



Public Draft Memorandum #3: Improvement Options

Cottage Grove Pedestrian and Bicycle Plan

Task 3.1

October 13, 2023



Contents

- 1 Introduction 1
 - 1.1 Coordination with Relevant Plans and Design Guidelines 1
- 2 Toolbox of Countermeasures 2
 - 2.1 Pedestrian Network Countermeasures 2
 - 2.1.1 Multi-Use Paths 2
 - 2.1.2 Key Walkway Extensions/Infill 3
 - 2.1.3 Enhanced Crossings 3
 - 2.1.4 Transit Access and Stop Improvements 4
 - 2.1.5 Mobility Hubs 4
 - 2.2 Bicycle Network Countermeasures 5
 - 2.2.1 Neighborhood Greenways 6
 - 2.2.2 Enhanced Shared Roadways 6
 - 2.2.3 Separated In-Roadway Bikeways 6
 - 2.3 Countermeasures Effectiveness Assessment 7
- 3 Recommended Walkway and Bikeway Network 9
 - 3.1 Network Development Overview 9
 - 3.2 Walkway and Bikeway Network Projects 13
 - 3.3 Improvement Options Focus Areas 23
 - 3.3.1 Highway 99 – Gibbs-to-Woodson Bikeway Network Improvements 23
 - 3.3.2 Highway 99 – Harrison-to-Gibbs Pedestrian and Bicycle Improvements 24
 - 3.4 Project Prioritization 28
- 4 Recommended Citywide Initiatives and Programs 31
 - 4.1 Sidewalk Infill Program 31
 - 4.2 ADA Transition Plan 31
 - 4.3 Safe Routes to School 32
 - 4.4 Bicycle Parking 32
 - 4.5 Ongoing Maintenance 33
 - 4.6 Targeted Enforcement 33
 - 4.7 Transit Integration 34
 - 4.8 Mobility On-Demand Pilot (LTD Connector) 34
 - 4.9 Bikeshare Pilot 35
 - 4.10 Marketing, Promotion and Encouragement 35
 - 4.11 Ongoing Engagement 36
 - 4.12 Recommended Street Design Standards Modifications 36

Appendices

Appendix A. Project Prioritization Scores

- Table A-1. Shorter-Term Priority Projects
- Table A-2. Medium-Term Priority Projects
- Table A-3. Longer-Term Priority Projects

Tables

Table 2-1. Pedestrian Countermeasures Effectiveness	8
Table 2-2. Bicycle Countermeasures Effectiveness	9
Table 3-1. Recommended Walkway Network Projects.....	16
Table 3-2. Recommended Bikeway Network Projects.....	17
Table 3-3. Recommended Combined Walkway/Bikeway Network Projects.....	18
Table 3-4. Recommended Multimodal Projects (Pedestrian, Bicycle, Transit).....	20
Table 3-5. Project Prioritization Criteria	28
Table 4-1. Existing Street Design Standards (Pedestrian and Bicycle Elements) and Recommended Modifications.....	37

Figures

Figure 2-1. Typical Multi-Use Path.....	2
Figure 2-2. Typical Pedestrian Lane	3
Figure 2-3. Typical Sidewalk Infill	3
Figure 2-4. Typical Enhanced Crossing on Main Street	3
Figure 2-5. Typical Enhanced Crossing with Median	4
Figure 2-6. Typical Enhanced Transit Access and Stop Improvements.....	4
Figure 2-7. Typical Mobility Hub	5
Figure 2-8. Bicycle Facility Selection Guidance.....	5
Figure 2-9. Typical Neighborhood Greenway	6
Figure 2-10. Typical Enhanced Shared Roadway	6
Figure 2-11. Typical Conventional Bike Lane	7
Figure 2-12. Typical Buffered Bike Lane.....	7
Figure 2-13. Typical Protected Bike Lane.....	7
Figure 3-1. Recommended Walkway Network.....	11
Figure 3-2. Recommended Bikeway Network.....	12
Figure 3-3. Recommended Walkway Network (with Project Identification Numbers)	14
Figure 3-4. Recommended Bikeway Network (with Project Identification Numbers)	15
Figure 3-5. Highway 99 – Gibbs-to-Woodson Bikeway Network Improvements	24
Figure 3-6. Highway 99 – Harrison-to-Gibbs Pedestrian and Bicycle Improvements (1 of 3)	25
Figure 3-7. Highway 99 – Harrison-to-Gibbs Pedestrian and Bicycle Improvements (2 of 3)	26
Figure 3-8. Highway 99 – Harrison-to-Gibbs Pedestrian and Bicycle Improvements (3 of 3)	27
Figure 3-9. Recommended Walkway Network Project Prioritization	29
Figure 3-10. Recommended Bikeway Network Project Prioritization	30

Acronyms and Abbreviations

ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
ARTS	All Roads Transportation Safety
CMF	Crash Modification Factor
CRF	Crash Reduction Factor
FHWA	Federal Highway Administration
I-5	Interstate 5
LTD	Lane Transit District
mph	Miles per Hour
ODOT	Oregon Department of Transportation
PHB	Pedestrian Hybrid Beacon
ROW	Right-of-Way
RRFB	Rectangular Rapid Flashing Beacon
SLM	Shared Lane Markings
SLW	South Lane Wheels
SRTS	Safe Routes to School
TSP	Transportation System Plan
UGB	Urban Growth Boundary

1 Introduction

This memorandum presents recommended project and programmatic enhancements to transform Cottage Grove into a truly walkable and bikeable community. Building on the goals and objectives established earlier in the planning process, the recommendations address the wide range of improvement opportunities identified by community members, partner agencies, and the Project Team.

The memorandum begins with a toolbox of infrastructure and operational countermeasures that have a proven ability to address common safety and comfort issues for people walking and bicycling. A discussion of the recommended walkway and bikeway networks follows, including maps and project lists to guide the City's investments in the coming decades. A prioritization framework accompanies the discussion of recommended projects, providing a strategic approach for implementing projects as resources become available. Finally, the memorandum concludes with a comprehensive package of programmatic and regulatory strategies (to be applied at the citywide level) that will augment the proposed infrastructure improvements.

1.1 Coordination with Relevant Plans and Design Guidelines

Several sources informed the development of the recommended active transportation enhancements presented in this memorandum, including but not limited to:

- The City's 2015 Transportation System Plan (TSP), specifically the proposed pedestrian and bicycle projects (several of which are completed, under construction, or in planning, while others were carried forward (and modified as needed) into this memo)
- Oregon Department of Transportation's (ODOT) Highway Design Manual (which incorporates the agency's Blueprint for Urban Design)
- ODOT's 2016 Oregon Bicycle and Pedestrian Plan
- Cottage Grove's Main Street Revitalization Project
- The 2021 Cottage Grove Area Transit Development Plan
- Lane County's Bicycle Master Plan
- University of Oregon's Current and Future Mobility Needs Assessment for the Cities of Creswell and Cottage Grove
- Recent and ongoing Safe Routes to School (SRTS) planning efforts
- Input received from the Project Advisory Committee, City, and partner agency staff over the course of this planning effort
- Feedback received during this planning effort's public outreach activities in May 2023

2 Toolbox of Countermeasures

Typical challenges experienced by people walking, bicycling, and accessing transit in Cottage Grove include gaps in the active transportation network, difficult crossing conditions (particularly on major streets), connectivity barriers posed by railroads, waterbodies, and I-5, ADA accessibility issues, and higher-stress bicycling environments along major roadways. These challenges are further described in Memorandum #2.

The sections below present a series of countermeasures intended to improve the safety, comfort, and convenience of active transportation throughout Cottage Grove. Countermeasures addressing pedestrian network needs are followed by a companion list addressing bicycle network needs. Each countermeasure is described and illustrated, while a summary table at the end of this section presents the countermeasure's effectiveness based on engineering research. It should be noted that the countermeasures presented below are not intended to represent an exhaustive list, and the City should also consider other potential measures as needed based on site-specific conditions as projects progress toward implementation. Also worth noting is that several countermeasures (e.g., multi-use paths, enhanced crossings) benefit both walking and bicycling.

The countermeasures presented below are organized based on the categories of walkway and bikeway improvements discussed later in this memo.

2.1 Pedestrian Network Countermeasures

The following countermeasures are intended to improve the walking environment and include elements that enhance travel along a corridor, across a corridor, or transitioning between walking to other travel (e.g., transit).

2.1.1 Multi-Use Paths

Multi-use paths are facilities typically designed for two-way travel by a variety of non-motorized users, including people on foot, bicycle, or using mobility devices. Multi-use paths are typically separated from the street or exist within an exclusive right-of-way (ROW). They may provide a lower-stress alternative to traveling along a street, provide a shortcut where the street network is interrupted, or provide recreational opportunities. Multi-use paths are typically paved to meet Americans with Disabilities Act (ADA) requirements.

Figure 2-1 illustrates a local example of a multi-use path, Row River Trail in Cottage Grove.

Figure 2-1. Typical Multi-Use Path



2.1.2 Key Walkway Extensions/Infill

Gaps in the pedestrian network create a disincentive to walk, pose a challenge to people with disabilities, and may force people to walk in the street where they are exposed to moving vehicles. Sidewalk infill and walkway extensions along key routes can improve the robustness of the pedestrian network and provide access for a greater number of potential users. Sidewalk infill and walkway extensions

are critical for mobility equity by providing alternatives to driving for people who cannot or choose not to drive. Where adding a sidewalk with curb and gutter is not feasible, a "pedestrian lane" with appropriate striping and pavement markings may be an acceptable temporary solution, or a permanent retrofit solution on lower speed and volume roadways. Care should be taken when considering pedestrian lanes, as this application may provide limited user comfort benefits, particularly for children, seniors or other users.

Figure 2-3 shows a local example of a key sidewalk infill as part of the City's recent SRTS efforts. Figure 2-2 shows an example of a pedestrian lane that provides space for walking delineated with lane striping and identified with pavement markings and signage.

Figure 2-3. Typical Sidewalk Infill



Figure 2-2. Typical Pedestrian Lane



Source: FHWA Small Town and Rural Multimodal Networks Guide.

2.1.3 Enhanced Crossings

Providing a safe and comfortable crossing environment is a key component of a robust pedestrian network. Enhancements described below may include improved visibility, lighting, signage and markings, traffic control devices, and curb extensions or refuge islands.

- High-Visibility Crosswalks: Use of patterns and materials that are more visible to approaching motorists from a longer distance. Examples include continental markings (or a combination of continental and transverse markings, as is currently applied on portions of E. Main Street).
- Improved Lighting: Illumination located directly at the crossing to

Figure 2-4. Typical Enhanced Crossing on Main Street



increase driver awareness. Care should be taken during lighting placement to avoid creating a silhouetting effect or extensive shadowing that may diminish the visibility of the pedestrian.

- **Enhanced Signage and Pavement Markings:** Signage may be placed adjacent to, and/or above the marked crossing.
- **Traffic Control Devices:** May include traffic signals, pedestrian hybrid beacons (PHB), or rectangular rapid flashing beacons (RRFB)
- **Curb Extensions or Median Refuge Islands:** Both treatments shorten the crossing distance and increase visibility of the pedestrian, while medians also enable a pedestrian to cross one direction of traffic at a time.

Figure 2-4 shows a local example of an enhanced crossing on Main Street utilizing high-visibility crosswalk striping and enhanced signage. Figure 2-5 shows an example of an enhanced crossing on an ODOT roadway utilizing high-visibility crosswalk striping, enhanced signage, a median refuge island, and an RRFB.

Figure 2-5. Typical Enhanced Crossing with Median



2.1.4 Transit Access and Stop Improvements

Providing safe and convenient access to transit stops, including barrier-free access in accordance with ADA, is a critical component of a multimodal network. The quality of transit stops further impacts the waiting experience of transit users and influences acceptance of transit as a viable mode. Transit stop improvements provide the opportunity for enhancements slightly beyond the immediate stop footprint and may include sidewalk infill or enhancements, ADA ramps, crossing improvements, or additional elements such as lighting or bike parking.

Figure 2-6 shows an example of enhanced transit access and stop improvements on an ODOT roadway, including ADA-compliant curb ramps, an adjacent enhanced crossing, and a transit shelter.

Figure 2-6. Typical Enhanced Transit Access and Stop Improvements



2.1.5 Mobility Hubs

Mobility hubs are places where various transportation modes connect, such as transit, walking, bicycling and rideshare. Mobility hubs offer convenient ways for people to complete their trips using a range of modes and technologies while providing options beyond private automobiles. These can include walking, bicycling, transit, and shared

mobility such as bikeshare, carshare, and e-scooters. Mobility hubs may also include community amenities such as restrooms, water fountains, informational signage, and space for mobile vendors.

The 2021 Cottage Grove Area Transit Development Plan recommends a feasibility study for a mobility hub in vicinity of at the Row River Trailhead, which would provide transportation options for both residents at a central location that serves both a functional and a recreational purpose.

Figure 2-7 shows an example of a mobility hub that includes a bikeshare and e-scooter hub at a transit stop, allowing travelers to easily switch from one mode to another to reach their destination.

Figure 2-7. Typical Mobility Hub



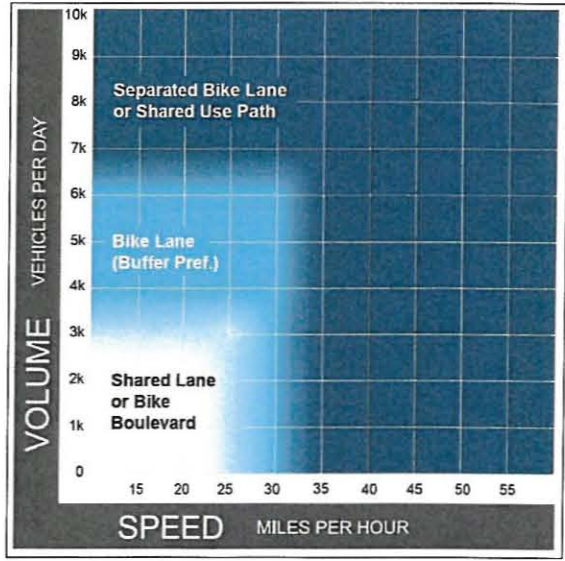
Source: smartcity.db.de

2.2 Bicycle Network Countermeasures

The following countermeasures are intended to improve the bicycle network by creating lower-stress riding environments. These include treatments to create more comfortable and safe conditions in shared vehicle/bicycle environments, as well as various forms of delineated or physical separation.

