



Junction City Transportation System Plan

Volume I: The Plan



PREPARED FOR

City of Junction City

PREPARED BY

Sandow Engineering

May 2016



Acknowledgements

This report was prepared through the collective effort of the following people:

City of Junction City

Jordan Cogburn

Lane Council of Governments (LCOG)

Stacy Clauson
Nicole Peterson
Denise Walters

Lane County

Sarah Wilkinson
Lydia McKinney

Oregon Department of Transportation

Dorothy Upton
Amanda Salyer
Peter Schuytema

Consultant Team

Current Version

Kelly Sandow, Sandow Engineering
Sarah McCrea, Sandow Engineering

Previous Version

John Bosket, DKS Associates
Mat Dolata, DKS Associates
Kristen Svicarovich, DKS Associates
Steve Faust, Cogan Owens Cogan
Kirstin Greene, Cogan Owens Cogan
Jesse Winterowd, Winterbrook Planning
Justin Healy, Real Urban Geographics

Technical Advisory Committee (TAC)

Jordan Cogburn, City of Junction City
Sarah Wilkinson, Lane County
Stacy Clauson, LCOG
Nicole Peterson, LCOG
Dean Chappell, Lane Rural Fire/Rescue
Sasha Luftig, Lane Transit District
Ed Moore, DLCDC

Citizen Advisory Committee (CAC)

Karen Leach, CAC Chairperson and City Council
representative

Bob Biswell
Kurt Straube
Mike Kaiser
Jason Thiesfeld
Ellen Mooney, Lane County Roads Advisory
Committee
Jack Sumner, former City Council representative

Task Force

Chair-Councilor Karen Leach
Alicia Beymer
James Hukil
Gary Crumb
Jeff Hagg
Jason Thiesfeld



Table of Contents

Chapter 1: Introduction	1
Chapter 2: Transportation Mission, Goals, and Policies	4
Chapter 3: TSP Process.....	9
Chapter 4: Pedestrian Plan	11
Chapter 5: Bicycle Plan.....	18
Chapter 6: Motor Vehicle Plan.....	26
Chapter 7: Other Modal Plans	46
Chapter 8: Funding and Implementation.....	49

List of Tables

Table 1: Junction City Growth Estimates	10
Table 2: Sidewalk Infill Projects	12
Table 3: Street Crossing Improvements.....	15
Table 4: Shared-Use Paths	17
Table 5: Bicycle Facility Improvements.....	23
Table 6: Typical Roadway Cross-Sections	33
Table 7: City Of Junction City Access Spacing Standards	34
Table 8: Summary Of Neighborhood Traffic Management Strategies	35
Table 9: Motor Vehicle Improvements	39
Table 10: Potential Transportation Demand Management Strategies.....	44
Table 11: Estimate Of Funding Availability Through 2036.....	50
Table 12: Preferred Financially Constrained Plan Cost (2016-2036)	51
Table 13: Financially Constrained Plan Sidewalk Infill/Construction Projects.....	51
Table 14: Financially Constrained Plan Intersection Crossing Improvements.....	52
Table 15: Financially Constrained Plan Shared-Use Path Alignments	53
Table 16: Financially Constrained Plan Bicycle Facility Improvements	54
Table 17: Financially Constrained Plan Motor Vehicle Facility Improvements.....	56



List of Figures

Figure 1: Pedestrian System Plan.....	13
Figure 2: Shared-Use Path Typical Cross- Section.....	16
Figure 3: Bicycle System Plan.....	25
Figure 4: Future Roadways, Function Classification, And Local Street Connectivity.....	27
Figure 5: Arterial Cross-Section Standard.....	29
Figure 6: Major Collector Cross-Section Standard.....	30
Figure 7: Neighborhood Collector Cross-Section Standard.....	31
Figure 8: Local Street Cross-Section Standard.....	32
Figure 9: Proposed Motor Vehicle Network Improvements.....	42

Volume II

Appendix A:	Background Document Review Memorandum
Appendix B:	Mission, Goals, and Policies Update Memorandum
Appendix C:	Existing Conditions Memorandum
Appendix D:	Travel Forecasting Tool Development Memorandum
Appendix E:	Future Transportation Needs Memorandum
Appendix F:	Transportation System Solutions Memorandum
Appendix G:	Neighborhood Traffic Management Photo Log
Appendix H:	Implementation-Action Strategy Memorandum
Appendix I:	Committee Meeting and Open House Summaries



Useful Abbreviations and Acronyms

AASHTO – American Association of State Highway and Transportation Officials
ADA – Americans with Disabilities Act
CAC – Citizen Advisory Committee
CIP – Capital Improvement Program
City – City of Junction City
County – Lane County
DLCD – Department of Land Conservation and Development
ETC – Employee Transportation Coordinator
FHWA – Federal Highway Administration
LCOG – Lane Council of Governments
LID – Local Improvement District
LOS – Level of Service
MPO – Metropolitan Planning Organization
NTM – Neighborhood Traffic Management
OAR – Oregon Administrative Rule
ODOT – Oregon Department of Transportation
OHP – Oregon Highway Plan
OTC – Oregon Transportation Commission
PNWR – Portland & Western Railroad
ROW – Right-of-Way
SDC – System Development Charge
STIP – Statewide Transportation Improvement Program
TAC – Technical Advisory Committee
TDM – Transportation Demand Management
TPR – Transportation Planning Rule
TSP – Transportation System Plan
UGB – Urban Growth Boundary
UGMA – Urban Growth Management Agreement
URD – Urban Renewal District
UPRR – Union Pacific Railroad
VMT – Vehicle Miles Traveled



CHAPTER 1: INTRODUCTION

The 2036 Junction City Transportation System Plan (TSP) provides a long range plan to guide transportation infrastructure improvements necessary to accommodate the City's needs as it grows and changes through the year 2036. The City of Junction City recently completed a periodic review process and subsequent Comprehensive Plan update. The update included:

- An expansion of the Urban Growth Boundary (UGB) to meet 20-year industrial, commercial, residential, and park land needs
- Re-designation and rezoning of properties located in the Professional Technical classification to Residential
- Re-designation of properties from Low to Medium density residential development
- Adoption of a Wetland Protection Program

Junction City's Transportation System Plan (TSP) serves as the transportation element of the City's Comprehensive Plan. This update of the TSP was completed to maintain consistency with the recently updated Comprehensive Plan and to align the future transportation system with planned growth.

The Junction City TSP update occurred in coordination with Lane County, the Oregon Department of Transportation (ODOT), and the Department of Land Conservation and Development (DLCD). It includes a thorough review of the existing transportation system and describes future multimodal recommendations to address local transportation needs through the year 2036, in compliance with the Transportation Planning

THE TRANSPORTATION SYSTEM PLAN

- Provides long-range direction for the development of transportation facilities and services for cars, bikes, pedestrians, and transit
- Ensures the planned systems are adequate to meet the needs of planned land uses
- Facilitates the cost-effective use of public funds
- Demonstrates transportation project need and readiness



Rule (TPR). The TSP serves as a valuable planning tool for staff, policy makers, and the public. Having an adopted TSP establishes function, capacity, and location of future transportation facilities, informs the community of the level of investment needed for facilities to support anticipated growth and development, and better positions the City to compete for transportation funding.



PLAN OVERVIEW

The 2036 TSP provides an evaluation of the existing transportation infrastructure and the ability to accommodate the expected growth in population and economic opportunities through year 2036. The evaluation considered the infrastructure capacity to facilitate the expected increase and changes in vehicle traffic and identification of improvement options.

The plan also includes an evaluation and recommendations to improve connections and pathways for pedestrian and bicycle travel.

The plan includes:

- 20-year planning horizon estimation of the growth in employment and households within the City UGB
- Estimation of impacts to the existing street network from the vehicle traffic added by the additional employment and households
- Estimation of impacts to the existing street network from through travel on the City streets
- Evaluation of the needed improvements to facilitate the expected increase in vehicle traffic
- Evaluation of needed infrastructure to improve pedestrian and bicycle access throughout the City.
- List of 20 year projects with priority and funding opportunities

TSP DEVELOPMENT PROCESS

This plan was prepared with both public and agency participation. A Citizen Advisory Committee (CAC) was appointed by City Council to advise City staff and the consultant team and to provide recommendations to the Planning Commission and City Council. The CAC met a total of five times and included representatives from City Council, the Lane County Roads Advisory Committee, City Planning Commission, local businesses, and interested citizens.

A Technical Advisory Committee (TAC) was established to provide input from affected agencies and service providers. The TAC met a total of four times and included representatives from Junction City, Lane County, ODOT, DLCD, Lane Rural Fire/Rescue, and Lane Transit District.

An Alley Access Management Subcommittee was formed from representatives of ODOT, the City, and the CAC. This committee met one time to

discuss issues with use of the public alleys for property access as required by the OR 99 Junction City Refinement Plan.

Public open houses were held at key milestones in the TSP development process. Citizen input was incorporated into the plan via both the public open house forums as well as surveys that could be accessed via the internet to make formal comments on the proposed projects. Open houses were advertised via mailings, online postings, and postings made in public places.

The Junction City TSP development process included discussion of goals and objectives, evaluation of existing and future needs, consideration of potential solutions, development of the TSP document and implementing ordinances, and adoption by the City and Lane County.



ORGANIZATION

Chapter 1: Provides a brief overview of the Transportation System Plan elements.

Chapter 2: Summarizes the goals and policies that help to guide the determination and planning for the future street network improvements.

Chapter 3: Summarizes the process taken to determine how and where the future growth will occur and the impacts to the system.

Chapter 4: Provides a plan for improvements to the pedestrian network.

Chapter 5: Provides a plan for improvements to the bicycle network.

Chapter 6: Provides a plan for improvements to the vehicle network.

Chapter 7: Provides a plan for improvements to the other modes, including rail, transit, pipeline, and waterway.

Chapter 8: Identifies possible funding opportunities and implementation of the planned projects.





CHAPTER 2: TRANSPORTATION MISSION, GOALS, AND POLICIES

This chapter presents the transportation-related mission, goals, and policies for the City of Junction City. These were used to guide development of the Junction City TSP and are intended to continue to provide direction for decision-making into the future.

The mission statement is the overall vision regarding transportation in Junction City. The goals are broad statements of philosophy that describe the hopes of people in the community for the future. Each goal is developed around a topic area. A goal may never be completely attainable, but is used as a point toward which to strive. Policies are statements that provide a

specific course of action moving the community toward the attainment of its goals. Each new capital improvement project, land use application, or implementation measure must be consistent with the policies. Once adopted, the mission, goals, and policies, as well as the project lists, will become part of Junction City's Comprehensive Plan.

MISSION STATEMENT

Enhance the quality of life in Junction City by providing a balanced transportation system that meets the travel needs of the community.

GOALS AND POLICIES

GOAL 1: Provide a balanced transportation system that offers alternatives to single-occupant automobiles.

- Policy 1a: Where new walkways are built or where crossings are rebuilt, they shall be built to City standards and incorporate handicapped accessibility features as required by state and federal law.
- Policy 1b: Pedestrian access to transit facilities from new commercial, residential, and high employment uses and community activity centers shall be provided. Existing commercial, residential, and high employment uses and community activity centers shall provide safe and accessible pedestrian access to transit facilities when a site changes use or is retrofitted.
- Policy 1c: Streets, bikeways, and walkways shall be designed to meet the needs of pedestrians and cyclists to promote safe and convenient non-motorized circulation within the community. Unless there is a convenient alternative, all new principal arterial, minor arterial, and collector streets shall provide bicycle and pedestrian facilities.
- Policy 1d: Maintenance and repair of existing bike and pedestrian facilities shall be given no less than equal priority to the maintenance and repair of motor vehicle facilities.
- Policy 1e: Encourage trip reduction strategies and programs that reduce automobile use during peak travel periods.



Junction City Transportation System Plan

Policy 1f: Advocate for expanded local transit services to increase transit ridership and help reduce traffic congestion.

GOAL 2: Provide a safe transportation system.

Policy 2a: City streets shall be designed to efficiently and safely accommodate emergency service vehicles.

Policy 2b: Coordinate with the Oregon Department of Transportation, Junction City School District, and Junction City Police Department to implement safety education programs including pedestrian crossing education for school children.

Policy 2c: Designate safe routes to school for each school in the city. Update designated routes for all new residential developments.

Policy 2d: Priority shall be given to the maintenance, repair, and handicapped accessible improvement of walkways and bikeways along designated safe routes to school and railroad crossings.

Policy 2e: Work with ODOT to improve the safety of OR 99 pedestrian crossings.

GOAL 3: Provide a transportation system that is designed, constructed, and maintained in a manner that enhances Junction City's quality of life.

Policy 3a: Transportation system improvements will be sensitive to the community's aesthetics and will strive to retain a sense of community, particularly in the downtown area of Junction City, which is seen as critical to the town as a focal center.

Policy 3b: Transportation improvement designs shall be responsive to topography and shall minimize impacts to natural, scenic, historic, and open space resources.

GOAL 4: Manage the transportation system by working cooperatively with federal, state, regional, and local governments, as well as private sector businesses and residents.

Policy 4a: Coordinate transportation projects, policy issues, and development actions with all affected governmental units and service providers in the area.

Policy 4b: Changes in the frequency of transit and rail services that are not inconsistent with the Transportation System Plan shall be allowed without land use review.

Policy 4c: For State projects that require an Environmental Impact Study (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use review if local review is required. Where the project is consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent or subsequent compliance with applicable development standards or conditions. Where the project is



Junction City Transportation System Plan

not consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent completion of necessary goal exceptions or plan amendments.

Policy 4d: The City shall coordinate with the Oregon Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the City's TSP and comprehensive plan.

Policy 4e: Procedures for the coordination between the City and Lane County on developments that impact county transportation facilities are identified in the City/County Urban Growth Management Agreement (UGMA). The City shall adhere to the UGMA procedures in order to protect Lane County's interests in said facilities.

GOAL 5: Establish stable and flexible transportation revenue streams to support ongoing maintenance, operations, and system expansion.

Policy 5a: Develop a long-range financial strategy to implement needed transportation improvements and support operational and maintenance requirements.

Policy 5b: Consider new transportation revenue sources and implement them when feasible and appropriate.

Policy 5c: New transportation revenue sources shall maintain flexibility in allowed uses as much as possible to allow for use towards facilities for any mode of travel, new facility construction, and the maintenance and operation of existing facilities. Regulations pertaining to existing revenue sources shall be amended where possible to allow for such flexibility in use.

GOAL 6: Protect the function and efficiency of existing and future transportation facilities.

Policy 6a: When making a land use decision, the City shall consider the impact of the new development on the existing and planned transportation facilities. Notice of all land use changes located on state or county roads shall be sent to the respective jurisdiction, and comments from same shall be included in the official record.

Policy 6b: Consider the potential to establish or maintain bikeways or walkways prior to the vacation of any public right-of-way.

Policy 6c: At the time of land development or land division, the City shall require the dedication of additional right-of-way when necessary to obtain adequate street widths and bikeways and walkways in accordance with the TSP.

Policy 6d: For improvements designated in the TSP, the following activities shall be allowed without land use review:

- Dedication of right-of-way



Junction City Transportation System Plan

- Authorization of construction and the construction of facilities and improvements
- Classification of the roadway and approved road standards

Policy 6e: The City will require the extension of the city street system wherever possible, thereby increasing connectivity. In all cases where it is reasonable, land divisions shall continue existing streets, set aside right-of-way for future streets and intersections that will promote connectivity, and continue the city's grid system. Cul-de-sacs and other low-connectivity street types shall be discouraged except where topography, land development patterns, or natural, scenic, historic, and open space resources preclude high-connectivity street patterns. Where cul-de-sacs and other low-connectivity street types are used, shared-use paths may be required for bicycle and pedestrian users.

Policy 6f: Adopt street mobility standards for street intersections within the city. Signalized intersections shall operate at a level of service (LOS) D or better during the weekday peak hour, with stop and yield-controlled intersection approaches allowed to operate at a level of service E or better. Level of service shall be based on the most recent edition of the Highway Capacity Manual. Where a facility is under the jurisdiction of the County or ODOT, their standards shall apply.

Policy 6g: Operation, maintenance, repair, and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.

Policy 6h: Implement access management standards and policies to reduce conflicts on roadways within the city.

Access points to state and local roadways, in the form of private driveways and public street intersections, provide network connectivity and access to adjacent properties. However, they also introduce conflict points that can have negative impacts on safe and efficient travel. Therefore, the planning, design, and operation of access points to state and local roadways in a manner that appropriately balances the need for access and connectivity to support local development with safe and efficient operations is of interest to the City of Junction City, Lane County, and the Oregon Department of Transportation.

The City, County, and ODOT have adopted individual policies and regulations related to access management that apply to the roadways under their respective jurisdictions within Junction City. Future decisions regarding the planning, design, and operation of access to the roadways in Junction City shall be governed by the applicable regulations of each agency at the time of the decision. The City and County access-related regulations are included in each jurisdiction's zoning codes and their policies are provided in their respective comprehensive plans and TSPs. ODOT's access-related regulations are provided in OAR 734-051 and its policies are provided in the Oregon Highway Plan (OHP). The City should coordinate the access management on ODOT and Lane County roadways to provide a balanced transportation system.



Oregon Highway 99

Oregon Highway 99 is the principle roadway and carries by far the most traffic in Junction City. It also has the greatest number of access points and safety issues within the City. Because of its key role within the transportation system, the City, County, and ODOT have agreed that the following policy statements shall be considered as part of all future decisions related to access points within the Oregon Highway 99 corridor.

- Each agency shall focus on safety when making decisions regarding access to Oregon Highway 99, keeping in mind economic development needs and objectives of property served by the access points.
- Recognize that the safety and mobility of the highway are generally improved by minimizing conflict points through actions such as reducing the number of access points and increasing the separation between them.
- The unique challenges of providing appropriate access to adjacent lands shall be considered. Specific examples include:

Oregon Highway 99 from 18th Avenue to 1st Avenue

This segment of the corridor is characterized by lower posted speeds (30 mph), a comprehensive grid system of local streets creating intersections on the highway every 300 feet, the presence of parallel alleys, and fully developed general commercial land uses on small lots. It also serves as a principal commercial corridor through the city. There are many constraints that may make the reduction of access points impractical in some areas. Nonetheless, as land uses change and properties reconfigure, and within the framework of the local code and OAR 734-051, ODOT and the City shall collaborate to identify opportunities for consolidating or sharing access points and developing cross easements that reduce the need for travel on Oregon Highway 99.

