

Transportation System Plan Update

January 2016



City of Phoenix Transportation System Plan Update

Prepared for

City of Phoenix, Oregon

With support from

Oregon Department of Transportation

Prepared by

David Evans and Associates, Inc.

and

CH2M HILL

January 2016

ACKNOWLEDGMENTS

The development of this Transportation System Plan has been the collective effort of the following people:

City of Phoenix Staff	
Matt Brinkley, Planning Director	Dale Schulze, Retired Planning Director
Steffen Roennfeldt, Assistant Planner	Laurel Samson, Interim Planning Director
Kevin Caldwell, Public Works Superintendent	

Project Management Team (PMT)	
Matt Brinkley, City Project Manager (PM)	Don Morehouse, ODOT PM
Angela Rogge, Consultant Project Manager	Ian Horlacher, ODOT Co-PM
Joshan Rohani, Consultant Senior PM/Advisor	Sumi Malik, Consultant Multimodal Planning Lead

Technical Advisory Committee (TAC)	
Jeff Ballard, City of Phoenix/Talent	Mike Kuntz, Jackson County
Marla Cates, City of Phoenix URA	Kelly Madding, Jackson County
Dan Dorrell, ODOT (Traffic)	Jenna Stanke, Jackson County
William Fitzgerald, ODOT (Traffic)	Dan Moore, RVCOG
Peter Schuytema, ODOT (TPAU)	Andrea Napoli, RVCOG
Jon Sullivan, RVTB	Paige Townsend, RVTB
Josh LeBombard, ODOT DLCD	

Citizen Advisory Committee (CAC)	
David Lewin, Phoenix Planning Commission	Terry Helfrich, Phoenix City Council/URA
Laurie Nielsen, Bike Friendly Phoenix	David Van deVelde, Stakeholder
Edgar Quintero, Noel Lesley Event Services	Vicki D'Alessandro

Consultant Team (A Partnership between David Evans and Associates, Inc. and CH2M HILL)	
Angela Rogge, Project Manager (DEA)	Sumi Malik, Multimodal Planning Lead (CH2M Hill)
Joshan Rohani, Senior PM/Advisor (DEA)	Reza Farhoodi, Multimodal Planning Lead (CH2M Hill)
Jennifer Danziger, QA/QC Manager (DEA)	Kate Lyman, Deputy PM Emeritus (CH2M Hill)
Jordan Henderson, Engineer-in-Training (DEA)	Ryan Farncomb, Planner
Anneke Van der Mast, Planner (DEA)	Angie Jones, Project Assistant/Graphics Specialist (DEA)
Ted Stewart, Civil Engineer (DEA)	Andrew Mortensen, Funding & Implementation (DEA)
Shelly Alexander, Senior Engineer/Project Liaison (DEA)	

TABLE OF CONTENTS

EXECUTIVE SUMMARY	III
CHAPTER 1: INTRODUCTION	1
1.1 <i>Why Update This TSP?</i>	1
1.2 <i>What Is a TSP and What Is Included?</i>	2
1.3 <i>How Was the TSP Developed and How Were Decisions Made?</i>	2
CHAPTER 2: VISION FOR THE TRANSPORTATION SYSTEM	5
2.1 <i>What Is the TSP Planning Area?</i>	5
2.2 <i>What Are the Guiding Goals?</i>	5
CHAPTER 3: EXISTING GAPS AND FUTURE NEEDS	9
3.1 <i>Existing Traffic Assessment</i>	9
3.2 <i>Existing Multimodal Assessment</i>	11
3.3 <i>Summary of Deficiencies</i>	14
CHAPTER 4: MODAL PLANS	16
4.1 <i>Street System</i>	16
4.2 <i>Bicycle and Pedestrian System</i>	21
4.3 <i>Pedestrian Projects</i>	26
4.4 <i>Transit System</i>	32
4.5 <i>Air, Rail, Water, and Pipelines</i>	36
4.6 <i>Revised FVI Street Naming</i>	36
4.7 <i>Funded and Unfunded Project Lists</i>	37
CHAPTER 5: FUNCTIONAL CLASSIFICATION & DESIGN GUIDANCE	44
5.1 <i>Functional Classification Overview</i>	44
5.2 <i>Goals for Design</i>	45
5.3 <i>Access Management</i>	46
5.4 <i>Goods Movement Routes (GMR)</i>	47
5.5 <i>Mobility Standards (Targets)</i>	48
5.6 <i>Trip Budget Overlay Zone</i>	48
CHAPTER 6: IMPLEMENTATION AND FUNDING	49
6.1 <i>Implementation</i>	49
6.2 <i>Funding</i>	51
CHAPTER 7: APPENDICES	53
Appendix 1. <i>Technical Memo #1: Definition and Background</i>	
Appendix 2. <i>Technical Memo #2: Existing System Inventory</i>	
Appendix 3. <i>Technical Memo #3: Transportation System Operations</i>	
Appendix 4. <i>Technical Memo #4: Improvement Concepts Evaluation</i>	
Appendix 5. <i>Technical Memo #5: Preferred System and Prioritization</i>	
Appendix 6. <i>Technical Memo #6: Implementing Ordinance and Code</i>	
Appendix 7. <i>Technical Memo #7: Functional Classifications & Design Guidelines</i>	
Appendix 8. <i>Trip Budget Overlay Zone</i>	

LIST OF TABLES

TABLE ES-1: STREET SYSTEM PROJECTS	VI
TABLE ES-2: BICYCLE SYSTEM PROJECTS	VIII
TABLE ES-3: PEDESTRIAN SYSTEM PROJECTS.....	X
TABLE 3-1. CURRENT DAILY TRAFFIC VOLUMES.....	10
TABLE 3-2. SEGMENTS WITHOUT ADEQUATE BICYCLE FACILITIES.....	12
TABLE 3-3. SEGMENTS WITHOUT ADEQUATE SIDEWALKS	13
TABLE 4-1: STREET SYSTEM PROJECTS	17
TABLE 4-2: BICYCLE SYSTEM PROJECTS	22
TABLE 4-3: PEDESTRIAN SYSTEM PROJECTS	26
TABLE 4-4: TRANSPORTATION SYSTEM PROJECTS.....	37
TABLE 5-1: ACCESS MANAGEMENT GUIDELINES.....	46
TABLE 5-2: ACCESS SPACING STANDARDS ALONG OR 99	47
TABLE 5-3: GOODS MOVEMENT ROUTE (GMR) DESIGNATIONS	48
TABLE 6-1: OVERVIEW: LOCAL TRANSPORTATION FUNDING SOURCES AND EXPENDITURES	52

LIST OF FIGURES

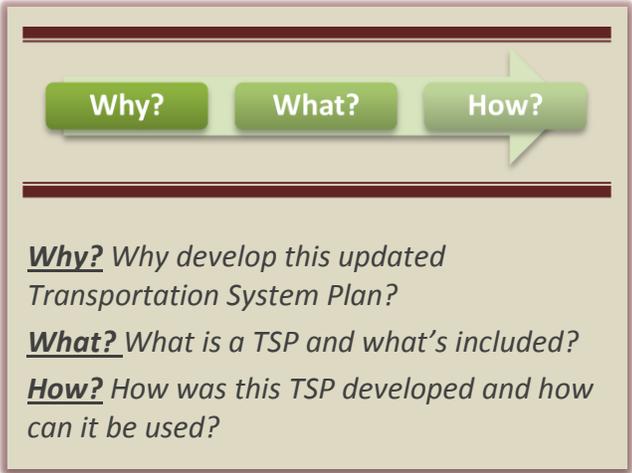
FIGURE ES-1: TWENTY-YEAR LOCAL FUNDING FORECAST	V
FIGURE ES-2: TIER 1 – PLANNED CITY PROJECT COSTS BY MODE.....	V
FIGURE ES-3: TIER 2 - PLANNED CITY PROJECT COSTS BY MODE	V
FIGURE ES-4: TIER 2 - PLANNED SHARED PROJECT COSTS BY MODE.....	V
FIGURE ES-5: STREET MODAL PLAN.....	VII
FIGURE ES-6: BICYCLE MODAL PLAN.....	IX
FIGURE ES-7: PEDESTRIAN MODAL PLAN	XII
FIGURE 2-1. STUDY AREA	6
FIGURE 4-1. STREET MODAL PLAN.....	18
FIGURE 4-2: BICYCLE MODAL PLAN	23
FIGURE 4-3: PEDESTRIAN MODAL PLAN.....	28
FIGURE 4-4: TRANSIT MODAL PLAN	34
FIGURE 6-1. TWENTY-YEAR LOCAL FUNDING FORECAST.....	51
FIGURE 6-2. TIER 1 - PLANNED CITY PROJECT COSTS BY MODE	51
FIGURE 6-3. TIER 2 - PLANNED CITY PROJECT COSTS BY MODE	51
FIGURE 6-4. TIER 2 - PLANNED SHARED (CITY/ODOT/DEVELOPER) PROJECT COSTS BY MODE.....	51



EXECUTIVE SUMMARY

The Phoenix Transportation System Plan (TSP) details projects and policies that address transportation problems and needs in the City of Phoenix. Population growth and new development in recent years has led to an update of the TSP to address the transportation needs of all users, including pedestrians, bicyclists, drivers, and public transit users. This document provides a 20-year list of improvement projects and a plan for implementing the projects. The TSP has been developed in compliance with the requirements of the state Transportation Planning Rule (TPR) and to be consistent with state, regional, and local plans, including the recently adopted 2013-2038 Rogue Valley Metropolitan Planning Organization’s 2013–2038 Regional Transportation Plan (RTP) and Fern Valley Interchange Area Management Plan (IAMP).

The graphic below identifies the three key questions answered by this Executive Summary.



Why? Why develop this updated Transportation System Plan?

What? What is a TSP and what’s included?

How? How was this TSP developed and how can it be used?

Why Update This TSP?

The purpose of this TSP is to provide a guide for a transportation system that meets the existing and future transportation needs within the City of Phoenix. Further, this TSP establishes a rationale for making prudent transportation investments and land use decisions, consistent with the City’s vision as well as other local, regional, and statewide planning documents. Ultimately, this TSP can help the City make short- and long-term decisions based on a community-supported vision, and inform collaboration with private developers as well as with regional and state agencies.

The TSP achieves this by examining both short- and long-term transportation needs for all transportation modes: driving, biking, walking, or taking transit. The plan identifies current and future needs and provides solutions to those needs. The TSP reflects existing land use plans, policies, and regulations that affect the transportation system. The plan includes policies, a 20-year list of projects by mode, and an implementation plan for how (and when) to finance future projects. Plan elements will be implemented by the City, private developers, and regional or state agencies.

What Is a TSP?

Fundamentally, a Transportation System Plan (TSP) is a blueprint for biking, walking, driving, and using transit through the year 2035, because it will include plans and policies for automobiles, bikes, freight vehicles, pedestrians, and transit. The TSP is

a comprehensive document containing goals, objectives, policies, projects, and implementation guidelines needed to provide mobility for all users, now and in the future. The City of Phoenix TSP integrates mobility options for all modes of travel: automobile, transit, bicycle, pedestrian, and freight movement.

How Was This TSP Developed and How Can It Be Used?

The City’s TSP reflects the efforts of citizens and technical advisors working with the City’s planning staff to meet the existing and future mobility needs of the City’s residents. Over a period of 11 months, members of the Citizens Advisory Committee (CAC), Technical Advisory Committee (TAC), and Project Management Team (PMT), as well as Planning Commission members and City Councilors, met to aid in the development of the plan. Development of a TSP relies upon the completion of a number of interrelated and dependent tasks. The key tasks, events, and

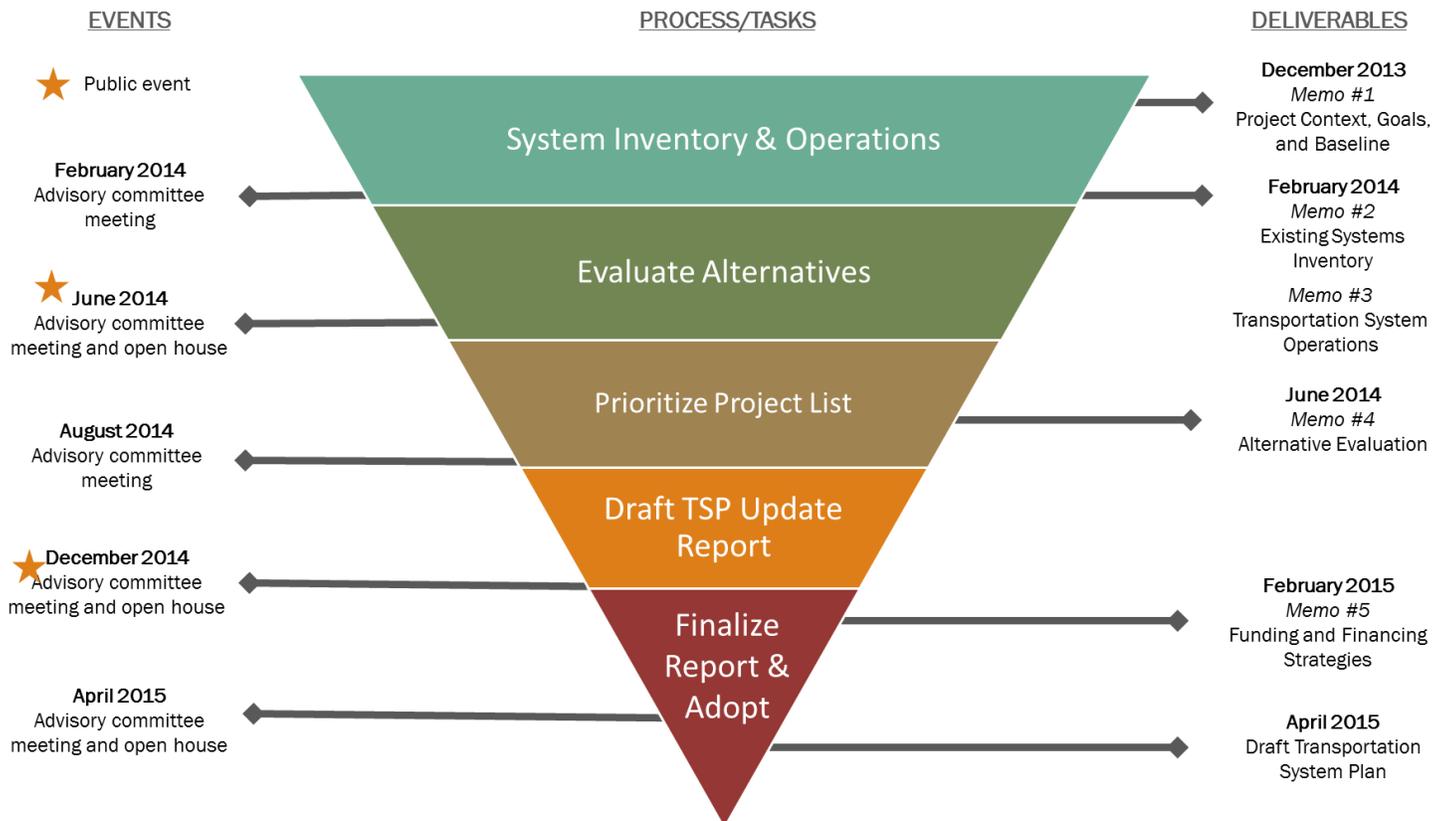
deliverables involved in this effort are shown in the illustration below.

This TSP provides a collection of guiding goals and objectives, maps and tables illustrating planned projects, and supporting guidance and documentation that can be used in a variety of different ways, depending on the user’s needs.

How Is This TSP Organized?

The City’s TSP is divided into the executive summary and seven key sections:

- Executive Summary*
- Chapter 1: Introduction*
- Chapter 2: Vision for the Transportation System*
- Chapter 3: Existing Gaps and Future Needs*
- Chapter 4: Modal Plans*
- Chapter 5: Functional classification & Design Guidance*
- Chapter 6: Implementation and funding*
- Chapter 7: Appendices*



Where Can I Find More Detailed Information?

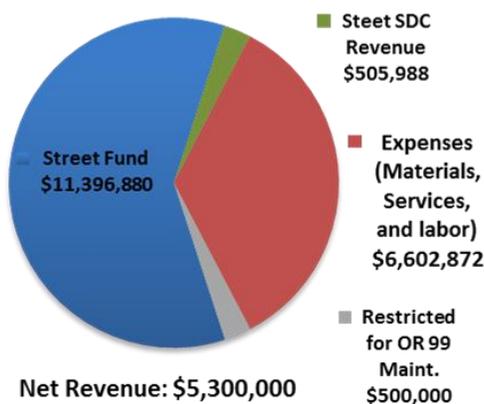
Each of the chapters in this TSP is supported by more comprehensive documentation in the appendices, which include a compilation of technical memorandums developed throughout the TSP update process.

How Will TSP Improvements Get Funded and Implemented?

This TSP offers a menu of projects that can be selected as funding sources become available or as adjacent improvements are made. As funds become available, the mode-specific planned projects can be evaluated together to assess the highest priority projects that can be completed together within the available budget.

Over the next 20 years, the City is expected to receive approximately \$11.9 million in transportation revenue (2014 dollars), assuming that existing funding sources remain stable and no new revenue streams are established. Accounting for ongoing expenses, the City can expect approximately \$5.3 million in net revenue (revenue minus expenses) over the 20-year planning horizon of the TSP. The estimated cost of all planned Tier 1 projects (those with likely funding sources) included in this TSP is approximately \$4.2 million.

Figure ES-1: Twenty-Year Local Funding Forecast



The cost for the remainder of the planned (Tier 2) projects is approximately \$38 million (of which, \$28M would be shared with ODOT, developers, etc.). The following pie charts illustrate the approximate allocation of project costs by mode and funding. See Chapter 1: (Modal Plans) and Chapter 6: (Implementation and Funding) for more information.

Figure ES-2: Tier 1 – Planned City Project Costs by Mode

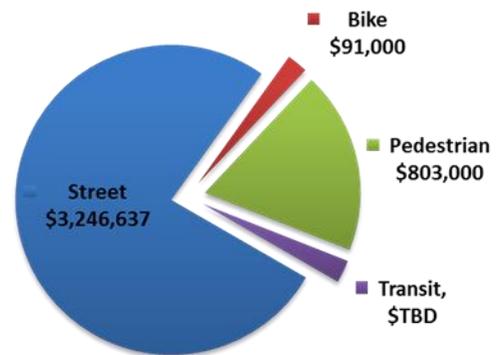


Figure ES-3: Tier 2 - Planned City Project Costs by Mode

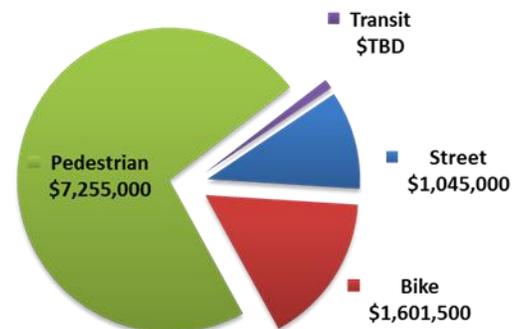
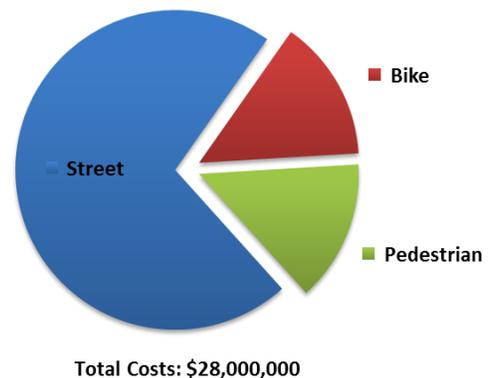


Figure ES-4: Tier 2 - Planned Shared (City/ODOT/Developer) Project Costs by Mode



What Is the Planned System and Associated Improvements?