Figure 2-8. presents guidance for the selection of bicycle facilities as a function of roadway traffic volumes and speed. While shared roadways may be appropriate on local streets with lower volumes and speeds, creating low stress environments along major streets typically necessitates some form of separation between people driving and people bicycling. Selecting the appropriate bikeway type for a given context is critical to ensure that facilities feel safe (by providing adequate safety features), comfortable (to attract users of all ages and abilities), and equitable (to provide adequate facilities and access near disadvantaged communities).

Figure 2-8. Bicycle Facility Selection Guidance



Source: ite.org

The sections below present countermeasures specific to bicycling. Other measures that also improve the bicycling environment (e.g., multi-use paths, enhanced crossings, mobility hubs) are discussed earlier in this memo.

2.2.1 Neighborhood Greenways

Neighborhood greenways are lower volume/lower speed streets (ideally less than 1,500 vehicles per day and maximum posted speeds of 20 mph) that provide local auto access yet prioritize people on foot, bike, or using mobility devices. Neighborhood greenways are intended to provide safe and comfortable routes for people of all ages and abilities and are often the backbone of a SRTS network. While neighborhood greenways provide connectivity between neighborhoods, parks, schools, and business districts, they often also serve as an alternative to a parallel major street where riding conditions may be more stressful. Neighborhood greenways typically include speed management devices (speed humps, speed cushions, chicanes), volume management treatments (e.g., choker entrances), enhanced crossings at major streets, shared lane markings (SLMs), and wayfinding.

Figure 2-9 shows an example of a neighborhood greenway providing a lower-stress bicycling environment.

Figure 2-9. Typical Neighborhood Greenway



Source: portland.gov

2.2.2 Enhanced Shared Roadways

Functioning similar to neighborhood greenways, enhanced shared roadways accommodate people bicycling and driving in a shared environment. These facilities typically include SLMs and supplemental signage to clearly communicate the shared operating environment to all users. These corridors may also include traffic calming if necessary. As traffic volumes may be higher on these roadways, these corridors should be monitored closely to determine whether a separated in-roadway bikeway (discussed below) may be more appropriate in the future.

Figure 2-10 depicts an example of an enhanced shared roadway where SLMs alert drivers to the presence of other users in the travel lane.

Figure 2-10. Typical Enhanced Shared Roadway



Source: nacto.org

2.2.3 Separated In-Roadway Bikeways

Separated In-Roadway bikeways provide a designated and dedicated space for people on bicycles to operate that is not shared with other users. The degree of separation from adjacent motor vehicles typically depends on contexts, notably traffic volumes, speeds and available ROW. Organized by their degree of separation, these facilities typically include the following:

- **Conventional bike lanes:** Typically, a 6-foot-wide lane separated from the adjacent motor vehicle travel lane with a single stripe. In rural contexts, these facilities are typically referred to as “shoulder bikeways” and also serve pedestrian traffic.
- **Buffered bike lanes:** Similar to a conventional bike lane, but with additional lateral clearance from the adjacent travel lane in the form of additional striping. Buffer widths typically measure at least 2 feet wide.
- **Protected bike lanes:** Also known as “separated bike lanes,” these facilities include a physical element between the bikeway and adjacent motor vehicle traffic. Depending on conditions, the separation may take the form of flexible delineator posts, curbs, raised medians, or on-street parking. Buffer widths typically depend on the feature providing the separation between the bikeway and vehicle travel lane. Protected bike lanes may operate as one-way or bi-directional facilities, however careful design consideration should be given to sight distances, transition areas (between one-way and two-way facilities, including necessary crossing improvements) and potential conflict points such as intersections and driveways.

Figure 2-11. Typical Conventional Bike Lane



Figure 2-12. Typical Buffered Bike Lane



Figure 2-13. Typical Protected Bike Lane



Figure 2-11 depicts a local example of a conventional bike lane on Taylor Street, providing a dedicated space for people bicycling delineated with pavement striping and markings, while Figure 2-12 displays an example of a buffered bike lane on an ODOT roadway. Figure 2-13 is an example of a protected bike lane where a planted median provides physical separation between the bike lane and automobile traffic.

2.3 Countermeasures Effectiveness Assessment

Table 2-1 and Table 2-2 provide an overview of the pedestrian and bicycle countermeasures. The tables organize the treatments by the general facility categories described in the sections above, which are then further broken down by type and specific countermeasure. For each countermeasure, the tables identify the Crash Reduction Factor (CRF) (if available), typical implementation components, and the types of collision(s) that may be reduced by the countermeasure's deployment. Where available,

the CRF for each countermeasure was obtained from ODOT's All Roads Transportation Safety (ARTS) crash reduction factor database¹. Note that the ARTS dataset does not include a CRF for multi-use paths. While the Federal Highway Administration (FHWA) Crash Modification Factor (CMF) Clearinghouse does have a CMF for multi-use paths, it is a two-star CMF and therefore not utilized in the summary below².

Table 2-1. Pedestrian Countermeasures Effectiveness

Improvement Category			Application & Implementation Considerations	CRF	Crash Type (severity)	Source
Category	Type	Countermeasure				
Key walkway extensions/infill	Typical sidewalk infill	Install sidewalk	May require additional ROW, plant removal, utility relocation, curb and gutter installation	20%	Pedestrian crashes (all)	ODOT ARTS ID # BP 29
Enhanced crossings	High-visibility crosswalks	Continental markings and advance warning signs at uncontrolled locations	Pavement markings	15%	Pedestrian crashes (all)	ODOT ARTS ID # BP 15
	Improved lighting	Intersection lighting	May require additional ROW, plant removal	42%	Pedestrian and bicyclist crashes (all injury, excludes PDOs)	ODOT ARTS ID # BP 2
	Enhanced signage and pavement markings	Advance pedestrian or bicycle warning signs	Signage and pavement markings	5%	Pedestrian and bicyclist crashes (all)	ODOT ARTS ID # BP 17
	Traffic control devices	Pedestrian Hybrid Beacon	May require additional ROW, plant removal	55%	Pedestrians and bicyclist crashes (all)	ODOT ARTS ID # BP 19
			RRFB, 3-lane roadway	May require additional ROW, plant removal	10%	Pedestrian crashes (all)
	Curb extensions	Curb extensions	May require additional ROW, plant removal	30%	All crashes (all)	ODOT ARTS ID # I 33
	Median refuge islands	Median refuge islands	May require additional ROW, plant removal	31%	Pedestrian crashes (all)	ODOT ARTS ID# BP 8
Transit access and stop improvements	Enhanced transit access and stop improvements	ADA curb ramps and extensions with a marked crosswalk and pedestrian warning signs	May require additional ROW, plant removal	37%	Pedestrian crashes (all)	ODOT ARTS ID # BP 16

* 3-lane roadway with and without medians have different CRF severity values and are available in the ODOT ARTS CRF list.
PDO = Property Damage Only.

¹ <https://www.oregon.gov/odot/Engineering/ARTS/CRF-List.xlsx>

² The FHWA CMF Clearinghouse is a database of countermeasures and associated crash modification factors (CMFs). The CMFs are rated 1 to 5 stars, where a rating of 5 indicates the highest or most reliable rating. CMFs in the AASHTO Highway Safety Manual are all rated 3 stars or higher. As a general rule, CMFs with fewer than 3 stars are not used.

Table 2-2. Bicycle Countermeasures Effectiveness

Improvement Category			Application & Implementation Considerations	CRF	Crash Type (Severity)	Source
Category	Type	Countermeasure				
Neighborhood greenways	Speed management (traffic calming)	Speed humps/tables	Signage, pavement markings and pavement upgrades	15%	Pedestrian and bicyclist crashes (all)	ODOT ARTS ID# BP 30
Enhanced shared roadways	Pavement markings	Shared lane markings	Signage and pavement markings	63%	Pedestrian and bicyclist crashes (all)	ODOT ARTS ID# BP 27
Separated in-roadway bikeways	Conventional bike lane	Conventional bike lane	Signage and pavement markings	36%	Bicycle crashes (all)	ODOT ARTS ID# BP 22
	Buffered bike lane	Buffered bike lane	Signage, pavement markings and potential vertical separation (flexible posts)	47%	Bicycle crashes (all injury, excludes PDOs)	ODOT ARTS ID# BP 24
	Protected bike lane	Vertical separation element	May require additional ROW, plant removal, utility relocation, curb and gutter installation	59%	Bicycle crashes (all injury, excludes PDOs)	ODOT ARTS ID# BP 23
Multi-use paths	Multi-use	Multi-use path	May require additional ROW, plant removal, utility relocation, curb and gutter installation	N/A	N/A	None available; CMF ID # 9250, 2 stars

N/A = Not Applicable.

PDO = Property Damage Only.

3 Recommended Walkway and Bikeway Network

This section presents the long-term vision for Cottage Grove’s active transportation network. The vision consists of a robust walkway and bikeway network that will vastly improve connectivity and access to opportunities for Cottage Grove residents and visitors. The sections below present the recommended network via maps and tables and include key information such as planning-level cost estimates to support subsequent project development efforts. Acknowledging that implementation will likely occur gradually over the coming decades, a strategic phasing plan is included to inform where the City and its partners may elect to focus their initial efforts.

3.1 Network Development Overview

Discussed earlier, the recommended active transportation network was informed by a variety of key inputs including previous planning efforts, background data, field observations (on foot and bicycle), insights from the Project Advisory Committee, and most importantly, feedback from Cottage Grove residents and other stakeholders.

Figure 3-4 illustrates the recommended walkway network, while Figure 3-2 depicts the recommended bikeway network. Both networks incorporate the pedestrian/bicycle safety

and comfort countermeasures described earlier in this memo. Facilities that support both walking and bicycling (e.g., multi-use paths, enhanced crossings) are illustrated on both maps.

In general, the improvement recommendations build on the community's existing walking and bicycling-supportive infrastructure, notably Cottage Grove's extensive multi-use path network, well-connected local street system, and the existing bike lane network. The recommendations are also rooted in this Plan's goals, objectives and policies (described in Memorandum #1) while incorporating recommended enhancements identified in previous planning efforts. The recommended improvements would fill system gaps, address higher-stress walking/riding environments, create new connections to essential destinations, enhance crossing opportunities along key routes, and leverage potential future street extensions identified in the TSP.

In particular, projects included in the recommended walkway network would close network gaps. These projects include the following:

- Shorter segments of intermittent sidewalk infill along major roadways and on key local streets
- Longer segments of walkway extensions, generally along major roadways and approaching the edges of town
- Transit access and stop improvements

