City of Boardman

TRANSPORTATION SYSTEM PLAN

Boardman STRATEGIC PLAN
CONNECTING COMMUNITIES
Making big dreams a reality.

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Boardman
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City of Boardman

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City of Boardman

TRANSPORTATION SYSTEM PLAN

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The contents of this document do not necessarily reflect views or policies of the State of Oregon.

TSP Organization

The Boardman Transportation System Plan (TSP) is presented in two volumes. Volume I constitutes the main TSP document and contains information that is likely to be of interest to the broadest audience. Volume II contains the technical analysis and all other supporting documents that were generated throughout the planning process.

Volume I

Volume I includes the following plan chapters:

- **Chapter 1 - Introduction**: An overview of the planning context for the TSP.
- **Chapter 2 – Goals and Objectives**: Goals and objectives that reflect the community's long-term vision for the transportation system.
- **Chapter 3 – Transportation Context**: A high-level overview of the existing and future transportation system deficiencies and needs.
- **Chapter 4 – Guiding the Transportation Network**: An overview of the key system elements that guide future changes to the multimodal transportation system over the next 20 years.
- **Chapter 5 –Transportation Improvement Projects**: Recommended projects to support the city's anticipated transportation needs over the next 20 years.
- **Chapter 6**: Overview of transportation funding and implementation.

Volume II Technical Appendices (Under Separate Cover)

Volume 2 includes the following technical appendices:

- Appendix A: Community Profile and Trends
- Appendix B: Plans and Policy Review
- Appendix C: Goals, Objectives, and Evaluation Criteria
- Appendix D: Code Assessment Memorandum
- Appendix E: Methodology Memorandum
- Appendix F: Existing Conditions Inventory and Analysis
- Appendix G: Future Conditions Analysis
- Appendix H: Proposed Solutions
- Appendix I: Implementing Ordinances
- Appendix J: Public Outreach Summary

City of Boardman
TRANSPORTATION SYSTEM PLAN

Chapter 1 Introduction

The Boardman Transportation System Plan (TSP) establishes a vision for the multimodal transportation system within Boardman for the next 20 years. The transportation system is intended to move people, goods, and services to, through, and within the City of Boardman and its Urban Growth Boundary (UGB). The system is used in essential aspects of daily life, including commuting to and from workplaces and schools, fulfilling basic needs, and recreating. The TSP aims to support projects, programs, and further studies that will upgrade and maintain the local transportation system to meet the needs of all users.

TSP Purpose

The Boardman TSP identifies the transportation facilities, services, and investment priorities necessary to achieve the community's vision for a safe, efficient, and reliable transportation system. To meet future needs anticipated from ongoing growth over the next 20 years, the plan identifies priority investments, policies, and programs to support future transportation and land use decision making through the City's Comprehensive Plan. The TSP also serves as a resource for coordination amongst regional, local, and state agencies by providing:

- Location, function, and capacity of future streets, sidewalks, bikeways, pathways, transit services, and other transportation facilities.
- Solutions to address existing and future transportation needs for people walking, biking, riding transit, driving, and moving freight;
- Strategies to prioritize transportation investments that improve safety and access for all users of all ages and abilities; and
- Planning-level cost estimates for transportation infrastructure investments needed to support the community's vision, as well as possible funding sources and partners for these investments.

The TSP satisfies the state's requirements for a local transportation system plan to provide and encourage a safe, convenient, and economic transportation system, as established by Oregon Statewide Planning Goal 12: Transportation (OAR 660-012-0015).

TSP Process

The Boardman TSP was updated through a process that identified transportation needs, analyzed potential options for addressing those needs over the next 20 years, and provided a financial assessment of funding and a prioritized implementation plan. The following steps were involved in this process:

- Reviewing state, regional, and local transportation plans and policies that the Boardman TSP must either comply with or be consistent with.
- Gathering community input through regular interactions with a project advisory committee (PAC) and multiple public workshops/engagement activities.
- Establishing goals and objectives for the future transportation network
- Using a detailed inventory of existing transportation facilities and serve as a foundation to establish needs near- and long-term.

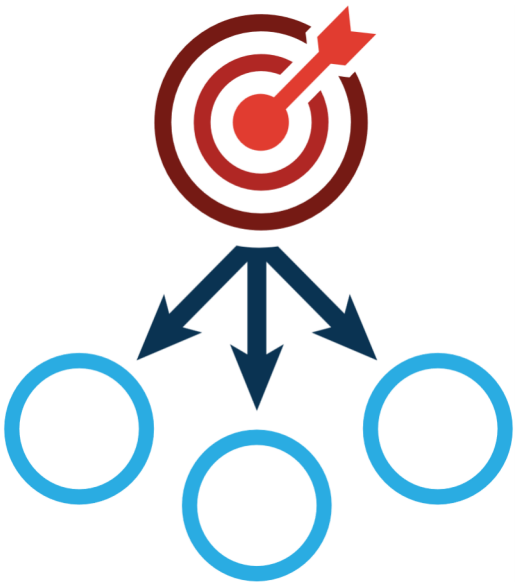
- Identifying and evaluating future transportation needs to support the land use vision and economic vitality of the urban area.
- Prioritizing improvements and strategies that are reflective of the community's vision and fiscal realities.

Guiding Principles and Context

The TSP was developed in compliance with Oregon Revised Statute (ORS) 197.712 and the Department of Land Conservation and Development (DLCD) administrative rule known as the Transportation Planning Rule (TPR, OAR 660-012). These rules require that the TSP provides for a transportation system that accommodates the expected growth in population and employment based on the visions and expectations of the Comprehensive Plan. As required by the TPR, the TSP was developed in coordination with local, regional, and state plans, which helped shape the TSP's goals and objectives, as detailed in Chapter 2.

Per the TPR, this TSP identifies multimodal transportation needs for users of all ages, abilities, and incomes. As such, the TSP identifies solutions to address existing and future transportation needs, with a focus on enhancing safety and connectivity for people bicycling, walking, using transit, and driving. Also per the TPR, updates for the City's development code have been prepared to support implementation of the solutions in the TSP (see TSP Vol II, Appendix I).

Chapter 2 Goals and Objectives



The TSP goals are broad statements that, at a high level, reflect the community's desires and vision for the local transportation system. At the onset of the planning process, Boardman defined six goals and supporting objectives for its transportation system. These goals and objectives helped guide the review and documentation of existing and future transportation system needs, the development and evaluation of potential alternatives to address the needs, and the selection and prioritization of preferred projects for inclusion in the TSP update. The goals and objectives will enable the City to plan for, and consistently work toward, achieving the community vision.

These goals and objectives are presented below. Each goal is equal in priority and presented in no particular order.

Goal #1: Safety

Goal Statement	Objectives
Improve the safety and comfort of the multimodal transportation network.	Objective #1a: Address known safety issues at locations with a history of fatal and/or severe injury crashes.
	Objective #1b: Identify and prioritize transportation improvements that provide safe access for all users, regardless of age, ability, or mode of transportation.
	Objective #1c: Manage vehicular access to key transportation corridors consistent with engineering standards and access management principles, while maintaining reasonable access to adjacent land uses.

Goal #2: Mobility

Goal Statement	Objectives
Provide an efficient multimodal transportation system.	Objective #2a: Identify capacity constraints and develop projects and strategies to address those constraints, including intersection improvements, new crossings of I-84, and alternative multimodal connections.
	Objective #2b: Preserve and maintain the existing transportation system.
	Objective #2c: Support local and regional transit services through the advancement of stop amenities, service hubs, etc.

Goal #3: Accessibility & Connectivity

Goal Statement	Objectives
Provide an interconnected, multimodal transportation network that connects all members of the community to key destinations	Objective #3a: Provide new connections to/from Boardman's neighborhoods, schools, parks, transit stops, employment centers, and other key destinations.
	Objective #3b: Address existing walking, biking, and rolling gaps in Boardman's multimodal network.
	Objective #3c: Increase multimodal connectivity across I-84.

Goal #4: Community Focused

Goal Statement	Objectives
Provide a multimodal transportation system for all users to promote a livable and fully connected community.	Objective #4a: Ensure that the transportation system provides equitable multimodal access for underserved and vulnerable populations to schools, parks, employment centers, commercial centers, health and social services, and other essential destinations.
	Objective #4b: Strengthen economic opportunities through the development of new transportation infrastructure.

Goal #5: Sustainability

Goal Statement	Objectives
Provide a sustainable transportation system by promoting transportation choices and preserving environmental resources.	Objective #5a: Consider alternative transportation facility designs in constrained areas to avoid or minimize impacts to natural resources.
	Objective #5b: Avoid or minimize transportation impacts to natural and cultural resources in the city.

Goal #6: Strategic Investment

Goal Statement	Objectives
Make the most of transportation resources by leveraging available funding opportunities, preserve existing infrastructure, and reduce system maintenance costs.	Objective #6a: Preserve and maintain the existing transportation system assets to extend their useful life.
	Objective #6b: Pursue grants and collaborate with partnering agencies to creatively fund transportation improvements and supporting programs.
	Objective #6c: Identify and maintain stable and diverse revenue sources to address transportation needs.

Chapter 3 Transportation Context

This chapter provides a high-level overview of findings from the transportation needs assessment, describing existing and future deficiencies in the transportation system based on existing conditions of each travel mode, population forecasts, and the community's vision for a connected, accessible, and equitable transportation system.

Existing Transportation Conditions

The assessment provides a baseline understanding of the existing transportation system inventory and an analysis of how it operates, including traffic conditions, street connectivity, safety performance, and other aspects. The inventory also covers a review of land uses and population demographics to understand how they are served by the current transportation system.

Details on the inventory, review, and analyses of needs are provided in Volume II, Appendix D. Key highlights of the inventory and findings are presented in Table 3-1 with more details are provided in the following sections.

Table 3-1 Existing Conditions Key Findings

Needs Category	Key Findings
Land Uses & Population Demographics	• The City of Boardman has significant residential growth potential, with many of these growth areas located south of the I-84 corridor. To ensure the transportation system effectively serves this growth, it is critical to plan for a balanced multimodal transportation system. • The Boardman UGB is geographically large but limited in some areas by land use constraints that can restrict connectivity to and from certain areas. To address these challenges, targeted strategies and transportation system improvements are needed to enhance existing connections and identify feasible options for new connections. • Ensuring access to key destinations and local activity centers including schools, recreation areas, parks, and businesses is important for maintaining a high quality of life for residents.
Streets	• There are many infill development opportunities. An expansion of the existing street grid network is needed to service this development potential. • Maintenance of existing facilities is a key need for the Urban Area.
Intersections	• Intersection improvements are needed at locations that are currently exceeding or projected to exceed capacity limitations by 2045. These key intersections are located along the Main Street corridor and the two I-84 interchange terminals at Main Street and Laurel Lane.
Safety	• No fatal crashes were identified at any study intersections. • The observed crash rate at the S Main Street / Wilson Lane intersection exceeds the 90th percentile crash rate. The urban four-leg stop controlled crash rate was used in the comparison. It is noted that if the rural four-leg stop controlled rate was used then the observed crash rate would not exceed the 90th percentile crash rate. Angle and turning-movement crashes were predominantly observed at this intersection.

Needs Category	Key Findings
Walking & Biking Facilities	• Walking and biking infrastructure is improving. While sidewalks exist on one or both sides of some key corridors like Main Street, there are still gaps in the supporting collector and neighborhood collector network. As infill development occurs, it will be important to address these gaps and ensure a fully connected network that meets the walking and biking needs of all community members.
Public Transportation	• Continued coordination between the City, Morrow County, and other transit providers is necessary to ensure that transit is a safe, reliable, and efficient transportation option.
Freight, Rail, & Marine	• The Boardman Urban Area has a variety of freight, rail, and marine infrastructure that serve vital roles in the movement of goods. To support economic growth and ensure the safe and efficient movement of freight through the Urban Area, it is essential that these critical facilities effectively meet regional transportation needs.

