack sufficient sidewalk width and/or buffer width given the prevailing, higher-intensity land use.
- US 199 (Beacon Drive to M Street) – highway lacks sufficient buffering between existing sidewalks and the outside vehicle lane, or missing sidewalks
- US 199 (Redwood Avenue of Hubbard Lane) – lacks sidewalks on north side of US 199
- OR 238 (US 199 to New Hope Road) – highway lacks sufficient buffering between existing sidewalks and the outside vehicle lane
- M Street (US 199 to N Street) – missing sidewalks
- OR 99 (Hamilton Lane to UGB) – missing sidewalks
- G Street - lacks sufficient buffering between existing sidewalks and the vehicle lanes, although several segments have recently been constructed.



Grants Pass Pedestrian Connectivity Analysis - Example sidewalk network completeness and transit access measures

Further, the Pedestrian Connectivity Analysis (Volume 2) identifies neighborhood-level, missing sidewalk and transit area coverage metrics to identify and potentially quantify and prioritize access to transit improvements on the city's local street network.

Figure 4-22: Future Transit Routes and Pedestrian Level of Traffic Stress



Future Multimodal System Deficiencies

Future transportation deficiencies are summarized below by travel mode.

- Future auto (vehicle) operation deficiencies are noted in select corridors of high traffic volume in the city, similar to existing conditions. Notable corridors are US 199 (between Ringuette Street and Agness Avenue), M Street (from 4th Street to 6th Street), OR 238 (from US 199 to Grandview Avenue), and G Street (from Lincoln Road to Pine Street).
- The "Y" junction is the region's traffic 'Achilles heel'. Traffic operations through the series of signalized intersections at the confluence of US 199, OR 99 and OR 238, known as the "Y", will worsen in the future. There is need for additional local street network support in the immediate area, and potentially an additional river crossing (even if only for pedestrians and bicyclists),
- Need for a new, continuous east-west collector street south of the Rogue River and US 199, linking Rogue Community College and Grandview Avenue.
- Applied system management strategies and potential adaptive traffic signal control measures will be studied and potentially applied on US 199 and OR 99 near I-5 to help improve future traffic flow and reduce congestion-related crash incidence.
- High traffic growth in specific corridors are expected to exacerbate high crash intersections and/or highway segments.
- Substandard streets are identified in the 2008 Transportation Master Plan and are subject to further TSP evaluation and identification as either reconstruction projects or urban street upgrades
- Intersections where future traffic exceeds mobility standards are identified in Appendix C, including the general year in which future traffic is estimated to exceed thresholds.

- Future truck operation deficiencies are similar to auto, but more focused on the main highway corridor and freight routes, including US 199, OR 99, and OR 238.

- There are notable state highway and city arterial/collector street corridor segments with high levels of future traffic growth. These conditions will exacerbate known bicycle system deficiencies, and accelerate the need for new bicycle facility improvements (see Technical Memorandum #4, section 3.2.3),

- High levels of future traffic growth will also likely exacerbate known pedestrian system deficiencies, and accelerate the need for new sidewalks and/or additional sidewalk buffering improvements (see Technical Memorandum #4, section 3.1.3).

- As JCT expands service on new routes and increases service frequency along all routes in the Grants Pass urban area, there will be need to improve the sidewalk network to improve transit accessibility.
- Pedestrian/transit accessibility improvements are needed along several city transit streets.

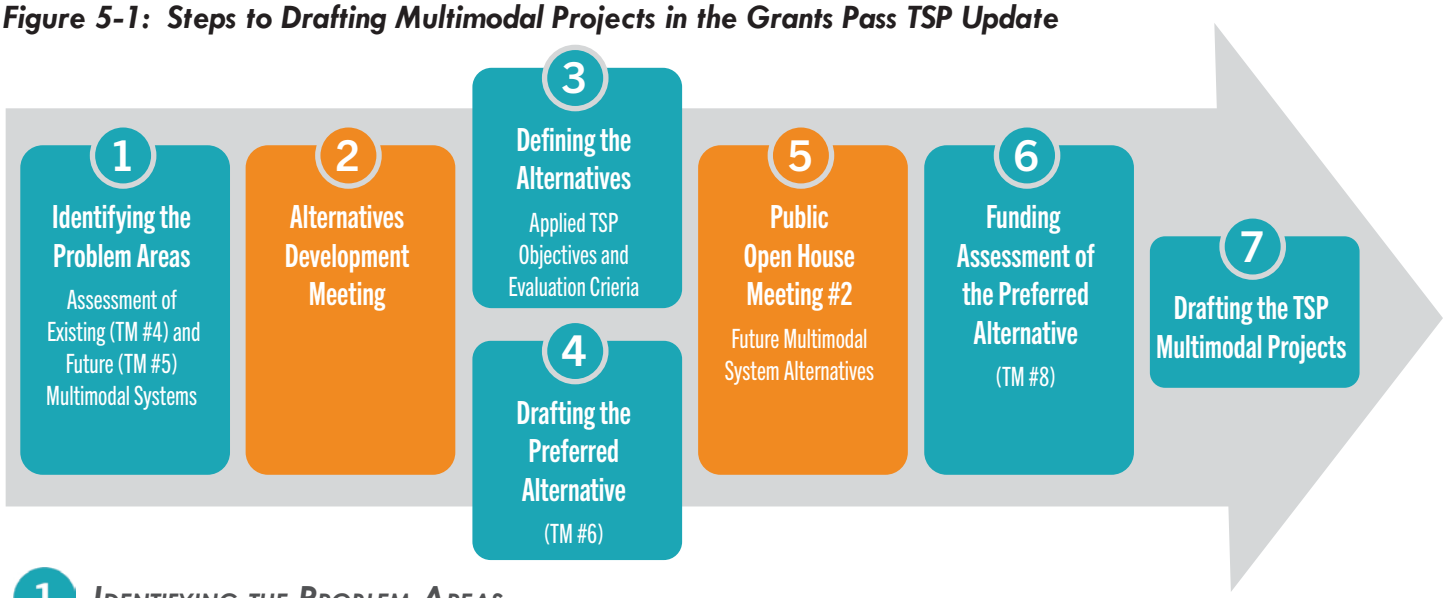
5 Multimodal System Plan

Placeholder

Steps to Drafting the TSP

The Grants Pass TSP Update process followed a series of analytical steps, and technical committee advisory guidance and citizen input to help identify key transportation system problem areas and potential solutions to resolve them. See **Figure 5-1**.

Figure 5-1: Steps to Drafting Multimodal Projects in the Grants Pass TSP Update



1 Identifying the Problem Areas

As a first step, the findings of the analysis of existing and future conditions helped frame the core transportation problem areas within the Grants Pass urban area. **Figure 5-2** maps by reference several transportation problem areas that local residents and travelers frequently experience in the Grants Pass urban area:

A. The 'Y' Junction. Where US 199, OR 99 and OR 238 meet. The 'Y' Junction is heavily congested during peak travel times. There are very limited travel route options linking north and south Grants Pass that do not require passage through the 'Y.'

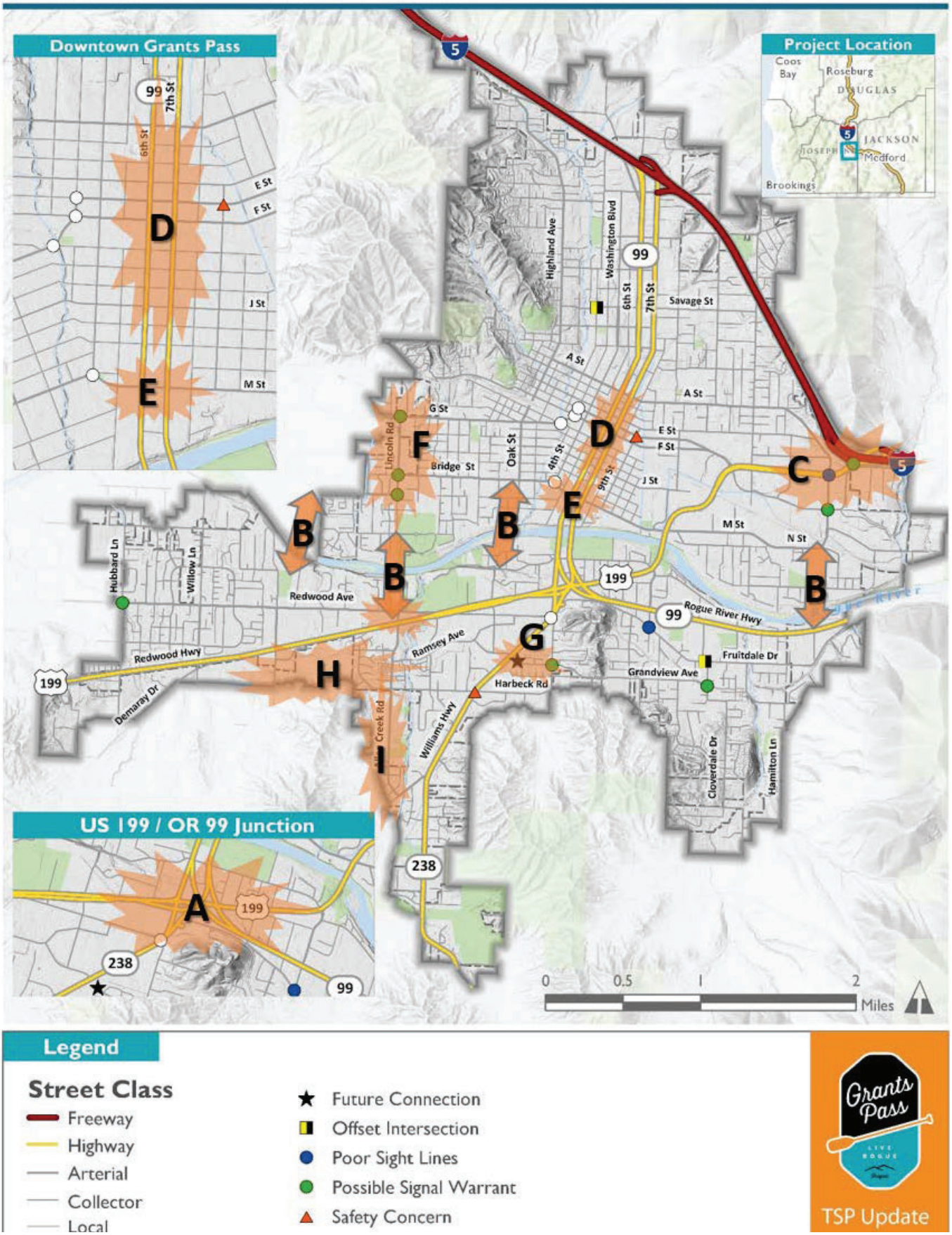
B. Rogue River Bridges. The OR 99 and US 199 Rogue River bridges are heavily congested during peak times. The current Grants Pass TSP identified the location for a new bridge between Lincoln Road and Allen Creek Road to alleviate this congestion and provide additional route options. Recent completion of the US 199 Expressway Plan also indicates the need to shift Redwood Avenue north with a new connection to Allen Creek. Further, the Pedestrian Connectivity Analysis (Volume 2) also notes that OR 99 (north of A Street) and US 199 are barriers to pedestrian (and bicycle) travel.

C. I-5 Exit 55. Existing and future traffic volumes make it difficult for southbound I-5 off-ramp motorists to cross US 199 and turn south onto Agness Avenue.

D. Downtown. The high density of local businesses and inviting streetscape in downtown make this area an attractive destination to explore on foot – for local residents and visitors alike. Both 6th and 7th Streets carry high vehicle traffic into and through downtown. The crash history in this area (Volume 2, Pedestrian Connectivity Analysis), however, suggests that improvements can be made to enhance pedestrian safety at key intersections along 6th Street.

E. Bridge Street/'M' Street Corridor. This Bridge and M Streets corridor is highly congested during peak travel times. It is a major east-west, continuous connection for vehicles, pedestrians, and bicyclists alike. There are few, if any, alternative streets linking east and west Grants Pass, north of the Rogue River.

Figure 5-2: Problem Areas Identified in TSP Update



Enhancements to this route in the downtown area should be made to enhance cyclist safety.

F. **Lincoln Road, Lower River Road, and Upper River Road.** These routes and key intersections along them are located within the transition area between rural lands and the Grants Pass urban area. At these locations, gateway and traffic calming improvements may help reduce excessive vehicle speeds and enhance safety

G. **Grandview Avenue.** South of the Rogue River, the city's local street alternatives to US 199 for east-west travel are discontinuous and incomplete. Implementing an extension of Grandview Avenue to OR 238 will provide an improved local street alternative for east-west travel on the most congested segments of US 199.

H. **Southwestern Grants Pass.** As described above, additional east-west local street connections may help alleviate congestion on US 199 south of the Rogue River. The current Grants Pass TSP identifies the completion of Schutzwohl Lane as a priority to improve local, east-west travel options.

I. **Allen Creek Road Connection.** Connecting Allen Creek Road at Denton Trail, and improving Allen Creek Road between Harbeck Road and Denton Trail to urban street standards with sidewalks and bike lanes will provide improved local connectivity and enhance cyclist and pedestrian safety.

While too numerous and difficult to map as a group, the TSP Update process also identifies a series of individual street, sidewalk and bicycle deficiencies. Several of Grants Pass' existing collector and arterial streets were originally constructed without important bicycle and pedestrian features. There was concerted effort in the panning process to identify important sidewalk and bicycle network improvements that help complete the walking and cycling networks within and through the City's neighborhoods.

2 Alternatives Development Meeting

On February 13, 2019, the Technical Advisory Group met to review, refine and confirm the set of draft, multimodal project and network improvement options. The following section is a refinement of the various transportation alternatives examined in the Alternatives Development Meeting.