Oregon Highway 99 from 1st Avenue to Meadowview Road

This segment of the corridor is characterized by higher posted speeds (45 to 55 mph), a mix of adjacent commercial and industrial land, and as a transition area between the urban and rural areas. The larger lots and higher potential for redevelopment may provide new opportunities to minimize conflicts on the highway through actions such as consolidating access, establishing shared access points, developing cross easements, and constructing parallel streets connecting to lower classified roadways. In consideration of the higher travel speeds that could result in higher severity collisions, opportunities to minimize access points shall be explored by the City, County, and ODOT when considering access changes.



CHAPTER 3: TSP PROCESS

The 2036 TSP provides a policy and planning framework that aligns the transportation infrastructure with the future needs and goals of the City. This process included input from the City policy makers, advisory committees, and community members to ensure that a balanced transportation system is created that meets the needs of all modes of transportation in the City.

The following summarizes the process used to determine and evaluate the existing and future deficiencies and needs.



EXISTING CONDITIONS ANALYSIS

The existing conditions analysis evaluated how the City's transportation infrastructure operates while considering traffic volumes, safety/crash patterns, travel route options, and opportunities for safe pedestrian and bicycle travel.

Vehicle Travel: Traffic volumes were collected at key intersections and roadways through the city. The vehicle travel evaluation considered how the existing roadways and intersections were operating based on a Level of Service (LOS) and volume-to-capacity (V/C) standard. Policy 6f of this plan identifies that the City has set a target of performance at a LOS D or better for signalized intersections and a LOS E or better for stop control intersections. ODOT and Lane County use a V/C based standard. The LOS standard evaluates operation on the level of comfort to a driver based on an average delay per vehicle over an hour while the volume-to-capacity evaluates the ability of the intersection to serve the demand over an hour. In existing conditions, all intersections operate better than the target standards. There are no capacity

related deficiencies in the current system that need to be addressed.

However, LOC and V/C are only part of the consideration when evaluating the transportation infrastructure. Other factors to include are safety and circulation.

Overall the crash rates within Junction City are lower when compared to other communities of similar size. However, there were a significant number of crashes occurring at the signalized intersections along Highway 99. (Highway 99 at 10th Ave. had 25 crashes in the previous 5 years). Over 60% of the crashes at the signalized intersections were a result of left turning vehicles on Highway 99 colliding with through traffic.

Overall, Junction City has a good grid system which allows for many route choices through the city and reducing the overburden of a few roadways. There are multiple route options for users to get to key locations throughout the city. As a majority of the buildable housing areas are to the west, the major east-west



connectors are expected to have an increase in traffic.

Pedestrian Travel: Sidewalks are provided along Highway 99, however, there are very few safe crossing opportunities. Crosswalks are only provided at signalized intersections and are located 0.25 to 0.50 miles apart. The distance needed to walk to a signalized crossing may be seen as a significant barrier to pedestrians and limit pedestrian activities between the east and west sides of the City.

Overall, the City has an incomplete network of available sidewalks and pedestrian paths. This incomplete network of sidewalks creates a barrier from safe pedestrian travel between neighborhoods and destinations such as schools and parks.

Bicycle Travel: Junction City has a very limited bicycle network. Most bicycle travel has to be done by sharing roadway facilities with vehicles or on roadway shoulders.

2036 FORECAST ANALYSIS

The year 2036 traffic volumes create a baseline for assessing the future transportation system needs. The year 2036 traffic volumes reflect the household and employment estimates the City will experience within the next 20 years. The estimates are based on expected growth within Junction City, Lane County, and surrounding communities. Table 1 illustrates the year 2015 and year 2036 population and employment estimates for within Junction City’s UGB.

employment will be generated by new commercial and industrial developments with a majority occurring along Highway 99.

The year 2036 traffic volumes were developed by converting future household and employment data into vehicle trips and routing the traffic through the City from developable properties to reasonable origins and destinations within the City and outside the City.

Table 1: Junction City Growth Estimates

	Year 2015	Year 2036	Growth
Population	6,463	8,700	5,593 (35%)
Households	2,664	3,700	1,036 (40%)
Employees	3,545	5,680	2,135 (60%)

The analysis evaluated the capacity and level of service of higher order intersections and roadways with the added traffic. All intersections were found to operate better than the mobility standard. Therefore, there are no capacity improvements that are needed by the year 2036. The appendix details the analysis methodology and results.

The employment and population growth was allocated to parcels in the UGB with the appropriate land use designations and to those that are likely to be developed by the year 2035. A majority of the new housing will be located on the west side of town, more specifically, west of Oaklea Drive. The new

The needs assessment has identified safety and connectivity improvements for all modes of travel. The preceding chapters detail the improvement plan for each mode.



CHAPTER 4: PEDESTRIAN PLAN

Existing and future pedestrian facilities and needs in Junction City were evaluated and described in reports that have been included in the appendix. This chapter includes the pedestrian component of the TSP which consists of improvements

identified to meet future needs through the year 2036. Priority projects that could be constructed with anticipated available funding have been identified as part of a “Financially Constrained Plan” described in Chapter 7.

PEDESTRIAN SYSTEM NEEDS

The existing pedestrian network was evaluated and used along with future growth projections and input from stakeholders to identify pedestrian needs in Junction City. Visits to the field by the project team, feedback from the TAC and CAC, and comments provided by community members at the open houses and through surveys have all contributed to the list of pedestrian facility improvements. Some of the general deficiencies identified in the pedestrian system include:



- Lack of sidewalks and/or sidewalk gaps on arterial and collector streets in areas outside of the downtown grid network
- Poor street connectivity in some neighborhoods makes walking less convenient
- Lack of safe and consistent walking facilities along some routes to schools
- Lack of ADA accessible curb ramp and/or sidewalk construction outside of the downtown grid network that makes access difficult for persons with disabilities
- The condition of some railroad crossings can be challenging for the elderly and disabled
- Sidewalk maintenance, especially in older neighborhoods, is needed to repair severely damaged and flooded areas
- Lack of comfortable crossing opportunities on high-volume, high-speed streets such as OR 99
- Shared-use paths are present, but not connected into a comprehensive network



PEDESTRIAN SYSTEM IMPROVEMENTS

Improvements to the pedestrian network include sidewalk infill and new sidewalk construction projects, shared-use path connections, and street crossing improvements. Shared-use path connections and street crossing improvements also benefit bicycle transportation, but are only listed under the Pedestrian Plan.

Design for pedestrian improvements on non-city streets need to be coordinated with the jurisdictional authority. The plan is intended to provide flexibility to meet the standards and needs at the time of project design.

Sidewalk infill and new sidewalk construction projects are listed in Table 2, which includes Project ID numbers to help locate improvements. The project descriptions include key benefits for use in future grant applications and strategic planning. New roadway and roadway modernization projects that would include the construction of sidewalk or pedestrian facilities appropriate to the street classification of the roadway are listed under the Motor Vehicle Plan and are not shown here.

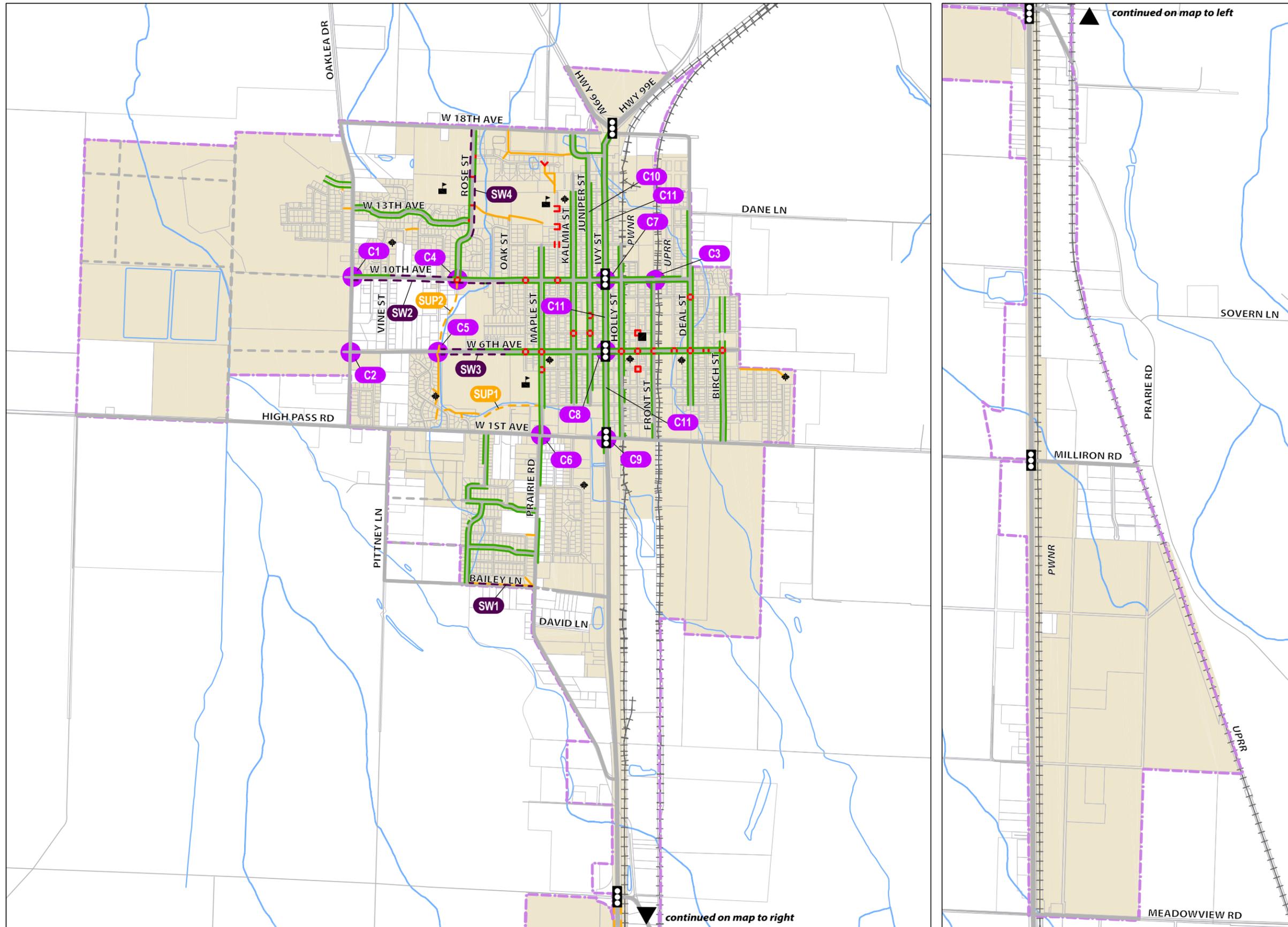
Table 2: Sidewalk Infill/Construction Projects

Project ID	Project Description	Probable Construction Costs*
SW1	Bailey Ln: Pitney Ln to Quince St – Sidewalk construction on north side in UGB <i>Key Benefits: Pedestrian Connectivity</i>	\$235,000
SW2	W 10th Ave: Oaklea Dr to Maple St - Sidewalk construction/infill <i>Key Benefits: Pedestrian Connectivity, Safe Routes to School</i>	\$610,000
SW3	W 6th Ave: Timothy St to Pine Ct - Sidewalk construction/infill <i>Key Benefits: Pedestrian Connectivity, Safe Routes to School</i>	\$320,000
SW4	Rose St: W 18 th Ave to W 13 th Ave – Sidewalk infill <i>Key Benefits: Pedestrian Connectivity, Safe Routes to School</i>	\$315,000
SWG	General Infill: Infill of missing sidewalk throughout the City and the replacement of sidewalk that no longer meets current design or ADA standards	N/A
Total Cost		\$1,480,000

* Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.

Junction City Transportation System Plan

FIGURE 1
Proposed Pedestrian
Network Improvements



Legend

Network Improvements

- SIDEWALK INFILL/ CONSTRUCTION (SW)
- SHARED USE PATH (SUP)
- POINT/CROSSING (C)
- XX PEDESTRIAN PROJECT NUMBER

Existing Pedestrian Facilities

- MARKED CROSSWALK
- SIDEWALK
- SHARED USE PATH
- ⬢ TRAFFIC SIGNAL

Roadways

- ARTERIAL
- MAJOR COLLECTOR
- MINOR COLLECTOR
- LOCAL

Other Features

- CITY LIMITS
- URBAN GROWTH BOUNDARY
- TAX LOTS
- ++ RAILROAD
- STREAM

Places of Interest

- CITY HALL
- 🌳 PARK
- 🏫 PUBLIC SCHOOL

0 1000 2000 Feet



The projects proposed in Tables 3 and 4, including street crossing improvements and shared-use paths, will provide benefits to both cyclists and pedestrians traveling in Junction City. The improvement locations and project descriptions can be seen in Figure 1. Note that Project C11 in Table 3 includes safety education programs to provide a cost-effective supplement to the construction projects in the plan.



Example of high-visibility continental crosswalk

Key street crossing improvements, such as those identified in Table 3, can improve the livability of neighborhoods and encourage community members to use alternate modes of transportation by removing barriers to biking and walking. All crossing improvement locations identified shall include the construction of ADA-compliant curb ramps where not currently available. At school crossings and mid-block crossings, high-visibility continental crosswalks (example shown above) shall be used.

Marked crosswalks at not at controlled locations (signal or approach that has a stop sign) will only be considered when an engineering study determines their need and the location meets the following criteria:

- Good visibility of the crosswalk is provided from all directions. Provision of adequate stopping sight distance is a minimum.
- There is no reasonable alternative crossing location.
- There is established pedestrian usage or anticipated use. Considerations include: volume of pedestrians, opportunity for safe crossing (i.e., sufficient gaps in traffic), percentage of elderly or young children, and the nature of the land uses on both sides of the road. Lower pedestrian volumes would be acceptable for areas where there are greater proportions of less experienced and less agile pedestrians (e.g., near schools).
- Posted speeds are 35 mph or less.
- The volume of traffic should not exceed 10,000 average daily vehicles. If the volume of traffic is greater than this or the crossing is on a multi-lane highway, pedestrian crossing enhancements (e.g., curb extensions, pedestrian refuge islands) should be considered.



Junction City Transportation System Plan

Table 3: Street Crossing Improvements

Project ID	Project Description	Probable Construction Costs [#]
C1	<p>Oaklea Dr/W 10th Ave: As part of the Oaklea Dr. road modernization project (MV11), install intersection lighting, consider refuge island/curb extensions, and reevaluate need for crosswalk pavement markings.</p> <p>Key Benefits: Safety, Safe Routes to School, Pedestrian/Bicycle Connectivity</p>	\$45,000
C2	<p>Oaklea Dr/W 6th Ave: As part of the Oaklea Dr. road modernization project (MV11), install intersection lighting, consider refuge island/curb extensions, and reevaluate need for crosswalk pavement markings.</p> <p>Key Benefits: Safety, Safe Routes to School, Pedestrian/Bicycle Connectivity</p>	\$45,000
C3	<p>E 10th Ave/Front St: Connect existing sidewalk on north side of E 10th Ave to provide an accessible railroad crossing. Replace curb ramps on all corners to meet ADA standards.</p> <p>Key Benefits: Safety, ADA Accessibility, Safe Routes to School, Pedestrian/Bicycle Connectivity</p>	\$30,000
C4	<p>W 10th Ave/Rose St: Project should be constructed before or as part of project SUP2. Evaluate user needs at this location; consider improved intersection lighting, striping the crosswalk on the south leg of the intersection, and converting existing crosswalks to continental style.</p> <p>Key Benefits: Safety, Safe Routes to School, Pedestrian/Bicycle Connectivity</p>	\$15,000
C5	<p>W 6th Ave/Shared-Use Path Connection: Project should be constructed concurrently with project SUP2. Evaluate user needs at this location; consider enhanced pavement markings and signage.</p> <p>Key Benefits: Safety, Safe Routes to School, Pedestrian/Bicycle Connectivity</p>	\$5,000
C6	<p>W 1st Ave/Prairie Rd/Maple St: As an interim improvement, construct curb extensions on the opposing west corner of Maple St and east corner of Prairie Rd to enhance pedestrian visibility and shorten the crossing distance.</p> <p>Key Benefits: Safety, Safe Routes to School, Pedestrian/Bicycle Connectivity</p>	\$30,000
C7	<p>W 10th Ave/OR 99: Enhance pedestrian crossing by upgrading pedestrian signal heads to countdown pedestrian signals. Upgrade pedestrian signals by using audible signals. Upgrade signal head backplates with retroreflective borders.</p> <p>Key Benefits: Safety, ADA Accessibility, Safe Routes to School</p>	\$20,000
C8	<p>W 6th Ave/OR 99: Install intersection lighting (currently no lighting on mast arms). Enhance pedestrian crossing by upgrading pedestrian signal heads to countdown pedestrian signals. Upgrade pedestrian signals by using audible signals. Upgrade signal head backplates with retroreflective borders.</p> <p>Key Benefits: Safety, ADA Accessibility, Safe Routes to School</p>	\$35,000
C9	<p>W 1st Ave /OR 99: Enhance pedestrian crossing by upgrading pedestrian signal heads to countdown pedestrian signals. Upgrade pedestrian signals by using audible signals. Upgrade signal head backplates with retroreflective borders.</p> <p>Key Benefits: Safety, ADA Accessibility, Safe Routes to School</p>	\$20,000



Junction City Transportation System Plan

Project ID	Project Description	Probable Construction Costs [#]
C10	Juniper St: Provide raised pedestrian crossings at key locations along Juniper Street. Possible locations include W 14 th Street and W 13 th Street Key Benefits: Safety, Pedestrian/Bicycle Connectivity	\$40,000
C11	OR 99 from W 18th Ave to W 1st Ave: Install pedestrian activated crossing treatments on OR 99. Consider including Rectangular Rapid Flashing Beacons (RRFBs), advanced stop bars, curb ramps, and striped crosswalks at mid-block locations between: <ul style="list-style-type: none"> • W 15th Ave and W 12th Ave • W 9th Ave and W 7th Ave • W 5th Ave and W 3rd Ave Key Benefits: Safety, Pedestrian/Bicycle Connectivity	\$140,000
C12	Education: Many free educational materials are available. Coordinate with the Oregon Department of Transportation, Junction City School District, and Junction City Police Department to implement safety education programs including pedestrian crossing education for school children. Key Benefits: Safety, Safe Routes to School	Variable
Total Cost		\$425,000

*The installation of RRFBs requires an investigation and approval from the State Traffic-Roadway Engineer. Any mid-block improvements on a State Freight Route will require review concerning freight mobility. The National Cooperative Highway Research Program (NCHRP) Report 572 outlines a process to identify the appropriate type of crossing treatment at unsignalized locations. It was envisioned that RRFBs would be installed, but a pedestrian activated beacon or signal could also be the appropriate treatment.