The tables and figures in the following sections identify the planned improvements by mode.

Street System Plan

Table ES-1: Street System Projects

No.	Project/Location	Description	Bundle	Timeline	Priority
Tier 1 – Funded					
S-1	OR 99 – Downtown Phoenix	Add gateway treatments at north and south ends of couplet to increase awareness of upcoming downtown area and lane reduction.	B-2, B-4, B-5, B-6, P-4, P-5	Short	High
S-2	3rd St and 2nd St Extensions	New local street with sharrows and sidewalks	S-3	Short	High
S-3	Parking St: 2nd Street to 4 th Street	Construct new street within couplet with sharrows and sidewalks	S-2	Short	High
S-4	N Pine St: W 1st St to W 5th St	Asphalt overlay, roadway widening to City standards, curb, gutter, sidewalks and storm drainage, AC waterline replacement, sharrows	B-7	Short	High
S-5	N Church St: W 1st St to W 6th St	Asphalt Overlay, Roadway Widening to City Standards, Curb, Gutter, Sidewalks and Storm Drainage, AC Waterline Replacement, sharrows	B-7	Short	High
S-6	Locke Ln: Colver to dead end, including Christie Court; Coral Circle: Houston Rd to Hilsinger	Asphalt Overlay, AC Waterline Replacement	No	Short	High
Tier 2 – Unfunded					
S-7	Hilsinger Rd: Colver Rd to Camp Baker Rd	Upgrade road to collector standard (sharrows instead of bike lane)	No	Medium	High
S-8	Urban Reserve Area PH-5	Implement a Conceptual Street Network as part of a long-term plan for development	No	Medium	High
S-9	Urban Reserve Area PH-10	Implement a Conceptual Street Network as part of a long-term plan for development	No	Medium	High
S-10	OR 99/Coleman Creek Culvert	Replace culvert and widen roadway to add bike lanes and sidewalks	B-8, P-8, P-10	Medium	High
S-11	OR 99 – South of couplet to south city limits	Restructure roadway to include a center turn lane, two through travel lanes (one in each direction), bike lanes, curbs, and sidewalks	No	Long	Medium
S-12	OR 99/Northridge Ter Intersection	Monitor crash patterns for increased frequency of crashes related to northbound right-turn movement; if warranted, improve turning radius on southeast corner	No	Long	Medium
S-13	Urban Reserve Area PH-1 and PH-1a	Implement a Conceptual Street Network as part of a long-term plan for development	No	Long	Low
S-14	4th St/Houston Rd railroad crossing	Improve crossing to ease driver experience	B-13	Long	Low

Note: Blue text with shading indicates a project identified in a separate modal plan (project number indicates the corresponding modal plan), which offer overlapping modal benefits. These projects present opportunities to coordinate prioritization, funding and implementation efforts.

Bicycle System Plan

Table ES-2: Bicycle System Projects

No.	Project/Location	Description	Bundle	Timeline	Priority
Tier 1 – Funded					
B-1	Bear Creek Greenway connection with Northridge Ter	Install signage guiding travelers to the Bear Creek Greenway	OR 99 CP	Short	High
B-2	4th St: Main St to Bear Creek Dr	Extend bike lanes	B-4, B-5	Short	High
B-3	Bear Creek Greenway	Improve connections to OR 99/Bear Creek Dr at 4th St to provide parallel and convenient bicycle and pedestrian facilities (north end)	P-3, B-10	Short	High
B-4	Main St – Downtown Phoenix	Modify striping to add bike lanes	B-2, B-6, P-4, P-5	Short	High
B-5	Bear Creek Dr – Downtown Phoenix	Modify striping to add bike lanes (west side pedestrian multi-use path)	B-2, B-6, P-4, P-5	Short	High
B-6	1st St: Church St to Bear Creek Dr	Extend bike lanes	B-4, B-5	Short	High
B-7	Local Collector Streets Rose St: Independence Cir to OR 99 Rose St: Oak St to 1st St Oak St: Rose St to Main St Church St: Oak St to Bolz Rd Pine St. 1st St to 5th St	Install sharrows	S-4, S-5	Short	Medium
S-2	3rd St and 2nd St Extensions	New local street with sharrows and sidewalks	S-3	Short	High
Tier 2 – Unfunded					
B-8	OR 99 – North UGB to Coleman Creek	Modify striping of existing 5-lane roadway cross section to add bike lanes	B-9, P-8, S-10	Medium	High
B-9	OR 99/Coleman Creek Culvert	Modify striping of existing roadway to add bike lanes while maintaining four through travel lanes (Interim)	B-8, P-11	Medium	High
B-10	Bear Creek Greenway	Improve connections to OR 99/Bear Creek Dr at Oak St to provide parallel and convenient bicycle and pedestrian facilities (south end)	B-3	Medium	Medium
B-11	Colver Rd: 4th St/Houston Rd to 1st St	Widen to provide bike lanes and sidewalks	P-12	Medium	Medium
B-12	Camp Baker Rd: Hilsinger to Colver Rd	Widen to provide bike lanes	P-20	Long	Low
B-13	4th St/Houston Rd: railroad crossing	Improve rail crossing for bicycle/pedestrian access	S-14	Long	Low
S-7	Hilsinger Rd: Colver Rd to Camp Baker Rd	Upgrade road to collector standard (sharrows instead of bike lane)	No	Medium	High
S-10	OR 99/Coleman Creek Culvert	Replace culvert and widen roadway to add bike lanes and sidewalks	B-8, P-8, P-10	Medium	High
S-11	OR 99 – South of couplet to south city limits	Restructure roadway to include a center turn lane, two through travel lanes (one in each direction), bike lanes, curbs, and sidewalks	No	Long	Medium
S-14	4th St/Houston Rd railroad crossing	Improve crossing to ease driver experience	B-13	Long	Low

Note: Blue text with shading indicates a project identified in a separate modal plan (project number indicates the corresponding modal plan), which offer overlapping modal benefits. These projects present opportunities to coordinate prioritization, funding and implementation efforts.

Pedestrian System Plan

Table ES-3: Pedestrian System Projects

No.	Project/Location	Description	Bundle	Timeline	Priority
Tier 1 – Funded					
P-1	OR 99 – Charlotte Ann Rd to Coleman Creek	Install RRFB and median islands at multiple locations where pedestrian crossings occur: Northridge Ter and/or Walnut Way	OR 99 CP	Short	High
P-2	Cheryl Ln: Rose St	Install new or improved sidewalk to eliminate gap east of Rose St	No	Short	High
P-3	OR 99: Bolz Rd to 4th St	New or improved sidewalk on east side	B-3	Short	High
P-4	Main St – Downtown Phoenix	Enhance crossing opportunities with pedestrian-activated devices, curb extensions, and additional crosswalk striping, install RFB at Main & 4th and Bear Creek Drive and 4th	B-2, B-6	Short	High
P-5	Bear Creek Dr – Downtown Phoenix	Enhance crossing opportunities with pedestrian-activated devices, curb extensions, and additional crosswalk striping	B-2, B-6	Short	High
P-6	1st St: Rose St to Church St	New or improved sidewalk on south side	No	Short	High
P-7	S Phoenix Rd: Fern Valley Rd and Furry Rd	Install new or improved sidewalk on east side and asphalt overlay	No	Medium	Low
S-2	3rd St and 2nd St Extensions	New local street with sharrows and sidewalks	S-3	Short	High
S-4	N Pine St: W 1st St to W 5th St	Sidewalks included in street project “S-4”	S-4, B-7	Short	High
S-5	N Church St: W 1st St to W 6th St	Sidewalks included in street project “S-5”	S-5, B-7	Short	High
Tier 2 – Unfunded					
P-8	OR 99 – North UGB to Coleman Creek	Construct continuous sidewalks on both sides of OR 99	P-10, P-11, S-10, B-8	Medium	High
P-9	OR 99: Bolz Rd to South End of Couplet	Provide sidewalk travel width on west side of roadway of 6 feet around utility poles	No	Medium	High
P-10	OR 99: Cheryl Ln to Coleman Creek	New or improved sidewalks on both sides	P-8, P-11, S-10	Medium	Medium
P-11	OR 99/Coleman Creek Culvert	Modify striping of existing roadway to add sidewalks while maintaining four through travel lanes (Interim)	P-8, P-10, B-9	Medium	Medium
P-12	Colver Rd: 4th St/Houston Rd to 1st St	Install new or improved sidewalk on both sides	B-11	Medium	Medium
P-13	2nd St: 1st St to Rose St	Install new sidewalks on both sides	No	Medium	Medium
P-14	1st St/C St	Install new curb extension to reduce curb radius and install crosswalks	No	Medium	Medium
P-15	Colver Rd: 1st St to South UGB	Install multi-use path along east side	No	Medium	Medium
P-16	1st St: RR Crossing	Install new sidewalks on both sides to eliminate gaps at CORP railroad crossing	No	Long	Medium
P-17	1st St: Canal	New or improved (ADA) sidewalk over canal on south side	No	Long	Medium
P-18	Oak St: Rose St to Main St	New or improved sidewalk on both sides	P-21	Long	Medium
P-19	OR 99/Rose Street	Install new curbs to reduce curb radius and install crosswalks across OR 99	No	Long	Low
P-20	Camp Baker Rd: Hilsinger to Colver Rd	New or improved sidewalk on both sides	B-12	Long	Low

No.	Project/Location	Description	Bundle	Timeline	Priority
Tier 2 – Unfunded					
P-21	Rose St: Oak St to 1st St	New or improved sidewalk on both sides	P-18	Long	Low
P-22	Colver Rd: 1st South UGB	Install new or improved sidewalk on both sides	No	Long	Low
P-23	C Street: 1st St to East of Elm St	New or improved sidewalk on both sides			
S-7	Hilsinger Rd: Colver Rd to Camp Baker Rd	Upgrade road to collector standard	No	Medium	High
S-10	OR 99/Coleman Creek Culvert	Replace culvert and widen roadway to add bike lanes and sidewalks	B-8, P-8, P-10	Medium	High
S-11	OR 99 – South of couplet to south city limits	Restructure roadway to include a center turn lane, two through travel lanes (one in each direction), bike lanes, curbs, and sidewalks	No	Long	Medium

Note: Blue text with shading indicates a project identified in a separate modal plan (project number indicates the corresponding modal plan), which offer overlapping modal benefits. These projects present opportunities to coordinate prioritization, funding and implementation efforts.





CHAPTER 1: INTRODUCTION

Included in this chapter:

Why? **What?** **How?**

Why? Why develop this updated Transportation System Plan (TSP)?

What? What is a TSP and what's included?

How? How was this TSP developed, how were decisions made, and how can it be used?

The purpose of this TSP is to provide a guide for a transportation system that meets the existing and future transportation needs within the City of Phoenix. Further, this TSP establishes a rationale for making prudent transportation investments and land use decisions, consistent with the City's vision as well as other local, regional, and statewide planning documents.

Unfortunately, most modes of travel are not supported by a fully functional, continuous network throughout the City of Phoenix. Only the street network, of the local relevant modes, can be described as continuous, comprehensive, and well connected. Throughout most of Phoenix's history, transportation facilities and investments have been dedicated to supporting the expansion of the system of auto travel.

A guiding objective of this TSP is to support our transportation system's continual focus to provide a more integrated and comprehensive multimodal network for all users. When combined with other comprehensive plan initiatives, the community can become more efficient with respect to transportation and land use. Residents can enjoy choice of modes and become less dependent upon their automobiles. Auto travel and congestion, nonetheless, will continue to grow as the City's and region's populations grow. One measure of the success of the plan will be the degree to which individuals *must* rely upon their autos for mobility.

Ultimately, this TSP can help the City make short- and long-term decisions based on a community-supported vision, and inform collaboration with private developers as well as regional and state agencies.



Context Supporting This Update

Since the previous version of this TSP (adopted in 1999), population growth and new development has changed the function of existing transportation facilities and the need for new facilities. In addition, new planning and construction efforts, including the OR 99 Corridor Study and the reconstruction of the Fern Valley Interchange, have changed the expectations and function of transportation facilities within Phoenix. These changes as well as others merit a revised vision for transportation within the City of Phoenix, establishment of the TSP's consistency with other planning efforts that have been conducted in Phoenix since 1999, and an updated set of short- and long-term priorities for improvements to the City's transportation system. This TSP update also helps achieve consistency with the recently adopted 2013–2038 Rogue Valley Metropolitan Planning Organization's *2013–2038 Regional Transportation Plan* (RTP), and in doing so, continue to fulfill requirements in Oregon Administrative Rule 660-012, which is also known as the Transportation Planning Rule (TPR).

1.2 What Is a TSP and What Is Included?

Fundamentally, the TSP is a blueprint for biking, walking, driving, and using transit through the year 2035, because it will include plans and policies for automobiles, bikes, freight vehicles, pedestrians, and transit. The TSP is a comprehensive document containing goals, objectives, policies, projects, and implementation guidelines needed to provide mobility for all users, now and in the future. The City of Phoenix TSP integrates mobility options for all modes of travel: automobile, transit, bicycle, pedestrian, and freight movement.

What's Included in This TSP and Supporting Documents?

The City's TSP is divided into the executive summary and seven key sections:

- Executive Summary*
- Chapter 1: Introduction*
- Chapter 2: Vision for the Transportation System*
- Chapter 3: Existing Gaps and Future Needs*
- Chapter 4: Modal Plans*
- Chapter 5: Functional classification & Design Guidance*
- Chapter 6: Implementation and funding*
- Chapter 7: Appendices*

1.3 How Was the TSP Developed and How Were Decisions Made?

The City's TSP reflects the efforts of citizens and technical advisors working with the City's planning staff to meet the existing and future mobility needs of the City's residents. Over a period of 11 months, members of the Citizens Advisory Committee (CAC), Technical Advisory Committee (TAC), and Project Management Team (PMT), as well as Planning Commission members and City Councilors, met to aid in the development of the plan.



Development of a TSP relies upon the completion of a number of interrelated and dependent tasks. The key tasks, events, and deliverables involved in this effort are shown in the illustration below.

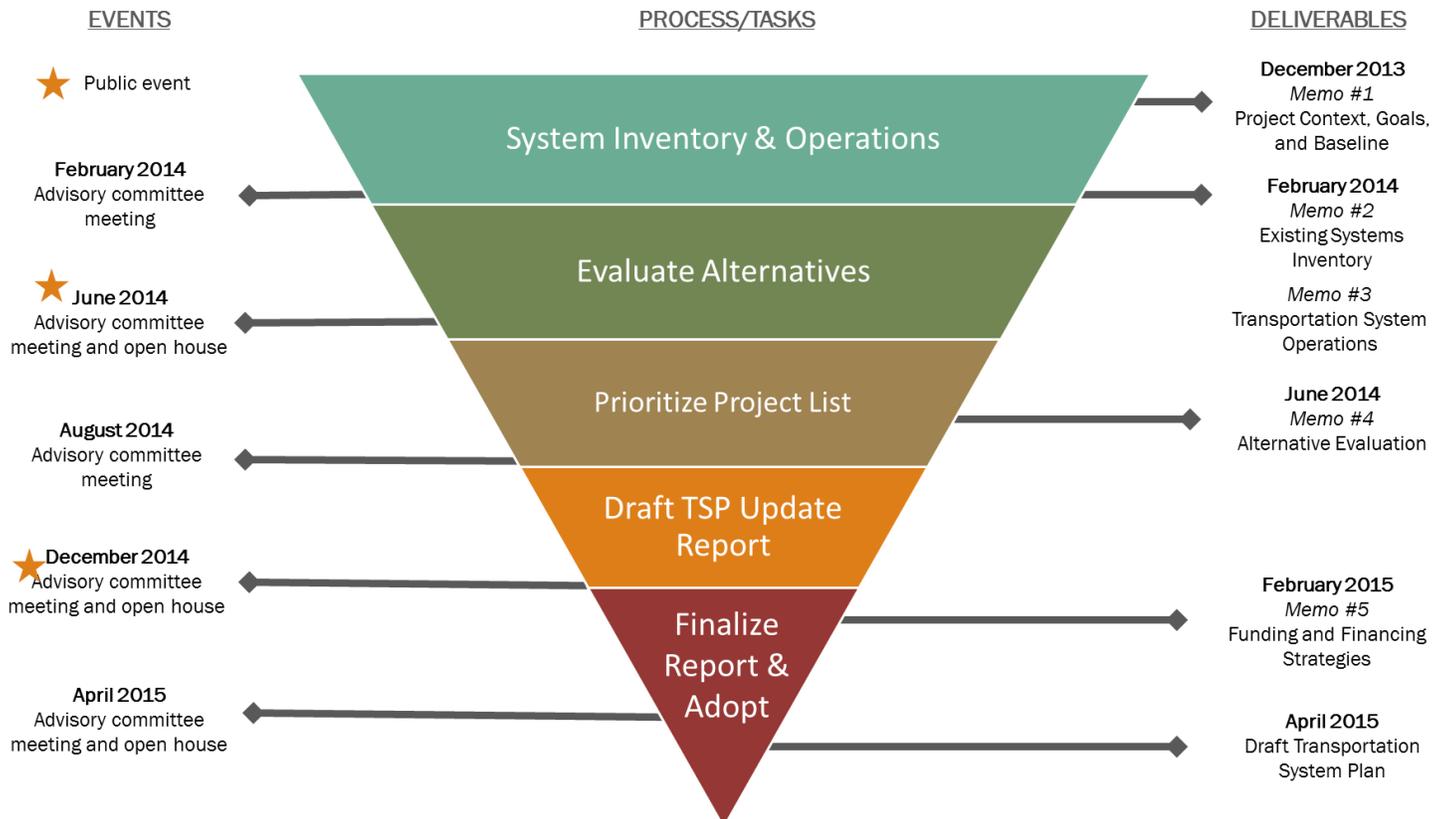
County. The TAC and CAC met throughout the planning process to provide direction to the PMT on aspects of the TSP.

Planning Process

Phoenix community members, stakeholders, City staff, and representatives of ODOT, Rogue Valley Council of Governments, and Jackson County all participated in the TSP development process. The Project Management Team, or PMT, composed of the City, ODOT, and the consultant team, met regularly to guide development of the plan.



The planning process took place over a two-year period between November 2013 and June 2015. The public involvement process began with the creation of a Technical Advisory Committee (TAC) and a Citizen Advisory Committee (CAC) made up of stakeholders, city leaders, and representatives from agencies and organizations within Jackson



Two open houses were held during the planning process to allow community members to pinpoint concerns and opportunities in the area and evaluate potential transportation projects to be included in the TSP. An initial open house was held in June 2014, at which existing conditions, findings, analysis of needs, opportunities, and constraints were discussed. Participants were encouraged to share feedback and suggestions, in person or via comment cards. A final public open house was held in April 2015 to discuss all elements included in the draft TSP.

Agency Coordination

The street system within the City of Phoenix includes roadways under three jurisdictions: state, county, and City. Jackson County maintains several roads within the Phoenix urban growth boundary (UGB), including Camp Baker Road, and segments of Colver Road and Hilsinger Road.