Figure 3-1. Recommended Walkway Network

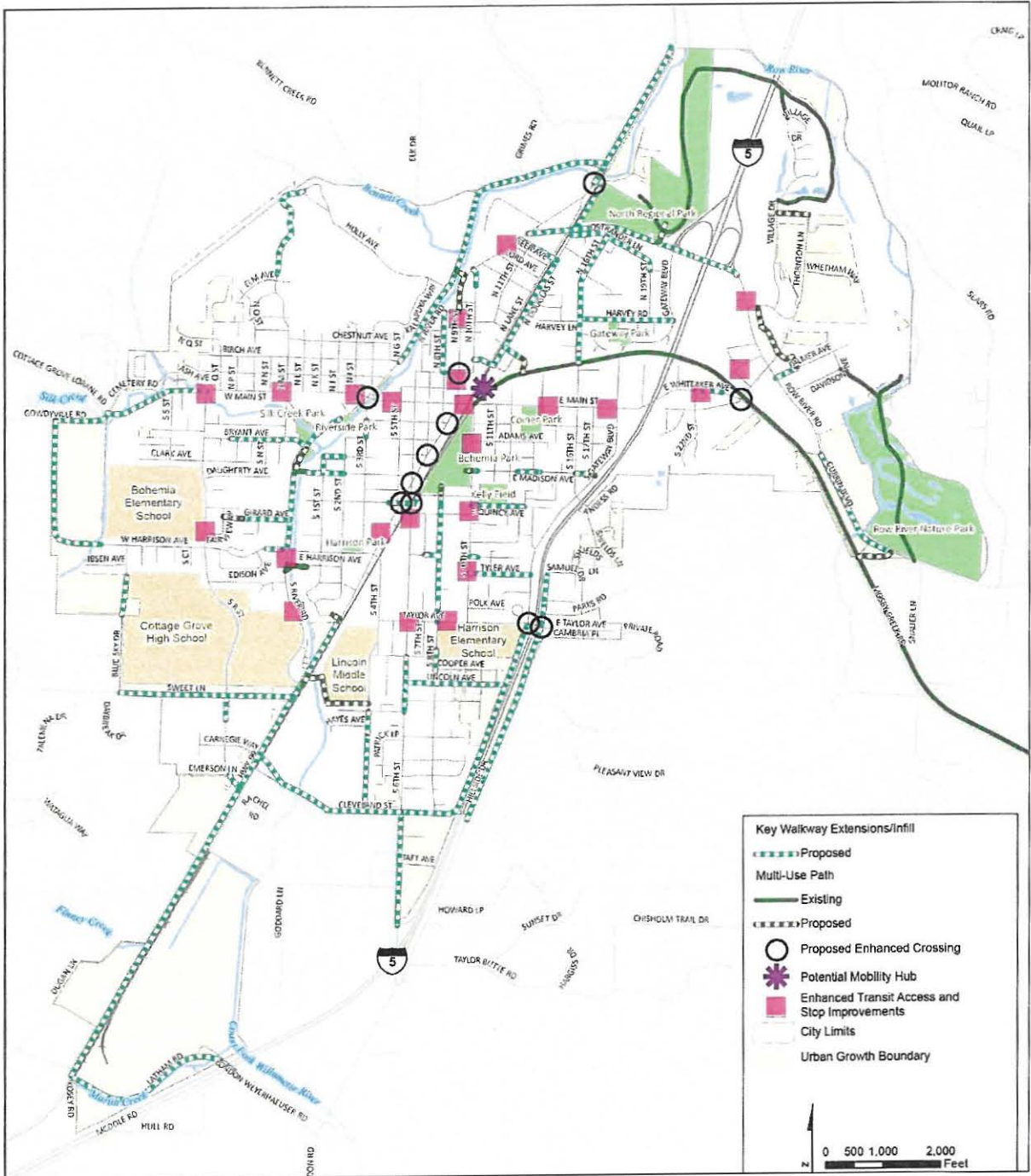
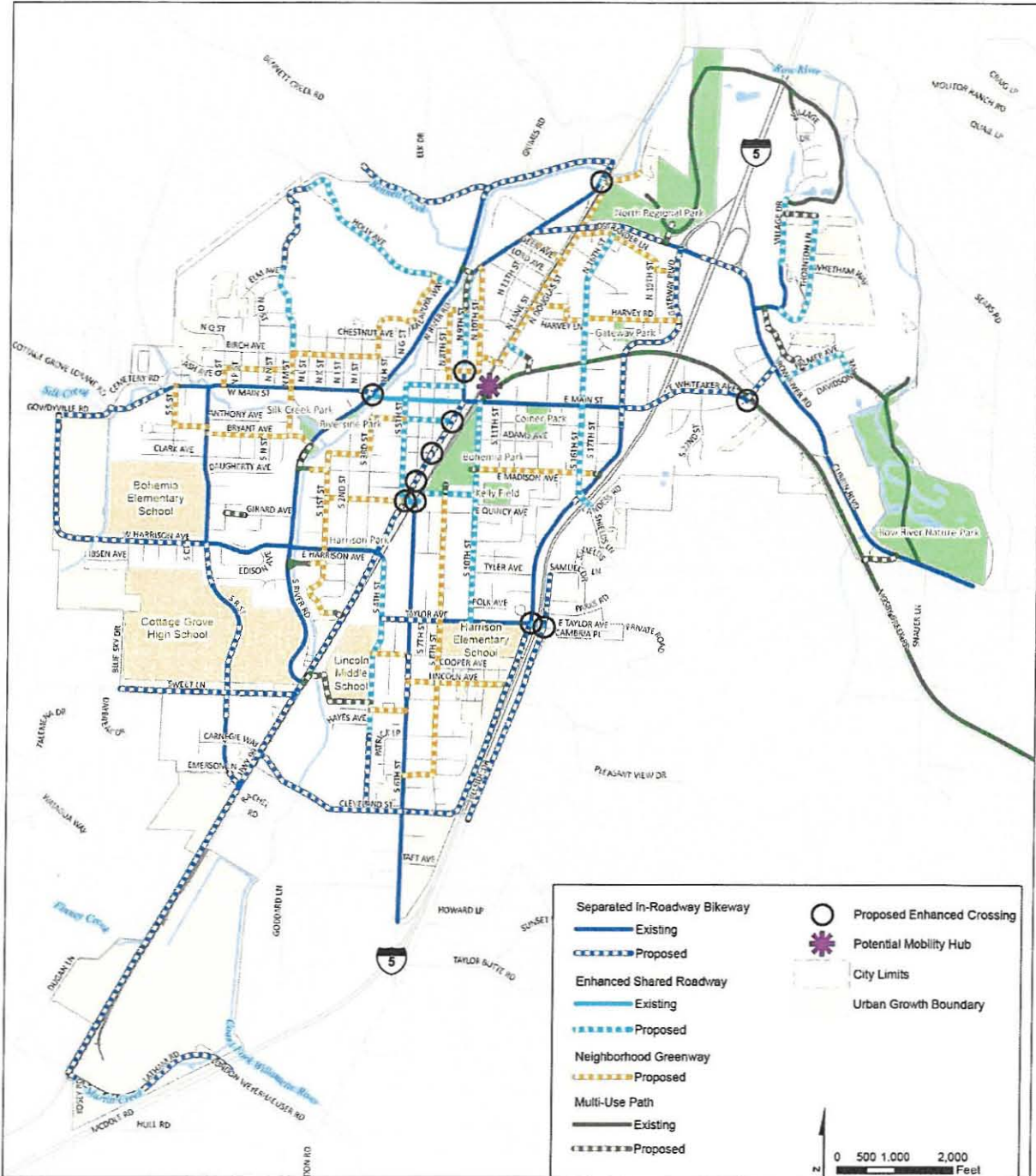


Figure 3-2. Recommended Bikeway Network



For the bicycle network, projects are intended to create an all-ages-and-abilities network. These projects include the following:

- New “separated In-Roadway bikeways” on major streets. Discussed earlier, these facilities could consist of conventional, buffered, or protected bike lanes, depending on site-specific physical, operational, and other characteristics. While each facility type presents unique benefits and tradeoffs, the separation between people bicycling and people driving represents the goal to be achieved.
- A new network of neighborhood greenways to supplement bikeways on the major street network

Additionally, a variety of projects would improve conditions for people walking and biking, such as:

- Crossing improvements at key intersections, particularly along major streets
- Multi-use paths intended to close network gaps and support uninterrupted travel on foot or bike

3.2 Walkway and Bikeway Network Projects

To support ongoing implementation efforts, this section organizes the recommended walkway and bikeway networks into individual projects. Each project is identified on the maps below, accompanied by additional information in a series of corresponding tables. The proposed projects are organized as follows:

- Pedestrian-focused projects: These projects are identified with a “P” and primarily consist of walkway/extensions/infill (see Figure 3-3 and Table 3-1)
- Bicycle-focused projects: These projects are identified with a “B” and include separated in-roadway bikeways, enhanced shared roadways, and neighborhood greenways (see Figure 3-4 and Table 3-2)
- Projects that include both a pedestrian and bicycle element: These projects are identified with a “PB” and include a combination of the aforementioned improvements (e.g., walkway extension/infill plus separated in-roadway bikeway) (see Figure 3-3, Figure 3-4 and Table 3-3)
- Other multimodal connectivity projects: These projects are identified with an “M” and include enhanced crossings, new or extended multi-use paths, enhanced transit access and stop improvements, and the potential mobility hub (see Figure 3-3, Figure 3-4, and Table 3-4)

Each table identifies the project location, a general description of the proposed improvement type (or range of types), lead implementing agency, and planning-level cost estimate (presented as a range, as actual costs will vary based on site-specific conditions and degree of complexity. Additionally, some projects contain notes referring to previous efforts that informed the recommendations (e.g., TSP projects, and ODOT input as part of this planning effort).

Figure 3-3. Recommended Walkway Network (with Project Identification Numbers)

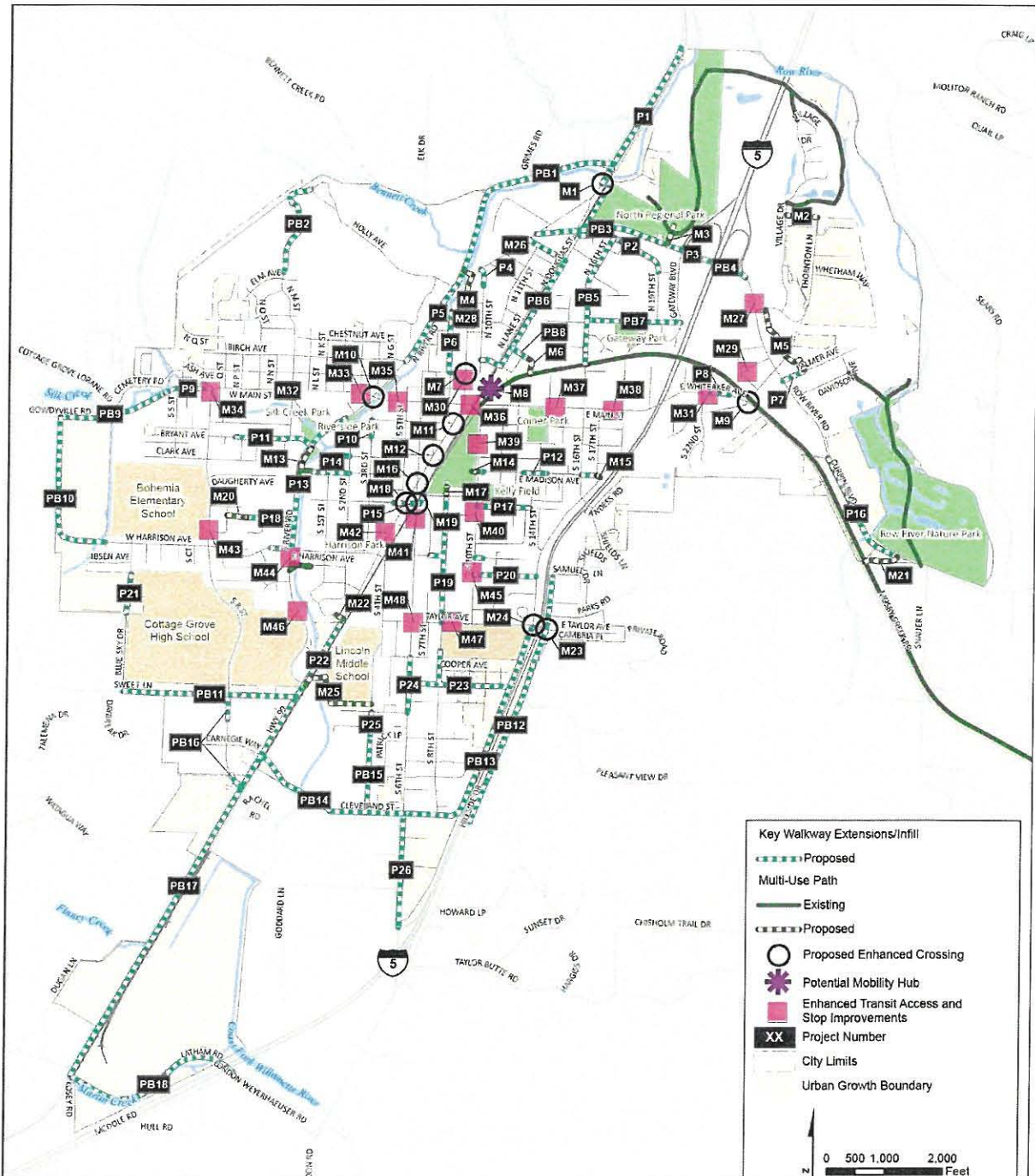


Figure 3-4. Recommended Bikeway Network (with Project Identification Numbers)