[#] Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.

Shared-use paths benefit both pedestrians and cyclists, providing the most comfortable facilities for encouraging active transportation and recreation. Three shared-use path alignments have been identified in this plan that help connect the existing paths to form a continuous network between the schools and provide travel options to the employment area at the south end of the city. The paths are described in Table 4 with general alignments shown in Figure 1.

Figure 2 illustrates a recommended design for all future shared-use paths constructed in the city.

- In constrained areas, vertical clearance may be reduced to a minimum of 8 feet with warning signage.
- Where path abuts existing or proposed hard surface, shoulders shall be paved to tie into the hard surface.

- In constrained areas, the paved surface width may be reduced to a minimum of 8 feet. In areas where usage may be high or where bicycle speeds may be high, a minimum paved surface width of 12 feet is recommended.

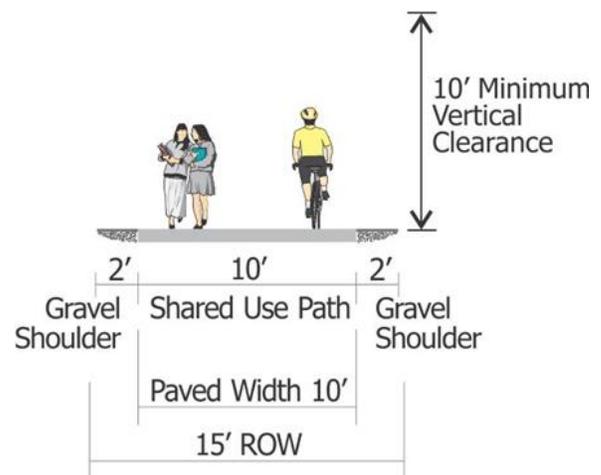


Figure 2: Shared-Use Path Typical Cross-Section



Table 4: Shared-Use Paths

Project ID	Project Description	Probable Construction Costs*
SUP1	<p>Southern Edge of Junction City High School, Connecting Existing Shared-Use Path to Maple Street: Alignment may require right-of-way or easement.</p> <p><i>Key Benefits: Pedestrian/Bicycle Connectivity, Safe Routes to School, Livability</i></p>	\$195,000
SUP2	<p>Rose Street Alignment from W 10th Avenue to W 6th Ave: Provides needed access between middle school and high school and provides a continuation of the existing path around the high school. Alignment will require right-of-way acquisition or easements and must cross a ditch.</p> <p><i>Key Benefits: Pedestrian/Bicycle Connectivity, Safe Routes to School, Livability</i></p>	\$550,000
Total Cost		\$745,000

* Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.



CHAPTER 5: BICYCLE PLAN

Existing and future bicycle facilities and needs in Junction City were evaluated and described in reports that have been included in the appendix. This chapter includes the bicycle component of the “Preferred Plan,” which consists of all transportation improvements identified to meet future needs through the year 2036. Priority projects that could be constructed with anticipated available funding have been identified as part of a “Financially Constrained Plan” described in Chapter 7.



BICYCLE SYSTEM NEEDS

As was done for the pedestrian system, existing and future bicycle system needs were identified through field visits, analysis of future development potential, discussions with committee members, and public input provided through open houses. Some of the general needs identified include:

- No bicycle facilities are provided on HWY 99 between the Flat Creek Bridge and 3rd Avenue. No bicycle facilities are provided on any streets within the City off of HWY 99.
- Separate biking facilities are needed on higher volume streets such as HWY 99, Prairie Road, High Pass Road, Oaklea Drive, and 18th Avenue.
- Provisions for secure and convenient bicycle parking are generally infrequent.
- Poor connectivity in some areas creates longer trips for bicycle travel.
- Many of the existing shared-use paths are eight feet wide, which can be slightly narrow for mixed bicycle and pedestrian travel.
- There are few convenient and safe crossing opportunities along HWY 99.
- Creating safe biking routes to schools should be a priority.

BICYCLE SYSTEM IMPROVEMENTS

While Junction City currently has few dedicated bicycle facilities, many of the existing roadways have space available to provide for bike facilities, but would need to be restriped and signed to accommodate them. The bicycle facility design guide below was developed to

characterize the types of bicycle facilities being recommended as part of the Junction City TSP. The types of bicycle facilities increase from the lowest comfort level to the highest comfort level. The highest comfort level is a shared-use path, which provides complete separation from



motor vehicle traffic and gives cyclist a dedicated space in the transportation network. Design elements for Shared Lane Markings/Sharrows, Shoulder Bikeways, Standard Bike Lanes, Bike Boulevard, Buffered bike Lane, and Shared-Use Path are shown in the following design guide images.

Design for pedestrian improvements on non-city streets need to be coordinated with the

jurisdictional authority. The plan is intended to provide flexibility to meet the standards and needs at the time of project design.

Bicycle Facility Design Guide¹

Shared Lane Markings/Sharrows*Comfort Level* ●○○○

Signs for Shared Roadways

W11-1

W16-1P

SLM Modification for Route Changes

Travel Lane Sidewalk

Travel Lane Parking Lane Sidewalk

► Shared lane markings (SLMs), also known as “sharrows”, are high-visibility pavement marking symbols that indicate the appropriate position for a bicycle when sharing a lane with motor vehicles. Sharrows can be used on low-volume, low-speed roadways, where bike lanes are desirable but not possible or cost effective due to physical constraints. The marking encourages bicyclists to ride away from the door zone if adjacent on-street parking is available, and indicates to drivers where to expect cyclists. Signing can also accompany the SLMs to alert motorists that cyclists may be encountered.

Design Guidance

- Streets with motor vehicle volumes of less than 3,000 vehicles per day.
- Streets with motor vehicle posted speeds of 30 mph or lower.
- Spacing can vary from 50'-100' along busier streets, or up to 250' along low traffic routes.

¹ Reference Documents: MUTCD 2009, NACTO Urban Bikeway Design Guide, AASHTO Guide for Development of Bicycle Facilities, ODOT Bicycle and Pedestrian Design Guide 2011



Shoulder Bikeways

Comfort Level ●●○○○



► A shoulder bikeway is a paved shoulder that provides space for bicycling. This designated area is denoted by an edge line, provides separation for bicyclists, reduces conflicts with faster moving motor vehicles, and is commonly found on rural roads.

Design Guidance

- A minimum shoulder width of 6' is recommended.
- A minimum shoulder width of 4' may be used when a curb, guardrail, or roadside barrier is not present. Otherwise, a minimum width of 5' is recommended.
- Edge line is designated by a 4" stripe.

Standard Bike Lane

Comfort Level ●●○○○



R3-17



R3-17aP



R3-17bP



► Bike lanes are used to designate space for exclusive use by bicyclists. Bike lanes are denoted by a solid white line, bike lane symbols, and can be accompanied by signing. Most often bike lanes are intended for one-way travel in the same direction as adjacent traffic lanes, although contraflow and left side bike lanes have been used. Application of bike lanes is appropriate on arterial and collector streets with higher motor vehicle volumes and speeds.

Design Guidance

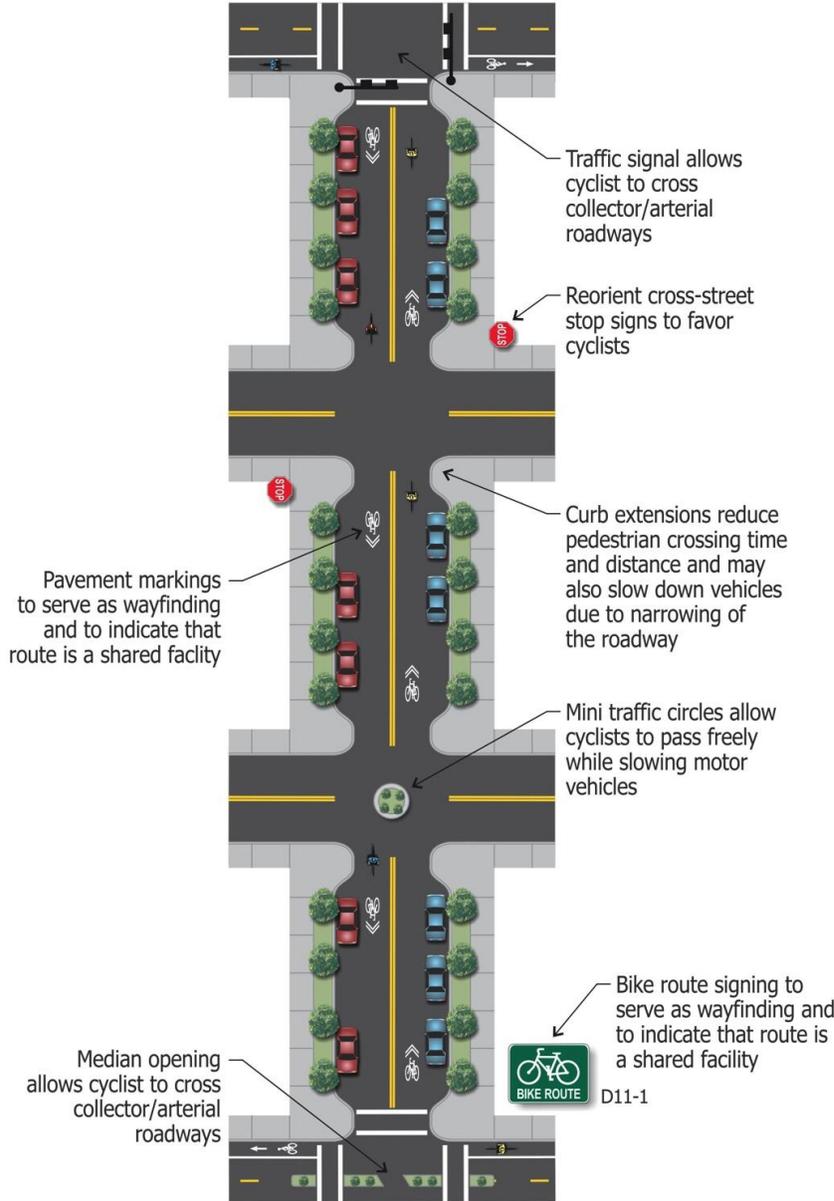
- Streets with motor vehicle volume of 3,000 vehicles per day or more.
- Streets with posted motor vehicle speed of 25 mph or higher.
- Use 8" stripe to designate a bike lane.
- Recommended width is 6', with a minimum of 4' on open shoulders or 5' from face to curb, guardrail, or parked car.
- Bike lanes should not be wider than 7' so drivers do not mistake the lane for parking.





Bike Boulevard

Comfort Level ●●○○○



► A bike boulevard is a roadway with low motor vehicle speeds and volumes that has been modified to prioritize the movement of bicycles. These facilities use a variety of design treatments to discourage through trips by motor vehicles and to create a safe and comfortable environment for cyclists. Treatments include signing and pavement markings, along with traffic calming measures.

Design Guidance

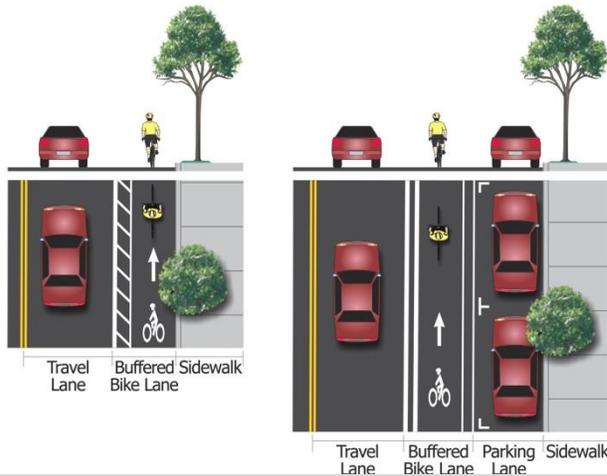
- Streets with less than 3,000 motor vehicles per day.
- Streets with posted speeds of 25 mph or lower.

Illustration is one example of a bike boulevard.
Treatments applied may vary.



Buffered Bike Lane

Comfort Level ●●●○



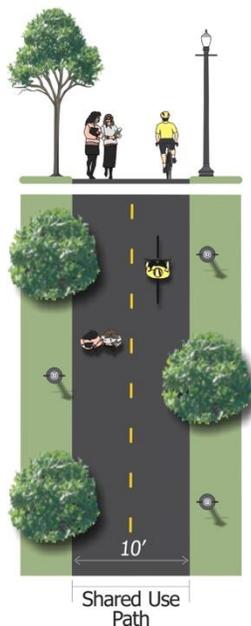
► A buffered bike lane is a standard bike lane paired with a delineated buffer space, which further separates the bike lane from the adjacent motor vehicle travel lane and/or parking lane, to increase bicyclist comfort. This treatment can be used on streets with excess width to provide more separation for bicyclist, or when there are high motor vehicle volumes, speed, and/or high amounts of truck traffic.

Design Guidance

- Standard bicycle bike lane (5' to 6') with an additional 2' to 4' striped buffer.
- Streets with posted speeds of 25 mph or higher.
- Locations where standard bike lanes are being considered and additional space for buffering is desired to increase cyclist comfort.

Shared Use Path

Comfort Level ●●●●



► Shared use paths are used by pedestrians, bicyclists, skaters, and many other community members. Paths include continuous separation from motor vehicle traffic, frequent connection to land uses including schools and shopping, provide some security to users through illumination and proximity to housing or businesses, have scenic qualities, and well-designed street crossings.

Design Guidance

- Shared use paths are commonly 10' wide for two-way traffic in rural and suburban areas, but should be 12' wide or wider where usage or bicycle speeds may be high.
- Minimum width for a shared use path is 8' wide to be used at pinch points or where low volumes are expected.
- Proper sight distance should be maintained.
- Path should be illuminated for night time users.

Proposed bicycle improvements are described in Table 5, which includes Project ID numbers to help locate improvements on Figure 3. The project descriptions include key benefits for use on future grant applications and strategic planning. Construction of new roadways or roadway modernizations identified in the Motor Vehicle Plan are not included in Table 5, but will

include the construction of bicycle facilities appropriate to the functional classification of the street. Also, shared-use path connections and street crossing improvements that benefit bicycle transportation are listed under the Pedestrian Plan.