This TSP, including the plan’s project lists, does not have any legal or regulatory effect on state or county land or county transportation facilities. Without additional action by the State of Oregon or Jackson County, any project that involves a non-City facility is only a recommendation. Coordination and cooperation with City and governmental partners is needed in order to develop and plan a well-connected and efficient transportation network. The TSP does not, however, obligate the State of Oregon, Jackson County or any other governmental partner to take any action or construct any projects.





CHAPTER 2: VISION FOR THE TRANSPORTATION SYSTEM

Included in this chapter:

2.1 What is the TSP Planning Area?

2.2 What Are the Guiding Goals?

2.1 What Is the TSP Planning Area?

The study area for the Phoenix TSP (the TSP planning area) is illustrated in Figure 2-1. The TSP addresses transportation projects within the City of Phoenix and its UGB, and in those areas outside of the city limits that may be added to the UGB in the future.

2.2 What Are the Guiding Goals?

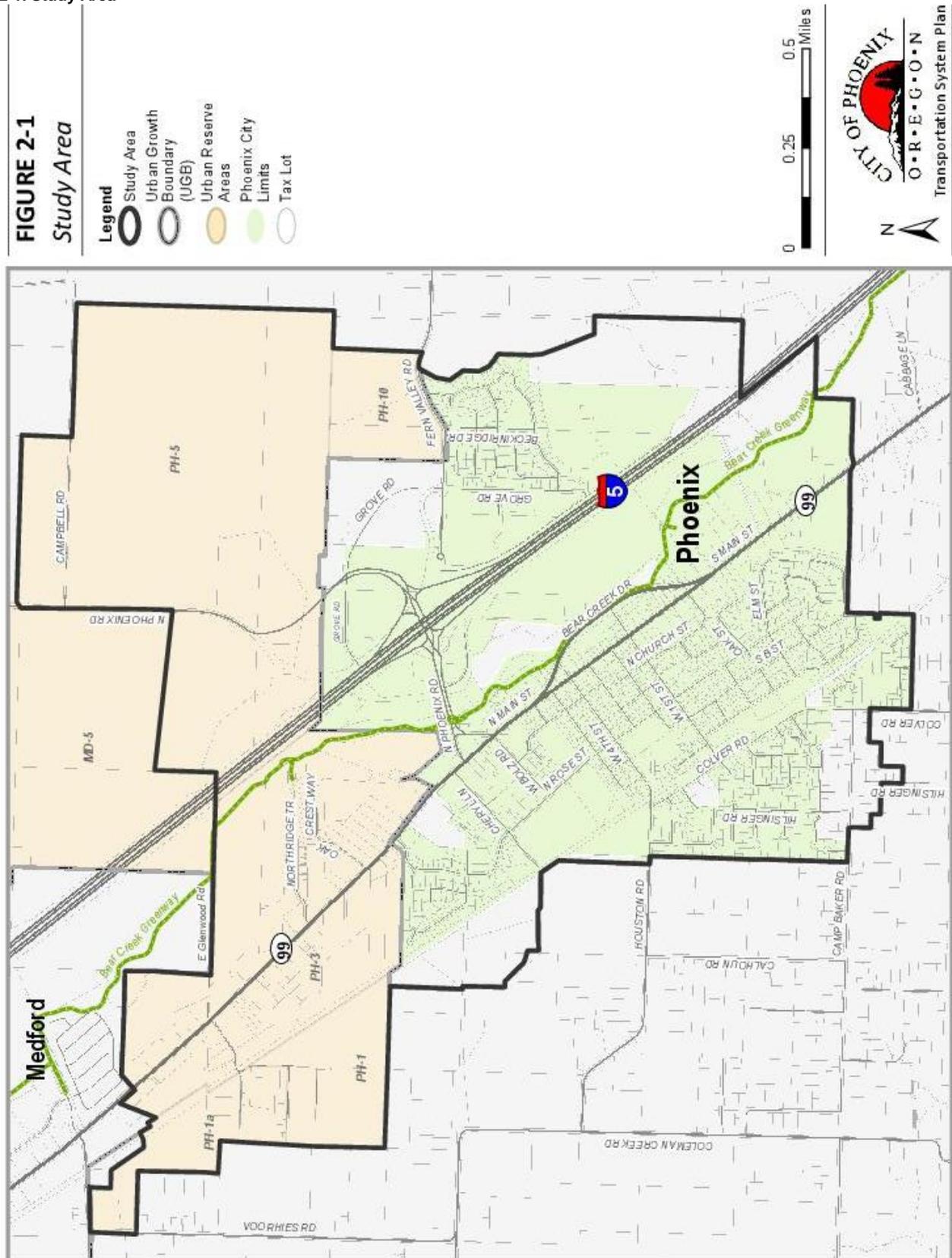
The TSP policies and projects are determined by the goals and objectives developed with input from the Phoenix community. The TSP is the long-range plan to guide transportation investments within the City of Phoenix. The overall goal of the TSP is to establish a system of connected transportation facilities, services, and policies to meet long-range (20-year) local transportation needs. The TSP addresses local transportation needs with cost-effective street, transit, freight, bicycle, and pedestrian facility improvements. The plan provides a connected transportation network for residents, employers, and visitors, through a balanced system, to support livability and economic development. The goals and objectives are based on prior goals set in the existing Phoenix

TSP (1999). The goals have been updated to reflect the current and future needs of the City of Phoenix. The goals and objectives are based on regional coordination, state ordinance, and public input and were used to develop evaluation criteria for TSP projects included in Chapter 4: Modal Plans. Evaluation criteria are used to objectively evaluate TSP projects for their consistency with goals and objectives.



This plan contains comprehensive transportation goals and several supportive policies that are intended to guide the City's transportation-related decisions. The plan has developed goal and policies within specific policy areas, as described below. The full list of goals and policies are located in Appendix 1, and reflect an emphasis on improving multimodal access, connectivity, and goods movement, and reducing reliance on single-occupancy vehicles, consistent with federal transportation and statewide planning goals. Where different, these goals and policies are to replace those currently contained in the Phoenix Comprehensive Plan.

Figure 2-1. Study Area



Coordination and System

The City's TSP must be updated at regular intervals and should also be consistent with the Rogue Valley Metropolitan Planning Organization's (RVMPO's) Transportation System Plan and the statewide TPR. Fostering long-term coordination between the City, Rogue Valley Transportation District, Jackson County, RVMPO, and the Oregon Department of Transportation (ODOT) is crucial to creation of an integrated and seamless system. The intent of this plan is to guide the development of a multimodal transportation system that addresses existing and future needs, and promotes Phoenix as a sustainable and healthy community.

Transportation System Management

Transportation system management (TSM) is a collection of strategies directed at improving the efficiency, operation, safety, or capacity of the transportation system without increasing the facility size. TSM strategies are among the most effective of all transportation system improvements due to their relatively low cost to implement and relatively few impacts (such as right-of-way acquisition impacts).

Access Management

Accesses are driveways or lower order roadways that connect to adjacent land uses. Access management ensures that the roadways are managed consistently with their classification. Where mobility is the chief function of the roadway, as with arterial roads, access management can help maintain its function. However, if access to adjoining properties is the key function, as with local roads, then access management may not be counter to the function of the roadway. Roadway and land use classification provides a framework to balance property access and transportation system function.

Transit System

The Rogue Valley Transportation District operates the local transit system. As a special district, it levies local property taxes and uses state and federal transportation funds to operate its regional services. The City of Phoenix's City Center mixed-use land use strategy is a key element in increasing the effectiveness of fixed-route transit services. Providing a variety of uses and activities in proximity to transit stops, and offering usable span and frequency of service enhances the convenience and utility of transit as a viable alternative to the automobile.

Street Modal Plan

The Street modal plan establishes a framework for the continued development of the street network, with an emphasis on projects that address motor vehicle system deficiencies or establish future street networks in Phoenix's developing urban renewal areas. The roadway plan builds upon the City's existing largely gridded network, which helps to ensure that travel is reasonably direct and there is little out-of-direction travel.

Bicycle Modal Plan

The bicycle modal plan establishes a framework for the continued development of the on-street and off-street bicycle transportation network to enhance multimodal access and connectivity. The projects in this plan emphasize improving local access to the Bear Creek Greenway trail and installing bicycle facilities on collectors/arterials.

Pedestrian Modal Plan

The pedestrian modal plan establishes a framework for the continued development of the pedestrian transportation network to enhance multimodal access and connectivity. The projects included in the pedestrian plan emphasize establishing safer crossings along OR 99 and installing adequate sidewalk facilities on all collectors and arterials and in strategic locations on local streets.

Parking Plan

Parking is an integral part of the transportation system. As such, on- and off-street parking management is key to meeting the City's goals to facilitate the movement of people and goods and foster economic development while reducing congestion, urban sprawl, and air pollution. The parking plan is intended to better manage overall parking supply within the city of Phoenix and to reduce the amount of parking per capita.

Freight System and Economic Development

The movement of freight by truck and rail plays an important role in Phoenix's and the Rogue Valley's economy. If local employers are to remain competitive, the capacity of roads and rails must be adequate to efficiently transport raw materials and finished products within, to, and through the region. To the extent that increased freight rail shipments would alleviate truck traffic on Interstate 5 (I-5) and Oregon Highway 99 (OR 99), reduce local emissions, and boost the regional economy, the City of Phoenix supports reactivation of rail service on the Central Oregon and Pacific (CORP) line. Goals within this policy area call for support of projects that reduce and remove barriers to safe, reliable, and efficient movement of goods and raw materials, particularly projects that support connecting farms to markets.

Safety and Security

Transportation safety and security is vital to the overall health and well-being of the residents of Phoenix. Improving the safety of the transportation system by supporting efforts to develop policies, programs, and projects supportive of pedestrians, bicyclists, transit users, motorists, and freight on all transportation facilities will help lead to safer roadways and intersections, reduced fatalities and injuries, enhanced mobility, and improved air quality.

Land Use and Design

The concepts of transportation and land use are fundamentally connected, because transportation investments and policies influence development patterns, which ultimately shape travel patterns. Land use policies that mandate or encourage automobile-dependent development patterns that create inefficient land use patterns that result in higher transportation systems maintenance costs, more trips and vehicle miles traveled (VMT), higher emissions of carbon dioxide and other pollutants, should be avoided, except when absolutely necessary and only when appropriate to local context (in this case, in the immediate proximity to I-5). Land use and design policies shall promote spatially efficient land use patterns, mixed-use development, and pedestrian-scale design can help encourage higher transit, bicycle, and walking mode share, and reduce automobile reliance.

Finance and Funding

The TSP reflects the City of Phoenix's commitment to responsible stewardship of public funds, recognizing that a plan is only as effective as the community's ability to fund it based on existing and potential sources. To implement the proposed TSP projects within the 20-year planning horizon, adequate funding must be available to construct and maintain the all proposed infrastructure.

Passenger Rail

Passenger rail service is not directly available in the Rogue Valley. The upcoming reactivation of the CORP line between Medford and Ashland could potentially accommodate Rogue Valley commuter rail or intercity rail service to Grants Pass, as studied by RVMPO and ODOT. Although the proposal is currently inactive, the City of Phoenix supports continued discussions with state and regional partners to determine whether implementation of passenger rail service may become feasible or cost-effective in the long term.



CHAPTER 3: EXISTING GAPS AND FUTURE NEEDS

Included in this chapter:

- 3.1 Existing Traffic Assessment
- 3.2 Existing Multimodal Assessment
- 3.3 Summary of Deficiencies

This chapter provides a summary of gaps and needs in the existing facilities, based on inventory and operational assessments documented in Appendix 2. Technical Memo #2: Existing System Inventory) and Appendix 3. Technical Memo #3: Transportation System Operations).

3.1 Existing Traffic Assessment

Safety Focus Areas

A safety analysis was conducted to determine whether any significant, documented safety issues exist within the study area and to inform future measures or general strategies for improving overall safety. This analysis included a review of accident records, critical crash rates, and ODOT Safety Priority Index System (SPIS) data.

Five intersections have had a frequency/severity of crashes that warrant monitoring. Three were signalized intersections and two were unsignalized. The three signalized intersections were all located along Fern Valley Road and coincide with the three highest crash locations:

- The signalized intersection of Fern Valley Road and OR 99

- The I-5 southbound ramp terminal intersection with Fern Valley Road
- The I-5 northbound ramp terminal intersection with Fern Valley Road

The Fern Valley (diverging diamond) Interchange project includes improvements that will substantially change traffic flow at these three intersections. This new interchange configuration can also offer a significant improvement in safety, with up to a 50% reduction in crashes, due to the reduction in potential conflict points and improved geometry. Pedestrians and bicyclists can also be accommodated through the interchange in a safe manner. The two unsignalized intersections were located on Main Street at 1st Street and Oak Street.



Current Traffic Volumes

Existing traffic volume data was assembled from turning movement traffic counts conducted at intersections throughout the city, and annual data collected by ODOT on the state highway system.

Traffic volume data between years 2007 and 2013 shows negligible growth along OR 99, with a downward trend since volumes peaked in 2007. Lower present day traffic volumes on OR 99 are consistent with trends throughout the region and

likely reflect the economic downturn that influenced driver behavior. The current average annual daily traffic (AADT) volumes for OR 99, I-5, and the Interchange 24 (FVI) ramps, as well as intersection traffic volumes, are summarized in detail in Appendix 3. Technical Memo #3: Transportation System Operations. Traffic volumes are summarized at key locations in Table 3-1.

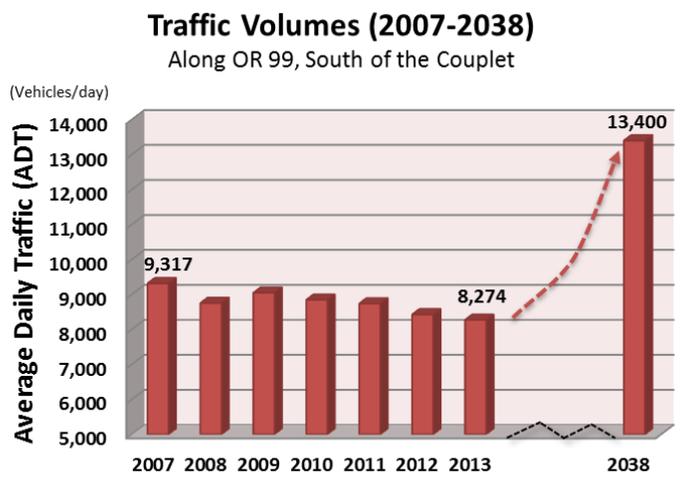


Table 3-1. Current Daily Traffic Volumes

Location Description	Volume
OR 99	
North City Limits	13,600 vpd
Between Rose St. and Fern Valley Rd.	15,000 vpd
Between Bolz Ln and 6 th St	13,700 vpd
Between 4 th St. and 1st St. (Couplet)	
Southbound One-Way Traffic	6,400 vpd
Northbound One-Way Traffic	6,200 vpd
South City Limits	8,400 vpd
I-5	
North of Interchange 24	37,840 vpd
South of Interchange 24	38,800 vpd
Interchange 24 (Fern Valley)	
Northbound Off-Ramp	4,500 vpd
Northbound On-Ramp	4,380 vpd
Southbound Off-Ramp	4,270 vpd
Southbound On-Ramp	5,110 vpd

vpd = vehicles per day
Source: 2012 Transportation Volume Tables, Oregon Department of Transportation

Current Traffic Operations

There are established methods for measuring traffic operations (mobility thresholds) of roadways and intersections. The City and State both a volume-to-capacity (v/c) ratio as a basis for performance criteria. This v/c metric involves consideration of factors that include traffic demand, capacity of the intersection or roadway, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort, convenience, and operating cost. A v/c ratio of less than 1.00 indicates that the volume is less than capacity. When it is closer to 0, traffic conditions are generally good, with little congestion and low delays for most intersection movements. As the v/c ratio approaches 1.00, traffic becomes more congested and unstable, with longer delays.

The Oregon Highway Plan (OHP)¹ identifies a target for OR 99 within the City of Phoenix, classified as a district highway, which is a v/c ratio less than or equal to 0.95. A separate Alternative Mobility Standard has been adopted through the FVI IAMP to preserve interchange capacity for future industrial and export service development (in PH-5 and MD-5), which sets a target for the I-5 ramp terminals of 0.75, with only potential exceptions described in the FVI IAMP and OAR 660-012-0060(1)(c). The City of Phoenix has also established performance standards based on v/c ratio. The standard for arterial, collector and local roads is a v/c ratio less than or equal to 0.90. Within the couplet, designated Special Transportation Area (STA), the mobility standard is a v/c ratio of less than or equal to 0.95.

¹ Table 6: Maximum Volume to Capacity Ratio Targets for Peak Hour Operating Conditions, 1999 Oregon Highway Plan, OHP Policy 1F Revisions, Adopted December 21, 2011, Oregon Department of Transportation, website: <http://www.oregon.gov/ODOT/TD/TP/docs/ohp11/policyadopted.pdf>

A review of existing conditions suggests there is only minor congestion (relative to applicable City and State mobility thresholds) present at any of the study area intersections, and all of them currently meet applicable mobility thresholds. The most congestion is at the Fern Valley Interchange (NB ramp terminal – v/c: 0.69, SB Ramp Terminal - v/c: 0.72). All other intersections within the City have less demand with a v/c of less than 0.64. A detailed summary of current traffic operations is included in Appendix 3. Technical Memo #3: Transportation System Operations.

3.2 Existing Multimodal Assessment

A qualitative assessment was conducted of how bicycle, pedestrian, transit, and auto facilities interact to serve the wide range of users throughout the City.

Bicycle Facilities



The *Oregon Bicycle and Pedestrian Design Guide* sets a standard bicycle lane width of 6 feet, with a minimum width of 5 feet against a curb or adjacent to a parking lane (4.5 feet is allowed where very severe physical constraints are present). Where there are uncurbed shoulders, bike lanes have a minimum width of 4 feet. The City of Phoenix’s bicycle network has seen modest improvements since the previous TSP update, most notably along collector streets in older neighborhoods west of OR 99.

Continuous bicycle lanes have been added to Rose Street between Independence Circle and 1st Street,

1st Street between Colver Road and Main Street, and 4th Street/Houston Road west of Main Street, except at the location of the CORP railroad crossing, where the bicycle lanes are temporarily interrupted. These bicycle lanes are typically adjacent to curbs or parking lanes and are usually 5 feet or wider.

However, many arterials and collectors in the city continue to lack adequate bicycle facilities, hampering access across I-5 and within downtown Phoenix. This includes OR 99 (including the Main Street/Bear Creek Drive couplet), Rose Street between OR 99 and Independence Circle, and on Fern Valley Road west of Luman Road and at the I-5 interchange. The northbound bicycle lane on NB OR 99 near Oak Street (and the entrance to Blue Heron Park) deserves particular mention for dropping without advance warning, alongside 40 mph traffic and next to a guardrail without a usable shoulder.

Several arterial and collector roadways in more rural sections of Phoenix contain paved shoulders that are usually 5 feet wide and may or may not contain bicycle lane stencils or other markings. “Bicycle on shoulder” advance warning signs often accompany these facilities, such as along Colver Road, North Phoenix Road, and Houston Road. While these facilities are standard on roads with rural cross sections that lack curbs, they are not the most comfortable for users due to the potential of debris and lack of separation from fast-moving vehicle traffic.

Table 3-2 summarizes the remaining sections of arterials and collectors within the Phoenix UGB that do not have adequate bicycle facilities (at least 5 feet wide) on both sides, based on the minimum standards set in the Oregon Bicycle and Pedestrian Design Guide. Also,

Figure 4-2: Bicycle Modal Plan (in Chapter 4) shows the current and proposed bicycle network. Appendix 2 provides a detailed summary of these facilities.