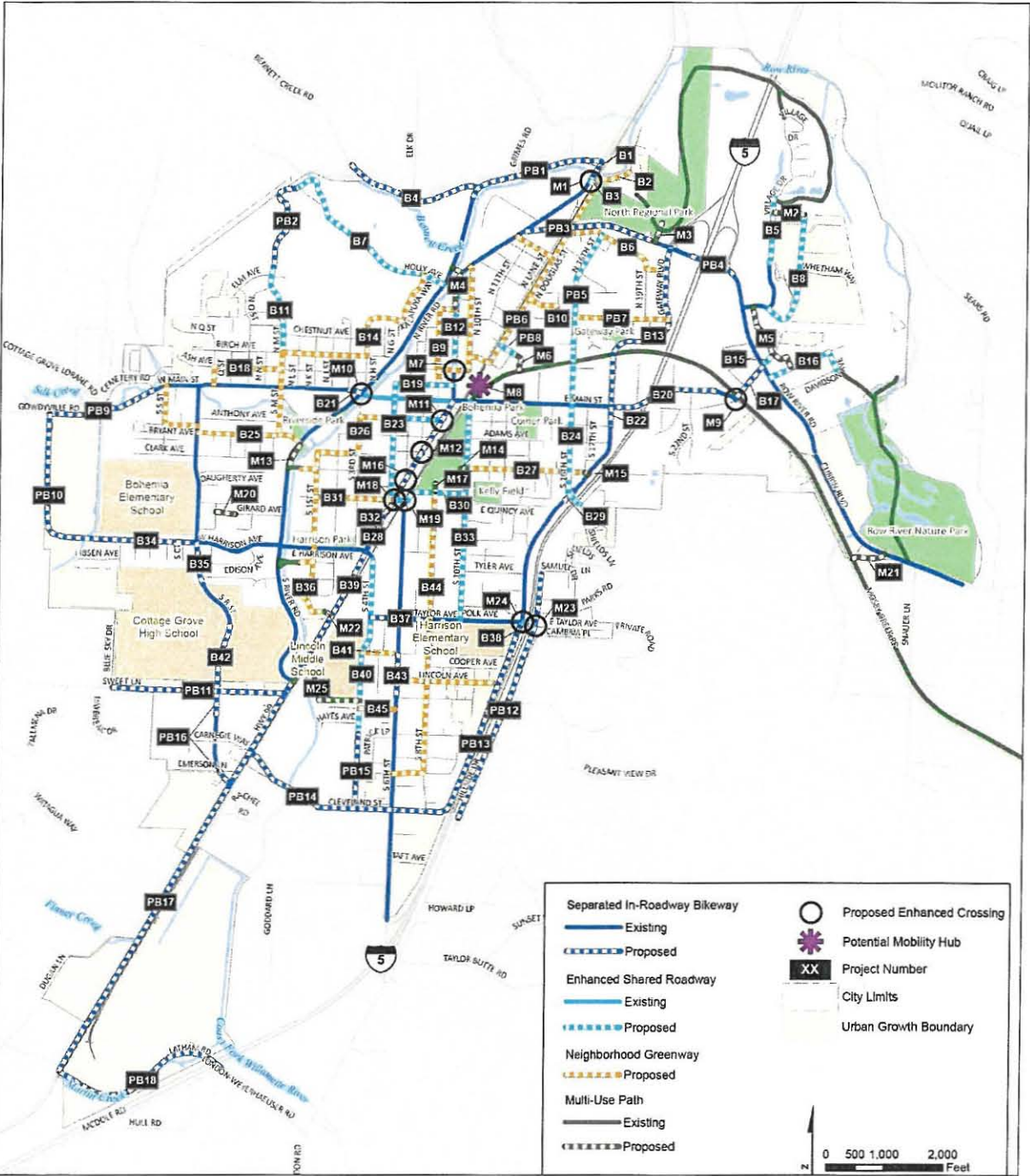


Table 3-1. Recommended Walkway Network Projects

ID #	Location	Description	Lead Agency	Planning-Level Cost Estimate (Range)	Notes (where applicable)
P1	Highway 99 N of railroad undercrossing	Key Walkway Extensions/Infill	ODOT	\$154,000-\$844,000	
P2	Chamberlain Ave/Ostrander Ln	Key Walkway Extensions/Infill	City	\$136,000-\$744,000	
P3	Row River Rd	Key Walkway Extensions/Infill	ODOT	\$39,000-\$212,000	
P4	10th St	Key Walkway Extensions/Infill	City	\$17,000-\$96,000	
P5	River Rd	Key Walkway Extensions/Infill	City	\$178,000-\$976,000	
P6	8th St	Key Walkway Extensions/Infill	City	\$61,000-\$334,000	
P7	Palmer Ave	Key Walkway Extensions/Infill	City	\$23,000-\$127,000	
P8	Whiteaker Ave	Key Walkway Extensions/Infill	City	\$26,000-\$142,000	
P9	Main St	Key Walkway Extensions/Infill	City	\$47,000-\$257,000	
P10	3rd St	Key Walkway Extensions/Infill	City	\$17,000-\$94,000	
P11	Bryant Ave	Key Walkway Extensions/Infill	City	\$77,000-\$420,000	
P12	Madison Ave	Key Walkway Extensions/Infill	City	\$43,000-\$235,000	
P13	River Rd/Harrison Ave	Key Walkway Extensions/Infill	City	\$170,000-\$929,000	
P14	Jefferson Ave/1st St/Madison Ave	Key Walkway Extensions/Infill	City	\$73,000-\$401,000	
P15	Quincy Ave/Douglas St	Key Walkway Extensions/Infill	City	\$32,000-\$175,000	
P16	Row River Rd	Key Walkway Extensions/Infill	City	\$123,000-\$674,000	
P17	Quincy Ave	Key Walkway Extensions/Infill	City	\$52,000-\$285,000	
P18	Girard Ave	Key Walkway Extensions/Infill	City	\$47,000-\$257,000	
P19	8th St	Key Walkway Extensions/Infill	City	\$139,000-\$761,000	
P20	Harrison Ave/Tyler Ave	Key Walkway Extensions/Infill	City	\$69,000-\$380,000	
P21	Blue Sky Dr	Key Walkway Extensions/Infill	City	\$39,000-\$215,000	
P22	Highway 99 (Sweet Ln to Taylor Pl)	Key Walkway Extensions/Infill	ODOT	\$84,000-\$458,000	
P23	Lincoln Ave/8th St	Key Walkway Extensions/Infill	City	\$133,000-\$726,000	
P24	6th St	Key Walkway Extensions/Infill	City	\$55,000-\$299,000	
P25	4th St	Key Walkway Extensions/Infill	City	\$25,000-\$136,000	
P26	6th St	Key Walkway Extensions/Infill	City	\$112,000-\$613,000	

Table 3-2. Recommended Bikeway Network Projects

ID #	Location	Description	Lead Agency	Planning-Level Cost Estimate (Range)	Notes (where applicable)
B1	Highway 99 (River Rd to railroad undercrossing)	Separated In-Roadway Bikeway	ODOT	\$14,000-\$180,000	
B2	Douglas St	Neighborhood Greenway	City	\$34,000-\$64,000	
B3	Railroad undercrossing	Enhanced Shared Roadway	City	\$4,000-\$10,000	
B4	Bennett Creek Rd	Separated In-Roadway Bikeway	City	\$84,000-\$1,116,000	
B5	Village Dr	Enhanced Shared Roadway	City	\$35,000-\$88,000	
B6	Chamberlain Ave/Douglas St/Ostrander Ln/Oswald Ave	Neighborhood Greenway	City	\$169,000-\$321,000	
B7	Holly Ave	Enhanced Shared Roadway	City	\$104,000-\$262,000	
B8	Thornton Ln	Enhanced Shared Roadway	City	\$69,000-\$173,000	
B9	10th St/Gibbs Ave/8th St/Chadwick Ave	Neighborhood Greenway	City	\$207,000-\$392,000	
B10	Pennoyer Ave/14th St/Harvey Rd	Neighborhood Greenway	City	\$57,000-\$107,000	
B11	M St	Enhanced Shared Roadway	City	\$46,000-\$116,000	
B12	Highway 99 (Gibbs Ave to Woodson Pl)	Enhanced Shared Roadway	ODOT	\$52,000-\$131,000	
B13	Gateway Blvd	Separated In-Roadway Bikeway	City	\$119,000-\$1,580,000	
B14	Birch Ave/H St/Kalapuya Way	Neighborhood Greenway	City	\$189,000-\$357,000	
B15	Thornton Ln	Enhanced Shared Roadway	City	\$9,000-\$22,000	
B16	Palmer Ave	Enhanced Shared Roadway	City	\$45,000-\$113,000	
B17	Thornton Ln	Separated In-Roadway Bikeway	City	\$25,000-\$339,000	
B18	Q St/Ash Ave/M St	Neighborhood Greenway	City	\$109,000-\$206,000	
B19	5th St/Whiteaker Ave	Enhanced Shared Roadway	City	\$39,000-\$98,000	
B20	Whiteaker Ave	Separated In-Roadway Bikeway	City	\$65,000-\$865,000	
B21	Main St	Separated In-Roadway Bikeway	City	\$8,000-\$105,000	
B22	Gateway Blvd	Separated In-Roadway Bikeway	City	\$12,000-\$156,000	
B23	5th St/Washington Ave	Enhanced Shared Roadway	City	\$80,000-\$202,000	
B24	16th St	Enhanced Shared Roadway	City	\$79,000-\$199,000	
B25	S St/Bryant Ave	Neighborhood Greenway	City	\$204,000-\$387,000	
B26	Washington Ave/3rd St/Jefferson Ave/1st St/Madison Ave	Neighborhood Greenway	City	\$156,000-\$296,000	
B27	Madison Ave	Neighborhood Greenway	City	\$106,000-\$202,000	

Improvement Options
Cottage Grove Pedestrian and Bicycle Plan

ID #	Location	Description	Lead Agency	Planning-Level Cost Estimate (Range)	Notes (where applicable)
B28	Highway 99 (Main St to Harrison Ave)	Separated In-Roadway Bikeway	ODOT	\$104,000-\$1,388,000	
B29	Gateway Blvd	Separated In-Roadway Bikeway	City	\$9,000-\$126,000	
B30	Quincy Ave/Douglas St/Monroe Ave	Enhanced Shared Roadway	City	\$41,000-\$102,000	
B31	Quincy Ave/1st St	Neighborhood Greenway	City	\$128,000-\$242,000	
B32	6th St	Separated In-Roadway Bikeway	City	\$6,000-\$82,000	
B33	10th St	Enhanced Shared Roadway	City	\$117,000-\$295,000	
B34	Harrison Ave	Separated In-Roadway Bikeway	City	\$62,000-\$823,000	
B35	R St	Separated In-Roadway Bikeway	City	\$26,000-\$341,000	
B36	Tyler Ave/1st St/Riverfront Way	Neighborhood Greenway	City	\$78,000-\$147,000	
B37	Taylor Ave	Separated In-Roadway Bikeway	City	\$35,000-\$473,000	
B38	Hillside Dr/Taylor Ave	Enhanced Shared Roadway	City	\$5,000-\$13,000	
B39	Highway 99 S of Harrison Ave	Separated In-Roadway Bikeway	ODOT	\$96,000-\$1,274,000	
B40	4th St	Enhanced Shared Roadway	City	\$94,000-\$236,000	
B41	Fillmore Ave	Neighborhood Greenway	City	\$33,000-\$63,000	
B42	R St	Separated In-Roadway Bikeway	City	\$41,000-\$543,000	
B43	6th St	Separated In-Roadway Bikeway	City	\$26,000-\$349,000	
B44	Wilson Ave/8th St/Lincoln Ave	Neighborhood Greenway	City	\$373,000-\$708,000	
B45	Grant Ave	Neighborhood Greenway	City	\$33,000-\$62,000	

Table 3-3. Recommended Combined Walkway/Bikeway Network Projects

ID #	Location	Description	Lead Agency	Planning-Level Cost Estimate (Range)	Notes (where applicable)
PB1	River Rd	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$221,000-\$1,862,000	
PB2	M St	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$169,000-\$1,425,000	TSP: New roadway project #R23 (cost estimate for ped/bike improvements only). TSP Assumes funding by private development
PB3	Row River Rd	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	ODOT	\$204,000-\$1,721,000	
PB4	Row River Rd	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	ODOT	\$73,000-\$620,000	

ID #	Location	Description	Lead Agency	Planning-Level Cost Estimate (Range)	Notes (where applicable)
PB5	16th St	Key Walkway Extensions/Infill & Enhanced Shared Roadway	City	\$205,000-\$908,000	
PB6	Douglas St	Key Walkway Extensions/Infill & Neighborhood Greenway	City	\$379,000-\$1,425,000	
PB7	Harvey Rd	Key Walkway Extensions/Infill & Neighborhood Greenway	City	\$178,000-\$671,000	
PB8	Vincent Pl	Key Walkway Extensions/Infill & Enhanced Shared Roadway	City	\$31,000-\$136,000	
PB9	Main St/Gowdyville Rd	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$177,000-\$1,492,000	
PB10	Harrison Rd	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$976,000 (TSP estimate adjusted to 2023 \$)	TSP: New roadway project #R8
PB11	Sweet Ln	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$274,000-\$2,316,000	
PB12	Hillside Dr	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$405,000-\$4,414,000	
PB13	I-5 Frontage (Taylor Ave to 6th St)	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$4,472,000 (TSP estimate adjusted to 2023 \$)	TSP: New roadway project #R4 & R5
PB14	Cleveland St (Highway 99 to 6th St)	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$5,170,000 (TSP estimate adjusted to 2023 \$)	TSP: New roadway project #R6
PB15	4th St	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$119,000-\$1,006,000	TSP: New roadway project #R24 (cost estimate for ped/bike improvements only). TSP Assumes funding by private development
PB16	R St (Highway 99 to Sweet Ln)	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$905,000 (TSP estimate adjusted to 2023 \$)	TSP: New roadway project #R7
PB17	Highway 99 (Sweet Ln to Latham Rd)	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$694,000-\$5,859,000	
PB18	Latham Rd	Key Walkway Extensions/Infill & Separated In-Roadway Bikeway	City	\$296,000-\$2,502,000	TSP: Project #R17

Table 3-4. Recommended Multimodal Projects (Pedestrian, Bicycle, Transit)

ID #	Location	Description	Lead Agency	Planning-Level Cost Estimate (Range)	Notes (where applicable)
M1	Highway 99 at Douglas St	Enhanced Crossing	ODOT	\$250,000-\$500,000	
M2	Village Dr/Thornton Ln Connector	Multi-Use Path	City	\$131,000-\$224,000	
M3	North Regional Park Southern Entrance Connector	Multi-Use Path	City	\$85,000-\$144,000	
M4	Highway 99 Multi-Use Path Connector	Multi-Use Path	City	\$198,000-\$336,000	
M5	Jim Wright Way/ Palmer Ave Connector	Multi-Use Path	City	\$194,000 (TSP estimate adjusted to 2023 \$)	TSP: Trail project #T3
M6	Row River Trail/ Vincent Place Connector	Multi-Use Path	City	\$70,000- \$119,000	
M7	Gibbs Ave at Highway 99	Enhanced Crossing	ODOT	\$250,000-\$500,000	
M8	Row River Trailhead Mobility Hub	Potential Mobility Hub	City	\$1,000,000-\$3,000,000	
M9	Main St at Whiteaker Ave	Enhanced Crossing	City	\$250,000-\$500,000	
M10	Main St at River Rd	Enhanced Crossing	City	\$250,000-\$500,000	
M11	Highway 99 at Washington Ave	Enhanced Crossing	ODOT	\$250,000-\$500,000	
M12	Highway 99 at Jefferson Ave/7th St	Enhanced Crossing	ODOT	\$250,000-\$500,000	
M13	River Rd Connector	Multi-Use Path	City	\$107,000-\$182,000	
M14	Madison Ave/Bohemia Park Connector	Multi-Use Path	City	\$26,000-\$43,000	
M15	Madison Ave/Gateway Blvd Connector	Multi-Use Path	City	\$19,000-\$33,000	
M16	Highway 99 at 6th St	Enhanced Crossing	ODOT	\$250,000-\$500,000	
M17	8th St/Bohemia Park Connector	Multi-Use Path	City	\$40,000-\$69,000	
M18	Highway 99 at Quincy Ave	Enhanced Crossing	ODOT	\$250,000-\$500,000	
M19	Quincy Ave at 6th St/ Douglas St	Enhanced Crossing	City	\$250,000-\$500,000	
M20	Girard Ave/Fairview Loop Connector	Multi-Use Path	City	\$80,000-\$137,000	
M21	Row River Rd/Mosby Creek Rd Connector	Multi-Use Path	City	\$141,000-\$240,000	

ID #	Location	Description	Lead Agency	Planning-Level Cost Estimate (Range)	Notes (where applicable)
M22	Taylor Place Connector	Multi-Use Path	City	\$34,000-\$57,000	
M23	Taylor Ave at Hillside Dr	Enhanced Crossing	City	\$250,000-\$500,000	
M24	Taylor Ave at Gateway Blvd	Enhanced Crossing	City	\$250,000-\$500,000	
M25	Lincoln Middle School/ River Rd Connector	Multi-Use Path	City	\$722,000-\$1,665,000	Includes a new ped/bike bridge
M26	Highway 99 S of Geer Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M27	Row River N of Thornton Rd	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M28	Highway 99 S of Chadwick Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M29	WalMart Rd N of Thomas Ln	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M30	Highway 99 S of Gibbs Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M31	Whiteaker Ave E of 22nd St	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M32	Main St W of M St	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M33	Main St E of I St	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M34	R St S of Main St	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M35	Main St W of 5th Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M36	Main St E of Highway 99	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M37	Main St W of 15th Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M38	Main St W of Gateway Blvd	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M39	10th St S of Adams Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M40	10th St N of Quincy Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	