Junction City Transportation System Plan

Table 5: Bicycle Facility Improvements

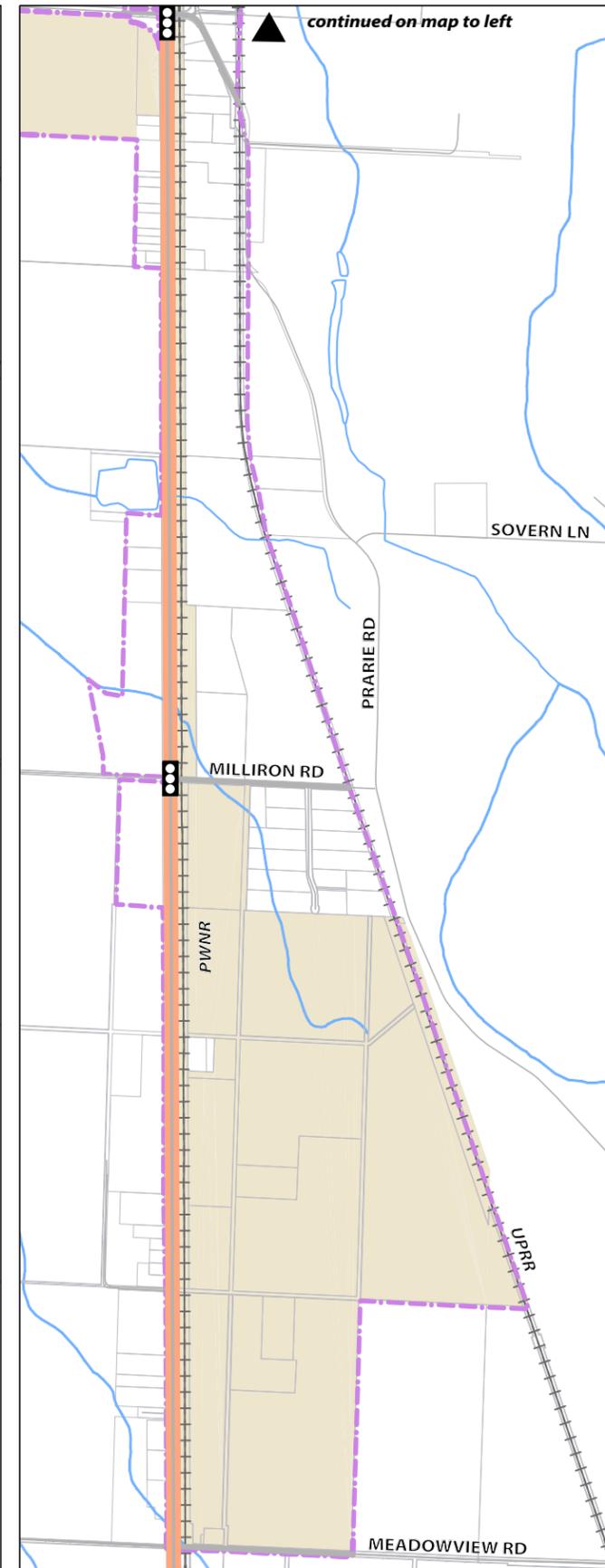
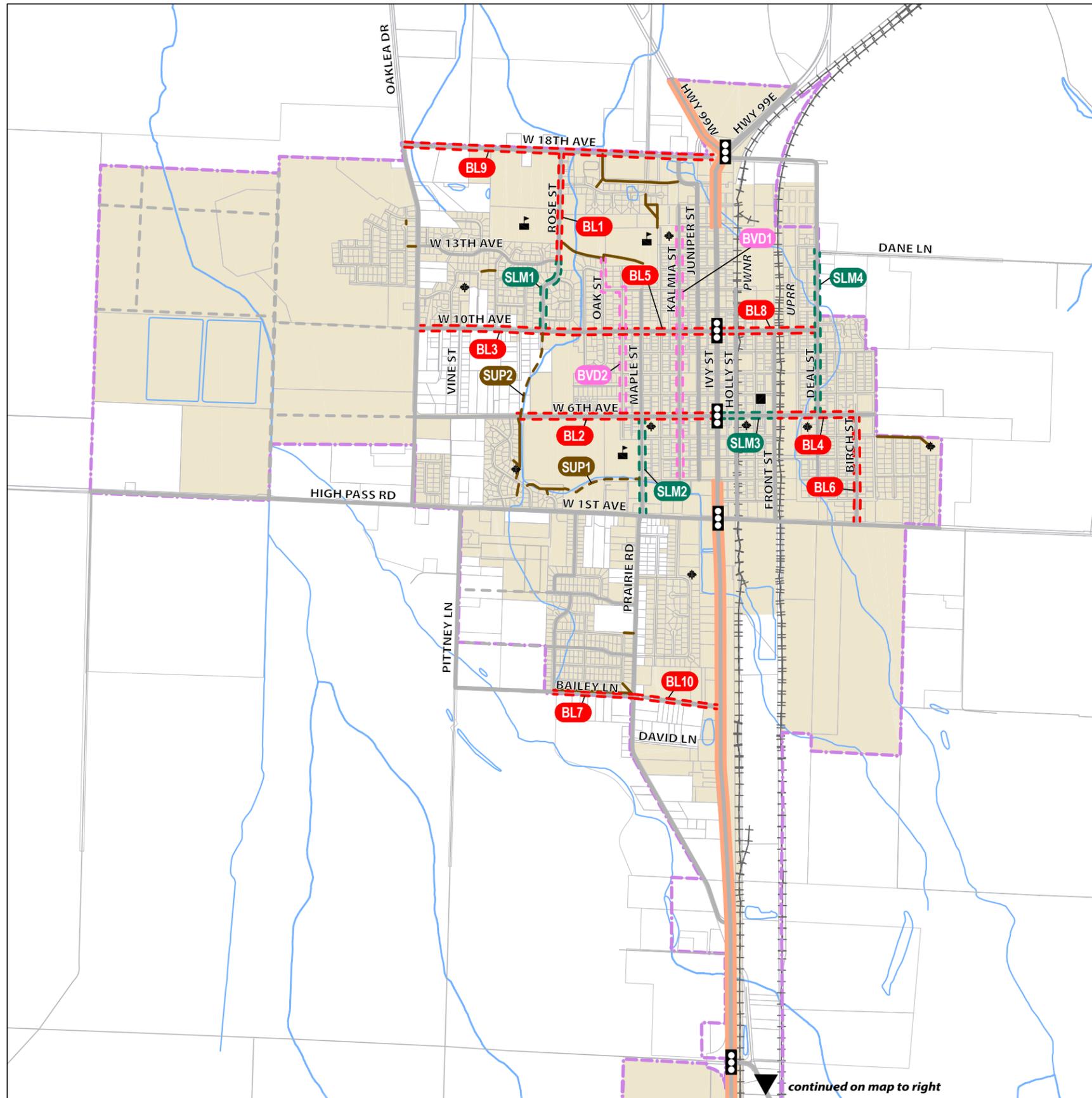
Project ID	Project Description	Probable Construction Costs*
BL1	Rose St: W 18 th Ave to W 13 th Ave: Bike Lanes - Roadway would need to be restriped to remove on-street parking. <i>Key Benefits: Bicycle Connectivity, Safe Routes to School</i>	\$65,000
BL2	W 6th Ave: Timothy Pl to HWY 99: Bike Lanes - Need to restripe roadway to include 8' parking aisles, 6' bike lanes, 11' travel lanes. <i>Key Benefits: Bicycle Connectivity, Safe Routes to School</i>	\$125,000
BL3	W 10th Ave: Oaklea Dr to Nyssa St: Bike Lanes - Roadway would need to be restriped to remove on-street parking. Need community feedback about utilization of existing on-street parking. <i>Key Benefits: Bicycle Connectivity, Safe Routes to School</i>	\$125,000
BL4	E 6th Ave: Front St to Birch St: Bike Lanes - Would need to restripe roadway to include 8' parking aisles, 6' bike lanes, 11' travel lanes. <i>Key Benefits: Bicycle Connectivity, Safe Routes to School</i>	\$50,000
BL5	W 10th Ave: Nyssa St to HWY 99: Bike Lanes – Would require parking removal on one side of the street to include one 8' parking aisle, 6' bike lanes, 11' travel lanes. Need community feedback about utilization of existing on-street parking. <i>Key Benefits: Bicycle Connectivity, Safe Routes to School</i>	\$60,000
BL6	Birch St: E 1 st Ave to E 6 th Ave: Bike Lanes - Need to restripe roadway to include 7' parking aisles, 5' bike lanes, 11' travel lanes. <i>Key Benefits: Bicycle Connectivity</i>	\$65,000
BL7	Bailey Ln: Pitney Ln to Prairie Rd: Bike lane on north side and south side. <i>Key Benefits: Bicycle Connectivity</i>	\$105,000
BL8	10th Street: Highway 99 to Deal Street-Restripe roadway to provide bike lanes. Would require the removal of on-street parking. <i>Key Benefits: Bicycle Connectivity, Safe Routes to School</i>	\$20,000
BL9	18th Street: Widen Roadway to provide bike lanes on both sides of the roadway. Alternatively, a shared use path could be constructed on the north side. <i>Key Benefits: Bicycle Connectivity</i>	\$1,500,000
BL10	Hatton Lane: Prairies Road to Highway 99. Provide striped bike lanes as part of the roadway reconstruction and connection. <i>Key Benefits: Bicycle Connectivity</i>	\$5,000
BVD1	Kalmia Street: Shared Lane Markings and traffic calming techniques on Kalmia Street from W 14 th Ave to W 3rd Ave as appropriate to create a bicycle boulevard with low volume and low speed motor vehicle use. <i>Key Benefits: Bicycle Connectivity</i>	\$45,000



Junction City Transportation System Plan

BVD2	<p>Nyssa St/Oak St: Laurel Elementary School to W 6th Ave: Install Shared Lane Markings and traffic calming techniques as appropriate to create a bicycle boulevard with low volume and low speed motor vehicle use. Alignment would run north on Nyssa St from W 6th Ave, cross W 10th Ave, turn west on W 12th Ave, and turn north on Oak St to connect to the shared-use path at Laurel Elementary School. Consider installing an All-Way stop at the intersection on W 10th Ave with Nyssa St and crossing enhancements at the intersection on W 6th Ave with Nyssa St.</p> <p>Key Benefits: Bicycle Connectivity, Safe Routes to School</p>	\$45,000
SLM1	<p>Rose St: W 13th Ave to W 10th Ave: Shared-Lane Markings - Existing on-street parking is actively used. Supplemental warning signs should be installed leading into the curve.</p> <p>Key Benefits: Bicycle Connectivity, Safe Routes to School</p>	\$5,000
SLM2	<p>Maple St: W 6th Ave to W 1st Ave: Shared-Lane Markings</p> <p>Key Benefits: Bicycle Connectivity, Safe Routes to School</p>	\$10,000
SLM3	<p>E 6th Ave: HWY 99 to Front St: Shared-Lane Markings – Traffic volumes are higher than preferred, but speeds are low. Recommend converting angled on-street parking to parallel parking to enhance cyclist visibility.</p> <p>Key Benefits: Bicycle Connectivity, Safe Routes to School</p>	\$5,000
SLM4	<p>Deal St: E 6th Ave to Dane Ln: Shared-Lane Markings</p> <p>Key Benefits: Bicycle Connectivity</p>	\$15,000
Total Cost		\$2,245,000

* Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.



Junction City Transportation System Plan

FIGURE 3
Proposed Bicycle
Network Improvements

Legend

Network Improvements

- SHARED LANE MARKINGS (SLM)
- BIKE LANE (BL)
- SHARED USE PATH (SUP)
- BIKE BOULEVARD (BVD)
- BICYCLE PROJECT NUMBER

Existing Bicycle Facilities

- SHOULDERED BIKE LANE
- SHARED USE PATH
- TRAFFIC SIGNAL

Roadways

- ARTERIAL
- MAJOR COLLECTOR
- MINOR COLLECTOR
- LOCAL

Other Features

- CITY LIMITS
- URBAN GROWTH BOUNDARY
- TAX LOTS
- RAILROAD
- STREAM

Places of Interest

- CITY HALL
- PARK
- PUBLIC SCHOOL

0 1000 2000 Feet



CHAPTER 6: MOTOR VEHICLE PLAN

The Motor Vehicle Plan provides direction for the management and expansion of the roadway network to meet the needs of Junction City through the year 2036. The plan provides strategies to achieve local transportation goals by improving system capacity, efficiency, safety, and connectivity.

The existing motor vehicle facilities in Junction City were inventoried and described in a technical memorandum that has been included in the appendix. This chapter describes the

STREET SYSTEM MANAGEMENT AND DESIGN

Proper management and design of Junction City's existing and future streets are essential practices for ensuring the street network will be able to function as intended.

STREET FUNCTIONAL CLASSIFICATION

Street functional classification is an important tool for managing the roadway network. It is based on a hierarchical system of roads with designated management and design requirements to achieve the type of service desired.

A number of changes were made to the City's functional classification system as part of this TSP update. This included aligning the classifications with existing and future uses in

street functional classification system, roadway cross-section standards, access management standards, neighborhood traffic management strategies, recommended motor vehicle projects, and transportation demand management strategies.



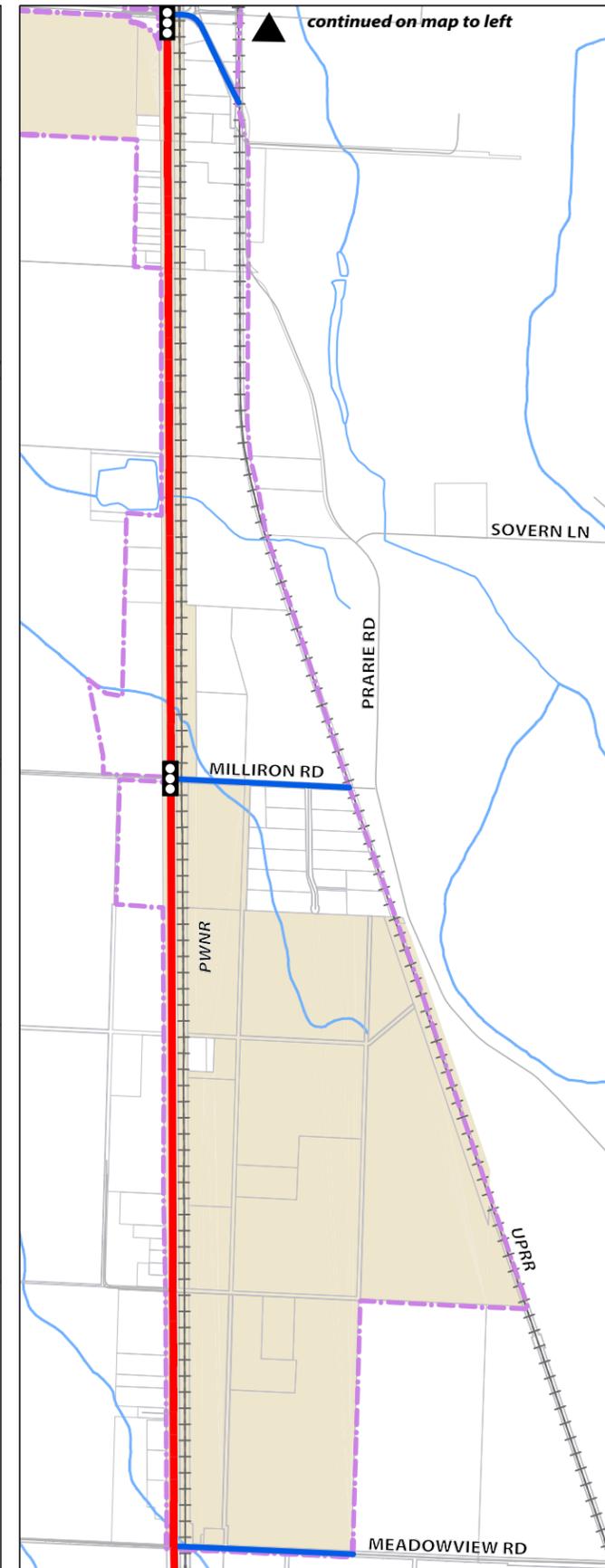
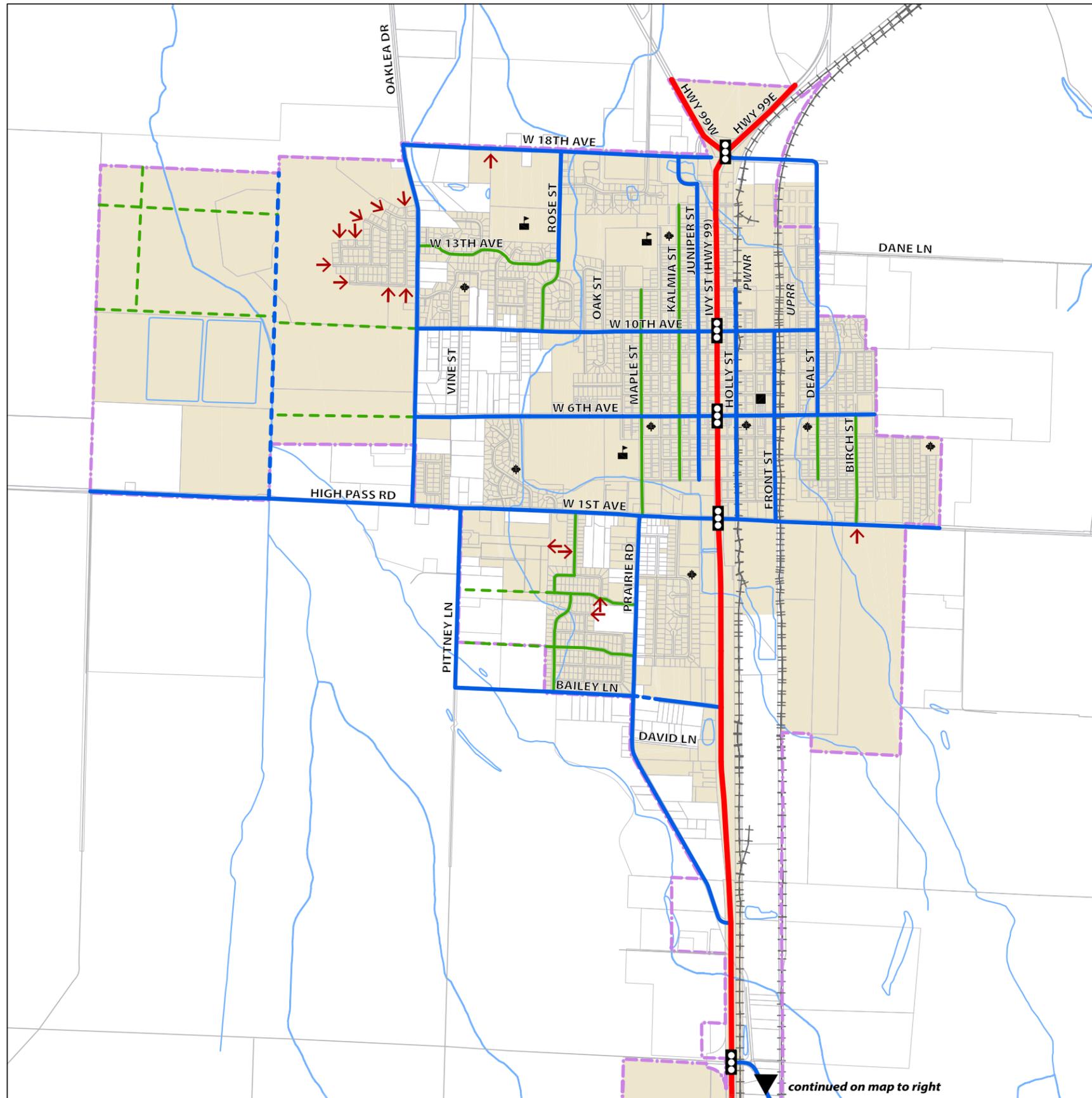
the City and to update the design standards for each classification to meet the City's needs.

The new functional classification system for roadways in Junction City is described below, including the management objectives for each class. A functional classification map is provided in Figure 4, showing the classification for all roadways in the city, including new street extensions proposed as part of the motor vehicle system improvements.

Junction City Transportation System Plan

FIGURE 4

Proposed Future Roadways,
Functional Classification,
and Local Street Connectivity



Legend

- TRAFFIC SIGNAL
- Roadways**
 - PRINCIPAL ARTERIAL
 - MAJOR COLLECTOR
 - NEIGHBORHOOD COLLECTOR
 - FUTURE MAJOR COLLECTOR
 - FUTURE NEIGHBORHOOD COLLECTOR
 - LOCAL
 - POTENTIAL LOCAL STREET CONNECTION
- CITY LIMITS
- URBAN GROWTH BOUNDARY
- TAX LOTS
- RAILROAD
- STREAM
- Places of Interest**
 - CITY HALL
 - PARK
 - PUBLIC SCHOOL





PRINCIPAL ARTERIAL

Principal arterials are primary routes serving regional traffic passing through the city and connecting the city to other urban areas. They are intended to serve high volumes of traffic over long distances, typically maintain higher posted speeds, and minimize direct access to adjacent land to support the safe and efficient movement of people and goods. Inside of the urban growth boundary, speeds may be reduced to reflect the roadside environment and surrounding land uses.

MAJOR COLLECTOR STREET

A Major Collector street provides access and circulation within and between residential, commercial, industrial, and mixed use lands. Collector streets provide more citywide circulation while still accessing neighborhoods. They collect traffic from local streets and channel them onto the arterial system.

NEIGHBORHOOD COLLECTOR STREET

A neighborhood collector street provides access and circulation to residential neighborhoods. These types of streets are

found only in residential neighborhoods. In general, the ROW and roadway widths are narrower than Major Collector streets but allow for uses that are necessary in residential neighborhoods, such as on-street parking, lower speeds, and shared bicycle facilities.

LOCAL STREET

Local streets provide immediate access to adjacent land. These streets are designed to enhance the livability of neighborhoods and should generally accommodate less than 2,000 vehicles per day. When traffic volumes reach 1,000 to 1,200 vehicles per day through residential areas, safety and livability can be degraded. A well-connected grid system of relatively short blocks can minimize excessive volumes of motor vehicles and encourage use by pedestrians and cyclists. Speeds are not normally posted, with a statutory 25 mph speed limit in effect.