Population Forecasts

Future transportation needs were identified based on the existing transportation needs summarized previously and the anticipated growth in households within the Urban Area. The Portland State University (PSU) Population Research Center forecasts that the population within the UGB is expected to increase by 5,429 people as of the year 2045, representing an annual average growth rate of 3.5 percent.

Future No-Build Traffic Analysis

To understand the needs of people driving and transporting freight in the Boardman Urban Area in 20 years, a future no-build traffic analyses was performed at key intersections using forecast year 2045 traffic volumes. These analyses help identify areas that are expected to exceed applicable performance targets/standards in 2045 and inform transportation projects, policies, and programs needed to support economic growth through the planning horizon.

Details on how traffic volumes were developed are provided in Volume II, Appendix E. Ten intersections are forecast to exceed their mobility targets in either the weekday AM or PM peak hour conditions or both in 20 years including intersections owned by both ODOT and the City.

Chapter 4 Guiding the Transportation Network

Boardman manages its transportation network through a variety of management plans, regulations, and standards to ensure a cohesive and coordinated system and one that reflects the goals and objectives of the City. This chapter presents the key system elements that guide needed changes to the multimodal transportation system over the next 20 years. A detailed project list and associated cost estimates are provided in Chapter 5.

Roadway Jurisdiction

The roadways within the Boardman UGB fall under City, Morrow County, Port of Morrow, or ODOT jurisdiction. The respective jurisdiction of individual street segments is illustrated in Figure 4-1 as of December 2025.

The City, Port of Morrow, and County intend to continue managing and maintaining their streets. It is recognized that streets within the UGB currently under County jurisdiction could be transferred to City control over time through various land use actions, such as annexations. Future potential transfers will be evaluated individually and carried out in accordance with relevant agreements between the City and the County.

Figure 4-1

Roadway Jurisdiction

as of December 2025

Boardman STRATEGIC PLAN
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- City of Boardman
- Morrow County
- Oregon Department of Transportation
- Port of Morrow
- Public
- Private
- City Boundary
- Urban Growth Boundary
- Park
- Water

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0 0.25 0.5 Mile

Columbia River
Marine Dr
Eldrige Dr
Columbia Ave
Ullman Blvd
Industrial Wy
Rippee Rd
Olsen Rd
Boardman Ave
2nd St
Front St
84
SW 1st St
SE 1st St
Oregon Trail Blvd
Kinkade Rd
Willow Fork Dr
Tatone St
Anderson Rd
Olson Rd
Laurel Ln
Garrison Ln
Mt Adams Ave
Faler Rd
Wilson Rd
River Ridge Dr
Juniper Dr
Main St
Kunze Ln
Miller Rd
Downey Rd
Skoubo Rd
Paul Smith Rd
Hilltop Rd
Parkside Rd
Canal Ln

Roadway Functional Classification System

Roadway functional classifications organize the street network based on their role in the transportation system. The classifications define a roadway by their intended mobility and access control as they relate to land use. They designate desired street characteristics such as operational and design characteristics, pavement width, driveway (access) spacing requirements, and context-appropriate pedestrian and bicycle facilities.

The City's roadway functional classification system is illustrated in Figure 4-2 and consists of the following designations:

- **Freeways** are limited-access roads designed mainly for motorized vehicles traveling across regions or states. They provide the highest level of mobility and are typically high-speed routes with widely spaced access points in the form of interchanges.
- **Arterials** are major roadways designed primarily to facilitate traffic flow through the urban areas. They support significant intra-urban travel and connect Boardman to other regional travel corridors. While arterials may provide access to adjacent properties, their primary function is to accommodate major traffic movements. They accommodate bicycle and pedestrian movements.
- **Collectors** connect arterials to neighborhood collectors and the local street network. Collectors gather traffic from local streets and sometimes provide direct land access, channeling it toward arterial roads. They directly serve commercial/industrial land uses, are shorter than arterials, and operate at moderate speeds. They accommodate bicycle and pedestrian movements.
- **Neighborhood Collectors** extend into local neighborhoods, supporting local traffic circulation primarily within residential areas. They typically carry lower traffic volumes at slower speeds compared to collectors. They accommodate on-street parking and pedestrian movements with shared-lane markings for bicyclists.
- **Local Streets** are primarily intended to provide access to abutting residential land uses. Local street facilities offer the lowest level of mobility and consequently tend to be short, low-speed facilities. As such, local streets should primarily serve passenger cars, pedestrians, and bicyclists. They accommodate on-street parking and pedestrian movements.

Over time, as the city continues to grow, functional classifications will be periodically revisited to ensure that street designations are still appropriate. Future land use approvals may require changes to existing streets (beyond those identified in the TSP) consistent with functional classification requirements.

Figure 4-2

Roadway Functional Classification System

Boardman STRATEGIC PLAN
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- Freeway
- Arterial
- Planned/Future Arterial
- Collector
- Planned/Future Collector
- Neighborhood Collector
- Planned/Future Neighborhood Collector
- Local
- City Boundary
- Urban Growth Boundary
- Park
- Water

See Local Street Connectivity Plan for future local street connections

Generated On: 9/26/2025

0 0.25 0.5 Mile

Note: Future roadway alignments shown on the map are approximate and subject to further refinement.

Multimodal Network Design

The multimodal network is guided by a policy framework that establishes the function, design, construction, and operation of travel ways in Boardman.

Roadway Design Framework

All roadways in Boardman will consist of different zones that accommodate motor vehicle travel, on-street parking, bicycle travel, landscaping/buffers, pedestrian travel, and utilities. These zones are outlined below. Figure 4-3 provides a visual representation of these zones as they are applied to the City's Functional Classification network.

CURB-TO-CURB ZONE

The curb-to-curb zone supports multiple travel zones and functions including:

- Motor Vehicle Zone – Supports motor vehicle functions.
- Median Zone – Supports motor vehicle turning functions and, where appropriate, medians for access management. The median zone is unique to the Arterial and Collector designations.
- On-Street Parking Zone – Supports on-street parking accommodations and is unique to the Neighborhood Collector and Local Street designations.
- Bicycle Zone – Supports bicycling accommodations such as striped bicycle lanes and shared/mixed travel lanes. Striped bicycle lanes are unique to the Arterial and Collector designations.

BUFFER ZONE

The buffer zone is a hardscaped (or landscaped in some situations) area that separates the motor vehicle functions in the curb-to-curb zone from the adjacent pedestrian zone. The buffer zone is unique to the Arterial and Local Street designations as shown in Figure 4-3.

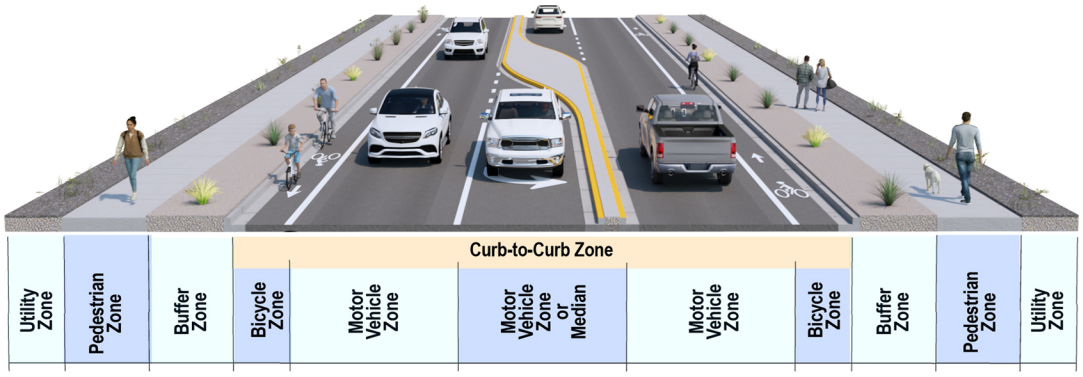
PEDESTRIAN ZONE

The pedestrian zone supports the sidewalk network. All roadways have a pedestrian zone, but the width and location vary by functional classification.

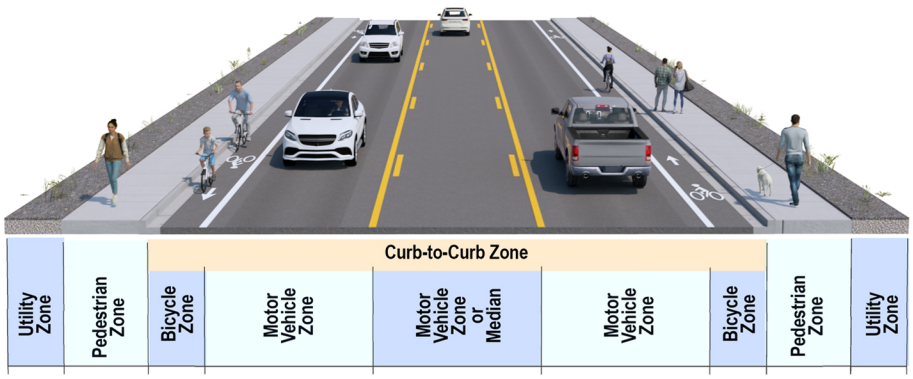
UTILITY ZONE

The utility zone is located outside the pedestrian zone and includes right-of-way for the placement of utilities and other supporting infrastructure.

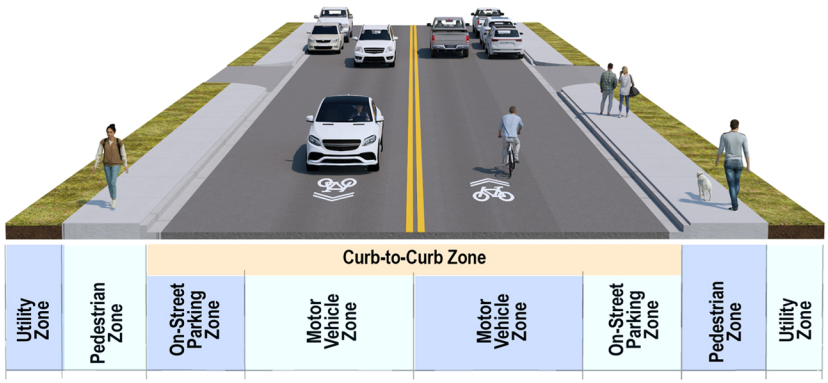
Arterial



Collector



Neighborhood Collector



Local Street

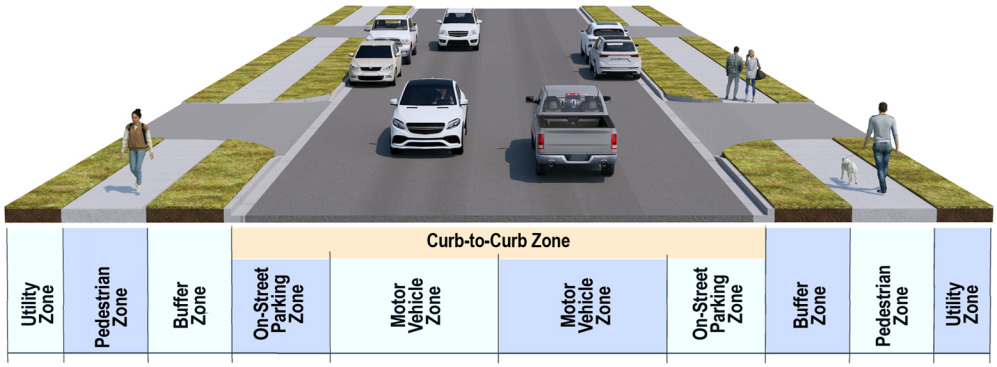


Figure 4-3

Roadway Design Framework

Boardman STRATEGIC PLAN
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Note: This figure is a policy framework that helps to establish the function, design, and operation of travel ways in Boardman. See Boardman Public Works Standards for roadway cross section design details and dimensions.

Based on this framework, the City of Boardman has developed detailed roadway cross section standards specific to each functional classification. These standards are contained in the City of Boardman's *Public Works Standards*. The street cross sections are intended 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.

