Technical Memorandum #6

Date:	May 7, 2025	Kittelson Project No: 30287
To:	Project Management Team (PMT)	
From:	Matt Hughart, AICP; Krista Purser, PE; and Eza Gaigalas	
Subject:	Proposed Solutions DRAFT	

Introduction

The Boardman Transportation System Plan (TSP) will present a coordinated set of multimodal policies, projects, and studies that address transportation needs within the city's Urban Growth Boundary (UGB) over the next 20 years.

This memorandum summarizes an initial list of proposed transportation system projects and changes that will address the existing or future circulation needs identified through the existing and future conditions analyses (previously summarized in Technical Memorandums #4 and #5) as well as input from City staff, the Project Management Team (PMT), the Project Advisory Committee (PAC), Planning Commission, City Council, and the community as a whole. These transportation system projects recognize the need for a balanced system that provides a range of transportation choices for people traveling in, around, and through Boardman.

The proposed transportation projects are generally organized by travel mode and are summarized in tables and their locations/extents illustrated in reference maps. Each project includes an assessment, initial priority, a planning-level cost estimate, and potential funding sources to support the funding program for the TSP.

Several proposed projects are identified on or along ODOT facilities. It is important to note that in all such cases further coordination with ODOT will be required, including refinement of design elements through preliminary and final design processes, and are subject to future ODOT approvals by the State Roadway Traffic Engineer, pursuant with the *ODOT Traffic Manual*.

The resultant 20-year list of solutions is intended to address the identified transportation needs, meet the TSP goals, and reflect criteria included in Oregon Revised Statute (ORS) 660-012-0035. These projects are also intended to provide the City with flexibility to adapt to changing economic development and community needs over the next 20 years.

Functional Classification Modifications

Roadway functional classifications organize streets based on their role in the transportation system. The classifications define a street 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 existing hierarchy of local roadway functional classification for Boardman include:

- **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. Freeways are separated by medians and generally have little or no access for pedestrians and bicyclists.

- **Arterials** are major roadways designed primarily to facilitate traffic flow into and out of urban areas. They typically support significant intra-urban travel, connecting downtown areas to outlying residential neighborhoods. While arterials may provide access to adjacent properties, their primary function is to accommodate major traffic movements. As the longest and highest-volume roads within the UGB, arterials are key for longer-distance trips. They often feature pedestrian and bicycle activity as part of their streetscape.

- **Minor Collectors** connect arterials with the local street network. Collectors gather traffic from local streets and sometimes provide direct land access, channeling it toward arterial roads. They are generally shorter than arterials and operate at moderate speeds.

- **Neighborhood Collectors** extend into local neighborhoods, providing direct land access and supporting traffic circulation within the area. They typically carry lower traffic volumes at slower speeds compared to typical collectors. On-street parking is more common, and bike facilities may consist of dedicated lanes or shared roadways.

- **Local Streets** are primarily intended to provide access to abutting 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; heavy truck traffic is discouraged. On-street parking is common, and sidewalks are typically present.

Recommended Boardman Functional Classification Changes

Functional classification designations align the design of a roadway with its intended function. Based on a review of the existing Boardman functional classification system, the following opportunities have been identified to better align the classifications with the intended use of the roadway as well as to better algin the roadway with existing and future development patterns.

1. Change the "Minor Collector" name to just "Collector". The existing Boardman TSP used the "Minor Collector" designation instead of the more encompassing "Collector" designation as the Transportation Planning Rules (TPR) at the time required all "Collector or Major Collector" designations to have sidewalks and bicycle lanes. Given the city's renewed focus on improving multimodal accommodations and the prescriptive list of multimodal projects identified in the following sections, there is no need for this nuanced and confusing sub-classification. Switching to just a "Collector" naming convention will simplify the overall classification convention.

2. Modify some existing street classifications to better address existing and future growth patterns. Recommended changes to current classifications are summarized in Table 1 and Figure 1.

Table 1. Recommended Boardman Functional Classification Changes

Street Segment	City Classification		Rationale for Change
	Current	Proposed	
Kunze Lane: West City Limits to Olson Road	Neighborhood Collector	Arterial	Kunze Road is a major east-west corridor that provides regional connections between Boardman and Tower Road.
Willow Fork Drive: Tatone Street to Main Street	Neighborhood Collector	Collector[1]	This segment of Willow Fork Drive primarily serves commercial land uses.
Kinkaid Road: Tatone Street to Main Street	Neighborhood Collector	Collector[1]	This segment of Kincaid Road primarily serves commercial land uses.
City Center Drive: Tatone Street to S Main Street	None	Collector[1]	As a newer roadway, City Center Drive was constructed after the existing TSP was adopted. City Center Drive primarily serves commercial land uses.
SW Tatone Street: SW Wilson Road to northern terminus	Local	Collector[1]	Tatone Street primarily serves commercial land uses.
SE/SW Front Street	Local	Collector[1]	SE/SW Front Street primarily serves commercial land uses.
Oregon Trail Boulevard	Minor Collector	Arterial	As envisioned in this planning effort, Oregon Trail Blvd. is a major east-west corridor that will connect to Olson Road to the east and SW Paul Smith Road to the west. It will serve a combination of commercial, industrial, and residential traffic demands.
Boardman Avenue: NW First Street to NE First Street	Neighborhood Collector	Collector[1]	This segment of Boardman Avenue primarily serves commercial land uses.
NW 1st Street: NW Boardman Avenue to NW Columbia Avenue	Local Street	Neighborhood Collector	This segment of NW 1st Street primarily serves commercial land uses.

