

October 21, 2026

Project# 30785.002

To: City of Sherwood TSP Project Management Team
From: Kittelson & Associates, Inc.
RE: Sherwood TSP Tech Memo #7: Solution Identification Analysis

The City of Sherwood (Sherwood) is updating their Transportation System Plan (TSP) to meet the needs of their growing community, comply with new state transportation planning requirements, and update their previous plan, completed in 2014. The purpose of this Future Conditions memorandum is to assess the transportation system's performance under projected future conditions, assuming planned and funded improvements, and identify deficiencies and needs through the planning horizon. The projects and policies in this memorandum will be further refined based on feedback from the Technical Advisory Committee (TAC), the Community Advisory Committee (CAC), City Council, and public input.

This solutions identification work is organized around three primary areas of inquiry.

- Foundations of the transportation network
- Mode-based improvements
- Guiding policies for the transportation system

Together, these build on the existing conditions baseline to define the transportation needs and solutions that the updated TSP must address. A summary of the contents is listed below.

CONTENTS

Solutions Identification Analysis Summary	4
Foundation of the Transportation Network.....	8
Mode-Based Improvements	12
Guiding Policies for the Transportation System.....	36
Next Steps	40

LIST OF FIGURES

Figure 1. Roadway Functional Classification.....	9
Figure 2. Roadway Jurisdiction.....	11
Figure 3. Pedestrian Network Improvements.....	14
Figure 4. Bicycle Network Improvements.....	19
Figure 5. Safety Improvements	25
Figure 6. Multimodal and Roadway Network Improvements.....	29
Figure 7. Freight Network	34
Figure 8. Cross Over Easement Step-by-Step Diagram	39

LIST OF TABLES

Table 1. Pedestrian Crossing Improvement Projects	17
Table 2. Proposed Bicycle Solutions	23
Table 3. Proposed Safety Solutions.....	26
Table 4. Proposed Multimodal Solutions	30
Table 5. Proposed Automobile Solutions	32
Table 6. City Access Spacing Standards.....	37

GLOSSARY OF ACRONYMS & TERMS

AADT - Average Annual Daily Traffic

ADT - Average Daily Traffic (may refer to bi-directional daily volume)

APM - (ODOT) Analysis Procedures Manual

AWSC - All-Way Stop Control (intersection control type)

BLTS - Bicycle Level of Traffic Stress

CA - Critical Approach (for unsignalized intersection reporting per APM)

CAC – Community Advisory Committee

CFA - Climate Friendly Area

CM - Critical Movement (for unsignalized intersection reporting per APM)

HCM - Highway Capacity Manual

LOS - Level of Service

LTS - Level of Traffic Stress (see BLTS for bicycle network comfort)

MEV - Million Entering Vehicles (exposure used for crash rates)

MPO - Metropolitan Planning Organization (Metro, for Portland region)

MUTCD - Manual on Uniform Traffic Control Devices

ODOT - Oregon Department of Transportation

PNWR – Portland & Western Railroad

RRFB – Rectangular Rapid Flashing Beacon

RTFP – Regional Transportation Functional Plan

RTP - Regional Transportation Plan

SPIS – Safety Priority Index System

TAC – Technical Advisory Committee

TSP - Transportation System Plan

TriMet - Tri-County Metropolitan Transportation District of Oregon

TSMO – Transportation Systems Management and Operations

TWSC - Two-Way Stop Control (intersection control type)

UGB - Urban Growth Boundary

UPRR – Union Pacific Railroad

v/c - Volume-to-Capacity (ratio)

VISTRO / Vistro - PTV Vistro Software (HCM-based operations analysis)

APPENDICES

Appendix A. Metro Travel Demand Model Data and Post Processing Worksheets

Appendix B. Regional Transportation Plan 2023 Financially Constrained Projects in Sherwood

Appendix C. Future Traffic Conditions Vistro Worksheets

Appendix D. Vulnerability Index

Solutions Identification Analysis Summary

Kittelson identified the following takeaways:

Foundation of the Transportation Network

Functional Classification

- Langer Farms Parkway north of Hwy 99W is classified as a Collector and may be changed to a Neighborhood street.
- No other changes to the City's functional classification system are proposed

Roadway Jurisdiction

- Washington County has identified Edy Road and Elwert Road as possible facilities to be transferred to the City in the long term.
- Outside of these potential transfers, there are no plans to transfer any other roadways into or out of City jurisdiction.

Mode-Based Improvements

Pedestrian

- Sherwood aims to complete a low-stress pedestrian network through a combination of sidewalks and shared-use paths to provide connectivity and access across the city.
- Much of the low-stress pedestrian network is complete, with most sidewalk gaps concentrated on streets primarily to the southeast of Sherwood Town Center.
- Solutions are needed for the network gaps, unmarked crossings in high-demand locations, and to shorten travel distances within and between neighborhoods.
- The City's strategy for completing these sidewalk gaps is powered by a proposed Pedestrian Network Improvement Program.
- Additionally, there are 12 specific pedestrian crossing improvement projects for the City, shown in Figure 3 and Table 1.

Bicycle

- Sherwood intends to provide a low-stress bicycle network through a combination of bicycle facilities on roadways and shared-use paths to provide connectivity and access for all areas of the city.
- The low-stress bicycle network incorporates street functional classification and vehicle speed to determine the most appropriate bicycle treatment.

- Currently, a significant portion of the City’s arterial and collector roadway network has incomplete or no bike infrastructure at all.
- Identifying the order for implementing bicycle treatments will be important. The proposed Bicycle Network Improvement Program will help the City choose what segments and paths to fund first.
- Additionally, there are three identified bicycle solutions that enhance the City’s bicycle facilities beyond the low stress bicycle network, shown in Figure 4 and Table 2.

Transit

- Public transit provides connections within and to locations outside of Sherwood for those who may not choose or be able to travel by foot, bike, or motor vehicle.
- Fixed-route public transit in Sherwood is provided by TriMet and the Yamhill County Transit Area.
- TriMet’s *Forward Together Revised Service Concept* identifies two routes to service Sherwood:
 - Route 130 would connect Sherwood Park & Ride with Tigard Transit Center, via Pacific Highway (OR 99W).
 - Route 131 would connect Sherwood at Langer Drive with Tualatin and Tigard Transit Center, via Tualatin-Sherwood Road, Upper Boones Ferry Road, Durham Road, and Hall Boulevard.
- These two TriMet route improvements remain planned and unfunded, and their realization is not guaranteed.
- Sherwood should also complete a study examining the need for local shuttle service.

Safety

- Improving safety across the City’s transportation network is a top priority for the City, identified through the TSP’s goals and objectives.
- Between 2019 and 2023, there were 894 reported crashes in Sherwood, underscoring the need to address traffic safety.
- The 22 proposed safety solutions address many of the City’s documented safety concerns, shown in Figure 5 and Table 3.

Multimodal and Automobile Network

- The proposed multimodal network improvements identify roadway projects that benefit all users of the facility: pedestrians, bicyclists, and motorists.
- There are 12 multimodal projects, including new street connections, roadway retrofits, street realignments, and corridor improvements, shown in Figure 6 and Table 4.
- Multimodal projects reflect gaps in the street network identified previously and reflect other needs identified through public engagement and by City staff.

- The proposed automobile solutions address capacity-related problems at intersections.
- There are four automobile projects, intersection improvements and traffic signals, that seek to reflect the identified intersection operational deficiencies, shown in Figure 6 and Table 5.

Freight

- Washington County has two types of truck routes within the City of Sherwood. These include Over-Dimensional Truck Routes and Truck Routes.
- The City plans to adopt the County's freight network as City Freight Routes.

Transportation System Management and Operations

- Transportation System Management and Operations (TSMO) relies on operational improvements to the roadway network, typically through technology, to improve operational performance.
- TSMO strategies will be most appropriate on higher-volume roadways, such as Hwy 99W and Tualatin-Sherwood Road, where either ODOT or Washington County own and operate the roadway.
- The City should work with ODOT and Washington County to explore TSMO strategies.

Rail

- There are two proposed rail crossing projects:
 - The Sherwood City Council has asked to pursue a reopening of the railroad crossing at SW Washington Street for pedestrians and bicyclists only.
 - An extension of SW Columbia Street to the SW Langer Farms Parkway/SW Oregon Street intersection will necessitate an Intersection Control Evaluation of the intersection. Any future evaluation should explore a roundabout as a future intersection solution.

Guiding Policies for Transportation Network

Roadway Design Standards

- The roadway design standards provide the details for how each functional classification will be laid out to meet its purpose.
- The Transportation Planning Rule requires jurisdictions to have roadway design standards that reflect the minimum size necessary for the roadway.
- No changes to the City's street cross sections are needed and none have been identified.

Parking Management

- The Transportation Planning Rule requires Sherwood to remove parking mandates and to implement parking regulation improvements, parking maximums, and electric vehicle charging with new development.
- The City satisfied these requirements through amendments to codes and ordinances completed in 2023.

Access Management

- The term “access management” is commonly used to describe the practice of managing the number, placement, and movements of intersections and driveways that provide access to adjacent land uses.
- The City’s access spacing standards are determined by functional classification and include spacing between intersections and between intersections and driveways.

A. Foundation of the Transportation Network

Before introducing solutions for the Sherwood transportation system, it is important to lay out the foundation on which everything is built: the roadway functional classification network and the roadway jurisdiction.

Functional classification defines a street's role in the transportation system and reflects desired operational and design characteristics such as right-of-way requirements, pavement widths, pedestrian and bicycle features, and driveway (access) spacing standards.

Roadway jurisdiction identifies the owner and operator of a given street – and who is responsible for any improvements for walking, biking, or vehicle modes.

Functional Classification

Sherwood has five functional classes for streets:

- **Principal Arterials** are access controlled highways that span several jurisdictions and provide a high level of mobility. They generally have four or more travel lanes, bicycle lanes (or shoulders), and limited access (preferably connecting primarily with arterials).
- **Arterials** serve as the major roadways within Sherwood and link major commercial, residential, industrial and institutional areas. Many of these roadways also extend beyond Sherwood and connect to other nearby cities.
- **Collectors** have the primary role of facilitating circulation within Sherwood by funneling traffic from residential, commercial, and industrial areas to the arterial street network.
- **Neighborhood** streets are the primary roadways used to access residential neighborhoods. They serve a similar function as collector roadways but are designed to feel more like a neighborhood street.
- **Local Streets** have the sole function of providing access to immediate adjacent land. Service to “through traffic movement” on local streets is deliberately discouraged by design.

Figure 1 below shows the roadway functional classification network in Sherwood.