3 Defining and Analyzing the Alternatives

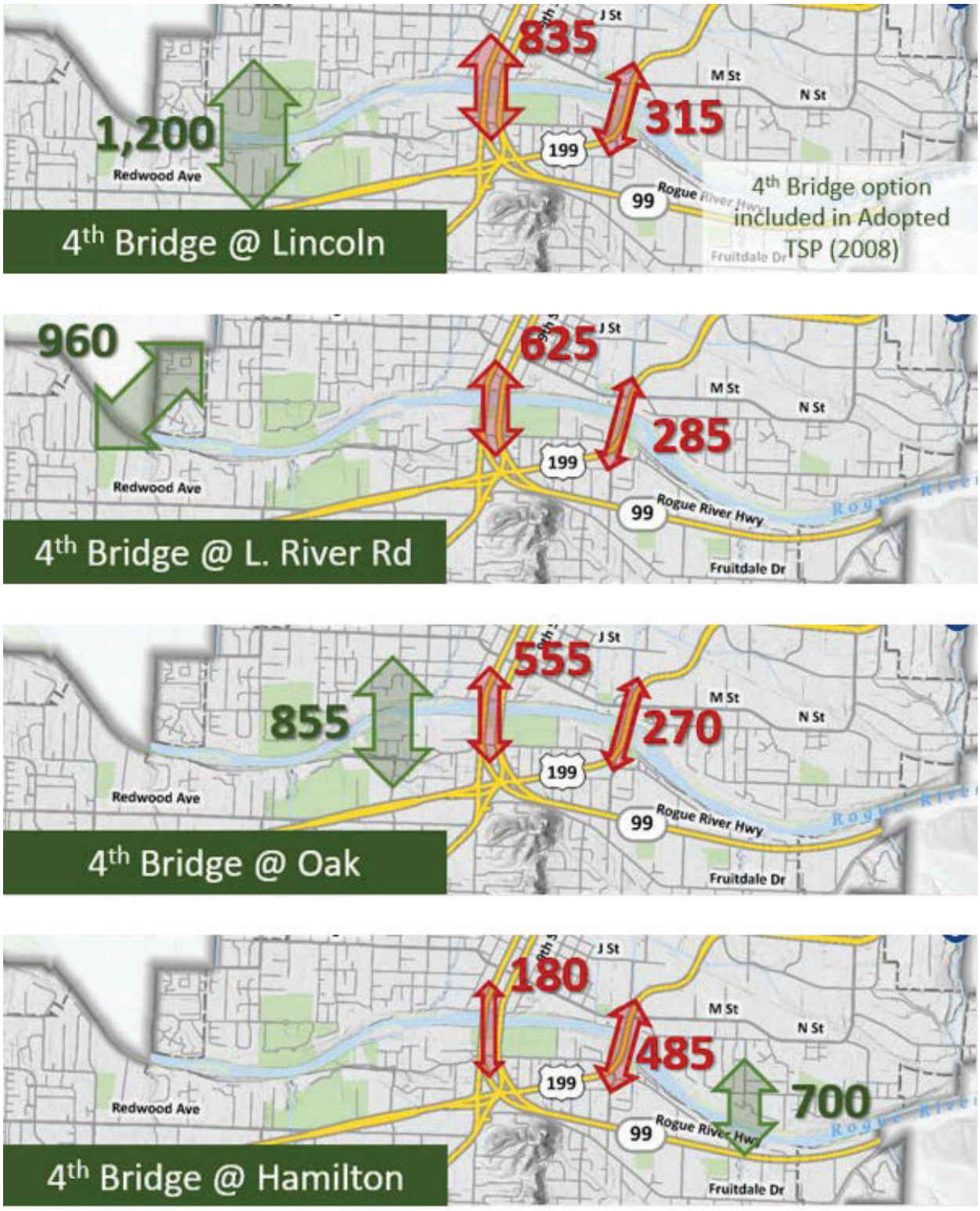
Multimodal improvement alternatives were evaluated based on the TSP goals and objectives. Alternatives were identified by their location within the urban area, and where applicable, the alternatives are illustrated in concept-level diagrams. Each of the alternatives were evaluated based on their impact or benefit to a series of evaluation criteria, including safety, vehicle network, pedestrian-bicycle network, public transportation, rail/freight movements, environmental justice populations, and the universal access to address the Americans with Disabilities (ADA) Act. Volume 3, Technical Memorandum # 6 – Alternatives Development, summarizes the alternatives evaluation and scoring.

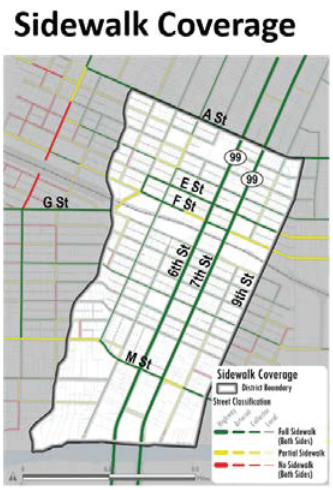
This section highlights the major TSP alternatives defined and evaluated.

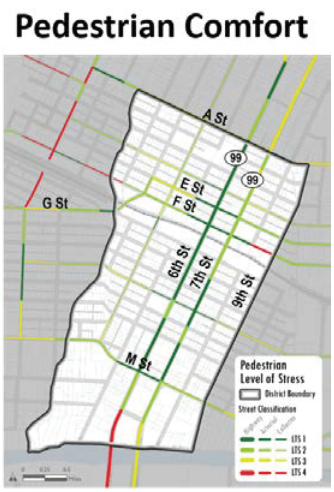
Fourth Rogue River Bridge

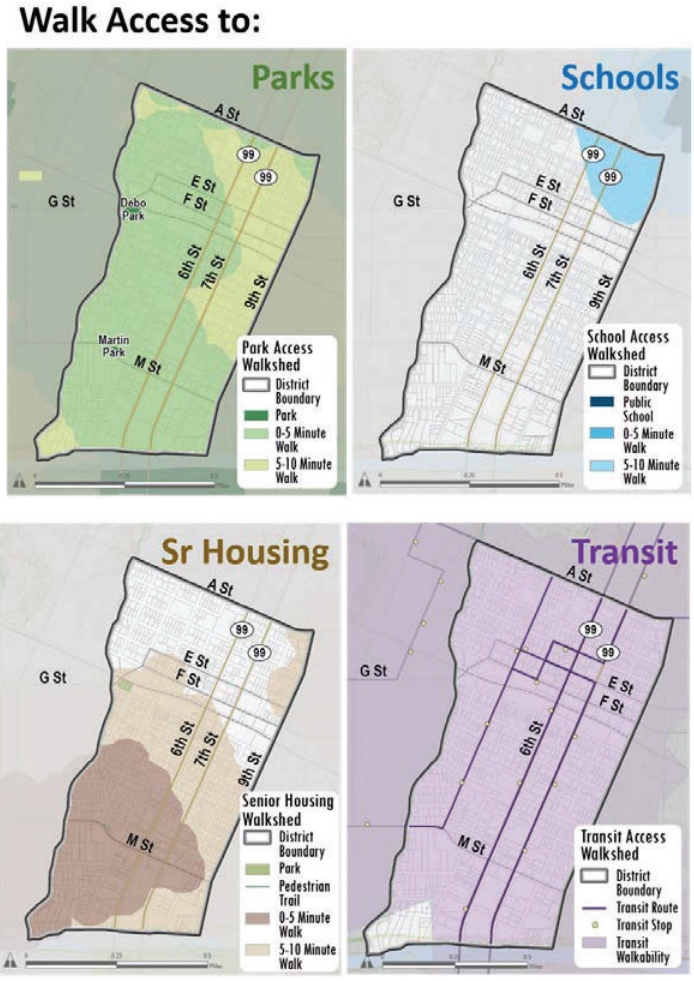
To help alleviate traffic congestion through the 'Y' Junction, the current Grants Pass TSP (2008) identified the location for a fourth bridge crossing of the Rogue River, linking Lincoln Road and Allen Creek Road. To further test the current TSP's Fourth Bridge, four alternative locations were examined (see **Figure 5-2**). For each bridge option future traffic forecasts were calculated to estimate the level of traffic relief each bridge option afforded to the OR 99 (6th and 7th Street) and US 199 bridges. As shown in **Figure 5-3**, the Fourth Bridge option as currently adopted in the City's TSP (between Lincoln Road and Allen Creek Road) is estimated to have the most significant impact in alleviating congestion on the other Rogue River bridges.

Figure 5-3: Fourth Bridge Options: Estimated Shifts in Vehicular Traffic (2040 PM Peak Hour)









Pedestrian Network

A more in-depth review of the Grants Pass pedestrian system was undertaken in the study and summarized in the Pedestrian Connectivity Analysis report (Volume 2). The Pedestrian Connectivity Analysis combined an assessment of the gaps in the current pedestrian system, measured pedestrian connectivity, the level of traffic stress rating for all collector and arterial streets, a detailed assessment of pedestrian crashes over the most recent five-year period, a summary assessment of street lighting, and pedestrian accessibility measures to key destinations (e.g. parks, schools, transit, etc.) throughout the city.

Outcomes of the Pedestrian Connectivity Analysis guided the identification of priority sidewalk improvement needs forwarded as the Preferred Alternative.

New Sidewalk and Pedestrian Crossing Priorities

City arterial and collector street routes with intermittent sidewalks or missing sidewalks are key candidates for TSP Update project prioritization. Routes like Bridge Street, Highland Avenue, Beacon Drive and Fruitdale Drive serve important neighborhood walking connections, but in some places lack continuous sidewalk connectivity. The identification of new sidewalk and pedestrian crossing improvements was informed by the Pedestrian Connectivity Analysis and the Safe Routes to School (SRTS) study, prepared for public schools in Grants Pass.

Downtown Pedestrian Safety Enhancements

The high density of local businesses and inviting activities in downtown make this area an attractive destination to explore on foot – for city residents and visitors alike. The high traffic on 6th and 7th Streets, and the crash history in this area, however, suggests that improvements can be made to enhance pedestrian safety at key intersections.

Through examination of recent pedestrian crashes in downtown the TSP Update analysis indicates that the extension of the corner curbs will likely help improve

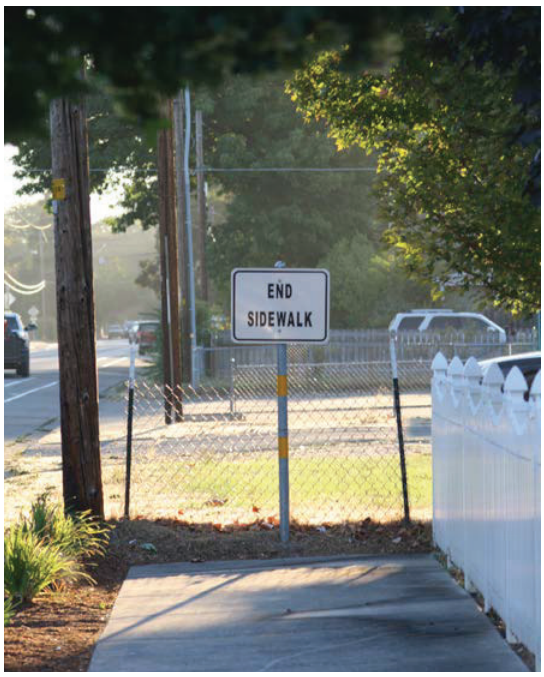
pedestrian safety, especially along 6th Street. Extended curbs help reduce the pedestrian crossing distance and make pedestrians crossings more visible to approaching motorists, while requiring only limited reduction in a select few on-street parking spaces.

Grants Pass' City Center Attracts Walking, Cycling, and Transit Trips

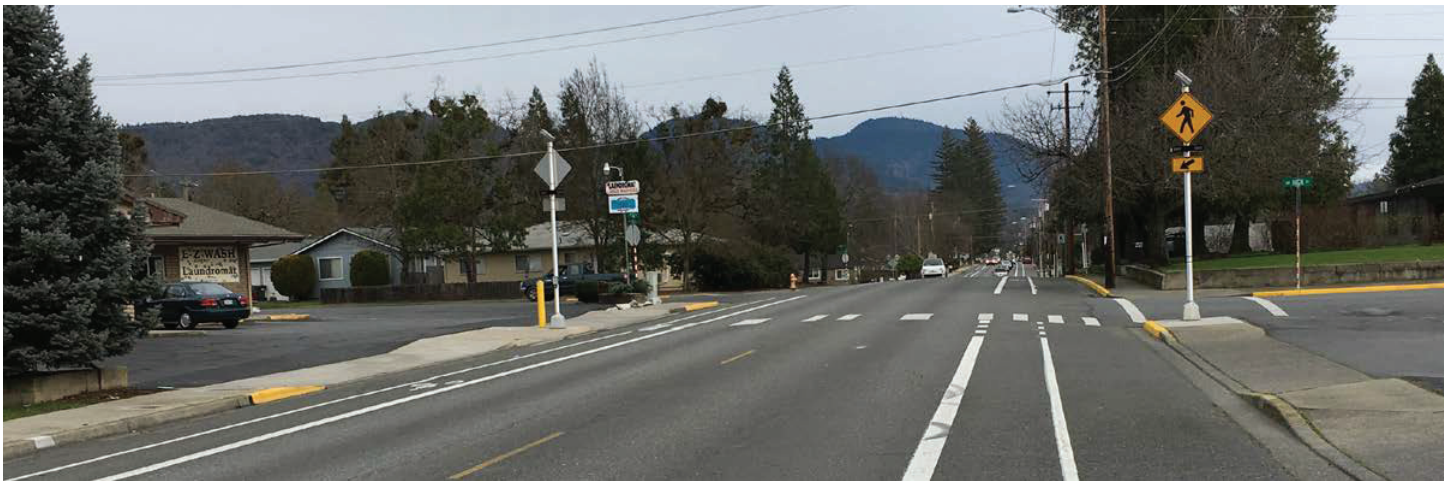
Transit and School Access Enhancements

A careful comparison of Josephine Community Transit's (JCT) planned future bus route network to the city arterial/collector street network was undertaken. Pedestrian Level of Traffic Stress (Volume 3, Technical Memorandum #6 – Alternatives Development) scores were used to help identify key city arterial and collector streets that require added sidewalk connectivity to improve access to transit.

A similar exercise was conducted focusing on school access. **Figure 5-4** maps street segments with missing sidewalks near the city's public schools, and new sidewalk priorities identified from the Pedestrian Connectivity Analysis along city collector and arterial streets. Individual maps for each school were used to supplement the Grants Pass School District 7 Safe Routes to School (SRTS) Analysis found in Volume 3, Technical Memorandum #6 – Alternatives Analysis (Appendix A).