Street Segment	City Classification		Rationale for Change
	Current	Proposed	
NE Eldridge Drive: NE Columbia Avenue to NE Olson Road	Neighborhood Collector	Collector[1]	This segment of NE Eldridge Road primarily serves commercial/industrial land uses.
NE Olson Road: NE Columbia Avenue to NE Eldridge Drive	Arterial	Collector[1]	This segment of NE Olson Road primarily serves commercial/industrial land uses and provides no local or regional connectivity.
SE 1st Street: SE Front Street to Oregon Trail Boulevard	None	Collector[1]	As a newer roadway, SE 1st Street was constructed after the existing TSP was adopted. SE 1st Street primarily serves commercial land uses.
Laurel Lane: south city limits to Yates Lane	Collector[1]	Arterial	Laurel Lane is a major north-south corridor that provides local and regional connections between Boardman/Morrow County and I-84.
Yates Lane: Laurel Lane to east city limits	None	Collector[1]	As a newer roadway, Yates Lane was constructed after the existing TSP was adopted. Yates Lane primarily serves commercial land uses.
Devin Loop: Laurel Lane to Yates Lane	None	Local	As a newer roadway, Devin Loop was constructed after the existing TSP was adopted.
SW River Ridge Drive: SW Wilson Lane to southern extents	None	Neighborhood Collector	As a newer roadway, SW River Ridge Drive was constructed after the existing TSP was adopted. SW River Ridge Drive serves residential uses.
SW Juniper Drive: SW Wilson Lane to southern extents	None	Neighborhood Collector	As a newer roadway, SW Juniper Drive was constructed after the existing TSP was adopted. SW Juniper Drive serves residential uses.
SW Tatone Street: SW Wilson Lane to southern extents	None	Neighborhood Collector	As a newer roadway, SW Tatone Street was constructed after the existing TSP was adopted. SW Tatone Street serves residential uses.

[1] Assuming the "Minor Collector" naming convention is changed to just "Collector".

Figure 1. Proposed Functional Classification System Changes

Recommended Federal Functional Classification Changes

The Federal Highway Administration (FHWA) uses the Federal functional classification system to determine eligibility for funding under the Federal-aid Highway Program, which provides financial assistance for construction, maintenance, and operations of local and state roadways. The FHWA provides a rural and urban functional classification system that includes Interstates, Other Freeways and Expressways, Other Principal Arterials, Minor Arterials, Major and Minor Collectors, and Local Roads. Designations applicable to Boardman include:

- Rural Interstate - Interstates are the highest classification of Arterials and were designed and constructed with mobility and long-distance travel in mind. I-84 is currently classified Rural Interstate through Boardman.
- Minor Arterial serve trips of moderate length, interconnect and augment the higher Arterial system, provide intra-community continuity, and may carry local bus routes. They distribute traffic to smaller geographic areas than those served by higher-level Arterials.
- Major Collector serve land access and traffic circulation in higher density residential, commercial, and industrial areas. They provide throughways for residential neighborhoods for significant distances, distribute and channel trips between Local Roads and Arterials, and are characterized by higher speeds and more signalized intersections.
- Minor Collector serves land access and traffic circulation in lower density residential, commercial, and industrial areas. They provide throughways for residential neighborhoods for short distances, distribute and channel trips between Local Roads and Arterials, and are characterized by lower speeds and fewer signalized intersections.
- Local Roads provide direct access to adjacent land, access to higher classified roadway connections, and do not encourage through traffic. They are not intended for long-distance travel, except at the origin or destination of the trip, due to their provision of direct access to abutting land.

A review of existing Federal functional classification system indicates that only a few roadways in Boardman (I-84 as a Rural Interstate; Kunze Lane, Main Street, Wilson Lane, and parts of Columbia Avenue as Rural Major Collector; and parts of Marine Drive, Ullman Blvd, and Columbia Lane as Rural Local) currently have a Federal functional classification designation. To address this existing limitation, Boardman will need to work with ODOT Region 5 planning staff to request updates and changes to the Federal functional classification network. Based on a review of federal classification designations and Boardman's proposed functional classification system, Figure 2 identifies a recommended classification system for all roadways in Boardman.

