CITY OF **MILWAUKIE**

COUNCIL ORDINANCE No. 2262

AN ORDINANCE OF THE CITY OF MILWAUKIE, OREGON, ADOPTING A TRANSPORTATION SYSTEM PLAN (TSP) AS AN ANCILLARY DOCUMENT TO THE MILWAUKIE COMPREHENSIVE PLAN AND AMENDING RELATED POLICIES AND DEVELOPMENT REGULATIONS (FILE #CPA-2025-001).

WHEREAS the city has undertaken an update to its Transportation System Plan (TSP) over a period of more than two years, using a public process that included opportunities for community engagement, coordination with affected agencies, and public review; and

WHEREAS the proposed amendments to the Comprehensive Plan adopt a new Transportation System Plan, repealing and replacing the existing Transportation System Plan in its entirety; and

WHEREAS the proposed amendments include changes to Title 19 Zoning of the Milwaukie Municipal Code (MMC) to implement the TSP and transportation-related land use requirements of the Transportation Planning Rule; and

WHEREAS legal and public notices have been provided as required by state law and the MMC; and

WHEREAS the Planning Commission conducted a public hearing on the proposed TSP and related amendments as required by the MMC, and forwarded a recommendation to the City Council; and

WHEREAS the City Council conducted a public hearing on the proposed TSP and related amendments as required by the MMC and state law; and

WHEREAS, the City Council finds that adoption of the TSP and related amendments is in the public interest, supports community goals, and provides a coordinated framework for future transportation investments and land use decisions.

Now, Therefore, the City of Milwaukie does ordain as follows:

Section 1. Findings

The City Council adopts the findings of fact and conclusions in support of the Transportation System Plan and related zoning amendments, attached as **Exhibit B** (City of Milwaukie Findings), **Exhibit C** (Metro Findings), **Exhibit D** (State of Oregon Findings), demonstrating compliance with local, regional, and state regulations.

Section 2. Repeal and Replacement.

As an ancillary document of the Milwaukie Comprehensive Plan, the existing Transportation System Plan is hereby repealed in its entirety and replaced with the new Transportation System Plan as set forth in **Exhibit A**.

Section 3. Additional Comprehensive Plan Amendments

Chapter 13 (Transportation) of the Milwaukie Comprehensive Plan is hereby amended to replace existing transportation goals and policies with the updated transportation goals and policies developed through the planning process, and to update references to the prior Transportation System Plan, as set forth in **Exhibit E** (underline/strikeout version), **and Exhibit F** (clean version).

Section 4. Amendments to the Milwaukie Municipal Code (MMC)

Title 19 Zoning of the MMC is hereby amended to implement transportation-related land use requirements consistent with the adopted Transportation System Plan and the Transportation Planning Rule, as set forth in **Exhibit G** (underline/strikeout version), **and Exhibit H** (clean version).

Read the first time on **3/3/26** and moved to second reading by **5:0** vote of the City Council.

Read the second time and adopted by the City Council on **3/3/26**.

Signed by the Mayor on **3/3/26**.

Lisa M. Batey, Mayor

ATTEST:

Scott S. Stauffer, City Recorder

APPROVED AS TO FORM:

Justin D. Gericke, City Attorney

CITY OF MILWAUKIE

CITY OF MILWAUKIE

TRANSPORTATION SYSTEM PLAN

Volume I

Adopted Ordinance #2262
March 3, 2026





ACKNOWLEDGEMENTS

The Project Management Team (PMT), Advisory Committee, and Technical Committee members acknowledged below helped guide the development of this plan. Their time and efforts were instrumental in updating the City of Milwaukie Transportation System Plan (TSP).

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This Project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, with Federal Highway Administration, local government, and the State of Oregon funds.

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

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CHAPTER 1. INTRODUCTION

The 2045 Transportation System Plan (TSP) responds to Milwaukie's evolving community vision and recent planning efforts, including the city's Visioning Process (2017), Climate Action Plan (2018), and Comprehensive Plan update (2020). It builds on significant progress made since the previous TSP was adopted in 2008, including expansion of light rail service, new investments in walking and biking infrastructure, and a renewed focus on commercial and housing development.

The TSP serves as the primary long-range planning document that guides the development of a safe, equitable, and multimodal transportation system for Milwaukie. It reflects current conditions, responds to anticipated growth—an expected addition of approximately 3,000 new residents by 2045—and aligns with local, regional, and state transportation policies.

The TSP identifies a preferred multimodal network that supports mobility for people of all ages and abilities, while advancing broader community goals such as sustainability, accessibility, and livability. It is intended to inform capital investment decisions, guide development review, and support applications for state and federal funding.

The TSP serves as the transportation element of the Milwaukie Comprehensive Plan. Goals and policies developed through this process are adopted as part of the Comprehensive Plan and provide a framework for future transportation-related decisions.



PLAN BACKGROUND AND REGULATORY CONTEXT

The following plans and regulations provide the framework for the TSP's development.

State and Regional Context

The TSP satisfies the requirements of Oregon's Statewide Planning Goal 12 Transportation, which is implemented through the Transportation Planning Rule (Oregon Administrative Rule 660, Division 12). The Transportation Planning Rule governs how jurisdictions do transportation system planning and was significantly updated in 2021 through the Climate Friendly and Equitable Communities (CFEC) rulemaking process. The CFEC process updated the Transportation Planning Rule to require that transportation and land use plans result in fewer greenhouse gas emissions from the transportation sector. The changes also added new requirements to ensure that underserved populations are engaged in the transportation planning processes.

The Transportation Planning Rule requires that local transportation system plans be coordinated and consistent with the Oregon Transportation Plan and Oregon Metro's Regional Transportation Plan, which is implemented through the Regional Transportation Functional Plan. The Transportation Planning Rule also requires that plans reduce greenhouse gas emissions in line with the reduction targets established through land use and transportation scenario plans. In the Portland Metropolitan Region, that plan is the Climate Smart plan, adopted by Oregon Metro in 2014.

A document outlining how the TSP and implementing ordinances comply with the Transportation Planning Rule and regional planning requirements can be found in ***Volume II, Appendix A***.

Milwaukie Plans and Programs

To ensure continuity and alignment with previous work, the development of the current TSP began with an analysis of the local plans and programs governing land use and transportation in Milwaukie. Key documents informing this effort, in addition to the previously adopted 2008 TSP (as modified in 2013 and 2018), include:

Safe Access for Everyone Program: The Safe Access for Everyone (SAFE) program is a city initiative to improve safety for pedestrians, bicyclists, and other users of the city's transportation system. The program began in 2019 with the goal of building 27.9 miles of sidewalk/multi-use paths and 900 ADA ramps in nine years. Any SAFE projects not completed with the development of this TSP have been included in the project list found in ***Chapter 7***.

Community Vision and Action Plan (2017): The Milwaukie Community Vision and Action Plan was adopted following a community-wide engagement process with the intent of articulating what community members wanted the city to look like in the year 2040 and identify actions that would guide the city towards that vision. This planning process and the vision it produced served as the basis for the comprehensive plan update.

Climate Action Plan (2018): The Milwaukie Climate Action Plan (CAP) sets a roadmap for the city to achieve carbon neutrality. It outlines the City's carbon footprint, the science behind climate goals, timelines, projected impacts, and the resources needed to execute identified actions. Transportation is a key focus, accounting for 29% of the City's emissions, and the CAP identifies strategies to reduce emissions through land use and transportation planning.

Comprehensive Plan (2020): The city updated its Comprehensive Plan through an extensive public involvement process over several years. The plan establishes goals and policies that are intended to guide growth and development in the city on a 20-year horizon. These goals and policies helped shape the goals and policies developed for the TSP.

HISTORICAL AND CULTURAL CONTEXT

Before looking forward, it is important to look back to understand the context in which Milwaukie has developed and determine who is affected by transportation decisions now. Understanding and acknowledging the past can help us move toward a better, more equitable future. While the following sections provide a brief overview of the historical context and current community demographics, a more complete Community Profile can be found in ***Volume II, Appendix B*** as well as the city's Comprehensive Plan.

Creating a more equitable transportation system

Milwaukie's growth and development have been shaped by a complex history of settlement, exclusion, and public policy decisions. The city's past transportation, housing, and land use systems have excluded and harmed Indigenous people and communities of color. The ancestral homeland of the Clackamas people, Milwaukie's early history was marked by forced removal under the Willamette Valley Treaty and displacement through colonial expansion. Later, exclusion laws targeted Chinese and Black residents, while discriminatory practices like redlining and racial covenants reinforced segregation. Policies and infrastructure projects—from the Donation Land Claim Act to the construction of McLoughlin Boulevard and Interstate 205—fueled suburban growth, created car dependency, and sustained inequities in wealth and housing access.