Improvement Options
Cottage Grove Pedestrian and Bicycle Plan

ID #	Location	Description	Lead Agency	Planning-Level Cost Estimate (Range)	Notes (where applicable)
M41	6th St S of Quincy Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M42	Highway 99 N of Harrison Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M43	R St N of Harrison Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M44	S River Rd S of Harrison Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M45	S 10th St S of Tyler Ave	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M46	S River Rd S of Lane Community College	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M47	Taylor Ave W of 10th St	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	
M48	Taylor St E of 6th St	Enhanced Transit Access and Stop Improvements	City	\$100,000-\$250,000	

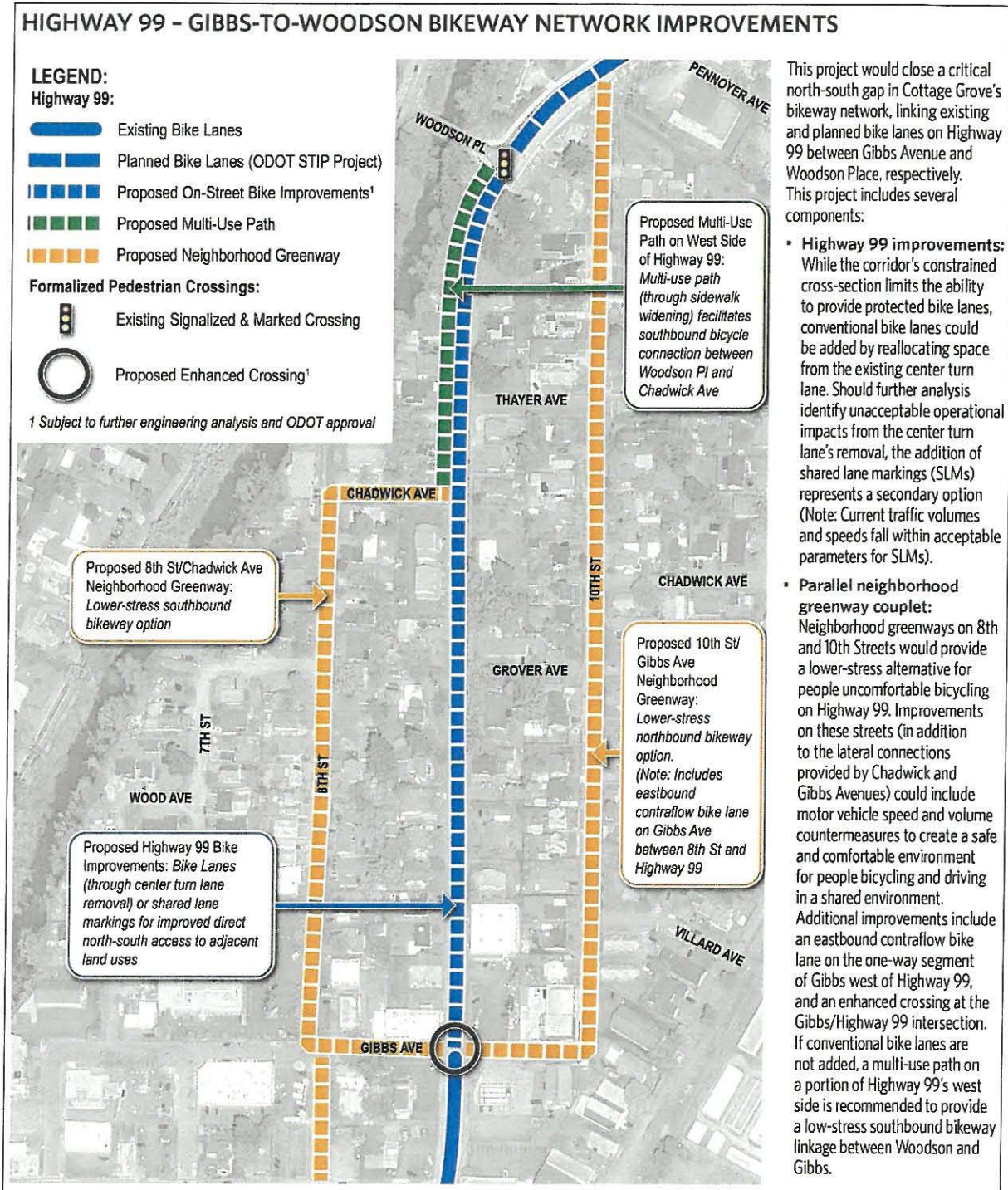
3.3 Improvement Options Focus Areas

While a multitude of active transportation design options exist on nearly all corridors in Cottage Grove, discussions with community members and agency partners identified two key areas meriting additional attention in this planning effort. These “improvement options focus areas” represent locations where pedestrian/bicycle upgrades are needed to address user comfort and safety concerns, yet additional exploration is needed to determine the range of potential solutions. The sections below illustrate the focus areas in greater detail. Both areas encompass the Highway 99 corridor, which functions as a key walking and bicycling corridor yet also represents a barrier for vulnerable roadway users.

3.3.1 Highway 99 – Gibbs-to-Woodson Bikeway Network Improvements

Immediately north of Downtown Cottage Grove, a critical north-south bikeway gap exists along Highway 99 between Gibbs Avenue and Woodson Place. This gap will become more apparent as other corridor gaps are filled upon the completion of ODOT’s ongoing active transportation improvements immediately north of this area. Figure 3-5 illustrates and describes a variety of intervention options, both along and parallel to Highway 99, for closing this gap.

Figure 3-5. Highway 99 – Gibbs-to-Woodson Bikeway Network Improvements



3.3.2 Highway 99 – Harrison-to-Gibbs Pedestrian and Bicycle Improvements

This section describes a proposed project to improve Highway 99 between Harrison Avenue and Gibbs Avenue (Figure 3-6). The project would add bicycle facilities along

Highway 99 while improving the corridor's pedestrian permeability through a series of enhanced crossings. Figure 3-7 and Figure 3-8 depict a range of cross-section concepts that include various forms of an enhanced bikeway, while the accompanying matrix qualitatively assesses the benefits and tradeoffs of each concept.

Figure 3-6. Highway 99 – Harrison-to-Gibbs Pedestrian and Bicycle Improvements (1 of 3)

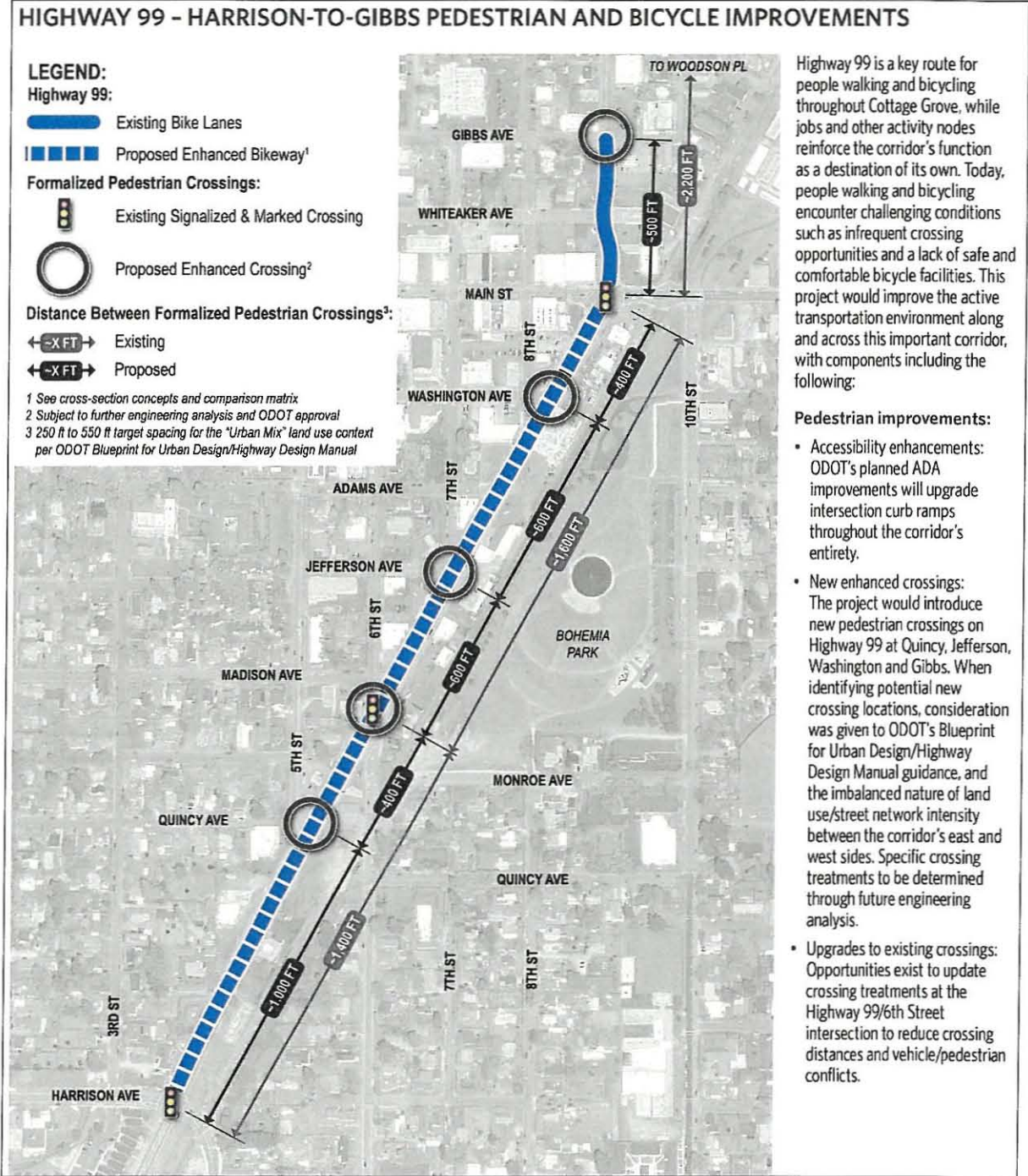


Figure 3-7. Highway 99 – Harrison-to-Gibbs Pedestrian and Bicycle Improvements (2 of 3)

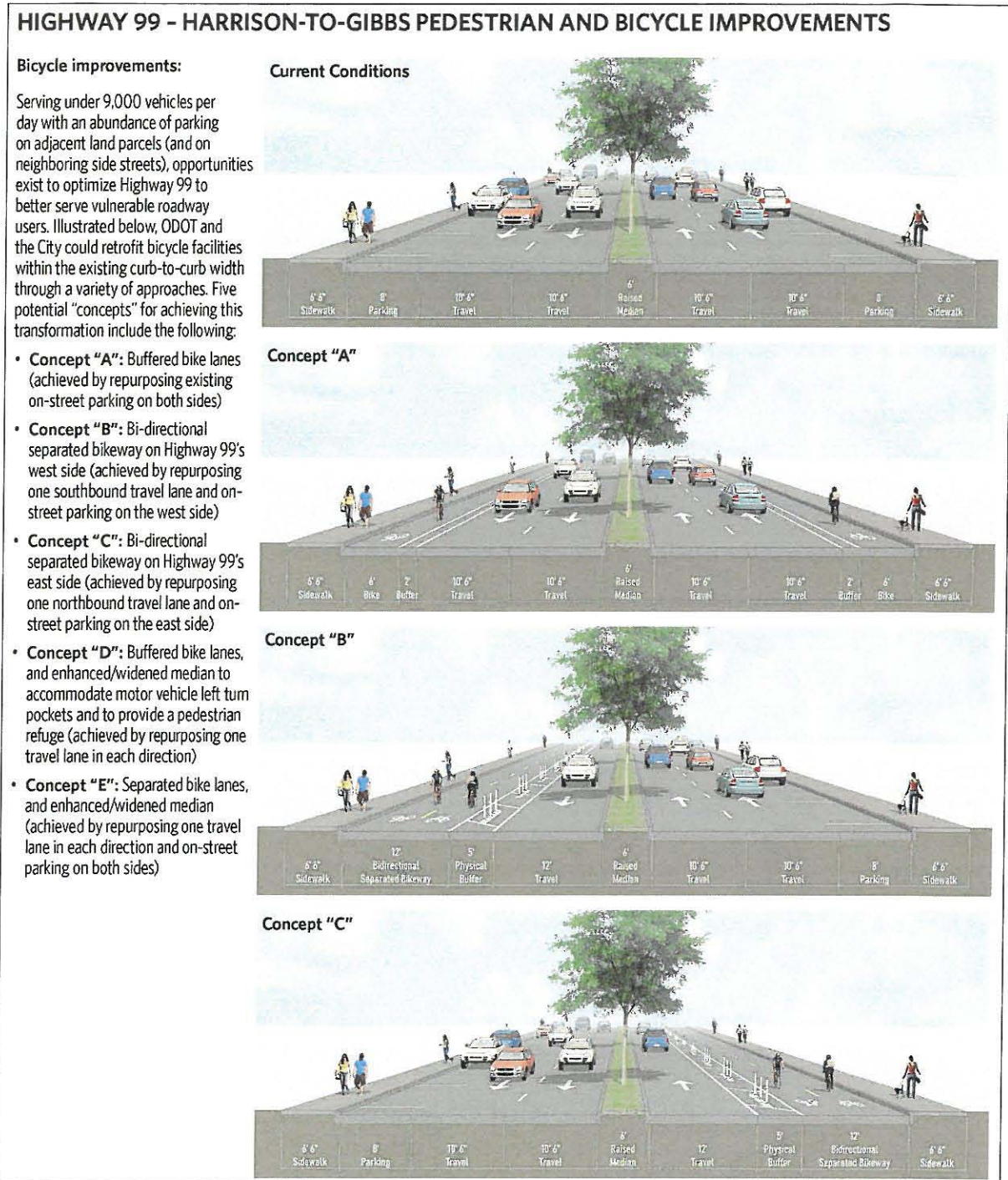
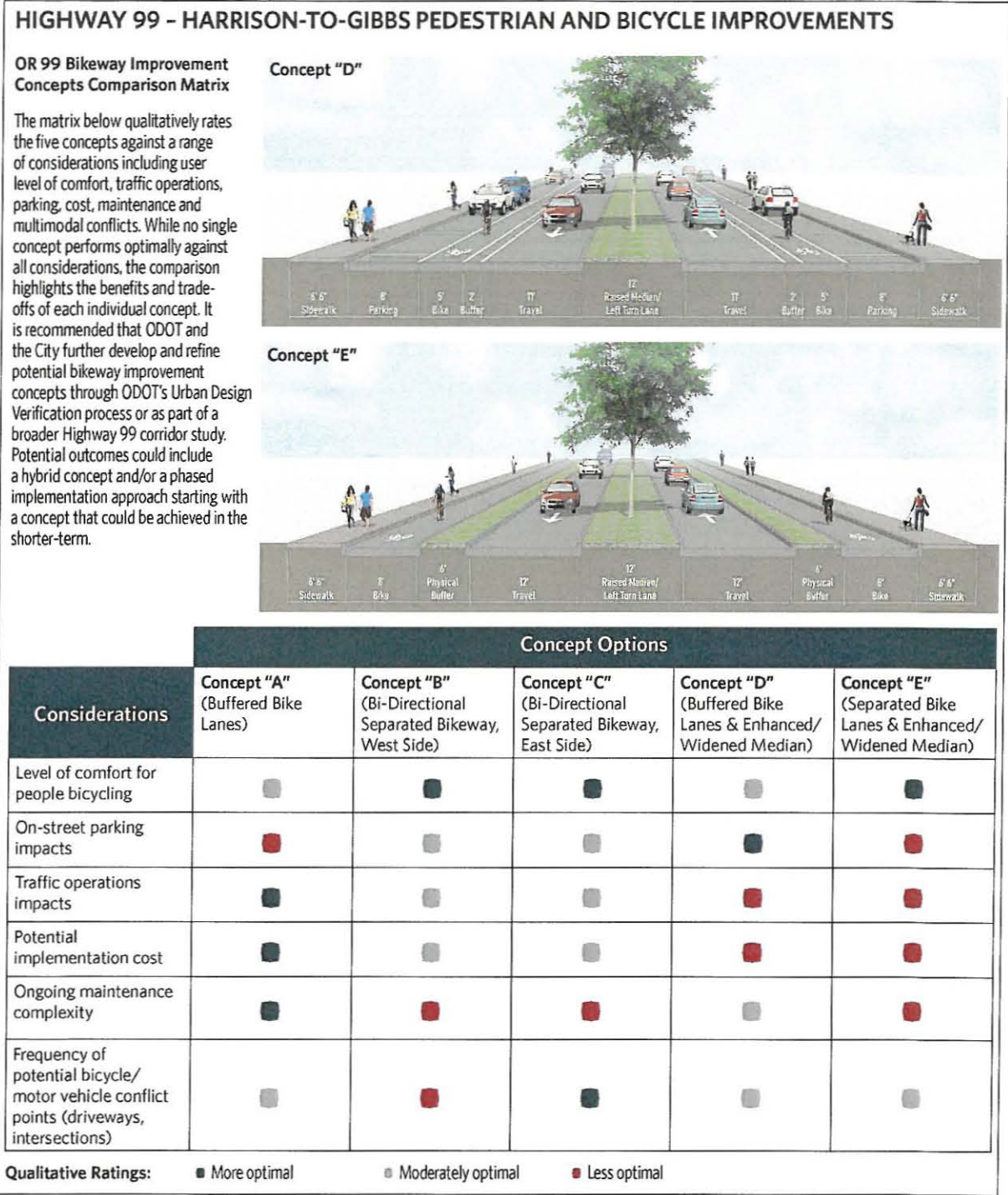