Figure 2. Proposed Federal Functional Classification System Changes/Additions

Recommended Freight Route Classification

As indicated in Tech Memo #4 (Existing Conditions Inventory and Analysis), Freight route classifications are provided at the State and Federal levels. In Oregon, the Oregon Highway Plan (OHP) documents freight designations on state highways. Within Boardman, the only state designated Freight Route is I-84. At the Federal level, I-84 is part of the Primary Highway Freight System (PHFS) classification of the National Highway Freight Network. Parts of Marine Drive, Ullman Boulevard, Columbian Avenue, and Laurel Lane are also classified as NHS Intermodal Connectors, roads that provide access between major intermodal facilities and PHFS (I-84). At the local level, Boardman does not have a designated freight network or classification system despite the presence of major freight-generating land uses within the Port of Morrow. Therefore, as part of the alternatives assessment, it is recommended that Boardman consider the designation of freight routes that are consistent with the state and federal designations and identify those other local corridors where large freight traffic is expected to travel within the City. Figure 3 illustrates a proposed freight designation map for the City's existing/proposed Collector and higher roadway network. The freight designation would be classified into two categories, Regional and Local Truck Routes:

- **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.

Figure 3. Proposed Freight Route Designations

Roadway Improvement Standards

Roadway improvement standards refer to specifications and guidelines established by transportation agencies that govern the design, construction, and operation of roadways to accommodate the needs of vehicular and non-vehicular modes. These standards are tied to the roadway functional classification hierarchy described in the previous section so that the way that streets within each designation "look and feel" is consistent across the transportation system. They include provisions for multimodal facilities, including sidewalks along all urban streets and bike lanes, or space to provide them, along with all arterials and collectors, depending on available right-of-way.

The City's street design standards are contained in March 2021 Trench Excavation and Backfill Streets and Curbs of its Public Works Engineering Standards (ST7-ST12). The County's roadway design standards are contained in their 2012 Transportation System Plan. The City is currently updating their roadway improvement standards to provide consistent street cross sections across the urban area which will also include a standard for roadways owned by the Port of Morrow. Since these cross sections are still in process and not expected to be completed until August, they will be incorporated into the planning process as part of the DRAFT TSP.

Rail Projects

As noted in Tech Memo #3 (Existing Conditions Inventory and Analysis), there are several major rail corridors that travel through Boardman. All of the rail infrastructure serves uses located within and affiliated with the Port of Morrow. Given that all major rail crossings are grade separated within the more urban portions of the City and these rail crossings are all noted to be sufficient, there are no specific or rail-affiliated alternatives identified for inclusion in the Boardman TSP update.

Marine Projects

All of the marine-based transportation infrastructure is owned/maintained by the Port of Morrow (Columbia River marine terminals T-1, T,2, and T-3). All infrastructure plans for these terminals are outlined in the Port of Morrow Strategic Business Plan. All city-focused multimodal transportation improvement projects noted herein are consistent with the projects identified in the Port of Morrow Strategic Business Plan.

Transportation Projects

This section presents the recommended transportation projects for the TSP Update and are organized into three primary categories:

- Intersection Projects: these include intersection modifications that address either an identified capacity, geometric, or safety needs.
- Street Corridor Projects: these include new street connections and street modifications that address either connectivity, safety, or traffic calming needs – or the need for further study, and in some cases, multiple of these needs.
- Pedestrian Projects: these include pedestrian connections and crossing treatments that address either a system gap or safety need.
- Bicycle Projects: these include bicycle connections that address either a system gap or safety need.

These projects are a combination of solutions that have been carried forward from previous adopted plans and past studies that have not yet been completed as well as new recommendations that address new transportation needs identified through the TSP Update.

The past plans and studies incorporated into the proposed projects memo include the following:

- Previously Adopted Plans
    - *2009 Boardman Main Street Interchange Area Management Plan*
    - *2001 Main Street Downtown Development Plan*
    - *2011/2022 Port of Morrow Interchange Area management Plan*
- Other Relevant Studies
    - *2024 Main Street Corridor Refinement Assessment*
    - *Central, North, and West Urban Renewal Plans*

For projects previously identified, priorities presented are consistent with what was established by the prior planning effort. For new projects identified to address new needs, project priorities were developed by applying the evaluation criteria outlined in Tech Memo #3 (Goals, Objectives, and Evaluation Criteria). Projects are categorized as follows:

- High Priority Projects: 0–5-year implementation timeline.
- Medium Priority Projects: 5–10-year implementation timeline.
- Low Priority Projects: 10–20-year implementation timeline.
- Vision Projects: lower priority projects that are needed but have the greatest chance for implementation beyond the 20-year planning horizon.

If concentrated development occurs in the future, one or more of the projects identified as Vision Projects may be necessary within the TSP horizon. Vision Projects are defined as those projects whose need is anticipated to be beyond the horizon year of the TSP but could occur sooner if growth and development over the next 20 years is more concentrated in some areas than others. Therefore, development projects shall be responsible for dedicating and preserving the appropriate rights-of-way and, if deemed necessary, construct improvements to accommodate their respective impacts.