At the same time, Milwaukie's trajectory reflects broader waves of economic and social change, from the rise of agriculture and industry to the postwar population boom and suburbanization. The arrival of the Oregon-to-California Railroad, the Interurban trolley, and eventually the MAX Orange Line helped shape the city's identity as a hub of movement and growth, while events like World War II accelerated demographic shifts. Exclusionary practices left Milwaukie predominantly White well into the 20th century, with lasting impacts on equity and opportunity.

Recently, Milwaukie has taken steps toward reconciliation and justice—embracing racial equity as a core value in its 2020 Comprehensive Plan, establishing an Equity Steering Committee to help shape decision making, and being the first city in Oregon to declare a climate emergency. While these actions reflect a significant shift for Milwaukie, we still have work to do to push toward a more equitable and sustainable future.

Demographics

Understanding current demographics and trends is important for understanding the needs of the community, ensuring inclusive public participation, and creating a plan that more equitably supports underserved or marginalized populations.

Milwaukie's population has grown slowly since 2000 (4%) but has become more diverse, with Latino/a/x residents doubling from 4% to 9%. About one-fifth of residents identify as BIPOC[1], and 5–9% speak a language other than English at home. Youth (18%) and seniors (16.5%) make up over one-third of the population, and 11–16% of residents live with a disability, highlighting the need for transportation options accessible to those with all ages and abilities. Roughly 40% of households rent, poverty affects 5–8% of residents (especially youth and seniors), and immigrants, LGBTQIA2S+[2] residents, single-parent households, and people experiencing homelessness each face unique mobility barriers or needs.

Underserved groups have historically been excluded from transportation planning. Recognizing the needs of all is essential for moving toward equitable mobility investments that reduce barriers and ensure safe, accessible, and affordable transportation for all.

1 *BIPOC (Black, Indigenous, and People of Color)*
2 *LGBTQIA2S+ (Lesbian, Gay, Bisexual, Transgender, Queer or Questioning, Intersex, Asexual, and 2-Spirit, + other identities not listed)*

TSP ORGANIZATION

Chapter 1: Introduction

Defines the Transportation System Plan and gives contextual background.

Chapter 2: Our Process

Provides a summary of the process used to update the Transportation System Plan.

Chapter 3: Community Involvement

Summarizes the major ways that the community played a critical role in the process—from fine tuning goal language to collecting data and prioritizing projects.

Chapter 4: Our Vision, Goals, and Policies

Establishes the vision, goals, and policies that were used to guide the planning process and will continue to guide investments in the city's transportation system moving forward.

Chapter 5: Developing Our Projects

Provides an overview of the factors that influenced project development in the TSP.

Chapter 6: Designing our Streets and Pathways

Summarizes the primary sources that influence transportation facility design.

Chapter 7: Transportation Investments

Outlines the funding anticipated to be available for future projects, summarizes the project prioritization methodology used in the plan, and shares the lists and maps of project recommendations.

Chapter 8: Measuring Our Progress and Performance

Shares the performance measures and targets that Milwaukie will use to track progress over time.

CHAPTER 2. OUR PROCESS

Oregon cities and counties are required by the state's Transportation Planning Rule (OAR 660-012) to prepare and maintain a Transportation System Plan that guides investment and policy decisions for all modes of travel. As a result, the process used to create this plan follows a well-established framework consistent with Oregon Department of Transportation guidelines. The plan creation was guided by the following steps.



1. AFFIRM VISION, ESTABLISH GOALS AND POLICIES:

The process began by reaffirming that the community's transportation vision, goals, and policies—originally established through recent planning processes and codified in adopted City plans—continue to reflect the community's values and priorities. To do this, staff reviewed these existing plans, compiled all transportation-related goals and policies, and refined them for clarity and consistency. The draft goals and policies were then reviewed and further refined through a public engagement process involving the TSP Advisory and Technical Committees, the wider public, the Planning Commission, and ultimately the City Council. See full list of goals and policies in ***Chapter 4***.

2. ANALYSIS OF CITY TRANSPORTATION FINANCES:

Parallel to identifying and affirming the vision, goals, and policies, an assessment was conducted of the city's current and projected financial capacity. Past local revenue sources and expenditures were identified. That data was then used to forecast how much money the city would have over the 20-year planning period to spend on transportation investments. See full analysis in ***Volume II, Appendix C***.

3. ANALYZE EXISTING CONDITIONS:

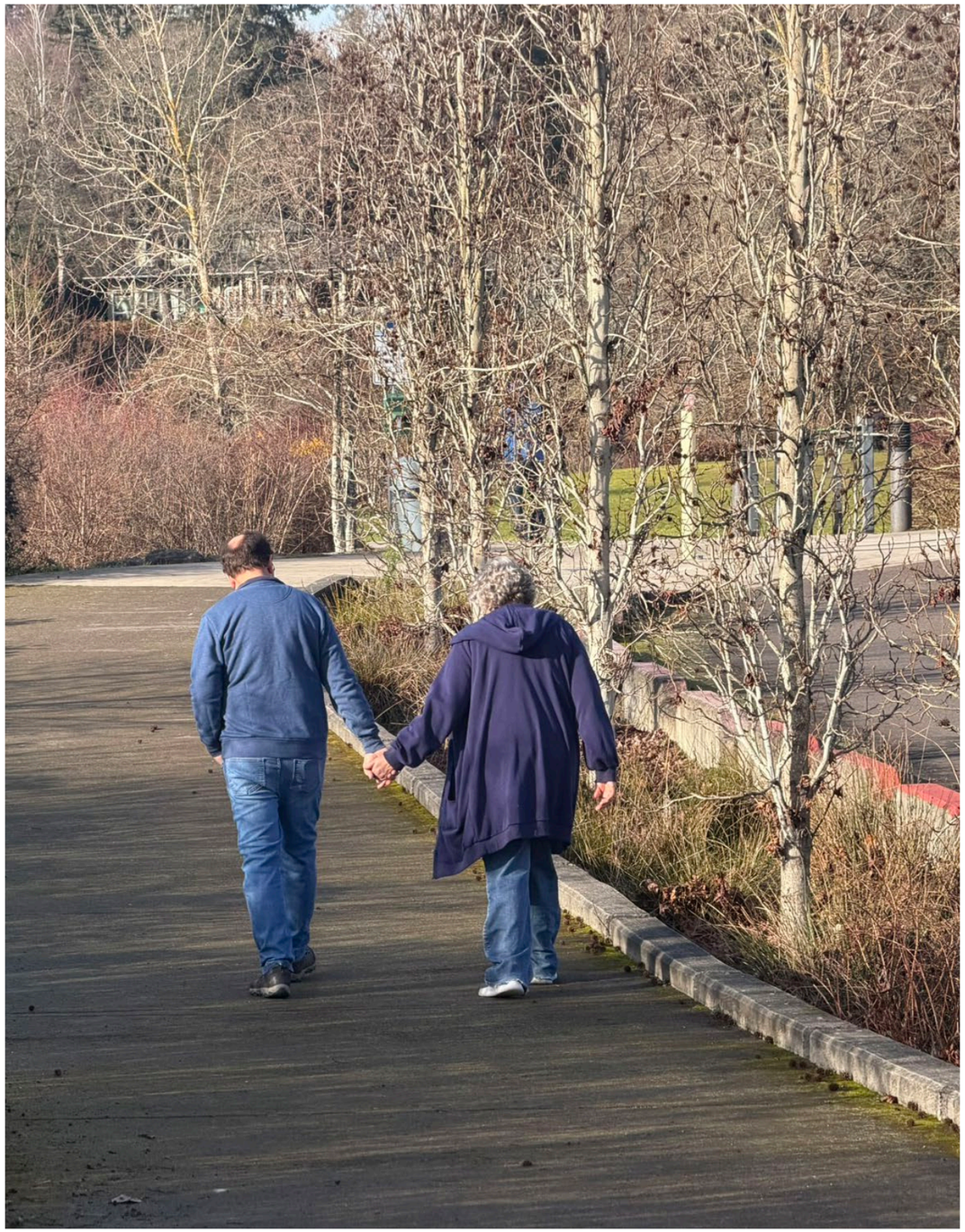
With goals and finances established, the team began reviewing the city's existing transportation system: what facilities and services currently exist, where deficiencies or gaps are present across all modal networks, (pedestrian, bicycle, auto, freight, transit). This baseline provided the "what do we have now?" foundation for the process. During this phase, the city also adopted new multimodal performance standards to better understand how the city's non-auto systems are functioning. The complete existing conditions summary can be found in ***Volume II, Appendix D***. Performance measures are discussed more in ***Chapter 5*** and ***Chapter 8***.