Unless prohibited by significant topographic or environmental constraints, newly constructed streets should meet the standards indicated in the cross sections. When widening an existing street, the City may use lesser standards than the maximum to accommodate physical and existing development constraints where determined to be appropriate by the Public Works Director.

SEPARATED MULTI-USE PATHS

Separated multi-use paths are designed to accommodate a variety of users, including pedestrians, cyclists, and other users of non-motorized forms of transportation. The pathways typically separate these uses from vehicular traffic to enhance safety and provide a more pleasant experience for all ages and abilities. Multi-use pathways are typically located in their own right-of-way. Multi-use pathway standards are contained in the City of Boardman's *Public Works Standards*.

Photo Credit: Amanda Mickles

Vehicle Performance Standards

Vehicle performance standards (also known as operational standards or mobility targets) for streets and intersections define the maximum amount of congestion that an agency or community has deemed acceptable. These standards are commonly used to assess the impacts of proposed land use actions on vehicular operating conditions and are one measure that staff use to determine transportation improvement needs for project planning.

Mobility targets are typically defined by motor vehicle level of service (LOS), which is presented as grades "A" (free-flow traffic conditions) to "F" (congested traffic conditions) and/or by a volume-to-capacity ratio (V/C), which represents the amount of measured traffic volumes that are utilizing the capacity of a street or intersection. As V/C ratios approach 1.0, traffic congestion increases.

City street performance standards for motor vehicles are identified in the Boardman Development Code (BDC).

Truck Freight System

Truck freight route classifications are provided at the State and Federal levels. In Oregon, the Oregon Highway Plan documents State freight designations. Locally, Boardman has established a local truck freight route network that supports truck freight movements off the State Highway System. The truck freight system is illustrated in Figure 4-3 and consists of the following:

- **Regional Truck Route** - Regional Truck Routes accommodate the continuous and regional flow of truck freight through the city. These routes serve as the primary travel routes for regionally oriented truck freight, connecting freight-generating land uses to the state highway network. They are consistent with the NHS Intermodal Connectors.
- **Local Truck Route** - Local Truck Routes serve local truck circulation and access and provide for goods and service delivery to individual commercial, employment, and residential land uses outside of industrial areas.

Designated truck parking along SW Front Street

Figure 4-4

Truck Freight System

Boardman STRATEGIC PLAN
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- Regional Freight Route
- Local Freight Route
- Proposed Future Local Freight Route
- High, Wide, and Heavy Freight Routes
- City Boundary
- Urban Growth Boundary
- Park
- Water

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0 0.25 0.5 Mile

Chapter 5 Transportation Improvement Projects

This chapter presents the transportation system improvement projects that are intended to address Boardman's circulation needs over the next 20 years. These projects represent recommended investments in the transportation system that can provide a (1) safe, (2) efficient, (3) interconnected, (4) community focused, (5) sustainable, and (6) achievable multimodal transportation network.

Projects were identified and prioritized through feedback obtained from the community and stakeholders, technical analysis of existing/projected travel patterns, input from partnering agencies, and forecast funding levels. Many of the identified projects carry forward the recommendations from prior plans or studies adopted by the City, Morrow County, and/or ODOT. Specific references are identified in the project tables contained in this chapter. Original priorities for projects identified in prior plans and studies have been maintained, unless findings from this TSP warranted adjustments; priorities for new projects were determined using the goals and policies in Chapter 2 and from community input.

Inclusion of a project in the TSP does not represent a commitment by the City of Boardman to fund, allow, or construct the project. Projects on the State of Oregon ("State") Highway System that are contained in the TSP are not considered "planned" projects until they are programmed in the Statewide Transportation Improvement Program (STIP). As such, projects proposed in the TSP that are located on a State Highway cannot be considered until they are programmed into an adopted STIP or ODOT provides a letter indicating that the project is "reasonably likely" to be funded in the STIP. For the purposes of the TSP, transportation projects involving ODOT are identified for planning purposes and for determining planning-level costs. As part of the TSP implementation, the City will continue to coordinate with ODOT and other partner agencies regarding project prioritization, funding, and implementation.

This section presents the future transportation investment projects and are organized into five primary categories:

- Intersection Projects: These projects include intersection modifications that address either an identified capacity, geometric, or safety needs.
- Roadway Corridor Projects: These projects include new street connections and street modifications that address either connectivity, safety, or traffic calming needs – or the need for further study.
- Local Street Connectivity and Extension Plan: These projects include new street connections for future local circulation.
- Pedestrian Projects: These projects include pedestrian connections and crossing treatments that address either a system gap or safety need.
- Bicycle Projects: These projects include bicycle connections that address either a system gap or safety need.
- Transit Supportive Projects: These projects include various projects to support and facilitate access to transit stops/routes.

Project Prioritization

The projects presented in this chapter are prioritized as follows:

- High Priority Projects: Projects that address critical multimodal circulation needs for a variety of user groups and can reasonably be implemented based on funding forecasts.
- Medium Priority Projects: Projects that address general multimodal circulation needs and should be implemented as new funding sources are found.
- Low Priority Projects: Projects that address circulation needs associated with long-term growth and should be implemented as part of future development and/or new funding sources are found.
- Vision Projects: Aspirational projects that are associated with long-term development areas or may extend beyond the 20-year TSP planning horizon.

Financially Constrained Projects

Financially constrained projects are those critical multimodal infrastructure investments that the City anticipates being able to implement over the next 20 years through known financial resources. The financially constrained projects are highlighted in the modal project lists.

The City of Boardman recognizes financial resources, multimodal priorities, and needs can change over time. As such, the financially constrained projects are not required to be implemented first and that other projects on the list may be pursued as needs arise.

Unconstrained Projects

Unconstrained projects are all other multimodal infrastructure investments that are not likely to be implemented with known financial resources.

Intersection Projects

Intersection projects aim to enhance the operational efficiency, safety, and/or geometrics at intersecting roadways on the roadway network. These projects were identified through a combination of prior plans and studies, technical analyses, and community input to address the needs summarized in Chapter 3. Intersection projects are categorized by capacity and geometric changes, safety treatments, and access management applications. Projects may overlap between categories (e.g., capacity-induced changes can also have safety benefits). Intersection projects are illustrated in Figure 5-1 and described in the following table.

Table 5-1 Intersection Traffic Control, Capacity and/or Geometric Improvement Projects

Project ID	Intersection	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
I-1	N. Main Street / Boardman Ave	City	• Signalize (with widening/re-striping of east and west approaches to provide separate left- and through/right-turn lanes). Project may be refined as part of R-25 (Main Street IAMP Refinement). or • Construct a roundabout. Project may be refined as part of R-25 (Main Street IAMP refinement).	2024 Main St Corridor Refinement	• $1.3M or • $3M	**High (Financially Constrained)**
I-2	N. Main Street / N. Front Street	City	• Modify intersection to be consistent with the outcome of project R-25 (Main Street IAMP Refinement). Modifications may include implementing right-in/right-out turning movement restrictions to/from N. Front Street via a raised median or other access management measures.	2009 Main Street IAMP	$100k	**High (Financially Constrained)**
I-3	I-84 WB Ramp / N. Main Street	ODOT/City	• Modify intersection to be consistent with the outcome of project R-25 (Main Street IAMP Refinement). Modifications may include a new interchange form, providing additional turn lanes, installing new traffic control improvements, widening the offramp to include separate left- and through/right-turn lanes, and/or lengthening of the offramp.	2009 Main Street IAMP	$35M+	Medium (Un-constrained)
I-4	I-84 EB Ramp / S. Main Street	ODOT/City	• Modify intersection to be consistent with the outcome of project R-25 (Main Street IAMP Refinement). Modifications may include a new interchange form, providing additional turn lanes, installing new traffic control improvements, widening the offramp to include separate left- and through/right-turn lanes, and/or lengthening of the offramp.	2009 Main Street IAMP		

Project ID	Intersection	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
I-5	S. Main Street / S. Front Street	City	• Modify intersection to be consistent with the outcome of project R-25 (Main Street IAMP Refinement). Modifications may include access management measures.	2009 Main Street IAMP	$100k	**High (Financially Constrained)**
I-6	S. Main Street / Oregon Trail Blvd	City	• Modify intersection to be consistent with the outcome of project R-25 (Main Street IAMP Refinement). Modifications may include signalization or roundabout, and enhanced pedestrian crossing features.	TSP analysis	$750k-$3M	Low (Un-constrained)
I-7	S. Main Street/ Kinkade Rd	City	• Implement traffic control improvements to address capacity constraints when they arise. Improvements may include signalization or roundabout.	TSP analysis	$750k-$3M	Low[1] (Un-constrained)
I-8	I-84 WB Ramp / Laurel Lane / Columbia Blvd	ODOT/City	• Combine the Laurel Lane/Columbia Boulevard and the Laurel Lane/I-84 WB ramp terminal intersections into one roundabout intersection. Modify the westbound offramp alignment accordingly and lengthen to current standards.	2022 Port of Morrow IAMP	$10-$15M+	Med (Un-constrained)
I-9	I-84 EB Ramp / Laurel Lane	ODOT/City	• Widen Laurel Lane south of the roundabout to include a 14-ft center turn lane to accommodate southbound left-turn movements at the EB on-ramp. Lengthen and widen the eastbound off ramp to provide separate left/through and right-turn lanes.	2022 Port of Morrow IAMP	$4M	Med (Un-constrained)

Note: The cost estimates presented do not include costs associated with right-of-way acquisition due to its high variability depending on location, parcel sizes, and other characteristics. The cost estimates also reflect the full cost of the projects, including costs likely to be funded by others, such as private development.

[1] Project anticipated to be primarily development-driven.

Figure 5-1

Planned Intersection and Roadway Corridor Projects

Boardman STRATEGIC PLAN
CONNECTING COMMUNITIES
Making big dreams a reality.

- Planned Traffic Control/ Geometric Improvement
- Planned Turn Lane Improvement
- Planned Turn Movement Restriction
- Planned Roadway Corridors
- Planned Road Reconstruction/ Modernization
- City Boundary
- Urban Growth Boundary
- Park
- Water

See Local Street Connectivity Plan for future local street connections

Generated On: 9/26/2025

0 0.25 0.5 Mile

Note: Future roadway alignments shown on the map are approximate and subject to further refinement.

Roadway Corridor Projects

Roadway corridor projects entail new roadway segments or modifications to existing roadway corridors. New roadway segments are intended to improve overall circulation in the city and meet the needs of future development. Modifications to existing roadway corridors are intended to improve or modernize the travel conditions on existing unimproved roadway segments. Some roadway corridor projects are carried forward from previously adopted plans and studies, while others are newly identified in this TSP. The combined corridor projects for Neighborhood Collectors and higher are illustrated in Figure 5-1 and described in the following table.