Figure 3-8. Highway 99 – Harrison-to-Gibbs Pedestrian and Bicycle Improvements (3 of 3)



3.4 Project Prioritization

As the Pedestrian and Bicycle Plan’s recommendations would likely be implemented over the long-term, a phased approach is necessary for determining where and how the City and its partners should strategically focus their investments first. As such, the recommended walkway and bikeway network projects were evaluated using the project prioritization criteria introduced in Memorandum #1. Table 3-5 provides an overview of the criteria.

Table 3-5. Project Prioritization Criteria

Criterion	Description
Safety	Degree to which a project addresses a pedestrian/bicycle safety concern. Projects addressing documented ped/bike crashes, or locations of concern (e.g., “near-misses”) flagged by community members, will derive higher qualitative ratings.
Accessibility	Degree to which a project improves conditions for people with disabilities. Projects containing sidewalk enhancements and/or intersection crossing upgrades will derive higher qualitative ratings.
User Level of Comfort	Degree to which a project establishes a lower-stress walking or bicycling environment. Projects deriving higher qualitative ratings include those providing greater separation between motor vehicles and vulnerable users along major roadways, lower-speed shared environments on minor streets, and off-street path corridors.
Gap Closure	Degree to which a project closes a gap in the existing active transportation network. Projects filling shorter gaps, particularly on higher-speed/higher-volume streets, will derive higher qualitative ratings.
Equity	Proximity of a project to historically transportation-disadvantaged populations including youth; seniors; Black, Indigenous and People of Color; lower-income residents; no-car households; and people with limited English proficiency. Projects in vicinity of multiple transportation-disadvantaged groups will derive higher qualitative ratings.
Community Support	Degree to which community members express support for improving a particular corridor, intersection or area. Projects in locations/areas voiced by the community (via various public outreach activities) will derive higher qualitative ratings.
Land Use and Transit Linkages	Proximity of a project to schools, commercial and employment nodes, and transit/school bus stops. Projects in vicinity of higher concentrations of these uses will derive higher qualitative ratings.
Cost and Complexity	Planning-level project cost estimate. Projects with lower costs and less complexity will receive higher qualitative ratings.

The intent of the prioritization exercise is to rank the projects to understand their relative importance, resulting in three “tiers” roughly aligning with shorter, medium, and longer-term priorities.

The cumulative scoring of each project informed its relative ranking in the draft prioritized list of improvements. Figure 3-9 presents the prioritized walkway network projects, while Figure 3-10 illustrates the prioritized bikeway network projects. 4.12Appendix A presents the individual evaluative ratings for each project proposed in this Plan.

It is important to note that the short-, medium-, and longer-term priorities may evolve according to available funding, changing priorities, new roadway projects that coincide, new development and redevelopment opportunities, or other factors. Medium- and

longer-term projects are also important and may be implemented at any point in time as part of a development or public works project. The ranked lists should be considered a "living document" and should be frequently reviewed to ensure they reflect current priorities.

Figure 3-9. Recommended Walkway Network Project Prioritization

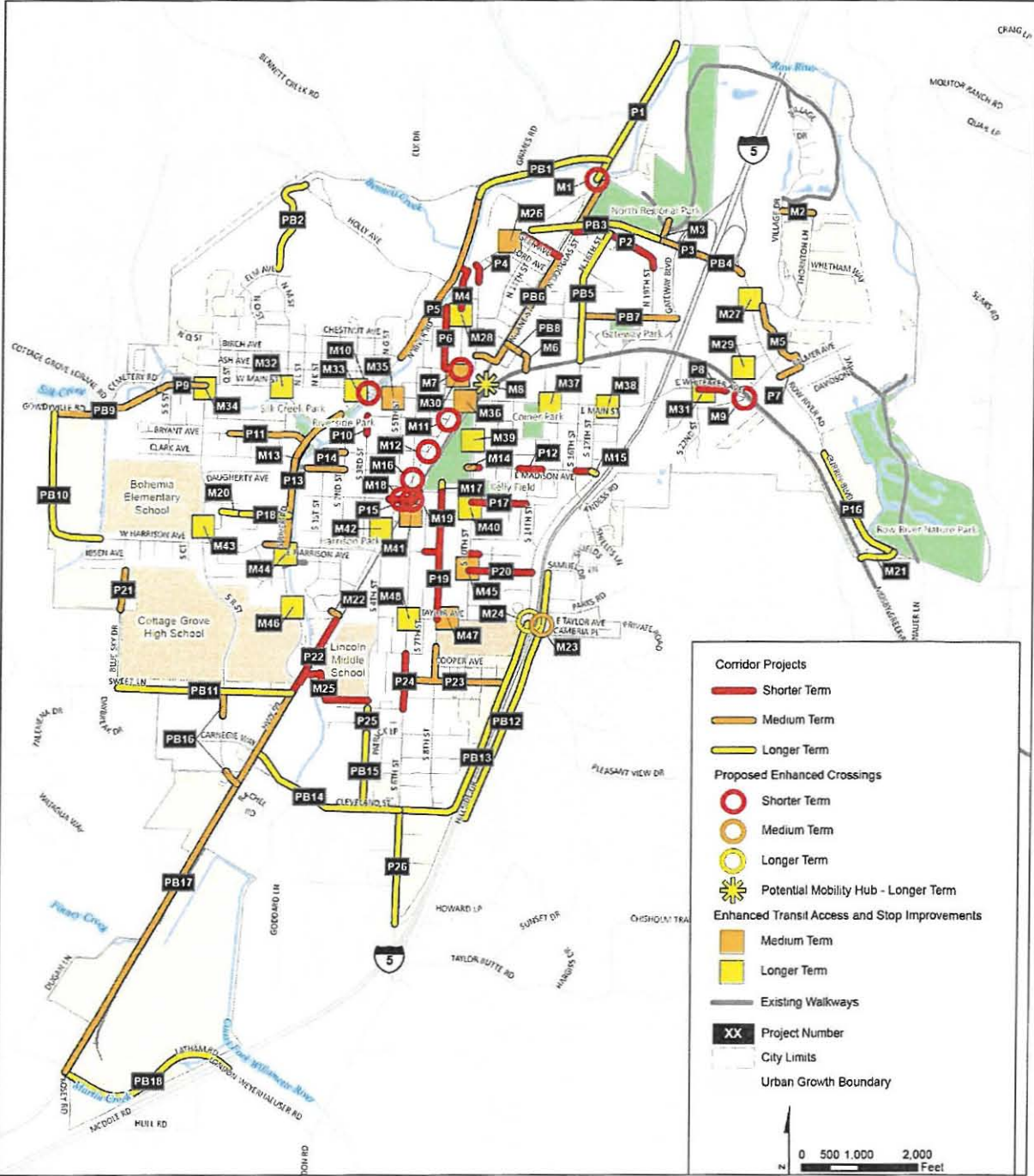
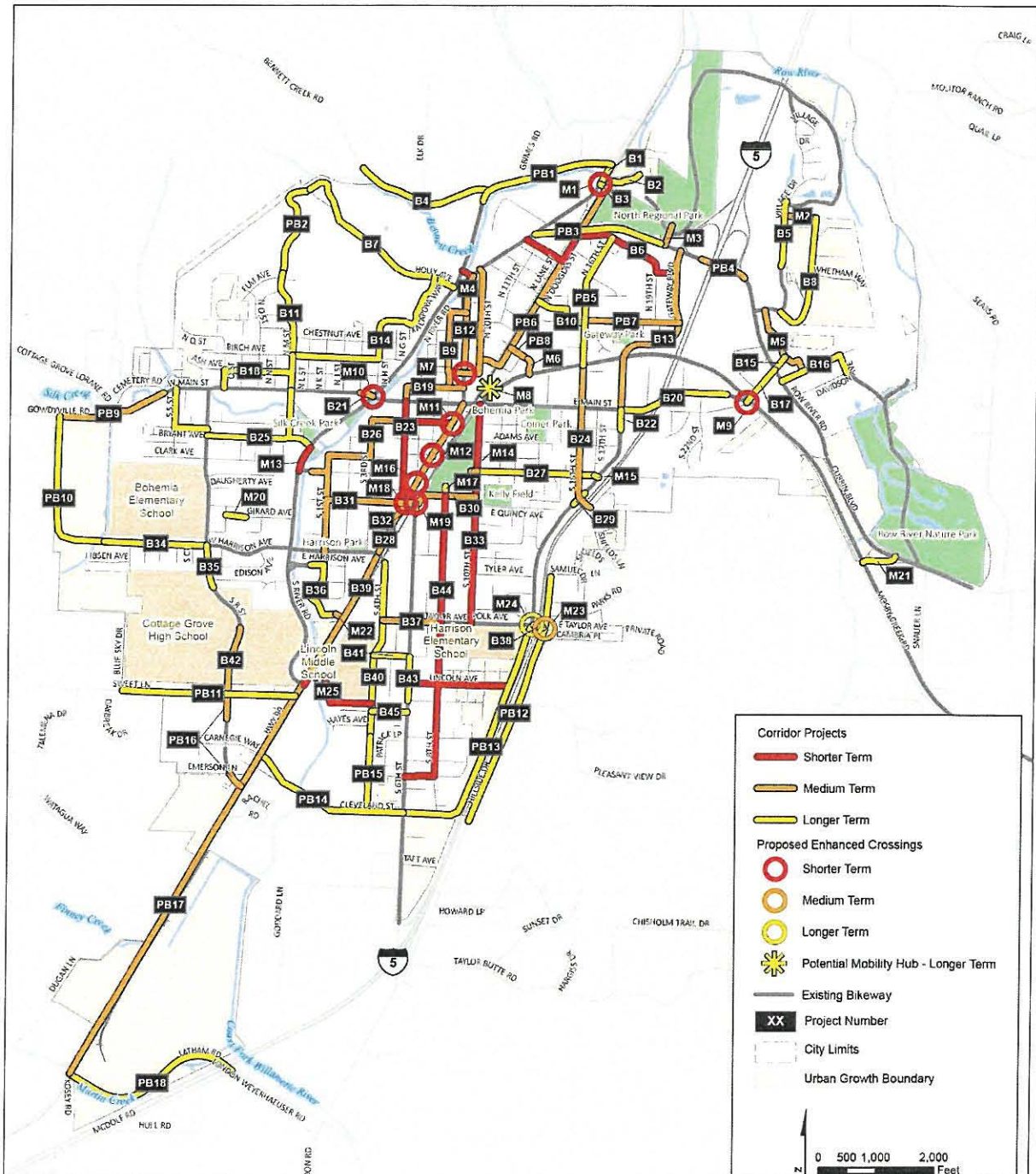


Figure 3-10. Recommended Bikeway Network Project Prioritization



4 Recommended Citywide Initiatives and Programs

Augmenting the location-specific recommendations discussed earlier in this memorandum, the sections below present recommendations applicable at the broader citywide scale. These strategies include infrastructure and programmatic tools, as well as recommended updates to City street design standards, which will further advance Cottage Grove as a truly walkable and bikeable community.