Figure 1

Roadway Functional Class

LEGEND

Functional Class

- Principal Arterial
- Arterial
- Collector
- Neighborhood
- Local
- Upcoming City Roadways
- Rail Line
- Town Center
- Sherwood West Area
- City Boundaries
- County Boundaries
- Urban Growth Boundary
- Water
- Open Spaces/ Trails

Data Source:
Regional Land Information System (RLIS), Metro,
July 2025

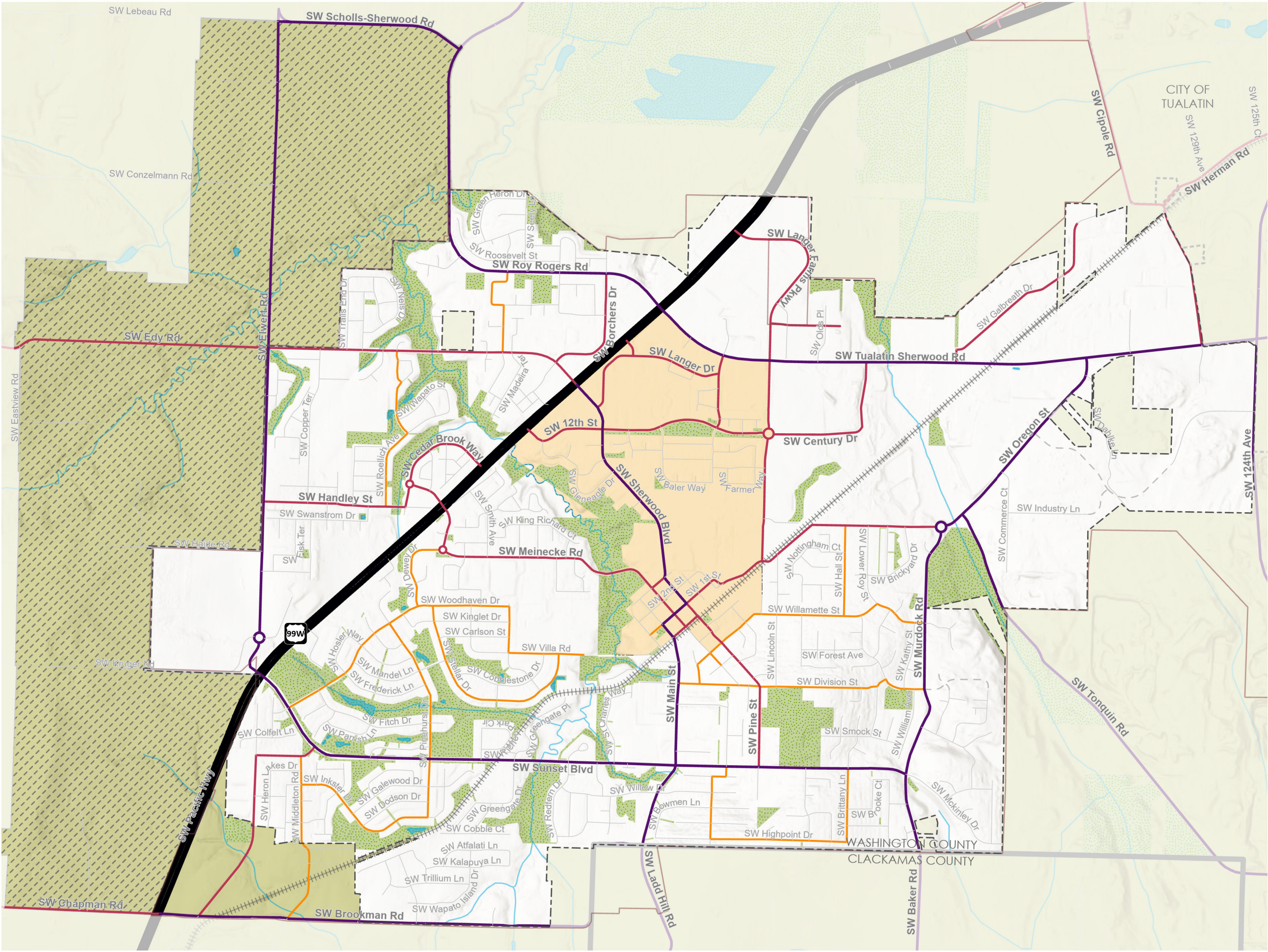


City of
Sherwood
Oregon

Home of the Tualatin River National Wildlife Refuge



0 0.1 0.2 0.3 Miles



As shown, the network matches the descriptions of each classification type.

- The lone **Principal Arterial** in Sherwood is Hwy 99W, providing a high-level of mobility through Sherwood and connecting to points within the Portland metropolitan region and south into the Willamette Valley.
- The **Arterial** network (including Tualatin-Sherwood Road, Roy Rogers Road, Elwert Road, Sunset Boulevard, Brookman Road) connect the major land uses together in the City and connect to locations outside of the City.
- The **Collector** network (including Langer Farms Parkway, Edy Road, Meinecke Road, Century Drive) is generally contained within the City and provide local circulation.
- The **Neighborhood** street network (including Pinehurst Drive, Woodhaven Drive, Willamette Street) are largely located in the residential areas in the southern part of Sherwood.
- The **Local** street network are low-volume, low-speed streets that provide direct access to residential properties.

There is an approximately 300 foot section of Langer Farms Parkway north of Hwy 99W. Langer Farms Parkway is classified as a Collector, and this section may be changed to a Neighborhood street. No other changes to the City's functional classification system are proposed.

Roadway Jurisdiction

As shown in Figure 2, streets within the Sherwood UGB are owned and operated by three jurisdictions: ODOT, Washington County, and the City.

- ODOT owns and operates Hwy 99W, as well as the Langer Drive on- and off-ramp to Hwy 99W and the section of Edy Road from Hwy 99W to Borchers Drive.
 - For Edy Road, the signalized intersection at Borchers Drive is located less than 500 feet from the Hwy 99W/Edy Road signalized intersection, so ODOT operates both signals to be able to coordinate operations and minimize queuing.
- Washington County owns and operates: Roy Rogers Road, Tualatin-Sherwood Road, Edy Road (from city limits to Terrapin Drive), Elwert Road, Kruger Road, Oregon Street (from Tualatin-Sherwood Road to just past the Murdock Street roundabout), Tonquin Road, Brookman Road, and a portion of Seely Lane (from city limit to powerline path).
- The City of Sherwood owns and operates all other streets in the City.

For improvements on ODOT or Washington County facilities, the City will need to coordinate with the appropriate jurisdiction. Project inclusion on the Washington County TSP or Major Streets Transportation Improvement Program (MSTIP) or the ODOT Statewide Transportation Improvement Program (STIP) are one way to advance projects on these streets.

Washington County has identified Edy Road and Elwert Road as possible facilities to be transferred to the City in the long term. There are no plans to transfer streets into or out of City control.

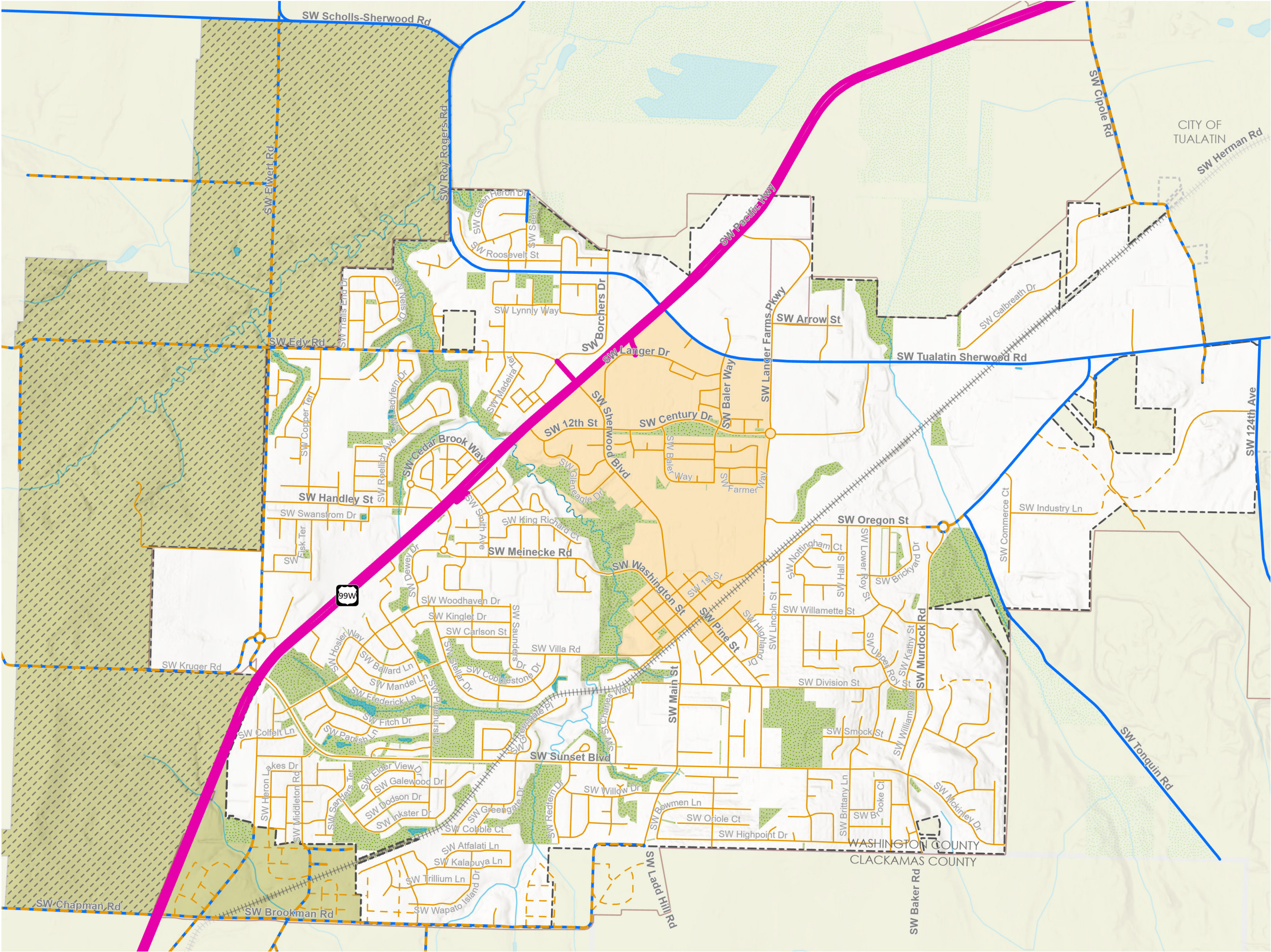
Figure 2

Roadway Jurisdiction

LEGEND

Roadway Jurisdiction

- City
- County
- Possible County transfer to City
- ODOT
- Upcoming City Roadways
- Rail Line
- Town Center
- Sherwood West Area
- Sherwood City Boundary
- County Boundaries
- Urban Growth Boundary
- Water Bodies
- Open Spaces/Trails



Data Source:
Regional Land Information System (RLIS), Metro,
July 2025



City of
Sherwood
Oregon

Home of the Tualatin River National Wildlife Refuge



0 0.1 0.2 0.3 Miles

B. Mode-Based Improvements

Low-Stress Pedestrian Network

Sherwood aims to complete a low-stress pedestrian network through a combination of sidewalks and shared-use paths to provide connectivity and access for all areas of the city. The City's low-stress pedestrian network is shown in Figure 3. Referred to as the Sherwood Low-Stress Pedestrian Network, it is intended to promote walking for its personal and community health benefits and support walking as the primary mode of travel:

- Within neighborhoods and to key destinations within a reasonable walking distance of each neighborhood (assumed to be one half mile from the neighborhood edge) and
- Within major commercial, mixed-use areas such as the Sherwood Town Center and Old Town areas.

To achieve this, the network must be continuous, in usable condition, and equipped to support safe, comfortable walking and rolling. Crosswalks of collectors and arterials and midblock crossings should be signed, lit, and marked (and raised where appropriate). Sidewalks should be on both sides of each street, with limited exceptions. Decisions about crossing and intersection control treatments should take land use context and pedestrian volumes into account, striving always to promote rather than deter walking as a primary mode choice in the area.