4. FORECAST FUTURE NEEDS AND PROJECT IDENTIFICATION:

To forecast future needs, the team built on the existing conditions inventory and, with an understanding of the city's limited financial resources, sought to address critical system gaps strategically. A Functional Classification system was developed for each travel mode to identify facilities most important for movement within their respective networks. This framework guided the development of projects along key corridors that address major gaps and meet minimum performance measures. The city also analyzed its existing design standards for transportation facilities during this phase to confirm alignment with the goals and policies established in the plan (see ***Volume II, Appendix E***).

5. PRIORITIZE COST FEASIBLE PROJECT LIST:

Finally, projects were prioritized using an evaluation process that identified how well each improvement aligned with the TSP's goals and policies. Community input also influenced prioritization, with projects receiving strong support during the public open house and focus groups with underrepresented communities scoring higher. The initial financially constrained list—reflecting projects that fit within expected funding—was then reviewed by the TSP Advisory and Technical Committees, the public, the Planning Commission, and the City Council. Based on this feedback, the list was refined to balance technical priorities, community values, and financial realities, resulting in a practical investment plan for implementation.



CHAPTER 3. COMMUNITY INVOLVEMENT

The community played an integral part in creating the 2045 TSP. Engagement occurred throughout the project to ensure that the plan reflects community priorities, local knowledge, and technical expertise. A three-part engagement approach guided the process including technical/advisory committees, strategic community-wide outreach, and targeted focus groups.



ADVISORY AND TECHNICAL COMMITTEES

A dedicated group of residents, community representatives, and agency partners participated throughout the TSP process through the TSP Advisory Committee (TSPAC) and the TSP Technical Committee (TSPTC). These committees reviewed draft materials, provided critical feedback and direction on key components, and shaped recommendations to staff and policy makers. Following committee input, each TSP component was reviewed and approved by the Planning Commission and City Council, ensuring alignment with community goals and policy direction.

Transportation System Plan Advisory Committee (TSPAC):

The TSPAC consisted of 19 community members with a diversity of transportation interests and experiences, including folks from the Public Safety Advisory Committee, each Milwaukie neighborhood, the Planning Commission, the Equity Steering Committee, the Comprehensive Plan Advisory/Implementation Committee, and the business/freight community. The TSPAC played a critical role in each phase of the plan update by advising staff and the consultant team on everything from planning policies to individual capital projects. The group met 11 times over a two-year period and collectively spent many hours reviewing and providing feedback on draft materials.



Transportation System Plan Technical Committee (TSPTC):

The TSPTC consisted of city staff and agency representatives that provided technical guidance through the TSP update. Agencies represented included the Oregon Department of Transportation, the Oregon Department of Land Conservation and Development, Metro, Clackamas County, TriMet, Clackamas Fire District #1, North Clackamas School District, and Portland General Electric. Like the TSPAC, the TSPTC met 11 times over the two-year period, reviewing technical analyses and providing crucial guidance along the way.

COMMUNITYWIDE OUTREACH

At three key milestones, the broader community was invited to participate through in-person and online outreach activities designed to gather input from a broader audience on draft plan elements and confirm that the plan direction aligned with community values and needs.

The TSP development milestones were:

1. Goal and policy setting in March of 2024
2. Needs and gaps analysis in December 2024
3. The financially constrained project list development in June of 2025.

These milestones were identified as being less technically complex and easier to understand at a high level while offering a significant opportunity to shape the direction of future transportation investments.

The efforts were promoted using multiple methods, including articles in the Milwaukie Pilot, a promotional video, posts on the city website, email blasts to project subscriber lists, announcements at public meetings, Neighborhood District Association updates, flyer distribution, bookmark advertisements, social media posts, and tabling at community events.

A comprehensive summary of outreach efforts and findings can be found in ***Volume II, Appendix F***.

What we Heard:

1. Goals and Policy Setting Engagement

Participants had the opportunity to review and provide feedback on initial draft goals and policies. Feedback from the workshop and online survey directly led to goal and policy changes. Most notably, language was modified to place a stronger emphasis on safety and equity for vulnerable populations. Input also helped refine policies related to resiliency, coordination with federal partners, and mitigating the environmental impact of transportation facilities.

2. Needs and Gaps Identification Engagement

Participants had the opportunity to review and provide feedback on the identification process and results of the needs and gaps analysis. The primary feedback from the workshop focused on enhancing the network for people walking and biking, with the community stressing that bike and pedestrian safety are top priorities, calling for more sidewalks and bike lanes and addressing specific safety concerns like paving and sight distance. The online forum featured discussion with points made both for and against the usefulness and need for separate bicycle infrastructure.

3. Project Identification and Prioritization Engagement

Participants had the opportunity to provide feedback on the types of projects that were most important to them and identified their top individual projects. The primary types of project respondents felt were most important included new sidewalks and bike lanes that provide connections to key destinations like schools, parks, transit stops, shopping centers, and employment areas. Participants also highlighted the need for new bus stop amenities and projects that improved safety on the city's roadways.



TARGETED OUTREACH TO UNDERSERVED POPULATIONS

Milwaukie's population is aging, becoming more diverse—with a growing share identifying as Hispanic/Latino—and has more modest household incomes compared to the rest of the Portland Metro region.

During project development and prioritization, focused outreach was conducted with key underserved populations identified in the Community Profile (see ***Volume II, Appendix B***).

The updated Transportation Planning Rule directs jurisdictions to identify areas where underserved populations are concentrated to better understand how the transportation system's burdens and benefits are distributed. To do this, the city reviewed the best available data; however, it did not find reliable information showing geographic concentrations of underserved populations in Milwaukie. Given this limitation, the city relied on place-based proxies known to serve underserved residents—such as community centers and low-income housing sites—for both focus group recruitment and for selecting prominent locations for project development.

Three focus groups were held to confirm that the needs identified through the technical process were meaningful and to gather input on which projects would have the greatest community benefit:

1. Older adults 65+ at the Milwaukie Center
2. Low income/wealth population at Hillside Manor
3. BIPOC and Spanish-speaking residents at the Ledding Library



Participants ranked their priorities across travel modes and identified up to ten projects they most wanted to see funded. The city did not assume these discussions represented the views of any one population. Instead, they were used to share information, listen to lived experiences, and identify challenges that may not have surfaced elsewhere—recognizing that people hold multiple identities that shape how they experience the transportation system.

What we heard:

Participants emphasized safe, comfortable, and accessible options for walking, biking, and transit. Top priorities included enhanced pedestrian crossings, new bike lanes and off-street paths, improved bus stop amenities and service, and roadway safety improvements. Feedback from these sessions was incorporated into the project evaluation matrix to help shape which projects were prioritized within the financially constrained and unconstrained lists.



Additional Outreach

City staff also attend numerous events throughout the course of the project to inform the community about the TSP project and let them know about opportunities to be involved. These events included:

- Milwaukie Farmer's Market
- Equity Steering Committee Meetings
- North Clackamas School District Noche Latina
- North Clackamas School District Community Resource Fair
- Scott Park Design Open House
- Neighborhood District Association Meetings
- Bike Milwaukie Meetings
- Public Safety Advisory Committee Meetings
- Monroe Greenway Design Open House



CHAPTER 4. VISION, GOALS, AND POLICIES

The development of the goals and policies was a collaborative and comprehensive process. They were drafted by building upon existing goals and policies found in the City's Comprehensive Plan and other adopted planning documents.

Extensive input was gathered from a wide range of stakeholders throughout the drafting process, including the Transportation System Plan Advisory Committee, the Transportation System Plan Technical Committee, the Milwaukie Planning Commission, and the Milwaukie City Council. Input from the general public was also critical and was gathered through various engagement opportunities to ensure the goals reflect community values and priorities (see ***Chapter 3*** and ***Volume II, Appendix F*** for more information about community involvement in the development process).

The goals and policies are not listed in order of priority. All are considered equally.