These priorities will be refined based on review by City staff, PMT, PAC, and community/constituent review. Some projects may be accelerated and others postponed due to changing conditions, funding availability, public input, or more detailed study performed during programming and budgeting processes. Project priorities are intended to be flexible, allowing the City to make wise investments consistent with the overall vision contained in this TSP. The TSP goals and objectives seek to improve multimodal connectivity and safety while supporting the economic health and prosperity of the city. Therefore, the highest priority projects for strategic investments are those that (1) improve the overall circulation network and (2) improve the efficiency and safety of existing multimodal facilities. These projects should be implemented first unless a lower priority measure demonstrates being more cost-effective or better supports safety, growth management, or other livability and economic considerations.

Planning-level costs for projects from past planning efforts have initially been inflated to 2025 dollars and cost estimates were developed for new projects that address new needs.

Intersection Projects

The intersection operations analysis summarized in Tech Memo #5: Future (No-build) Conditions, identifies 10 intersections that are projected to exceed their applicable mobility standards or targets within the 20-year planning horizon. This section summarizes the intersection treatments and alternatives considered to address intersection operations and queueing deficiencies at the study intersections.

Intersection Treatment Types

TURN LANE

Separate left and right-turn lanes, as well as two-way left-turn lanes (TWLT), can provide significant increases in the capacity of intersections to accommodate turn movements. They can also provide a safety benefit by creating separation between slowed or stopped vehicles waiting to turn left and through vehicles.

TURNING MOVEMENT RESTRICTIONS

Turning movement restrictions can be useful in situations where the spacing of intersections and/or private driveways is too close to safely and efficiently accommodate multimodal circulation. Turning movement restrictions can include the use of medians, driveway islands, and signing/striping measures to limit specific turning movements, often major and minor street left-turn movements

TRAFFIC SIGNAL

Traffic signals allow opposing streams of traffic to proceed through an intersection in alternating patterns. When used, traffic signals can effectively manage high traffic volumes and provide dedicated times in which pedestrians and bicyclists can cross roadways. Because they continuously draw from a power source and must be periodically re-timed, signals typically have higher maintenance costs than other types of intersection control.

ROUNDABOUT

Roundabouts are circular intersections where entering vehicles yield to vehicles already in the circle. They are designed to slow vehicle speeds to 20 to 30 mph or less before they enter the intersection, which promotes a more comfortable environment for pedestrians, bicyclists, and other non-motorized users. Roundabouts have fewer conflict-points and have been shown to reduce the severity of crashes, as compared to signalized intersections. Roundabouts can be more costly to design and install when compared to other intersection control types, but they have a lower operating and maintenance cost than traffic signals. Topography must be carefully evaluated in considering a roundabout, given that slope characteristics at an intersection may render a roundabout infeasible.

Intersection Alternatives (Capacity, Traffic Control, Geometric Changes)

This section carries forward recommendations from the 2001 TSP, various area studies, as well as presenting new recommendations based on an updated analysis of future needs and deficiencies. Capacity and geometric intersection projects are presented and described in Table 2 and shown on a map in Figure 4.

The alternative operations will be detailed more in the FINAL memorandum.

Attachment A contains the intersection operations analysis worksheets for the alternatives.

Table 2. Intersection Traffic Control, Capacity and/or Geometric Improvement Projects

Project ID	Intersection	Jurisdiction	Project Alternatives	Project Source	Cost Estimate	Priority
I-1	N. Main Street / Boardman Ave	City	1. Signalize (with appropriate widening/re-striping of east and west approaches to provide separate left- and through/right-turn lanes) 2. Or, construct a single lane mini roundabout.	2024 Main St Corridor Refinement	1. $750k 2. $1M	High
I-2	N. Main Street / N. Front Street	City	• Implement right-in/right-out turning movement restrictions to/from N. Front Street via a raised median	2009 Main Street IAMP	$100k	High
I-3	I-84 WB Ramp / N. Main Street	ODOT/City	• Widen the I-84 Main Street overpass to provide a separate northbound left-turn lane and through lane. Signalize when warranted and widen the offramp to include separate left- and through/right-turn lanes	2009 Main Street IAMP	$30M+	Vision
I-4	I-84 EB Ramp / S. Main Street	ODOT/City	• Widen the I-84 Main Street overpass to provide a separate southbound left-turn lane and through lane. Signalize when warranted and widen the offramp to include separate left- and through/right-turn lanes	2009 Main Street IAMP		
I-5	S. Main Street / S. Front Street	City	• Implement right-in/right-out turning movement restrictions to/from S. Front Street via a raised median	2009 Main Street IAMP	$100k	High
I-6	S. Main Street / Oregon Trail Blvd	City	• Identify improvements that address capacity constraints when they arise. May include signalization or a single-lane mini roundabout.	-	$500k-$1M	Low
I-7	S. Main Street/ Kinkade Rd	City	• Identify improvements that address capacity constraints when they arise. May include signalization or a single-lane mini roundabout.	-	$500k-$1M	Low
I-8	I-84 WB Ramp / Laurel Lane / Columbia Blvd	ODOT/City/ Port of Morrow	• Combine the Laurel Lane/Columbia Boulevard and the Laurel Lane/I-84 WB ramp terminal intersections into one single-lane roundabout intersection. Modify the westbound offramp alignment accordingly and lengthen to current standards	2022 POM IAMP	$5M	High
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 Ramp. Lengthen and widen the eastbound off ramp to provide separate left/through and right-turn lanes	2022 POM IAMP	$2M	Med