Facility Types

Sidewalks and shared-use paths comprise the low-stress pedestrian network in Sherwood, as shown in Figure 3. Each facility type is described below:

- **Sidewalks** are the primary building block of the pedestrian system. Sidewalks provide mobility for walkers as well as people with disabilities, families with strollers, and others who may not be able to travel on an unpaved surface. Sidewalks are typically constructed from concrete and six feet wide in neighborhoods, eight to ten feet wide near schools and other civic amenities with high pedestrian activities, and ten or more feet wide in areas such as Old Town and Sherwood Town Center. Sidewalks can be curb-tight on very low-volume streets but must provide separation on higher-volume streets to qualify as low-stress. The separation can be a planter strip, a bike facility, and/or curbside parking. Sidewalks are typically provided on both sides of the roadway; however, some constrained areas may only have a sidewalk on one side.
- **Shared-Use Paths** are paved or concrete facilities that serve pedestrians and cyclists of all ages and skill levels. Shared-use paths can be constructed adjacent to roadways (with appropriate buffer) or they may be constructed within their own right-of-way. The preferred width is 12 feet to 14 feet, with a minimum width of 10 feet acceptable in areas with low levels of pedestrian/bicycle traffic.

Status of the Low-Stress Pedestrian Network

As shown in Figure 3, much of the low-stress pedestrian network is complete, with most sidewalk gaps concentrated on streets primarily to the southeast of Sherwood Town Center. There are a limited number of streets with no sidewalks, primarily located adjacent to Hwy 99W or in the industrial areas around Tualatin-Sherwood Road.

Within Sherwood Town Center, the sidewalk network is complete except one block of Railroad Street and small portions of dead-end streets. Two of these dead-end streets (Villa Road and Park Street), however, are missing sidewalks that would connect with a shared-use path.

The shared use path and trail network runs through several greenbelts on both sides of Hwy 99W, often providing connections between neighborhoods. Several areas of the community would benefit from new and extended paths/trails that would shorten walking distances and/or provide improved connectivity within and between neighborhoods and key destinations. While plans for an extend path/trail network exist, no long-distance corridors have been completed within Sherwood. As a result, walks of greater than one mile often depend on a combination of paths/trails and sidewalks in most areas of the community.

The Sherwood pedestrian network provides good connectivity, especially east of Hwy 99W and south of SW Tualatin-Sherwood Road. There are existing sidewalk facilities on 84% of the streets in Sherwood. For streets with existing sidewalks, 85% of sidewalks are in “Good” condition. Sidewalks are generally in good condition around schools, bus stops, parks, and within the Sherwood Town Center area.

Marked pedestrian crossings are distributed across the City and concentrated near schools, parks, and key commercial corridors. Marked and signalized crossings are present along major arterials such as SW Tualatin-Sherwood Road, SW Langer Farms Parkway, SW Sunset Boulevard, and Hwy 99W. Most arterials and collectors include curb ramps at intersection crossings, though a few older curb returns in residential areas and along SW Oregon Street require upgrades. Unsignalized and unmarked crossings are common on local streets, in many neighborhoods.

Solutions are needed for the network gaps, unmarked crossings in high-demand locations, and to shorten travel distances within and between neighborhoods, where possible. The City’s strategy for accomplishing this is powered by a proposed Pedestrian Network Improvement Program. Detailed information about each need has been captured in the TSP GIS database. The proposed Program will systematically evaluate, prioritize, and fund incremental improvements to meet the performance measures and standards established with the TSP Update.

Figure 3

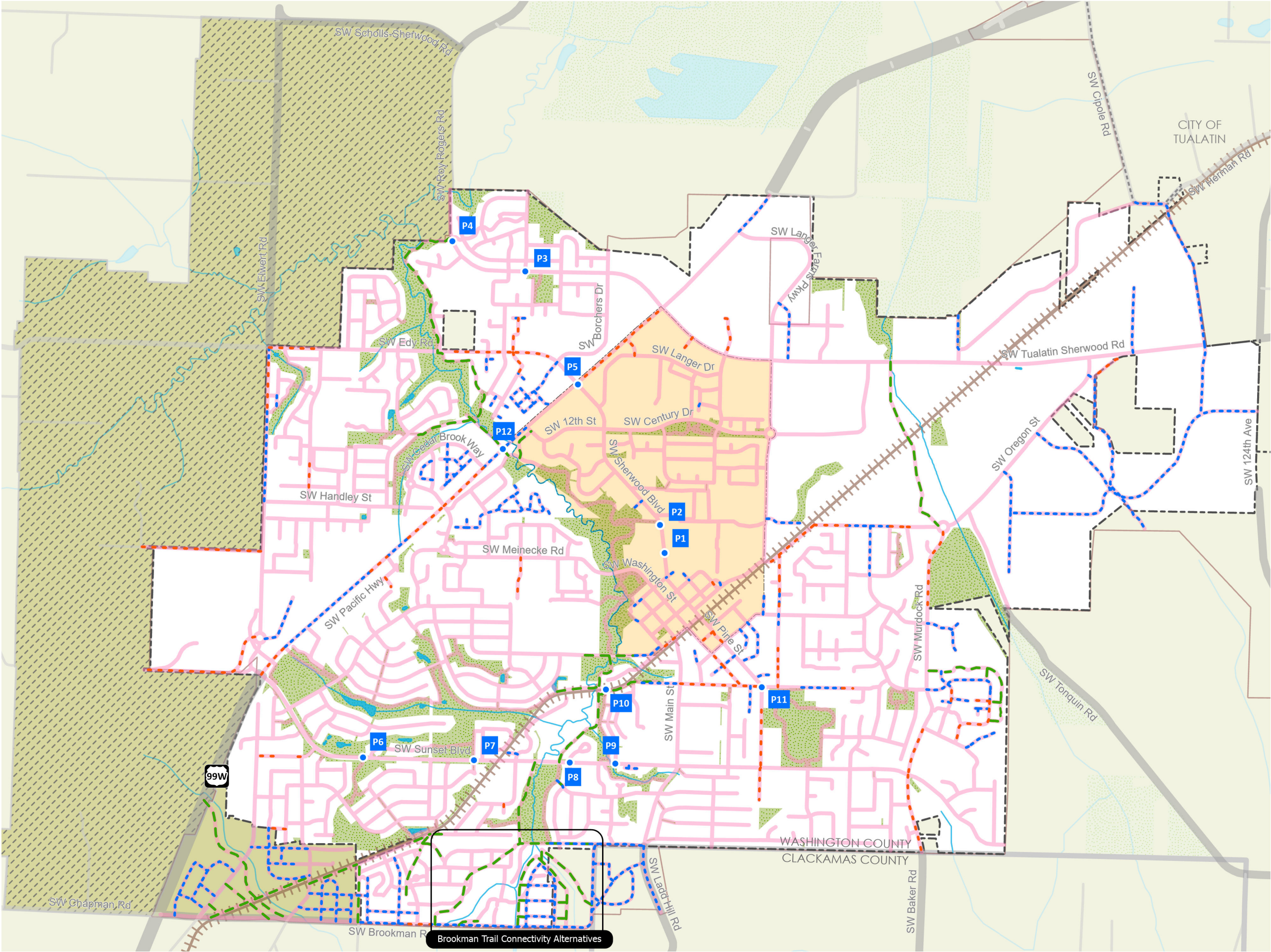
Pedestrian Network Improvements

LEGEND

- Proposed Pedestrian Crossing Improvements
- Proposed Low Stress Pedestrian Network

Proposed Facility Types on Low Stress Pedestrian Network

- Proposed Sidewalks on both sides
- Proposed Sidewalk on one side
- Proposed Paths/ Trails
- Highway
- Arterial
- Collector
- Local
- Upcoming City Roadways
- Rail Line
- Town Center
- Sherwood City Boundary
- Sherwood West Area
- County Boundaries
- Urban Growth Boundary
- Water Bodies
- Open Spaces / Trails



Preliminary Draft Pedestrian Network Policies

The Sherwood TSP Update will include new and updated policies for each mode, as well as the entire system. Policies are a bridge between the goals and objectives of the Plan and the programs, strategies, and actions that follow. A preliminary draft set of pedestrian network policies are provided below. Discussions with City leadership will be needed to review and finalize all policies that will be included in the TSP Update.

■ **P-1. New Development and Street Extensions**

New streets, street extensions, and development projects shall provide pedestrian facilities consistent with City standards and the TSP. Sidewalks shall generally be provided on both sides of new streets, with appropriate pedestrian crossings and connections to adjacent streets, neighborhoods, schools, parks, transit stops, and other key destinations.

■ **P-2. Infill Development and Redevelopment**

The City shall seek to complete missing sidewalk segments through infill development, redevelopment, and applicable frontage improvements. Where feasible, improvements shall connect to existing sidewalks and provide continuous, accessible pedestrian routes.

■ **P-3. Pedestrian Network Completeness**

The City shall maintain and periodically evaluate a pedestrian network inventory to identify sidewalk gaps, missing connections, accessibility barriers, and locations where pedestrian facilities do not provide safe and convenient travel. Priority shall be given to improvements that connect neighborhoods to schools, parks, transit, commercial areas, employment centers, and other key destinations.

■ **P-4. Pedestrian Network Improvement Program**

The City shall maintain and periodically evaluate a Pedestrian Network Improvement Program that coordinates sidewalk maintenance and repair, sidewalk gap completion, pedestrian safety improvements, and accessibility upgrades. The program shall support implementation of the Low-Stress Active Transportation Network and use established project evaluation and prioritization criteria to guide investments.

■ **P-5. Pedestrian Funding and Implementation**

The City shall evaluate and pursue sustainable funding opportunities for pedestrian network improvements, including sidewalk maintenance and repair, sidewalk infill, crossing improvements, and accessibility upgrades. Prioritized projects shall be considered for inclusion in the Capital Improvement Program (CIP), development review requirements, grant applications, and other applicable funding programs, as funding allows.

■ **P-6. Shared-Use Paths and Trail Connections**

The City shall pursue completion of the shared-use path network identified in the TSP to provide comfortable walking and bicycling connections between neighborhoods, schools, parks, commercial areas, and regional trail networks. The City shall evaluate opportunities

to close network gaps and improve connections between off-street paths and on-street pedestrian and bicycle facilities.

■ **P-7. Pedestrian Safety and Accessibility**

The City shall incorporate pedestrian safety and accessibility into transportation planning, project development, and street design. Improvements shall address documented safety concerns, roadway crossings, sidewalk deficiencies, and barriers to travel for people of all ages and abilities.

■ **P-8. Safe Routes to School**

The City shall coordinate with the Sherwood School District, individual schools, and other community partners to identify and prioritize improvements that support safe and accessible walking and bicycling routes to schools. The City shall use Safe Routes to School plans, community input, and identified safety needs to inform transportation project prioritization, school-area crossing improvements, sidewalk infill, traffic calming, and other appropriate measures.

Pedestrian Network Improvement Program

While the City's pedestrian network is largely built out, Figure 3 shows that there are approximately 111 street segments with no sidewalks and 47 street segments with a sidewalk on one side of the street. Additionally, there are identified gaps in the City's off-street shared use path and trails network.

A Pedestrian Network Improvement Program can help the City choose what segments and paths to fund first. Factors to consider include:

- Identified safety concerns
- Proximity to schools, parks, and civic amenities
- Connections to key destinations
- Vulnerability Index score
- Street classification
- City priorities
- Cost

Additional Solutions

Figure 3 identifies the sidewalk and shared-use path and trail improvements that will feed into Pedestrian Network Improvement Program. Additionally, there are a number of specific pedestrian crossing improvement projects for the City, as listed in Table 1.