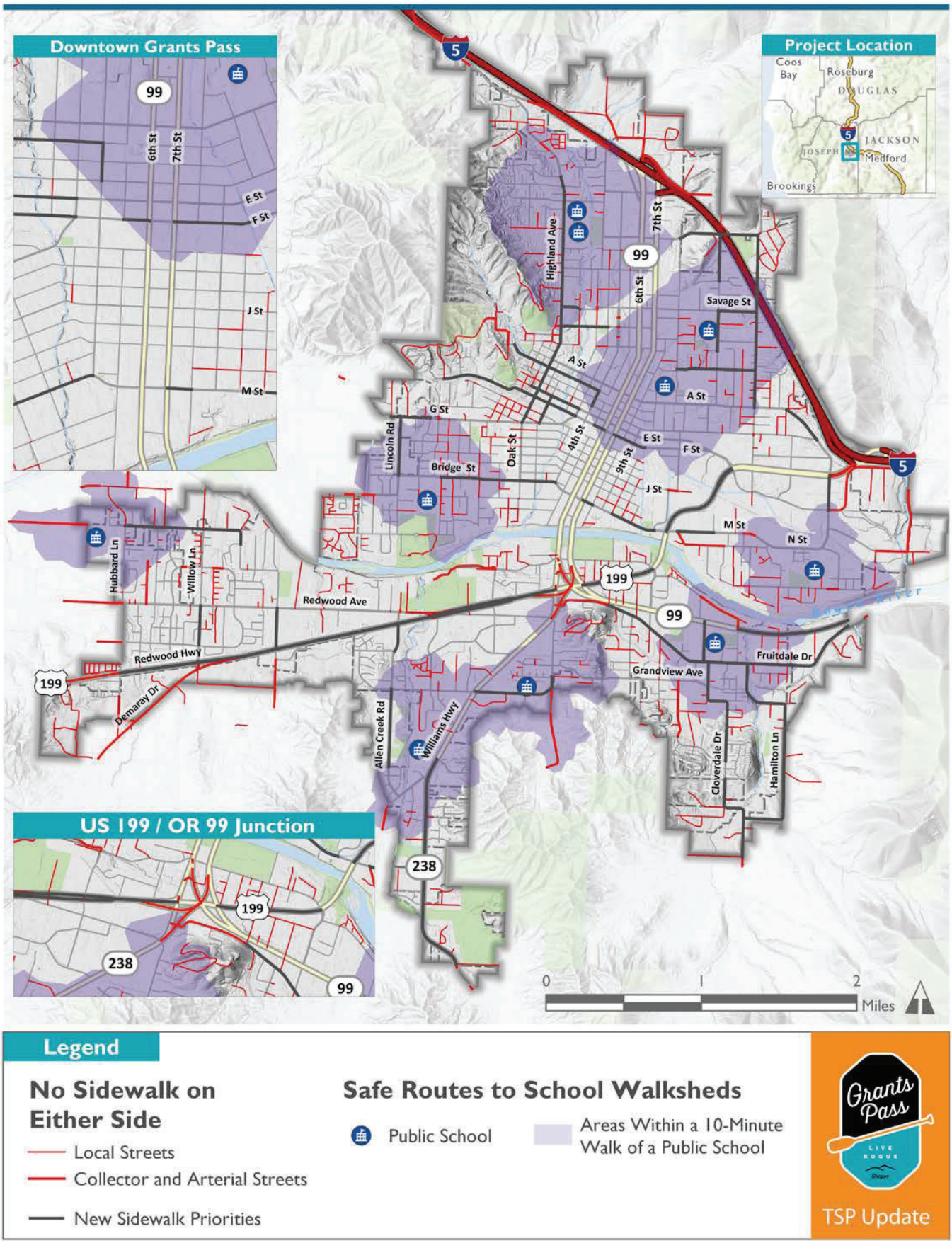


The TSP Identifies New Sidewalk Projects to Improve Walking Connectivity



A Rectangular Rapid Flash Beacon Signal and Pedestrian Crosswalk on 'G' Street, near High Street

Figure 5-4: Grants Pass Public School Walksheds, Missing Sidewalks and New Sidewalk Priorities



Redwood Avenue Buffered Bike Lane

7th Street Bike Lane

Bicycle Network

At present, on-street and off-street bicycle facilities in Grants Pass include bike lanes, shared lanes, bike boulevards, and shared use paths. The City has been constructing several multimodal street projects and re-designating numerous city streets with new bike lanes or shared travel lane routes.

Despite these improvements, there remains several gaps in the City's greater bike network. The TSP Update process identifies potential locations for bicycle route enhancements and new network connections.

Bicycle Route Enhancements

In the downtown Grants Pass area, and in the area along the OR 99 corridor, there are a number of locations where enhancements to the bicycle network may:

1. Improve safety (by increasing the visibility of bicyclists for motorists, and increasing separation between the modes, as conditions warrant), and,
2. Encourage an increase in non-motorized trips to and between downtown destinations

Also, both the OR 99 (6th and 7th Streets) and US 199 bridges have very limited bicycle facilities.

By improving safety and creating a more inviting network and environment for cyclists, the below route enhancements promote increased bicycle and pedestrian activity in the city's neighborhoods and downtown, which is home to many local businesses, including shops and restaurants.

New Bicycle Route Connectors

There are a number of potential locations for new bicycle network connections in the city. Several factors influence the type of bicycle facility is best suited as Grants Pass expands its bicycle network, including available rights-of-way width, prevailing vehicular speed, and the presence of on-street parking. On

the City's residential streets with on-street parking and narrow widths that encourage low vehicle travel speeds, shared lanes may be an effective solution. On city streets and state highways with higher traffic volumes and speeds however, creating dedicated bicycle lanes, or buffered bicycle lanes, is recommended to create a safer and more inviting environment for cyclists.

New bicycle network connectors are needed in several corridors, summarized below by bicycle facility type:

Bike Boulevards (shared-lane)

East-west routes in north Grants Pass, including:

- Hillcrest Drive – from Hawthorne Avenue to 9th Street
- Midland Avenue – from Highland Avenue to 7th Street
- Savage Street – from 7th to Street to Beacon Drive
- Manzanita Avenue – from Highland Avenue to 6th Street

Bike Lanes

- Beacon Drive – north of 'A' Street
- Highland Avenue / Dimmick Street / Oak Street - to provide a continuous north-south connection (with new street and railroad crossing extension of Dimmick Street)
- Lincoln Road - between 'G' Street and Bridge Street
- Fruitdale Drive – between OR 238 and UGB
- Allen Creek Road – between Harbeck Road and Denton Trail

Street Network Enhancements

Grants Pass' current TSP, originally adopted in 1997 and updated in 2008, includes a comprehensive list of the City's arterial and collector streets, and whether they meet the City's street standards (number travel lanes, bike lanes, curb, gutter and sidewalks. The 2008 TSP includes a priority listing of new collector/arterial streets, and those existing streets that need upgrading to meet standards. Several of those street projects have been completed or partially completed since 1997 and 2008 (e.g. Redwood Avenue).

The 2018 TSP Update focuses on the remaining street improvements from the 2008 TSP yet to be constructed, and provides a more current estimate of the planning-level costs associated with the various transportation improvement alternatives.

Public Transportation Program Options

Transportation options programs employ other, less capital intensive approaches to combat traffic congestion. These approaches may include, but are not limited to:

- Improved transit services (e.g., new connections, shorter travel times, or increased service frequencies)
- Carpool matching
- Vanpool program
- Incentives to avoid travel on congested routes during peak times
- Incentives for riding transit, participating in a carpool or vanpool, or walking and biking rather than driving alone

Key routes and junctions in Grants Pass see significant levels of congestion during peak times. By 2040, congestion level and the number of routes and intersections that will be significantly impacted are expected to increase. Implementing an effective transportation options program is a cost-effective way to combat congestion by reducing the number of drive-alone trips, particularly during peak times.

JCT Transit

For example, about 75% of employed Grants Pass residents commute to other locations within the urban area, or travel to the Medford/Ashland urban area. The prevalence of these work place destinations suggests there is an opportunity to incentivize higher rates of vehicle occupancy for these trips with approaches related to transit, carpool, and vanpool.

Implementing Shared-Ride

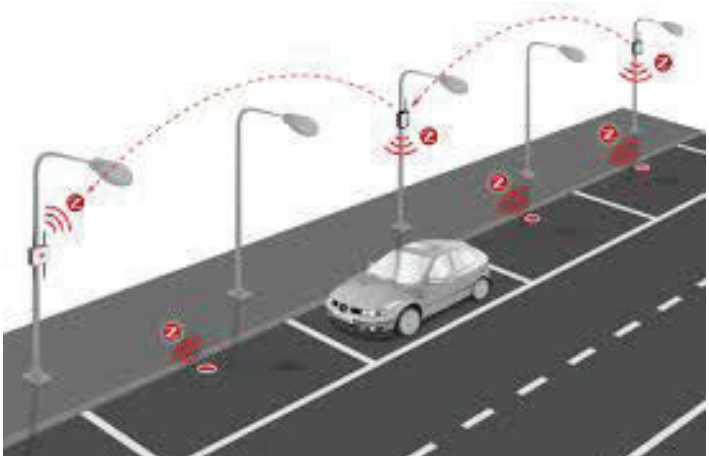
New technologies that facilitate car and ride-sharing continue to evolve, providing a continually growing and improving suite of available tools for cities to encourage carpooling. Carpooling can be a cost-effective way to manage traffic demand on congested routes during peak times. Available tools, such as ODOT's 'Get There' rideshare program, and can help incentivize Grants Pass residents and commuters to carpool. Coordination and engagement among area employers will provide significant support for promoting ride sharing to their employees. Incentives such as flexible work schedules and designated carpool/vanpool parking may help nudge employees to participate by carpooling and/or adjusting the time of their commutes to avoid peak periods.

Facility improvements, such as a new park and ride lot near the Exit 55 I-5 interchange may help to promote use of transit, carpool, and vanpool. A park and ride lot could provide transit with an effective way to attract and collect riders (especially Grants Pass workers traveling to work destinations in Medford and Ashland). A park and ride lot could also provide a convenient location for carpools and vanpools to meet.

Parking Management

Downtown merchants seek to maximize access to available (but limited) and proximate public parking space for their customers. The City continues to examine options to improve information and signage to off-street parking lots for general public use. Local residents seem to navigate this system well, but as tourism grows, the challenge to provide direct access to unoccupied public parking space for visitors and customers will intensify. Poorly developed parking information systems and programs result in sometimes unnecessary, out-of-direction travel within the city center street networks.

Smart parking technology continues to evolve as an increasing number of cities struggle with traffic congestion and inadequate parking availability, whether real or perceived. While the deployment of parking sensor technology continues to be central to the implementation of smart parking, other technological innovations are enabling more adaptable systems which include cameras, wireless communications, data analytics, induction loops and smart parking meters. Implementation of intelligent transportation system (ITS) in the near-term may include installation of real-time message signs to advise city-center motorists of available parking at each of the city's public lots. Future expansion of smart parking may include on-street parking sensors. The combination of these technologies is likely to improve direct parking access, and minimize out of direction travel within downtown Grants Pass.



Smart Park

4 Drafting the Preferred Alternative

Early in the 2018 TSP Update, a series of evaluation criteria aligned with the TSP Objectives (Volume 3, Technical Memorandum #2). These criteria were applied to the range of multimodal system

improvement alternatives. In addition, each of the alternatives were scored with respect to whether it generally provides a positive benefit any of the following transportation system features:

- Safety
- Vehicular Network
- Bicycle & Pedestrian Network
- Public Transportation
- Rail / Freight Systems
- Identified Title VI and Environmental Justice populations, and
- ADA compliance (if applicable)

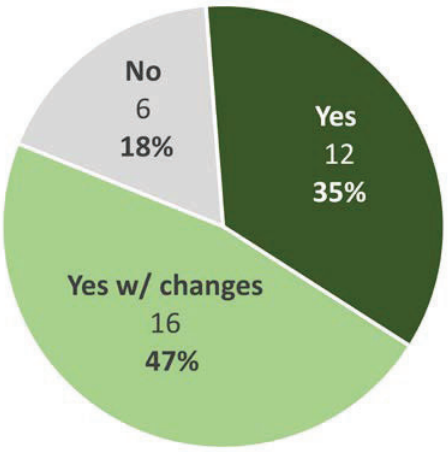
The applied evaluation criteria and summary of benefits for each of the Draft TSP Update alternatives is summarized in **Table 5-1**. The Preferred Alternative reflects those potential projects that rate highest in their anticipated benefits and positively address the greatest number of evaluation criteria. A three-tier scheme is defined, categorizing potential TSP projects in one of three priorities: high, medium or low.

5 Public Open House Meeting

An online open house was used to share information and collect feedback from August 2 to October 14, 2019. The online open house presented information summarizing existing transportation problems, and listed the range of possible improvements of the Preferred Alternative to solicit comments. While the open house was live, it was visited by 245 unique users (computers) who submitted at total of 44 comment forms.

Agreement with Priorities

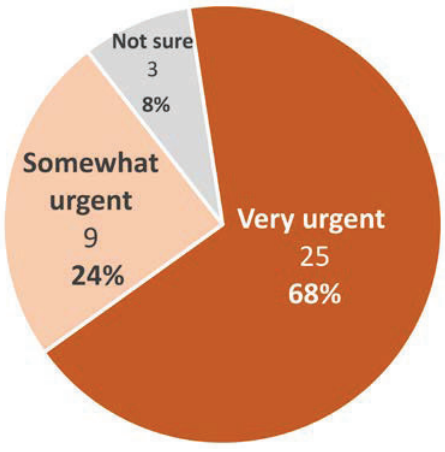
Do you agree with the proposed roadway improvement priorities?



82% of respondents agreed with the listed priorities.

Urgency of "Y" Junction

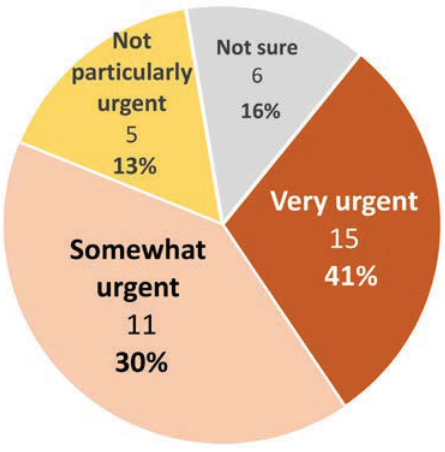
Relative to other transportation issues in Grants Pass, how urgent is it to address problems relate to the "Y" junction and US 199?



Over 90% of respondents felt that addressing the Y-junction was somewhat or very urgent. No respondent said that it was "not particularly urgent."

Urgency of Fourth Bridge

With the understanding that additional study is necessary, how urgent is the need for a fourth Rogue River bridge for addressing transportation problems in Grants Pass?



71% of respondents felt that a fourth bridge is somewhat or very urgent.