Figure 4. Intersection and Roadway Corridor Projects

Roadway Corridor Projects

Roadway corridor projects entail new roadway segments or modifications to existing roadway segments. Some roadway corridor project recommendations are carried forward from existing plans and studies, while others are newly proposed as part of this TSP update planning effort. The combined recommendations are illustrated in Figure 4 and described in the following sections.

New Connections and Roadway Upgrades

New roadway connections are intended to improve overall circulation in the city and meet the needs of future development. The existing Boardman TSP includes new roadway connections for overall circulation while other more recent planning efforts include new roadway corridors to better address access limitations in the vicinity of the I-84 interchange ramp terminals. These projects along with other new roadway connections and upgrades are presented in Table 3.

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 the previous sections.

Local Street Connections

There are a number of areas within Boardman that could experience future 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 illustrates the location of the local street connections. The arrows shown in Figure 5 represent potential 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 4.

Figure 5. Local Street Connections

Table 3. 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 Neighborhood Collector standards	2001 TSP	$2.6M	Low[1]
R-2	**New East-West Roadway (west of Laurel Lane):** Laurel Lane to New North-South Roadway	City	• Construct a new east-west Collector roadway from Laurel Lane to a future north-south roadway (R-7)	-	$2.2M	Med[2]
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	$15.4M	High
R-4	**Oregon Trail Boulevard:** Eastern extents to Olson Road	City	• Extend Oregon Trail Boulevard to Olson Road at Arterial standards	2001 TSP	$4.8M	Med[1]
R-5	**Kinkade Road** Western extents to Wilson Lane/Juniper Drive intersection	City	• Extend Kinkade Road to Wilson Road at Neighborhood Collector standards	-	$2.5M	Low[1]
R-6	**New East-West Road:** Anderson Road to Olson Road	City	• Construct a new east-west Neighborhood Collector between Anderson Road and Olson Road	-	$6.0M	Low[1]
R-7	**New North-South Roadway (west of Laurel Lane)** Parallel circulation road to Laurel Lane	City	• Construct a new north-south Collector roadway that would link projects R-2 and R-8	-	$2.8M	Med[1]
R-8	**Oregon Trail Boulevard** Laurel Lane to UGB line	City	• Construct a new east-west Arterial roadway from Laurel Lane to the city limits	-	$4.4M	Med[1]
R-9	**Paul Smith Road:** Oregon Trail Boulevard Extension to Kunze Lane	County	• Upgrade Paul Smith Road to Neighborhood Collector standards between Kunze Lane and a future Oregon Trail Boulevard (R-3)	-	$9.1M	Low

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
R-10	**Juniper Drive:** Current southern extents to Kunze Lane	City	• Extend Juniper Drive to Kunze Lane at Neighborhood Collector standards	-	$3.3M	Vision[1]
R-11	**Tatone Street:** Current southern extents to Kunze Lane	City	• Extend Tatone Street to Kunze Lane at Neighborhood Collector standards	-	$3.3M	Vision[1]
R-12	**Anderson Road:** Wilson Road to Kunze Lane	City	• Extend Anderson Road to Kunze Lane at Neighborhood Collector standards	-	$6.6M	Vision[1]
R-13	**New North-South Road**: Oregon Trail Boulevard to New East-West Road (R-6)	City	• Construct a new north-south Neighborhood Collector roadway that would link R-4 and R-6	-	$2.6M	Low[1]
R-14	**New East-West Road**: Juniper Drive to Olson Road	City	• Construct a new east-west Neighborhood Collector roadway between R-10 and Olson Road	-	$16.0M	Vision[1]
R-15	**Kunze Lane:** Paul Smith Road to Olson Road	County	• Upgrade Kunze Lane to Arterial standards between Paul Smith Road and Olson Road.	-	$9.7M	Vision
R-16	**New North-South Road:** Wilson Road to Kunze Lane	City	• Construct a new north-south Neighborhood Collector roadway between Wilson Road and Kunze Lane	-	$6.6M	Vision[1]
R-17	**SW 1st Street:** S. Front Street to Oregon Trail Boulevard extension	City	• Extend SW 1st Street to a future Oregon Trail Boulevard (R-3) at Collector standards	-	$2.9M	High[1]
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	-	$5.7M	Low[1]
R-19	**Kinkade Road**: S. Main Street to SE Anderson Road	City	• Extend Kinkade Road from S Main Street to Anderston Road at Collector standards	-	$3.6M	Low[1]