Crossing projects include Safe Routes to School projects, high-volume street crossing projects (e.g., Hwy 99E, Roy Rogers Rd), shared-use path/trail crossings, and a safer crossing at railroad tracks.

Table 1. Pedestrian Crossing Improvement Projects

ID	Name	Description
P1	RRFB on SW Sherwood Blvd at Hawks View Elementary	Install a rectangular rapid flashing beacon (RRFB) and associated crossing improvements on SW Sherwood Boulevard at Hawks View Elementary
P2	RRFB on SW Sherwood Blvd at Cedar Creek Feeder Trail	Install a rectangular rapid flashing beacon (RRFB) and associated crossing improvements on SW Sherwood Boulevard at the Cedar Creek Feeder Trail
P3	SW Roy Rogers Crossing Improvement	Install a pedestrian and bicycle crossing on Roy Rogers Road between Lynnlly Way and Lavender Avenue, such as near the Seely Lane alignment
P4	Pedestrian Hybrid Beacon across SW Roy Rogers Rd	Install a pedestrian hybrid beacon (PHB) and associated crossing improvements on SW Roy Rogers Road
P5	Highway 99W Crosswalks	Add missing crosswalks and associated pedestrian improvements at existing signalized intersections on Highway 99W between Edy Road and Sunset Boulevard.
P6	SW Sunset Boulevard/Existing Trail Crossing Improvements	Install a marked pedestrian and bicycle crossing on Sunset Boulevard at the existing trail west of Heatherwood Lane.
P7	SW Sunset Boulevard/Galewood Drive Crossing Improvements	Install an enhanced pedestrian crossing and associated improvements at the Sunset Boulevard/Galewood Drive intersection.
P8	SW Sunset Boulevard/Redfern Drive Crossing Improvements	Install an enhanced pedestrian crossing and associated improvements at the Sunset Boulevard/Redfern Drive intersection.
P9	SW Sunset Boulevard/St Charles Way Crossing Improvements	Install marked crosswalks and associated pedestrian crossing improvements at the Sunset Boulevard/St Charles Way intersection.
P10	Cedar Creek Trail/Railroad Tracks Crossing Improvements	Install a controlled crossing across the railroad tracks along the Cedar Creek Trail
P11	Pine Street/Division Street Crossing Improvements	Install marked crosswalks and associated pedestrian crossing improvements at the Pine Street/Division Street intersection.
P12	Cedar Creek Trail Grade-Separated Crossing	Cedar Creek Trail Grade-Separated Crossing: Construct a grade-separated crossing to connect the Cedar Creek Trail across Hwy 99W

Low-Stress Bicycle Network

Sherwood intends to provide a low-stress bicycle network through a combination of bicycle facilities on roadways and shared-use paths to provide connectivity and access for all areas of the city. The City's low-stress bicycle network is shown in Figure 4. Referred to as the Sherwood Low-Stress Bicycle Network, it is intended to support and promote biking as a safe and comfortable mode of travel throughout the community. The compact nature of Sherwood, combined with the planned network of low-stress bicycle facilities, enables area residents and employees to choose biking to any location within the community for a wide variety of trip purposes, such as for work, to school, for daily needs, to entertainment, for recreation, and for health.

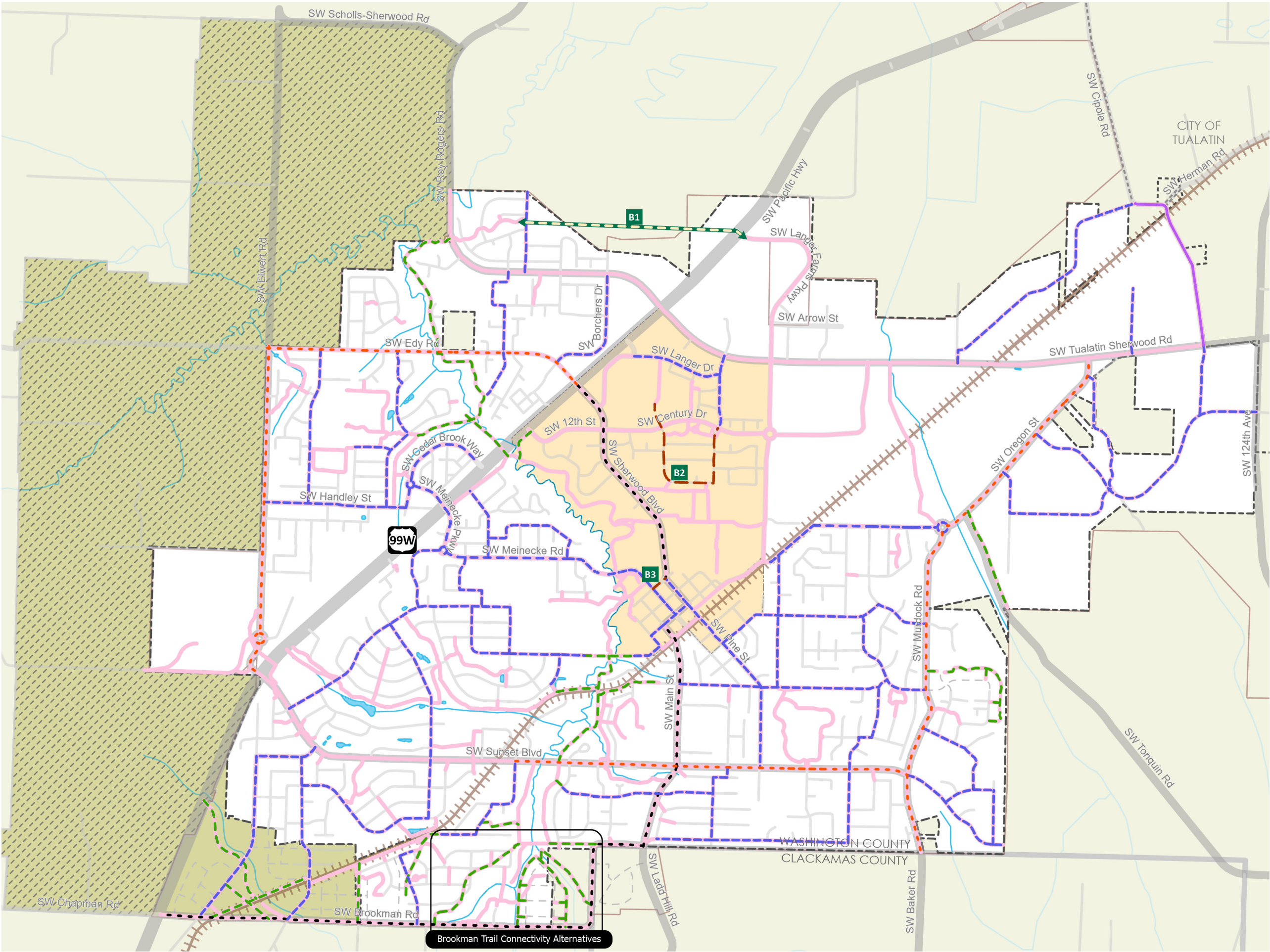
To achieve this, the bicycle network must be continuous, well-maintained, and equipped to support safe, comfortable biking. Crossings of collectors and arterials and in midblock locations should be signed, lit, and marked (and raised where appropriate). On road facilities should be signed and marked on both sides of each street, unless the street is one-way travel only. Decisions about crossing and intersection control treatments should take land use context and bicycle activity into account, striving always to promote rather than deter biking as a viable mode choice throughout the community.

The low-stress bicycle network incorporates street functional classification and vehicle speed to determine the most appropriate bicycle treatment. Bicycle Level of Traffic Stress (BLTS) is an analysis that evaluates the comfort level of bicycling based on factors such as vehicle speed, traffic volume, number of lanes, and separation between bicyclists and motorists. The network shown in Figure 4 is defined by matching the appropriate bicycle facility to the characteristics of the street to establish a BLTS score of 2 or better, representing little traffic stress.

Figure 4

Bicycle Network Improvements

- LEGEND**
- Proposed Low Stress Bicycle Network
 - Proposed Path/ Trail Connection
 - Proposed Shared Lane Markings
 - Proposed Facility Types on Low Stress Bicycle Network**
 - Proposed 6' Bike Lane
 - Proposed 7' Bike Lane
 - Proposed 8' Buffered Bike Lane or 12' Shared Use Path
 - Proposed 12-14' Shared Use Path
 - Proposed Paths/ Trails
 - Highway
 - Arterial
 - Collector
 - Local
 - Upcoming City Roadways
 - Rail Line
 - Town Center
 - Sherwood City Boundary
 - Sherwood West Area
 - County Boundaries
 - Urban Growth Boundary
 - Water Bodies
 - Open Spaces / Trails



Facility Types

The low-stress bicycle network comprises several facility types:

- **Shared Use Paths** and trails can be used to create long distance links within and between communities and provide regional connections for bicyclists. Shared use paths are hard-surfaced (typically asphalt) and typically 12 to 14 feet wide, depending on the number of users, the type of users, and the path's topography.
- **Bike lanes** are a broad term that can apply to multiple facility types:
 - **Standard bike lanes** are dedicated on-street facilities designated exclusively for bicycle use, are typically 6 feet wide, and are marked by pavement striping and signage. Bike lanes are located within the roadway but separated from motor vehicle travel lanes, providing moderate protection and comfort for experienced bicyclists.
 - **Buffered bike lanes** are identical to standard bike lanes, except there is additional separation from motor vehicle travel lanes. Separation between the bike lane and the motor vehicle travel lane is typically 2-3 feet wide and designated through striping to provide additional safety and comfort benefits.
 - **Protected bike lanes** introduce physical elements to separate bicyclists from motor vehicles, such as parking lanes, bollards/wands, curbs/jersey barriers, planters, etc. Protected bike lanes can also be located on the street or at the sidewalk level.

Arterial streets, such as Tualatin-Sherwood Road, Roy Rogers Road, Sunset Boulevard, and Elwert Road, have larger facilities and added protection from motor vehicles. Neighborhood streets, such as Woodhaven Drive, Willamette Street, and Pinehurst Drive, are more suited for seven-foot bike lanes next to on-street parking lanes (when both can be accommodated without widening). Lower speed streets, such as inside of Sherwood Town Center, on Sherwood Boulevard and Century Drive, are better suited for six-foot on-street bike lanes.

While not identified in Figure 4, **shared lanes** are appropriate on low-volume, low-speed local streets. Shared lanes are facilities where bicyclists and motor vehicles share a travel lane, marked with shared lane markings (sharrows) to indicate the presence of bicycle traffic.

Shared use paths and trails runs through several greenbelts and exist in several neighborhoods, but only function as a network when combined with bicycle facilities on roadways. Additions and extensions of paths and trails will extend the reach and completeness of the low-stress bicycle network throughout Sherwood.

Status of the Low-Stress Bicycle Network

There are 24.2 miles of bike facilities in the City: 13.1 miles for shared-use paths, 8.3 miles of on-street bike lanes, 1.7 miles of paved shoulders, and 1.1 miles of signed or marked shared lanes.

- The City maintains a shared-use path network on high volume streets, including portions of Sunset Boulevard, Roy Rogers Road, Tualatin-Sherwood Road, Elwert Road, and Langer Farms Parkway. There is also an off-street shared-use path network following greenbelts and streams.

- There are portions of bike lanes on Hwy 99W, Tualatin-Sherwood Road, Edy Road, Meinecke Parkway, and Oregon Street.
- Tualatin-Sherwood Road (from Langer Farms Parkway to the east) has recently completed a roadway reconstruction with a shared-use path for bicyclists on both sides of the road. At some intersections, there are bike lanes to accommodate right-turning vehicles.
- Portions of Hwy 99W, Sherwood Boulevard, and Edy Road have a paved shoulder that cyclists may use.