Table 5-1: Prioritizing the Preferred Alternative

PREFERRED ALTERNATIVE (Draft - March 2019)

	Street	from	to	Description	Estimated Cost	Benefits							TSP Objectives																			
						Safety	Vehicular	Ped-Bike	Transit	Rail / Freight	Environmental Justice Populations	ADA Compliance	1.1 Complete the System	1.2 Provide Acequate Mobility for All Travelers	1.4 Provide Safety for all Travelers	1.5 Provide a Multimodal System	1.6 Ensure Accessibility to Transportation	1.7 Ensure Streets are Multimodal	1.8 Meet Standards for Mobility & Accessibility	2.1 Consistency with RTP	2.4 Integrated Land Use & Transportation	3.1 Manage System Effectively	3.2 Maintain/Preserve Existing Pavement	4.1 Stimulate Economic Development	4.2 Support Tourism	4.3 Provide Goods Movement/Relieve Congestion	5.1 Conserve Energy / Encourage Alternative Modes	5.2 Enhance Community Aesthetics	5.3 Protect Neighborhoods	5.4 Protect Air Quality	5.6 Mitigate Negative Impacts	8.1 Enhance Health of Resicents and Users
HIGH PRIORITY																																
New Street System Improvements																																
1	Fourth Bridge	Redwood Ave	Webster Rd	New Bridge	$17,670,400	x	x	x	x	x	x	x	+	+	+	+	+	+	+	+	+			+	+	+	-		+	+	-	+
2	Lincoln Rd	Bridge	G Street	New signals/Urban Street Upgrade	$15,225,800	x	x	x	x			x	+	+	+	+	+	+	+	+	+	+				+		+	+			+
3	F Street	Elm St	Sunview Pl	New Sidewalks (south)	$395,000	x	x	x	x			x	+			+	+	+	+		+							+				+
5	I-5 Exit 55 Interchange			New Signal and Intersection Imps.	$1,484,300	x	x			x				+	+				+			+				+		+	+			+
5	I-5 Exit 58 Interchange			See STIP		x	x	x	x	x		x		+	+		+		+			+				+		+	+			+
23	W Park St	Allen Creek Rd	(Racetrack)	New street	$1,926,200	x	x	x				x	+	+	+	+	+	+	+		+						+		+		+		+
	subtotal				$36,701,700																												
Urban Street Upgrades																																
112	US 199 (Redwood Highway)	at OR 99 (Rogue River Hwy)		"Y" Junction Assessment Study																												
44	Allen Cr	Redwood Ave	Denton Trail	Urban Street Upgrade	$5,138,700	x	x	x			x	x	+	+	+	+	+	+	+	+	+							+	+			+
46	Bridge St / M St	5th St	8th St	Minor Widening to Add Bike Lanes	$833,500	x	x	x		x	x	x	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+		-	+
59	G Street	Lincoln Rd	Rogue River Hwy	Urban Street Upgrade	$1,470,100	x	x	x				x	+	+	+	+	+	+	+	+	+							+	+			+
64	Harbeck Rd	W Harbeck Rd	Dowell Rd	New Collector Street	$483,000	x		x				x	+	+	+	+	+	+	+	+	+		+					+	+			+
78	M St	OR 199	Fern St	New Sidewalks (both sides)	$652,400	x		x			x	x	+	+	+	+	+	+	+	+	+		+					+	+			+
88	Park St W	Ringuette St	(Racetrack)	Urban Street Upgrade	$3,690,300	x	x	x				x	+	+	+	+	+	+	+		+			+				+	+			+
107	Willow Ln	Redwood Hwy	Redwood Ave	Due for Construction in 2019		x	x	x			x	x	+	+	+	+	+	+	+		+							+	+			
	subtotal				$12,268,000																												
Pedestrian, Bicycle and Demand Management Improvements																																
	Bridge Street	Cottonwood Street	4th Street	In-Fill Sidewalks	$421,300	x		x				x	+	+	+	+	+	+	+	+	+		+					+	+			+
	Wayfinding	Downtown		Wayfinding Signs & Pavement Markings	$250,000			x					+			+	+	+						+				+				+
	New Buffered Bike Lanes					x		x			x		+			+	+	+										+				+
	9th Street	C Street	M Street	Re-stripe Buffered Bike Lanes	$14,400	x		x			x		+			+	+	+										+				+
	US 199	Agness Avenue	Park Street	Re-stripe Buffered Bike Lanes	$37,500	x		x			x		+			+	+	+										+				+
	Smart Parking ITS	Downtown			$2,000,000		x							+								+			+			+				
	subtotal				$2,723,200																												
	HIGH PRIORITY TOTAL				**$51,692,900**																												

Multimodal System Plan

As measured by the feedback from the Open House, a significant majority of the Grants Pass community supports the Preferred Alternative ranking of multimodal projects. The following is a general summary of the Open House community response.

Street Improvements

Respondents were presented with the Preferred Alternative listing of high, medium, and low priority street projects and asked for feedback. They were also provided information about the fourth bridge and how a Y-junction would be addressed outside of the TSP process.

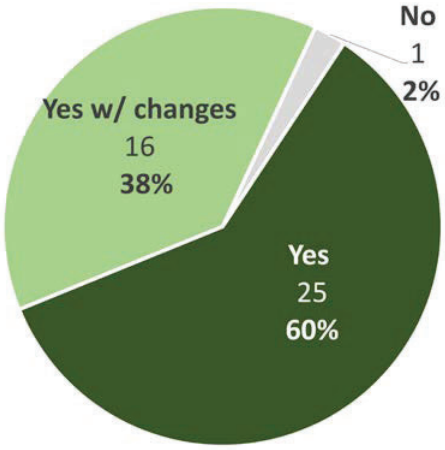
Pedestrian and Bicycle Improvements

Respondents were provided with a list of proposed locations for new sidewalks, pedestrian crossing improvements and bicycle improvements and were asked for feedback.

Participants in the Open House offered several ideas to refine the multimodal project list, many of which were incorporated in the next planning step – Funding Assessment of the Preferred Alternative – summarized here.

Pedestrian Improvements

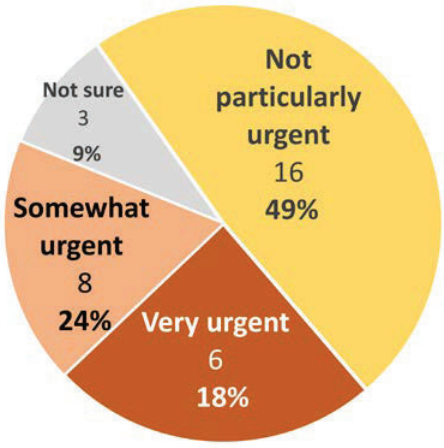
Do you agree with the proposed sidewalk and crossing improvement priorities?



71% of respondents supported the proposed improvements. One quarter suggested changes and only one respondent disagreed with the priorities.

Urgency of a new Bicycle-Pedestrian Bridge

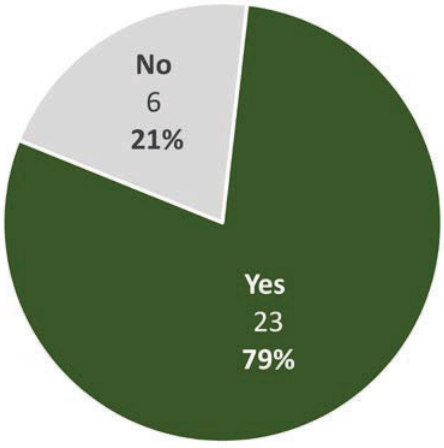
Relative to other transportation issues in Grants Pass, how urgent is the need for a new bicycle/pedestrian bridge in Grants Pass?



42% of felt that a new bridge was somewhat or very urgent. Half felt that a new bridge was not particularly urgent

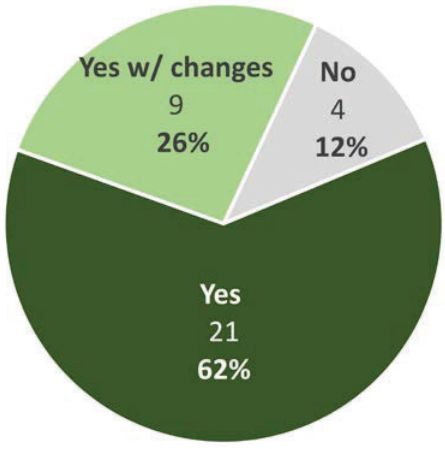
Location of a new Bicycle-Pedestrian Bridge

Do you agree with the proposed location for a new bicycle/pedestrian bridge?



Bicycle Improvements

Do you agree with the proposed bicycle improvement priorities?



88% of respondents agreed with the proposed improvements, though 24% wanted changes.

6 Funding Assessment of the Preferred Alternative

The next step in the TSP Update assessment focused on estimating the City's capacity to fund the multimodal project priorities identified in the Preferred Alternative. To accomplish this, the TSP Update identified and estimated three key measures:

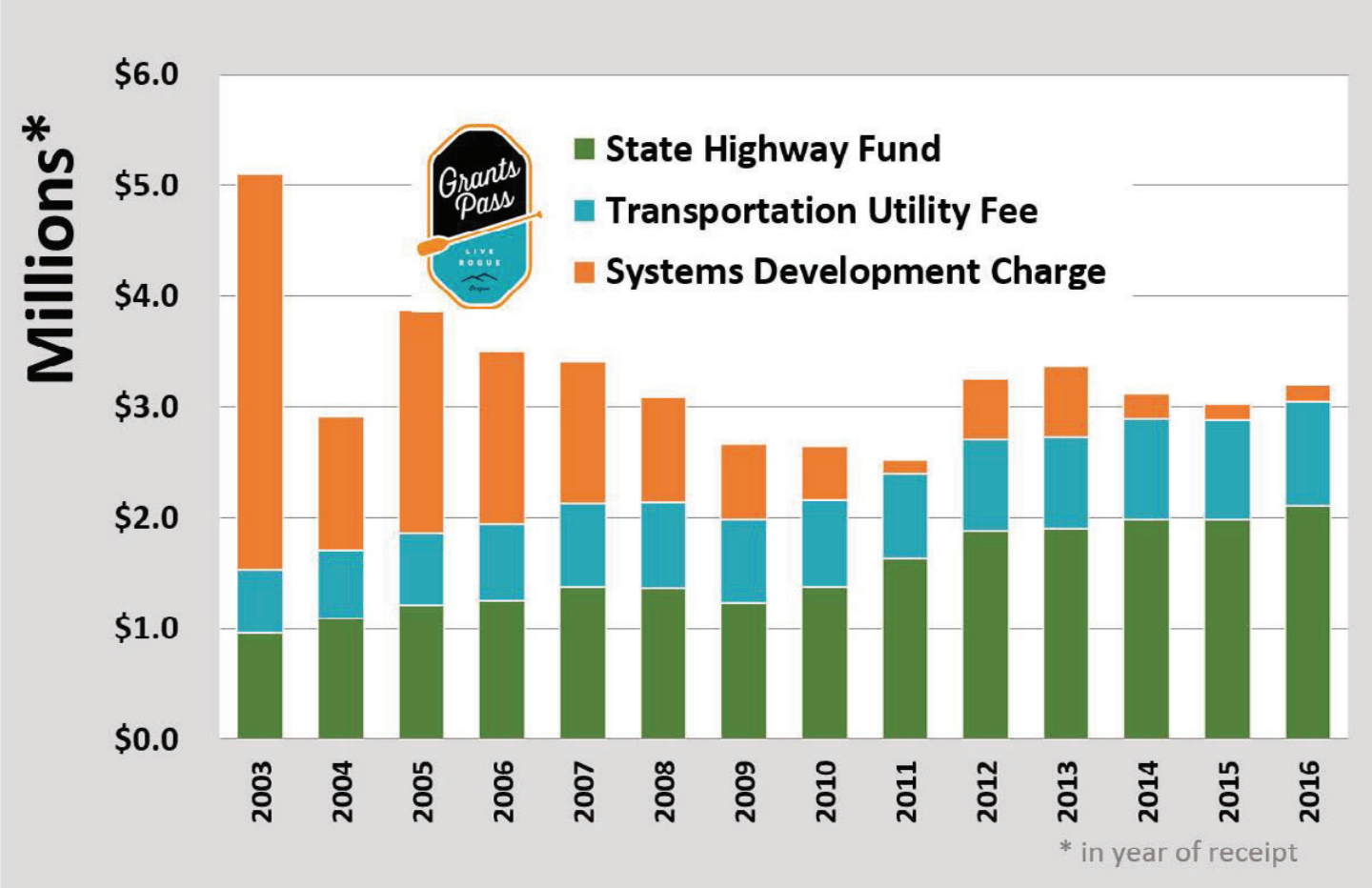
1. Grants Pass' future transportation revenues (2040 planning horizon), by revenue source,
2. The City's future transportation operations and maintenance program needs, and
3. The City's future transportation revenue capacity available for multi-modal capital improvement projects.

Summarizing the City's Current Transportation Funding Sources

The city currently uses three (3) primary revenue sources to fund transportation system expenses: State Highway Fund (statewide gas tax and registration fees distributed to cities and counties by formula), street utility fees and transportation system development charges (SDCs). **Figure 5-5** illustrates the City's three revenue sources and their historical trend from 2004 to 2019.

Through the Regional Transportation Plan (2015-2040), the City is also recipient of federal transportation revenues for project-eligibility funding under the Congestion Mitigation and Air Quality (CMAQ) and Surface Transportation Block Grant (STBG) programs. CMAQ provides flexible funding source to state and cities for transportation projects and programs that help meet the requirements of the Clean Air Act. Funding is available for projects that demonstrate a

Figure 5-5: Grants Pass – Existing Transportation Revenues



reduction in traffic congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas). The STBG program provides flexible funding that may be used by Grants Pass for projects that preserve or improve conditions and performance on public street, pedestrian and bicycle infrastructure, and transit capital projects.

Estimating the City's Future Transportation Revenue

Year 2040 future transportation revenue estimates for the city of Grants Pass are estimated and listed in **Table 5-2.** Future transportation revenues are predicated on FY 2019 reported transportation revenues or estimates. The City estimates CMAQ and STBG revenues conservatively for FY 2019. The State Highway Fund, Street Utility Fee and Transportation SDSs are the reported transportation revenues for FY 2019. Total revenue for the 20-year planning horizon is estimated at almost $114 million, which is the simple product of FY 2019 revenues multiplied by 20. The resulting value assumes no inflation or fluctuations in allocated funding or City revenue streams over the course of 20 years and is shown in year 2019 dollars.

Table 5-2: Grants Pass 20-Year Transportation Revenue Estimate

Transportation Revenue	FY 2019	20-Year
CMAQ	$350,000	$7,700,000[1, 2]
STBG	$200,000	$4,400,000[1, 2]
State Highway Fund	$2,709,804	$71,412,000[3]
Street Utility Fee	$1,018,666	$25,434,000[3]
Transportation SDCs	$217,209	$4,779,000[4]
Total	**$4,495,679**	**$113,725,000**

All Figures in 2019 dollars.

1 *City of Grants Pass estimate*
2 *Regional Transportation Plan, 2015-2040*
3 *ODOT Financial Forecast, post 2023 growth at 0.7% AAGR*
4 *City of Grants Pass, assumes 1.2% AAGR*

Estimating the City 's Future City Operations and Maintenance Program Needs

The City of Grants Pass budgets annually for transportation program operations and maintenance. Operation expenses include customer service, general operations and administration of the city's street light program. The transportation budget also includes the City's pavement management program.

The City's operation and maintenance program budget for FY 2019 is listed in **Table 5-3,** totaling slightly more than $1.9 million. The 20-year estimate of the city's operation and maintenance program expenses is based on the FY 2019 budget. Total program needs are estimated at slightly more than $42 million over the 20-year planning horizon.