Table 5-2 New/Modified Roadway Corridor Improvement Projects

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
R-1	**NE Boardman Avenue:** Eastern extents to NE Olson Road	City	• Extend Boardman Avenue to Olson Road at Municipal street standards	2001 TSP	$1.6M	**High (Financially Constrained)**
R-2	**NE 2nd Street:** NE Boardman Avenue to Marshall Loop Road	City	• Extend NE 2nd Street (at Municipal street standards) to fill in the gap between NE Boardman Avenue and Marshall Loop Road	TSP Analysis	$540k	**High (Financially Constrained)**
R-3	**Oregon Trail Boulevard:** S. Main Street to Paul Smith Road	City	• Construct a new Oregon Trail Boulevard corridor between S Main Street and Paul Smith Road at Arterial standards	2001 TSP	$14.3M	**High (Financially Constrained)**
R-4	**Oregon Trail Boulevard:** Eastern extents to Olson Road	City	• Extend Oregon Trail Boulevard to Olson Road at Arterial standards	2001 TSP	$4.9M	Med (Un-constrained)
R-5	**Kinkade Road** Western extents to Wilson Lane/Juniper Drive intersection	City	• Extend Kinkade Road to Wilson Road at Neighborhood Collector standards	TSP analysis	$2.4M	Low[1] (Un-constrained)
R-6	**New East-West Roadway (west of Laurel Lane):** Laurel Lane to New North-South Roadway	City	• Construct a new east-west roadway from Laurel Lane to a future north-south roadway (R-7) at Collector standards	TSP analysis	$2.5M	Med[1] (Un-constrained)
R-7	**New North-South Roadway (west of Laurel Lane)** Parallel circulation road to Laurel Lane	City	• Construct a new north-south roadway that would link projects R-2 and R-8 at Collector standards	TSP analysis	$3.1M	Med[1] (Un-constrained)
R-8	**Oregon Trail Boulevard** Laurel Lane to UGB line	City	• Construct a new east-west roadway from Laurel Lane to the city limits at Arterial standards	TSP analysis	$4.6M	Med (Un-constrained)

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
R-9	**Paul Smith Road:** Oregon Trail Boulevard Extension to Kunze Lane	City/ County	• Upgrade Paul Smith Road between Kunze Lane and a future Oregon Trail Boulevard (R-3) to Neighborhood Collector standards	TSP analysis	$9.5M	Low (Un-constrained)
R-10	**Juniper Drive:** Current southern extents to Kunze Lane	City	• Extend Juniper Drive to Kunze Lane at Neighborhood Collector standards	TSP analysis	$3.2M	Vision[1] (Un-constrained)
R-11	**Tatone Street:** Current southern extents to Kunze Lane	City	• Extend Tatone Street to Kunze Lane at Neighborhood Collector standards	TSP analysis	$3.2M	Vision[1] (Un-constrained)
R-12	**Anderson Road:** Wilson Road to Kunze Lane	City	• Extend Anderson Road to Kunze Lane at Neighborhood Collector standards	TSP analysis	$6.4M	Vision[1] (Un-constrained)
R-13	**New North-South Road**: Oregon Trail Boulevard to New East-West Road (R-6)	City	• Construct a new north-south roadway that would link R-4 and R-6 at Neighborhood Collector standards	TSP analysis	$2.5M	Low[1] (Un-constrained)
R-14	**New East-West Road**: Juniper Drive to Olson Road	City	• Construct a new east-west roadway between R-10 and Olson Road at Neighborhood Collector standards	TSP analysis	$15.5M	Vision[1] (Un-constrained)
R-15	**Kunze Lane:** Paul Smith Road to Olson Road	City/ County	• Upgrade Kunze Lane between Paul Smith Road and Olson Road at Arterial standards	TSP analysis	$13.5M	Vision (Un-constrained)
R-16	**New North-South Road:** Wilson Road to Kunze Lane	City	• Construct a new north-south roadway between Wilson Road and Kunze Lane at Neighborhood Collector standards	TSP analysis	$6.4M	Vision[1] (Un-constrained)
R-17	**N. Front Street**: N. Main Street to Olson Road	City	• Upgrade Front Street from N. Main Street to Olson Road at Collector standards	2024 Capital Improvement Plan	$6.9M	**High (Financially Constrained)**

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
R-18	**SE 1st Street:** Oregon Trail Boulevard to Wilson Road	City	• Extend SE 1st Street from Oregon Trail Boulevard to Wilson Road at Collector standards	TSP analysis	$5.5M	Low[1] (Un-constrained)
R-19	**Kinkade Road**: S. Main Street to Future Roadway	City	• Extend Kinkade Road from S Main Street to Anderston Road at Collector standards	TSP analysis	$4.0M	Low[1] (Un-constrained)
R-20	**Wilson Road:** Faler Road to Paul Smith Road	City	• Upgrade Wilson Road between Paul Smith Road and S. Main Street at Arterial standards	TSP analysis	$9.2M	Med (Un-constrained)
R-21	**Wilson Road:** S. Main Street to Olson Road	City	• Upgrade Wilson Road between S. Main Street and Olson Road at Arterial standards	TSP analysis	$6.8M	Low (Un-constrained)
R-22	**Olson Road:** Kunze Lane to End of Olson Road/UGB	City/ County	• Upgrade S. Olson Road between Kunze Lane and northern extents at Arterial standards	TSP analysis	$10.1M	Vision (Un-constrained)
R-23	**S. Main Street:** Wilson Road to Kunze Lane	City	• Upgrade S. Main Street between Wilson Road and Kunze Lane at Arterial standards	TSP analysis	$3.5M	Low (Un-constrained)
R-24	**Olson Road**	ODOT	• Extend S. Olson Road underneath I-84 from northern extents to Front Street at Arterial standards	2001 TSP	$33.7M	Vision (Un-constrained)
R-25	**Main Street Interchange Area Refinement Plan (IAMP)**	City/ ODOT	• Refine the 2009 Interchange Area Management Plan to specifically address interchange location/form, traffic control improvements at the I-84 ramp terminals, Main Street overpass limitations, and access management at north and south Front Streets.	TSP Analysis	$100k	**High (Financially constrained)**

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
R-26	**New East-West street:** S. Main Street to future R-18	City	• Construct a new east-west road from S. Main Street to a future north-south roadway (R-18) at Collector standards	TSP Analysis	$2.4M	Low[1] (Un-constrained)
R-27	**Willow Fork Drive:** S. Main Street to future R-18	City	• Extend Willow Fork Drive from S. Main Street to a future north-south roadway (R-18) at Collector standards	TSP Analysis	$2.3M	Low[1] (Un-constrained)
R-28	**New North-South street:** Kinkade Road to future Oregon Trail Blvd	City	• Construct a new north-south road from Kinkade Road to a future Oregon Trail Boulevard (R-3) at Neighborhood Collector standards	TSP Analysis	$1.6M	Low[1] (Un-constrained)
R-29	**New East-West Road:** Anderson Road to Olson Road	City	• Construct a new east-west roadway between Anderson Road and Olson Road at Neighborhood Collector standards	TSP analysis	$5.8M	Low[1] (Un-constrained)
R-30	**NE 3rd Street:** NE Front Street to NE Boardman Avenue	City	• Extend NE 3rd Street (at Municipal street standards) to fill in the gap between NE Front Street and NE Boardman Avenue	TSP Analysis	$565K	**High (Financially Constrained)**
R-31	**NE 4th Street:** NE Front Street to NE Boardman Avenue	City	• Extend NE 4th Street (at Municipal street standards) to fill in the gap between NE Front Street and a future extension of NE Boardman Avenue	TSP Analysis	$895K	**High (Financially Constrained)**

Note: The cost estimates presented do not include costs associated with right-of-way acquisition due to its high variability depending on location, parcel sizes, and other characteristics. The cost estimates also reflect the full cost of the projects, including costs likely to be funded by others, such as private development.

[1] Project anticipated to be primarily development-driven.

Local Street Connectivity and Extension Plan

Most streets within Boardman are classified as local streets. Most of Boardman's residential growth potential is located south of I-84. Development to date has been laid out on a partial street grid. With large parcels available for future infill and master-planned development, improvements to the street grid can be planned to create a more efficient local street network and maximize connections for motorists, cyclists, and pedestrians while accounting for potential neighborhood impacts. In addition, the quality of the transportation system can be improved by making connectivity improvements to the pedestrian and bicycle system separate from street connectivity, as discussed in previous TSP sections.

Local Street Connections

There are a number of areas within Boardman that could experience future residential development or redevelopment, including in the southwest, southeast, and northeast parts of the City. Within these areas, there are opportunities for new local streets that could improve access and circulation for all travel modes. Figure 5-2 illustrates the desired location of future local street connections to serve this development. The arrows shown in Figure 5-2 represent preferred connections and the general direction for the placement of the connection. In each case, the specific alignments and design will be determined upon development review. As shown, these local street extensions are consistent with the future Collector and Neighborhood Collector extensions identified in Figure 5-2.

Newer residential street in Boardman

Figure 5-2

Local Street Connectivity Plan

Boardman STRATEGIC PLAN
CONNECTING COMMUNITIES
Making big dreams a reality.

- Future Local Street Connection
- Planned Major Roadway Corridor
- City Boundary
- Urban Growth Boundary
- Park
- Water

Columbia River
Marine Dr
Eldrige Dr
Columbia Ave
Ullman Blvd
Industrial Wy
Rippee Rd
Olsen Rd
Boardman Ave
2nd St
Front St
84
SW 1st St
SE 1st St
Oregon Trail Blvd
Laurel Ln
Kinkade Rd
Willow Fork Dr
Tatone St
Anderson Rd
Olsqn Rd
Garrison Ln
Mt Adams Ave
Faler Rd
Wilson Rd
River Ridge Dr
Juniper Dr
Main St
Kunze Ln
Miller Rd
Downey Rd
Skoubo Rd
Paul Smith Rd
Hilltop Rd
Parkside Rd
Canal Ln

Note: Future roadway alignments shown on the map are approximate and subject to further refinement.

Generated On: 9/26/2025

0 0.25 0.5 Mile

Active Transportation (Pedestrian and Bicycle) Projects

Active transportation projects include pedestrian and bicycle connections and crossing treatments that promote a safe, efficient, and connected active transportation network for people walking, biking, and rolling. Treatments include sidewalks, multi-use paths, enhanced crossings, and bicycle lanes.

Pedestrian Projects

Pedestrian projects include new sidewalks, sidewalk improvements, other treatments such as enhanced pedestrian crossings, and multi-use paths. The pedestrian projects detailed in Figure 5-3 and the table below focus on improving overall connectivity and developing a complete network of pedestrian facilities in the city.


Source: Amanda Mickles

Figure 5-3

Planned Pedestrian Network

Boardman STRATEGIC PLAN
CONNECTING COMMUNITIES
Making big dreams a reality.

- Planned Crossing Project
- Planned Sidewalks
- Planned Sidewalks - Fill in Gaps
- Planned Multi-Use Path
- Planned/Future Arterial or Collector Roadway (See Intersection and Roadway Corridor Projects map)
- Transit Stops
- City Boundary
- Urban Growth Boundary
- Park
- Water

Generated On: 9/26/2025

0 0.25 0.5 Mile

Note: Future roadway alignments shown on the map are approximate and subject to further refinement.

Table 5-3 Pedestrian Projects

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
MUP-1	**Columbia River Heritage Trail:** Marina Park to Riverfront Center	City	• Reconstruct the Columbia River Heritage Trail to be an 8-foot multi-use path and construct a new connection to Marine Drive	Columbia River Heritage Trail Plan	$550k	Med (Un-constrained)
P-2	**N Main Street:** Marine Drive to Columbia Ave	City	• Construct a new 6-ft sidewalk (west side)	TSP analysis	$1.5 M	**High (Financially Constrained)**
P-3	**Boardman Avenue:** Allen Court to NW 3rd St	City	• Fill in the sidewalk gaps with new 5-ft sidewalk (north/east side)	TSP analysis	$460k	**High (Financially Constrained)**
P-4	**Boardman Avenue:** NW 2nd Street to NW 1st St	City	• Fill in the sidewalk gaps with new 5-ft sidewalks (north and south side)	TSP analysis	$400k	**High (Financially Constrained)**
P-5	**Columbia Avenue:** Olson Road to Ullman Blvd	City	• Construct a new 6-ft sidewalk (north side)	TSP analysis	$1.3 M	Med (Un-constrained)
P-6	**Ullman Boulevard**: Rail Crossing to Marine Drive	Port of Morrow/City	• Construct a new 5-ft sidewalk (east side)	TSP analysis	$1.8 M	Med (Un-constrained)
P-7	**Oregon Trail Boulevard:** S. Main Street to east extents	City	• Fill in the sidewalk gaps with new 6-ft sidewalk (south side)	TSP analysis	$810K	Med (Un-constrained)
P-8	**Faler Road:** Mt Hood Ave to future Oregon Trail Boulevard extension	City	• Construct a new 5-ft sidewalk (east and west sides)	TSP analysis	$670k	Med (Un-constrained)