Bicycle Network Gaps

A significant portion of the City's arterial and collector network has incomplete or no bike infrastructure at all. This is most pronounced in the southeast portion of the city, where there are no bike lanes on Murdock Road, Sunset Boulevard (east of Greengate Drive), Main Street, or Pine Street. The City is planning to add a westbound shared-use path and an eastbound on-street bike lane to Oregon Street between Langer Farms Parkway and Murdock Road.

The Sherwood Town Center has bike infrastructure on a handful of streets (Langer Farms Parkway, Century Drive, and portions of Langer Drive and Sherwood Boulevard). Downtown Sherwood has no bike infrastructure except for Oregon Street, a section of which is closed to vehicles.

According to the *Community Profile and Equity Analysis*, the areas of Sherwood with the highest vulnerability index scores are along Hwy 99W south of Sherwood Boulevard, Sherwood Town Center, the Main Street and Pine Street corridors south of downtown, the area around Stellar Drive, and the area around Roy Rogers Road and Pioneer Park. While all of these areas lack a comprehensive bicycle network, the areas around Main Street/Pine Street, Stellar Drive, and Roy Rogers Road/Pioneer Park are disproportionately under-served by existing bicycle infrastructure.

Preliminary Draft Bicycle Network Policies

As previously stated, the Sherwood TSP Update will include new and updated policies for each mode. A preliminary draft set of bicycle network policies are provided below. Discussions with City leadership will be needed to review and finalize all policies that will be included in the TSP Update.

- **B-1. Low-Stress Bicycle Network**

The City shall plan, develop, and maintain a connected, low-stress bicycle network that enables people of all ages and abilities to travel safely and comfortably between neighborhoods and key destinations. The TSP's Low-Stress Active Transportation Network and Bicycle Level of Traffic Stress (BLTS) methodology shall guide the identification, evaluation, and prioritization of bicycle improvements.

- **B-2 Bicycle Facility Selection and Design**

The City shall select bicycle facilities based on roadway characteristics, motor vehicle speeds and volumes, safety considerations, available right-of-way, and the intended level of bicycle comfort. Where feasible, designated low-stress bicycle routes shall provide facilities that meet the BLTS 2 threshold or better. Where constraints prevent this standard from being achieved, the City shall evaluate alternative treatments or parallel routes that improve connectivity and bicyclist comfort.

■ **B-3. Shared-Use Paths and Bicycle Connectivity**

The City shall pursue a connected shared-use path network that complements the on-street bicycle network and provides off-street walking and bicycling opportunities. The City shall prioritize opportunities to connect neighborhoods, schools, parks, employment centers, commercial areas, and regional trails.

■ **B-4. Bicycle Travel on Local Streets**

The City shall maintain local streets as an integral part of the low-stress bicycle network where roadway conditions support comfortable bicycle travel. Traffic-calming measures, speed management, wayfinding, and other appropriate treatments shall be considered where needed to reduce conflicts between bicyclists and motor vehicles and improve connections to designated bicycle routes.

■ **B-5. Bicycle Network Implementation and Funding**

The City shall use the TSP's bicycle network needs, BLTS analysis, project priorities, and evaluation criteria to guide implementation through the CIP, development review, grant funding, and other available funding opportunities. Prioritization shall consider safety, network continuity, access to key destinations, community needs, feasibility, and opportunities to coordinate bicycle improvements with other transportation projects.

■ **B-6. Bicycle Safety and Conflict Resolution**

The City shall incorporate bicycle safety and comfort into transportation planning, roadway design, and project development. The City shall identify and address locations where roadway conditions, traffic speeds, traffic volumes, intersections, or gaps in bicycle facilities create barriers to safe and comfortable bicycle travel.

■ **B-7. Safe Routes to School and Bicycle Access**

The City shall support safe and comfortable bicycling access to schools by coordinating with the Sherwood School District and other community partners to identify barriers and opportunities for improvement. The City shall consider school access when prioritizing low-stress bicycle routes, shared-use paths, bicycle crossings, traffic-calming measures, and connections between residential neighborhoods and school campuses.

Bicycle Network Improvement Program

Unlike the pedestrian network, the City's bicycle network is far from complete, and some existing bicycle facilities exceed the BLTS 2 standard that the City aims to meet. Identifying the

order for implementing bicycle treatments will be important for encouraging residents to travel further and more frequently by bicycle within the City.

A Bicycle Network Improvement Program can help the City choose what segments and paths to fund first. Factors to consider include:

- Identified safety concerns
- Proximity to schools, parks, and civic amenities
- Connections to key destinations
- Vulnerability Index score
- Street classification
- City priorities
- Cost

Additional Solutions

The proposed bicycle solutions include projects that enhance the City’s bicycle facilities beyond the low stress bicycle network. Two of the three projects are located within the Sherwood Town Center area, while the remaining project identifies a new bicycle connection at the north end of the City. These are shown in Table 2 below.

Table 2. Proposed Bicycle Solutions

ID	Name	Description
B1	SW Langer Farms Parkway Phase C Extension	Extend SW Langer Farms Pkwy on north side of 99W & SW TS Rd to promote development as well as provide bike/ped connection
B2	Baler Way Neighborhood Greenway	Add neighborhood greenway improvements (e.g., shared lane markings) to Baler Way between Trumpeter Drive and the eastern intersection with Century Drive.
B3	3rd Street Neighborhood Greenway	Add neighborhood greenway improvements on 3rd Street from Washington Street to Sherwood Boulevard.

Public Transit Network

Public transit provides connections within and to locations outside of Sherwood for those who may not choose or be able to travel by foot, bike, or motor vehicle. Expanding transit service, as well as access to transit, is important for increasing mobility for all residents and visitors in the community.

Fixed-route public transit in Sherwood is provided by TriMet and the Yamhill County Transit Area (YCTA). TriMet operates within the greater Portland region, and YCTA links Sherwood to Tigard and Yamhill County communities. TriMet LIFT also services the region. Additionally, the City of Sherwood operates a senior shuttle, a dial-a-ride service available to individuals aged 62 and older, operating three days a week from 9:30 AM to 4:00 PM.

TriMet maintains two park-and-ride facilities in Sherwood: one located in Old Town along Railroad Avenue with 30 spaces and another adjacent to the Sherwood Cinema Center on Tualatin-Sherwood Road with 50 spaces.

Future Transit Planning

TriMet's *Forward Together Revised Service Concept* identifies two routes to service Sherwood:

- **Route 130** would connect Sherwood Park & Ride with Tigard Transit Center, via OR 99W.
 - According to the *Forward Together* plan, Route 130 would replace the existing Route 94 service to Tigard Transit Center.
- **Route 131** would connect Sherwood at Langer Drive with Tualatin and Tigard Transit Center, via Tualatin-Sherwood Road, Upper Boones Ferry Road, Durham Road, and Hall Boulevard. *Forward Together* identifies this route as operating on 60-minute headways seven days a week.
 - According to the *Forward Together* plan, Route 131 would replace the existing Route 97, which connects Sherwood with Tualatin Park & Ride and Barbur Transit Center.

While TriMet's *Forward Together* network proposes the service expansions listed above, these improvements remain planned and unfunded, and their realization is not guaranteed.

Sherwood should also complete a study examining the need for local shuttle service. Such service is not likely to be provided by TriMet, and a growing community may desire local transit service to improve community mobility and access.

Safety Network

Improving safety across the City's transportation network is a top priority for the City. Through the City's goals and objectives work for the TSP update, Goal 1 was "Safe:"

"Design and operate the transportation system for the safety and well-being of travelers, minimizing traveler risk by providing low stress facilities that manage conflict through context-based design, modal separation, speed management, and other best practices.

Sherwood envisions no deaths or life-changing injuries on the transportation system by 2046."

Between 2019 and 2023, there were 894 reported crashes in Sherwood, underscoring the need to address traffic safety. Three crashes resulted in fatalities and 26 crashes resulted in serious injuries. Different analysis methods found intersections and corridors where there were a higher amount or proportion of crashes.

- ODOT's Safety Priority Index System (SPIS) identified eight locations with high crash frequencies (within the top 15 percent of all roadways in Washington County).
- Eight of the 15 study intersections for the TSP update had a documented crash issue. Documented crash issues include a fatal or severe injury crash, high intersection crash rates, or an intersection with an excess proportion of specific crash types.

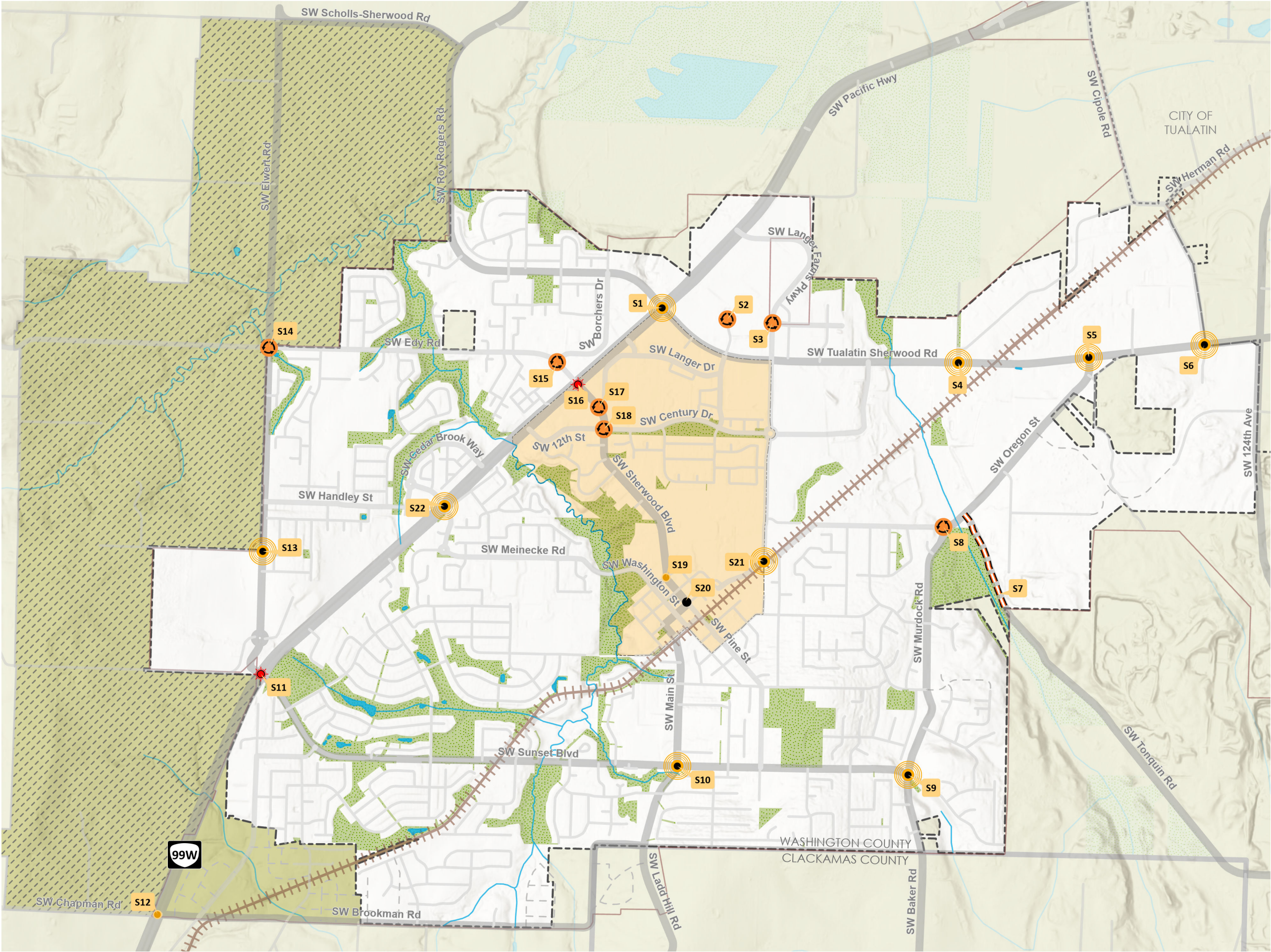
Figure 5 below shows the proposed intersection and corridor safety projects in Sherwood.