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
R-20	**Wilson Road:** Faler Road to Paul Smith Road	City	• Upgrade Wilson Road to Arterial standards between Paul Smith Road and S. Main Street	-	$12.7M	Med
R-21	**Wilson Road:** S. Main Street to Olson Road	City	• Upgrade Wilson Road to Arterial standards between S. Main Street and Olson Road	-	$8.0M	Low
R-22	**Olson Road:** Kunze Lane to End of Olson Road/UGB	County	• Upgrade S. Olson Road to Arterial standards between Kunze Lane and northern extents	-	$10.7M	Vision
R-23	**S. Main Street:** Wilson Road to Kunze Lane	City	• Upgrade S. Main Street to Arterial standards between Wilson Road and Kunze Lane	-	$2.8M	Low
R-24	**S. Main Street:** S. Front Street to Wilson Road	City	• Upgrade S. Main Street to Arterial standards between Oregon Trail Boulevard and Wilson Road	Main Street Downtown Development Plan	$2.3M	High
R-25	**N. Front Street**: N. Main Street to Olson Road	City	• Upgrade Front Street to Collector standards from N. Main Street to Olson Road	2024 Capital Improvement Plan	$2.1M	High
R-26	**Olson Road**	ODOT	• Extend S. Olson Road underneath I-84 from northern extents to Front Street at Arterial standards	2001 TSP	$25M	Vision

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 developers.

[1] Project anticipated to be primarily development driven.

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.

Active transportation projects are categorized as Pedestrian or Bicycle and are described in more detail below. The alternatives developed for the pedestrian system include sidewalks that fill gaps and provide new facilities along city streets, multi-use paths/trails that augment and support the sidewalks, and enhanced crossings that enable people to safely cross streets. Collectively, these alternatives will help enhance and expand the multimodal transportation system and encourage walking and other non-motorized trips consistent with the goals of the TSP Update.

Pedestrian System Alternatives

Table 4 identifies the alternatives developed for the pedestrian system. The priorities shown in the table are based on the project evaluation criteria as well as input from the project team, the project advisory committee, and the community. The cost estimates are based on average unit costs for similar improvements in the Northwest. Figure 6 illustrates the locations of the pedestrian system improvement projects.

Figure 6. Pedestrian Projects

Table 4. Pedestrian Projects

Project ID	Roadway Segment	Jurisdiction	Project Description	Project Source	Cost Estimate	Priority
P-1	**Columbia River Heritage Trail:** Marina Park to Riverfront Center	City	• Reconstruct the Columbia River Heritage Trail to be a 10-foot multi-use path and construct a new connection to Marine Drive	Columbia River Heritage Trail Plan	$250k	High
P-2	**N Main Street:** Marine Drive to Columbia Avenue	City	• Construct a new 5 ft sidewalk (west side)	-	$1.5 M	High
P-3	**Boardman Avenue:** Allen Court to NW 3rd Street NW	City	• Fill in the sidewalk gaps with new 5 ft sidewalk (east side)	-	$450k	Low
P-4	**Boardman Avenue:** NW 2nd Street to NW 1st Street	City	• Fill in the sidewalk gaps with new 5 ft sidewalks (north and south side)	-	$400k	Low
P-5	**Columbia Avenue:** Olson Road to Ullman Boulevard	City	• Construct a new 5 ft sidewalk (north side)	-	$1.2 M	Med
P-6	**Ullman Boulevard**: Rail Crossing to Marine Drive	Port of Morrow/ City	• Construct a new 5 ft sidewalk (east side)	-	$1.8 M	Med
P-7	**Oregon Trail Boulevard:** S. Main Street to east extents	City	• Fill in the sidewalk gaps with new 5 ft sidewalk (north and south side)	-	$1.3 M	High
P-8	**Faler Road:** Wilson Road to Mt Adams Avenue	City	• Construct a new 5 ft sidewalk (east and west side)	-	$430k	Med
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)	-	$160k	High