TYPICAL ROADWAY CROSS-SECTION STANDARDS

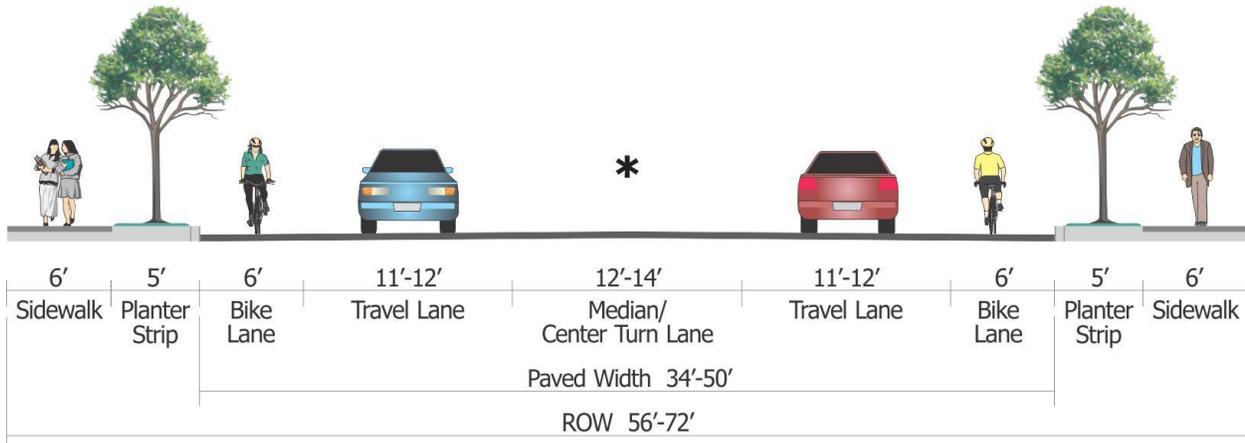
The design characteristics of city streets in Junction City were developed to meet the function and demand for each facility type. Because the actual design of a roadway can vary from segment to segment due to adjacent land uses and demands, the objective was to define a system that allows standardization of key characteristics to provide consistency, but also to provide criteria for application that provides

some flexibility, while meeting the design standards.

Figures 5, 6, 7, and 8 illustrate the recommended cross-section standards for City arterials, major collectors, neighborhood collectors, and local streets in Junction City.



Figure 5: Arterial Cross-Section Standard

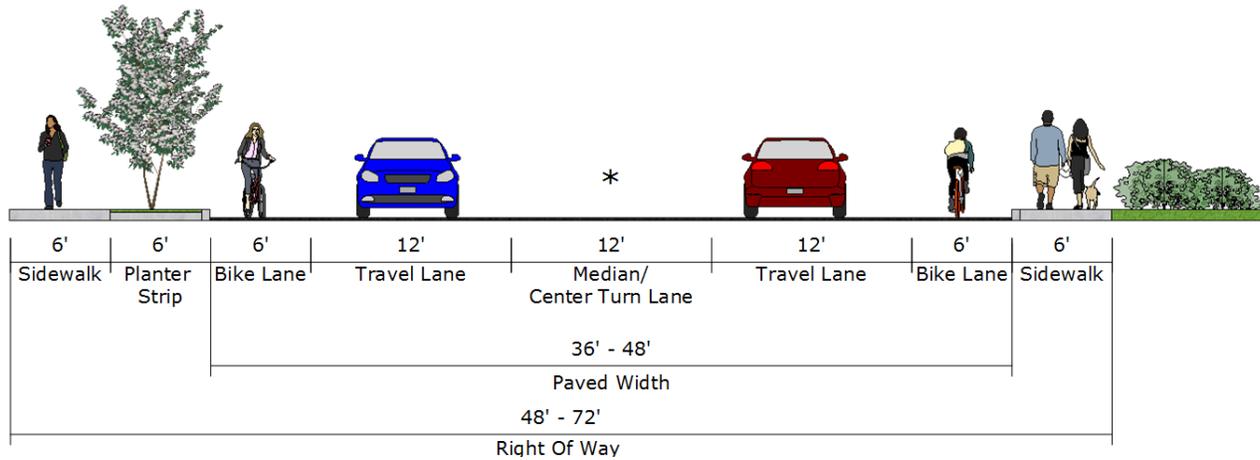


* *Optional*

- The preferred width of travel lanes on arterials is 11 feet. In industrial areas or areas where the truck percentage of average daily traffic is 10% or more within a 12-hour period, travel lane widths should be increased to 12 feet.
- Center turn lane is optional depending on surrounding land use and available right-of-way.
- The minimum width of center turn lanes on arterials is 12 feet. In industrial areas or areas where the truck percentage of average daily traffic is 10% or more within a 12-hour period, center turn lane widths should be increased to a minimum of 14 feet.
- Recommended sidewalk widths are 6 feet.
- Recommended planter strip widths are 5 feet.
- Minimum bike lane widths of 5 feet may be allowed in constrained areas.
- On-street parking is permitted on arterial streets when the roadway speeds are less than 35 mph.



Figure 6: Major Collector Cross-Section Standard

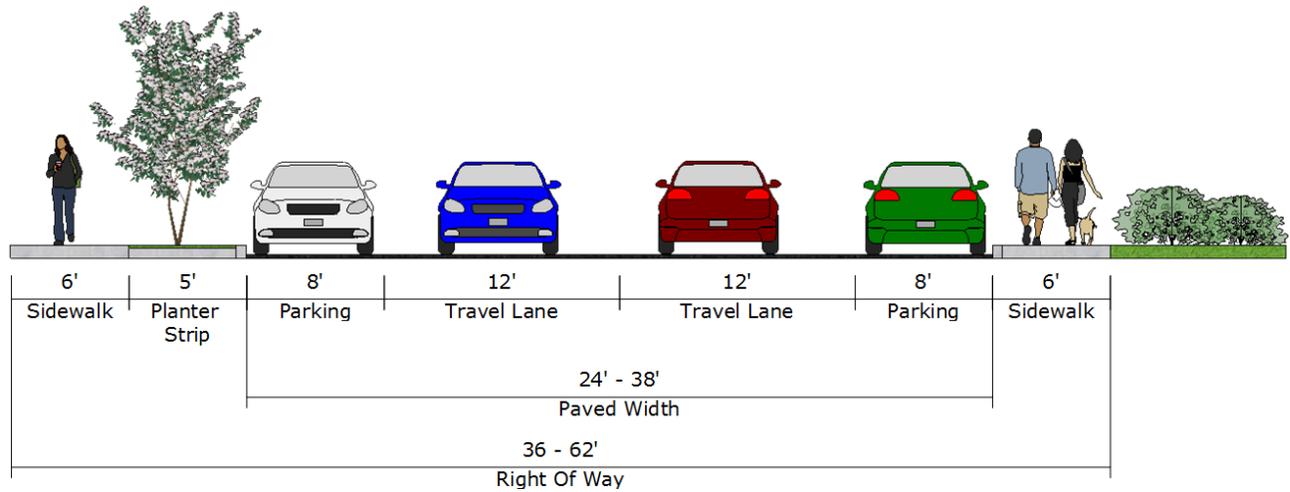


*Optional

- The preferred width of travel lanes on major collectors is 11-12 feet. In industrial areas or areas where the truck percentage of average daily traffic is 10% or more within a 12-hour period, travel lane widths should be increased to 12 feet.
- Recommended center turn lane or left turn pockets at intersections depending on surrounding land use and available right-of-way.
- The preferred width of center turn lanes on major collectors is 12 feet. In industrial areas or areas where the truck percentage of average daily traffic is 10% or more within a 12-hour period, center turn lane widths should be increased to 14 feet.
- Recommended sidewalk widths are 6 feet.
- Preferred setback sidewalk option, curbside sidewalks may be allowed in constrained areas.
- Recommended planter strip widths are 5 feet.
- Minimum bike lane widths of 5 feet may be allowed in constrained areas.
- Striping is necessary on all roads.
- Parking is optional if ROW is available and warranted by surrounding land uses.



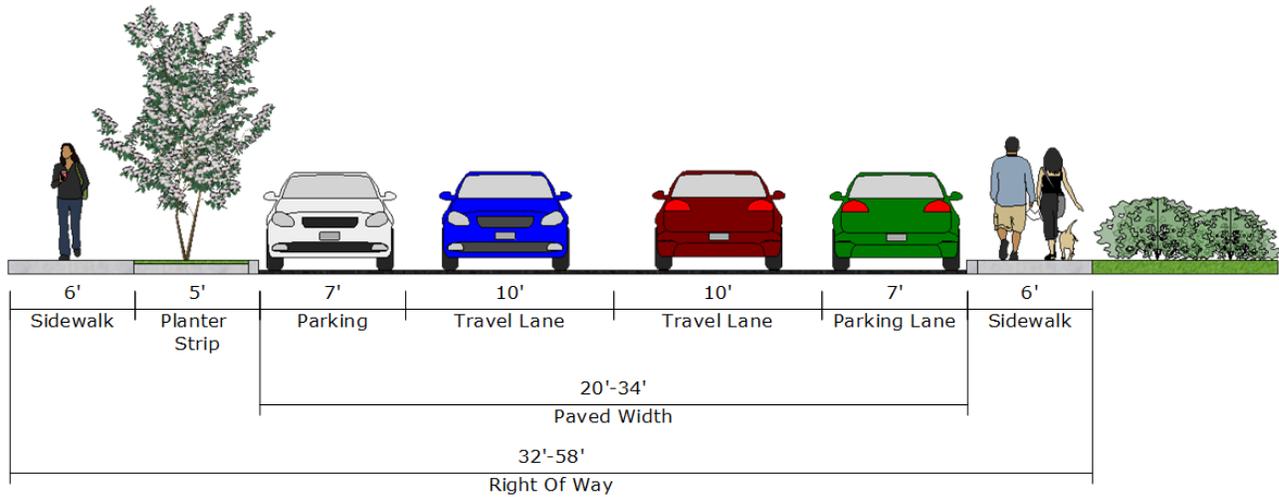
Figure 7: Neighborhood Collector Cross-Section Standard



- The preferred width of travel lanes on neighborhood collectors is 11-12 feet.
- Recommended sidewalk widths are 6 feet.
- Preferred setback sidewalk option, curbside sidewalks may be allowed in constrained areas.
- Recommended planter strip widths are 5 feet.
- On street parking (8-foot width) included on both sides of the street.
- Parking may be allowed on one side only in constrained areas.
- Striping not necessary unless or needed to direct traffic.



Figure 8: Local Street Cross-Section Standard



- Recommended sidewalk widths are 6 feet.
- Preferred setback sidewalk option, curbside sidewalks may be allowed in constrained areas.
- Recommended planter strip widths are 5 feet.
- On-street parking (7 foot width) included on one or both sides of the street.
- Parking may be allowed on one side only in constrained areas.
- Striping is not necessary unless needed to direct traffic.



Planning level right-of-way needs can be determined utilizing these figures. Specific dimensions for roadways with various lane and parking characteristics are detailed in Table 6 for each street classification. These roadway standards are compliant with the Oregon Transportation Planning Rule, which specifies that local governments limit excessive roadway widths.

Under some conditions a variance to the adopted roadway cross-sections may be requested from the Planning Commission.

Typical conditions that may warrant consideration of a variation include (but are not limited to) the following:

- Infill sites
- Innovative designs (roundabouts)
- Severe constraints presented by topography, environmental, or other resources present
- Existing developments and/or buildings that make it extremely difficult or impossible to meet the design standards

Table 6: Typical Roadway Cross-Sections

Street Type	Right-of-Way Width	Curb-to-Curb Paved Width	Within Curb-to-Curb Area				Planter Strips ^B	Sidewalks ^{CD}
			Motor Vehicle Travel Lanes	Median/Center Turn Lanes	Bike Lanes ^A	On-Street Parking		
Minor Arterials	56'-72'	34'-50'	11'-12'	12'-14'	6'	-	5'	6'
Major Collectors	48'-74'	34'-52'	11'-12'	12'-14'	6'	8' (optional)	5'	6'
Neighborhood Collector	36'-62'	24'-38'	11'-12'	-	-	8'	5'	6'
Neighborhood Local Streets	32'-58'	20'-34'	10'-12'	-	-	8'	5'	6'

A – Minimum bike lane widths of 5' may be allowed in constrained areas.
 B – Width includes 6" curb if planter strip is between curb and sidewalk.
 C – Width includes 6" curb unless planter strip is between curb and sidewalk.
 D – Variances may be allowed for gap infill to match existing sidewalk widths.

ACCESS MANAGEMENT

Access management is the control of access points allowed to enter arterial and collector facilities to preserve their functionality and maximize their capacity. Controlling access can reduce congestion and crash rates, providing efficient, safe, and timely travel.

On arterial and collector facilities, excessive driveways erode the capacity of roadways as additional conflict points are introduced at each

driveway location. Reducing or consolidating driveways on these main facilities can decrease collisions and preserve capacity on high volume roads thereby maintaining traffic flow and mobility within the city. Balancing access and good mobility can be achieved through various access management strategies, the first of which is establishing access management spacing standards for driveways and intersections.



JUNCTION CITY ACCESS SPACING STANDARDS

Junction City has established access management regulations through the Municipal Code (Chapter 17.85). These regulations include permitting and site plan review processes, design and spacing standards, and requirements for the provision of inter-parcel circulation and joint access.

The City’s current requirements for access spacing applied to the recommended functional classification system are shown below in Table 7, with spacing measured from centerline to centerline of the intersection. As part of this

TSP update, the minimum access spacing for minor arterials and collectors has been increased to better support the objectives of providing for longer and higher speed trips and to enhanced safety where posted speeds are higher. These changes will require amendments to the Municipal Code. New accesses shall meet or exceed these minimum spacing requirements. However, where no alternatives exist or where strict application of the standards is impractical, the City may allow variances.

Table 7: City of Junction City Access Spacing Standards

Functional Classification	Minimum Access Spacing (ft.)
Minor Arterial	200
Major Collector	100
Neighborhood Collector	25
Local	25

LANE COUNTY AND STATE OF OREGON ACCESS MANAGEMENT STANDARDS

Both Lane County and ODOT maintain access regulations for roadways under their jurisdiction. Lane County’s access regulations are documented in Lane Code Chapter 15.130 through 15.140. Access management regulations for state highways are provided through the *1999 Oregon Highway Plan* and OAR 734-051. The City of Junction City and Lane County have adopted an Access Management Plan as part of the OR 99 Junction City Refinement Plan.² The Access Management Plan applied to OR 99W, OR 99E, and OR 99 from approximately the northern UGB to OR 36

and superseded other access management standards.

Following the adoption of the Access Management Plan, ODOT’s access management regulations changed and some elements of the plan proved to be impractical to implement. In response, the adoption of the Access Management Plan has been repealed, with Policy 6h from this TSP adopted in its place.

² OR 99 Junction City Refinement Plan, 2008.



TRAFFIC SIGNAL COORDINATION AND OPTIMIZATION

The coordination and optimization of traffic signals along key corridors can substantially reduce congestion and travel time, while increasing travel speeds for those traveling along the mainline corridor. Signals along OR 99 are currently coordinated, and any new or improved signal along OR 99 within Junction City shall be added to the coordinated system.

Traffic signal spacing plays a significant role in the ability to successfully coordinate signal timing to achieve efficient progression of traffic.

While no new traffic signals are currently planned within the city, should a new signal be proposed, the signal spacing and coordination should be evaluated and considered.

For proposed signals on ODOT facilities, approval will need to be acquired from ODOT prior to installation. For proposed signals on Lane County facilities, approval will also need to be acquired from Lane County prior to installation.

NEIGHBORHOOD TRAFFIC MANAGEMENT

Neighborhood Traffic Management (NTM) is used to describe strategies that neighborhoods can deploy to slow down traffic and potentially reduce volumes, creating a more inviting environment for pedestrians and cyclists. NTM strategies typically include traffic calming techniques to improve neighborhood livability on local streets.

Mitigation measures for neighborhood traffic impacts must balance the need to manage vehicle speeds and volumes with the need to

maintain mobility, circulation, and function for service providers (e.g., emergency response).

Table 8 lists common NTM applications with a corresponding photo log included in the appendix. Any NTM project should include coordination with emergency response staff to ensure public safety is not compromised. NTM strategies implemented on a state freight route will require consideration and input from ODOT concerning freight mobility.



Table 8: Summary of Neighborhood Traffic Management Strategies

NTM Application	Use by Function Classification			Impact	
	Minor Arterial	Collector	Local	Speed Reduction	Traffic Diversion
Chicanes			✓	✓	✓
Chokers			✓	✓	✓
Curb Extensions	✓	✓	✓	✓	
Diverters (with emergency vehicle pass-through)		✓	✓		✓
Median Islands	✓	✓	✓	✓	
Raised Crosswalks			✓	✓	✓
Speed Cushions (with emergency vehicle pass-through)			✓	✓	✓
Speed Feedback Signs	✓	✓	✓	✓	
Speed Hump			✓	✓	✓
Traffic Circles			✓	✓	✓

Junction City currently does not have a formal neighborhood traffic management program. If such a program were desired to help respond to future issues, suggested elements include:

- Provide a formalized process for citizens who are concerned about the traffic on their neighborhood street. The process could include filing a citizen request with petition signatures and a preliminary evaluation. If the evaluation finds cause for concern, a neighborhood meeting would be held and formal data would be collected and evaluated. If a problem is found to exist, solutions would be identified and the process continued with neighborhood meetings, feedback from service and maintenance providers, cost evaluation, and traffic calming device implementation. Six months after implementation the device would be evaluated for effectiveness.
- For land use proposals, in addition to assessing impacts to the entire transportation network, traffic studies for new developments must also assess impacts to residential streets. A recommended threshold to determine if this additional analysis is needed is if the proposed project increases through traffic on residential streets by 20 or more vehicles during the evening peak hour or 200 vehicles per day. Once the analysis is performed, the threshold used to determine if residential streets are impacted would be if their daily traffic volume exceeds 1,200 vehicles.