Figure 5

Safety Improvements

LEGEND

- Intersection Control Evaluation
- Intersection Improvement
- Roundabout
- TSMO
- Median Installation
- == Shoulder Widening
- Highway
- Arterial
- Collector
- Local
- - - Upcoming City Roadways
- +++ Rail Line
- Town Center
- ▭ Sherwood City Boundary
- ▨ Sherwood West Area
- ▭ County Boundaries
- ▭ Urban Growth Boundary
- Water Bodies
- Open Spaces / Trails



Solutions

The proposed safety solutions shown in Figure 5 above and in Table 3 below address many of these documented safety concerns.

- Of the eight SPIS locations in Sherwood, the safety solutions address six of these locations.
- Of the eight study intersections with a documented crash issue, the safety solutions address six of these intersections.
- There are seven identified roundabout projects. Roundabouts have been shown to have significant safety impacts, primarily through reduced vehicular speeds and the elimination of more dangerous crash types (angle and turn crashes, which are rare at roundabouts, are more likely to lead to fatal or severe injuries; sideswipe and rear-end crashes, which are more common at roundabouts, are less likely to lead to fatal or severe injuries).

Table 3. Proposed Safety Solutions

ID	Name	Description
S1	OR 99W And SW Tualatin-Sherwood Rd Safety Countermeasures	Install enhanced pavement markings, intersection warning signs, retroreflective signal backplates, and lighting improvements at the intersection to improve visibility and safety.
S2	Baler-Arrow Mini-Roundabout	Install a mini-roundabout to improve traffic operations, circulation, and access to surrounding development.
S3	SW Langer Farms Pkwy/ SW Arrow St Traffic Control	Install a single-lane roundabout to improve traffic operations, circulation, and access to surrounding development.
S4	Gerda Ln And SW Tualatin Sherwood Rd Safety Countermeasures	Improve the intersection through signal timing and phasing modifications, access management, and advance warning signs or flashing beacons where vehicle queues may extend into through lanes.
S5	SW Oregon Street at SW Tualatin-Sherwood Road Safety Countermeasures	Improve the intersection through signal timing and phasing modifications, access management, and advance warning signs or flashing beacons where vehicle queues may extend into through lanes.
S6	Cipole Rd And SW Tualatin – SW Sherwood Rd Safety Countermeasures	Improve the intersection through signal timing and phasing modifications, access management, and advance warning signs or flashing beacons where vehicle queues may extend into through lanes.
S7	Tonquin Road Safety Improvements	Widen Tonquin Road (from Grahams Ferry Road to Oregon Street) to provide shoulders.

ID	Name	Description
S8	Oregon Street- Murdock Rd- Tonquin Rd Traffic Control and Safety Countermeasures	Combine the Oregon Street/Tonquin Road intersection with Oregon Street/Murdock Road roundabout to create a dumbbell roundabout. Improvements include revised roundabout configurations, additional westbound approach capacity, and maintaining three lanes on the bridge structure.
S9	Sunset/Murdock Safety Countermeasures	Add a southbound right-turn lane and northbound left-turn lane at the intersection. Consider advance warning signs or flashing beacons where vehicle queues may extend into through lanes.
S10	Sunset-Main-Ladd Hill Rd Safety Countermeasures	Improve the intersection with a traffic signal, roadway widening, sidewalks, bicycle facilities, enhanced signage and pavement markings, intersection lighting, and pedestrian and bicycle crossing improvements.
S11	OR 99W And SW Elwert Rd/SW Sunset Blvd Safety Countermeasures	Modify lane configurations and signal operations at the intersection to improve operations and increase turn-lane storage. Consider advance warning signs or flashing beacons where vehicle queues may extend into through lanes.
S12	Hwy 99W/Brookman Rd/ Chapman Rd Intersection Control Evaluation	Complete Intersection Control Evaluation for the Hwy 99W/SW Brookman Road/SW Chapman Road intersection.
S13	Elwert Rd And Haide Rd Safety Countermeasures	Install enhanced signage, pavement markings, and intersection lighting at the intersection. Evaluate pedestrian and bicycle safety improvements.
S14	Elwert/Edy Traffic Control	Install a single-lane roundabout
S15	Edy/Borchers Traffic Control	Modify access at the intersection to allow right-in/right-out and eastbound left-in movements, and construct a roundabout on Edy Road to the west at the existing driveway.
S16	Edy/Highway 99W Intersection Improvements	Restripe the westbound Sherwood Boulevard approach to OR 99W to provide separate left-turn, through, and right-turn lanes. Modify signal phasing for the side streets while maintaining existing green time for northbound and southbound OR 99W through movements. Evaluate additional safety countermeasures as appropriate.

ID	Name	Description
S17	Sherwood Boulevard/ SW Langer Dr Safety Countermeasures	Modify access at the intersection and install a mini-roundabout with eastbound and westbound left-turn lanes. Consider geometric and approach improvements to address sight distance and intersection skew.
S18	Sherwood Boulevard/ SW Century Dr Traffic Control	Improve the intersection through sight-distance, geometric, and signal phasing improvements. Consider approach realignment, enhanced pavement markings, retroreflective signal backplates, and intersection lighting.
S19	SW 3rd St - SW Sherwood Blvd-SW Pine St Intersection Control Evaluation	Install a mini-roundabout or traffic signal at the intersection. Consider interim improvements, including turn-lane restriping, ADA-compliant curb ramps, and marked crosswalks.
S20	1st & Park St Safety Countermeasures	Add 6" raised concrete median w/ tubular markers on northbound leg of 1st-Pine to prevent left turns into parking lots for safety. Left turning vehicle causes 1st-Pine intersection to grid-lock; unsafe, cars can drive around grid system; very unsafe during AM-PM peak hour; driveway could be relocated to 1st or right-in/right-out.
S21	SW Langer Farms Pkwy And SW Oregon St Safety Countermeasures	Improve the intersection through signal timing and phasing modifications, access management, and advance warning signs or flashing beacons where vehicle queues may extend into through lanes.
S22	Meinecke/Highway 99W Intersection Improvements	Modify eastbound and westbound left-turn signal phasing on Meinecke Road from permissive to protected-permissive operation while maintaining existing green time for northbound and southbound OR 99W through movements.

Multimodal and Automobile Network

The proposed multimodal network improvements identify roadway projects that benefit all users of the facility: pedestrians, bicyclists, and motorists, and it includes the vehicular projects from the City's 2014 TSP update. The proposed automobile solutions address capacity-related problems at intersections. Both multimodal and automobile solutions are shown in Figure 7 below.

Figure 6

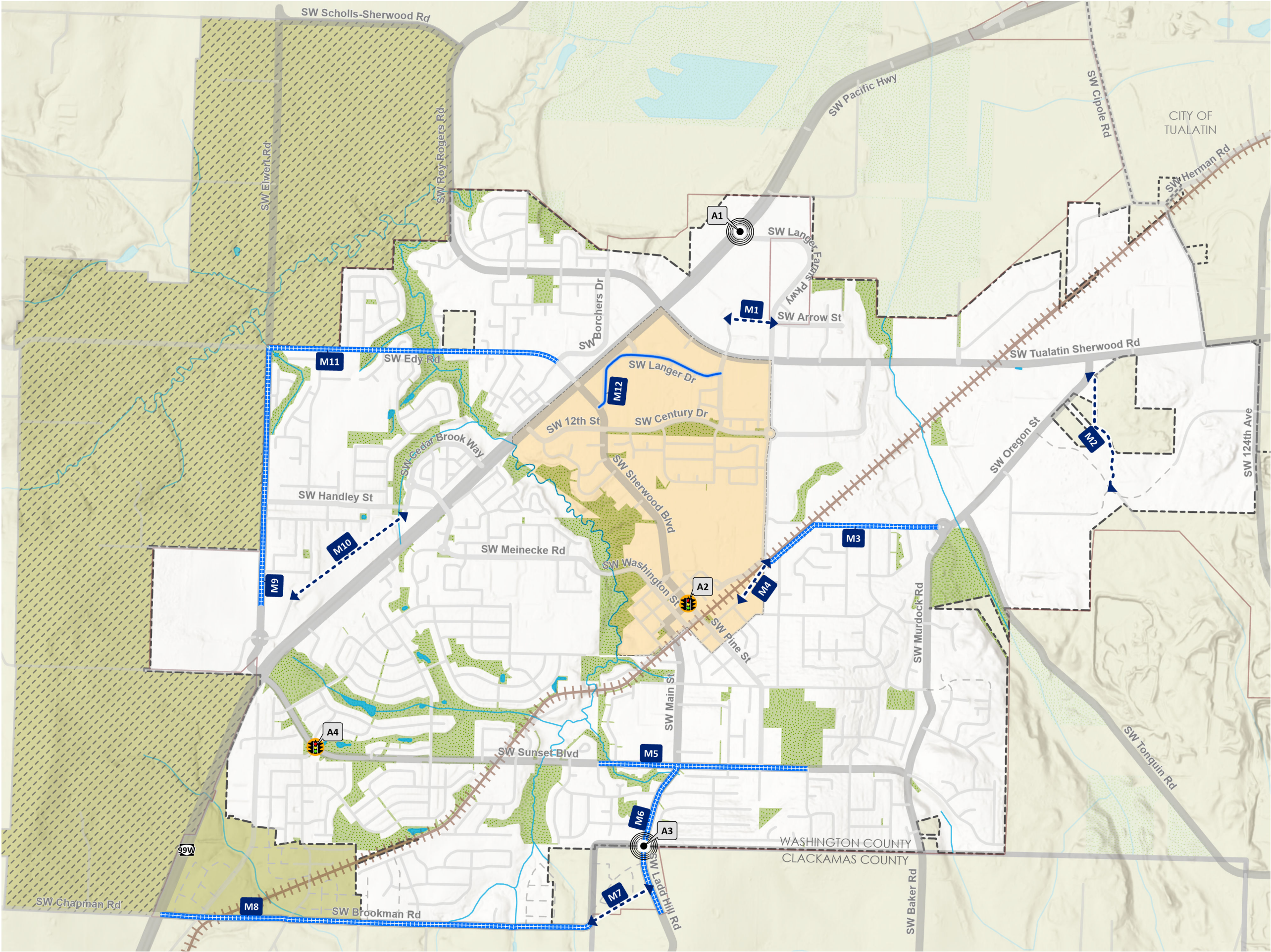
Multimodal & Roadway Network Improvements

LEGEND
Proposed Multimodal Solutions

- ↔ New Roadway Connection
- Roadway Retrofit
- ▬ Corridor Improvement

Proposed Auto Solutions

- ⊙ Intersection Improvement
- 🚦 Traffic Signal
- ▬ Highway
- ▬ Arterial
- ▬ Collector
- ▬ Local
- - - Upcoming City Roadways
- ⋈ Rail Line
- Town Center
- ▭ Sherwood City Boundary
- ▨ Sherwood West Area
- ▭ County Boundaries
- ▭ Urban Growth Boundary
- Water Bodies
- Open Spaces / Trails



Multimodal Needs

The multimodal project list aims to address connectivity gaps and corridor needs across the city.