Table 5-4: Grants Pass' 20-Year Transportation Program Expenses

City Program Expense	FY 2019	20-Year
Operations	$731,750	$16,099,000
Maintenance	$1,177,551	$25,906,000
Total	**$1,909,301**	**$42,005,000**

All Figures in 2019 dollars.

Table 5-3: Grants Pass' 20-Year Estimate – Funding Available for Capital Improvements

	Transportation Revenue	through 2040
	CMAQ	$7,700,000
	STBG	$4,400,000
	State Highway Fund	$71,412,000
	Street Utility Fee	$25,434,000
	Transportation SDCs	$4,779,000
	Total Revenue	**$113,725,000**
less	**Program Expenses**	**through 2040**
	Operations	$16,099,000
	Maintenance	$25,906,000
	Total Expenses	**$42,005,000**
net	**Funding Available for Capital**	**through 2040**
	Tier 1 Project List (100%)	**$71,720,000**
	Tier 2 Project List (150%)	**$35,860,000**

All Figures in 2019 dollars.
Source: City of Grants Pass

Estimating the City's Future Transportation Revenue Capacity for Capital Improvements

Table 5-4 lists the City's 20-year, transportation revenues and expenses, with the 20-year expenses accounting for the City's annual pavement management program. Subtracting the city's operation and maintenance program needs ($42 million) from total transportation revenues ($113.7 million) leaves approximately $71.7 million available for capital improvements. The Grants Pass TSP Tier 1 project list is drawn from the TSP Preferred Alternative to match the $71.7 million available through year 2040. Tier 2 funding is estimated at 150% of Tier 1, which yields approximately $37 million available for the TSP Preferred Alternative projects through year 2040.

7 Drafting the TSP Multimodal Projects

Re-Prioritizing the Transportation Project List

Refinements to the Preferred Alternative priority list of projects was completed with guidance from public input (On-line Open House) and the established funding capacity for multi-modal capital improvements through year 2040. To generally align with the high-, medium-, and low-priorities established for the Preferred Alternative, the revised project list is defined in three tiers:

- Tier 1 is the constrained project list based on 100% of the city's funding capacity for capital improvements,
- Tier 2 includes additional projects funded based on 150% of the city's funding capacity, and
- Tier 3 contains projects that are likely to be completed following the 20-year planning horizon, or when unforeseen funding becomes available, or projects funded by private development.

In addition to funding capacity, the selection of Tier 1 and Tier 2 projects are also grounded on two complimentary objectives:

1. Mutlimodal projects that best meet the TSP geographic parity of investments within all subareas of the Grants Pass urban area. To the extent possible, the TSP should directly benefit residents throughout the UGB.
2. Completion of critical pedestrian and bicycle network connections that support future transit systems development and offer Grants Pass residents and visitors the greatest mobility choice.

Pedestrian Improvement Projects

Figure 5-6 maps the TSP pedestrian improvements projects, by number, Tier and type. Each project is listed and described in **Table 5-5**, corresponding to the Pedestrian Projects map.

Tier 1

- New sidewalks to complete the pedestrian network along key street corridors (F Street, Fruitdale Drive, M Street, Nebraska Avenue, Upper River Road, Bridge Street and Hawthorne Lane),
- New 5th Street Rogue River Pedestrian-Bicycle Bridge,
- 6th Street curb extensions in downtown Grants Pass, and
- Multiple installation of flashing signals at key pedestrian street crossings.

Tier 1 priorities street improvement projects also contain important sidewalk connections.

Tier 2

- New sidewalks along Ringuette Street, Hamilton Lane, N Street, Portola Drive and Foothill Boulevard,

Tier 3

- The completion of sidewalks along New Hope Road west of OR 238, and along OR 238 south of New Hope Road, and
- Widening and replacing sidewalks along 6th and 7th Streets (Morgan Lane to) to meet ADA standards

Tier 3 improvements are noted on the state highway system, including upgrading sidewalks along OR 99 (6th and 7th Street) and installing sidewalks or a shared-use path along the north side of US 199.

Bicycle System Improvement Projects

Figure 5-7 maps the TSP bicycle improvements projects, by number, Tier and type. Each project is listed and described in **Table 5-6**, corresponding to the Bicycle Projects map.

Tier 1

- Re-striping key sections of Oak Street with new bike lanes, and re-striping 9th Street with buffered bike lanes,
- Designating bike boulevards with additional signing and shared-lane symbols on Hillcrest Drive (Hawthorne Ave. to 6th St.), Savage Street, Midland Avenue and Manzanita Street, and
- Re-striping and re-designating US 199 with buffered bike lane re-striping, and new shared-use paths for continuous connectivity from Agness Avenue, across the Rogue River to OR 99
- Tier 1 priorities street improvement projects also contain important new bike lane connections.

Tier 2

- Re-striping Hillcrest Drive with on-street bicycle lanes (6th Street to 9th Street)

Tier 3

- Designating bike boulevards with additional signing and shared-lane symbols on A Street, Beacon Drive, and 10th Street

Street System Improvements

Figure 5-8 maps the TSP street improvements projects, by number, Tier and type. Each project is listed and described in **Table 5-7**, corresponding to the Street Projects map.

Tier 1

Tier 1 includes several urban street upgrades, new streets and bridges and a range of pedestrian and bicycle system enhancements, including:

- New Fourth Bridge rights-of-way and approach improvements (cost of new bridge prioritized in Tier 3),
- West Park Street extension (to the new Fourth Bridge corridor, north of Josephine County Fairgrounds),
- Redwood Avenue re-alignment,
- Dimmick Street Extension between G Street and F Street (including new railroad crossing),
- Upgrades to urban street standards on Highland Avenue, Fruitdale Road, East Park , Harbeck Road, Hillcrest Drive, 10th Street and Savage Street, and
- New smart parking, intelligent transportation system (ITS) signing and infrastructure in downtown Grants Pass.

High priority, Tier 1 improvements also include the I-5 Exit 55 Interchange enhancements, with new traffic signal or roundabout at the intersection of US 199 and Southbound I-5 off-ramp, and intersection enhancements at US 199/Agness Avenue to better accommodate truck movements.

Tier 2

Tier 2 street improvement priorities include:

- New street extensions including Shutzwohl Lane, Leonard Road (to Kellenbeck Avenue), and Dimmick Street,
- Urban street upgrades on Beacon Drive, Dowell Road, Fruitdale Drive, Cloverlawn Drive,
- Extension of Shutzwohl Lane and Leonard Road, and
- New traffic signals on Bridge Street at 4th and 5th Streets

Tier 3

The City will likely pursue state and federal funding support for the construction of the new Fourth Bridge, as prioritized in Tier 3.

Urban street upgrade projects are identified on several city streets, including Hamilton Lane, Dowell Road, Fruitdale Drive, Haviland Drive, Cloverlawn Drive, Shannon Lane, Scenic Drive, Scoville Road, Estates Lane, Vine Street and Wolf Lane. New traffic signals may be warranted at the interstions of A Street and Beacon Drive, and at N Street and Agness Road.

Several new street improvement projects identified in Tier 3 are located in areas of planned development, thus it is likely that private development will contribute to their funding or fund them entirely. Tier 3 street projects include portions of Service Road, Crown Street, Coach Drive, Raydean Drive and George Tweed Boulevard.

Future improvements to the state highway system are also prioritized in Tier 3, including (1) widening OR 238 from New Hope Road to the UGB (two travel lanes, bike lanes and new sidewalks), and (2) widening US 199 to six travel lanes from Tussey Lane to Dowell Road (a state-funded project). These projects are dependent on state funding sources and ODOT priorities, an may occur within the 20-year planning horizon

Figure 5-6: Pedestrian Improvement Projects

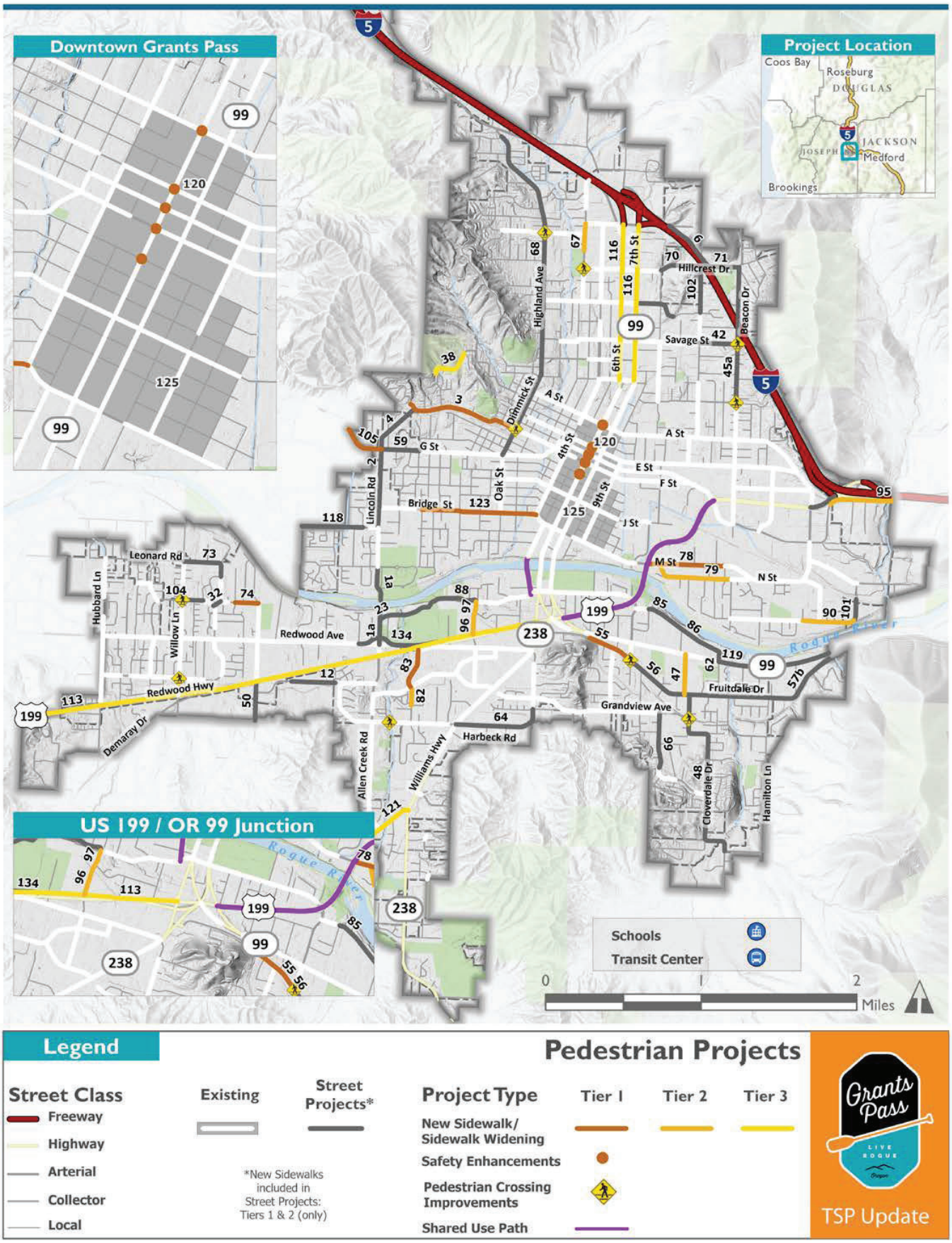


Table 5-4: Pedestrian Project Priorities

Tier 1

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/County)
New Sidewalk	3	F Street	Elm St	Sunview Pl		$474,000	$0
	55	Fruitdale Dr	Maple	Parkdale Dr		$445,300	$0
	74	Leonard Rd	Dowell Rd	Moon Glo		$146,500	$0
	78	M St	US 199	Fern St		$861,800	$0
	83	Nebraska Ave	Ramsey Ave (north)			$16,200	$0
	105	Upper River Rd	Lincoln Rd	UGB West		$172,400	$0
In-Fill Sidewalk	123	Bridge Street	Cottonwood Street	4th Street		$505,600	$0
	141	Morgan Lane	6th St	7th St		$0	$61,000
Safety/Network Enhancements	120	6th Street Curb Extensions	A, D, E, F & G Streets		New curb extensions to improve pedestrian safety	$0	$300,000
	124	Rectangular Rapid Flashing Beacon Signals (RRFB)	1. Hillcrest Dr: Hawthorne Ave to 6th St 2. Midland Ave: Highland Ave to 7th St 3. Savage St: 7th St to Beacon Dr 4. Manzanita Ave: Highland Ave to 7th St		Install RRFBs at multiple intersections for increased driver awareness and pedestrian safety	$658,400	$0
	125	Wayfinding Signs/ Pavement Markings	Downtown		Install wayfinding signs and pavement markings	$250,000	$0
Shared-use Path	128a	US 199 Shared-use Path	OR 99	Park St	Repurpose highway streetscape to shift centerline and travel lanes, and add shared-use path	See Bicycle Project List	
		US 199 Shared-use Path	M St	F St			
	133	5th St Rogue River Bike-Ped Bridge	Rogue River	Park Street	New bicycle and pedestrian bridge over Rogue River.	See Bicycle Project List	
					Total	**$3,530,200**	**$361,000**

Tier 2

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/ County)
New Sidewalk	47	Cloverlawn Dr	Rogue River Hwy	Fruitdale Drive		$370,600	$0
	67	Hawthorne Ave	Gilbert Creek Park	Morgan Ln		$40,400	$0
	79	N Street	M St	Rogue Dr		$782,800	$0
	82	Nebraska Ave	W Harbeck Rd	McCarter Dr		$80,400	$0
	90	Portola Dr	Harvey Ln	Shannon Ln	New Curb, Gutter and Sidewalk	$778,500	$0
	95	Foothill Blvd	Agness	Ament Rd	New Curb, Gutter and Sidewalk	$3,550,000	$0
	96	Ringuette St	US 199	Canal St		$37,300	$0
	97	Ringuette St	Canal St	W Park St	Canal crossing/new Sidewalks	$14,400	$0
					Total	**$5,654,400**	**$0**

Tier 3

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/ County)
In-fill Sidewalk	121	New Hope Road	OR 238	UGB		$206,800	$0
Sidewalk Widening	116	6th/7th Street Sidewalks	Evelyn Avenue	Morgan Lane	Widen/replace sidewalks to ADA standards	$0	$1,553,800
					Total	**$206,800**	**$1,553,800**