Table 3-2. Segments without Adequate Bicycle Facilities

Street Name	From	To
Arterial Streets		
OR 99/Main St./Bear Creek Dr.	North UGB	South UGB
Fern Valley Rd.	OR 99	Luman Rd.
Fern Valley Rd.	I-5 interchange	East UGB
Bolz Rd.	OR 99	Fern Valley Rd.
N. Phoenix Rd.	North UGB	Fern Valley Rd.
Collector Streets		
Rose St.	OR 99	Independence Circle
Rose St.	1 st St.	Oak St.
Oak St.	Rose St.	Bear Creek Dr. (OR 99)
Colver Rd.	Houston Rd./4 th St.	1 st St.
Hilsinger Rd.	Colver Rd.	Camp Baker Rd.
Camp Baker Rd.	West UGB	Colver Rd.
Pear Tree Ln.	150 ft. S of Fern Valley Rd.	700 ft. W of S. Phoenix Rd.
4 th St.	Main St.	Bear Creek Dr.
1 st St.	Church St.	Bear Creek Dr.

such as where power poles or street furniture is present. The City of Phoenix sidewalk network is continuing to become a more continuous system, although there are multiple key connectivity gaps.

Table 3-3 summarizes the remaining sections of arterials and collectors within the Phoenix UGB that do not have adequate sidewalks (at least 5 feet wide) on at least one side of the street, based on the minimum standards set in the *Oregon Bicycle and Pedestrian Design Guide*. Also,

Pedestrian Facilities



The *Oregon Bicycle and Pedestrian Design Guide* set a standard pedestrian zone width of 6 feet, with a minimum width of 5 feet where appropriate, such as local streets, as long as there is adequate separation of the roadway. In addition, sidewalks should not be less than 4 feet wide at pinch points,

Figure 4-3: Pedestrian Modal Plan (in Chapter 4), shows the current and proposed pedestrian network. Appendix 2 provides a detailed summary of these facilities.

through the Rogue Valley metropolitan area, extending 18 miles north-south from Ashland to north of Central Point. The Greenway is located between I-5 and OR 99 in the Phoenix area, roughly paralleling Bear Creek.

Table 3-3. Segments without Adequate Sidewalks

Street Name	From	To
Arterial Streets		
OR 99	200 ft. S of Rose St.	300 ft. north of Cheryl Ln.
OR 99	100 ft. S of Oak St.	South UGB
Bear Creek Dr. (OR 99 NB)	Main St. (OR 99 SB)	4th St.
Fern Valley Rd.	OR 99	Luman Rd.
Fern Valley Rd.	I-5 SB interchange ramp	I-5 NB interchange ramp
N. Phoenix Rd.	North UGB	Grove Way
N. Phoenix Rd.	Grove Way	1000 ft. south of Grove Way
Collector Streets		
Rose St.	1 st St.	Oak St.
Oak St.	Rose St.	200 ft. W of Main St. (OR 99 SB)
Camp Baker Rd.	Hilsinger Rd. (west)	Colver Rd.
Hilsinger Rd.	150 ft. south of Colver Rd.	90 ft. S of Coral Circle
Hilsinger Rd.	1 st St.	Camp Baker Rd.
Colver Rd.	4 th St./Houston Rd.	Hilsinger Rd.
Colver Rd.	150 ft. S of Chelsea Ct.	South UGB
4 th St.	Colver Rd.	CORP RR crossing
Bolz Rd.	OR 99	Fern Valley Rd.
Pear Tree Ln.	150 ft. S of Fern Valley Rd.	700 ft. W of S. Phoenix Rd.

There is only one road crossing along the greenway in Phoenix, at Fern Valley Road, which is grade-separated. Two ramps provide access to the greenway from the north and south sides of Fern Valley Road. There are no sidewalks or bicycle lanes along Fern Valley Road at this location; however, the FVI Project will add sidewalks throughout the interchange and Project extents.

Transit Facilities



Currently, the Rogue Valley Transportation District (RVT) provides public transportation to the City of Phoenix. RVT Route 10 passes through Phoenix along OR 99. Almost all of the study area intersections along OR 99 can access a transit stop; however, some of the bus stops have limited sidewalks nearby and some lack amenities such as signing, seating, and shelter.

Multi-use Paths

The Phoenix transportation system also includes a regional multi-use path, the Bear Creek Greenway, which serves both pedestrians and bicyclists. The Bear Creek Greenway is the primary multi-use path

On some segments, transit facilities provide a higher level of service because there are adequate pedestrian facilities serving the bus stops. At intersections, level of service was influenced by proximity to transit stops, transit amenities, and how easy it is to cross OR 99 to access a transit stop.



3.3 Summary of Deficiencies



The key characteristics and identified deficiencies include:

- No significant operational vehicular deficiencies are anticipated under existing (year 2013) or future (year 2038) baseline conditions.
- The existing frequency and severity of crashes along Fern Valley Road is noteworthy; however, the Fern Valley Interchange project includes improvements that will substantially change traffic flow/design and reduce the anticipated crash risk at these areas of concern.
- The City of Phoenix sidewalk and bicycle networks are discontinuous, and have multiple key connectivity gaps.

3.4 Prioritization of Needs

Based on the assessment of future needs, proposed projects were prioritized by need—high, medium, and low priority—and by approximate time frame for implementation: short term (generally 0–5 years), medium term (generally 5–10 years), long term (generally 10–20 years), and very long term (generally beyond 20 years).

Projects were prioritized based on community priorities, urgency of the need, funding availability, and complexity of the project. Short-term projects generally address current or soon-to-emerge transportation issues, and should be prioritized for funding. Medium- and long-term projects are generally larger, have more impacts, and are more costly. The need for these projects is also less immediate, and the proposed projects may address a transportation problem that is likely to emerge in the future. In some cases, very long-term projects identify potential long-term needs that may develop beyond the 20-year planning horizon.

Prioritization Criteria

This section describes the general criteria used to guide the prioritization of identified projects.

Clearly defined but flexible prioritization criteria can serve a variety of purposes (e.g., funding plans, grant applications, etc.). The TSP Goals (Appendix 1. Technical Memo #1: Definition and Background) and TSP Evaluation Criteria and ratings (summarized in Appendix 4. Technical Memo #4: Improvement Concepts Evaluation)

serve as the foundation for this iterative prioritization process, in addition to the following factors:

- TSP Evaluation Criteria ratings related to each TSP Goal
- Level of significance/importance
- Time-sensitivity of the project

Based on input from the community, TAC, and CAC, projects were further screened and categorized using the aforementioned factors into two key categories, with several sub-categories within each:

- Priority
- Estimated time of implementation.

Priority

The project implementation priority is based on significance/importance and an estimate of project urgency, need and justification, and rate of development. Should any of the factors that influence priority prove to be different than expected, changes in priorities, and potentially timeline, might be required.

Timeline

The proposed project implementation timeline was based on the prioritized project list and also took into account an estimate of urgency/time-sensitivity, funding availability, and rate of land development. Should any of the factors that influence phasing prove to be different than expected, changes in phasing might be required.





CHAPTER 4: MODAL PLANS

Included in this Chapter:

- 4.1 Street System
- 4.2 Bicycle and Pedestrian System
- 4.3 Pedestrian Projects
- 4.4 Transit System
- 4.5 Air, Rail, Water, and Pipelines
- 4.6 Funded and Unfunded Project Lists

This chapter describes the preferred transportation projects for the City of Phoenix, which together will provide a balanced and connected transportation network over the next 20-years. The TSP takes a proactive approach to transportation planning, setting priorities and using a variety of programs and strategies to better serve expected transportation system demands. The City of Phoenix understands that the transportation system must serve all modes of transportation.

The TSP recognizes that the transportation system must address the needs of all users of the right-of-way and accommodate those needs in the most efficient way.

4.1 Street System

During the TSP update process, street and intersection concerns were identified by staff, stakeholders, and the public. Each project was given a level of priority and an anticipated time period during which the project might be built. Street system needs and recommended projects are listed in the following sections. Figure 2-1

describes the location of each recommended project.

Enhancements to OR 99

S-1 OR 99 – Downtown Phoenix (High Priority/Short Term)

This project would add gateway treatments at the north and south ends of the Main Street/Bear Creek Drive couplet in downtown Phoenix, in order to emphasize the transition in character from OR 99’s rural highway segment to the Phoenix city center. This project is a component of the City Center Element in the City’s Comprehensive Plan.

S-10 OR 99/Coleman Creek Culvert (High Priority/Medium Term)

Coleman Creek runs diagonally from southwest to northeast, crossing OR 99 in the north section of Phoenix just north of Cheryl Lane. OR 99 in this section is five lanes wide, with a center turning lane, two through lanes, substandard sidewalks, and no bicycle lanes. This project would replace the culvert over the creek and widen the roadway in this section to add bike lanes and sidewalks.

S-11 OR 99 – South of Couplet to South City Limits (Medium Priority/Long Term)

OR 99 south of downtown is a standard rural four-lane highway with limited shoulders and no sidewalk infrastructure. This project would restructure the roadway to include a center turning lane, two through travel lanes (one in each direction), bike lanes, curbs, and sidewalks.

Street System Plan

Table 4-1: Street System Projects

No.	Project/Location	Description	Bundle	Timeline	Priority
Tier 1 – Funded					
S-1	OR 99 – Downtown Phoenix	Add gateway treatments at north and south ends of couplet to increase awareness of upcoming downtown area and lane reduction.	B-2, B-4, B-5, B-6, P-4, P-5	Short	High
S-2	3rd St and 2nd St Extensions	New local street with sharrows and sidewalks	S-3	Short	High
S-3	Parking St: 2nd Street to 4 th Street	Construct new street within couplet with sharrows and sidewalks	S-2	Short	High
S-4	N Pine St: W 1st St to W 5th St	Asphalt overlay, roadway widening to City standards, curb, gutter, sidewalks and storm drainage, AC waterline replacement, sharrows	B-7	Short	High
S-5	N Church St: W 1st St to W 6th St	Asphalt Overlay, Roadway Widening to City Standards, Curb, Gutter, Sidewalks and Storm Drainage, AC Waterline Replacement, sharrows	B-7	Short	High
S-6	Locke Ln: Colver to dead end, including Christie Court; Coral Circle: Houston Rd to Hilsinger	Asphalt Overlay, AC Waterline Replacement	No	Short	High
Tier 2 – Unfunded					
S-7	Hilsinger Rd: Colver Rd to Camp Baker Rd	Upgrade road to collector standard (sharrows instead of bike lane)	No	Medium	High
S-8	Urban Reserve Area PH-5	Implement a Conceptual Street Network as part of a long-term plan for development	No	Medium	High
S-9	Urban Reserve Area PH-10	Implement a Conceptual Street Network as part of a long-term plan for development	No	Medium	High
S-10	OR 99/Coleman Creek Culvert	Replace culvert and widen roadway to add bike lanes and sidewalks	B-8, P-8, P-10	Medium	High
S-11	OR 99 – South of couplet to south city limits	Restructure roadway to include a center turn lane, two through travel lanes (one in each direction), bike lanes, curbs, and sidewalks	No	Long	Medium
S-12	OR 99/Northridge Ter Intersection	Monitor crash patterns for increased frequency of crashes related to northbound right-turn movement; if warranted, improve turning radius on southeast corner	No	Long	Medium
S-13	Urban Reserve Area PH-1 and PH-1a	Implement a Conceptual Street Network as part of a long-term plan for development	No	Long	Low
S-14	4th St/Houston Rd railroad crossing	Improve crossing to ease driver experience	B-13	Long	Low

S-12 OR 99/Northridge Terrace Intersection (Medium Priority/Long Term)

At the northern edge of the city, Northridge Terrace intersects OR 99. In response to reported safety concerns, this project would encourage ODOT to monitor crash patterns for increased frequency of collisions related to the right-turn movement from northbound OR 99 to eastbound Northridge Terrace. If warranted, the southeast corner of the intersection would be improved to facilitate a wider turning radius.

Urban Reserve Areas

The Greater Bear Creek Valley Regional Plan (GBCVRP) established five urban reserve areas that would accommodate anticipated population and employment growth in Phoenix over the next 50 years.

S-8 Urban Reserve Area PH-5 (High Priority/Medium Term)

An established urban reserve area, PH-5 is approximately 427 gross acres and is located to the north of the city limits and east of I-5. Although this area currently lies outside of the Phoenix UGB, general planning for a transportation network to serve PH-5 is sought to be part of the TSP. In an effort to plan for future conditions and needed connections, North Phoenix Road is forecast to have two new connections. The primary east-west connection is a collector street, and the other connection extends from the old alignment of North Phoenix Road across the realigned arterial to extend northward through PH-5. A third north-south roadway is forecasted in the eastern portion of PH-5 and has the potential to extend southward to serve PH-10. Upgrades to Campbell Road would be necessary for a potential South Stage Road extension connects to North Phoenix directly opposite Campbell Road. A conceptual network for PH-5 is illustrated in Figure 4-1.

S-9 Urban Reserve Area PH-10 (High Priority/Medium Term)

Urban reserve area PH-10 is 43 total acres and is located to the north side of Fern Valley Road, east of I-5 and north of the Phoenix Hills neighborhood. Future forecasts for PH-10 include 85 percent residential and 15 percent open space uses in the area. PH-10 currently lies outside of the Phoenix UGB and shares a property line with PH-5 to the north. Its proximity to PH-5 will accommodate a north/south corridor from southeast Medford to northeast Phoenix. PH-10 lends itself to one north/south and one east/west local route. The north/south route would connect into Fern Valley Road at the same point as Breckinridge Drive or Meadow View Drive.

S-13 Urban Reserve Area PH-1 and PH-1a (Low Priority/Long Term)

The urban reserve areas PH-1 and PH-1a are located west of OR 99 and the CORP railroad line, and north of the city limits. Both URAs are located west of the CORP railroad line, which limits connectivity with the rest of the Phoenix street system. Their eastern border has limited road access, so it is unlikely a new or enhanced rail crossing could be added in order to accommodate industrial traffic. The proposed route into the urban reserve areas is a connection to S. Stage Road via Voorhies Road. By creating a north/south connection to S. Stage Road through PH-1 and PH-1a, there is no need for an additional rail crossing. New connections to S. Stage Road will be coordinated with the County and City of Medford.

City-Maintained Street Improvements

Listed below are projects that would improve streets that the City owns and maintains.

S-2 3rd Street: Main Street to New Internal Circulation Roadway [Parking Street] (High Priority/Short Term)

The eastern end of 3rd Street currently terminates at Main Street in downtown Phoenix. This project would extend 3rd Street one block east to a new internal circulation roadway (tentatively known as Parking Street) between the Main Street and Bear Creek Drive couplet, and would include new sidewalks and bicycle lanes. This project is a component of the City Center Plan.

S-3 New Internal Circulation Roadway [Parking Street]: 4th Street to 2nd Street (High Priority/Short Term)

This project would construct a new internal circulation roadway with sidewalks and bicycle lanes between the Main Street/Bear Creek Drive couplet and is a component of the City Center Plan.

S-4 N Pine Street: W 1st Street to W 5th Street (High Priority/Short Term)

Pine Street is a local neighborhood street that lacks sidewalks and curbs, and is in generally poor condition. This project will rehabilitate the roadway with an asphalt overlay, and widen the street to citywide local street standards, including curbs, gutters, sidewalks, and stormwater drainage. The existing AC waterline under the roadway would also be replaced.

S-5 N Church Street: W 1st Street to W 6th Street (High Priority/Short Term)

Church Street is a local neighborhood street that lacks sidewalks or curbs and is in generally poor condition. This project will rehabilitate the roadway with an asphalt overlay, and widen the street to

citywide local street standards, including curbs, gutters, sidewalks, and stormwater drainage. The existing AC waterline under the roadway would also be replaced.

S-6 Locke Lane/Coral Circle (High Priority/Short Term)

The City's Capital Improvement Plan includes projects on two residential streets in west Phoenix. This project would repair the severely degraded roadway surface with an asphalt overlay and replace the existing AC waterline underneath the roadway.

S-7 Hilsinger Road: Colver Road to Camp Baker Road (High Priority/Medium Term)

Hilsinger Road is classified as a collector roadway in the western section of Phoenix, yet the roadway is substandard, with only intermittent sidewalks and curbs and no bicycle lanes. As part of the City's Capital Improvement Plan, this project would include an overlay to replace deteriorating asphalt, roadway widening, new sidewalks, and drainage improvements. In addition, the existing asbestos cement (AC) waterline under the roadway would also be replaced. These upgrades would bring Hilsinger Road to collector standards, with the exception of sharrow pavement markings instead of bicycle lanes, which would reflect right-of-way constraints and the low traffic volumes on this street. A small section of Hilsinger is not in City limits, so additional coordination with Jackson County is required.

S-14 4th Street/Houston Road Railroad Crossing (Low Priority/Long Term)

Planned repairs to the CORP railroad line between Medford and Montague, California, makes freight service likely on the rail line within Phoenix. Since Houston Road/4th Street crosses the CORP railroad tracks at a skewed angle, this project will improve the driver experience for traffic that uses 4th Street/Houston Road via OR 99 and Colver Road.

Bicycle and pedestrian improvements, such as TSP Project B-6, will improve the user experience for users of this road. Freight access to industrial lands as well as to future growth areas in and around PH-1 and PH-1a will be improved.

S-19 1st Street: Rose Street to Church Street (High Priority/Short Term)

1st Street between Rose Street and Church Street is a collector with two travel lanes that was recently widened to install a sidewalk and drainage improvements on the north side of the street. The City's Capital Improvement Plan includes a complementary widening project on the south side of the roadway that would also install new sidewalks and drainage improvements. These improvements would bring 1st Street up to collector standards.

4.2 Bicycle and Pedestrian System



Enhance Local Collector Streets

Several roads in Phoenix do not have adequate bicycle facilities (bicycle lane at least 5 feet wide) on both sides, based on the minimum standards set in the *Oregon Bicycle and Pedestrian Design Guide*. Projects that will install bicycle lanes, or extend lanes in certain parts of town, will have significant benefits to users of these roads.

B-2 4th Street: Main Street to Bear Creek Drive (High Priority/Short Term)

Currently, 4th Street/Houston Road has bicycle lanes between the west UGB and Main Street. This project would extend those bicycle lanes east towards Bear Creek Drive and the Bear Creek Greenway.

B-6 1st Street: Church Street to Bear Creek Drive (High Priority/Short Term)

Currently, 1st Street has bicycle lanes between Colver Road and Church Street. This project would extend those bicycle lanes east towards Bear Creek Drive and may require on-street parking restrictions to accommodate them.

B-7 Rose Street and Oak Street (Medium Priority/Short Term)

Currently, Rose Street has bicycle lanes between Independence Circle and 1st Street. South of 1st Street, Rose Street has the character of a local neighborhood street but no sidewalks. This project would extend the existing bicycle lanes north towards OR 99 and may require on-street parking restrictions to accommodate them. It would also add sharrow pavement markings between 1st Street and Oak Street.

B-11 Colver Road: 4th Street/Houston Road to 1st Street (Medium Priority/Medium Term)

Currently, Colver Road has paved shoulders between 1st Street and the south UGB. This project would extend those paved shoulders north towards 4th Street/Houston Road and would likely require new right-of-way acquisition.