Goal 1: Mobility, Accessibility, and Connectivity

Provide an efficient and well-connected multimodal transportation system that works to connect the community to key destinations.

1.1 Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.

1.2 Prioritize local connectivity and safety needs while accommodating regional mobility needs.

1.3 Prioritize closing gaps in the existing pedestrian and bicycle network.

1.4 Minimize the barrier effect of large transportation facilities on connectivity and accessibility for all modes by improving east-west connectivity across Highway 224 to downtown, across McLoughlin to the Willamette River and western neighborhoods, across railroad facilities, and across the river.

1.5 Manage the right-of-way to ensure street design standards equitably and safely allocate or share space for all modes of transportation, including pedestrians, bicycles, rollers, and transit.

1.6 Increase street grid connectivity to reduce out-of-direction travel and prevent neighborhoods with limited ingress and egress.

1.7 Minimize cut-through traffic on local streets.

1.8 Improve the comfort of walking, cycling, and rolling across Highway 224 and McLoughlin Blvd by slowing vehicle traffic on those facilities.

Goal 2: Safe System

Improve the safety and comfort of the multimodal transportation network.

2.1 Advocate for ODOT and Clackamas County to create safe and comfortable pedestrian and bicycle movement on State/County-owned and operated facilities, especially Highway 224, McLoughlin Boulevard, and Johnson Creek Boulevard.

2.2 Prioritize the safety of vulnerable system users over on-street parking convenience and when improving the public right of way.

2.3 Improve safety for more vulnerable system users, including pedestrians, bicyclists, transit users, rollers and those who need special accommodations under the Americans with Disabilities Act.

2.4 Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.

2.5 Coordinate with local and regional agency partners to develop street design standards that equitably balance the needs of emergency vehicles, freight vehicles, and multimodal users.

2.6 Improve circulation around schools to minimize pedestrian, automobile, and cyclist conflicts.

2.7 Realize zero traffic deaths or serious injuries on the roadway network.

2.8 Monitor the system to identify, prioritize, and mitigate safety issues at high crash locations for all modes.

2.9 Maintain a neighborhood traffic management program to address issues of excessive speeding and manage the use of the public right-of-way on local residential streets.

2.10 Reduce speeds systemwide to improve safety.

2.11 Implement educational campaigns to increase safety awareness, especially near high crash locations, along school routes, and higher classification bikeways.

Goal 3:Equitable Transportation

New investments in Milwaukie's transportation system are distributed fairly to reduce or eliminate transportation-related barriers and disparities, especially those experienced by marginalized or underserved populations.

3.1 Prioritize transportation improvements that improve access, safety, and connectivity to/from/for underserved population groups, lower-income neighborhoods, and transportation disadvantaged groups.

3.2 Improve existing transportation facilities to meet Americans with Disabilities Act (ADA) standards.

3.3 Prevent and mitigate human exposure to transportation-related pollution along major transportation facilities, especially along facilities that are located near underserved populations.

Goal 4: Climate Mitigation and Adaptation

Create a transportation system that reduces greenhouse gas pollution and is responsive to a changing climate.

4.1 Support the transition to low and zero-emission vehicles and other emerging sustainable modes of transportation through infrastructure investments, education, and regulations.

4.2 Establish land use patterns that reduce vehicle miles traveled (VMT) and greenhouse gas emissions.

4.3 Explore establishing targets for transportation mode splits.

4.4 Design and maintain transportation systems and facilities to ensure they are resilient and adaptive to a changing climate based on the best available science and technology.

Goal 5: Active, Healthy, Transportation Choices

Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.

5.1 Improve and maintain walking, biking, and rolling access to key destinations such as Neighborhood Hubs, public spaces, schools, parks, commercial centers, industrial areas, transit routes/stops/centers, and recreational opportunities.

5.2 Expand and improve wayfinding for active modes of travel to guide people to the safest and most efficient ways to actively navigate the transportation system.

5.3 Identify and prioritize projects that close gaps in the existing active transportation network and support a street grid that provides options for transit, pedestrians, and bicyclists.

5.4 Implement transportation demand management strategies, such as incentivizing employers to encourage active transportation and transit.

5.5 Support the creation of valuable public and private space that is first-and-foremost designed for people, not automobiles, that prioritizes and enhances the experience for people walking, biking, and rolling, and is safe for users of all ages and abilities.

5.6 Improve connections between the city's multimodal network and the regional trail system to promote active transportation and recreational opportunities.

5.7 Prioritize a complete, connected, low stress network of transportation facilities for pedestrians, cyclists, and rollers.

5.8 Prioritize the functionality of bicycle and pedestrian higher classification routes over the functionality of roadway facilities neighborhood greenways over other functional classifications.

Goal 6: Public Transportation

Improve public transit service to, from, and within Milwaukie.

6.1 Support TriMet and other transit providers in enhancing transit services and amenities, especially along congested corridors in low-income communities, and in underserved population centers.

6.2 Advocate for prioritized and additional frequent transit service in areas that lack connectivity and have the potential for new growth.

6.3 Work with transit agencies to identify and eliminate existing transit deficiencies and increase the accessibility of transit services to all potential users.

6.4 Work with transit providers to ensure all Neighborhood Hubs have adequate transit service.

6.5 Support TriMet's efforts to improve the safety, accessibility, and maintenance of transit stops and services in the city.

6.6 Work to ensure that employment centers are well served by public transportation.

6.7 Advocate for increased high-capacity transit options in Milwaukie and the larger region.

6.8 Support TriMet's efforts to serve all Milwaukie residents through the provision of paratransit services.

Goal 7: Economic Vitality

Develop a transportation system that supports and facilitates economic activity through the efficient movement of people, goods, and services.

7.1 Identify new projects and improve the existing transportation infrastructure throughout the city that facilitates greater economic development, within commercial and industrial areas.

7.2 Build low stress multimodal connections to and through designated Neighborhood Hubs and Milwaukie's 2040 Town Center to support business activity.

7.3 Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.

7.4 Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.

7.5 Coordinate with regional rail providers to preserve rail freight service to businesses that depend on railroad service.

7.6 Plan for light vehicle and human powered goods delivery throughout the city.



Goal 8: Coordination with Local, Regional, and State Partners

Foster and maintain relationships with public and private partners in the common interest of enhancing the city's transportation network.

8.1 Advocate for city priorities while coordinating city projects, policies, development actions, and mobility targets with partner agencies.

8.2 Coordinate with emergency service providers to design streets to accommodate emergency service vehicles while ensuring city streets support active transportation.

8.3 Ensure consistency with federal, state, regional, and local planning rules, regulations, and standards.

8.4 Work with regional partners to build support for the improvement of regional connections for all modes.

8.5 Collaborate with other agencies to efficiently fund transportation improvements and programs.

8.6 Advocate for low-stress pedestrian and cyclist crossings across Highway 224, McLoughlin Blvd, and railroad crossings.

8.7 Advocate for other jurisdictions to use Milwaukie Public Works Standards on transportation projects in the city's Urban Growth Management Area.

Goal 9: Emergency Preparedness

Develop a multimodal transportation system that provides travel options during normal conditions, natural disasters, or emergencies.

9.1 Identify transportation improvements that increase the diversity and number of travel routes between key destinations.

9.2 Coordinate with the Regional Disaster Preparedness Organization, Metro, and Clackamas County to improve designated emergency routes to aid in responding to natural disasters or weather-related events for all modes of transportation.

9.3 Require facilities in the FEMA-designated special flood hazard area be designed for resiliency.

Goal 10: Healthy Environment

Create a transportation system that does not further degrade, and when possible, enhances the community's natural resources, such as clean air, clean water, and wildlife habitat.

10.1 Prioritize transportation improvements that preserve and enhance natural resources such as trees, streams, wetlands, wildlife corridors, and endangered species.

10.2 Consider best practices for wildlife crossings where transportation facilities intersect with waterbodies and habitat areas.

10.3 Minimize the impacts the transportation system has on the environment through the use of green infrastructure.

10.4 Evaluate and mitigate how transportation facilities negatively impact environmental quality and human health outcomes.

Goal 11: Fiscal Stewardship and System Management

Make the most of transportation resources by leveraging available funding opportunities, preserve existing infrastructure, and reduce system maintenance costs.

11.1 Identify diverse and stable funding sources, including grant opportunities, to implement multimodal transportation improvement projects.

11.2 Improve the efficiency of the existing transportation network before adding additional vehicular travel lanes.

11.3 Invest in the maintenance of the transportation system.

11.4 Utilize safety and engineering best practices to identify low-cost, quick-to-implement, and effective treatments that can be implemented systematically in shorter timeframes than large capital projects.