POTENTIAL SPEED REDUCTIONS

The Junction City Police Department and community members have expressed safety concerns related to roadway speeds throughout Junction City. It is recommended that speed studies be undertaken as necessary to address the concerns of the community. Corridors of concern include:

- Prairie Road between 1st Avenue and OR 99
- Bailey Lane
- Pitney Lane
- 1st Avenue between Prairie Road and Oaklea Drive
- 18th Avenue between OR 99 and Oaklea Drive
- OR 99E and OR 99W headed southbound approaching Junction City
- OR 99 between 1st Avenue/River Road and OR 36

LOCAL STREET CONNECTIVITY

Local street connectivity is required by the state Transportation Planning Rule (OAR 660-012) and is important for the continued development of Junction City. Improvement to local street connectivity is easier to implement in newly developing areas, however, retrofitting existing areas to provide greater connectivity should also be attempted. Providing good street connectivity has many benefits, such as:

- Reducing citywide vehicle miles traveled (VMT)
- Avoiding the need for road widening by balancing traffic loading on streets
- Making travel by walking or cycling easier and faster
- Reducing emergency vehicle response times

The existing street connectivity in Junction City varies as the network gets further away from the downtown core. The downtown area is well developed with a connected grid system, which is only limited in some locations near the Portland & Western and Union Pacific Railroads on the east side of OR 99. Many of the newer

neighborhoods outside of the downtown core have been designed to provide good street connectivity, but some neighborhoods in the area between Maple Street, 1st Avenue, Oaklea Drive, and 18th Avenue have been designed with many dead-end streets.

Figure 4 shows a Local Street Connectivity Plan and specifies the general locations where new local street connections should be made as areas continue to develop. The connection locations are approximate and were located to reduce neighborhood impacts by balancing traffic on neighborhood routes. Locations were also selected considering the Goal 5 resources and efforts were made to avoid impacting environmental features, topography, and the existing built environment.

As future development occurs, such as in the undeveloped residential land in the northwest corner of Junction City, and in the undeveloped industrial land to the south along the east side of OR 99, the local street network must be designed to maintain good connectivity where



feasible. In planning for future development, the following objectives shall be applied.

- In residential zones, a block pattern that supports good pedestrian connectivity shall be maintained; the maximum block length and perimeter shall not exceed 600 feet and 1,600 feet, respectively.
- In industrial zones, large blocks may be necessary to support industrial development; no maximum block length or perimeter will be established, except where new collector or arterial roadways are planned.
- In all other zones, the maximum block length and perimeter shall not exceed 800 feet length and 2,600 feet perimeter, respectively.
- Pathways (for pedestrians and bicycles) shall be provided at or near mid-block where the block length exceeds 600 feet in length. Pathways shall also be provided where cul-de-sacs or dead-

end streets are planned, to connect the ends of the streets together, to other streets, and/or to other developments, as applicable. Dead-end streets or cul-de-sacs shall be no more than 200 feet long and shall only be used when environmental or topographical constraints, existing development patterns, or compliance with other standards in the City's code preclude street extension and through circulation.

To protect existing neighborhoods from the potential traffic impacts caused by extending stub end streets, the design and construction of connector roadways shall evaluate if neighborhood traffic management strategies are necessary. In addition, when a development constructs stub streets, the city shall require the installation of signs indicating the potential for future connectivity to increase awareness of residents.

MOTOR VEHICLE SYSTEM IMPROVEMENTS

The following section presents transportation improvement projects to address motor vehicle travel needs. Four categories of motor vehicle projects were identified for Junction City:

- **New Roadways or Roadway Extensions:** Key new roadway connections are identified that provide improved connectivity and access, especially for developing areas.
- **Roadway Modernizations:** This includes upgrading roadways to current standards that may include wider lanes, shoulders, curbs, sidewalks, bicycle facilities, or turn lanes. The functional right-of-way is typically widened to accommodate enhancements, but actual right-of-way changes and potential property acquisitions vary by location.
- **Safety Improvements:** Improvements are suggested for locations where safety concerns have been identified.
- **Traffic Operations Improvements:** Improvement projects have been identified for locations where motor



Junction City Transportation System Plan

vehicle delays are expected to be most significant by the year 2036.

locate improvements on Figure 9. The project descriptions include key benefits for use in future grant applications and strategic planning.

Recommended projects are described in Table 9, which includes Project ID numbers to help

Table 9: Motor Vehicle Improvements

Project ID	Project Description	Probable Construction Costs ^{###}
<i>New Roadways/Roadway Extensions</i>		
MV1	W 6th Avenue: Oaklea Drive to west: Extend W 6 th Avenue as a new Major Collector Street from Oaklea Drive to new north-south Collector Street (see MV4) Key Benefits: Connectivity	\$4,190,000
MV2	W 10th Avenue: Oaklea Drive to west: Extend W 10 th Avenue as a new Major Collector Street from Oaklea Drive to west UGB Key Benefits: Connectivity	\$10,100,000
MV3	New Collector Street: North UGB to W 10 th Avenue: Construct new Major Collector Street extending from the North UGB to the W 10 th Avenue extension (see MV2) Key Benefits: Connectivity	\$5,560,000
MV4	New Collector Street: North UGB to High Pass Road: Construct new Neighborhood Collector Street west of Oaklea Drive extending from the North UGB to High Pass Road Key Benefits: Connectivity	\$11,730,000
MV5	New Collector Street: West UGB to MV4: Construct new Neighborhood Collector Street from west UGB to other New Collector Street (see MV4) Key Benefits: Connectivity	\$6,380,000
MV6	New Frontage Road east of PNWR railroad: E 1 st Avenue to Prairie Road: Construct new Neighborhood Collector Street between Portland & Western and Union Pacific railroads. Project should include railroad crossing closures where feasible Key Benefits: Connectivity, Mobility, Safety	\$16,535,000
MV7	Prairie Meadows Avenue: Extend west to Pitney Lane: Construct to match existing segment of Prairie Meadows Avenue (would not meet new Neighborhood Collector Street standard, but provides consistency with established construction) Key Benefits: Connectivity	\$1,200,000
MV8	Coral Street: Extend west to Pitney Lane: Construct to match existing segment of Coral Street (at a minimum build to Neighborhood Collector Street standard) Key Benefits: Connectivity	\$1,950,000



Junction City Transportation System Plan

Project ID	Project Description	Probable Construction Costs ^{###}
MV9	<p>Hatton Lane: Extend west to Prairie Road: Phase 1: Acquire right-of-way for Hatton Lane extension to Prairie Road, and construct a pedestrian and bicycle connection (see SLM6). Phase 2: Extend Hatton Lane as a new Collector Street connecting Prairie Road to OR 99.</p> <p>Key Benefits: Connectivity</p>	<p>Phase 1: \$210,000</p> <p>Phase 2: \$655,000</p>
Roadway Modernizations		
MV10	<p>Meadowview Road: OR 99 to East UGB: Construct to Major Collector standards including bike lanes on both sides and sidewalk only on the north side.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Livability</p>	\$2,480,000
MV11	<p>Oaklea Drive[#]: W 18th Avenue to W 1st Avenue/High Pass Road: Construct to Major Collector standards including left turn pockets, bike lanes, and sidewalks.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Livability, Auto Mobility</p>	\$7,190,000
MV12	<p>W 1st Avenue/High Pass Road^{**}: Oaklea Drive to OR 99: Construct to Major Collector standards including left turn lane, bike lanes, and sidewalks.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Safe Routes to School, Safety, Livability, Auto Mobility</p>	\$6,070,000
MV13	<p>E 1st Avenue/River Road[#]: OR 99 to East UGB: Construct to Major Collector standards including center turn lane, bike lanes, and sidewalks.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Livability, Auto Mobility</p>	\$4,270,000
MV14	<p>W 6th Avenue[#]: Oaklea Drive to Timothy Street: Construct to Major Collector standards including bike lanes and sidewalks.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Safe Routes to School, Livability</p>	\$1,735,000
MV15	<p>W 18th Avenue[#]: Oaklea Drive to Juniper Street: Construct to Major Collector standards including bike lanes on both sides and sidewalk only on the south side (no center turn lane).</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Livability, Auto Mobility</p>	\$2,585,000
MV16	<p>E 18th Avenue[#]: OR 99 to East UGB: Construct to Major Collector standards including bike lanes and sidewalks.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Livability</p>	\$1,625,000
MV17	<p>Prairie Road[#]: W 1st Avenue to Bailey Lane: Construct to Major Collector standards including bike lanes and sidewalks.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Safe Routes to School, Livability</p>	\$3,730,000
MV18	<p>Prairie Road[#]: Bailey Lane to OR 99: Construct to Major Collector standards including bike lanes and sidewalks. Do not construct sidewalks where adjacent to UGB.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Livability</p>	\$4,415,000
MV19	<p>Prairie Road[#]: OR 99 to East UGB: Construct to Major Collector standards including bike lanes and sidewalks.</p> <p>Key Benefits: Pedestrian/Bicycle Connectivity, Livability</p>	\$1,730,000



Junction City Transportation System Plan

Project ID	Project Description	Probable Construction Costs ^{###}
MV20	Pitney Lane[#]: W 1 st Avenue/High Pass Road to Bailey Lane: Construct to Major Collector standards including bike lanes on both sides and sidewalk only on the east side (no center turn lane). Key Benefits: Pedestrian/Bicycle Connectivity, Livability	\$2,665,000
MV21	Milliron Road[#]: West UGB to East UGB: Construct to Major Collector standards including bike lanes and sidewalks. Key Benefits: Pedestrian/Bicycle Connectivity, Livability	\$2,105,000
MV22	Bailey Lane: West UGB to Prairie Road: Construct Major Collector standards including left turn lanes, bike lanes on both sides, and sidewalk. Key Benefits: Pedestrian/Bicycle Connectivity, Livability, Auto Mobility	\$1,250,000
MV23	W 1st Avenue/High Pass Road[#]: West UGB to Oaklea Drive: Construct Major Collector standards including left turn lanes, bike lanes on both sides, and sidewalk only on the north side. This includes a segment that is entirely outside of the UGB, but is needed for connectivity. Key Benefits: Pedestrian/Bicycle Connectivity, Livability, Auto Mobility	\$3,830,000
Safety Improvements		
MV24	Restripe E 6th Avenue: OR 99 to Front Street: Convert from front-facing angle parking to parallel parking to provide consistent center-line. Key Benefits: Safety, Safe Routes to School	\$10,500
MV25	OR 99 Traffic Signal Upgrades: OR 99E/OR 99W, OR 99/OR 36, and OR 99/Milliron Road: Upgrade signal head backplates with retroreflective borders. The remaining signal head upgrades are captured under the crossing improvement projects for the signals at OR 99/10 th , OR 99/6 th , and OR 99/1 st . Key Benefits: Safety	\$10,000
MV26	Oaklea Drive/ W 18th Avenue: Improve sight distance for northbound approach to the intersection. Key Benefits: Safety	\$55,000
Traffic Operations Improvements		
MV27	Maple Road/Prairie Road intersection with W 1st Avenue/High Pass Road: Realign north and south approaches of intersection and add left turn lanes on all approaches. Key Benefits: Safety, Safe Routes to School, Auto Mobility	\$1,175,000
MV28	OR 99 Traffic Signal Optimization: OR 99E/OR 99W junction to Milliron Rd: Periodically review traffic signal timings along OR 99 to optimize operations as needed to respond to changes in traffic volumes. Key Benefits: Auto Mobility	\$30,000
Total Cost		\$105,761,500

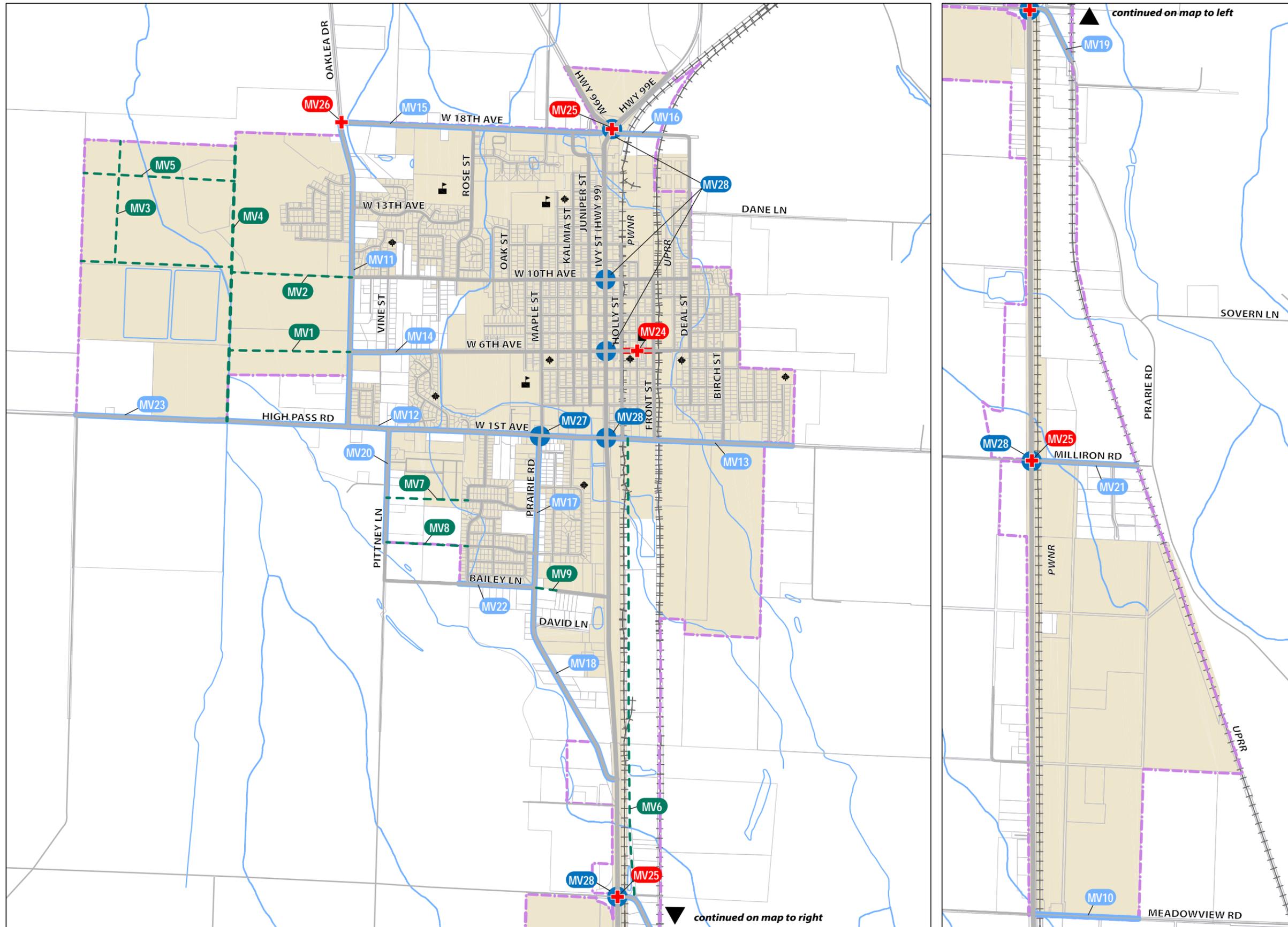
*Impacts to historical cemetery must be considered in any widening plans along High Pass Road. [#]Identified in Lane County TSP.

^{###}Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.

Junction City Transportation System Plan

FIGURE 9

Proposed Motor Vehicle Network Improvements



Legend

Network Improvements

- XX MOTOR VEHICLE PROJECT NUMBER
- ROADWAY MODERNIZATION
- - - NEW ROADWAYS/ROADWAY EXTENSIONS
- + SAFETY IMPROVEMENTS
- TRAFFIC OPERATIONS IMPROVEMENTS

Roadways

- ARTERIAL
- MAJOR COLLECTOR
- MINOR COLLECTOR
- LOCAL

CITY LIMITS

- URBAN GROWTH BOUNDARY

TAX LOTS

- TAX LOTS

RAILROAD

- ++ RAILROAD

STREAM

- STREAM

Places of Interest

- CITY HALL
- PARK
- PUBLIC SCHOOL



continued on map to left

continued on map to right



IMPROVEMENTS TO THE OR 99 CORRIDOR FOR FUTURE CONSIDERATION

The OR 99 Junction City Refinement Plan, which was adopted by the City in 2008, identified a need for significant improvements through the OR 99 corridor to relieve congestion. These improvements were reconsidered during the development of solutions for this TSP update. The recent economic downturn had resulted in a substantial decrease in traffic volumes along the highway and the need for the improvements identified in the OR 99 Junction City Refinement Plan could no longer be

demonstrated through the 20-year planning horizon.

As the economy recovers, and traffic volumes continue to grow, it is likely that at some time beyond the planning horizon of this TSP (2036), the need for those OR 99 improvements will return. They are not included in the Motor Vehicle System Plan improvements for this TSP, but are included in the appendix for future reference.

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) describes actions intended to remove single occupancy vehicle trips from the roadway network during peak travel demand periods. The goal of TDM is to reduce vehicle miles traveled (VMT) and promote alternative modes of travel. Shifting peak travel demands on roadways means that the existing roadway capacity can be used more efficiently, which could mean that Junction City may avoid or delay building new or wider roads. A wide variety of TDM strategies exist, and it's important to tailor those strategies to meet the needs of a smaller urban community.

TDM strategies may be considered as an alternative to constructing capacity improvements to mitigate impacts from proposed development where the improvements would be cost prohibitive or result in undesirable impacts to adjacent land.

Table 10 is a list of potential TDM strategies the City will consider implementing as needed, including descriptions of their potential for trip reduction during peak travel periods.