4.1 Sidewalk Infill Program

While Cottage Grove benefits from a relatively complete sidewalk network, gaps throughout the system remain, particularly in areas where roadway construction and/or property development pre-dated sidewalk requirements. While some sidewalk gaps may be addressed as part of a street reconstruction project, in tandem with adjacent property development or redevelopment, or as one of the standalone projects proposed elsewhere in this Plan, the City should develop an ongoing Sidewalk Infill Program to address gap closure needs in areas where these activities are not anticipated to occur in the foreseeable future. While some communities follow a complaint-driven approach for prioritizing resources, it is recommended that the City utilize the project prioritization criteria in this Plan as a means to objectively prioritize sidewalk infill investments.

In areas where sidewalk development may be challenging due to physical or other constraints, the City could consider alternative or interim measures such as “pedestrian lanes” (described earlier), soft-surface pathways, or other similar applications. It should be noted that the development of alternative or interim measures should consider ADA accessibility, motor vehicle volumes and speeds, and other roadway characteristics that affect user safety, comfort, and navigability. Connections to existing sidewalk segments should also be logical, intuitive, and accessible for pedestrians of all ages and abilities.

4.2 ADA Transition Plan

Cottage Grove and its partners have made significant progress toward improving multimodal accessibility, particularly through the City’s recent SRTS sidewalk improvements, ODOT’s ongoing Highway 99 enhancements, and the pending Main Street redevelopment project in Downtown Cottage Grove. Recognizing the importance of providing safe, functional and comfortable walking and rolling environments for people of all ages and abilities, the City has expressed interest in developing an ADA Transition Plan. Going beyond the broader scope of this Pedestrian and Bicycle Plan, an ADA Transition Plan provides a greater level of specificity and direction for bringing the City’s built environment in line with ADA requirements. Some of this work is already accomplished through existing City policy and Development Code requirements (e.g., requirements for property owners to upgrade adjacent sidewalks that fall into disrepair), and recent efforts to pursue grant funding to upgrade surface conditions on Cottage Grove’s signature multi-use path network. As initial step toward developing an ADA Transition Plan, the City could build upon ODOT’s curb ramp inventory for the State Highway system, as well as City’s recently completed Sidewalk Conditions Survey.

4.3 Safe Routes to School

The term SRTS encompasses a variety of measures aimed at making walking and bicycling dependable and enjoyable means for traveling to and from school. Encouraging active transportation at younger ages builds healthy habits early on while providing children opportunities to socialize and develop a sense of independence along the way. Cottage Grove, the South Lane School District, and other partners benefit from a history of successful project and programmatic efforts including bike safety curriculum in schools and significant recent infrastructure investments along streets surrounding Lincoln and Bohemia Schools.

Building on these accomplishments, the City has identified neighborhoods in vicinity of Harrison Elementary School as an opportunity for its next round of infrastructure investments, with most improvements likely consisting of sidewalk infill and crossing enhancements.³ Other potential SRTS-related projects identified in this Plan include a formalized pedestrian/bicycle connection between Lincoln Middle School and Cottage Grove High School (identified as Project #M25), development of a low-stress "Neighborhood Greenway" bicycle network, improvements to the crossing environment on major roadways such as Highway 99, and targeted extensions of the multi-use path network.

Augmenting these infrastructure improvements, Cottage Grove and South Lane School District should continue offering and expanding walking and bicycling education and encouragement efforts. Opportunities exist to leverage the energy of local Parent Teacher Associations, the Coalition for Bicycling Safety, and other volunteers to put initiatives into action.

4.4 Bicycle Parking

Like automobile parking, bicycle parking is most effective when it is located within close proximity of trip destinations, easy to find, easily accessible, and highly visible and secure. Where quality bicycle parking is absent, users typically seek informal options such as signposts, street furniture or trees, or they may elect to avoid making a trip by bike altogether.

Section 14.33.400 of Cottage Grove's Municipal Code prescribes short- and long-term bicycle parking requirements, addressing both quantity and design. With the exception of the Central Business District (addressed as a composite mixed-use area), the Code organizes parking capacity requirements by land use typology. The Code also specifies other important design and operational requirements such as dimensions, lighting, and weather protection. These standards are generally consistent with state and national best practices.

The availability and quality of bike parking in Cottage Grove varies by location, with newer developments typically offering facilities more consistent with requirements in the Municipal Code. It is recommended that the City continue leveraging high quality bicycle parking in tandem with new development and redevelopment projects. This Plan also recommends that the City strategically upgrade and expand offerings in public areas to

³ See Memorandum #2 for a discussion on current conditions in this area.

meet growing demand. For example, the City could establish a bike rack request program where local businesses could apply for a rack to be installed in the public ROW (in lieu of a potentially costly on-site retrofit). Cottage Grove could also consider developing on-street bicycle corrals in higher-demand locations and/or in areas where sidewalk space is limited. Finally, City partnerships with Lane Transit District (LTD), South Lane Wheels (SLW), South Lane School District, and other partners could streamline connections between modes while providing important first/last-mile connections and end-of-trip facilities.

4.5 Ongoing Maintenance

Throughout this Plan’s public engagement efforts, Cottage Grove residents cited ongoing maintenance as a particular need for all transportation users regardless of mode. Facilities in good working condition are especially important for people walking and bicycling, as they directly impact user safety and accessibility. Specific maintenance activities that will significantly improve Cottage Grove’s active transportation environment include:

- Pavement preservation including pothole repair, overlays, and resurfacing. The City should consider prioritizing corridors along the bikeway network, as these improvements can eliminate obstacles and other safety barriers for people bicycling. The City is also actively pursuing funding to resurface portions of the multi-use path system. It is also recommended that Cottage Grove continue its “Pothole Spotter” program that provides residents opportunities to flag other key issue areas.
- Sidewalk and curb ramp maintenance including addressing cracking, heaving, spalling, and other surface condition issues. Addressing these issues can vastly improve the walking environment, particularly for visually-impaired pedestrians and people using mobility assistance devices.
- Routine inspections (and upgrades as needed) of pedestrian and bicycle detection devices such as push buttons, walk signals, and bicycle loop detectors.
- Ongoing maintenance of pavement markings (e.g., crosswalks, bike lane striping, shared lane markings) and signage (regulatory, warning and wayfinding).
- Routine sweeping and snow removal along shoulders and bike lanes. Some communities also invest in smaller sweeping/plowing devices to maintain sidewalks, multi-use paths, and protected bike lanes.

4.6 Targeted Enforcement

Enforcement has recently emerged as a sensitive issue as communities nationwide come to terms with historical inequities related to the Justice System. Consequently, agencies are challenged with providing a degree of enforcement while avoiding disproportionate impacts on historically marginalized community members. As Cottage Grove considers the role of enforcement in providing a safe transportation environment for all users, the City should consider tools such photo radar, speed feedback signs, and other similar devices that minimize or remove the human component from the enforcement activity. Priority areas for these applications should include high-crash

corridors and intersections, other locations with similar physical and operational characteristics, and areas with higher concentrations of vulnerable roadway users such as schools, senior centers, and transit stops.

4.7 Transit Integration

As walking, bicycling and transit are natural extensions of one another, seamless connections between these modes are crucial. While the “enhanced transit access and stop improvements” (presented earlier in this memo) illustrate locations where opportunities exist to strengthen active transportation linkages with LTD and SLW, opportunities exist throughout Cottage Grove to support other multimodal connections such as school bus stops and high-demand rideshare pick-up/drop-off areas. Cottage Grove’s Transit Development Plan and other resources highlight key ingredients for improving pedestrian/bicycle/transit integration, such as:

- Ensuring that the design of transit stops includes sufficient curb space for transit vehicles to safely board and alight passengers, including wheelchair ramp deployment.
- Providing transit stop infrastructure such as enclosed (yet transparent) shelters, seating, illumination, secure bicycle parking and passenger information.
- Internet hotspots to facilitate real-time arrival information, particularly for individuals that have access to a mobile device but may not have access to data plans.
- Seamless connections between the transit stop and the adjacent pedestrian and bicycle network in the form of high-visibility crossings, a complete sidewalk network and accessibility provisions to serve people of all ages and abilities.

4.8 Mobility On-Demand Pilot (LTD Connector)

South Lane Wheels operated a mobility-on-demand pilot, the LTD Connector, in 2019 and 2020 (the pilot was cut short by the COVID-19 pandemic). Functioning similar to a ride-hail service, the pilot provided connections to LTD’s Line 98 transit stops as well as other essential destinations in Cottage Grove not served by fixed-route transit. Over 20,000 passenger trips were made over the pilot’s 13-month duration.

As the LTD Connector experienced steady ridership growth, opportunities exist to re-institute the pilot on a temporary or permanent basis in the future. It is recommended that the City and SLW continue their strong partnership and determine the appropriate timing for service restoration. The University of Oregon’s Mobility Needs Assessment for Cottage Grove identifies opportunities to further improve the LTD Connector upon its resumption, including:

- Further integrating the Connector with LTD Line 98
- Establish a varied pricing model for frequent versus single-use riders
- Improving the availability of service information to potential riders
- Increasing ADA accessibility, such as prioritizing people with disabilities when space within the vehicle is limited and procuring wheelchair accessible vans.

4.9 Bikeshare Pilot

The University of Oregon's Mobility Needs Assessment for Cottage Grove identifies bikeshare as a potential tool that could be added to the community's transportation portfolio. Bikeshare systems have gained significant popularity across the US and in Oregon over the past decade and exist in communities of all sizes. Key ingredients of a successful bikeshare system include:

- An interconnected low-stress bikeway network providing safe and convenient connections to essential and popular destinations; the recommended bikeway projects in this Plan would create such a network.
- A land use composition that supports shorter trips, as bikeshare systems are typically geared toward trips that may be too long for walking but too short for transit to be practicable.
- Bicycle storage areas (either formalized docking stations or informal parking areas) within close proximity of user destinations.
- Minimizing conflicts with pedestrians by managing where bikeshare bikes are allowed (and not allowed) to operate and park.
- Ongoing fleet management program to rebalance bicycles throughout the community as needed, while providing routine and as-needed maintenance.
- Lower-income program to expand system access to all users.
- Multiple payment method options, including options for riders lacking smartphones.

It is recommended that the City investigate the feasibility of bikeshare in Cottage Grove, and consider conducting a pilot to test its viability in the community. It is worth noting that if a bikeshare pilot is successful, the Mobility Needs Assessment recommends exploring other micromobility options such as scooters.

4.10 Marketing, Promotion and Encouragement

Building awareness of the active transportation network holds equal importance to building the network itself and has significant potential to increase the City's return on investment. Cottage Grove and its partners have had great success in promoting walking and bicycling through an array of initiatives such as the South Lane Fire & Rescue District's "Bike Right Bike Light Program" (distributing lights to school-aged children), bike helmet giveaways through the Rotary Club and Lincoln Middle School, and bike safety roundups hosted by the City's Coalition for Bicycling Safety. It is recommended that the City continue and build on these efforts to make walking and riding safe and enjoyable transportation options.

Opportunities also exist to launch new programmatic efforts to further promote active transportation to Cottage Grove residents and visitors. Examples include the following:

- Partner with Travel Oregon, Oregon Parks & Recreation Department, and other stakeholders to continue promoting regional assets such as the Row River Trail and Covered Bridges Scenic Bikeway. In 2014, the Covered Bridges Scenic Bikeway

generated over \$1.4 million in bicycle-related expenditures, over \$27,000 in tax receipts and generated nearly 20 jobs in the communities through which it passes.

- Coordinate with the Cottage Grove Economic and Business Improvement District, Cottage Grove Community Development Corporation, and Downtown Cottage Grove to promote the community's walkability and bikeability to residents, visitors, and potential new businesses.
- Develop a Wayfinding Signage Plan to increase visibility of the bikeway and walkway network. Signs typically identify key destinations such as schools, employment areas, commercial centers and downtown; and display both the distance and riding time to each destination. Wayfinding is a cost effective and proven tool for overcoming navigational barriers and encouraging people to give walking and bicycling a try.
- Develop walking and bicycling maps, both in hard copy and digital forms. Like wayfinding signage, network maps support system legibility by enabling users to plan their trip in advance.
- Organize an Open Streets event, similar to Eugene's "Sunday Streets," that enables community members to congregate in the public ROW without conflicts with motor vehicles. These events provide opportunities for residents to experience the transportation environment in a new way while temporarily placing walking and bicycling at the top of the transportation hierarchy.

4.11 Ongoing Engagement

As Cottage Grove shifts from planning to implementation, ongoing monitoring is essential for gauging progress over time. As each project and program in this Plan progresses toward implementation, it is recommended that the City conduct follow-up engagement with residents, agency partners and stakeholders to ensure that the outcomes are consistent with community values. For instance, as a particular project enters the concept design phase, targeted engagement will be essential for developing design options and assessing their benefits and tradeoffs with community members. The City should also continue harnessing the energy and insights of the Youth Advisory Council, Coalition for Bicycling Safety and other advocacy groups to deliver successful project and program outcomes.

4.12 Recommended Street Design Standards Modifications

Cottage Grove's Municipal Code contains standards for development of transportation facilities (Chapter 14.34). Some modifications and clarifications to the street standards are recommended to improve the safety and comfort for people walking and bicycling on Cottage Grove's roadways. These recommendations include a context-sensitive approach to the design of pedestrian and bicycle facilities, similar to the land use contexts defined in ODOT's Blueprint for Urban Design (now incorporated into the Highway Design Manual). Table 4-1 lists the City's current street design standards for pedestrian and bicycle facilities, as well as recommended updates/modifications to those standards where applicable. Opportunities to apply the updated standards will arise as new streets are developed and as existing corridors are redeveloped.