11.5 Require that new development citywide improves the quality and connectivity of the transportation system proportionate to its impacts.

11.6 Account for rapidly changing technologies such as autonomous vehicles and other intelligent transportation systems while managing the transportation system.

11.7 Identify opportunities to make transportation investments that complement and leverage other public and private capital investments.

Goal 12: Parking Management

Reduce land used for parking to achieve local, state and regional parking goals while also managing parking impacts.

12.1 Promote the conversion of existing underused private and public parking areas to other uses.

12.2 Facilitate shared parking agreements.

12.3 Employ parking management measures as needed to address the impacts of new infill development.

12.4 Develop parking management plans when warranted for major employment districts, downtown and key destinations.

12.5 Ensure bicycle and micro-mobility parking is provided and unobstructed in and between neighborhoods, schools, parks, transit facilities, employment centers, Neighborhood Hubs, and other key destinations.

12.6 Reduce the negative environmental and human health impacts of large parking lots, such as degradation of water quality, the heat island effect, and reduced pedestrian connectivity and safety.

CHAPTER 5. DEVELOPING OUR PROJECTS

Projects were developed to achieve the TSP vision and goals established in ***Chapter 4***. While the projects were ultimately refined through engagement with the public, committees, Planning Commission, and City Council, the project development process was grounded in several guiding concepts that will continue to shape plan implementation.



These guiding concepts—a multimodal functional classification system, multimodal performance standards, and defined priority focus areas—provide a framework for evaluating needs, identifying solutions, and supporting a balanced, multimodal transportation network. These concepts, along with each phase of the project development process, are described in greater detail in the sections that follow.

The initial approach to project development included the following phases:

- Established an inventory of existing facilities and conditions.
- Developed a multimodal functional classification system.
- Adopted new multimodal performance standards.
- Identified system gaps and needs using performance standards and the functional classification.
- Identified priority focus areas using key destinations.
- Filtered system deficiencies by priority/non-priority focus areas.
- Developed projects to fill gaps in the priority focus areas along significant routes.

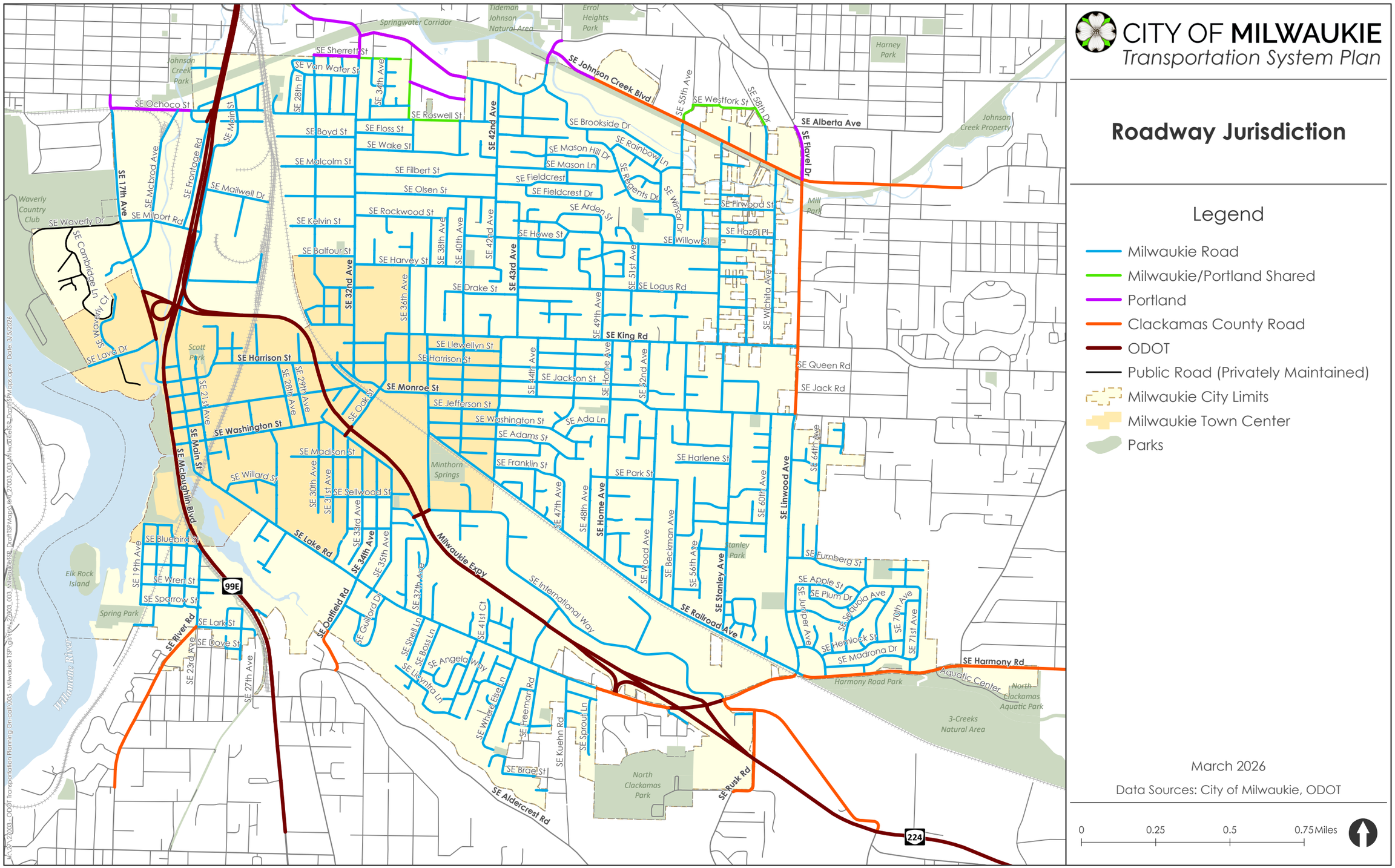
EXISTING CONDITIONS AND ROADWAY JURISDICTION

The first step in project development was establishing a comprehensive understanding of the existing transportation system. This began by assembling and verifying local and regional system inventories (see ***Volume II, Appendix D*** for complete inventories). To supplement these datasets, city staff and members of the TSP Advisory Committee collected additional data, particularly on sidewalk conditions, to support a detailed assessment of the Pedestrian Level of Traffic Stress (discussed more below).

It's important to recognize that although the city owns and maintains most roadways within its limits, several major corridors are owned and maintained by other governmental agencies, such as Clackamas County and the Oregon Department of Transportation. While the city coordinates with county, state, and local partners on the operation, design, and maintenance of these non-city-owned facilities, each jurisdiction follows its own design guidelines and operational standards.

Even without direct control, the city plans for these facilities in the 2045 TSP because they play a critical role in citywide and regional mobility. ***Figure 5-1*** illustrates roadway and path ownership in Milwaukie. Where designations or projects are proposed in this plan on non-city-owned facilities, the city has used symbology or language to indicate "other" ownership.

Figure 5-1. Roadway Jurisdiction Map



EXPANDING THE FUNCTIONAL CLASSIFICATION SYSTEM

With a clear understanding of existing conditions in place, the next step was to look forward and define how the transportation network is intended to function in the future. The multimodal functional classification system provides this forward-looking structure, establishing the role each facility should play within the network.

While the city had long maintained a classification system for its motor vehicle system, organizing the roadway network into a hierarchy of facilities, it had not previously applied this structure to pedestrian, bicycle, transit, or freight networks. Identifying a classification for each mode better reflects the unique needs of each mode and ensures that their infrastructure is considered with the same level of intentionality and priority as vehicular infrastructure. For example, cyclists and pedestrians can and do leverage different facilities, such as off-street trails, pathways, and plazas; additionally, they are generally considered to be more sensitive to out-of-direction travel, grade changes, and the surrounding land-use and transportation context.

The new multimodal functional classification identifies key corridors for each travel mode and provides guidance for facility development, including the primary role of the facility within the larger network, how it supports adjacent land-uses, the volume of expected users, how conflicts with other facility elements might be handled, and the target level of traffic stress (discussed more later in this chapter).

The functional classification system played a central role in project identification. Projects were primarily identified along higher-classification pedestrian and bicycle facilities, reflecting their importance as the backbones of these systems. The functional classification system will also be used through the city's development review process and associated land-use planning projects, such as area plans, corridor plans, and zoning amendments.