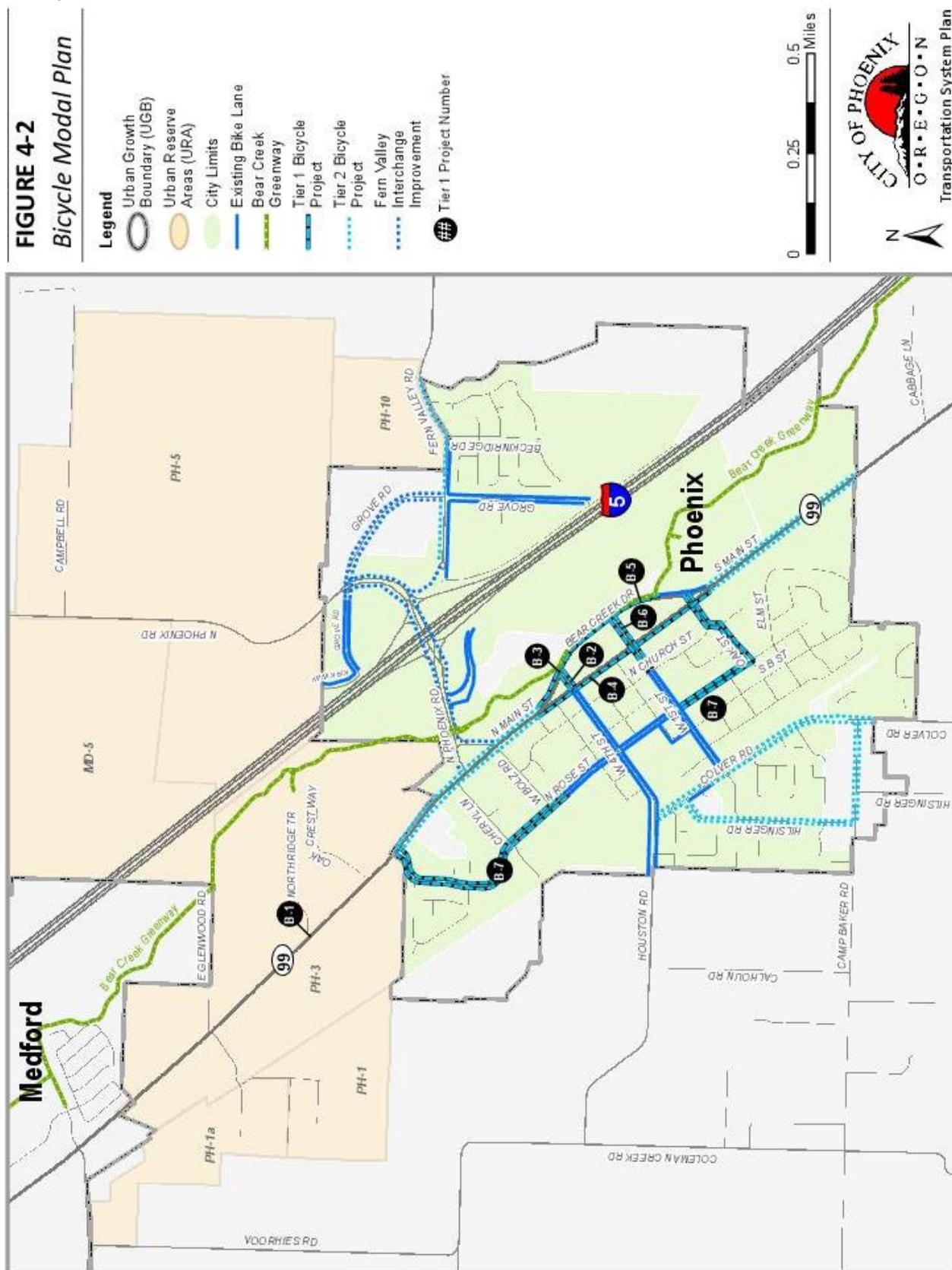
Bicycle Projects

Table 4-2: Bicycle System Projects

No.	Project/Location	Description	Bundle	Timeline	Priority
Tier 1 – Funded					
B-1	Bear Creek Greenway connection with Northridge Ter	Install signage guiding travelers to the Bear Creek Greenway	OR 99 CP	Short	High
B-2	4th St: Main St to Bear Creek Dr	Extend bike lanes	B-4, B-5	Short	High
B-3	Bear Creek Greenway	Improve connections to OR 99/Bear Creek Dr at 4th St to provide parallel and convenient bicycle and pedestrian facilities (north end)	P-3, B-10	Short	High
B-4	Main St – Downtown Phoenix	Modify striping to add bike lanes	B-2, B-6, P-4, P-5	Short	High
B-5	Bear Creek Dr – Downtown Phoenix	Modify striping to add bike lanes (west side pedestrian multi-use path)	B-2, B-6, P-4, P-5	Short	High
B-6	1st St: Church St to Bear Creek Dr	Extend bike lanes	B-4, B-5	Short	High
B-7	Local Collector Streets Rose St: Independence Cir to OR 99 Rose St: Oak St to 1st St Oak St: Rose St to Main St Church St: Oak St to Bolz Rd Pine St: 1st St to 5th St	Install sharrows	S-4, S-5	Short	Medium
S-2	3rd St and 2nd St Extensions	New local street with sharrows and sidewalks	S-3	Short	High
Tier 2 – Unfunded					
B-8	OR 99 – North UGB to Coleman Creek	Modify striping of existing 5-lane roadway cross section to add bike lanes	B-9, P-8, S-10	Medium	High
B-9	OR 99/Coleman Creek Culvert	Modify striping of existing roadway to add bike lanes while maintaining four through travel lanes (Interim)	B-8, P-11	Medium	High
B-10	Bear Creek Greenway	Improve connections to OR 99/Bear Creek Dr at Oak St to provide parallel and convenient bicycle and pedestrian facilities (south end)	B-3	Medium	Medium
B-11	Colver Rd: 4th St/Houston Rd to 1st St	Widen to provide bike lanes and sidewalks	P-12	Medium	Medium
B-12	Camp Baker Rd: Hilsinger to Colver Rd	Widen to provide bike lanes	P-20	Long	Low
B-13	4th St/Houston Rd: railroad crossing	Improve rail crossing for bicycle/pedestrian access	S-14	Long	Low
S-7	Hilsinger Rd: Colver Rd to Camp Baker Rd	Upgrade road to collector standard (sharrows instead of bike lane)	No	Medium	High
S-10	OR 99/Coleman Creek Culvert	Replace culvert and widen roadway to add bike lanes and sidewalks	B-8, P-8, P-10	Medium	High
S-11	OR 99 – South of couplet to south city limits	Restructure roadway to include a center turn lane, two through travel lanes (one in each direction), bike lanes, curbs, and sidewalks	No	Long	Medium
S-14	4th St/Houston Rd railroad crossing	Improve crossing to ease driver experience	B-13	Long	Low

Note: Blue text with shading indicates a project identified in a separate modal plan (project number indicates the corresponding modal plan), which offer overlapping modal benefits. These projects present opportunities to coordinate prioritization, funding and implementation efforts.

Figure 4-2: Bicycle Modal Plan



Improve Local Greenway Connections



The Phoenix transportation system includes a regional multi-use path, the Bear Creek Greenway, which serves both pedestrians and bicyclists. The Bear Creek Greenway is the primary multi-use path through the Rogue Valley metropolitan area, extending 18 miles north-south from Ashland to north of Central Point. Fern Valley Road is the only road crossing along the trail in Phoenix and currently lacks sidewalks or bicycle lanes. The upcoming Fern Valley Interchange project will install new pedestrian and bicycle facilities that will greatly improve user safety and comfort. However, Fern Valley Road (future North Phoenix Road) will continue to act as a high-volume, higher-speed street. There are two additional access points within Phoenix: one located at Northridge Terrace at the far northern edge of the city, and another at Blue Heron Park at the south end of downtown in the vicinity of Oak Street.

Future efforts for Bear Creek Greenway will be coordinated with current efforts by Jackson County to improve signage and access to the trail.

B-1 Bear Creek Greenway connection with Northridge Terrace (High Priority/Short Term)

This project would install signage along OR 99, guiding travelers to the existing Bear Creek Greenway access point at Northridge Terrace.

B-3 Bear Creek Greenway Connections – City Center (4th Street and Oak Street) (High Priority/Short Term)

To improve bicycle and pedestrian connections between Phoenix neighborhoods and the Bear Creek Greenway, especially at the northern end of the city center, the project would construct a new trail access point at 4th Street and install improved crossings where OR 99 (Main Street and Bear Creek Drive) intersects Oak Street and 4th Street. These improvements will help reduce the need for local residents to travel along Fern Valley Road in order to access to greenway.

This project is a component of the City Center Plan. An improved crossing at Oak Street that has high-visibility crosswalks and pedestrian-activated crossing signals and that connects to Blue Heron Park is currently funded within the Statewide Transportation Improvement Plan (STIP) at a projected cost of \$618,000. The project will include new and improved sidewalks. The project will also include new wayfinding signage and pavement markings to guide users to the trail and provide visible cues for motorists.

Complete Bicycle Network Gaps

B-4 Main Street – Downtown Phoenix (High Priority/Short Term)

Main Street currently carries southbound OR 99 traffic through the commercial center of downtown Phoenix, with two through lanes and two parking lanes. Main Street will be restriped to include a protected bicycle lane and one general travel lane. Each intersection in downtown will also have new ADA compliant ramps, crosswalk markings, and signage. A pedestrian activated RFB will be installed at the intersection of Main Street and East 4th Street and at Bear Creek Drive and East 4th Street.

B-5 Bear Creek Drive – Downtown Phoenix (High Priority/Short Term)

Built in the 1950s as part of a couplet with Main Street, Bear Creek Drive currently carries northbound OR 99 traffic through downtown Phoenix. Unlike Main Street, Bear Creek Drive has a rural highway character, with two travel lanes and side guardrails but no curbs or sidewalks and limited intersections. As part of the City Center Plan, Bear Creek drive will be restriped to include a protected bicycle lane and one general travel lane.

B-8 OR 99 – North UGB to Coleman Creek (High Priority/Medium Term)

OR 99 in this section has a five-lane roadway cross section, with two travel lanes in each direction and a center turning lane, but with no bicycle lanes and substandard or intermittent sidewalks. This project would modify the existing striping to add a standard bicycle lane in each direction.

B-9 OR 99/Coleman Creek Culvert (High Priority/Medium Term)

Coleman Creek runs diagonally from southwest to northeast, crossing OR 99 in the north section of Phoenix just north of Cheryl Lane. OR 99 in this section is five lanes wide and has a center turning lane and two through lanes, but no bicycle lanes and substandard or intermittent sidewalks. This project would modify the existing striping to add a standard bicycle lane in each direction while maintaining four through travel lanes as an interim measure until a new culvert can be constructed over the creek.

B-12 Camp Baker Road: Hilsinger to Colver Road (Low Priority/Long Term)

Camp Baker Road has a rural cross section, with two travel lanes and no sidewalks, curbs, or bicycle lanes. This project would bring the street up to the

collector standards by widening the roadway to provide bicycle lanes.

B-13 4th Street/Houston Road: Railroad Crossing (Low Priority/Long Term)

The existing bicycle lanes on 4th Street are discontinuous at the CORP railroad crossing, which can reduce the feeling of safety for less confident riders. This project would stripe bicycle lanes across the tracks, which may require widening the roadway. The City would need to coordinate with the railroad on potential right-of-way acquisition or easements, because this project would likely require relocation and potential modifications of the crossing devices.

Improve Pedestrian Network



P-3 OR 99: Bolz Road to 4th Street (High Priority/Short Term)

OR 99 in this section does not have a continuous sidewalk on the east side of the street. This project would bring the roadway up to arterial standards by extending the pedestrian facility improvements being constructed as part of the I-5 Fern Valley Interchange project farther south towards downtown. A new or improved east sidewalk would be installed between Bolz Road and 4th Street.

4.3 Pedestrian Projects

Table 4-3: Pedestrian System Projects

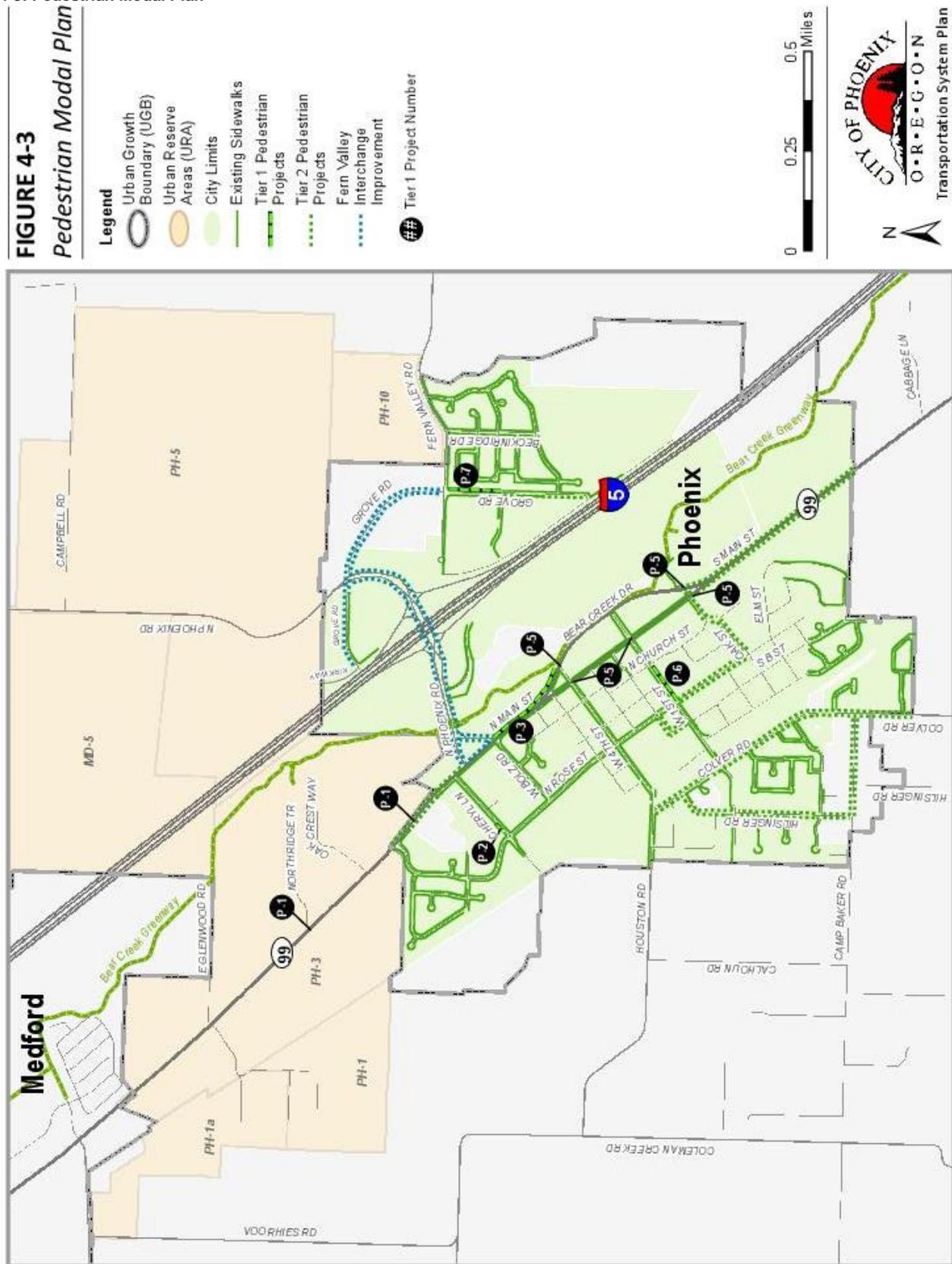
No.	Project/Location	Description	Bundle	Timeline	Priority
Tier 1 – Funded					
P-1	OR 99 – Charlotte Ann Rd to Coleman Creek	Install RRFB and median islands at multiple locations where pedestrian crossings occur: Northridge Ter and/or Walnut Way	OR 99 CP	Short	High
P-2	Cheryl Ln: Rose St	Install new or improved sidewalk to eliminate gap east of Rose St	No	Short	High
P-3	OR 99: Bolz Rd to 4th St	New or improved sidewalk on east side	B-3	Short	High
P-4	Main St – Downtown Phoenix	Enhance crossing opportunities with pedestrian-activated devices, curb extensions, and additional crosswalk striping, install RFB at Main & 4th and Bear Creek Drive and 4th	B-2, B-6	Short	High
P-5	Bear Creek Dr – Downtown Phoenix	Enhance crossing opportunities with pedestrian-activated devices, curb extensions, and additional crosswalk striping	B-2, B-6	Short	High
P-6	1st St: Rose St to Church St	New or improved sidewalk on south side	No	Short	High
P-7	S Phoenix Rd: Fern Valley Rd and Furry Rd	Install new or improved sidewalk on east side and asphalt overlay	No	Medium	Low
S-2	3rd St and 2nd St Extensions	New local street with sharrows and sidewalks	S-3	Short	High
S-4	N Pine St: W 1st St to W 5th St	Sidewalks included in street project “S-4”	S-4, B-7	Short	High
S-5	N Church St: W 1st St to W 6th St	Sidewalks included in street project “S-5”	S-5, B-7	Short	High
Tier 2 – Unfunded					
P-8	OR 99 – North UGB to Coleman Creek	Construct continuous sidewalks on both sides of OR 99	P-10, P-11, S-10, B-8	Medium	High
P-9	OR 99: Bolz Rd to South End of Couplet	Provide sidewalk travel width on west side of roadway of 6 feet around utility poles	No	Medium	High
P-10	OR 99: Cheryl Ln to Coleman Creek	New or improved sidewalks on both sides	P-8, P-11, S-10	Medium	Medium
P-11	OR 99/Coleman Creek Culvert	Modify striping of existing roadway to add sidewalks while maintaining four through travel lanes (Interim)	P-8, P-10, B-9	Medium	Medium
P-12	Colver Rd: 4th St/Houston Rd to 1st St	Install new or improved sidewalk on both sides	B-11	Medium	Medium
P-13	2nd St: 1st St to Rose St	Install new sidewalks on both sides	No	Medium	Medium
P-14	1st St/C St	Install new curb extension to reduce curb radius and install crosswalks	No	Medium	Medium
P-15	Colver Rd: 1st St to South UGB	Install multi-use path along east side	No	Medium	Medium
P-16	1st St: RR Crossing	Install new sidewalks on both sides to eliminate gaps at CORP railroad crossing	No	Long	Medium
P-17	1st St: Canal	New or improved (ADA) sidewalk over canal on south side	No	Long	Medium
P-18	Oak St: Rose St to Main St	New or improved sidewalk on both sides	P-21	Long	Medium
P-19	OR 99/Rose Street	Install new curbs to reduce curb radius and install crosswalks across OR 99	No	Long	Low

No.	Project/Location	Description	Bundle	Timeline	Priority
Tier 2 – Unfunded					
P-20	Camp Baker Rd: Hilsinger to Colver Rd	New or improved sidewalk on both sides	B-12	Long	Low
P-21	Rose St: Oak St to 1st St	New or improved sidewalk on both sides	P-18	Long	Low
P-22	Colver Rd: 1st South UGB	Install new or improved sidewalk on both sides	No	Long	Low
P-23	C Street: 1st St to East of Elm St	New or improved sidewalk on both sides			
S-7	Hilsinger Rd: Colver Rd to Camp Baker Rd	Upgrade road to collector standard	No	Medium	High
S-10	OR 99/Coleman Creek Culvert	Replace culvert and widen roadway to add bike lanes and sidewalks	B-8, P-8, P-10	Medium	High
S-11	OR 99 – South of couplet to south city limits	Restructure roadway to include a center turn lane, two through travel lanes (one in each direction), bike lanes, curbs, and sidewalks	No	Long	Medium

Note: Blue text with shading indicates a project identified in a separate modal plan (project number indicates the corresponding modal plan), which offer overlapping modal benefits. These projects present opportunities to coordinate prioritization, funding and implementation efforts.