P-10	**S. Main Street/ Wilson Road**	City	• Pedestrian crossing enhancement	-	$10k	High
P-11	**Laurel Lane:** Curve on Laurel Lane to UGB	City	• Construct a new 5 ft sidewalk (east and west sides)	-	$560k	Low
P-12	**Laurel Lane/Columbia Avenue:** Yates Lane to Ullman Boulevard	City/ ODOT	• Construct a new 10 ft multi-use path (west/south side)	-	$1.6 M	Low
P-13	**N. Olson Road:** N. Front Street to Columbia Avenue	City	• Fill in the sidewalks gaps with a new 5 ft sidewalk (west side)	-	$780k	Med[1]
P-14	**Wilson Road/ Jupiter Drive/future Kinkade Rd**	City	• When Kinkade Road is extended and connected to Wilson Road/Juniper Drive intersection, relocate nearby pedestrian crossing to the intersection and install pedestrian crossing beacons	-	$50k	Med[1]
P-15	**Boardman Avenue:** N. Main Street to NE 2nd Avenue	City	• Fill in the sidewalk gaps with new 5 ft sidewalks (south side)	-	$910k	High[1]
P-16	**S. Main Street:** Oregon Trail Boulevard to Wilson Lane	City	• Fill in the sidewalk gaps with new 5 ft sidewalks (east side)	Main Street Downtown Development Plan	$940k	High[1]
P-17	**S. Main Street:** Wilson Road to Kunze Lane	City/ County	• Fill in the sidewalk gaps with new 5 ft sidewalks (east side)	-	$1.1 M	Low[1]
P-18	**Wilson Road:** Faler Road to Paul Smith Road	City	• Construct a new 5 ft sidewalk (north and south side)	-	$820k	Low[1]
P-19	**Paul Smith Road:** Oregon Trail Blvd to Kunze Lane	City/ County	• Construct a new 5 ft sidewalk (east side)	-	$715k	Vision[1]

P-20	**Paul Smith Road:** Wilson Road to Kunze Lane	City/ County	• Construct a new 5 ft sidewalk (east side)	-	$1.1 M	Low[1]
P-21	**Kunze Lane:** Paul Smith Road to S Main Street	City/ County	• Construct a new 5 ft sidewalk (north and south side)	-	$3.3 M	Vision[1]
P-22	**Kunze Lane:** S. Main Street to Olson Road	City/ County	• Construct a new 5 ft sidewalk (north and south side)	-	$2.5 M	Vision[1]
P-23	**Olson Road:** Kunze Lane to Wilson Road	City/ County	• Construct a new 5 ft sidewalk (west side)	-	$1.2 M	Vision[1]
P-24	**Olson Road:** Wilson Road to north extents	City/ County	• Construct a new 5 ft sidewalk (west side)	-	$1.8 M	Vision[1]
P-25	**Wilson Road:** S Main Street to Tatone Street	City	• Fill in the sidewalk gaps with new 5 ft sidewalks (south side)	-	$270k	Med[1]
P-26	**Wilson Road:** S Main Street to Olson Road	City/ County	• Construct a new 5 ft sidewalk (north and south side)	-	$2.5 M	Vision[1]
P-27	**Wilson Road/ Tatone Street**	City	• Install pedestrian crossing beacons	-	$50k	High
P-28	**S. Main Street/ Oregon Trail Boulevard**	City	• When Oregon Trail Boulevard is extended to the west, install new pedestrian crossing beacons to the intersection	-	$50k	High
P-29	**S. Main Street/ S. Front Street**	City	• Install pedestrian crossing beacon	-	$50k	Med

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 ODOT or private developers.

[1] Project anticipated to be primarily development driven.

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 City relies on shared-use pathways and on-street bike lanes to serve people riding bikes of all ages and abilities.

BICYCLE SYSTEM ALTERNATIVES

Table 5 identifies the preferred alternatives developed for the bicycle system. The priorities shown in the table are based on the project evaluation criteria as well as input from the project team, the project advisory committee, and the community. The cost estimates are based on average unit costs for similar improvements in the Northwest. Figure 7 illustrates the locations of the bicycle system improvement projects.

Figure 7. Bicycle Projects

Table 5. 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	• Construct new 6 ft buffered bike lanes (north and south side)	-	$3.4 M	High
B-2	**Columbia Avenue:** N. Olson Road to Laurel Ln	City	• Construct new 6 ft buffered bike lanes (north and south side)	-	$3.5 M	Med
B-3	**S. Main Street:** S. Main Street to Oregon Trail Boulevard	City	• Construct new 6 ft buffered bike lanes (east and west side)	Main Street Downtown Development Plan	$2.0 M	High
B-4	**S Main Street:** Wilson Road to Kunze Lane	City	• Construct new 6 ft buffered bike lanes (east and west side)	-	$2.1 M	Low[1]
B-5	**Wilson Road:** Paul Smith Road to S. Main Street	City	• Construct new 6 ft buffered bike lanes (north and south side)	-	$4.1 M	Med[1]
B-6	**Wilson Road:** S. Main Street to S. Olson Road	City	• Construct new 6 ft buffered bike lanes (north and south side)	-	$3.0 M	Low[1]
B-7	**Kunze Lane:** Paul Smith Road to S. Main Street	City/County	• Construct new 6 ft buffered bike lane (north and south side)	-	$4.1 M	Vision[1]
B-8	**Kunze Lane:** S. Main Street to S. Olson Road	City/County	• Construct new 6 ft buffered bike lane (north and south side)	-	$3.1 M	Vision[1]
B-9	**Olson Road:** Kunze Lane to Wilson Road	City/County	• Construct new 6 ft bike lane (east and west side)	-	$2.1 M	Vision[1]
B-10	**Olson Road:** Wilson Road to north extents	City/County	• Construct new 6 ft bike lane (east and west side)	-	$3.0 M	Vision[1]