Classification designations don't specify specific treatments or designs but will signal to staff what role the facility is intended to play within the modal network. Consequently, staff should be better able to avoid potential modal conflicts, consider the impact that new development might have on the network, and determine appropriate dedications and public improvement requirements.











Pedestrian Classification Hierarchy and Descriptions

The pedestrian classification is broken into the following categories: major city walkway; city walkway; neighborhood walkway; and local service walkway.

Major City Walkway

Major City Walkways provide safe, convenient, and attractive pedestrian accommodations along major streets and trails with the highest level of pedestrian activity supported by current and planned land uses. These include streets in Milwaukie's 2040 Town Center, streets with frequent-transit lines, and high-demand off-street trails like the Trolley Trail. Major City Walkways can also be routes providing continuous pedestrian connections across the city.

- **Land Use**: Major City Walkways generally serve areas in Milwaukie's Region 2040 Town Center, where land is zoned for high density residential, commercial, and mixed-use development, but also run along major streets through predominantly low-density residential areas. Where auto-oriented land uses are allowed on Major City Walkways, site development standards should address the needs of pedestrians for access.
- **Improvements**: Major City Walkways should have regularly spaced marked crossings (with closer spacing in the Milwaukie Town Center and in other commercial and mixed-use areas, such as Milwaukie Marketplace). Major City Walkways should have wide sidewalks or separted multi-use pathways, and a pedestrian realm that can accommodate higher volumes of pedestrian activity.
- **Milwaukie Example**: SE 32nd Avenue is an example of a Major City Walkway. It is a street with a frequent transit route (Route 75), has high-density residential uses (Hillside Manor), community service uses (Providence Hospital), and provides access to multiple commercial businesses. It also serves as one of the few continuous north/south connections in the city, connecting SE Harrison Street to SE Johnson Creek Boulevard.

City Walkway

City Walkways provide safe, convenient, and attractive pedestrian access along major streets with moderate levels of pedestrian activity supported by current and planned land uses. These include streets with non-frequent transit lines and streets that provide direct connections between Major City Walkways and key destinations.

- **Land Use**: City Walkways provide access along major streets, connecting residential neighborhoods with low and moderate density development to Major City Walkways, Neighborhood Hubs, schools, and other local key destinations.
- **Improvements**: City Walkways should have regularly spaced marked crossings (with closer spacing in commercial and mixed-use areas), sidewalks or separted multi-use pathways, and a pedestrian realm that can accommodate moderate levels of pedestrian activity.
- **Milwaukie Example**: SE International Way is an example of a City Walkway. It provides access to various businesses, connects two proposed Major City Walkways (SE 37th Avenue and SE Lake Road) and is a street with a transit line (Route 152). SE International Way runs through exclusively commercial and industrial land uses and sees moderate pedestrian activity (likely due to the auto-oriented nature of development).

Neighborhood Walkway

Neighborhood Walkways provide safe and convenient connections from residential neighborhoods to Major City Walkways, City Walkways, and nearby key destinations such as schools, parks, and Neighborhood Hubs. Neighborhood Walkways are primarily routes that have low levels of motor vehicle traffic or do not allow motor vehicle traffic.

- **Land Use**: Neighborhood Walkways are usually located in residential or natural areas on low-volume streets or connections that do not allow motor vehicles.
- **Improvements**: Neighborhood Walkways should be designed to provide a safe and comfortable walking environment but may take many forms depending on the context. Design types may include sidewalks, shoulders, shared streets, woonerfs, pedestrian-only paths, multi-use paths, soft-surface trails, and ramps/stairs.
- **Milwaukie Example**: SE Roswell Street is an example of a Neighborhood Walkway. It is primarily serving neighborhood residents and acts as a critical connector to a school (Ardenwald Elementary).

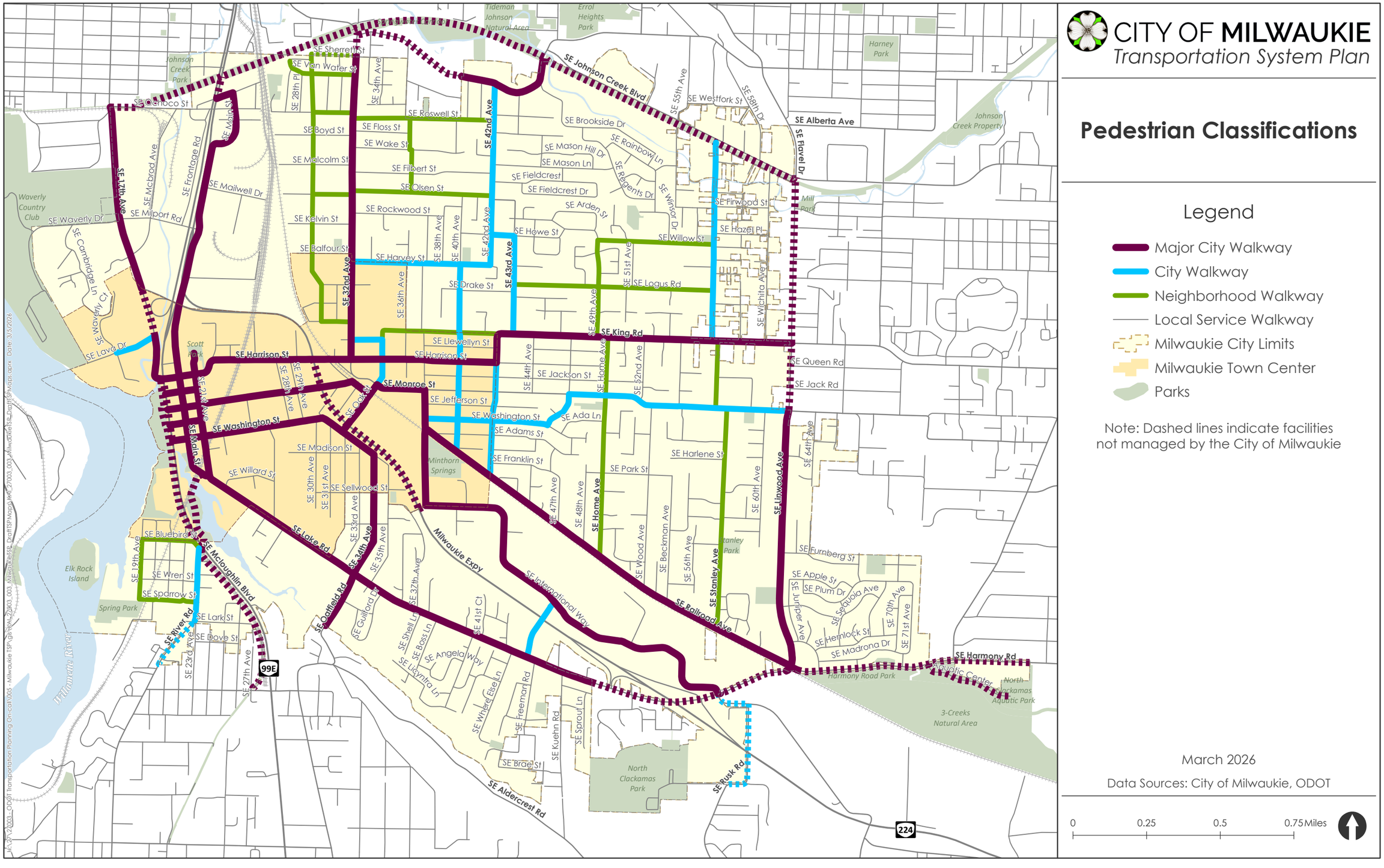
Local Service Walkway

Local Service Walkways provide the local circulation needs for pedestrians and provide safe and convenient access to local destinations.

- **Land Use**: Local Service Walkways support all land uses by providing direct access to properties.
- **Improvements**: Local Service Walkways should be designed to provide a safe and comfortable walking environment but may take many forms depending on the context. Design types may include sidewalks, shoulders, shared streets, woonerfs, pedestrian-only paths, multi-use paths, soft-surface trails, and ramps/stairs. Some local service walkways may remain unimproved.
- **Milwaukie Example**: Local service walkways are any street/route not designated as a Major City Walkway, City Walkway, or Neighborhood Walkway.



Figure 5-2. Pedestrian Classification Map



Bicycle Classification Hierarchy and Descriptions

The bicycle classification is broken into the following categories: major city bikeway; city bikeway; neighborhood bikeway; and local service bikeway.