Figure 5-7: Bicycle Improvement Projects

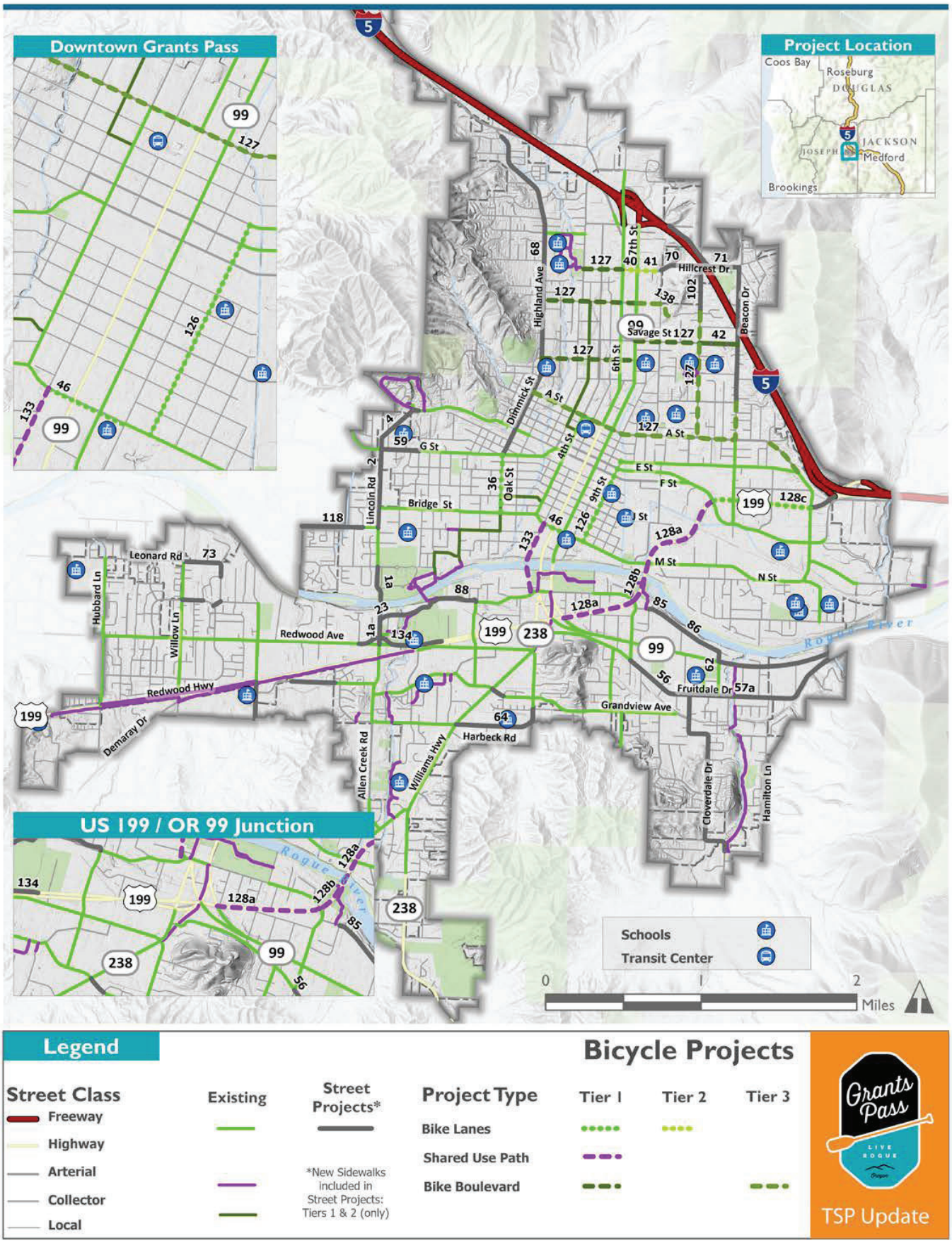


Table 5-5: Bicycle Project Priorities

Tier 1

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/ County)
Cycle Track	128b	US 199	Park St	M St	Repurpose highway bridge streetscape to shift centerline and travel lanes, and add two-way cycle track	$0	$13,215
Shared-use Path	128a	US 199	OR 99	Park St	Repurpose highway streetscape to shift centerline and travel lanes, and add shared-use path	$0	$52,955
			M St	F St			
	133	5th St Rogue River Bike-Ped Bridge	Rogue River	Park Street	New bicycle and pedestrian bridge over Rogue River. Includes restriping 5th and K Streets with bike lanes	$15,000,000	$0
Re-stripe Buffered Bike Lanes	126	9th Street	C Street	M Street	Restripe existing highway with buffered bike lanes	$14,400	$0
	128c	US 199	F St	Agness Ave	Restripe existing highway with buffered bike lanes	$0	$32,200
Re-stripe Bike Lanes	36	Oak St	G Street	Bridge St	Restripe existing street with standard bike lanes	$9,200	$0
	46	Bridge St / M St	5th St	8th St	Minor street widening to add bike lanes	$596,000	$0
Bicycle Boulevards (Signage)	127	Post and Mark Bike Boulevards	1. Hillcrest Dr: Hawthorne Ave to 6th St 2. Midland Ave: Highland Ave to 7th St 3. Savage St: 7th St to Beacon Dr 4. Manzanita Ave: Highland Ave to 7th St		Install bike boulevard signs and pavement markings for increased bicycle wayfinding and driver awareness	$58,500	$0
					Total	**$15,678,100**	**$98,370**

Tier 2

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/ County)
Re-stripe Bike Lanes	40	Hillcrest Dr	6th Street	7th Street	Restripe existing street with standard bike lanes	$2,300	$0
	41	Hillcrest Dr	7th Street	9th Street	Restripe existing street with standard bike lanes	$3,700	$0
					Total	**$6,000**	**$0**

Tier 3

Project Type	Project Number	Project Name	From	To	Modified Description (for TSP)	Cost (City)	Cost (ODOT/ County)
Bicycle Boulevards (Signage)	127b	Post and Mark Bike Boulevards	1. A Street: Dimmick St to Beacon Dr 2. Beacon Dr: A St to Savage St 3. 10th St: A St to Savage St		Install bike boulevard signs and pavement markings for increased bicycle wayfinding and driver awareness	$58,500	
					Total	**$58,500**	**$0**

Figure 5-8: Street Improvement Projects

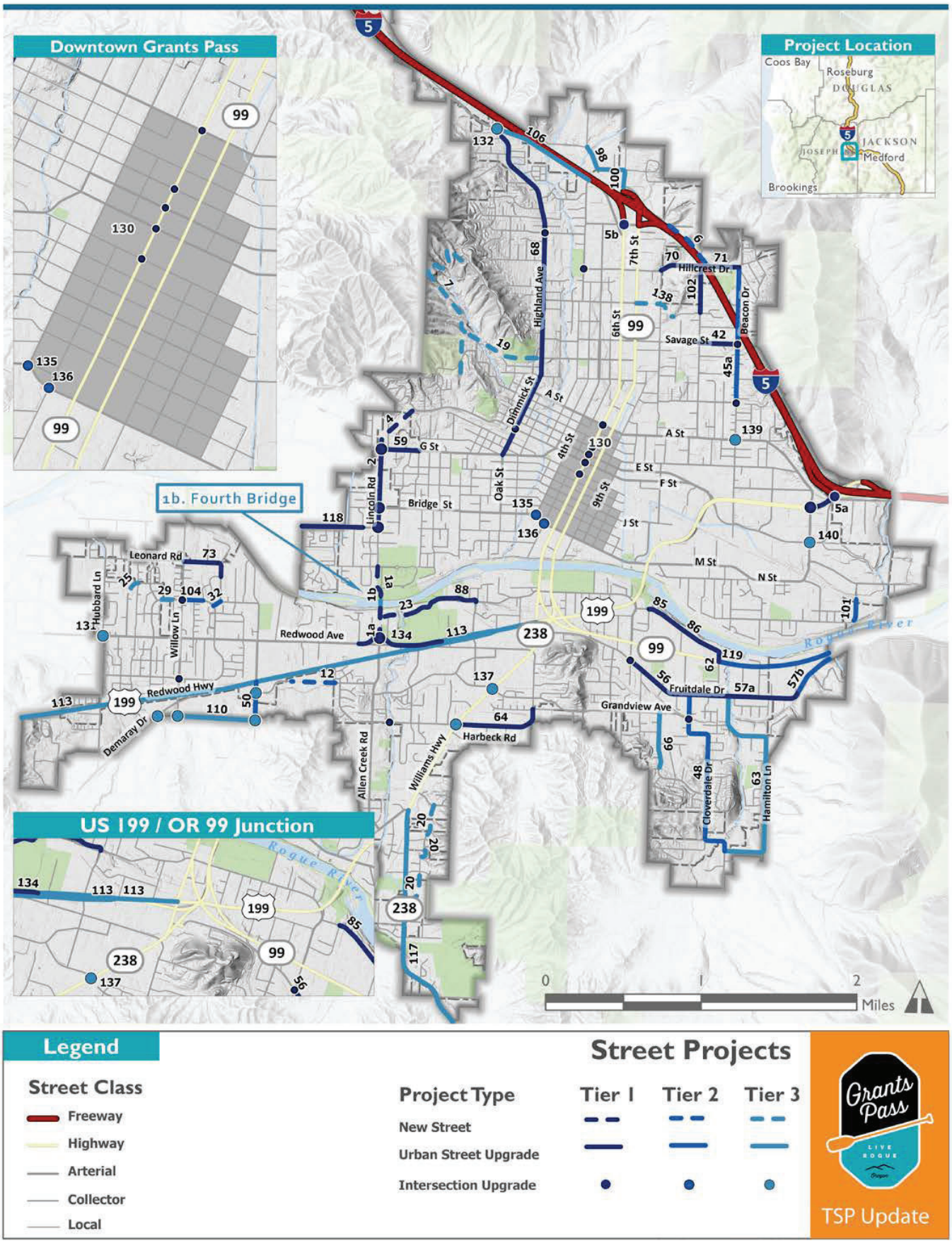


Table 5-6: Street Project Priorities

Tier 1

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/ County)
New Street	1a	Fourth Bridge Approaches	Redwood Ave	Webster Rd	Constructs new river crossing approaches, preparing for project 1b (Fourth Street Bridge), which will provide an additional local option for motorists, bikes, and peds and alleviating congestion at the 'Y' junction and along key routes	$6,009,900	$0
	4	New North-South St (F)	Sunview Pl	G Street	Constructs new local connection providing additional route options for motorists, bikes, and peds	$4,424,400	$0
	23	W Park St	Allen Creek Rd	W Park Dead-End	Extends W Park St from existing dead-end to north-south route leading to the new bridge (Project 1). Upgrades W Park St to urban street standards, featuring 2 lane cross section, bike lanes, and sidewalks	$2,596,900	$0
Urban Street Upgrade	2	Lincoln Rd	Bridge	G Street	Widens roadway to include additional travel lanes, bike lanes, and sidewalks. Constructs three roundabouts to improve traffic flow and capacity. Closes pedestrian and bicycle network gap. Increase safety for active roadway users	$5,656,700	$0
	5a	I-5 Exit 55 Interchange Improvements			Widening US 199, extend left-turn lane at Agness and install new roundabout	$0	$1,229,200
	5b	I-5 Exit 58 Interchange Improvements			See STIP	$0	$0
	9	Dimmick St	Bellevue	G Street	Widens roadway and constructs two-way turning lane, bike lanes, and sidewalks. Constructs railroad crossing, adding new north-south route from NW Highland Ave. to SW G St. for vehicles, pedestrians, and bicyclists. Increases network connectivity and route options	$3,787,200	$0
	42	Savage St	Beacon Dr	10th Street	Widens roadway to include bike facilities, street parking, and sidewalks on both sides of road. Eliminates pedestrian network gap. Increases safety for active roadway users. Improves east-west connection for all users. Increases multi-modal capacity for future transportation needs	$254,900	$0

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/ County)
Urban Street Upgrade ***(Cont'd)***	56	Fruitdale Dr	Parkdale Dr	Cloverlawn Dr	Urban street upgrade improves corridor for current and future transportation needs. Constructs sidewalks, bike lanes, and street parking. Increases network connectivity and accesibility for pedestrians and bicyclists. Increases safety for all users	$2,209,800	$0
	57a	Fruitdale Dr	Cloverlawn Dr	Baldy Rd	Same as above (project 56)	$3,869,700	$0
	59	G Street	Lincoln Rd	SW Leonard St	Urban Street Upgrade	$968,500	$0
	62	Hamilton Ln	Park St E	Rogue River Hwy	Full reconstruction	$322,000	$0
	64	W Harbeck Rd	Harbeck Rd	OR 238	New sidewalks on south side of street. Approach lane/traffic signal improvement	$1,317,400	$0
	68	Highland Ave	Bellevue	Sinclair	Urban Street Upgrade, including new sidewalks and striped bike lanes	$1,652,000	$0
	70	Hillcrest Dr	9th Street	10th Street	Urban Street Upgrade	$1,394,900	$0
	71	Hillcrest Dr	10th Street	Beacon Dr	Urban Street Upgrade	$1,279,900	$0
	73	Leonard Rd	Darneille Ln	Devonshire	Urban Street Upgrade	$4,369,700	$0
	85	Park St E	Golden Park Dr	Clara Ave	Widens roadway to include bike lanes, street parking, and sidewalks on both sides of road	$1,339,900	$0
	86	Park St E	Clara Ave	Hamilton Ln	Widens roadway to include bike lanes, street parking, and sidewalks on both sides of road	$1,469,900	$0
	88	Park St W	Ringuette St	(Racetrack)	Constructs new roadway from W Park St. to proposed 4th St. bridge and new sidewalks and bike lanes to Ringuette St.	$2,233,800	$0
	102	10th Street	Hillcrest Dr	Dewey	Urban street upgrade to include new sidewalks, bike lanes, and a vehicle turning lane	$974,900	$0
	118	Lower River Rd	Tami Rd	UGB	Urban Street Upgrade	$2,149,800	$0
	130	Smart Parking ITS	Downtown		Installs Smart Parking ITS, which will increase traffic management efficiency and mitigate downtown congestion by proividing real-time parking data to drivers, including the location of vacant parking spaces.	$2,000,000	$0
	134	Redwood Avenue Re-Alignment	Redwood Cir	US 199	Upgrade to Urban Arterial standards, including new traffic signal, minor street re-alignment, and Allen Creek extension	$2,158,500	$6,475,400
					Total	**$52,440,700**	**$7,704,600**

Tier 2

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/ County)
New Street	6	Service Rd	Hillcrest Dr	Greenfield Rd	New street (2 lanes)	$1,095,600	$0
	12	Schutzwohl Ln	W Harbeck Rd	Dowell Rd	New collector street	$9,050,900	$0
	32	Leonard Rd	Leonard Rd	Kellenbeck Ave N	New street	$309,800	$0
Urban Street Upgrade	45a	Beacon Dr	Madrone	Hillcrest	Urban Street Upgrade	$3,908,400	$0
	48	Cloverlawn Dr	Fruitdale Dr	Frankam	Urban Street Upgrade, including new sidewalks	$5,232,100	$0
	50	Dowell Rd	Redwood Hwy	Wolf Ln	Urban Street Upgrade, including a roundabout and new sidewalks	$3,510,600	$0
	57b	Fruitdale Dr	Baldy Rd	OR 99	Urban Street Upgrade	$3,504,700	$0
	101	Shannon Ln	Portola Dr	North Railroad ROW	Urban Street Upgrade	$709,900	$0
	104	Estates Lane	Willow Ln	Cashmere	Urban Street Upgrade	$640,000	$0
	119	OR 99	Hamilton	Fruitdale	Urban Street Upgrade	$0	$5,199,600
	135	Bridge St / 4th St			New Traffic Signal	$350,000	$0
	136	Bridge St / 5th St			New Traffic Signal	$350,000	$0
	139	A St /Beacon Dr			New Traffic Signal	$350,000	$0
	140	F St / Agness Ave			New Traffic Signal	$350,000	$0
					Total	**$ 29,362,000**	**$5,199,600**