Table 10: Potential Transportation Demand Management Strategies

Strategy	Description	Potential Trip Reduction
Telecommuting	Employees perform regular work duties at home rather than commuting from home to work. This may be full time or on selected work days. This can require computer equipment to be most effective.	82-91% (Full Time) 14-36% (1-2 Days/Week)
Compressed Work Week	Schedule where employees work their regular scheduled number of hours in fewer days per week.	7-9% (9 day/80 hr) 16-18% (4 day/40 hr) 32-36% (3 day/36 hr)
Transit Pass Subsidy	For employees who take transit to work on a regular basis, the employer pays for all or part of the cost on a monthly transit pass.	19-32% (Full subsidy of cost, high transit service) 4-6% (Full subsidy of cost, medium transit service) 0.5-1% (Full subsidy of cost, low transit service) 10-16% (Half subsidy of cost, high transit service) 2-3% (Half subsidy of cost, medium transit service) 0-0.5% (Half subsidy of cost, low transit service)
Reduced Cost or Preferential Parking for HOVs	Parking costs charged to employees are reduced for carpools and or vanpools. Employer provides reserved prime location parking spots for HOV commuters.	1-3%
Alternate Mode Subsidy	For those employees that commute to work by a mode other than driving alone, the employer provides a monetary bonus to the employee.	21-34% (Full subsidy, high transit service) 5-7% (Full subsidy, medium transit service) 1-2% (Full subsidy, low transit service) 10-17% (Half subsidy, high transit service) 2-4% (Half subsidy, medium transit service) 0.5-1% (Half subsidy, low transit service)
On-Site Services	Provide services at the work site that are frequently used by the employees of that work site. Examples include cafes/restaurants, dry cleaners, day care centers, and bank machines.	1-2%
Bicycling Program	Provides support services to those employees that bicycle to work. Examples include: safe/secure bicycle storage, shower facilities, and subsidy of commute bicycle purchase.	0-10%
On-Site or Public Rideshare Matching for Carpools and Vanpools	On-Site: Employees who are interested in carpooling or vanpooling provide information to a transportation coordinator on staff regarding their work hours, availability of a vehicle and place of residence. The coordinator then matches employees who can reasonably rideshare together. Public: Public entity (city, transit agency, region, state) provides an interactive website for carpool matching.	1-2% (Without support strategies) 6-8% (With support strategies)
Provide Vanpools	Employees that live near each other are organized by their employer into a vanpool for their trip to work. The employer may subsidize the cost of operation and maintain the van.	15-25% (Company-provided vans with a fee) 30-40% (Company-subsidized vans)
Gifts/Awards for Alternative Mode Use	Employees are offered the opportunity to receive a gift or an award for using modes other than driving alone.	0-3%
Employer Bus	Employer provides a bus service specifically to transport employees to work.	3-11%



Junction City Transportation System Plan

Strategy	Description	Potential Trip Reduction
Walking Program	Provide support services for those who walk to work. This could include buying walking shoes or providing lockers and showers.	0-3%
Time Off with Pay for Alternative Mode Use	Employees are offered time off with pay as an incentive to use alternative modes.	1-2%
Company Cars for Business Travel	Employees are allowed to use company cars for business-related travel during the day.	0-1%
Guaranteed Ride Home Program	A company owned or lease vehicle or taxi fare is provided in the case of an emergency for employees that use alternative modes.	1-3%

Source: Employee Commute Options (ECO) Sample Trip Reduction Plan, Oregon Department of Environmental Quality, 2006.

In addition to providing transit service to Junction City, Lane Transit District provides both carpooling and vanpooling as alternative transportation options as part of their Point2Point initiative.³ Carpooling can also be realized through a program called Drive less. Connect.⁴, which helps to match those people interested in carpooling. Valley VanPool is a service provided by the combined efforts of Cascades West Rideshare, Chariots Rideshare, and Lane Transit District's Commuter Solutions Program. Currently Valley VanPool has 41 routes traversing all across the Willamette Valley.⁵

For larger employers, scheduling shift changes to minimizing traffic impacts during peak travel periods can also be a very effective TDM strategy. An example would be maintaining regular working hours from 7 a.m. to 4 p.m. when the peak travel period of the city is closer to 5 p.m.

Junction City will encourage employers with more than 50 employees to designate an Employee Transportation Coordinator (ETC).

This coordinator would be a liaison between the City and the employer, and would encourage alternative transportation options (transit, walking, cycling) to new employees.

³ Point2Point June 19, 2013. Web address: <http://www.point2pointsolutions.org/>

⁴ Drive less. Connect. October 18, 2012. Web address: <http://drivelessconnect.com/>.

⁵ Valley VanPool. October 18, 2012. Web address: <http://www.valleyvanpool.info/vanpool.htm>.



CHAPTER 7: OTHER MODAL PLANS

The existing condition of accommodations for transit, rail, air, pipeline, and waterway transportation in Junction City was described in a technical memorandum that has been included in the appendix. The City does not own or operate facilities or programs related to these modes of travel, but can support them through adoption of policies and construction of complimentary improvements. This chapter summarizes services available for transit, rail, air, pipeline, and waterway transportation and offers recommendations for improvements for some modes.



TRANSIT PLAN

Increasing the availability and use of transit service in Junction City is one way to remove single occupancy vehicles from the roadway. It also provides mobility to those without access to private vehicles.

Lane Transit District (LTD) provides fixed-route public transit service to Junction City from the Eugene area. Junction City is served by Route 95, which is a rural route, and has approximately 10 stop locations within the Junction City UGB. The route picks up Monday through Friday with three times in the morning, and midday and twice in the evening. The route picks up twice in the morning and once midday on Saturday. The route picks up once in the morning and evening on Sundays.

LTD also provides a paratransit service, which is operated through a program called RideSource. The service boundary for RideSource is the Eugene-Springfield Metropolitan Planning Organization (MPO). Junction City would need to join the MPO to receive complementary

paratransit service from RideSource. However, paratransit service is available for residents in Junction City receiving Medicaid. The Federal Transit Authority does provide grants to support public transportation in rural areas with populations of less than 50,000. The grants are awarded annually and provide funding for both operation and capital improvements.

To support increased availability and use of transit in the future, the City will take the following actions:

- As new areas develop within the city, particularly to the west, the City will actively engage LTD to discuss the ability to meet new service demands. These needs could include increased frequency of service, changes in the route alignment to increase accessibility for users, or potentially identifying a new park & ride location.
- The City will apply for grants to provide broader access to paratransit service.



- The City will prioritize improvements to the pedestrian and bicycle systems that would enhance the accessibility of

existing transit stops (e.g., C6, SW2, SW3).

RAIL PLAN

Junction City has two freight rail service tracks running north-south, east of OR 99. Both the Union Pacific Railroad (UPRR) and the Portland & Western Railroad (PNWR) operate within the city with a total of 23 crossings (UPRR has 7 crossings and PNWR has 16 crossings). The UPRR line is the main freight line and trains typically travel at speeds up to 79 mph through town roughly 15 times per day. The PNWR is a smaller line and train speeds vary from 10 mph to 40 mph through town with one to two trains per day.

Railroad crossing controls vary between the UPRR and PNWR lines. The UPRR line, which runs parallel to the east side of Front Street and operates at much higher speeds and frequency, uses both gates and some type of flashing lights at all of its seven crossing in town. Plans are currently being formed to put fencing along the tracks through Junction City to channelize pedestrians to safe crossing locations.

The PNWR runs just east of OR 99 and down the middle of Holly Street. Traffic controls used include cross bucks, stop signs, or other signs or signals. The highly used intersection of 6th Avenue at Holly Street has crossing gates. Ultimately, the City would like to see the tracks

along Holly Street removed, with service relocated to another corridor. This could include consolidation of services along the existing UPRR railroad.

Junction City has identified improvements that they would like to see occur with both the UPRR and PNWR rail lines, which are listed below. These improvements will require coordination with both rail lines.

- Along UPRR alignment, install fencing to limit pedestrian crossings and channel pedestrians to safe crossing locations.
- Improve pavement conditions along rail crossing locations. Rail crossings often create hazardous barriers for pedestrians and cyclists due to pavement disrepair and gaps between rails and pavement where bicycle, wheelchair, and walker wheels can become stuck.
- Ultimately Junction City would like the PNWR line that has tracks down Holly Street removed and relocated to another corridor.



AIR PLAN

The City of Junction City does not have its own airport or other air service facilities within the UGB. The closest major airport to Junction City is the Eugene Airport, which is located approximately five miles south of the city and provides service for both passengers and freight. The Eugene airport is the second largest

airport in the state of Oregon and is the largest non-hub airport in the nation. The airport provides regular direct service to Portland, Seattle, San Jose San Francisco, Oakland, Los Angeles, Denver, Salt Lake City, Las Vegas, and Phoenix-Mesa.

PIPELINE PLAN

Northwest Pipeline Company operates a major regional natural gas transmission line between Portland and Eugene, which passes through Junction City along railroad right-of-way. Northwest Natural Gas distributes the gas in the Junction City area. This six-inch high-pressure main interconnects storage facilities in the state, as well as interstate sources.

Kinder Morgan operates an eight-inch major petroleum transmission pipeline, which also runs along the railroad right-of-way. It extends from Portland to Eugene and has been in operation since 1962. This pipeline is a common carrier, designed to handle alternately gasoline, biodiesel, or diesel fuel. It currently transmits

approximately 45,000 barrels of fuel per day to Eugene (roughly equivalent to 210 tanker trucks of fuel). From Eugene, it is distributed by truck to end destinations or for storage in tank facilities nine miles south of Junction City.

No actions are proposed in this TSP directly involving pipeline facility use. However, the City must coordinate with pipeline operators prior to making improvements that cross railroad right-of-way (e.g., C3, MV6, MV10, MV13, MV16, MV19, MV21).

WATERWAYS PLAN

No navigable waterways exist within the Junction City urban growth boundary. The Willamette River runs north-south approximately three miles east of the study area.



CHAPTER 8: FUNDING AND IMPLEMENTATION

This chapter discusses the financial and regulatory needs associated with implementation of this Transportation System Plan.



PROJECTED FUNDING FOR TRANSPORTATION IMPROVEMENTS

Projecting the revenue assumed to be available for capital projects helps to provide an understanding of the City's capacity for constructing the transportation improvements identified to be needed to support future growth. Future projections for Junction City's transportation funding through the year 2036 are described in a memorandum included in the appendix. These projections include estimated resources available based on the amount of revenue collected in the past from current funding sources and assumptions for growth in land development through the planning horizon. Expenditures have also been estimated based on historical data describing costs associated with maintaining the existing transportation system.

Table 11 summarizes future transportation funding projections for Junction City through the year 2036. As shown, Junction City may have approximately \$3 million available for capital improvements through 2036, but at the same time may be more than \$600,000 short of being able to cover expenses for basic maintenance and operations during the same period (equating to about \$25,000 per year). The reason for this discrepancy is because revenue generated by System Development

Charges can only be spent on capacity building projects, not on maintenance and operations.⁶

This suggests that the City's current revenue streams are inadequate to support basic costs for keeping the transportation system functioning. Deferred maintenance of the transportation system can exponentially increase the costs of repairs in the future. Therefore, rather than relying on grants or the City's general fund to make up the difference, new local revenue streams should be considered.

⁶ Junction City Municipal Code 13.40.060 and 13.40.070, as well as ORS 223.307



Table 11: Estimate of Funding Availability Through 2036

Transportation Revenue	Annual Average	Total through 2036
OR Gas Tax - Bike Component ^A	\$2,300	\$57,500
OR Gas Tax - Streets Component ^B	\$220,700	\$5,517,500
Sidewalk Permits ^C	\$2,560	\$64,000
System Development Charges ^D	\$120,800	\$3,020,000
Fund Balance (Current Existing)	NA	\$1,178,000
		\$9,837,000
Expenditures for Basic Maintenance and Operations	Annual Average	Total through 2036
Personnel (Wages, Benefits, Etc.)	\$164,700	\$4,117,500
Equipment, Materials, & Services	\$125,200	\$3,130,000
Street Maintenance & Repairs	\$8,200	\$205,000
		\$7,452,500
Available Balance for Basic Maintenance and Operations ^D		
Available Balance for Capital Improvement Projects		\$

^A Can only be applied toward construction or maintenance of pedestrian and bicycle facilities (ORS 366.514).

^B Can be applied toward construction, maintenance, or operations of the transportation system.

^C Likely spent entirely on administrative costs of sidewalk construction inspection.

^D System Development Charges cannot be applied toward maintenance and operations and are for capacity building projects only.

FINANCIALLY CONSTRAINED PLAN

The Preferred Plan consists of all transportation improvements identified to meet future needs through the year 2036. The Financially Constrained Plan is a subset of this plan that aligns with anticipated funding. The Financially Constrained Plan is commonly used to populate the City’s Capital Improvement Program (CIP). However, any project from the Preferred Plan is eligible for inclusion on the CIP.

Projects for the Financially Constrained Plan were selected based on priorities expressed by the Citizen Advisory Committee and input obtained through a public open house. As a result, the Financially Constrained Plan puts a strong emphasis on walking and biking facilities that support safe routes to schools and improvements in the safety and efficiency of travel along OR 99. Table 12 summarizes the total costs to fund the Preferred and Financially

Constrained Plans. The Financially Constrained Plan consists of less than 5% of the total Preferred Plan, with most of the difference being in Motor Vehicle mode projects. The allocation of funding for the Financially Constrained Plan has been well balanced between modes of travel, as shown at right.

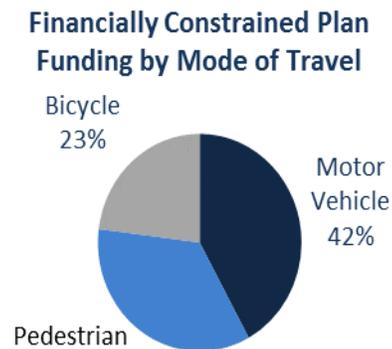




Table 12: Preferred and Financially Constrained Plan Costs (2016 – 2036)

Transportation Mode	Planning-Level Costs (2016 Dollars)	
	Preferred Plan	Financially Constrained Plan
Pedestrian	\$4,945,000	\$930,000
Shared Pedestrian/Bicycle		
<i>Crossings</i>	\$385,000	\$60,000
<i>Shared-Use Paths</i>	\$3,680,500	\$195,000
Bicycle	\$690,000	\$570,000
Motor Vehicle	\$104,245,500	\$1,241,750
Total Cost	\$113,946,000	\$2,996,750
Difference between Preferred and Financially Constrained Plans		\$100,949,250,

Individual projects included in the Financially Constrained Plan for all transportation modes are identified in Tables 13 through 17. Estimated costs for each project are provided, including a portion of the project costs assumed to be the responsibility of the City, which is included in the Financially Constrained Plan budget. Because many roadways in Junction City are under the jurisdiction of Lane County or ODOT, there may be opportunities to have those agencies contribute funds for some

projects. It has also been assumed that a portion of some projects may be constructed as frontage improvements by future development where adjacent land is currently undeveloped. These assumptions are noted in Tables 13 through 17, and are strictly an aid for establishing a long-range transportation budget for Junction City. They do not create an obligation for any parties listed to contribute funds.

Table 13: Financially Constrained Plan Sidewalk Infill/Construction Projects

Project ID	Project Description	Probable Construction Costs*	Financially Constrained Plan Budget
SW2	W 10 th Ave: Oaklea Dr to Maple St - Sidewalk construction/infill	\$610,000	\$610,000
	<i>Key Benefits: Pedestrian Connectivity, Safe Routes to School</i>		
SW3	W 6 th Ave: Timothy St to Pine Ct - Sidewalk construction/infill	\$320,000	\$320,000
	<i>Key Benefits: Pedestrian Connectivity, Safe Routes to School</i>		
Financially Constrained Plan			\$930,000

* Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.



Junction City Transportation System Plan

Table 14: Financially Constrained Plan Intersection Crossing Improvements

Project ID	Project Description	Probable Construction Costs*	Financially Constrained Plan Budget (Potential Funding Partners)**
C3	E 10th Ave/Front St: Connect existing sidewalk on north side of E 10 th Ave to provide an accessible railroad crossing. Replace curb ramps on all corners to meet ADA standards.	\$30,000	\$30,000
	Key Benefits: Safety, ADA Accessibility, Safe Routes to School, Pedestrian/Bicycle Connectivity		
C6	W 1st Ave/Prairie Rd/Maple St: As an interim improvement, construct curb extensions on the opposing west corner of Maple Street and east corner of Prairie Road to enhance pedestrian visibility and shorten the crossing distance.	\$30,000	\$30,000
	Key Benefits: Safety, Safe Routes to School, Pedestrian/Bicycle Connectivity		
C7	W 10th Ave/OR 99: Enhance pedestrian crossing by upgrading pedestrian signal heads to countdown pedestrian signals. Upgrade pedestrian signals by using audible signals. Upgrade signal head backplates with retroreflective borders.	\$20,000	No City funds designated from Financially Constrained budget. Assumed funded by grants or other funding partners. (Potential funding partners: ODOT)
	Key Benefits: Safety, ADA Accessibility, Safe Routes to School		
C8	W 6th Ave/ OR 99: Install intersection lighting (currently no lighting on mast arms). Enhance pedestrian crossing by upgrading pedestrian signal heads to countdown pedestrian signals. Upgrade pedestrian signals by using audible signals. Upgrade signal head backplates with retroreflective borders.	\$35,000	No City funds designated from Financially Constrained budget. Assumed funded by grants or other funding partners. (Potential funding partners: ODOT)
	Key Benefits: Safety, ADA Accessibility, Safe Routes to School		
C9	W 1st Ave /OR 99: Enhance pedestrian crossing by upgrading pedestrian signal heads to countdown pedestrian signals. Upgrade pedestrian signals by using audible signals. Upgrade signal head backplates with retroreflective borders.	\$20,000	No City funds designated from Financially Constrained budget. Assumed funded by grants or other funding partners. (Potential funding partners: ODOT)
	Key Benefits: Safety, ADA Accessibility, Safe Routes to School		
C11	OR 99 from 18th Ave to 1st Ave: Install pedestrian activated crossing treatments on OR 99. Consider including Rectangular Rapid Flashing Beacons (RRFBs), advanced stop bars, curb ramps, and striped crosswalks at mid-block locations between:	\$140,000	No City funds designated from Financially Constrained budget. Assumed funded by grants or other funding partners. (Potential funding partners: ODOT)
	<ul style="list-style-type: none"> • 15th Ave and 12th Ave, • 9th Ave and 7th Ave, and • 5th Ave and 3rd Ave. 		



Junction City Transportation System Plan

Project ID	Project Description	Probable Construction Costs*	Financially Constrained Plan Budget (Potential Funding Partners)**
C12	Education: Many free educational materials are available. Coordinate with the Oregon Department of Transportation, Junction City School District, and Junction City Police Department to implement safety education programs including pedestrian crossing education for school children.	Variable	City staff time, but negligible expenses (Potential funding partners: ODOT)
	Key Benefits: Safety, Safe Routes to School		
Financially Constrained Plan			\$60,000

* Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.

** Identification of potential funding contributors is for budgeting purposes only and does not create an obligation for funding from parties listed.

*** The installation of RRFBs requires an investigation and approval from the State Traffic-Roadway Engineer. Any mid-block improvements on a State Freight Route will require review concerning freight mobility. The National Cooperative Highway Research Program (NCHRP) Report 572 outlines a process to identify the appropriate type of crossing treatment at unsignalized locations. It was envisioned that RRFBs would be installed, but a pedestrian activated beacon or signal could also be the appropriate treatment.

Table 15: Financially Constrained Plan Shared-Use Path Alignments

Project ID	Project Description	Probable Construction Costs*	Financially Constrained Plan Budget (Potential Funding Partners)**
SUP1	Southern Edge of Junction City High School, Connecting Existing Shared-Use Path to Maple Street: Alignment may require right-of-way or easement.	\$195,000	\$195,000
	Key Benefits: Pedestrian/Bicycle Connectivity, Safe Routes to School, Livability		
Financially Constrained Plan			\$195,000

* Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.