Major City Bikeway

Major City Bikeways are the foundation of Milwaukie's bicycle network, accommodate higher volumes of bicycle traffic, and generally provide continuous routes through the city for cyclists traveling longer distances. Major City Bikeways connect cyclists to City Bikeways, Neighborhood Bikeways, and generally connect to regional bicycle facilities.

- **Land Use**: Major City Bikeways support a variety of land-use types. Where appropriate, development standards should preserve the functionality of the facility to maintain safe and comfortable conditions for high volumes of cyclists.
- **Improvements**: Major City Bikeways should be designed to accommodate larger numbers of cyclists, maximize their comfort, and minimize delays. Motor vehicle lanes and possibly on-street parking may be removed on Major City Bikeways to provide added width for buffered bike lanes or separated multiuse pathways where compatible with adjacent land uses. Where improvements to the bicycling environment are needed but the ability to reallocate road space is limited, consider alternative approaches that include property acquisition, or dedication, parallel routes and/or less desirable facilities.
- **Milwaukie Example**: SE Linwood Avenue's multiuse pathways are an example of a Major City Bikeway. It serves as a continuous comfortable connection through the city and connects Portland, Milwaukie, and Clackamas. Moreover, the two separated pathways, each over 10 ft wide, are designed to accommodate many cyclists and to maximize their comfort (the pathways are raised and separated from automobile traffic by a curb and landscape buffer).

City Bikeway

City Bikeways establish direct and convenient bicycle access between key destinations within Milwaukie and between Major City Bikeways. City Bikeways accommodate higher volumes of cyclists and connect cyclists across longer distances than neighborhood bikeways.

- **Land Use**: City Bikeways support a variety of land-use types. Where appropriate, development standards should preserve the functionality of the facility to maintain safe and comfortable conditions for high volumes of cyclists.
- **Improvements**: City Bikeways should also be designed to accommodate large numbers of cyclists, to maximize their comfort and to minimize delays. Motor vehicle lanes and possibly on-street parking may be removed from City Bikeways to provide needed width for bike lanes or separated multiuse pathways where compatible with adjacent land uses and only after taking into consideration the essential movement of all modes. Where improvements to the bicycling environment are needed but the ability to reallocate road space is limited, consider alternative approaches that include property acquisition, or dedication, parallel routes and/or less desirable facilities. City Bikeways developed as shared roadways use all appropriate tools to achieve Bicycle Level of Traffic Stress 1.
- **Milwaukie Example**: SE Stanley Avenue is an example of a City Bikeway. It serves as a direct and comfortable connection between a Major City Bikeways (Springwater Corridor Trail) and established residential neighborhoods.

Neighborhood Bikeway

Neighborhood Bikeways provide connections from residential neighborhoods to Major City Bikeways, City Bikeways, and nearby destinations such as schools, parks, transit stops, and commercial areas.

- **Land Use**: Neighborhood Bikeways are usually supported by low and moderate density residential development.
- **Improvements**: Neighborhood Bikeways should be designed to provide a safe and comfortable cycling environment but may take many forms depending on the context. Design types may include minimal treatments, signage and markings, or may be a shared road environment that utilizes significant traffic calming and operation management strategies. Separated facilities are generally not provided on Neighborhood Bikeways.
- **Milwaukie Example**: SE Logus Road is an example of a Neighborhood Bikeway. It connects two City Bikeways (SE 43rd Avenue and Stanley Avenue) and connects nearby properties to a school (Lewelling Elementary).

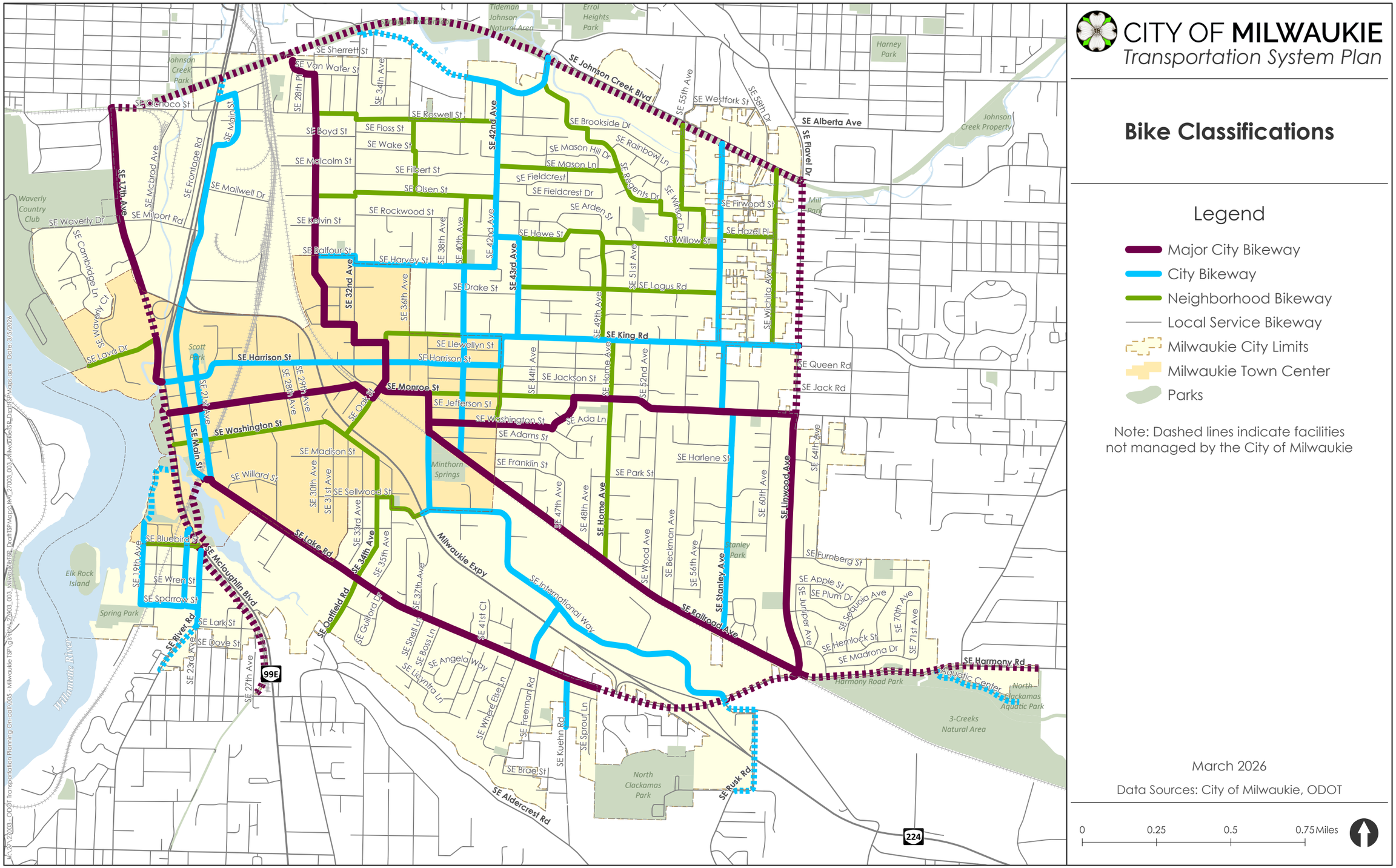
Local Service Bikeway

Local Service Bikeways serve local circulation needs for bicyclists and provide access to adjacent properties. Streets that are not classified as Major City Bikeways, Neighborhood Bikeways, or City Bikeways are classified as a Local Service Bikeway.

- **Land Use**: Local Service Bikeways support all land uses by providing direct access to properties.
- **Improvements**: Consider the following design treatments for Local Service Bikeways: shared roadways, traffic calming, bicycle lanes, and extra-wide curb lanes. Crossings of Local Service Bikeways with other rights-of-way should minimize conflicts. On-street parking on Local Service Bikeways should not be removed to provide bicycle lanes.
- **Milwaukie Example**: As noted, local service bikeways are any street/route not designated as a Major City Bikeways, City Bikeways, or Neighborhood Bikeways.



Figure 5-3. Bike Classification Map



Transit Classification Hierarchy and Descriptions

The transit classification is broken into the following categories: regional transitway; major transit priority street; transit access street; and local service transit street.

Regional Transitway

Regional Transitways facilitate regional transit trips with fast and reliable service over long distances, operating in right-of-way that is either reserved exclusively for transit use or enhanced for high-capacity transit accommodations.