Table 4-1. Existing Street Design Standards (Pedestrian and Bicycle Elements) and Recommended Modifications

Existing Street Classification	Current Standards			Recommended Modifications
	Bike Lane Width	Planter Strip Width	Sidewalk Width	
Arterial	5'-6'	7'-12'	6'-12'	<ul style="list-style-type: none"> • Bicycle facility: Adjust minimum bike lane width to 6'. Require a minimum 2' separation (delineated or physical element) between the bike lane and adjacent travel lane on roadways with average daily traffic (ADT) above 3,000; require physical separation on roadways with posted speeds above 25 mph • Pedestrian facility: Adjust minimum sidewalk width to 8' in predominantly commercial land-use contexts
Residential Collector (no parking)	n/a	7'-8'	6'-12'	<ul style="list-style-type: none"> • Bicycle facility: Require a minimum 2' separation (delineated or physical element) between the bike lane and adjacent travel lane on roadways with average daily traffic (ADT) above 3,000; require physical separation on roadways with posted speeds above 25 mph • Pedestrian facility: Adjust minimum sidewalk width to 6'
Residential Collector (parking one or both sides)	n/a	7'-8'	5'-12'	
Commercial Collector	5'-6'	7'-8'	6'-12'	<ul style="list-style-type: none"> • Bicycle facility: Adjust minimum bike lane width to 6'. Require a minimum 2' separation (delineated or physical element) between the bike lane and adjacent travel lane on roadways with average daily traffic (ADT) above 3,000; require physical separation on roadways with posted speeds above 25 mph • Pedestrian facility: Adjust minimum sidewalk width to 8' in predominantly commercial land-use contexts
Local	n/a	4'-12'	5'-6'	<ul style="list-style-type: none"> • Pedestrian facility: Adjust minimum sidewalk width to 6'
Multi-Use Paths	6'-10' paved with 2'-4' unpaved shoulders in 10'-18' right-of-way			<ul style="list-style-type: none"> • Adjust minimum width of the paved portion of multi-use paths to 8'

Appendix A. Project Prioritization Scores

Table A-1. Shorter-Term Priority Projects

Project ID#	Location	Prioritization Criteria								Overall Score
		Safety	Accessibility	User Level of Comfort	Gap Closure	Equity	Community Support	Land Use and Transit Linkages	Cost and Complexity	
M18	Highway 99 at Quincy Ave	3	3	3	3	3	2	3	3	23
M7	Gibbs Ave at Highway 99	2	3	3	3	3	3	3	3	23
P15	Quincy Ave/Douglas St	3	3	3	3	3	2	3	3	23
M10	Main St at River Rd	3	3	3	3	1	3	3	3	22
M11	Highway 99 at Washington Ave	2	3	3	3	3	2	3	3	22
M16	Highway 99 at 6th St	2	3	3	3	3	2	3	3	22
M4	Highway 99 Multi-Use Path Connector	1	3	3	3	3	3	3	3	22
P19	8th St	3	3	3	3	3	2	3	2	22
P20	Harrison Ave/Tyler Ave	3	3	3	2	3	2	3	3	22
M12	Jefferson Ave at 7th St	1	3	3	3	3	2	3	3	21
M19	Quincy Ave at 6th St/Douglas St	3	3	3	2	2	2	3	3	21
M9	Main St at Whiteaker Ave	3	3	3	3	2	2	2	3	21
P10	3rd St	2	3	3	2	3	2	3	3	21
P2	Chamberlain Ave/Ostrander Ln	3	3	3	3	2	2	3	2	21
P22	Highway 99 (Sweet Ln to Taylor Pl)	3	3	3	3	3	2	1	3	21
P4	10th St	1	3	3	3	3	2	3	3	21
P6	8th St	1	3	3	3	3	2	3	3	21
P8	Whiteaker Ave	2	3	3	3	3	2	2	3	21
B44	Wilson Ave/8th St/Lincoln Ave	3	1	2.5	3	2	3	3	3	20.5
B6	Chamberlain Ave/Douglas St/Ostrander Ln/Oswald Ave	3	1	2.5	3	2	3	3	3	20.5
B23	5th St/Washington Ave	3	1	2	3	3	2	3	3	20
B33	10th St	3	1	2	3	3	2	3	3	20
M1	Highway 99 at Douglas St	1	3	3	3	3	3	1	3	20
M13	River Rd Connector	1	3	3	2	3	2	3	3	20
M25	Lincoln Middle School/River Rd Connector	2	3	3	3	2	2	3	2	20
P12	Madison Ave	1	3	3	2	3	2	3	3	20
P17	Quincy Ave	1	3	3	2	3	2	3	3	20
P24	6th St	1	3	3	3	2	2	3	3	20

Table A-2. Medium-Term Priority Projects

Project ID#	Location	Prioritization Criteria								Overall Score
		Safety	Accessibility	User Level of Comfort	Gap Closure	Equity	Community Support	Land Use and Transit Linkages	Cost and Complexity	
P13	River Rd/Harrison Ave	1	3	3	3	3	2	2	2	19
P14	Jefferson Ave/1st St/Madison Ave	1	3	3	2	3	2	2	3	19
P23	Lincoln Ave/8th St	2	3	3	3	2	2	2	2	19
P5	River Rd	1	3	3	3	3	2	2	2	19
B37	Taylor Ave	3	1	2.5	3	2	2	3	3	19.5
B9	10th St/Gibbs Ave/8th St/Chadwick Ave	2	1	2.5	3	3	2	3	3	19.5
PB17	Highway 99 (Sweet Ln to Latham Rd)	3	3	2.5	3	3	2	1	2	19.5
B19	5th St/Whiteaker Ave	3	1	2	2	3	2	3	3	19
B24	16th St	3	1	2	3	3	2	2	3	19
B28	Highway 99 (Main St to Harrison Ave)	3	1	2	3	3	2	3	2	19
B30	Quincy Ave/Douglas St/Monroe Ave	3	1	2	2	3	2	3	3	19
B39	Highway 99 S of Harrison Ave	3	1	2	3	3	2	3	2	19
M14	Madison Ave/Bohemia Park Connector	1	3	3	1	3	2	3	3	19
M26	Highway 99 S of Geer Ave	3	3	1	1	3	2	3	3	19
M35	Main St W of 5th Ave	3	3	1	1	3	2	3	3	19
M36	Main St E of Highway 99	3	3	1	1	3	2	3	3	19
M5	Jim Wright Way/Palmer Ave Connector	1	3	3	2	2	3	2	3	19
M6	Row River Trail/Vincent Place Connector	1	3	3	2	2	3	2	3	19
P3	Row River Rd	3	3	3	2	2	2	1	3	19
PB4	Row River Rd	2	3	2	2	2	2	3	3	19
PB6	Douglas St	1	3	3	2	2	3	3	2	19
PB7	Harvey Rd	1	3	3	2	2	2	3	3	19
PB9	Main St/Gowdyville Rd	1	3	3	3	3	3	1	2	19
B26	Washington Ave/3rd St/Jefferson Ave/1st St/Madison Ave	2	1	2.5	2	3	2	3	3	18.5
B31	Quincy Ave/1st St	3	1	2.5	2	3	2	2	3	18.5
PB16	R St (Highway 99 to Sweet Ln)	1	3	2.5	3	3	2	1	3	18.5
B12	Highway 99 (Gibbs Ave to Woodson Pl)	1	1	2	3	3	3	3	2	18
B13	Gateway Blvd	3	1	2	2	2	3	3	2	18
B21	Main St	3	1	2	2	1	3	3	3	18
B42	R St	1	1	2	3	3	2	3	3	18
M2	Village Dr/Thornton Ln Connector	1	3	3	1	2	3	2	3	18
M22	Taylor Place Connector	1	3	3	2	3	2	1	3	18
M23	Taylor Ave at Hillside Dr	1	3	3	2	3	2	1	3	18
M3	North Regional Park Southern Entrance Connector	2	3	3	1	3	2	1	3	18
M36	Main St E of Highway 99	2	3	1	1	3	2	3	3	18
M41	6th St S of Quincy Ave	2	3	1	1	3	2	3	3	18
M45	S 10th St S of Tyler Ave	3	3	1	1	2	2	3	3	18
M47	Taylor Ave W of 10th St	3	3	1	1	2	2	3	3	18

Project ID#	Location	Prioritization Criteria								Overall Score
		Safety	Accessibility	User Level of Comfort	Gap Closure	Equity	Community Support	Land Use and Transit Linkages	Cost and Complexity	
P11	Bryant Ave	1	3	3	2	1	2	3	3	18
P21	Blue Sky Dr	1	3	3	2	3	2	1	3	18
P7	Palmer Ave	1	3	3	2	2	2	2	3	18
P9	Main St	1	3	3	3	1	3	1	3	18
PB8	Vincent Pl	1	3	2	2	2	3	2	3	18

Table A-3. Longer-Term Priority Projects

Project ID#	Location	Prioritization Criteria								Overall Score
		Safety	Accessibility	User Level of Comfort	Gap Closure	Equity	Community Support	Land Use and Transit Linkages	Cost and Complexity	
B27	Madison Ave	1	1	2.5	2	3	2	3	3	17.5
B32	6th St	2	1	2.5	2	2	2	3	3	17.5
B36	Tyler Ave/1st St/Riverfront Way	1	1	2.5	2	3	2	3	3	17.5
PB11	Sweet Ln	3	3	2.5	2	3	2	1	1	17.5
B17	Thornton Ln	3	1	2	2	2	2	2	3	17
B22	Gateway Blvd	1	1	2	2	3	2	3	3	17
M15	Madison Ave/Gateway Blvd Connector	1	3	3	1	3	2	1	3	17
M17	8th St/Bohemia Park Connector	1	3	3	1	3	2	1	3	17
M21	Row River Rd/Mosby Creek Rd Connector	1	3	3	2	2	2	1	3	17
M24	Taylor Ave at Gateway Blvd	1	3	3	2	2	2	1	3	17
M28	9th St S of Chadwick Ave	1	3	1	1	3	2	3	3	17
M29	WalMart Rd N of Thomas Ln	2	3	1	1	2	2	3	3	17
M33	Main St E of I St	3	3	1	1	1	2	3	3	17
M37	Main St W of 15th Ave	2	3	1	1	2	2	3	3	17
M38	Main St W of Gateway Blvd	2	3	1	1	2	2	3	3	17
M39	10th St S of Adams Ave	1	3	1	1	3	2	3	3	17
M40	10th St N of Quincy Ave	1	3	1	1	3	2	3	3	17
M42	Highway 99 N of Harrison Ave	1	3	1	1	3	2	3	3	17
M44	S River Rd S of Harrison Ave	1	3	1	1	3	2	3	3	17
M46	S River Rd S of Lane Community College	1	3	1	1	3	2	3	3	17
M48	Taylor St E of 6th St	2	3	1	1	2	2	3	3	17
M8	Row River Trailhead Mobility Hub	2	2	2	2	2	3	3	1	17
P16	Row River Rd	1	3	3	2	2	2	1	3	17
P25	4th St	1	3	3	2	2	2	1	3	17
P26	6th St	1	3	3	2	2	2	1	3	17
PB10	Proposed Harrison Rd	1	3	3	2	3	2	1	2	17

Improvement Options
Cottage Grove Pedestrian and Bicycle Plan

Project ID#	Location	Prioritization Criteria								Overall Score
		Safety	Accessibility	User Level of Comfort	Gap Closure	Equity	Community Support	Land Use and Transit Linkages	Cost and Complexity	
PB12	Hillside Dr	1	3	2	2	3	3	1	2	17
PB3	Row River Rd	2	3	2	2	3	2	1	2	17
B18	Q St/Ash Ave/M St	1	1	2.5	3	1	2	3	3	16.5
B2	Douglas St	1	1	2.5	2	3	3	1	3	16.5
B3	Railroad undercrossing	1	2	2.5	2	3	2	1	3	16.5
B41	Fillmore Ave	1	1	2.5	2	2	2	3	3	16.5
B43	6th St	1	1	2.5	2	2	2	3	3	16.5
B45	Grant Ave	1	1	2.5	2	2	2	3	3	16.5
PB1	River Rd	1	3	2.5	2	3	2	1	2	16.5
B16	Palmer Ave	1	1	2	2	2	3	2	3	16
B20	Whiteaker Ave	2	1	2	2	3	2	2	2	16
B35	R St	1	1	2	3	1	2	3	3	16
B38	Hillside Dr/Taylor Ave	1	1	2	3	3	2	1	3	16
B40	4th St	1	1	2	2	2	2	3	3	16
B5	Village Dr	1	1	2	1	2	3	3	3	16
B8	Thornton Ln	1	1	2	2	2	3	2	3	16
M20	Girard Ave/Fairview Loop Connector	1	3	3	2	1	2	1	3	16
M27	Row River N of Thornton Rd	1	3	1	1	2	2	3	3	16
P1	Highway 99 N of railroad undercrossing	1	3	3	1	2	3	1	2	16
P18	Girard Ave	1	3	3	2	1	2	1	3	16
PB15	4th St	1	3	3	2	2	2	1	2	16
PB2	M St	1	3	3	2	1	3	1	2	16
PB5	16th St	1	3	2	3	2	2	1	2	16
B14	Birch Ave/H St/Kalapuya Way	1	1	2.5	2	1	2	3	3	15.5
B25	S St/Bryant Ave	1	1	2.5	2	1	2	3	3	15.5
B11	M St	1	1	2	2	1	2	3	3	15
B15	Thornton Ln	1	1	2	1	2	3	2	3	15
B29	Gateway Blvd	1	1	2	2	3	2	1	3	15
B7	Holly Ave	1	1	2	2	1	2	3	3	15
M31	Whiteaker Ave E of 22nd St	1	3	1	1	2	2	2	3	15
M32	Main St W of M St	1	3	1	1	1	2	3	3	15
M43	R St N of Harrison Ave	1	3	1	1	1	2	3	3	15
B10	Pennoyer Ave/14th St/Harvey Rd	1	1	2.5	2	2	2	1	3	14.5
B34	Harrison Ave	1	1	2.5	2	3	2	1	2	14.5
PB13	I5 Frontage (Taylor Ave to 6th St)	1	3	2.5	2	2	2	1	1	14.5
PB14	Cleveland St (Highway 99 to 6th St)	1	3	2.5	2	2	2	1	1	14.5
PB18	Latham Rd	1	3	2.5	2	2	2	1	1	14.5
B1	Highway 99 (River Rd to railroad undercrossing)	1	1	2	2	2	2	1	3	14
M34	R St S of Main St	1	3	1	1	1	2	2	3	14
B4	Bennett Creek Rd	1	1	2	1	1	2	1	2	11