Tier 3

Project Type	Project Number	Project Name	From	To	Description	Cost (City)	Cost (ODOT/ County)
New Street	1b	Fourth Bridge	Lincoln Rd	Pansy Ln	Constructs new river crossing, connecting to project 1a, providing an additional local option for motorists, bikes, and peds and alleviating congestion at the 'Y' junction and along key routes	$29,685,600	$0
	7	Crown St	Morgan Ln	F Street	New local access	$6,330,100	$0
	19	New Street	Upland Dr	Crescent Dr	New street	$1,032,600	$0
	20	Coach Dr	Curtis Dr	Williams Hwy	New street	$2,529,700	$0
	25	Raydean Dr	Raydean Dr	Angler Ln	New street	$567,900	$0
	29	George Tweed Blvd	Redwood Ave	Willow Ln	New street	$413,000	$0
Urban Street Upgrade	63	Hamilton Ln	Fruitdale Dr	Cloverlawn Dr	Full reconstruction	$8,252,200	$0
	66	Haviland Dr	Grandview Ave	Highline Canal	Urban Street Upgrade	$1,899,900	$0
	98	Scenic Dr W	Granite Hill	Scoville Rd	Urban Street Upgrade	$1,764,900	$0
	100	Scoville Rd	Greenfield Rd	Scenic Dr	Urban Street Upgrade	$560,000	$0
	106	Vine St	Highland Ave	Hawthorne Ave	Urban Street Upgrade	$3,499,700	$0
	110	Wolf Lane	Demoray Dr	Dowell Rd	Urban Street Upgrade	$13,019,300	$0
	113	OR 199 - Redwood Highway	6th Street	7 miles west	Urban Expressway	$0	$430,900
			Tussey Ln	Dowell Rd	Widen Urban Expressway from 4-6 lanes	TBD	TBD
	117	Jacksonville Hwy	New Hope	UGB	Widen to three lanes, Bike Lanes and Sidewalks	$0	$7,549,400
	137	Grand Ave. Ext.			Urban Collector Street	$1,639,000	$0
	138	Midland Ave. Ext.			Urban Collector St (pvt)	$679,900	$0
					Total	**$71,873,800**	**$7,980,300**

6 Implementation Strategies

Placeholder

Implementation Strategies

The Oregon Transportation Planning Rule (OAR 660-012) contains several technical requirements that must be addressed and included in the Grants Pass TSP Update. This chapter summarizes additional TSP components, when taken together serve as important plan elements that help implement the Grants Pass TSP.

Financially-Constrained Plan

OAR 660-012 requires that cities identify within their TSP a Financially Constrained list of projects. This project list serves as a baseline from which subsequent proposed land use amendments (if any) can be assessed and compared to the TSP. Based on historical funding trends, the TSP Update assumes that there will be sufficient funding available and to construct or implement the Tier 1, multimodal project list of financially constrained projects.

For land use proposals that change the underlying zoning or Comprehensive Land Use Plan designations (or both), they will need to demonstrate that the proposed use would not significantly increase traffic beyond what is identified in the Grants Pass TSP within the 2040 planning horizon, and if they do, identify additional transportation system improvements and their funding to reconcile their impacts.

As noted in Chapter 5, Grants Pass is expected to have roughly $72 million available for transportation system *capital improvements* through the 2040 planning horizon. 'Tier 1' multimodal projects were defined as the TSP higher priorities based on the $72 million revenue estimate, and constitutes the 'Financially-Constrained plan.' The Tier 1, Financially Constrained city projects are mapped separately for pedestrian, bicycle and street projects (see Figures 5-6, 5-7 and 5-8.), and listed in complimentary tables (Tables 5-4, 5-5 and 5-6).

Funding for the City's Tier 1 projects will come from several federal, state and local sources, including federal CMAQ and STBG discretionary programs, the City's proportionate share of the State Highway Fund, and city SDCs. Some revenue from the City's street utility fee may also be programmed to support select capital improvements.

The Grants Pass TSP defers to the Regional Transportation in the determination of the state's financially constrained transportation projects within the Grants Pass UGB. State highway improvement project priorities are noted in the Grants Pass TSP and prioritized only by general need in each Tier, but not by the State's funding capacity.

It is important to note that projects on the Financially Constrained list do not limit the City or ODOT from advancing other projects in the City's TSP in response to changes in development patterns and funding opportunities that are not known at the time of this plan.

Local Street Connectivity

Local street connectivity for pedestrians, bicyclists, and transit riders is also required by OAR 660-012 and is important for Grants Pass's continued land use and street system development.

In addition, connectivity within the bicycle and pedestrian systems is important to create truly viable transportation options to driving, especially for short, local trips within the city and access to the JCT transit network. A well-connected walking, bicycling and transit system can reduce the need for more extensive street and traffic signal systems, help the City reduce its vehicle-miles travelled (VMT) per capita, and reduce emergency vehicle response times While improvements to local street connectivity are easier to implement in developing areas, retrofitting existing areas to provide greater connectivity should also be attempted.

Grants Pass's existing multimodal street connectivity is limited by prevailing natural features, including the surrounding hills, I-5, Central Oregon and Pacific Railroad, and the Rogue River. For those areas yet to be developed, the Grants Pass Development Code regulates proposed development to ensure good transportation system connectivity is provided, and refers to the TSP for the location of new arterial and collector streets.

New local streets are to be located based on an approved street network plan, pursuant to the Grants

Pass Development Code (Section 27.122) dimensional Connectivity Standards which establish maximum lengths of complete blocks and block faces. To establish appropriate expectations for the abutting neighborhood, when development constructs stub streets, the City will install signs that indicate that future connectivity will occur.

Other Modes of Travel

Freight Mobility

The safe and efficient movement of freight and goods is vital to the economy of Grants Pass and the greater Josephine County area. Grants Pass remains a center and major source of timber-related commodities which are shipped by truck and in some cases rail. Trucking also services other industrial uses within Grants Pass' industrial areas. The highways and arterials that provide access to these facilities are vitally important to the successful movement of freight.

I-5 and US 199

I-5 and US 199 are designated in the Oregon Highway Plan (OHP) on the National Highway System as statewide *Freight Routes* into and through Grants Pass. US 199 is also designated as a Critical Urban Freight Corridor in Grants Pass, due to its immediate connection to I-5 as a Primary Highway Freight System route (national route designation),

ODOT's criteria for designating freight routes includes freight volume, tonnage, connectivity, linkages to regional freight routes, percent of trucks on state highways and connectivity to other freight generating sites. Within urban areas like Grants Pass, the policy and design objectives for freight routes are to function as expressways.

OR 99 and OR 238

State highways OR 99 and OR 238 are more local freight routes within the Grants Pass urban area linking local and regional shippers to US 199 and I-5.

Figure 6-1 illustrates the recommended Freight Route map for Grants Pass.

New alley way enhances neighborhood connectivity paralleling Elmer Nelson Lane

US 199 is an important freight connector linking Grants Pass to I-5 and the statewide freight system

Rail

Rail transportation is a key component in the movement of freight and goods. Rail lines safely and efficiently carry millions of tons of freight through Grants Pass on an annual basis. Without rail access, more trucks would be needed to transport freight which would further increase congestion and cause increased wear to the existing Grants Pass roadway system.

Figure 6-2 maps the existing Central Oregon and Pacific (CORP) rail line through Grants Pass, as well as existing street and pedestrian rail crossings. CORP is a Class II line through Grants Pass, and operates 4 daily

***Figure 6-1:* Grants Pass Freight Routes**

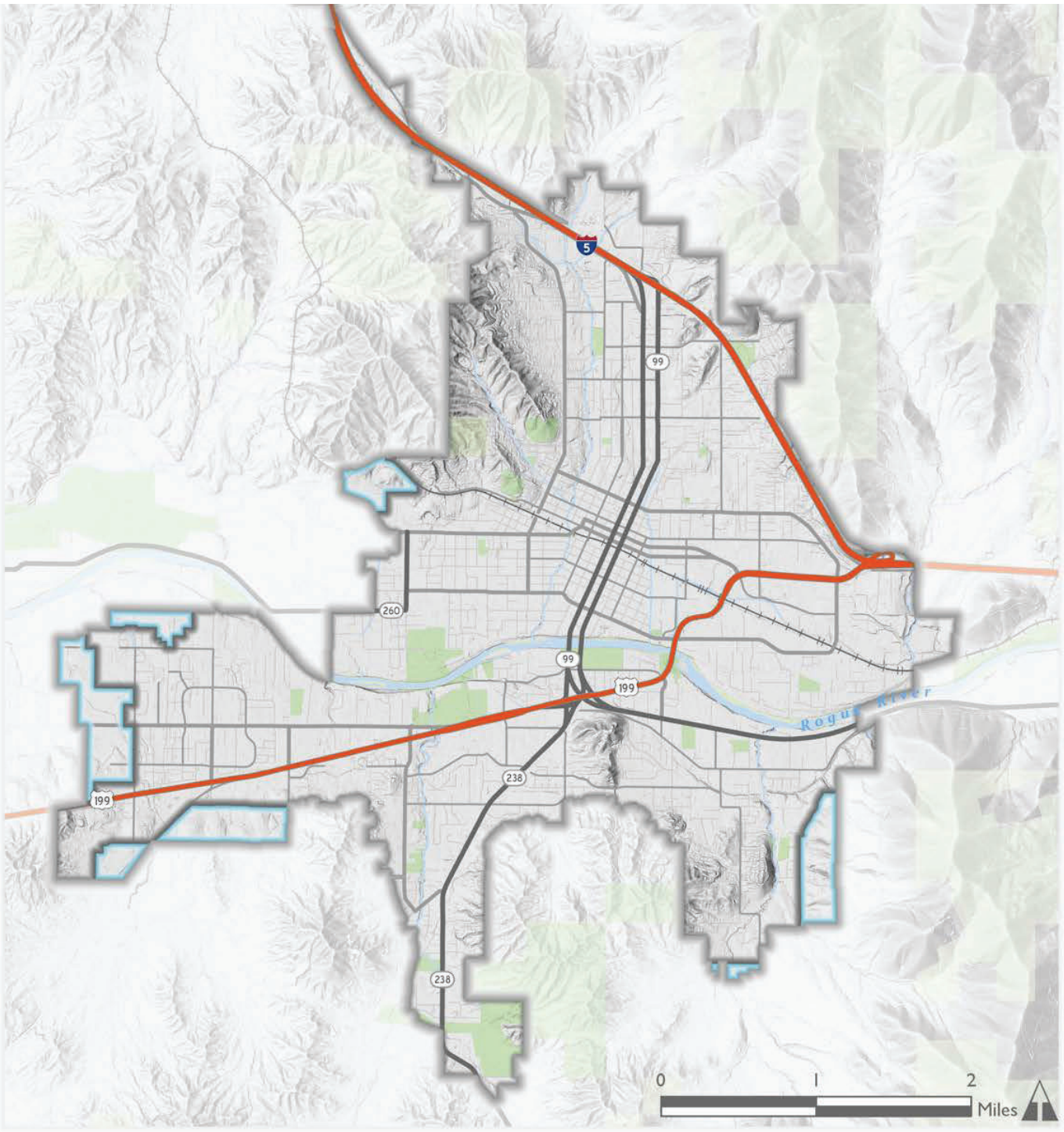
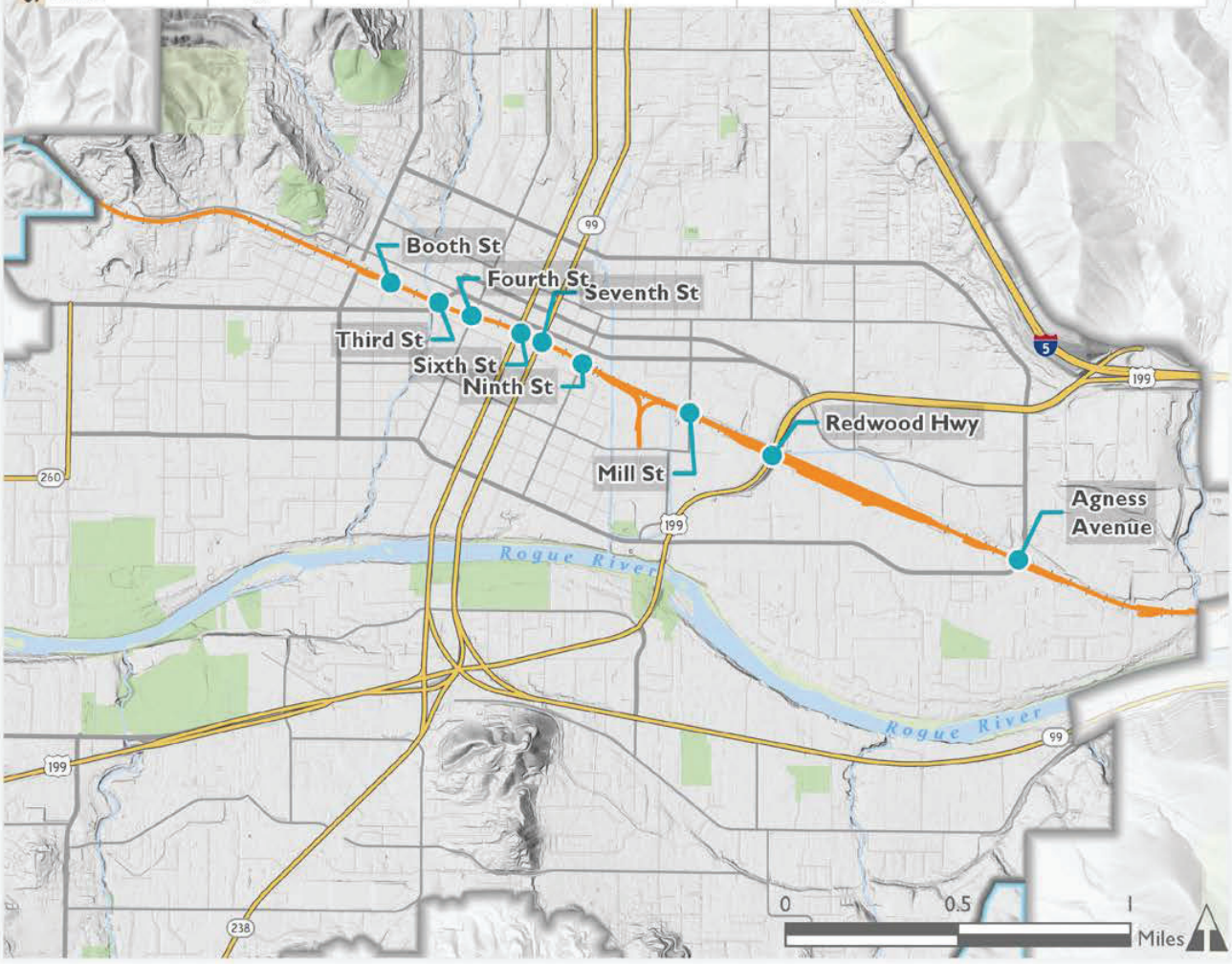