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
P-9	**Anderson Road:** Wilson Road to 1/2 of Anderson Road	City	• Fill in the sidewalk gaps with new 5-ft sidewalk (west side)	TSP analysis	$160k	**High (Financially Constrained)**
MUP -10	**New Multi Use Path and I-84 over crossing:** NE Boardman Ave to Oregon Trail Blvd	City	• Construct an 8-foot multi-use path that connects NE Boardman Avenue on the north side of I-84 to a future Oregon Trail Boulevard extension (R-3) on the south side of I-84. This would include a grade-separated multi-use bridge across the I-84 corridor.	TSP analysis	$15M	Vision (Un-constrained)
P-11	**Laurel Lane:** Curve on Laurel Ln to UGB	City	• Construct a new 6-ft sidewalk (east and west sides)	TSP analysis	$620k	Low (Un-constrained)
MUP-12	**Laurel Lane/Columbia Ave:** Yates Lane to Ullman Blvd	City/ ODOT	• Construct a new 8-ft multi-use path (west/south side)	POM IAMP	$1.6 M	Low (Un-constrained)
P-13	**N. Olson Road:** N. Front St to Columbia Ave	City	• Fill in the sidewalks gaps with a new 5-ft sidewalk (west side)	TSP analysis	$720k	Med[1] (Un-constrained)
P-14	**Wilson Road/ Jupiter Drive/ future Kinkade Rd** intersection	City	• When Kinkade Road is extended and connected to Wilson Road/Juniper Drive intersection, relocate nearby pedestrian crossing to the intersection and install enhanced pedestrian crossing treatment	TSP analysis	$125k	Med[1] (Un-constrained)
P-15	**Boardman Avenue:** N. Main Street to NE 2nd Ave	City	• Fill in the sidewalk gaps with new 5-ft sidewalks (south side)	TSP analysis	$910k	High[1] (Un-constrained)

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
P-16	**S. Main Street/ S. Front Street** intersection	City	• Relocate the existing pedestrian crossing beacon on S. Main Street in conjunction with modifications planned for the corridor between S. Front Street and Oregon Trail Blvd	TSP analysis	$125k	Med (Un-constrained)
P-17	**S. Main Street:** Wilson Road to Kunze Lane	City/ County	• Fill in the sidewalk gaps with new 6-ft sidewalks (east and west side)	TSP analysis	$-[2]	Low[1] (Un-constrained)
P-18	**Wilson Road:** Faler Road to Paul Smith Rd	City/ County	• Fill in sidewalk gaps with new 6-ft sidewalks (north and south side)	TSP analysis	$-[2]	Low[1] (Un-constrained)
P-19	**Paul Smith Road:** Oregon Trail Blvd to Kunze Ln	City/ County	• Construct a new 5-ft sidewalk (east side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)
P-20	**Paul Smith Road:** Wilson Road to Kunze Ln	City/ County	• Construct a new 5-ft sidewalk (east side)	TSP analysis	$-[2]	Low[1] (Un-constrained)
P-21	**Kunze Lane:** Paul Smith Road to S Main St	City/ County	• Construct a new 6-ft sidewalk (north and south side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)
P-22	**Kunze Lane:** S. Main Street to Olson Road	City/ County	• Construct a new 6-ft sidewalk (north and south side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)
P-23	**Olson Road:** Kunze Lane to Wilson Road	City/ County	• Construct a new 6-ft sidewalk (west side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)
P-24	**Olson Road:** Wilson Road to north extents	City/ County	• Construct a new 6-ft sidewalk (west side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
P-25	**Front Street:** S Main Street to Olson Road	City	• Construct a new 6-ft sidewalk (north side)	TSP analysis	$-[2]	**High (Financially Constrained)**
P-26	**Wilson Road:** S Main Street to Olson Road	City/ County	• Construct a new 6-ft sidewalk (north and south side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)
P-27	**Wilson Road/ Tatone Street** intersection	City	• Install enhanced pedestrian crossing treatment	TSP analysis	$125k	**High (Financially Constrained)**
MUP-28	**New Multi Use Path:** S. Main Street to west UGB	City/ County	• Construct an 8-foot multi-use path within the BPA transmission line easement	TSP analysis	$1.0M	**High (Financially Constrained)**
P-29	**NE 2nd Street:** NE Boardman Avenue to Marshall Loop Road	City	• Fill in the sidewalk gaps with new 5-ft sidewalks (both sides)	TSP analysis	$215K	Med[1] (Un-constrained)
P-30	**NE 3rd Street:** NE Front Street to NE Boardman Avenue	City	• Fill in the sidewalk gaps with new 5-ft sidewalks (both sides)	TSP analysis	$205K	Med[1] (Un-constrained)
P-31	**NE 4th Street:** NE Front Street to NE Boardman Avenue	City	• Fill in the sidewalk gaps with new 5-ft sidewalks (both sides)	TSP analysis	$330K	Med[1] (Un-constrained)
P-32	**NE Boardman Avenue:** Eastern extents to NE Olson Road	City	• Fill in the sidewalk gaps with new 5-ft sidewalks (both sides)	TSP analysis	$625K	Med[1] (Un-constrained)

Note: The cost estimates presented do not include costs associated with right-of-way acquisition due to its high variability depending on location, parcel sizes, and other characteristics. The cost estimates also reflect the full cost of the projects, including costs likely to be funded by others, such as private development.

[1] Project anticipated to be primarily development-driven.
[2] Pedestrian component costs included in the corresponding roadway reconstruction/modernization project (see Table 5-2).

Bicycle Projects

To encourage increased travel by bicycle, the TSP provides a list of bike facility projects as well as programs that will improve safety, convenience, and direct connections for this mode. Riding bikes can help promote health, has a lower environmental impact, and allows people to move independently throughout the community without motorized vehicles, including many who cannot or choose not to drive.

The bicycle project list includes a variety of on- and off-street facilities that provide various levels of separation between people biking and people driving. The projects detailed in Table 5-4 Bicycle Projects Table 5-4 focus on connectivity within, to, and from transportation disadvantaged areas, first- and last-mile connections to transit, and increasing recreational opportunities by enhancing connections to and from recreational trails and parks. The bicycle-focused projects detailed in Figure 5-4 and Table 5-4 focus on improving overall connectivity and serving riders of all ages and abilities.

Figure 5-4

Planned Bicycle Network

Boardman STRATEGIC PLAN
CONNECTING COMMUNITIES
Making big dreams a reality.

- Planned Bike Lanes
- Planned Shared Lanes
- Planned Multi-Use Path
- Planned/Future Arterial or Collector Roadway (See Intersection and Roadway Corridor Projects map)
- Transit Stops
- City Boundary
- Urban Growth Boundary
- Park
- Water

Generated On: 9/26/2025

0 0.25 0.5 Mile

Note: Future roadway alignments shown on the map are approximate and subject to further refinement.

Table 5-4 Bicycle Projects

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
B-1	**Columbia Avenue:** N. Main Street to N. Olson Road	City	• Widen roadway and construct new 6-ft bike lanes (north and south side)	TSP analysis	$3.4 M	Med (Un-constrained)
B-2	**Columbia Avenue:** N. Olson Road to Laurel Ln	City	• Widen roadway and construct new 6-ft bike lanes (north and south side)	TSP analysis	$3.5 M	Med (Un-constrained)
B-3	**Oregon Trail Boulevard:** S. Main Street to east extents	City	• Widen roadway and construct new 6-ft bike lane (north and south side)	TSP analysis	$1.9M	Low (Un-constrained)
B-4	**S Main Street:** Wilson Road to Kunze Lane	City/County	• Construct new 6-ft bike lanes (east and west side)	TSP analysis	$-[2]	Low[1] (Un-constrained)
B-5	**Wilson Road:** Paul Smith Road to S. Main Street	City/County	• Construct new 6-ft bike lanes (north and south side)	TSP analysis	$-[2]	Med[1] (Un-constrained)
B-6	**Wilson Road:** S. Main Street to S. Olson Road	City	• Construct new 6-ft bike lanes (north and south side)	TSP analysis	$-[2]	Low[1] (Un-constrained)
B-7	**Kunze Lane:** Paul Smith Road to S. Main Street	City/County	• Construct new 6-ft bike lane (north and south side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)
B-8	**Kunze Lane:** S. Main Street to S. Olson Road	City/County	• Construct new 6-ft bike lane (north and south side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)
B-9	**Olson Road:** Kunze Lane to Wilson Road	City/County	• Construct new 6-ft bike lane (east and west side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
B-10	**Olson Road:** Wilson Road to north extents	City/County	• Construct new 6-ft bike lane (east and west side)	TSP analysis	$-[2]	Vision[1] (Un-constrained)
B-11	**NE Front Street:** N. Main Street to N. Olson Road	City	• Construct new 6-ft bike lane (north and south side)	TSP analysis	$-[2]	**High (Financially Constrained)**
B-12	**Olson Road:** NE Front Street to Columbia Ave	County	• Widen roadway and construct new 6-ft bike lane (east and west side)	TSP analysis	$1.2 M	**High[1] (Financially Constrained)**
B-13	**Ullman Blvd:** Columbia Avenue to Marine Drive	Port of Morrow/City	• Widen roadway and construct new 6-ft bike lane (east and west side)	TSP analysis	$2.3 M	Low (Un-constrained)
B-14	**Laurel Lane:** Yates Lane to south city limits	City/County	• Widen roadway and construct new 6-ft bike lane (east and west side)	TSP analysis	$740k	Low[1] (Un-constrained)
B-15	**Boardman Avenue:** N. Main Street to eastern limits	City	• Install shared lane markings and signs	TSP analysis	$20k	Med (Un-constrained)
B-16	**Boardman Avenue:** N. Main Street to Columbia Avenue	City	• Install shared lane markings and signs	TSP analysis	$20k	Med (Un-constrained)
B-17	**Columbia Avenue:** Boardman Avenue to N. Main Street	City	• Install shared lane markings and signs	TSP analysis	$20k	Med (Un-constrained)
B-18	**NW 1st Street:** Boardman Avenue to Columbia Avenue	City	• Install shared lane markings and signs	TSP analysis	$10k	Med (Un-constrained)
B-19	**Faler Road**: Wilson Road to north extents	City	• Install shared lane markings and signs	TSP analysis	$20K	Med (Un-constrained)

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
B-20	**Kinkade Road:** West extents to S. Main St	City	• Install shared lane markings and signs	TSP analysis	$20k	Med (Un-constrained)
B-21	**Willow Fork Drive:** Cottonwood Loop to S. Main Street	City	• Install shared lane markings and signs	TSP analysis	$20k	Med (Un-constrained)
B-22	**Locust Road:** Wilson Road to Kinkade Rd	City	• Install shared lane markings and signs	TSP analysis	$20k	Med (Un-constrained)
B-23	**Anderson Road:** Wilson Road to Oregon Trail Boulevard	City	• Install shared lane markings and signs	TSP analysis	$20k	Med (Un-constrained)
B-24	**Paul Smith Road:** Wilson Road to Kunze Lane	City	• Install shared lane markings and signs	TSP analysis	$20k	Low (Un-constrained)
B-25	**River Ridge Drive:** Wilson Road to Kunze Lane	City	• Install shared lane markings and signs	TSP analysis	$20k	Med (Un-constrained)
B-26	**Juniper Drive:** Sage Street to Wilson Road	City	• Install shared lane markings and signs	TSP analysis	$10k	Med (Un-constrained)
B-27	**Tatone Street:** City Center Drive to South extents	City	• Install shared lane markings and signs	TSP analysis	$10k	Med (Un-constrained)

Note: The cost estimates presented do not include costs associated with right-of-way acquisition due to its high variability depending on location, parcel sizes, and other characteristics. The cost estimates also reflect the full cost of the projects, including costs likely to be funded by others, such as private development.

[1] Project anticipated to be primarily development-driven.
[2] Biking component costs included in the corresponding roadway reconstruction/modernization project (see Table 5-2).

Transit Projects

The TSP promotes providing high-quality, available, and reliable transit service that can support the environment, economic development, and improve travel options for all residents. Public transportation service in Boardman is provided by Morrow County's The Loop and Kayak. To better facilitate access to these transit services, Table 5-5 identifies various transit supportive projects throughout Boardman.