Figure 4-3: Pedestrian Modal Plan



P-2 Cheryl Lane: Rose Street (High Priority/Short Term)

There is currently a short gap in the pedestrian network on the north side of Cheryl Street where the City has not been able to construct a standard sidewalk due to a dispute with the adjacent property owner. This project would install new or improved sidewalk to eliminate the gap east of Rose Street.

P-6 1st Street: Rose Street to Church Street (High Priority/Short Term)

1st Street recently had a new sidewalk installed on the north side of the street to improve pedestrian connectivity between Rose Street and Church Street. This project would bring the roadway up to collector standards by installing an identical new or improved sidewalk on the south side of the roadway.

P-7 S Phoenix Road: Fern Valley Road and Furry Road (Medium Priority/Short Term)

South Phoenix Road has a single sidewalk that alternates sides between Fern Valley Road and Pear Tree Lane, which forces pedestrians to cross the street at Furry Road and makes pedestrian travel inconvenient along the roadway. This project would install a new or improved sidewalk on the east side of the street between Fern Valley Road and Furry Road, creating a single, uninterrupted sidewalk.

P-8 OR 99 – North UGB to Coleman Creek (High Priority/Medium Term)

OR 99 in this section is five lanes wide with a center turning lane and two through lanes, but no bicycle lanes and substandard or intermittent sidewalks. This project would bring the roadway to arterial standards by constructing continuous, full sidewalks on both sides of OR 99 in this section.

P-9 OR 99: Bolz Road to South End of Couplet (High Priority/Medium Term)

OR 99 has a full sidewalk on the west side of the roadway between Bolz Road and the south end of downtown along Main Street. However, there are power utility poles installed within the sidewalk that prevent the sidewalk from providing adequate clearance for users in mobility devices, or that don't allow for multiple users to pass one another in opposite directions. This project would widen the sidewalk to provide adequate sidewalk travel of 6 feet width around utility poles.

P-10 OR 99: Cheryl Lane to Coleman Creek (Medium Priority/Medium Term)

OR 99 in this section is five lanes wide with a center turning lane and two through lanes, but no bicycle lanes and substandard or intermittent sidewalks. This project would bring the roadway to arterial standards by constructing continuous, full sidewalks on both sides of OR 99 in this section.

P-11 OR 99/Coleman Creek Culvert (Medium Priority/Medium Term)

OR 99 in this section is five lanes wide with a center turning lane and two through lanes, but no bicycle lanes and substandard or intermittent sidewalks. This project would bring the roadway to arterial standards by modifying striping of the existing roadway to add sidewalks, while maintaining four through travel lanes as an interim measure until a new culvert can be constructed over the creek.

P-12 Colver Road: 4th Street/Houston Road to Hilsinger Road (Medium Priority/Medium Term)

Colver Road currently lacks sidewalks between 4th Street/Houston Road and Hilsinger Road. This project would bring the roadway up to collector standards by installing new sidewalk on both sides of the street within this section.

P-13 2nd Street/B Street: 1st Street to Rose Street (Medium Priority/Medium Term)

2nd Street/B Street between 1st Street and Rose Street is one-way westbound with one travel lane, one bicycle lane, and on-street perpendicular parking, and yet it lacks continuous sidewalks. This project would facilitate pedestrian access to Phoenix Elementary School by installing new or improved sidewalks on both sides of the street.

P-15 Colver Road: Multi-Use Path - 1st Street to South UGB (Medium Priority/Medium Term)

Colver Road has paved shoulders but no sidewalks from 1st Street south towards the UGB. To bring Colver Road in compliance with the collector standard, full sidewalks and curbs would need to be installed on both sides of the street, which could be expensive and challenging to construct without impacting adjacent properties. As an interim measure, this project would install a multi-use path along the east side of the roadway to improve pedestrian access and safety. An east-side facility would also connect residents with Colver Road Park, where there is an existing path that crosses the CORP railroad tracks.

P-18 Oak Street: Rose Street to Main Street (Medium Priority/Long Term)

Oak Street between Rose Street and Main Street has the character of a local neighborhood street but is classified as a collector in the City's TSP and lacks sidewalks. The street also connects the neighborhood to Blue Heron Park and the existing Bear Creek Greenway trailhead at the southern end of downtown Phoenix. To help meet collector standards, this project would install standard sidewalks on both sides of the street in this section.

P-20 Camp Baker Road: Hilsinger to Colver Road (Low Priority/Long Term)

Camp Baker Road has a rural cross section, with two travel lanes and no sidewalks, curbs, or bicycle lanes. This project would bring the street up to the

collector standards by widening the roadway to provide bicycle lanes and sidewalks.

P-21 Rose Street: Oak Street to 1st Street (Low Priority/Long Term)

Rose Street between Oak Street and 1st Street has the character of a local neighborhood street but is classified as a collector in the City's TSP and lacks sidewalks. To help meet collector standards, this project would install standard sidewalks on both sides of the street in this section.

P-22 Colver Road: Sidewalks - 1st Street to South UGB (Low Priority/Long Term)

Colver Road has paved shoulders but no sidewalks from 1st Street south towards the UGB. As an interim measure, this project would install full sidewalks and curbs on both sides of the street in order to bring Colver Road in compliance with the collector standard. Although improving pedestrian access and safety is a pressing need on Colver Road, constructing sidewalks is a lower priority than a multi-use path due to the expense and potential right-of-way acquisition involved.

Enhance Crossings



P-1 OR 99 – Northridge Terrace and Walnut Way Crossing Improvements (High Priority/Short Term)

Currently, there are no marked crosswalks north of Fern Valley Road along OR 99 in Phoenix to facilitate access between neighborhoods and the

Bear Creek Greenway. This project would help improve crossing safety and encourage motorist compliance by installing new high-visibility crosswalks, signage, and user-actuated crossing devices to aid bicyclists and pedestrians crossing at Northridge Terrace and Walnut Way. The crossing devices could either be in the form of a rectangular rapid flash beacon (RRFB) or pedestrian hybrid beacon.

P-4 Main Street – Downtown Phoenix (High Priority/Short Term)

Main Street currently carries southbound OR 99 traffic through the commercial center of downtown Phoenix. As part of the PHURA City Center Plan, to be adopted in 2015, this project will enhance crossing opportunities with pedestrian-activated devices, curb extensions to reduce crossing distance, signage, and additional high-visibility crosswalk striping.

P-5 Bear Creek Drive – Downtown Phoenix (High Priority/Short Term)

Bear Creek Drive currently carries northbound OR 99 traffic through downtown Phoenix. As part of the PHURA City Center Plan, to be adopted in 2015, this project will enhance crossing opportunities with pedestrian-activated devices, curb extensions to reduce crossing distance, signage, and additional high-visibility crosswalk striping.

P-14 1st Street/C Street Intersection Improvements (Medium Priority/Medium Term)

The southeast corner of the 1st Street/C Street intersection currently has a wide curb radius to facilitate the movement of trucks that serve the industry located along C Street. While the intersection layout helps accommodate large trucks making wide turns, it degrades the environment for pedestrians, who have a longer distance to cross the street and are less visible. The wider curb radius also encourages drivers to take the turn at faster speeds, sometimes without stopping as required. This project would make

various improvements at this intersection, such as installing new bulb-outs to reduce the curb radius and crossing distance for pedestrians, and increasing visibility. In addition, new high-visibility crosswalks would be installed.

P-16 1st Street: CORP Railroad Crossing (Medium Priority/Long Term)

The existing sidewalks on 1st Street are discontinuous at the CORP railroad crossing, requiring pedestrians to walk either in the roadway or along the unpaved shoulder. This project would install new sidewalks on both sides of the street to eliminate gaps at the crossing. The City would need to coordinate with the railroad on potential right-of-way acquisition or easements, because this project would likely require relocation and potential modifications of the crossing devices.

P-17 1st Street: Canal Crossing (Medium Priority/Long Term)

1st Street between the CORP railroad tracks and B Street has sidewalks on both sides of the street. However, where the street crosses the Phoenix Canal (maintained by the Talent Irrigation District) near the Phoenix Library, there is a makeshift wooden bridge on the south side of the street for pedestrians that is narrow and not ADA-accessible. To meet City collector standards and to improve accessibility, this project would construct an improved sidewalk over the canal on the south side of the roadway.

P-19 OR 99/Rose Street Crossing Improvements (Low Priority/Long Term)

The OR 99/Rose Street intersection in north Phoenix is the main access point into residential neighborhoods for traffic heading south from Medford. Currently, there are wide curb radii that enable drivers to take turns at a high rate of speed, which compromises pedestrian safety at the intersection. In addition, there are no crosswalks on OR 99 between Fern Valley Road and the northern UGB. This project would install new curb extensions to reduce the turning radius and also

install crosswalks across OR 99 to increase motorist awareness of pedestrians and bicycle riders.

Project 4 of the OR 99 Corridor Plan identifies a number of potential locations to install median islands that would possibly have crosswalks and an activated crossing device.

4.4 Transit System

The RVTD provides public transportation to the City of Phoenix. RVTD Route 10 passes through Phoenix along OR 99. The route connects Phoenix to the Cities of Talent, Medford, Central Point, and Ashland (shown in

Figure 4-4).



T-1 Route 10 Service Adjustments (High Priority/Short Term)

Route 10, the only routed bus service in Phoenix, currently experiences on-time performance issues. The route is long (more than 13 miles), and the current route cycle is approximately 1 hour and 45 minutes long, making schedule adherence sometimes difficult. RVTD is reviewing options for improving on-time performance, which may include eliminating or combining some stops along the route. The time required (50 minutes) to travel from Medford to Ashland on Route 10 is likely a deterrent to transit use for potential riders (driving between Medford and Ashland takes approximately 30 minutes).

Also, the northbound stop on Bear Creek Drive causes pedestrians to cross OR 99 and wait on Bear Creek Dr, where there is a narrow shoulder. Shifting this stop to the internal street network

Downtown (Route 10 /an express and one for the circulator to meet up with the Route 10) in the would facilitate a small transit center. RVTD would do this by using 1st street to enter northbound, but would require a connection at either 2nd, 3rd or 4th to re-enter OR 99 northbound. Southbound, RVTD could remain on Main St. or require another bus bay (or use 1st and turn around at 2nd).

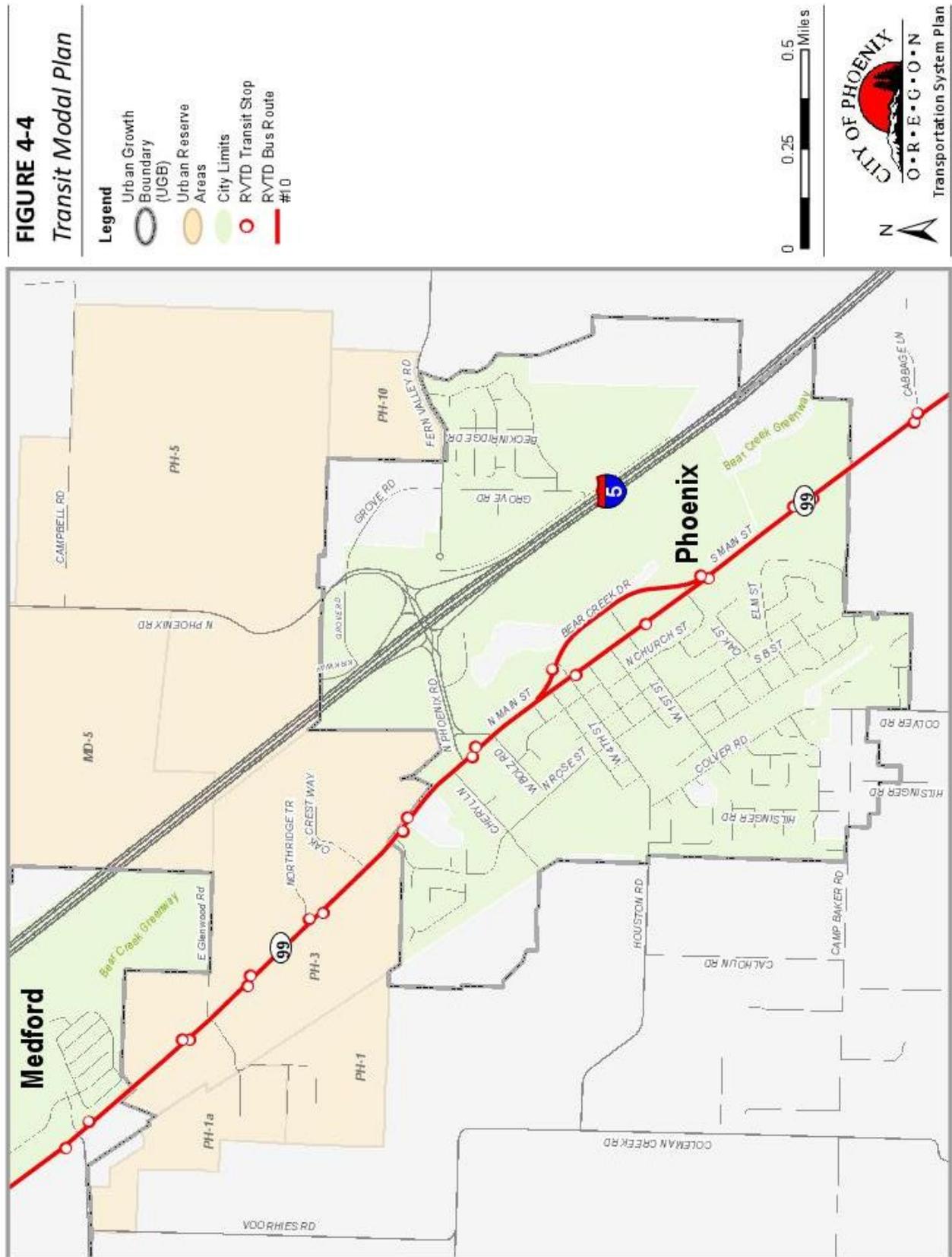
T-2 Route 10 Split (High Priority/Short Term)

RVTD is evaluating the possibility of splitting Route 10 into two separate routes with a transfer in Talent. Splitting the route would improve on-time performance for transit riders in Phoenix and increase travel time reliability between Phoenix and Ashland or Phoenix and Medford.

T-3 Feeder Service (Medium Priority/Short Term)

Deviated fixed-route and/or feeder service could connect riders who live too far from an existing RVTD stop to routed service. RVTD is considering a “Valley Feeder” service that would make use of unused capacity in the paratransit system. This feeder service would be available to residents who are within ¾ mile of an existing RVTD line. Riders could call and reserve a ride on an available paratransit vehicle to their nearest bus stop or final destination (depending on location).

Figure 4-4: Transit Modal Plan



T-4 Transportation Demand Management (TDM) Strategies (Medium Priority/Short Term)

Phoenix does not currently have park-and-ride facilities. The demand for park-and-ride lots is difficult to forecast, given that potential park-and-ride users are likely to be “choice” riders who have the option of driving to their destinations. Working with private property owners will help in efforts to establish park-and-ride stalls in areas where parking is underutilized, or existing public parking stalls may be dedicated as park-and-ride facilities. Policies supporting workplace TDM programs in the community and at the City of Phoenix itself exist within the TSP. Large employers in town, such as Harry and David, could be targeted with specific TDM programs.

Through rideshare programs and other TDM efforts, the City and RVTD will work with Phoenix employers and other government agencies to increase commuter transit ridership, biking, and walking through voluntary, employer-based incentives such as subsidized transit passes and guaranteed ride home programs.

Additionally, the City and RVTD will encourage promotional and educational activities that encourage school children and people who own cars to use public transit, bike, and walk.

T-5 City Circulator (High Priority/Medium Term)

RVTD includes circulator service in its long-range transit plan. A city-wide circulator service could connect riders to routed bus service and provide access to community destinations within Phoenix. The circulator could serve residential areas west of OR 99 and east of I-5, and serve as “feeder” service for Route 10. This service will support development of PH-5 and PH-10, providing alternative modes of travel and reduce the need for vehicular capacity improvements.

T-6 Bus Stop Amenities (High Priority/Medium Term)

Current bus amenities are lacking in Phoenix. Only one stop has bus schedules posted, and several stops lack adequate sidewalk and shelters. Sidewalks are not present at either of the stops on Bear Creek Drive. Improving sidewalks adjacent to and at the stops themselves will improve pedestrian safety and increase comfort for riders waiting at or coming to those bus stops.

T-7 High Capacity Transit (High Priority/Long Term)

The existing Route 10 service is unlikely to attract many more riders unless it becomes time-competitive with driving. RVTD’s long-range transit plan (Ten-Year Plan) includes discussion of bus rapid transit (BRT) and potential light rail between Medford and Ashland, but notes that it is very difficult to forecast the demand for such a service. BRT service along OR 99 between Medford and Ashland would be the most likely high capacity transit improvement in Phoenix, given the prohibitive costs of rail. One stop on OR 99 south of Fern Valley Road and north of the two-way split with Bear Creek Drive would likely be sufficient. RVTD has indicated that BRT is a long-range possibility, with a target of having interim express service available by 2020. High Capacity Transit service relies on Transit Signal Priority to enhance schedule reliability. RVTD is working with ODOT to make these improvements along the OR99 corridor with potential for signals in Phoenix to be upgraded with this technology.

4.5 Air, Rail, Water, and Pipelines

There is currently no direct air service for goods, passengers, and services within the Phoenix UGB. Air service for passengers and freight is available at the Ashland Municipal Airport and Rogue Valley International-Medford Airport. The Rogue Valley International-Medford Airport regularly scheduled service to national destinations and provide connections to nearby international airports in Portland, San Francisco, and other cities.

Phoenix has no freight or passenger rail service currently. The Central Oregon and Pacific (CORP) rail line runs northwest-southeast through Phoenix, west of OR 99 along Colver Road. There are two at-grade crossings within Phoenix; both crossings (at 4th Street/Houston Road and at 1st Street) have gates and flashing lights. Trains are not currently running on the section of CORP track south of Medford, due to significant repair work needed on the line across Siskiyou Pass. In May 2013, the State of Oregon and CORP were awarded a \$7 million TIGER grant from the U.S. Department of Transportation to repair the line between Medford and Montague, California. Once repairs are made, it is very likely that freight service will resume on the rail line within Phoenix.