The guidelines in Metro's *Regional Transportation Functional Plan* (RTFP) reveal connectivity gaps that limit network efficiency, resiliency, and mobility options in Sherwood. The standard stipulates that Arterial streets should be spaced approximately one mile apart, and collector streets approximately half a mile apart to provide a highly connected, resilient roadway network.

There are gaps in the City's Arterial and Collector street network. On the west side of Hwy 99W, there are few arterial streets to provide connections to major commercial areas. In the southwest area of the City, there are very few collector streets to provide necessary circulation within Sherwood. And in the northeast industrial areas, the street network is generally limited to arterials and collectors with few local or neighborhood roads, although the ongoing Ice Age Drive project will help address this issue. Overall, cul-de-sacs, limited through streets, and large block patterns restrict connectivity and force local trips onto arterial roads, reducing network efficiency and increasing congestion.

Multimodal Facility Types and Solutions

There are three project types shown in Figure 6 above. The project types reflect gaps in the street network and reflect other needs identified through public engagement and by City staff.

- **New Street Connection:** A new roadway, which typically provides a new connection between existing roadways
- **Roadway Retrofit:** The roadway is reconstructed to better support a variety of travel modes, including pedestrians, bicyclists, and motorists.
- **Corridor Improvement:** A street upgrade, often through a center turn lane or through additional vehicular through lanes

The multimodal solutions in the figure above are detailed in Table 4 below.

Table 4. Proposed Multimodal Solutions

ID	Name	Description	Project Type
M1	Baler to Herman Connection	Construct a new collector street connecting Baler Way at Tualatin-Sherwood Road to the future terminus of Herman Road at Langer Farms Parkway.	New Street Connection
M2	Dahlke Lane	Establish the ultimate alignment and industrial street section for Dahlke Lane between Ice Age Drive and Oregon Street, including roadway, pedestrian, utility, drainage, landscaping, and access improvements.	New Street Connection

ID	Name	Description	Project Type
M3	Oregon Street Improvements	Improve Oregon Street from Murdock Road to the railroad crossing as a three-lane collector street with a sidewalk along the south side and a shared-use path along the north side as part of the Ice Age Tonquin Trail.	Corridor Improvement
M4	Columbia Street Connection	Construct a new multimodal street connection for SW Columbia Street between SW Highland Drive and the SW Langer Farms Parkway/SW Oregon Street intersection. Complete Intersection Control Evaluation for the SW Langer Farms Parkway/SW Oregon Street/SW Columbia Street intersection, with an emphasis on roundabout operations analysis.	New Street Connection
M5	Sunset Boulevard Improvements	Improve Sunset Boulevard from Aldergrove Avenue to Eucalyptus Terrace as a three-lane arterial with sidewalks and bicycle facilities. Address vertical-curve sight-distance constraints near Pine Street.	Corridor Improvement
M6	Ladd Hill Road Improvements	Improve Ladd Hill Road from Sunset Boulevard to the Urban Growth Boundary as a three-lane arterial with bicycle lanes and sidewalks.	Corridor Improvement
M7	Street Connection from Brookman Rd to Ladd Hill Rd	Construct a new multimodal street connection between Brookman Road and Ladd Hill Road to improve east-west connectivity and provide an additional route through the area.	New Street Connection
M8	Brookman Road Improvements	Improve Brookman Road from OR 99W to Middleton Road as a three-lane arterial with a shared-use path along the north side.	Corridor Improvement
M9	Elwert Road Improvements	Improve Elwert Road from OR 99W to Edy Road as a three-lane arterial with bicycle lanes and sidewalks.	Corridor Improvement
M10	Cedar Brook Way Extension Segment	Extend Cedar Brook Way south from its existing terminus at Handley Street to Elwert Road as a two-lane collector street.	New Street Connection
M11	Edy Road Improvements	Improve Edy Road from Borchers Drive to the city limits as a three-lane collector street with bicycle lanes and sidewalks.	Corridor Improvement

ID	Name	Description	Project Type
M12	Langer Drive Improvements	Reconstruct Langer Drive between Baler Way and Sherwood Boulevard with buffered bicycle lanes, on-street parking, wider sidewalks, narrower travel lanes, landscaping, and removal of the center turn lane.	Roadway Retrofit

Automobile Needs

The automobile project list aims to intersection capacity deficiencies in Sherwood.

Completed TSP analysis work has sought to understand if any intersections are not projected to meet the automobile-based performance standards for the controlling jurisdiction. The automobile projects aim to address these deficiencies through increased intersection capacity.

Automobile Facility Types and Solutions

Table 5 below lists the proposed automobile solutions, as identified in Figure 6. The two project types reflect the intersection operational deficiencies identified previously and reflect other needs identified through public engagement and by City staff.

- **Intersection Improvement:** A general improvement to the intersection that can address safety, capacity, queuing, or multimodal access.
- **Traffic Signal:** Construction of a traffic signal and/or a pedestrian hybrid beacon at an intersection.

Table 5. Proposed Automobile Solutions

ID	Name	Description	Project Type
A1	Home Depot Signal, Turn-Lane Extensions & Restrictions Project	Reconstruct the intersection, upgrade the existing traffic signal, extend turn lanes, and modify access to the Home Depot property to right-in/right-out. Provide public right-in/right-out access at the north end of the property to improve safety, circulation, and access to surrounding development.	Intersection Improvement
A2	Traffic signal at SW 1st St and SW Pine St in Old Town.	Install a traffic signal at the SW 1st Street/SW Pine Street intersection to improve traffic operations and address recurring congestion.	Traffic Signal
A3	Ladd Hill/Brookman Improvements	Add a southbound right-turn lane at the Ladd Hill Road/Brookman Road intersection to improve intersection operations.	Intersection Improvement
A4	Sunset/Timbrel Traffic Signal	Convert Pedestrian Hybrid Beacon to full traffic signal, add signal pole/mast arm, widen northbound approach from SW Timbrel Lane to 3-	Traffic Signal

ID	Name	Description	Project Type
		lanes to provide dedicated left turn lane onto eastbound SW Sunset Blvd.	

Freight Improvements

Freight plays an important role in Sherwood's economy, supporting the transport of raw materials and finished products. As the existing conditions memo previously identified, Washington County has two types of truck routes within the City of Sherwood. These include:

- Over-Dimensional Truck Routes
 - Hwy 99W (also a state Reduction Review Route)
 - SW Tualatin-Sherwood Road
 - SW Roy Rogers Road
 - SW 124th Avenue
- Truck Routes
 - SW Tonquin Road
 - SW Oregon Street (from SW Tonquin Road to SW Tualatin-Sherwood Road)
 - SW Cipole Road

The City plans to adopt the County's freight network as City Freight Routes shown in Figure 7.

Transportation System Management and Operations

Transportation System Management and Operations (TSMO) relies on operational improvements to the roadway network, typically through technology, to improve operational performance. TSMO strategies are typically used to restore, preserve, or enhance operational efficiency and provide greater protection of pedestrians and bicyclists at signalized intersections.

TSMO strategies often include technological solutions, but technological components are not a requirement. Within Sherwood, TSMO strategies include, but are not limited to, traffic signal coordination, traffic incident management, traveler information signage, access management, and transportation demand management.

The traveler information sign on Hwy 99W northbound south of SW 12th Street is an example of one TSMO strategy being applied in Sherwood.

TSMO strategies will be most appropriate on higher-volume roadways, such as Hwy 99W and Tualatin-Sherwood Road, where either ODOT or Washington County own and operate the roadway. As capacity-enhancing options become more limited in these corridors, the City should work with ODOT and Washington County to explore TSMO strategies that may be most appropriate to implement.

Figure 7

Freight Network

LEGEND

- OHP Freight Route & Reduction Review Route
- Washington County Over Dimensional Truck Route
- Washington County Truck Route
- Highway
- Arterial
- Collector
- Local
- Upcoming City Roadways
- Rail Line
- Town Center
- Sherwood West Area
- Sherwood City Boundary
- County Boundaries
- Water Bodies
- Open Spaces / Trails

OHP - Oregon Highway Plan

Data Source:
Regional Land Information System (RLIS), Metro,
July 2025

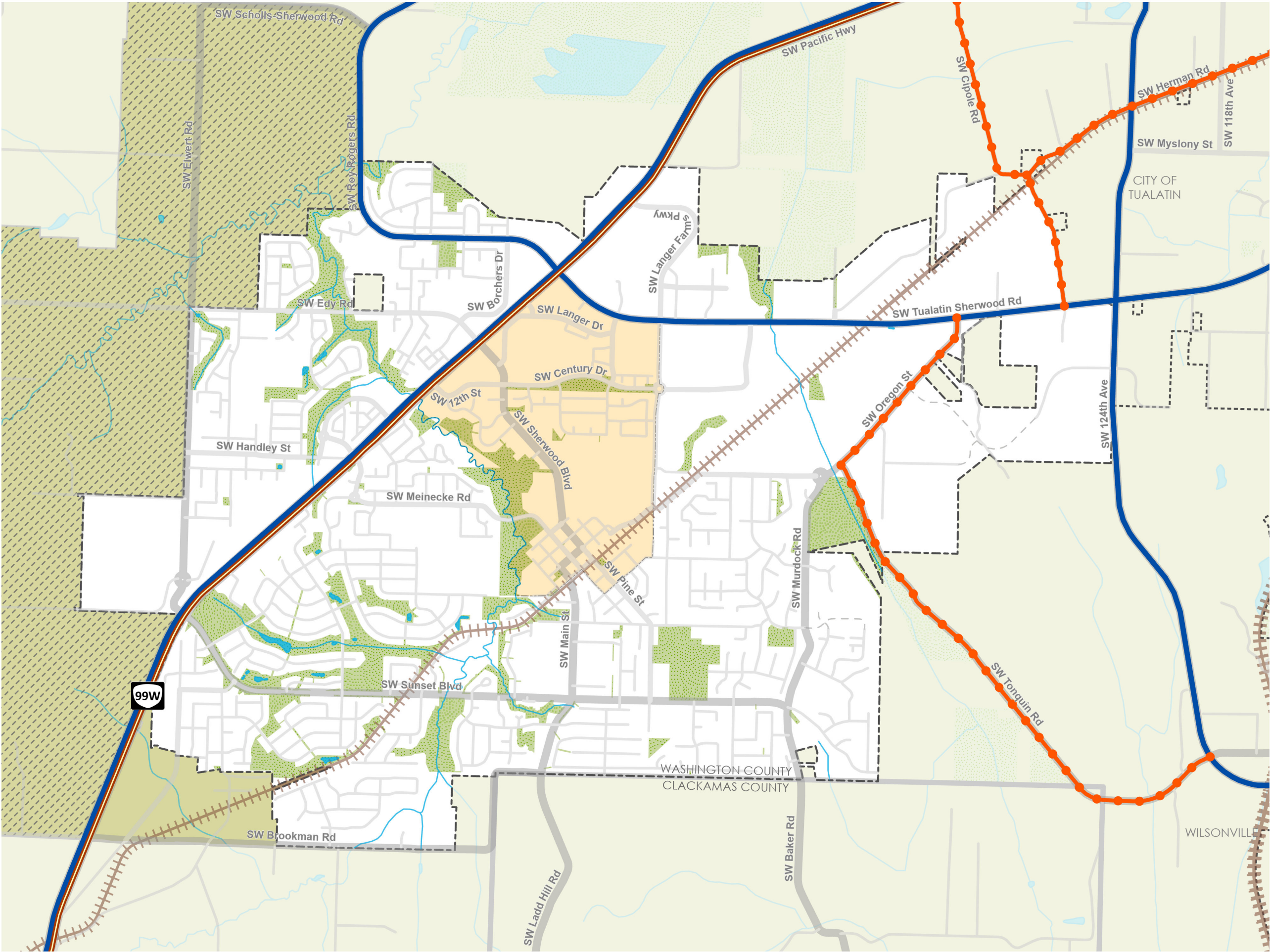


City of
Sherwood
Oregon

Home of the Tualatin River National Wildlife Refuge



0 0.1 0.2 0.3 Miles



Rail Network

The rail line within Sherwood is owned by Union Pacific Railroad (UPRR) and is operated by Portland & Western Railroad (PNWR), a subsidiary of Genesee & Wyoming Inc. The PNWR line runs in a northeast–southwest direction through Sherwood, generally parallel to OR 99W, between McMinnville and Tigard. The line is part of a regional short-line (Class II) network that provides access to the UPRR and BNSF (Burlington Northern Santa Fe Railway) mainlines in the Portland metropolitan area.