Photo Credit: Morrow County Public Transit

Table 5-5 Boardman Transit Supportive Projects

Transit Facilities and Services	Improvement	Project Source
Service Frequency, Hours, Coverage	• Work with Morrow County to install signage at every bus stop that indicates the location of the stop and includes scheduling information for The Loop. • Work with Morrow County The Loop to explore service modifications and infrastructure enhancements to existing fixed route services lines as needed.	• Morrow County TSP • Morrow County Coordinated Transit Plan
New Amenities	• Add transit shelters and/or benches to existing bus stops • As new service is added, improve ADA accessibility to all new/proposed stop locations (if needed)	• Morrow County TSP • Morrow County Coordinated Transit Plan
Park and Ride Locations	• Explore establishing a shared park-n-ride at or near the Boardman Pool & Recreation Center/SAGE Center. • Explore establishing a park-n-ride at or near the Boardman City Hall.	• Morrow County TSP • Morrow County Coordinated Transit Plan

Chapter 6 Traffic Management

The City of Boardman strives to provide a safe and efficient transportation network that accommodates travelers of all ages and abilities. Effectively managing traffic volumes and speeds on the transportation network is a means to this goal. This section identifies a variety of traffic management tools the city will use as situations arise.

The Traffic Management Toolbox provides information about specific treatments and considerations when applying the treatments. The treatments are generally intended to reduce traffic speeds through at least one of the following ways:

- Create a narrower cross-section (throughout a roadway corridor or at individual locations along the corridor) or tighter turning radii at intersections, which has been shown to slow traffic speeds;
- Create a visual change in context and/or gateways to the corridor to alert drivers of the need to reduce speed;
- Provide a visual or audible warning to drivers to reduce their speed;
- Create horizontal or vertical curvature in the roadway to reduce travel speeds; and/or
- Provide breaks in the corridor to slow or stop through traffic.

Narrow Cross-Section

RAISED MEDIANS

Cost: $-$$$


FHWA
Intersection Safety


FHWA
Pedestrian Safety Guide and Countermeasure Selection System


FHWA
Traffic Calming ePrimer

Physical medians constructed in the center of the roadway providing a physical barrier between travel directions. These features can be installed on a corridor wide scale or as individual median islands for site specific locations.

Benefits

- Physically narrows the pavement width and reduces the open feel of the street.
- Can facilitate pedestrian crossing refuge areas and increase pedestrian visibility, slowing vehicles.
- Changes visual and physical context of the roadway.
- Can include landscaping or monument sign and to serve as a gateway treatment.

Constraints

- Insufficient roadway width or right-of-way can prevent installation.
- Access must be maintained or accommodated to residential and business driveways and intersections, unless access restrictions are permitted.

Typical Applications

- Two-way streets with one or more lanes in each direction.
- Roadways with urban cross-sections.
- Arterials, collectors, and some local streets in urban or suburban settings.
- Midblock locations, intersection approaches, or through intersections. If through an intersection, the median becomes a barrier.
- Appropriate for any traffic volumes.

Design Considerations

- Adequate roadway width and/or right-of-way for installation.
- Residential and business driveways.
- Whether corridor-wide or median islands is the appropriate application.

Additional Guidance

- AASHTO Green Book
- ODOT Highway Design Manual
- FHWA Traffic Calming ePrimer

Narrow Cross-Section

REDUCED TRAVEL LANE WIDTH

Cost: $-$$$

FHWA
Traffic Calming ePrimer

FHWA
Pedestrian Safety Guide and Countermeasure Selection System

FHWA
Traffic Calming ePrimer

Reducing travel lane widths encourages slower vehicle speeds as it heightens driver awareness of the environment and increases conscientiousness of driver behavior. Reducing travel lanes can be achieved within existing roadway cross-sections and without major modifications to existing curb and gutter.

Benefits

- Can be achieved with added on-street parking.
- Can be achieved with dedicated bicycle facilities of different variations.
- Can be achieved with raised medians.
- Can be achieved with street landscaping.

Constraints

- On-street parking may decrease visibility of other roadway users such as pedestrians.
- See Standard Bike Lane, Buffered Bike Lane, and Separated Bike Lanes.
- See Raised Medians.
- Street landscaping increases maintenance and costs.

Typical Applications

- On-street parking is appropriate for arterials, collectors, and local streets in urban or suburban settings. It can be installed on one- or two-way streets. Appropriate for urban speed limits and all traffic volumes.
- See Standard Bike Lane, Buffered Bike Lane, and Separated Bike Lanes.
- See Raised Medians.

Design Considerations

- Parallel on-street parking tends to be more effective than angle parking for slowing vehicle speeds.
- Emergency response vehicles, buses, and trucks.
- See Standard Bike Lane, Buffered Bike Lane, and Separated Bike Lanes.
- See Raised Medians.

Additional Guidance

- FHWA Traffic Calming ePrimer
- See Standard Bike Lane, Buffered Bike Lane, and Separated Bike Lanes.
- See Raised Medians.

Narrow Cross-Section

REDUCED CURB RADII

Cost: $$


Lake Oswego, OR


Lake Oswego, OR

Orlando, FL

Street corner is reconstructed with a smaller radius to reduce vehicle turning speeds.

Benefits

- Forces sharper turn by right-turning motorists and thus slower speeds.
- Reducing crossing distance for pedestrians and places pedestrian in better view for approaching vehicles.

Constraints

- Requires additional space that may not be available.
- Makes turning movements more challenging for large vehicles and may not accommodate all trucks.

Typical Applications

- Typically used at intersections with high vehicle speeds and high pedestrian volumes where space is available.

Design Considerations

- The street type, angle of intersection, land uses, etc. should be considered when designing the curbs.
- Maintenance vehicles, emergency vehicles, school buses, and other anticipated large vehicles should be accommodated in the design.
- The effective turning radius (considering presence of parking, bike lanes, medians, etc.) should be used rather than the curb return radius to evaluate the ability of vehicles to make a turn.
- In locations where reducing the curb radius is challenging based on design vehicles, consider using a compound radius, at-grade paving treatments, or advance stop lines.

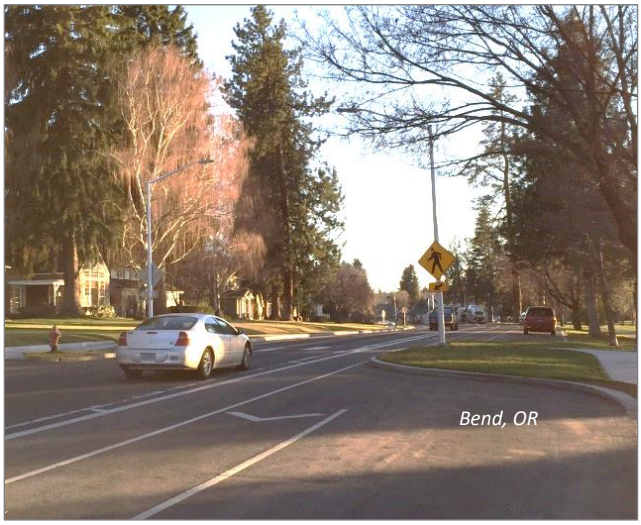
Additional Guidance

- FHWA Signalized Intersections: An Informational Guide
- FHWA Pedestrian Safety Guide for Transit Agencies
- NACTO Best Practices for Pedestrian Master Planning and Design

Narrow Cross-Section

BULB-OUT/CURB EXTENSIONS AND PINCH POINTS

Cost: $$



An extension of the curb or the sidewalk into the street (in the form of a bulb), usually at an intersection, that narrows the vehicle path, inhibits fast turns, and shortens the crossing distance for pedestrians.

Benefits

- Shortens crossing distances for pedestrians and encourages pedestrian activity.
- Reduces motorist turning speeds.
- Increases visibility between motorists and pedestrians, heightening driver awareness.
- Accommodates on-street parking.
- Enables tree and landscape planting and water runoff treatment, providing additional traffic calming effects through a change in context.

Constraints

- Physical barrier can be exposed to traffic.
- Greater cost and time to install than standard crosswalks.
- Can present turning radius problems to large vehicles.

Typical Applications

- Mid-block or intersection pedestrian crossings on streets with unrestricted on-street parking.
- Streets with on-street parking where pedestrian volumes ≥ 20 pedestrians per hour, ADT ≥ 1,500 vehicles per day, and average right-turn speeds ≥ 15 mph.

Design Considerations

- Include a narrow passage for bicyclists to prevent conflict with vehicles.
- Provide accessible curb ramps and detectible warnings.
- Include landscaping on the curb extension to differentiate path for pedestrian travel, especially for pedestrians with vision impairments.

Additional Guidance

- ITE/FHWA Report Traffic Calming: State of the Practice
- FHWA Designing Sidewalks and Trails for Access *Part II of II: Best Practices Design Guide*

Contextual Changes

SHARED LANE ROADWAYS

Cost: <$

Prince George's County, MD

Cornell Road,
Portland, OR


Pennsylvania

Shared lane roadways include roadways without separate bicycle facilities on which bicycle travel is not prohibited. Most roadways, with the exception of some limited access freeways, are "shared lane roadways" if they do not have a different type of bicycle facility. Shared lane roadways that are part of a designated bicycle network may include shared lane markings ("sharrows") or signage to indicate the legal presence of bicyclists in the travel lane.

Benefits

- Allows for bicycle travel when other treatments are not feasible.
- Introduces bicycles to the roadway and can create a less car-centric environment, increasing driver awareness.
- Low- to no-cost.

Constraints

- Does not provide any separation from vehicles.
- Without additional traffic-calming treatments, it is likely to attract only strong and fearless bicyclists.

Typical Applications

- Rural roadways without shoulders often use "share the road" signage to indicate to road users that bicyclists may be present.
- Sharrows are typically used in urban or suburban locations on bicycle network links where other facilities are not present.

Design Considerations

- Sharrows should be placed at least 4 feet from the edge of the curb or on-street parking.

Additional Guidance

- ODOT Bicycle and Pedestrian Design Guide
- ODOT Highway Design Manual
- Manual on Uniform Traffic Control Devices (MUTCD)

Contextual Changes

GATEWAY TREATMENTS

Cost: $$$

Gateway treatments create bookends to clearly indicate where the roadway environment changes. They may create segments within longer corridors and alert drivers to changing context and the need to slow speeds and be more alert for potential conflicts. Gateway treatments can be achieved through a variety of treatments including traffic circles, mini roundabouts, and landscape medians/buffers.

Benefits

- Provides a visual change to alert drivers they are entering a unique area and to drive with caution.
- Physical features naturally slow driver speeds.
- Can add beautification to streets.

Constraints

- Gateway treatments should accommodate the appropriate design vehicles for the specific location.

Typical Applications

- See Raised Medians for additional applications and considerations.
- Landscape buffers on the outside of the roadway may also be used to change the context and serve as gateway treatments.
- Traffic circles may be appropriate at intersections of low-volume local streets with urban cross-sections.
- Mini roundabouts may be appropriate at intersections of local streets or local streets with collectors.

Design Considerations

- Traffic circles require relatively low speeds (around <30 mph) and low traffic volumes (around <3,500 vehicles/day per approach); not typically appropriate at offset intersections.
- Mini roundabouts require low speeds or warning features for drivers approaching the intersection. They are appropriate for locations with lower traffic volumes than standard roundabouts. Unique mini roundabout designs such as dog-bone shaped roundabouts may be used at some offset intersections (Homedale Road/Harlan Drive).
- Designs must accommodate emergency vehicles, and in some locations designs should accommodate buses and trucks.

Additional Guidance

- FHWA Traffic Calming ePrimer

Contextual Changes

STREET FURNITURE AND LIGHTING

Cost: $$-$$$


Austin, TX

Heppner, OR

Street furniture includes pedestrian seating, information/ wayfinding structures, and trash cans. Street furniture and lighting can be used to enhance the pedestrian experience and encourage pedestrian activity on a street. It changes the environment and alerts drivers to a more urban context.