The 2007 Rogue Valley Commuter Rail Project assessed the potential for developing commuter rail on existing CORP rail lines between Central Point and Ashland, a distance of 16 miles. Capital costs were estimated between \$27 million and \$42 million, with about \$3 million in operating costs per year. The study made only a cursory assessment of demand for such service, but did

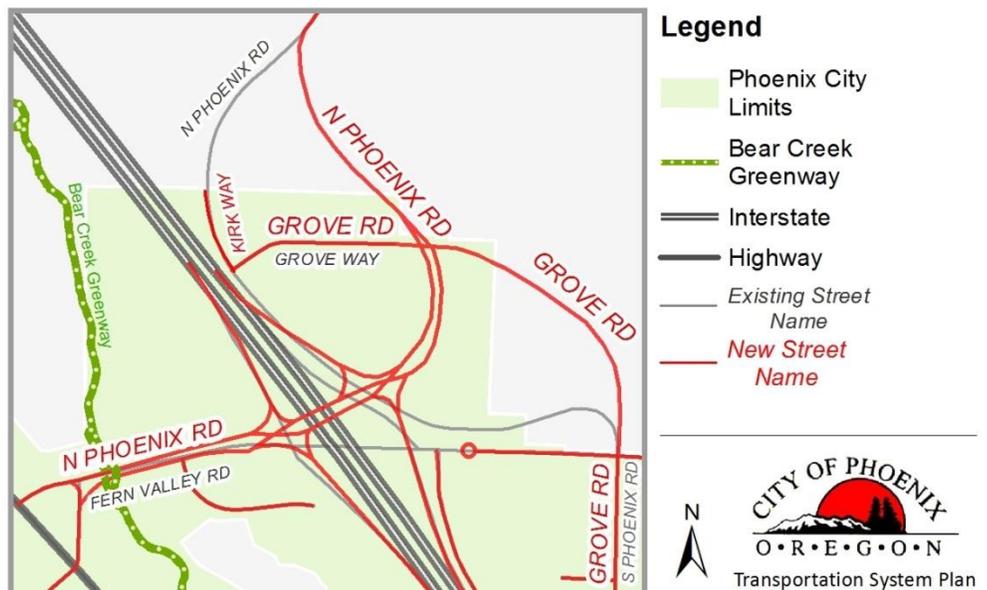
conclude that commuter rail service would be feasible.



Pipeline transportation in and throughout the Phoenix area includes transmission lines for electricity, cable television, and telephone services, as well as pipeline transport of water, sanitary sewer, and natural gas.

4.6 Revised FVI Street Naming

As part of the FVI improvements, a new/ revised roadway network has been established. With these changes, there are also new/ revised street names. The exhibit below shows the new FVI roadway network with the previous (existing) street names as well as the new street names.



4.7 Funded and Unfunded Project Lists

Table 4-4: Transportation System Projects

No.	Project/ Location	Description	Consistent with Other Plans	Bundle	Cost Estimate	Timeline	Priority	Notes
Tier 1 – Funded								
Street Improvements								
S-1	OR 99 – Downtown Phoenix	Add gateway treatments at north and south ends of couplet to emphasize upcoming downtown area	OR 99 CP	No	TBD	Short	High	
S-2	3rd St to 2nd St Extension	New local street with sharrows and sidewalks	City Center Plan; 2038 RTP	S-3	\$700,000	Short	High	Funded by PHURA, Being constructed in 2015
S-3	Parking St: 2nd St to 4th Street	Construct new street within couplet with sharrows and sidewalks	City Center Plan; 2038 RTP	S-2	\$700,000	Short	High	Funded by PHURA, Being constructed in 2015
S-4	N Pine Street: W 1st St to W 5th St	Asphalt Overlay, Roadway Widening to City Standards, Curb, Gutter, Sidewalks and Storm Drainage, AC Waterline Replacement	CIP	No	\$530,000	Short	High	
S-5	N Church Street: W 1st St to W 6th St	Asphalt Overlay, Roadway Widening to City Standards, Curb, Gutter, Sidewalks and Storm Drainage, AC Waterline Replacement	CIP	No	\$667,000	Short	High	
S-6	Locke Lane: Colver to dead end, including Christie Court; Coral Circle: Houston Rd to Hilsinger	Asphalt Overlay, AC Waterline Replacement	CIP	No	\$650,000	Short	High	Being constructed in 2015

Table 4-4: Transportation System Projects

No.	Project/ Location	Description	Consistent with Other Plans	Bundle	Cost Estimate	Timeline	Priority	Notes
<i>Bicycle Improvements</i>								
B-1	Bear Creek Greenway connection with Northridge Terrace	Install signage guiding travelers to the Bear Creek Greenway		OR 99 CP	TBD	Short	High	As a bundle with other signage projects/wayfinding
B-2	4th St: Main St to Bear Creek Dr	Extend bike lanes		B-4, B-5	\$7,500	Short	High	Being constructed in 2015
B-3	Bear Creek Greenway	Improve connections to OR 99/ Bear Creek Dr at 4th St to provide parallel and convenient bicycle and pedestrian facilities (north end)	OR 99 CP	P-3, B-10	\$50,000	Short	High	
B-4	Main St – Downtown Phoenix	Modify striping to add bike lanes	City Center Plan; OR 99 CP	B-2, B-6, P-4, P-5	N/A	Short	High	Being constructed in 2015
B-5	Bear Creek Dr – Downtown Phoenix	Modify striping to add bike lanes	City Center Plan; OR 99 CP	B-2, B-6, P-4, P-5	N/A	Short	High	Being constructed in 2015
B-6	1st St: Church St to Bear Creek Dr	Extend bike lanes		B-4, B-5	\$18,500	Short	High	Being constructed in 2015
B-7	Local Collector Streets Rose St: Independence Cir to OR 99 Rose St: Oak St to 1st St Oak St: Rose St to Main St Church St: Oak St to Bolz Rd Pine St. 1st St to 5th St	Install sharrows		S-4, S-5	\$15,000	Short	Medium	

Table 4-4: Transportation System Projects

No.	Project/ Location	Description	Consistent with Other Plans	Bundle	Cost Estimate	Timeline	Priority	Notes
<i>Pedestrian Improvements</i>								
P-1	OR 99 – Charlotte Ann Rd to Coleman Creek	Install RRFB and median islands at multiple locations where pedestrian crossings occur: Northridge Terr and/or Walnut Way	OR 99 CP		\$80,000	Short	High	
P-2	Cheryl Ln: Rose St	Install new or improved sidewalk to eliminate gap east of Rose Street		No	\$36,500	Short	High	
P-3	OR 99: Bolz Rd to 4th St	New or improved sidewalk on east side		B-3	\$338,500	Short	High	
P-4	Main St – Downtown Phoenix	Enhance crossing opportunities with pedestrian-activated devices, curb extensions, and additional crosswalk striping	City Center Plan; OR 99 CP; 2018 STIP	B-2, B-6	N/A	Short	High	Being constructed in 2015
P-5	Bear Creek Dr – Downtown Phoenix	Enhance crossing opportunities with pedestrian-activated devices, curb extensions, and additional crosswalk striping	City Center Plan; OR 99 CP; 2018 STIP	B-2, B-6	N/A	Short	High	Being constructed in 2015
P-6	1st St: Rose St to Church St	New or improved sidewalk on south side		No	\$151,000	Short	High	
P-7	S Phoenix Rd: Fern Valley Rd and Furry Rd	Install new or improved sidewalk on east side + Asphalt Overlay	CIP	No	\$197,000	Medium	Low	

Table 4-4: Transportation System Projects

No.	Project/ Location	Description	Consistent with Other Plans	Bundle	Cost Estimate	Timeline	Priority	Notes
Transit Improvements								
T-1	Route 10 Service Adjustments	Service adjustments to improve on-time performance	RVTD	T-2	N/A	Short	High	
T-2	Route 10 Split	Split current route into two routes with Talent as a transfer point	RVTD	T-1	N/A	Short	High	
T-3	Feeder Service	Deviated fixed-route and/or feeder service within ¼ mile of existing RVTD line	RVTD	No	Funded	Short	Medium	
T-4	Transportation Demand Management Strategies	Establish park-and-ride lots/stalls in areas where parking is underutilized (and additional TDM measures)	RVTD	No	N/A	Short	Medium	
Tier 2 – Unfunded								
Street Improvements								
S-7	Hilsinger Rd: Colver Rd to Camp Baker Rd	Upgrade road to collector standard (sharrows instead of bike lane)	CIP	No	\$770,000	Medium	High	This estimate assumes sidewalks, curb, gutter and illumination both sides.
S-8	Urban Reserve Area PH-5	Implement a Conceptual Street Network as part of a long-term plan for development		No	\$19.5 million	Medium	High	Cost would be to developer
S-9	Urban Reserve Area PH-10	Implement a Conceptual Street Network as part of a long-term plan for development		No	\$1.1 million	Medium	High	Cost would be to developer
S-10	OR 99/Coleman Creek Culvert	Replace culvert and widen roadway to add bike lanes and sidewalks	OR 99 CP	B-8, P-8, P-10	\$2-3 million	Medium	High	Cost shared with ODOT
S-11	OR 99 – South of couplet to South City Limits	Restructure roadway to include a center turn lane, two through travel lanes (one in each direction), bike lanes, curbs and sidewalks	OR 99 CP	No	\$1.2 million	Long	Medium	Cost shared with ODOT

Table 4-4: Transportation System Projects

No.	Project/ Location	Description	Consistent with Other Plans	Bundle	Cost Estimate	Timeline	Priority	Notes
S-12	OR 99/Northridge Ter Intersection	Monitor crash patterns for increased frequency of crashes related to northbound right -turn movement. If warranted, improve turning radius on southeast corner	OR 99 CP	No	\$125,000	Long	Medium	
S-13	Urban Reserve Area PH-1 and PH-1a	Implement a Conceptual Street Network as part of a long-term plan for development		No	\$3.9 million	Long	High	Cost would be to developer
S-14	4th St/Houston Rd Railroad Crossing	Improve crossing to ease driver experience		B-13	\$150,000	Long	Low	
Bicycle Improvements								
B-8	OR 99 – North UGB to Coleman Creek	Modify striping of existing 5-lane roadway cross section to add bike lanes	OR 99 CP	B-9, P-8, S-10	\$300,000	Medium	High	Cost shared with ODOT
B-9	OR 99/Coleman Creek Culvert	Modify striping of existing roadway to add bike lanes while maintaining four through travel lanes (Interim)	OR 99 CP	B-8, P-11	\$350,000	Medium	High	Cost shared with ODOT - Serious consideration should be given to likelihood/timing of S-5 before moving forward with B-3.
B-10	Bear Creek Greenway	Improve connections to OR 99/ Bear Creek Dr at 4 th St and Oak St to provide parallel and convenient bicycle and pedestrian facilities (south end)	OR 99 CP	B-3	\$400,000	Short	High	
B-11	Colver Rd: 4th St/Houston Rd to 1st St	Widen to provide bike lanes and sidewalks	2038 RTP	P-12	\$430,000	Medium	Medium	Includes drainage and illumination, not ROW or haz. mat.
B-12	Camp Baker Rd: Hilsinger to Colver Rd	Widen to provide bike lanes		P-20	\$121,500	Long	Low	
B-13	4th St/Houston Rd: Railroad Crossing	Improve rail crossing for bicycle/pedestrian access		S-14	\$350,000	Long	Low	

Table 4-4: Transportation System Projects

No.	Project/ Location	Description	Consistent with Other Plans	Bundle	Cost Estimate	Timeline	Priority	Notes
Pedestrian Improvements								
P-8	OR 99 – North UGB to Coleman Creek	Construct continuous sidewalks on both sides of OR 99	OR 99 CP	P-10, P-11, S-10, B-8	\$3,300,000	Medium	High	This is north UGB to Coleman Creek
P-9	OR 99: Bolz Rd to South End of Couplet	Provide sidewalk travel width on west side of roadway of 6 feet around utility poles	City Center Plan; OR 99 CP	No	Incorporated into other infrastructure or development projects over time	Medium	High	
P-10	OR 99: Cheryl Ln to Coleman Creek	New or improved sidewalks on both sides		P-8, P-11, S-10	\$330,000	Medium	Medium	
P-11	OR 99/Coleman Creek Culvert	Modify striping of existing roadway to add sidewalks while maintaining four through travel lanes (Interim)	OR 99 CP	P-8, P-10, B-9	\$350,000	Medium	Medium	
P-12	Colver Rd: 4th St/Houston Rd to 1st St	Install new or improved sidewalk on both sides	2038 RTP	B-11	\$165,000	medium	Medium	
P-13	2nd St: 1st St to Rose St	Install new sidewalks on both sides		No	\$165,000	medium	Medium	
P-14	1st St/C St	Install new curb extension to reduce curb radius and install crosswalks		No	\$20,000	Medium	Medium	
P-15	Colver Rd: 1st St to South UGB	Install multi-use path along east side		No	\$250,000	Medium	Medium	Assumes 10' path
P-16	1st St: RR Crossing	Install new sidewalks on both sides to eliminate gaps at CORP railroad crossing		No	\$300,000	Long	Medium	
P-17	1st St: Canal	New or improved (ADA) sidewalk over canal on south side		No	\$300,000	Long	Medium	
P-18	Oak St: Rose St to Main St	New or improved sidewalk on both sides		P-21	\$363,000	Long	Medium	
P-19	OR 99/Rose Street	Install new curbs to reduce curb radius and install crosswalks across OR 99		No	\$70,000	Long	Low	

Table 4-4: Transportation System Projects

No.	Project/ Location	Description	Consistent with Other Plans	Bundle	Cost Estimate	Timeline	Priority	Notes
P-20	Camp Baker Rd: Hilsinger to Colver Rd	New or improved sidewalk on both sides		B-12	\$445,500	Long	Low	Includes drainage and illumination, not ROW or haz. mat.
P-21	Rose St: Oak St to 1st St	New or improved sidewalk on both sides		P-18	\$346,500	Long	Low	
P-22	Colver Rd: 1st South UGB	Install new or improved sidewalk on both sides	2038 RTP	No	\$920,000	Medium	Medium	SECOND PHASE OF MULTI-USE PATH. Includes drainage and illumination, not ROW or haz. mat.
P-23	C Street: 1 st St to East of Elm St	New or improved sidewalk on both sides		No	TBD	Long	Low	
Transit Improvements								
T-5	City Circulator	Provide circulator to serve residential areas west of OR 99 and east of I-5	RVTD	No	TBD	Medium	High	
T-6	Bus Stop Amenities	Paved bus stations, posted schedule and bus stop shelters	RVTD	No	TBD	Medium	High	
T-7	High Capacity Transit	Between Medford and Ashland with stop in Phoenix	RVTD	No	TBD	Medium/ Long	High	



CHAPTER 5: FUNCTIONAL CLASSIFICATION & DESIGN GUIDANCE

Included in this chapter:

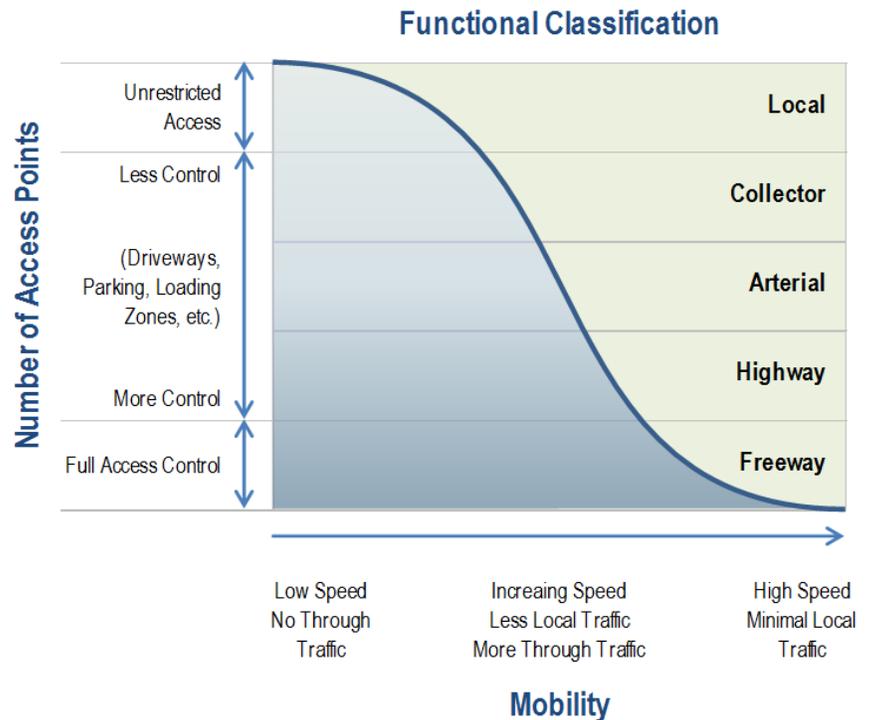
- 5.1 Functional Classification Overview
- 5.2 Goals for Design
- 5.3 Access Management
- 5.4 Mobility Standards (Targets)

The following exhibit illustrates the relationship between street functional classifications, and their corresponding access and mobility characteristics.

5.1 Functional Classification Overview

Streets and highways within an urban network are often grouped, or classified, with other streets sharing similar characteristics of purpose, design, and function. The City of Phoenix has adopted street functional classifications to help ensure that streets are built and maintained in based on their relationship to the surrounding land use and that adequate connectivity is maintained between streets with lower capacities and more local access and streets with higher capacities and greater circulation. See Appendix 7 for more information regarding the City’s Functional Classifications. Like most communities, the functional classification system for the Phoenix street network includes four primary classifications (as well as alleys and multiuse paths):

- Interstate (freeway)
- Arterials (including highways)
- Collectors
- Local streets



General descriptions of the existing classifications are:

Local Streets

Local streets are intended to serve adjacent land uses without carrying through traffic. These streets serve all modes of travel and should have sidewalks to accommodate non-vehicular traffic. Volumes on local streets speeds are generally conducive to shared travel space between motorists and bicycle riders.



Collectors

Collector streets gather traffic from local streets and distribute traffic to and from arterial streets. Collector streets generally provide direct access to abutting land and accommodate all modes of travel, with bicycle and pedestrian traffic accommodated on designated facilities. They are intended to carry between 1,000 and 10,000 vehicles per day, including through traffic.



Arterials (Including Highways)

Arterial streets are intended to move traffic, loaded from collector streets, between areas and across portions of a city and neighboring regions. Arterial streets provide limited access to abutting land and are designed primarily for vehicular traffic, with bicycle and pedestrian traffic accommodated on designated facilities. Arterial streets typically experience 10,000 vehicles per day or more.



Interstate (Freeway)

Interstate routes are typically two or more travel lanes in each direction, designed almost exclusively for motor vehicles and with limited access to abutting land. These facilities are intended to serve as primary routes for long distance travel, accommodating regional, inter-regional, or interstate trips. Traffic volumes on these facilities are generally over 30,000 vehicles per day. I-5 is the only interstate in the Rogue Valley, and is directly accessible to Phoenix via the newly improved Fern Valley Interchange. I-5 has an average of 38,000 vehicles per day.

5.2 Goals for Design

Street design guidelines are created based in part on the street functional classification to ensure that the function of the street is reflected in its design. Design guidelines ensure that streets function in a way that encourages safe and

convenient travel for drivers, bicyclists, pedestrians and others. Good design guidelines can also support other community development goals by improving the appearance of communities, implementing environmentally responsible stormwater management, and supporting fiscally sound decision making.

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. The intent of the City’s **Complete Street Design Guidelines** is to achieve a better and balanced, multi-modal streetscape that is reflective of the City’s transportation and community development policies, while also seeking to minimize the growing costs of right-of-way and street construction and ongoing maintenance costs.

See Appendix 7 for detailed Complete Street Design Standards.

5.3 Access Management

The purpose of access management is to balance key principles of safety and mobility for all users with regional and local economic vitality, which is consistent with overarching goals. **Error! Reference source not found.** provides the City’s Access Management Guidelines. Principles of safety and mobility should be applied when considering access management:

1. **Safety:** Crashes that identify locations where turning or angle collisions have occurred.
 - *Triggers: Access modifications should be considered when access restrictions*

could potentially reduce crash frequency, especially those collision types that more often result in injuries.