** Identification of potential funding contributors is for budgeting purposes only and does not create an obligation for funding from parties listed.



Table 16: Financially Constrained Plan Bicycle Facility Improvements

Project ID	Project Description	Probable Construction Costs*	Financially Constrained Plan Budget (Potential Funding Partners)**
BL1	Rose St: W 18 th Ave to W 13 th Ave: Bike Lanes - Roadway would need to be restriped to remove on-street parking.	\$65,000	\$65,000
	Key Benefits: Bicycle Connectivity, Safe Routes to School		
BL2	W 6 th Ave: Timothy Pl to OR 99: Bike Lanes - Need to restripe roadway to include 8' parking aisles, 6' bike lanes, 11' travel lanes.	\$125,000	\$125,000
	Key Benefits: Bicycle Connectivity, Safe Routes to School		
BL3	W 10 th Ave: Oaklea Dr to Nyssa St: Bike Lanes - Roadway would need to be restriped to remove on-street parking. Need community feedback about utilization of existing on-street parking.	\$125,000	\$125,000
	Key Benefits: Bicycle Connectivity, Safe Routes to School		
BL4	E 6 th Ave: Front St to Birch St: Bike Lanes - Would need to restripe roadway to include 8' parking aisles, 6' bike lanes, 11' travel lanes.	\$50,000	\$50,000
	Key Benefits: Bicycle Connectivity, Safe Routes to School		
BL5	W 10 th Ave: Nyssa St to OR 99: Bike Lanes – Would require parking removal on one side of the street to include one 8' parking aisle, 6' bike lanes, 11' travel lanes. Need community feedback about utilization of existing on-street parking.	\$60,000	\$60,000
	Key Benefits: Bicycle Connectivity, Safe Routes to School		
BL6	Birch St: E 1 st Ave to E 6 th Ave: Bike Lanes - Need to restripe roadway to include 7' parking aisles, 5' bike lanes, 11' travel lanes.	\$65,000	\$65,000
	Key Benefits: Bicycle Connectivity		



Junction City Transportation System Plan

BVD2	<p>Nyssa St/Oak St: Laurel Elementary School to W 6th Ave: Install Shared Lane Markings and traffic calming techniques as appropriate to create a bicycle boulevard with low volume and low speed motor vehicle use. Alignment would run north on Nyssa St from W 6th Ave, cross W 10th Ave, turn west on W 12th Ave, and turn north on Oak St to connect to the shared-use path at Laurel Elementary School.</p> <p>Consider installing an All-Way stop at the intersection on W 10th Ave with Nyssa St and crossing enhancements at the intersection on W 6th Ave with Nyssa St.</p> <p>Key Benefits: Bicycle Connectivity, Safe Routes to School</p>	\$45,000	\$45,000
SLM1	<p>Rose St: W 13th Ave to W 10th Ave: Shared-Lane Markings - Existing on-street parking is actively used. Supplemental warning signs should be installed leading into the curve.</p> <p>Key Benefits: Bicycle Connectivity, Safe Routes to School</p>	\$5,000	\$5,000
SLM2	<p>Maple St: W 6th Ave to W 1st Ave: Shared-Lane Markings</p> <p>Key Benefits: Bicycle Connectivity, Safe Routes to School</p>	\$10,000	\$10,000
SLM3	<p>E 6th Ave: OR 99 to Front St: Shared-Lane Markings – Traffic volumes are higher than preferred, but speeds are low. Recommend converting angled on-street parking to parallel parking to enhance cyclist visibility.</p> <p>Key Benefits: Bicycle Connectivity, Safe Routes to School</p>	\$5,000	\$5,000
SLM4	<p>Deal St: E 6th Ave to Dane Ln: Shared-Lane Markings</p> <p>Key Benefits: Bicycle Connectivity</p>	\$15,000	\$15,000
Financially Constrained Plan			\$570,000

* Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.

** Identification of potential funding contributors is for budgeting purposes only and does not create an obligation for funding from parties listed.



Table 17: Financially Constrained Plan Motor Vehicle Facility Improvements

Project ID	Project Description	Probable Construction Costs*	Financially Constrained Plan Budget (Potential Funding Partners)**
<i>New Roadways/Roadway Extensions</i>			
MV9	Hatton Lane: Extend west to Prairie Road: Phase 1: Acquire right-of-way for Hatton Lane extension to Prairie Road, and construct a pedestrian and bicycle connection (see BL10). Phase 2: Extend Hatton Lane as a new Collector Street connecting Prairie Road to OR 99.	Phase 1: \$210,000	Phase 1: \$210,000
	Key Benefits: Connectivity	Phase 2: \$655,000	
<i>Roadway Modernizations</i>			
MV12	W 1st Avenue/High Pass Road****: Oaklea Drive to OR 99: Construct to Arterial standards including center turn lane, bike lanes, and sidewalks.	\$6,070,000	No City funds designated from Financially Constrained budget. Assumed funded by grants or other funding partners. (Potential funding partners: Lane County)
	Key Benefits: Pedestrian/Bicycle Connectivity, Safe Routes to School, Safety, Livability, Auto Mobility		
MV14	W 6th Avenue#: Oaklea Drive to Timothy Street: Construct to Major Collector standards including bike lanes and sidewalks.	\$1,735,000	\$433,750 of City funds designated from Financially Constrained budget. Remainder assumed funded by grants or other funding partners. (Potential funding partners: Lane County, Developers)
	Key Benefits: Pedestrian/Bicycle Connectivity, Safe Routes to School, Livability		
<i>Safety Improvements</i>			
MV24	Restripe E 6th Avenue: OR 99 to Front Street: Convert from front-facing angle parking to parallel parking to provide consistent center-line.	\$10,500	\$10,500
	Key Benefits: Safety, Safe Routes to School		
MV 25	OR 99 Traffic Signal Upgrades: OR 99E/OR 99W, OR 99/OR 36, and OR 99/Milliron Road: Upgrade signal head backplates with retroreflective borders. The remaining signal head upgrades are captured under the crossing improvement projects for the signals at OR 99/10 th , OR 99/6 th , and OR 99/1 st .	\$10,000	No City funds designated from Financially Constrained budget. Assumed funded by grants or other funding partners. (Potential funding partners: ODOT)
	Key Benefits: Safety		
<i>Traffic Operations Improvements</i>			



Junction City Transportation System Plan

MV27	Maple Road/Prairie Road intersection with W 1st Avenue/High Pass Road ****: Realign north and south approaches of intersection and add left turn lanes on all approaches	\$1,175,000	\$587,500 of City funds designated from Financially Constrained budget. Remainder assumed funded by grants or other funding partners. (Potential funding partners: Lane County)
	Key Benefits: Safety, Safe Routes to School, Auto Mobility		
MV28	OR 99 Traffic Signal Optimization: OR 99E/OR 99W junction to Milliron Road: Periodically review traffic signal timings along OR 99 to optimize operations as needed to respond to changes in traffic volumes	\$30,000	No City funds designated from Financially Constrained budget. Assumed funded by grants or other funding partners. (Potential funding partners: ODOT)
	Key Benefits: Auto Mobility		
Financially Constrained Plan			\$1,241,750

* Probable construction costs should be used for planning purposes only. Each project cost estimate should be revisited when determining specific project funding needs.

** Identification of potential funding contributors is for budgeting purposes only and does not create an obligation for funding from parties listed.

**** Impacts to historical cemetery must be considered in any widening plans along High Pass Road.

**** Southbound approach (Maple Street) traffic operations perform at LOS E as a 2-way stop, exceeding the Junction City mobility standard of LOS D. Several mitigations were considered to address the forecasted mobility deficiency. An all-way stop, a southbound right-turn lane, and adding left-turn pockets on 1st Avenue would not improve performance enough to reach LOS D. To reach LOS D for the southbound turn (from Maple Street), 1st Avenue would need to be reconstructed to include a two-way center left-turn lane.

Identified in Lane County TSP.

POTENTIAL NEW FUNDING SOURCES

Consideration of new funding sources to increase revenue for transportation improvements is recommended to facilitate the implementation of needed projects and cover the cost of basic maintenance and operations. Any potential funding source is constrained based on a variety of factors, including the willingness of local leadership and the electorate to burden citizens and businesses, the availability of local funds to be dedicated or diverted to transportation issues from other competing city programs, and the availability and competitiveness of state and federal funds. Nonetheless, it is important for the City to

consider all options to provide and enhance funding for its transportation programs.

This section describes several potential transportation funding sources, including state and county contributions, city sources (i.e., residents, businesses, and/or developers), grants, and debt financing. Many of these sources have been used in the past by other agencies in Oregon, and in most cases, when used collectively, are sufficient to fund transportation improvements for a local community.



FEDERAL, STATE, AND COUNTY CONTRIBUTIONS

There are multiple roadways in Junction City that are the responsibility of either ODOT or Lane County. The City should seek funding partnerships (i.e., contributions) from ODOT and Lane County for projects located on their respective roadways. In addition, direct appropriations are another potential funding source.

ODOT Contributions

The Oregon Transportation Commission (OTC) and the Oregon Department of Transportation have changed how the State Transportation Improvement Program (STIP) is developed. Beginning with the 2015 to 2018 process, the STIP has been divided into two broad categories: *Fix-It* and *Enhance*. *Fix-It* includes activities that fix or preserve the transportation system, while *Enhance* includes activities that enhance, expand, or improve the transportation system. The new STIP development process seeks to identify the most effective projects based on community and state values, rather than those that fit best into prescribed programs. The change was made to enable ODOT to take care of the existing transportation assets while still providing a measure of funding to enhance the state and local transportation system in a truly multimodal way. As has been the case for many years, the OTC continues to put a strong emphasis on preserving the existing transportation system first. This is evidenced by the funding split between the *Fix-It* portion of the proposed new STIP (76 percent) and the *Enhance* portion (24 percent).

Programmed projects are included in the four-year STIP, which is updated every two years. ODOT maintenance districts also have available funds that may be used for small-scale projects



such as in-fill sidewalks or culvert repair on a state highway.

When considering proposed land use actions, such as subdivisions or site development, the City should not assume that projects planned on state highways will be in place to support the proposed development unless the project is programmed in the current STIP. Construction of projects which have been previously required through the City land use or ODOT approach permit approval process may be assumed if construction of the development is in process. For proposed comprehensive plan amendments, which must consider the long-term adequacy of the transportation system for TPR 660-012-0060 compliance, ODOT must be consulted to determine whether a highway project is “reasonably likely to be funded” based on current funding projections.

Grants

Junction City should actively pursue State and Federal grants, in particular to complete desired pedestrian and bicycle projects. Grant opportunities include funding for pedestrian, bicycle, Intelligent Transportation System (ITS), and Safe Routes to School improvements. Grant



sources change over time, but current sources to explore include:

Federal Funding Sources

- Highway Safety Improvement Program
- Transportation Alternatives Program
- Transportation for Elderly Persons and Persons with Disabilities
- Community Development Block Grants
- Land and Water Conservation Fund
- Congestion Mitigation & Air Quality Improvement Program
- TIGER Grants

State Funding Sources

- Oregon Immediate Opportunity Fund
- ConnectOregon
- Oregon Parks and Recreation Department Local Government Grants
- Oregon Transportation Infrastructure Bank

- Oregon Special Transportation Fund
- Oregon Pedestrian Safety Enforcement Mini-Grant Program
- Oregon Safe Routes to School
- Oregon Transportation and Growth Management Program (for planning studies only)

Other Funding Sources

- PeopleForBikes Community Grant Program

Direct Appropriations

The City can also seek direct appropriations from the State Legislature and/or the United States Congress for transportation capital improvements. The City may want to pursue these special, one-time appropriations, particularly for projects that support economic development.

CITY SOURCES

The City can also look to local residents, business owners, and developers to raise additional funds designated for transportation-related improvements. Optional sources include developer exactions, Urban Renewal Districts (URD), Local Fuel Taxes, SDC increases, Local Improvement Districts (LID), General Fund revenue transfers, special assessments, and employment taxes.

Developer Exactions

Exactions are roadway and/or intersection improvements that are partially or fully funded by developers as conditions of development approval. Typically, all developers are required

to improve the roadways along their frontage upon site redevelopment. In addition, when a site develops or redevelops, the developer may be required by the City, County, or ODOT (through a highway approach permit) to provide off-site improvements depending upon the expected level of traffic generation and the resulting impacts to the transportation system.

Urban Renewal District (URD)

A URD is a tax-funded district within the City. Improvement projects within the district are typically paid for through bonds and constructed up front, with the bond debt paid by the incremental increases in property taxes



that result from the improvements made. While this process can be used to pay for transportation improvements, it also channels future tax revenue away from other potential uses until the debt is paid or until the term of the district expires.

Local Fuel Tax

Twenty-two cities and two counties in Oregon have adopted local fuel taxes by public vote, ranging from one to five cents per gallon. Nearby locations with a City fuel tax include Cottage Grove (three cents per gallon), Veneta (three cents per gallon), Springfield (three cents per gallon), Coburg (three cents per gallon) and Eugene (five cents per gallon).

Based on experiences in other communities, a local fuel tax in Junction City could generate approximately \$10,000 annually for every cent charged. A three to five-cent tax, similar to neighboring communities, could generate \$30,000 to \$50,000 annually (or approximately \$1,000,000 by the year 2036). This is roughly equivalent to the projected budget shortfall for basic transportation maintenance and operations.

With the tax being applied to fuel sales, visitors and people traveling through Junction City will contribute revenue as well as local residents. Assuming the average driving resident in Junction City travels 12,000 miles per year with a rate of fuel consumption of just over 20 miles per gallon of fuel, they would pay about \$6 annually for every cent of local fuel tax charged.

Local Improvement District (LID)

The City may set up Local Improvement Districts (LIDs) to fund specific capital improvement projects within defined geographic areas, or zones of benefit. LIDs impose assessments on properties within its boundaries and may only

be spent on capital projects within the geographic area. Benefiting properties are assessed their share to pay for improvements.

Since LIDs may not fund ongoing maintenance costs, they require separate accounting. Furthermore, because citizens representing 33 percent of the assessment can terminate a LID and overturn the planned projects, LID projects and costs must obtain broad approval of property owners within the LID boundaries. LIDs can be matched against other funds where a project has system wide benefit beyond the adjacent properties. LIDs are often used for sidewalks and pedestrian amenities that provide clear benefit to residents along the subject street.

Street Utility Fee

A number of Oregon cities supplement their street funds with street utility fees. Establishing user fees to fund applicable transportation activities and/or capital construction ensures that those who create the demand for service pay for it proportionate to their use. Street utility fees are recurring monthly charges included on existing local utility bills that are paid by all residential, commercial, industrial, and institutional users. The fees are charged proportionate to the amount of traffic generated, so a retail commercial user pays a higher rate than a residential user. Typically, there are provisions for reduced fees for those that can demonstrate they use less than the average rate, for example, a residence where no cars or trucks are registered.

While the fee structure per user varies, a street utility fee that costs the average single-family homeowner in Junction City \$3 to \$5 per month could generate approximately \$25,000 to \$35,000 annually, which is roughly equivalent to the projected budget shortfall for basic



transportation maintenance and operations. As the city grows through the year 2036, the annual revenue could increase to well over \$100,000 with no increase in the monthly fee.

From a system health perspective, forming a street utility fee establishes a source of reliable, dedicated funding for transportation. Fee revenue use is flexible and can be used for maintenance and operations expenses or can be used to secure revenue bond debt used to finance capital construction. A street utility fee can be formed by Council action and does not require a public vote.

General Fund Revenues

At the discretion of the City Council, the City can allocate General Fund revenues to pay for its transportation program. General Fund revenues primarily include property taxes, user taxes, and any other miscellaneous taxes and fees imposed by the City. Allocation is completed through the City's annual budget process, but the funding potential of this source is constrained by competing community priorities set by the City Council. General Fund resources could fund any aspect of the transportation program, from capital improvements to operations, maintenance, and administration. Additional revenues available from this source are only available to the extent that either General Fund revenues are increased or City Council directs and diverts funding from other City programs.

Special Assessments

A variety of special assessments are available in Oregon to defray the costs of sidewalks, curbs, gutters, street lighting, parking, and central

business district or commercial zone transportation improvements. These assessments would likely fall within the

Measure 50 limitations. One example is the 50/50 program. This is a match program for sidewalk infill projects where property owners pay half the cost of a sidewalk improvement and the City matches the investment to complete the project.

Employment Taxes

Employment taxes may be levied to raise additional funds. For example, in the Portland region, payroll and self-employment taxes are used to generate approximately \$145 million annually. The City of Portland has chosen to earmark these funds for transit agency operations.

Debt Financing

While not a direct funding source, debt financing is another funding method. Through debt financing, available funds can be leveraged and project costs can be spread over the projects' useful lives. Though interest costs are incurred, the use of debt financing can serve not only as a practical means of funding major improvements, but it is also viewed as an equitable funding source for larger projects because it spreads the burden of repayment over existing and future customers who will benefit from the projects. One caution in relying on debt service is that a funding source will still need to be identified to fulfill annual repayment obligations. Two methods of debt financing are voter-approved general obligation bonds and revenue bonds.

Voter-Approved General Obligation Bonds

Subject to voter approval, the City can issue General Obligation (GO) bonds to debt finance capital improvement projects. GO bonds are backed by the increased taxing authority of the City, and the annual principal and interest repayment is funded through a new, voter-approved assessment on property throughout



Junction City Transportation System Plan

the City (i.e., a property tax increase). Depending on the critical nature of projects identified in the Transportation System Plan and the willingness of the electorate to accept increased taxation for transportation improvements, voter-approved GO bonds may be a feasible funding option for specific projects. Proceeds may not be used for ongoing maintenance.

Revenue Bonds

Revenue bonds are municipal bonds that are secured by the revenue received by financing

income-producing projects. In contrast to GO bonds, revenue bonds fund projects that generally only serve those in the community who pay for their services. Given the nature of revenue bonds, they may not be as applicable to transportation projects as are GO bonds and are most commonly used for other municipal projects such as sewer and water system upgrades where users pay a monthly fee for service. Interest costs for revenue bonds are slightly higher than for GO bonds due to the perceived stability offered by the “full faith and credit” of a jurisdiction

IMPLEMENTATION

As part of the process to update Junction City’s TSP, the City’s Municipal Code was audited and regulatory language was recommended to

implement the TSP, as well as ensure consistency with the state Transportation Planning Rule (OAR 660-12).