The PNWR rail line includes several at-grade crossings within the UGB. Most crossings are equipped with gates and flashing lights. Two crossings, one at Brookman Road and another at Middleton Road, are located outside the city limits but within the UGB. These two crossings are ungated, at-grade crossings with crossbucks and stop signs. South of Sherwood, the rail line crosses OR 99W via a grade-separated structure.

Identified rail solutions include:

- The Sherwood City Council has asked to pursue a reopening of the railroad crossing at SW Washington Street for pedestrians and bicyclists only.
- An extension of SW Columbia Street to the SW Langer Farms Parkway/SW Oregon Street intersection will necessitate an Intersection Control Evaluation of the intersection. Any future evaluation should explore a roundabout as a future intersection solution.

C. Guiding Policies for the Transportation System

In addition to projects and solutions by transportation mode, it is important to review and update guiding policies as necessary for the City's transportation system. This section will review the City's roadway design standards, parking management practices (in relation to updated Transportation Planning Rule objectives), and access management strategies.

Roadway Design Standards

While the functional classification network identifies the purpose and function of each street in Sherwood, the roadway design standards provide the details for how each classification will be laid out to meet its purpose.

Sherwood has existing cross sections for all functional classifications, currently located in Volume 1, Section 8 of the City's existing TSP from 2014. These cross sections cover Arterial streets (from two-lane sections to seven-lane sections, with notes stating that the seven-lane sections apply to OR 99W and are subject to ODOT review), Collector streets (from two-lane sections to three-lane sections, with a separate section for Langer Farms Parkway), and Local/Neighborhood streets (from 28-foot sections to 50-foot sections). The City also has cross sections for Residential/Pedestrian streets in downtown, as well as three separate Trail sections.

The Transportation Planning Rule (TPR) requires jurisdictions to have roadway design standards that reflect the minimum size necessary for the function, land use context, and facility users of the roadway. These cross sections cover the function, land use context, and users for each classification, and the different sections per classification can provide the minimum size necessary to achieve these needs. All sections have dedicated space for pedestrians and bicyclists, except for the 28-foot and 36-foot Local/Neighborhood Street sections, where bicyclists and vehicles are expected to share the road at low speeds and low vehicle volumes.

At this time, no changes to the City's street cross sections have been identified.

Parking Management

The TPR requires cities within metropolitan areas (which includes Sherwood) to remove parking mandates and to implement parking regulation improvements, parking maximums, and electric vehicle charging with new development. These updates were outlined in the state's Climate-Friendly and Equitable Communities Rulemaking. The City satisfied these requirements through amendments to codes and ordinances completed in 2023.

Access Management

The term "access management" is commonly used to describe the practice of managing the number, placement, and movements of intersections and driveways that provide access to adjacent land uses. Access management policies can be an important tool to improve

transportation system efficiency by limiting the number of opportunities for turning movements on to or off of certain streets. In addition, well deployed access management strategies can help manage travel demand by improving travel conditions for pedestrians and bicyclists. Eliminating the number of access points on roadways allows for continuous sidewalk and bicycle facilities and reduces the number of potential interruptions and conflict points. Access management can be extremely difficult to implement once properties have been developed along a corridor. Cooperation among and involvement of relevant government agencies, business owners, land developers, and the public is necessary to establish an access management plan that benefits all roadway users and businesses.

Access Management Alternatives

The TSP should identify access management strategies that help to preserve transportation system investments and guard against deteriorations in safety. The City's approach to access management should balance the need for land use activities and property parcels to be served with appropriate access while preserving safe and efficient movement of traffic. The access management alternatives considered for Sherwood include:

- Update the city-wide access spacing standards to include spacing between driveways,
- Define a variance process for when the standard cannot be met, and
- Establish an approach for access consolidation over time to move in the direction of the access spacing standards at each opportunity.

Access Spacing Standards

ODOT and the City have adopted access spacing standards for study area roadways. ODOT's access spacing standards are defined in Oregon Administrative Rule (OAR) 734 Division 51 and apply to access points along Highway 99W. The City's access spacing standards are defined in the City's *Engineering Design and Standard Details Manual*, summarized in Table 6 below.

Table 6. City Access Spacing Standards

Functional Classification	Roadways & Driveway Spacing (max)	Full Access Intersection Spacing (min)	Limited Access Intersection Spacing (min)	Driveway Spacing (min)
Principal Arterial	n/a	1,000 feet	500 feet	500 feet
Arterial	n/a	600 feet	300 feet	300 feet
Collector	530 feet	400 feet	400 feet	200 feet
Neighborhood	530 feet	200 feet	n/a	n/a
Local	530 feet	200 feet	n/a	n/a

As shown in Table 6, the City's access spacing standards are currently determined by functional classification and include spacing between intersections (both limited and full access) and between intersections and driveways.

Access Consolidation

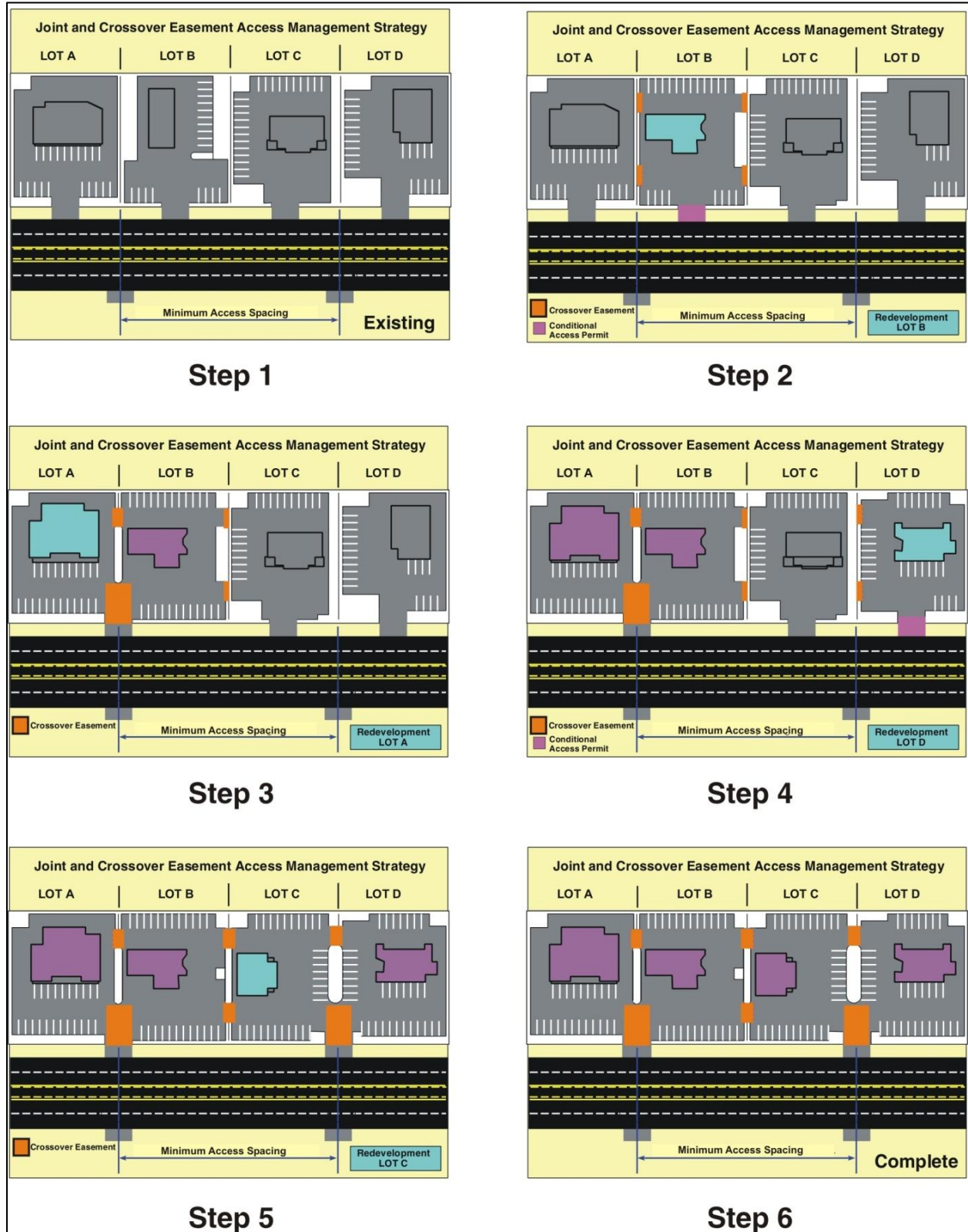
Access management measures reduce safety concerns, often due to redundant access points along roadways. Actions can preserve/restore roadway capacity and improve safety. Enforcement of the access spacing standards should be complemented with provision of alternative access points. Purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously affect the viability of the impacted properties.

As part of every land use action, the City should evaluate the potential need for conditioning a given development proposal with the following items in order to maintain and/or improve traffic operations and safety along the arterial and collector roadways.

- Providing access only to the lower classification roadway when multiple roadways abut the site.
- Provision of crossover easements on all compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels.
- Issuance of conditional access permits to developments having proposed access points that do not meet the designated access spacing policy and/or can align with opposing driveways.
- Right-of-way dedications to facilitate the future planned roadway system in the vicinity of proposed developments.
- Half-street improvements (sidewalks, curb and gutter, bike lanes/paths, and/or travel lanes) along site frontages that do not have full build-out improvements in place at the time of development.

Figure 8 illustrates the application of cross-over easements and conditional access permits over time to achieve access management objectives. By using these guidelines, all driveways along a given corridor can eventually move in the overall direction of the access spacing standards as development and redevelopment occur.

Figure 8. Cross Over Easement Step-by-Step Diagram



Next Steps

Following the completion of this memorandum, the project team will be preparing a technical memorandum containing the set of preferred solutions, relevant planning-level cost estimates, and supporting funding plan. Projects will be evaluated to determine which should be included in the cost feasible plan and which will be deemed illustrative (likely unfunded within the 20-year planning horizon).