B-11	**NE Front Street:** N. Main Street to N. Olson Road	City	• Construct new 6 ft bike lane (north and south side)	-	$3.3 M	High
B-12	**Olson Road:** NE Front Street to Columbia Ave	County	• Construct new 6 ft bike lane (east and west side)	-	$1.2 M	High[1]
B-13	**Ullman Blvd:** Columbia Avenue to Marine Drive	Port of Morrow/City	• Construct new 6 ft bike lane (east and west side)	-	$2.3 M	Low
B-14	**Laurel Lane:** Yates Lane to south city limits	City/County	• Construct new 6 ft bike lane (east and west side)	-	$740k	Low[1]
B-15	**Boardman Avenue:** N. Main Street to eastern limits	City	• Install shared lane markings and signs	-	$20k	High
B-16	**Boardman Avenue:** N. Main Street to Columbia Avenue	City	• Install shared lane markings and signs	-	$20k	High
B-17	**Columbia Avenue:** Boardman Avenue to N. Main Street	City	• Install shared lane markings and signs	-	$20k	High
B-18	**NW 1st Street:** Boardman Avenue to Columbia Avenue	City	• Install shared lane markings and signs	-	$10k	High
B-19	**Faler Road**: Wilson Road to north extents	City	• Install shared lane markings and signs	-	$20K	High
B-20	**Kinkade Road:** West extents to S. Main St	City	• Install shared lane markings and signs	-	$20k	High

B-21	**Willow Fork Drive:** Cottonwood Loop to S. Main Street	City	• Install shared lane markings and signs	-	$20k	High
B-22	**Locust Road:** Wilson Road to Kinkade Rd	City	• Install shared lane markings and signs	-	$330k	High
B-23	**Anderson Road:** Wilson Road to Oregon Trail Boulevard	City	• Install shared lane markings and signs	-	$20k	High
B-24	**Paul Smith Road:** Wilson Road to Kunze Lane	City	• Install shared lane markings and signs	-	$20k	Low
B-25	**River Ridge Drive:** Wilson Road to Kunze Lane	City	• Install shared lane markings and signs	-	$20k	High
B-26	**Juniper Drive:** Sage Street to Wilson Road	City	• Install shared lane markings and signs	-	$10k	High
B-27	**Tatone Street:** City Center Drive to South extents	City	• Install shared lane markings and signs	-	$10k	High
B-28	**Columbia River Heritage Trail:** Marina Park to Port of Morrow Riverfront Center	City/POM	• Reconstruct the Columbia River Heritage Trail to be a 10-foot multi-use path and construct a new connection to Marine Drive	Columbia River Heritage Trail Plan	$250k	High
B-29	**Laurel Lane/ Columbia Avenue:** Ullman Blvd to Laurel Lane	ODOT/City	• Construct new 10 ft multi-use path (west side)	2022 POM IAMP	$1.6 M	Low
B-30	**Oregon Trail Boulevard:** S. Main Street to east extents	City	• Widen roadway and construct new 6 ft buffered bike lane (north and south side)	-	$1.9M	Low

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 ODOT or private developers.

Transit Projects

Table 6 summarizes the alternatives developed to address the gaps and deficiencies in the transit facilities and services provided in Boardman.

Table 6. Boardman Transit Improvement Alternatives

Transit Facilities and Services	Considerations	Improvement	Project Source
Service Frequency, Hours, Coverage	Public comment has identified confusion regarding the frequency of transit service in Boardman.	• 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	Most transit stops in Boardman do not have a shelter or a bench. Adding these amenities would make the ridership experience more comfortable while waiting for a bus.	• 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	A park and ride could be valuable for regional transit trips outside of Boardman.	• 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

Traffic Calming Measures

To support the development of transportation improvements, a Traffic Calming Toolbox has been created to provide guidance on evaluating and implementing traffic calming measures to reduce vehicle speeds and enhance safety in the City of Boardman. The Toolbox describes individual measures, their intended effects, and considerations for application. It serves as a resource for future decisions regarding traffic calming throughout the city.

The Traffic Calming Toolbox is included in Attachment B.

Transportation Funding Plan

The following summarizes current and potential future funding sources for transportation improvements.

Current and Potential Future Funding Sources

The City of Boardman currently receives funding from the state gas tax, which is comprised of proceeds from excise taxes imposed by the state and federal government, and from several local sources.

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

- Local Funding Mechanisms: These 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. Priority Funding Sources for Boardman TSP 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.
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.

Funding Source	Description	Application
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.

Next Steps

The PMT, joint TAC/PAC, and community, along with City Planning Commission and City Council will review and help refine the transportation solutions and their priorities documented in this memo. The refined solutions will then be presented in the Draft TSP.

Attachments

A. Intersection Operations Analysis Worksheets
B. Traffic Calming Toolbox

Attachment A - Intersection Operations Analysis Worksheets

Attachment B - Traffic Calming Toolbox