Benefits

- Encourages walking and sense of comfort and security for pedestrians.
- Increases driver awareness of pedestrians and potential conflicts.
- Relatively inexpensive and easy installation.
- Creates the perception of an urban environment and increases driver behavior conscientiousness.

Constraints

- Requires space in potentially busy areas, such as sidewalks.

Typical Applications

- Typically provided at areas of high bicycle and pedestrian traffic such as bus stations, shopping centers, schools, and multi-use trails.
- Street furniture and pedestrian-scale lighting is usually provided on corridors with commercial activity and anticipated high-pedestrian use.

Design Considerations

- Street furniture should not be placed to block the entrance of a building or inhibit pedestrian flow.
- The type and size of street furniture should be based on the available space and anticipated demand.
- Street furniture should be accessible to all users.

Additional Guidance

- AASHTO Roadway Lighting Design Guide

Contextual Changes

HIGH VISIBILITY CROSSWALK

Cost: $

Heppner, OR

Boise, ID

High visibility crosswalks consist of reflective roadway markings and accompanying signage at intersections and priority pedestrian crossing locations.

Benefits

- Communicates potential for pedestrian crossings to motorists and increases driver awareness.
- Designates a preferred crossing location for pedestrians.
- Low cost.

Constraints

- Can be more effective with other types of traffic control (signals, stop signs).
- At uncontrolled locations (midblock), motorist compliance is not as high as with other treatments.

Typical Applications

- High visibility crosswalks are typically applied at intersections of arterials, collectors, and/or other facilities with moderate to high vehicle volumes and speeds.
- Can be applied at mid-block locations, especially in conjunction with other treatments.

Design Considerations

- Crosswalk striping can vary, and may include continental striping (top photo), ladder striping, zebra striping (middle photo), etc.
- Can be constructed with paint or thermoplastic material.
- Minimum width is 6 feet, but wider crossings are preferred in areas with high number of pedestrians.

Additional Guidance

- NCHRP Report 562 Improving Pedestrian Safety at Unsignalized Crossings
- ODOT Bicycle and Pedestrian Design Guide

Contextual Changes

CROSSING ISLAND (PEDESTRIAN REFUGE)

Cost: $-$$

A crossing island in the median provides a protected area in the middle of a crosswalk for pedestrians to stop while crossing the street. Also called pedestrian refuge islands or median refuges, they can be used at intersections or mid-block crossings.

Benefits

- Increases driver awareness of pedestrian activity.
- Can be used to narrow travel lanes.
- Reduces pedestrian exposure at marked and unmarked crosswalks.
- Requires shorter gaps in traffic to cross the street.
- Allows pedestrians to cross in two phases.

Constraints

- Streets with constrained right-of-way may not have sufficient width to allow for a crossing island.

Typical Applications

- Preferred treatment for crossings of multi-lane streets.
- Often used in areas with high levels of vulnerable pedestrian users, such as near schools or senior centers/housing.
- Often applied in areas with high traffic volumes or with a pedestrian crash history.

Design Considerations

- Must have at least 6 feet of clear width to accommodate people using wheelchairs.
- At crossing locations where bicyclists are anticipated, a width of 10 feet or greater is desirable to accommodate bicycles with trailers or groups of bicyclists.
- Can be applied in conjunction with other traffic control treatments.

Additional Guidance

- ODOT Bicycle and Pedestrian Design Guide
- NACTO Urban Streets Design Guide
- NCHRP Report 562 Improving Pedestrian Safety at Unsignalized Crossings

Warning Devices

RECTANGULAR RAPID FLASHING BEACON (RRFB)

Cost: $$-$$$

Pendleton, OR


Irrigon, OR

These crossing treatments include signs that have a pedestrian-activated "strobe-light" flashing pattern to attract motorists' attention and provide awareness of pedestrians and/or bicyclists that are intending to cross the roadway.

Benefits

- Provides a visible warning to motorists at eye level.
- Increases motorists yielding behavior at crossing locations over round yellow flashing beacons (80 to 100 percent compliance).
- Allows motorists to proceed after yielding to pedestrians and bicyclists.

Constraints

- Flashing beacons must be activated by pedestrians.
- Motorists may not understand the flashing lights of the RRFB, so compliance may be lower than with a traffic signal.

Typical Applications

- Midblock crossings with medium to high pedestrian or bicycle demand and/or medium to high traffic volumes.
- Locations where multi-use paths intersect with roadways.

Design Considerations

- The push button to activate the RRFB should be easily accessible by pedestrians, wheelchair users, and bicyclists (if applicable).
- Consider adding a push button in the median island for crossings of multi-lane facilities.

Additional Guidance

- Manual on Uniform Traffic Control Devices (MUTCD)
- NACTO Urban Street Design Guide
- NCHRP Report 562 Improving Pedestrian Safety at Unsignalized Crossings
- ODOT Bicycle and Pedestrian Design Guide

Warning Devices

RUMBLE STRIPS

Cost: <$


Austin, TX


Libson, MD

Pavement surface treatments intended to cause drivers to experience vehicular vibrations signaling them to slow down. Rumble strips can be raised pavement markers across the roadway or grooves along the shoulder or centerline. Rumble strips are best used in conjunction with other traffic calming treatments.

Benefits

- Low cost.
- Speed reduction and increase in driver awareness.

Constraints

- Vibration noise created may be inappropriate in residential areas.
- Perceived more as a warning to slow down, than a physical measure that forces slower speeds.
- Impacts the comfort and control of bicyclists.
- Potential impacts on pavement deterioration based on pavement quality and placement.

Typical Applications

- Roadways with high speeds or where driver inattention is an issue.
- Rumble strips can be used on shoulders to alert drivers they are entering a part of the roadway not intended for use.
- Roadway rumble strips placed across the roadway are used to alert drivers of a changing roadway condition or the need for speed reduction.

Design Considerations

- All road users need to be considered and accommodated. Bicycles need particular attention, especially if they are expected to use the roadway or shoulders.
- There are a variety of types of rumble strips, so the site application should be considered to determine the most appropriate design.

Additional Guidance

- FHWA Technical Advisory: Shoulder and Edge Line Rumble Strips

Warning Devices

SPEED FEEDBACK SIGNS

Cost: $

FHWA
Speed Management: A Manual for Local Rural Road Owners

Digital signs mounted to posted speed signs that detect driver speed and provide real-time feedback to drivers.

Benefits

- Relatively low-cost and easy to install.
- Provides real-time feedback to drivers on speed and increases driver awareness.

Constraints

- Signs should be installed in conjunction with posted speed limit signs and at locations with speed issues or locations that serve as a gateway into slower speed corridors.

Typical Applications

- Sites where the 85th percentile speed or mean speed exceeds the posted speed limit by 5 mph or more.
- Roadways where average daily traffic exceeds 500 vehicles.
- Sites exhibiting a correctible speeding-related crash history within a recent time period.
- Sites with a pedestrian-related crash history.

Design Considerations

- Design specifications such as sign dimensions, text height, illumination, flashing wavelength, etc.
- Location-specific guidance for schools and parks, street conditions, and work zones.
- Research has shown effectiveness for speed feedback signs peaks approximately 1200 to 1400’ upstream of the sign and lasts until approximately 300 to 500’ past the sign. Speed feedback signs should be placed at the location of intended speed reduction (at locations with a documented speed issue or at gateways into locations with unique contexts).

Additional Guidance

- FHWA Effective Deployment of Radar Speed Signs report
- Spatial Effectiveness of Speed Feedback Signs

Curvature Features

RAISED PEDESTRIAN CROSSING

Cost: $$


Orlando, FL


Pendleton, OR


Sanford, FL

Raised pedestrian crossings bring the level of the roadway even with the sidewalk, providing a level pedestrian path and requiring vehicles to slow. Raised crossings can be used at midblock crosswalks or intersections.

Benefits

- Provides a better view for pedestrians and motorists.
- Slows down motorists.

Constraints

- Can be difficult to navigate for large trucks, snow plows, and low ground clearance vehicles.
- Relatively expensive.

Typical Applications

- Raised crosswalks are typically provided at midblock crossings on two-lane roads where pedestrian volumes ≥ 50 pedestrians per hour and speed control is needed.
- Raised crosswalks may be provided at intersections where low-volume streets intersect with high-volume streets or where a roadway changes character (such as from commercial to residential).
- Raised crosswalks should not be used on transit routes or where there are steep grades or curves.

Design Considerations

- Raised crosswalks should be even with the sidewalk in height and at least as wide as the crossing or intersection.
- Provide detectable warnings for pedestrians where they cross from the sidewalk in to the crossing area.
- Consider drainage needs and provide appropriate treatments.
- Use colored asphalt as opposed to brick or decorative surface materials to make the crossing smoother for those with mobility impairments.
- Design should accommodate emergency vehicle access.

Additional Guidance

- ITE/FHWA Report Traffic Calming: State of the Practice
- FHWA Designing Sidewalks and Trails for Access *Part II of II: Best Practices Design Guide*

Curvature Features

SPEED BUMPS, SPEED HUMPS, SPEED TABLES

Cost: $$


Howard County, MD


Austin, TX

Kissimmee, FL

There are a number of raised treatments that can be used in the roadway to slow vehicular traffic, including speed bumps, humps and tables.

Speed humps utilize a larger vertical radius than speed bumps that results in wider widths and a gentler crossing by vehicles.

Speed tables are wide mountable obstructions installed on the pavement surface across travel lanes, and intended to cause vehicles to slow. Speed tables are wider flat-top speed humps, and are gentler on vehicles. They can be used on higher order roads than bumps or humps, because they allow a smoother ride and higher speeds.

Benefits

- Relatively inexpensive.
- Effectively slows vehicle speeds, with speed bumps and humps reducing speeds more than speed tables.
- Easily navigated by bicyclists.

Constraints

- May be considered noisy by nearby residents.
- Forces emergency vehicles to slow down.
- Inappropriate on streets with bus traffic due to rider comfort and reduced travel speeds.

Typical Applications

- Speed bumps or humps can be used on lower order roadways, whiles speed tables are appropriate on higher order roadways.
- Roadways where a reduction in speeds and traffic calming is desired.
- Speed bumps, humps, or tables work well with curb extensions.

Design Considerations

- Emergency vehicle access and drainage needs should be considered and accommodated.
- Treatments should be used midblock, not at intersections.
- Treatments are not appropriate on roadways with grades >8%.
- Advance signing and pavement markings on the treatment can be provided.
- Typically preferred for treatment not to cover a bike lane.

Additional Guidance

- ITE Traffic Calming Measures

Curvature Features

CHICANES

Cost: $$

Chicanes introduce curvature to straight roadways that force drivers to steer and naturally slow vehicle speeds. Curvature can be curves or lanes shifts, which occur in series. Chicanes can be achieved with curb extensions, on-street parking, raised/landscape medians, etc. Their placement is the important consideration.

Benefits

- Heightens driver awareness and forces drivers to steer/drive slower.
- Creates opportunities for street landscaping.

Constraints

- May require right-of-way depending on the existing horizontal curvature of the road.
- May not be as effective when traffic volumes are higher in one direction or when traffic volumes are low enough that opposing vehicles rarely interact.
- Not a preferred location for crosswalks as drivers should be focus on curvature.

Typical Applications

- Appropriate for local streets or low-volume collectors if enough horizontal curvature is present.
- Either applied midblock or for entire blocks if short.
- Installed on one- and two-way streets in an open or urban cross-section.
- Appropriate for streets with speed limits of 35mph or less and relatively low traffic volumes (i.e. 3,500 per day).

Design Considerations

- Should not require utility relocation.
- Avoid relocating drainage features.