- **Economic Considerations:** Raised median islands have been identified to support pedestrian crossings near unsignalized transit stops but are not identified for access control in this TSP.
2. **Mobility:** Projects that improve mobility for all system users while maximizing the use of existing infrastructure.
 - **Recommended Actions:** Projects include creating a complete sidewalk system along OR 99, adding bike facilities along OR 99, and widening shoulders. Access management would be considered with implementation of each project.
 - **Triggers:** Access modifications would be considered when improvements address existing deficiencies.
 - **Economic Considerations:** When multimodal accessibility to businesses and residences can offer numerous economic benefits (improved land values, health, and equity; and reduced congestion, vehicle costs, energy usage, and pollution).

Table 5-1: Access Management Guidelines

Functional Classification	Minimum Spacing between Driveways and/or Streets ^{1,2}	Minimum Spacing between Intersections ^{1,2}
State Arterial (Highway)	ODOT Standard	ODOT Standard
Arterial	300 feet	600 feet
Collector	50 feet	300 feet
Local	Access to each lot permitted	125 feet

Notes:

1. Desirable design spacing; existing spacing will vary. Each parcel is permitted one driveway regardless of the minimum driveway spacing standard although shared access is encouraged.
2. Spacing standards are measured centerline to centerline.

Table 5-2: Access Spacing Standards Along OR 99

Mile Points	Segment Description	Posted Speed (mph)	Minimum Spacing ¹ (feet)	
South Medford and Transition to Phoenix Segments				
8.56 to 11.03	Garfield St to Phoenix North City Limits	45	500	
Phoenix Segment				
11.03 to 11.43	Phoenix North City Limits to 5 th St	30	350	
11.43 to 11.85	Special Transportation Area (STA)	Main St (OR 99 SB) from 5 th St to Oak St	30	175 ²
11.43 to 11.85		Bear Creek Dr (OR 99 NB) from 5 th St to Oak St	35	175 ²
11.85 to 11.93	Main St (OR 99 SB) from Oak St to South End of Couplet	30	350	
11.85 to 11.93	Bear Creek Dr (OR 99 NB) from Oak Street to South End of Couplet	35	350	
11.93 to 12.37	South End of Couplet to Phoenix South City Limits	40	500	
Phoenix to Talent Transition Segment				
12.37 to 12.62	Phoenix South City Limits to End of Speed Zone	50	550	
12.62 to 13.86	End of Speed Zone to Talent North City Limits (Colver/Suncrest Rd)	55	700	

- Notes:
- Table 6: Access Management Spacing Standards for District and Unclassified Highways with Annual Average Daily Traffic > 5,000, OAR 734-51 Effective June 30, 2014 (Table 15 in the revised OHP).
 - OHP Table 15, Note 6, “the minimum access management spacing for driveways is 175 feet or mid-block if the current city block is less than 350 feet.” (Also OAR 734-051-4020, Standards and Criteria for Approval of Private Approaches, Section 8(b)(D))

Access management is both a component of design and implementation, since these principals should be incorporated as development and modernization occurs. This TSP includes five projects along the segment of OR 99 between the Coleman Creek culvert and Cabbage Lane. One of these assumes sidewalk improvements that would occur with other projects or as adjacent parcels develop/redevelop and access management would be guided by the policies in this plan.

Jurisdictional Exchange of OR 99

Three projects are downtown improvements on the section of OR 99 designated as a Special Transportation Area (STA) that will transfer to City of Phoenix jurisdiction with the completion of the Fern Valley Interchange project. As project elements such as curb extensions or pedestrian crossings are implemented, measures to maintain safety for all travelers should be incorporated. Only one of these projects includes modifications to the roadway cross section which would likely

result in an access management strategy during project development.

5.4 Goods Movement Routes (GMR)

The designation of “Goods Movement Route” (GMR) is applied to facilities that may have a range of primary functions (local, collector, etc.) but are also critical to facilitate the movement of goods (freight) throughout the City. Supplemental design standards are applied to GMR designated facilities to maintain safe and efficient movement of freight. Primarily, the supplemental standards identify larger/more rounded corners (curb radii) at intersections and parking clear zones where larger trucks may frequently need more room to maneuver. These standards are identified in the Complete Street Design Guidelines in Appendix 7.

Table 5-3: Goods Movement Route (GMR) Designations

Facilities/ Street Names	Locations	
	Starting at	Ending at
Fern Valley Rd.	OR 99	East City Limits
N. Phoenix Rd.	Fern Valley Rd	North City Limits
OR 99	North City Limits	South City Limits
4 th St.	OR 99/Bear Creek Dr.	Colver/Houston Rd.
1 st St.	OR 99/Bear Creek Dr.	Colver Rd.
Colver Rd.	4 th St.	South City Limits
PH-5 Street Network	Current and future roadway network.	
FVI Street Network	All new facilities constructed as part of the Fern Valley Interchange improvements.	

Designations may be added to or modified as growth, development, or changes in use occur.

5.5 Mobility Standards (Targets)

There are established methods for measuring traffic operations (mobility thresholds) of roadways and intersections. The City and State both a volume-to-capacity (v/c) ratio as a basis for performance criteria. This v/c metric involves consideration of factors that include traffic demand, capacity of the intersection or roadway, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort, convenience, and operating cost. A v/c ratio of less than 1.00 indicates that the volume is less than capacity. When it is closer to 0, traffic conditions are generally good, with little congestion and low delays for most intersection movements. As the v/c ratio approaches 1.00, traffic becomes more congested and unstable, with longer delays.

The Oregon Highway Plan (OHP)² identifies a target for OR 99 within the City of Phoenix,

² Table 6: Maximum Volume to Capacity Ratio Targets for Peak Hour Operating Conditions, 1999 Oregon Highway Plan, OHP Policy 1F Revisions, Adopted December 21, 2011, Oregon Department of Transportation, website: <http://www.oregon.gov/ODOT/TD/TP/docs/ohp11/policyadopted.pdf>

classified as a district highway, which is a v/c ratio less than or equal to 0.95. A separate Alternative Mobility Standard has been adopted through the FVI IAMP to preserve interchange capacity for future industrial and export service development (in PH-5 and MD-5), which sets a target for the I-5 ramp terminals of 0.75, with only potential exceptions described in the FVI IAMP and OAR 660-012-0060(1)(c). The City of Phoenix has also established performance standards based on v/c ratio. The standard for arterial, collector and local roads is a v/c ratio less than or equal to 0.90. Within the couplet, designated Special Transportation Area (STA), the mobility standard is a v/c ratio of less than or equal to 0.95.

The City of Phoenix has also established performance standards based on v/c ratio. The standard for arterial, collector and local roads is a v/c ratio less than or equal to 0.90. Within the couplet, designated Special Transportation Area (STA), the mobility standard is a v/c ratio of less than or equal to 0.95. A detailed summary of traffic operations and related mobility targets is included in Appendix 3. Technical Memo #3: Transportation System Operations).

5.6 Trip Budget Overlay Zone

The Fern Valley Interchange Area Management Plan identifies trip budget measures that are applied to a Trip Budget Overlay Zone. The purpose of these measures and Trip Budget Overlay Zone is to foster development in the vicinity of the Fern Valley Interchange in a way that maintains uncongested traffic conditions that meet State of Oregon mobility performance standards applicable to the interchange, North Phoenix Road, Fern Valley Road, and OR99.

Appendix 8 (Trip Budget Overlay Zone) provides a detailed summary of the purpose, definitions, and approval process outlined in the Land Development Code (Ordinance No. 851/933, Chapter 2.9).



CHAPTER 6: IMPLEMENTATION AND FUNDING

Included in this chapter:

- 6.1 Implementation*
- 6.2 Funding*

6.1 Implementation

This TSP offers a menu of projects that can be selected as funding sources become available or as development occurs. As funds become available, the mode-specific planned project Figures (see Chapter 4: Modal Plans) can be evaluated together to assess the highest priority projects that can be completed together within the available budget. This TSP provides guidance, but allows for flexibility in case conditions change or opportunities arise – some projects may be advanced and others may be delayed. Ultimately, this TSP will help shape the development of the City’s capital improvement plans, budgets, and overarching goals.

Need for Implementation

The effectiveness of this TSP is supported by goals and policies as a foundation for decision-making. Its recommended projects and programs will not be undertaken unless supported and funded. In essence, a plan is only as good as the actions taken to implement it.

Implementation Policies

This TSP will help guide future, multi-modal transportation system improvements based on the following goal and implementation policies identified in Appendix 6. Technical Memo #6: Implementing Ordinance and Code.

Bundling Projects

A comprehensive list of all of the proposed projects is listed in Chapter 4: Modal Plans, along with their consistency with other planning documents, whether they could be bundled with another project, and a planning-level cost estimate. In some cases, a pedestrian improvement and a bicycle improvement could be bundled together, in which case the cost estimate would likely change.

Priority

Based on the assessment of needs, proposed projects were prioritized in by need – (high, medium, and low priority) – and by approximate time frame for implementation: short term (generally 0 – 5 years), medium term (generally 5 – 10 years), long term (generally 10 – 20 years), and very long term (generally beyond 20 years).

Projects were prioritized based on community priorities, urgency of the need, funding availability and complexity of the project. Short-term projects generally address current or soon-to-emerge transportation issues, and should be prioritized for funding. Medium- and long-term projects are generally larger, have more impacts, and are more costly. The need for these projects is also less immediate, and the proposed projects may address

a transportation problem that is likely to emerge in the future. In some cases, very long-term projects identify potential long-term needs that may develop beyond the 20-year planning horizon.

Project priorities are not intended as a “to-do” list for the City, but as a suggestion for programming the City’s scarce transportation funding resources. Because some of the projects identified in this TSP are under ODOT and Jackson County’s jurisdiction, the City will need to work closely with partnering jurisdictions on review, funding, and approval.

Prioritization Criteria

By providing the priority groupings (timeline and priority), this TSP provides guidance, but allows for flexibility in case conditions change or opportunities arise. An example of a change in condition could be that a crash occurs, resulting in a greater safety concern. An example of an opportunity would be a new grant program targeted at a particular type of project or another larger project that creates an opportunity to implement a smaller project.

The following criteria are suggested for assessing priorities:

- **High priority:** High importance/significance with substantial benefits to the community
 - Projects designed to correct existing deficiencies (e.g. maintenance, operational or safety problems).
 - Projects needed to provide system continuity or service to developing areas to which other urban services are or will soon be provided.
 - Projects needed to upgrade to urban standards on collector and arterial streets in developed areas or in areas expected to develop within 5 years.
 - Low-cost solutions for problems that are relatively simple that may be combined with other efforts.

- **Medium priority:** Medium importance/significance with moderate benefits to the community
 - Projects with the need to purchase right-of-way or the need to complete environmental assessments.
 - Projects designed to correct existing deficiencies, but for which funding has not yet been identified and is unlikely to be available in the short term
 - Projects needed to correct operational or safety problems, which will likely result from relatively minor traffic increases.
 - Projects needed to upgrade to urban standards those collector and arterial streets where future land development is likely to occur in the first half of ten years of the planning period.
- **Low priority:** Low importance/significance with localized benefits
 - Projects with high capital cost for which funding will be unlikely until the later years of the TSP
 - Projects needed to ensure that urban standards are provided on all the remaining collector and arterial streets within the UGB.

Priority and timeline generally correspond but the ability to fund projects will also play a role in the timeline allocation. For instance, it may be desirable to complete all of the projects identified as having the highest priority in the short-range funding timeline; however, it may not be possible to construct all of them with the funding available. Thus some high priority projects could be included in the medium-range timeline. Conversely, some low-cost medium priority projects could be included in the short-range timeline because they are relatively easy to implement.

6.2 Funding

Since the advancement of any project is contingent upon the availability of future funding, this TSP includes a flexible program of prioritized projects that meet diverse stakeholder’s needs while leveraging current and future funding opportunities. Ultimately, this refined and prioritized list is intended to serve as an illustrative list of projects, with multiple factors that can be used together to assess the highest priority projects to complete within the available budget.

Over the next 20 years, the City is expected to receive approximately \$11.9 million in transportation revenue (2014 dollars) assuming that existing funding sources remain stable, no new revenue streams are established, and development that generates SDCs follows historical patterns. Accounting for ongoing expenses, the City can expect approximately \$5.3 million in net revenue (total revenue minus expenses) over the 20-year planning horizon of the TSP. The estimated cost of all planned Tier 1 projects (those with likely funding sources) included in this TSP is approximately \$4.2 million. The cost for the remainder of the planned (Tier 2) projects is approximately \$38 million (of which, \$28M would be shared with ODOT, developers, etc.). The following pie charts illustrate the approximate funding and allocation of project costs by mode. See Appendix 5 for more information.

Figure 6-1. Twenty-Year Local Funding Forecast

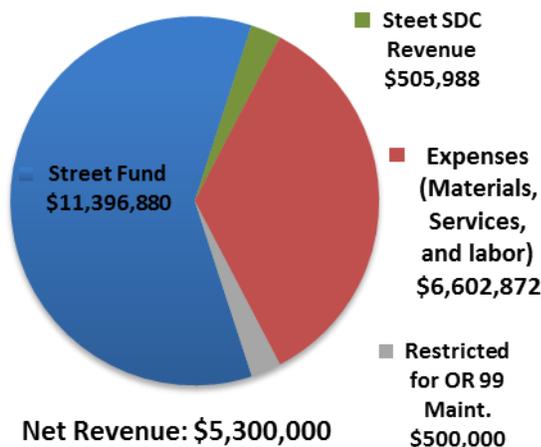


Figure 6-2. Tier 1 - Planned City Project Costs by Mode

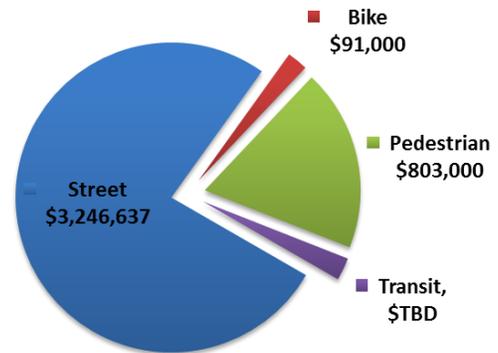


Figure 6-3. Tier 2 - Planned City Project Costs by Mode

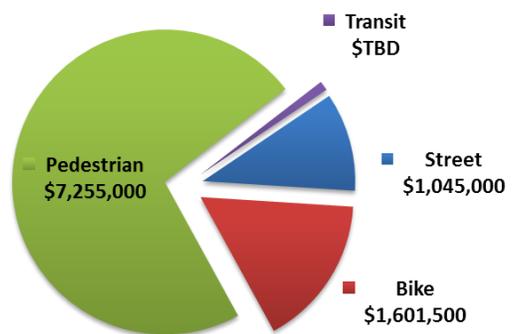


Figure 6-4. Tier 2 - Planned Shared (City/ODOT/Developer) Project Costs by Mode

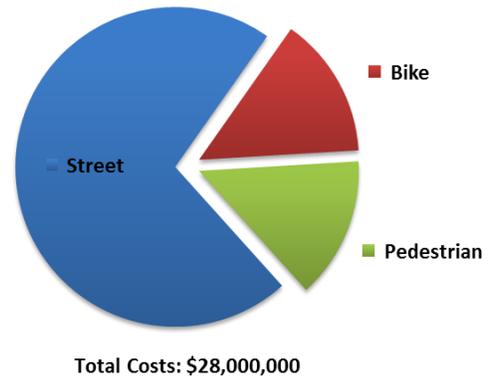


Table 6-1 (following page) provides a historical overview of City funds dedicated to maintaining the transportation system, as well as the total capital outlay of street projects during those years. (Note: FY 2014-15 figures are adopted, FY 2013-14 figures are estimated actual, and all preceding years are actual numbers). Spending priorities for the Street Fund have been placed on right-of-way

maintenance, street repairs, striping, and other maintenance actions necessary to keep the transportation system in a usable condition. These funds cannot be used for new capital projects.

A smaller source of revenue is the Street System Development Charge Fund (SDC), which collects fees paid when expansion, new development, or an intensification of use occurs on property served by City infrastructure. The Street SDC fund is composed of accruing capital resources, investment interest, and charges for development that impacts the existing transportation network or requires construction of new transportation infrastructure. These funds may only be used to pay for expansion of the existing system or construction of new infrastructure. For example, SDCs may be used to add a lane to an existing road or construct a new sidewalk where one did not previously exist. Conversely, they may not be used to repave an existing road.

Additional Sources

In addition, there are various funding sources that which the City could leverage to finance transportation improvements. However, most of these opportunities would involve applying for competitive grants that require interagency

cooperation with regional and state partners. Any projects in Phoenix entered into the Statewide Transportation Improvement Program (STIP) are eligible for federal funding from the Surface Transportation Program (STP). Phoenix is also located in the Rogue Valley Metropolitan Planning Organization (RVMPO), which maintains a list of projects in its Regional Transportation Plan (RTP) that are eligible for discretionary funds paid through the federal STP and Congestion Management/Air Quality (CMAQ) programs. Other potential funding mechanisms include a citywide gas tax, local improvement districts (LID), downtown parking fees, revenue bonds and statewide grant and loan funding opportunities, including the ConnectOregon, Oregon Transportation Infrastructure Bank, Immediate Opportunity Fund and Special City Allotment programs. Transit improvements to local bus service in collaboration with the Rogue Valley Transit District (RVTD) could be financed through formula funds from the Federal Transit Administration.

Table 6-1: Overview: Local Transportation Funding Sources and Expenditures

Funding Source	FY2010-11	FY2011-12	FY2012-13	FY2013-14	FY2014-15	Total
Street Fund	\$731,432	\$622,944	\$468,639	\$486,865	\$539,340	\$2,849,220
Street SDC Fund	\$27,976	\$30,294	\$10,981	\$37,321	\$19,925	\$126,497
Total Dedicated Revenues (Gross)	\$759,408	\$653,238	\$479,620	\$524,186	\$559,265	\$2,975,717
Total Expenses	\$309,605	\$280,974	\$260,839	\$327,070	\$472,230	(\$1,650,718)
Total Dedicated Revenues (Net)	\$449,803	\$372,264	\$218,781	\$197,116	\$87,035	\$1,324,999
Total Capital Outlay	\$159,500	\$5,488	\$0	\$375,000	\$734,819	(\$1,274,807)
Transfers to Capital Reserve Fund	-	-	-	-	\$801,427	\$801,427



CHAPTER 7: APPENDICES

Appendix 1. Technical Memo #1: Definition and Background

- *Appendix A: Review of Plans and Policies*
- *Appendix B: Analysis Methodology*

Appendix 2. Technical Memo #2: Existing System Inventory

- *Appendix A: Street Inventory*
- *Appendix B: Environ. & Land Use Reconnaissance*
- *Appendix C: Socioeconomic and Environmental Justice Analysis*

Appendix 3. Technical Memo #3: Transportation System Operations

- *Appendix A: Seasonal Factors*
- *Appendix B: Existing Analysis Results (Synchro)*
- *Appendix C: Multimodal LOS Analysis*
- *Appendix D: Crash Data Summary*
- *Appendix E: Traffic Volume Development*
- *Appendix F: Future Analysis Results (Synchro)*
- *Appendix G: Highway Safety Manual Analysis*

Appendix 4. Technical Memo #4: Improvement Concepts Evaluation

Appendix 5. Technical Memo #5: Preferred System and Prioritization

- *Advisory Committee Prioritization Exercise*

Appendix 6. Technical Memo #6: Implementing Ordinance and Code

- *Functional Classification and Design Guidelines*

Appendix 7. Technical Memo #7: Functional Classifications & Design Guidelines

Appendix 8. Trip Budget Overlay Zone