Figure 6-2: **Railroad and Rail Crossings in Grants Pass**

		Booth St	Third St	Fourth St	Sixth St	Seventh St	Ninth St	Mill St	Redwood Hwy	Agness Ave
Traffic Control	Crossbuck	X	X	X	X	X	X	X		X
	Pavement Marking	X	X	X	X	X	X	X		X
	Advanced Warning Sign	X	X	X	X	X	X	X		X
	Crossing Arm	X	X	X	X	X	X	X		X
Sidewalks	Both Sides		X	X	X	X	X			X
	One Side									
	None	X						X		

N/A — Grade seperated overpass



Legend

- Rail Crossings
- Railroads

Condition	Mainline is class 2 track, auxiliary and yard tracks are class 1
Trains per Day	4 trains daily, 2 daylight, 2 night
Operational Days	Primarily Monday-Friday
Volumes	30-40 carloads per day
Commodities	Mainly forest products

Data Sources
ODOT Rail, 2018

Grants Pass LIVE ROGUE Oregon

TSP Update

Path: \\PDXFS1\Project\O\ODOT\0000091\Y060\01\IFC\GIS\Maps\Grants_Pass.aprx | Layout: Rail Crossings Layout | Coordinate System: NAD 1983 HARN StatePlane Oregon South FIPS 3602 Feet Intl

trains, primarily on weekdays. Trainsets are typically one engine hailing 30-40 cars (mainly forest products). Freight haulings on this line are generally stable and the route continues as an important component of Grants Pass' economy.

Railroad Crossings

Figure 6-2 also charts each of the rail crossings by type of traffic control and presence and type of pedestrian crossing facilities.

At grade railroad crossings in the City are potential points of friction between rail traffic and vehicular, pedestrian, and bicycle traffic. Delays for vehicular traffic and trucks are increased when trains are crossing the roadway. Buses are required to stop and check for rail traffic at railroad crossings before proceeding even when no warnings are active causing delays for motorists behind them. At grade rail crossings can be hazardous for pedestrians and cyclists because of the uneven nature of the roadway.

There are eight at-grade railroad crossings within the Grants Pass UGB. Of the 8 at-grade crossings, all have sufficient crossing signs, pavement markings, advanced warning signs and crossing arms. The Booth Street and Mill St crossings lack sidewalks. The Booth Street crossing is proposed to be closed and replaced by a new Dimmick Street Extension (see Chapter 5), which will include the full range of rail bed structural improvements, advanced warning signs, rail crossing signals and crossing arms, and new sidewalks crossing the rail line on both sides of the street.

Air

Josephine County owns and operates the Grants Pass Airport, which is located outside of the Grants Pass UGB, northwest of the I-5 interchange at Merlin Road. The airport is classified as a Category III facility (Regional General Aviation). Category III airports serve regional transportation needs and support most twin and single-engine aircraft and possibly occasional business jets.

The Central Oregon Pacific Railroad has a long history of serving Grants Pass and the surrounding region

No new policy or action plans are included or recommended in the Grants Pass TSP regarding air transport.

Water

The Rogue River is a vital natural and eco-tourism asset within Grants Pass, but is used only for recreational travel.

No new policy or action plans are included or recommended in the Grants Pass TSP regarding water transport.

Pipeline

Volume 3, Technical Memorandum # 3 (Figure A-40) maps existing pipelines in the Grants Pass UGB area. There is one gas transmission line located east and northwest of I-5 and the Grants Pass UGB. There are also surface water canals within the UGB.

No new policy or action plans are included or recommended in the Grants Pass TSP regarding pipeline transport.

Parking Plan

Oregon's Transportation Planning Rule (TPR), (OAR 660-012-0000), requires that metropolitan area jurisdictions reduce their overall parking capacity (OAR 660-012-0045 (5) (c). A reduction in parking

is part of an overall strategy to reduce reliance on automobiles as the principal mode of travel and to help achieve a reduction in per capita vehicle miles traveled. The challenge of this goal is to reduce the amount of parking in ways which will help achieve the travel reduction goal and are equitable for all parties involved.

Parking reduction strategies are proposed to help the metropolitan area meet the TPR requirements. Strategies include changes to parking code and policies, re-designation of existing parking, and management of roadway space. Next, some potential results are discussed (limited by data availability). Finally, some parking optimization techniques are presented, which may make it easier for motorists, employers, and employees to make use of available parking.

Parking Standards

The TPR requires implementation of a parking plan that achieves a 10 percent (10%) reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination development standards that minimize excessive parking space and support for shared use parking facilities.

The TPR also presumes that metropolitan areas will reduce reliance on the automobile by enhancing land use plans, development patterns and transportation systems that induce walking, cycling, and transit options so that, on balance, people need to, or chose to, drive less than they do today.

Parking Code and Policy Changes

Older parking regulations specified only minimum standards, leading some developments to over-build their parking supply. Some cities have revised their development codes to include maximum parking standards. Codes also sometimes leave little flexibility to allow parking reduction strategies such as shared parking (or bundled parking) or allowing on-street parking to count for off-street parking requirements. Other recommended parking code and policy changes include parking fees and decreased building setbacks.

Following adoption of its original TSP in 1997, Grants Pass has taken steps to establish maximum parking standards to limit the number of developed parking spaces for a full range of land use. In 2014, Grants Pass revised its Comprehensive Plan and Zoning Map to include higher density and mixed-use developments in specific areas of the city. In addition, and in response to the City's slow recovery from the US recession, the City revised its Development Code to partially relax earlier parking standard maximums for select hotel/motel, medical and other office use, and further lowered its maximum standards for select residential uses.

Lower Minimum Parking Requirements

Lower parking minimums could have an impact on the total parking inventory, but there is no guarantee developers would choose fewer parking spaces for their developments. Lower minimum parking requirements, however, might encourage some in-fill development and potentially convert land from inefficient parking lots to other more efficient and economically stimulating uses. Both the reduction of existing parking and increased building densities will help lead to a more pedestrian friendly environment and encourage transit ridership – a primary goal of the TPR.

Grants Pass may undertake further examination of their Development Code to establish broader definitions of minimum and maximum parking standards, in conjunction with building densities with the intent of achieving more efficient use of a smaller parking inventory, especially in areas of higher density and mixed-use development.

Re-designation of Existing Parking

Changing existing general-use parking spaces to special-use parking can be used to promote the use of walk, bike and transit travel, and meet the requirements of the TPR. General parking provided on-street or in lots could be reclassified as preferential parking for carpools, or for those with disabilities. Preferential parking, especially close to building entrances, for carpooling or vanpooling is a common way of helping to promote these as alternatives to

driving alone. Carpool parking need not be limited to parking lots. On-street parking spaces, including metered spaces, may be restricted to carpools. Typically, monthly permits are obtained and displayed when parked in a reserved carpool space in a lot or on the street.

As a side benefit, reclassification from general parking to carpool parking may help meet TPR requirements. Under TPR definitions, park and ride lots, parking for those with disabilities, and parking spaces for carpools and vanpools are not considered parking spaces for purposes of the TPR. The reclassification of a portion of the parking supply as permanent high occupancy vehicle (HOV) space may satisfy the TPR's parking reduction requirement.

In areas where easy access to free or low-cost parking has typically been readily available, restrictions on parking may be poorly received by the public. Widespread conversion of general-use parking spaces to reserved parking for carpools or other restricted uses may lead to a high level of parking violations. This may place an undue burden on agencies for the enforcement of parking regulations at the expense of other activities.

As the region's public transportation system matures in Grants Pass, the City may examine ways to designate and convert general use parking space to reserved spaces for shared ride carpool and vanpool users.

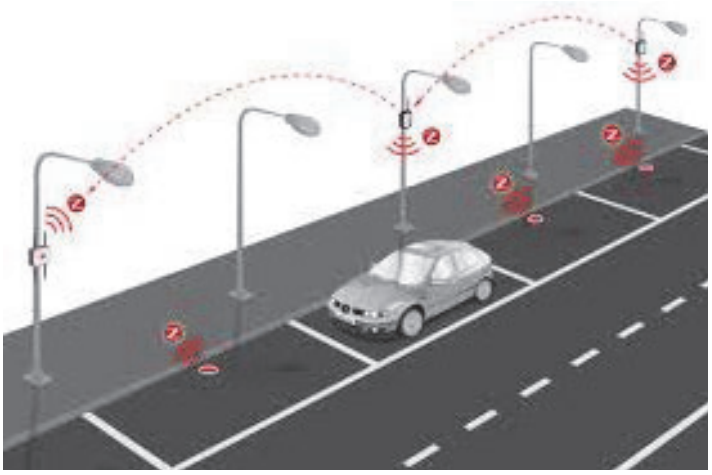
Managing the Public Streetscape

There is considerable competition for use of the paved roadway space: through lanes and turn lanes for motor vehicles, bicycle lanes, on-street parking spaces, loading zones, and bus stops. Management of the streetscape and the allocation for those uses have a measureable impact on the amount of parking in the region. Changing parking spaces to provide new bicycle and/or pedestrian travel ways can help reduce VMT and meet the TPR requirements.

Parking Optimization

There are techniques which can be used to make better use of parking, which may make it easier for residents, businesses and employees to "live with" the parking reduction requirements of the TPR. However, optimizing the use of parking may run contrary the other goal of the TPR, namely the reduction in per capita vehicle miles of travel. This is because the easy availability of free or low cost parking remains a significant factor in the individual's choice of mode for trips to work, shopping, etc.

In Chapter 5, the TSP Update specifies in the Tier 1 priority project list, implementation of the downtown Smart Parking project will include parking sensor and wireless communications and public directional signing to direct motorists to their nearest available parking space in the Grants Pass downtown area. Further study and design of the Smart Parking system will be required. When operational, the Smart Parking system and program will help (1) increase parking space utility (efficiency) and (2) reduce excessive, out-of-direction travel, which results a reduction in VMT per capita.



Applied Smart Parking Technology Directs Customers and Visitors more directly and efficiently to available parking spaces.

Shared Parking

Shared parking is the use of one or more parking facilities between developments may have varying parking demand depending on the time of day and

the month of the year. It is possible for different land uses to pool their parking resources to take advantage of different peak use times.

Typically, zoning codes require parking lots to accommodate estimated peak hour and peak month usage in automobile dependent locations and serve a single development. For the most part, these lots are operating at a level considerably less than this amount. Shared parking agreements allow uses to share parking facilities by taking advantage of different business peak parking times.

For example, a series of buildings may include such land uses as restaurants, theaters, office, and retail – all of which have varying peak use times. A restaurant generally experiences parking peaks from 6 to 8pm, while offices typically peak around 10am and again around 2pm on weekdays. Some retail establishments have their peak usage on weekends. Theaters often peak from 8 to 10pm. Without a shared parking plan, these uses would develop parking to serve each of their individual peaks. This generally results in an oversizing and underutilization of each lot. Depending upon the combination of uses, a shared parking agreement may allow some developments to realize a parking reduction of ten to 15 percent (10 – 15%) without a significant reduction in the availability of parking at any one time. Other issues surrounding shared parking are liability, insurance, and the need for reciprocal access agreements allowing patrons of one establishment to cross land owned by another.

Grants Pass may undertake further examination of their Development Code to establish shared, or 'bundled' parking standards, in conjunction with increased density and mixed use developments.

Parking Management

Parking management and parking management associations (PMAs) are mechanisms which can facilitate shared parking among non-adjacent land uses by providing off-site central parking facilities. These facilities can be large parking structures or surface lots. Parking management can employ a wide range of techniques which can result in the efficient use of existing parking facilities. These include facilities like short-term on-street parking, medium-term nearby lot parking, High Occupancy Vehicle (HOV) priority parking, and long-term parking.

PMAs are entities responsible for conducting this management and providing access to resources which can ease the burden on the parking supply. Often PMAs are non-profit groups supported by retail or business district associations. PMAs can incorporate such programs as providing bus passes or tokens in lieu of parking validation, delivery services, shuttle buses from remote lots, clear and consistent signage for parking facilities, etc.

An effective PMA benefits its members and its district by functionally increasing the parking supply for all uses and creating a parking plan which can provide adequate parking for the area in a compact and coherent way. A PMA increases the efficiency of the use of land for parking, which helps reduce wasted space previously dedicated to underutilized parking. This, in turn, frees land for further development. In the end, a successful PMA can create an area where parking is easier and more convenient, while using less land.

Grants Pass serves as its own parking management agency for the downtown area, coordinating use of on-street parking, 8 public parking lots, 4 permit-only parking lots (total of 82 spaces).

Refinement Studies

Future transportation studies will be needed to further narrow and identify long-range transportation system improvements along key state highways in the Grants

Pass urban area. The City, ODOT and MRMPO should coordinate and support refined transportation assessments for the following:

'Y' Junction Study

Public input in the Grants Pass TSP is strongly supporting the need to study solutions to traffic congestion through the 'Y' Junction, where highways US 199, OR 99 and OR 238 meet, just south of the Rogue River. In supporting the Grants Pass TSP Update, ODOT recognized that a detailed, long-range plan for the 'Y' is an important and significant undertaking and best addressed in a separate study to follow.

The Y' Junction: convergence of Highways US 199, OR 99 and OR 238

6th/7th Street Bicycle Facility Options and Long-Range Refinement Plan

OR 99 is the most direct, highway or arterial that links north and south Grants Pass. Along the 6th/7th Street one-way couplet lacks continuous bike lanes from the 'Y' Junction, across the Rogue River, through downtown to north Grants Pass. There are no other north-south routes that provide bicycle facilities separate from the vehicle travel lanes. The current bike lanes on 7th Street are too narrow, and given the volume and speed of vehicular traffic are uninviting, even to the most ardent cyclist.

Further study of 6th and 7th Street is needed to help determine the best, long-range bicycle facility design and plan.

Outcomes from each study may have significant impact on the future updates of the Grants Pass TSP.

Narrow Bike lane on 7th Street