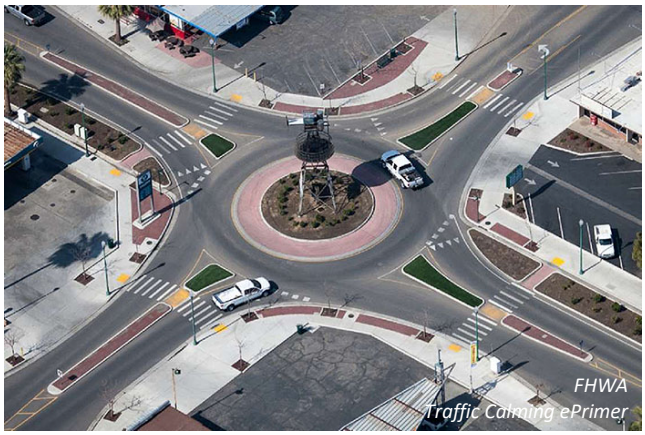
Additional Guidance

- FHWA Traffic Calming ePrimer

Corridor Breaks

INTERSECTION CONTROL CHANGES

Cost: $$-$$$$



Intersection control changes (including all-way stop-control, traffic signals, and roundabouts) can be used to create additional breaks in the corridor and force drivers to slow down on the approach to intersections.

Benefits

- Can be achieved with stop signs, traffic signals, roundabouts, mini roundabouts, and traffic circles.
- Creates breaks along corridors and forces drivers to slow down.
- Creates more crossing opportunities for pedestrians.
- Some treatments such as roundabouts create street beautification opportunities.

Constraints

- MUTCD warrants for all-way stop-control and traffic signals should be evaluated.
- The MUTCD all-way stop control warrant states that this intersection control should not be used for speed control but can be used for safety purposes.
- Each intersection control treatment has different warrants and purposes.
- Some control types require more right-of-way while others require long-term operation/maintenance.

Typical Applications

- See traffic circles in Gateway Treatments.
- Roundabouts and signals may be appropriate along arterials and collectors.
- Each intersection control has different application requirements and need individual evaluation.

Design Considerations

- Traffic volumes, posted speed, intersection locations, design vehicles, right-of-way and utility impacts. Each intersection control has different application requirements and need individual evaluation.

Additional Guidance

- NCHRP Roundabout Design Guide
- MUTCD
- FHWA Traffic Calming ePrimer

Corridor Breaks

TURN RESTRICTIONS

Cost: $-$$

Turn restrictions are physical barriers at intersections that prevent specific movements and decrease vehicle speeds. In extreme cases, these can be road closures.

Benefits

- Can eliminate cut-through traffic.
- Can allow cross bike traffic.
- May slow vehicles along major street.
- Can improve vehicle safety by removing certain turning movements.
- Can improve bicycle and pedestrian safety on local streets with potential reduction in traffic volume.

Constraints

- May cause traffic diversion to other streets.
- Not expected to reduce speeds along local cross streets.
- Restricts emergency vehicle and bus passage.

Typical Applications

- Arterial or collector streets to prevent turn traffic from/to minor collectors or local streets
- Can be used on one- or two-way streets with an urban cross section.
- The maximum speed limit on the side street should be 25mph.

Design Considerations

- Emergency, transit, and access routes; not appropriate if such routes are blocked.
- Right turn curb radii.
- Barrier gaps for bicycles and pedestrians to pass through.
- Should extend 15 to 25 feet beyond intersection.

Additional Guidance

- MUTCD
- FHWA Traffic Calming ePrimer

Corridor Breaks

MINI ROUNDABOUTS

Cost: $$

FHWA
Traffic Calming ePrimer

FHWA
Traffic Calming ePrimer

Mini roundabouts are compact roundabouts that operate similar to a single lane roundabout with raised central islands in the center and splitter islands to direct traffic but have smaller intersection footprints and serve slightly lower traffic volumes in comparison with full-size roundabouts.

Benefits

- Helps slow vehicles along both streets.
- Reduces conflict points between vehicles at intersection.
- Typically cheaper to build than standard roundabouts, requiring less right-of-way.
- May have a fully traversable center island for heavy vehicles.
- Central island can be used as a landscaping or color/texture treatment opportunity.

Constraints

- Speed reduction largely dependent on geometric design.
- May discourage through truck traffic from use and encourage alternative routes.

Typical Applications

- Intersection of two local roads or a local road with a collector
- One- or two-way streets
- Urban and suburban settings and cross sections
- Lower traffic volumes than a single lane roundabout

Design Considerations

- Stormwater runoff draining away from center island
- Redesign/relocation of existing utilities, like manholes
- Potential need for additional street lighting

Additional Guidance

- FHWA Traffic Calming ePrimer
- FHWA Mini-Roundabouts Technical Summary

Chapter 7 Transportation Funding Plan

Given the uncertainty of today's fiscal environment for funding transportation projects, this plan includes a prudent and conservative list of transportation investments, emphasizes lower cost methods that strengthen multimodal mobility within the city, and increases reliance on partnerships to help implement projects.

The identified TSP projects are under City, Morrow County, Port of Morrow, and ODOT jurisdiction, and some may occur as part of private development activities. For this reason, each project may be funded through a different combination of Federal, State, City, County, or private sources.

This chapter presents the City's current funding sources and revenue, a summary of the overall cost for the recommended projects, and possible new funding mechanisms that could help implement projects during the life of the TSP. It is important to note that the possible new funding mechanisms presented in this chapter do not guarantee that every project that is contained in the TSP will be constructed over the next 20 years.

Current Funding, Project Costs, and Funding Gap

The City of Boardman currently receives transportation-related maintenance and capital funding from the state road tax (which is comprised of proceeds from excise taxes imposed by the state and federal government), the Columbia River Enterprise Zone (CREZ), and transfers from the City's General Fund.

Based on historical and forecast funding levels, the City reasonably expects to have about $33 million through the year 2045 for funding transportation capital improvement projects identified in the TSP. While this amount is sufficient to fund the High-Priority Financially Constrained projects as summarized in Table 7-1 it is still far below the levels needed to implement the balance of other projects in the plan.

In comparing the City's projected capital funding to the estimated costs of the planned transportation solutions, the City will need to identify additional funding sources to implement future improvements to its transportation system. As such, the City will need to partner with other agencies, the private development community, and pursue alternative funding sources to address these 20-year transportation projects.

Table 7-1 Total Cost of Project Types

Facility/Project Type	Financially Constrained Projects	Unconstrained Projects
Intersections	$3.2M	$60.0M+
Roadways	$24.9M	$162.6M
Pedestrian Facilities	$3.6M	$25.7M
Bicycle Facilities	$1.2M	$12.1M
Total	**$32.9M**	**$260.4+**

Potential Future Funding Sources

Based on the current transportation funding sources, the City of Boardman needs to identify additional funding sources that can be dedicated to transportation-related capital improvement projects over the next 20 years. Reliance upon transportation improvements grants, partnerships with regional and state agencies, and other funding sources to help implement future transportation-related improvements is a reality. Table 7-2Table 7-2 summarizes the funding opportunities and identifies the intended use of the funds and any applicable project types, broken out into the following categories.

- Local Funding Mechanisms: These mechanisms can currently be used to fund future projects or can be considered by elected officials for adoption as new funding sources. Inclusion of these sources in the TSP does not create a new funding source but identifies the various funding sources that local governments throughout Oregon have utilized. In general, local funding sources are more flexible than funding obtained from state or federal grant sources.

- State and Federal Grants: The City can seek opportunities to leverage funding from grants at the state and federal levels for specific projects. Potential state funding sources are extremely limited, with some having significant competition. Any future improvements that rely on state funding may require City, County, and regional consensus that they are more important than transportation needs elsewhere in the region and the state. It will likely be necessary to combine multiple funding sources to pay for a single improvement project (e.g., combining state or City bicycle and pedestrian funds to pay for new bike lanes and sidewalks). At the federal level, many new grant opportunities have become available through the Infrastructure Investment and Jobs Act (IIJA). The City and partner agencies should continue to monitor available funding opportunities offered by this program through its end in fiscal year 2026.

Table 7-2 Potential Funding Sources for Boardman TSP Project Implementation

Funding Source	Description	Application
Local City-Wide Funding Sources		
Local Gas Tax	A local tax can be assessed on the purchase of gas within the urban area. This tax is added to the cost of gasoline at the pump, along with the state and federal gas taxes.	System-wide transportation facilities including streets, sidewalks, and bike lanes.
Street Utility Fees	A fee based on the number of automobile trips a particular land use generates; usually collected through a regular utility bill. Fees can also be tied to the annual registration of a vehicle to pay for improvements, expansion, and maintenance of the street system.	System-wide transportation facilities including streets, sidewalks, bike lanes, and shared use paths.
General Obligation Bond	Bonding allows municipal and county government to finance construction projects by borrowing money and paying it back over time, with interest. General obligation bonds are often used to pay for construction of large capital improvements and must be approved by a public vote because the cost of the improvement is added to property taxes over time.	Construction of major capital improvement projects within the urban area, street maintenance and incidental improvements.
Vehicle Registration Fee	An extra fee on all registered motor vehicles in the urban area. Requires county-wide approval and implementation.	Operations or capital programs.
State/Federal Sources for Specific Projects		
Statewide Transportation Improvement Program (STIP)	STIP is the State of Oregon's four-year transportation capital improvement program. ODOT's system for distributing these funds has varied over recent years. Generally, local agencies apply in advance for projects to be funded in each four-year cycle.	Projects on any facility that meet the benefit categories of the STIP.

Funding Source	Description	Application
Statewide Transportation Improvement Fund (STIF)	Introduced by the House Bill 2017 Transportation Funding Package to fund public transportation improvements across Oregon, STIF funds may be used for public transportation purposes that support the effective planning, deployment, operation, and administration of public transportation programs. This can include projects that are secondary but important to public transportation, such as walking and biking infrastructure near transit stops.	Pedestrian and bicycle improvements that provide connections to transit.
All Roads Transportation Safety (ARTS)	The federal Highway Safety Improvement Program is administered as ARTS in Oregon. ARTS provides funding to infrastructure and non-infrastructure projects that improve safety on all public roads. ARTS requires a data-driven approach and prioritizes projects in demonstrated problem areas.	Areas of safety concerns within the urban area, consistent with Oregon's Transportation Safety Action Plan.
Safe Routes to School (SRTS)	Administered by ODOT and focuses on infrastructure and non-infrastructure programs to improve access and safety for children to walk, roll, and/or bike to school.	Pedestrian and bicycle-related projects within the vicinity of local schools.
Community Paths Program	This is a State of Oregon program focused on helping communities create and maintain connections through shared-use paths.	Shared-use paths.
Oregon Parks and Recreation Local Government Grants	Oregon Parks and Recreation Department administers this program using Oregon Lottery revenues. These grants can fund acquisition, development, and major rehabilitation of public outdoor parks and recreation facilities. A match of at least 20 percent is required.	Trails and other recreational facility development or rehabilitation.
Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	The RAISE Discretionary Grant program invests in projects that promise to achieve national objectives. RAISE can provide capital funding directly to any public entity, in contrast to traditional Federal programs which provide funding to very specific groups of applicants. The RAISE program provides supplemental funding for grants to the State and local entities on a competitive basis for projects that will have a significant local/regional impact.	Road, rail, transit, and port projects aimed toward national objectives with significant local or regional impact.
Infrastructure Investment and Jobs Act (IIJA)	The IIJA (aka "Bipartisan Infrastructure Law," BIL) signed into law in November 2021 includes a five-year (FY 2022-26) reauthorization of existing federal highway, transit, safety, and rail programs as well as new programs (resilience, carbon reduction, bridges, electric vehicle charging infrastructure, wildlife crossings, and reconnecting communities) and increased funding. Oregon will receive over $4.5 billion through the life of the act.	Projects around the state that will benefit drivers, transit riders, cyclists, and pedestrians, and that help maintain roads and bridges, and address climate change.
Rural Surface Transportation Grant Program (Rural Surface)	This program will support projects to improve and expand the surface transportation infrastructure in rural areas to increase connectivity, improve safety and reliability for moving people and freight, and generate regional economic growth and improve quality of life.	Surface transportation infrastructure in rural areas.