- **Land Use**: Land near Regional Transitways is typically zoned for major regional attractions, high-density residential and mixed-use development. Auto-oriented development is discouraged at or near Regional Transitway stops.
- **Improvements**: Use transit-preferential treatments to facilitate fast and reliable transit operations. Provide signal preemption or transit signal priority at major intersections, prioritize transit stations or transit lanes over on-street parking, and provide enough lane width to accommodate standard transit vehicles.
- **Milwaukie Example**: The MAX Light Rail Orange Line is currently the only example of a Regional Transitway in Milwaukie. However, Metro's High Capacity Transit Strategy identifies two routes through the city that would possibly warrant reclassifying those facilities as Regional Transitways.

Major Transit Priority Street:

Major Transit Priority Streets facilitate the frequent and reliable movement of transit vehicles that connect the Milwaukie Town Center to adjacent communities and other key destinations. Major Transit Priority Streets have frequent service or are expected to receive that level of service in the future to support envisioned growth.

- **Land Use**: Transit-oriented land uses are encouraged along Major Transit Priority Streets, particularly in the Milwaukie Town Center. Auto-oriented development is typically discouraged from locating on a Major Transit Priority Street.
- **Improvements**: Use transit-preferential treatments such as signal preemption or transit signal priority at major intersections, prioritize transit stops or transit lanes over on-street parking, and provide enough lane width to accommodate standard transit vehicles.
- **Milwaukie Example**: SE King Road and SE Harrison Streets are examples of a Major Transit Priority Street. Both accommodate frequent Bus Routes (service offered every 15 minutes) that connect the Milwaukie Town Center to regional destinations.

Transit Access Street

Transit Access Streets facilitate the movement of transit vehicles connecting Downtown Milwaukie with neighborhoods, industrial and employment areas with other destinations and other transit service.

- **Land Use**: Pedestrian-oriented development and accommodations are encouraged in commercial, institutional, mixed-use, and industrial areas along Transit Access Streets.
- **Improvements**: Provide transit signal priority as needed at major intersections and prioritize transit stops over on-street parking. Provide sufficient lane width to accommodate standard transit vehicles where appropriate, taking into account other street classifications.
- **Milwaukie Example**: SE Lake Road and SE International Way are examples of Transit Access Streets. These routes have transit service that provides a connection between Milwaukie Town Center, employment, and residential areas.

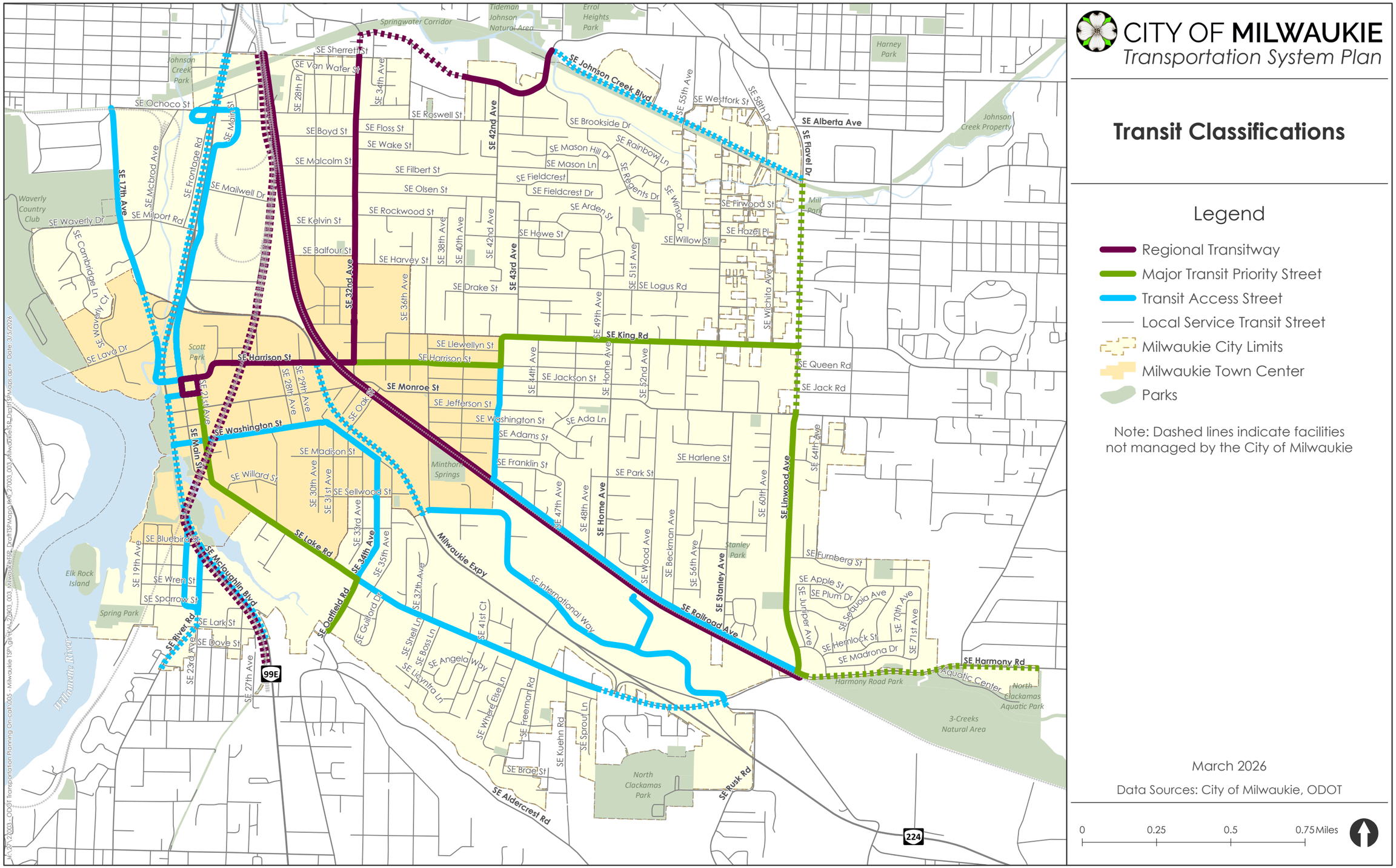
Local Service Transit Street

Local Service Transit Streets primarily facilitate movement of smaller transit vehicles, including paratransit and community/jobs connector shuttles. Local Service Transit Streets seldom have regular transit service except for short street segments and do not typically include transit specific street design elements such as bus stops.

- **Land Use**: Transit operations on Local Service Transit Streets should give preference to access for individual properties and to the specific needs of property owners and residents along the street.
- **Improvements**: There typically are no special design treatments for transit vehicles.
- **Milwaukie Example**: Local Service Transit Streets is any street not classified as a Regional Transitways, Major Transit Priority Streets, or Transit Access Streets.



Figure 5-4. Transit Classification Map



Truck Freight Classification Hierarchy and Descriptions

The transit classification is broken into the following categories: Regional Truckway; Priority Truck Street; Truck Access Street; and Local Service Truck Street.

Regional Truckway

Regional Truckways accommodate the continuous and regional flow of truck freight through the city.

- **Land Use**: Serve regional freight needs along major highway corridors.
- **Improvements**: Regional Truckways are limited access facilities designed to accommodate the movement of all types and sizes of trucks.
- **Milwaukie Example**: Milwaukie Expressway (OR 224) is an example of a Regional Truckway. It is a major vehicular oriented highway corridor with limited access that provides a continuous high-capacity freight route through Milwaukie.

Priority Truck Street

Priority Truck Streets serve as the primary travel routes for local truck freight, connecting freight-generating land uses to Regional Truckways.

- **Land Use**: Support industrial and employment uses that generate high truck activity on corridors served by Priority Truck Streets.
- **Improvements**: Priority Truck Streets are designed to accommodate most truck classes. Buffer adjacent residential uses from noise impacts, where warranted.
- **Milwaukie Example**: SE 17th Avenue is an example of a Priority Truck Street. It is a key roadway that connects freight-generating land uses to Regional Truckways.



Truck Access Street

Truck Access Streets serve as the primary local access corridors for industrial and other freight-generating land uses.

- **Land Use**: Support industrial and commercial land uses that generate moderate to high volumes of truck trips.
- **Improvements**: Priority Truck Streets are designed to accommodate most truck classes in balance with other modal needs.
- **Milwaukie Example**: SE International Way is an example of a Truck Access Street. It is a key roadway that directly serves a variety of industrial and commercial uses.

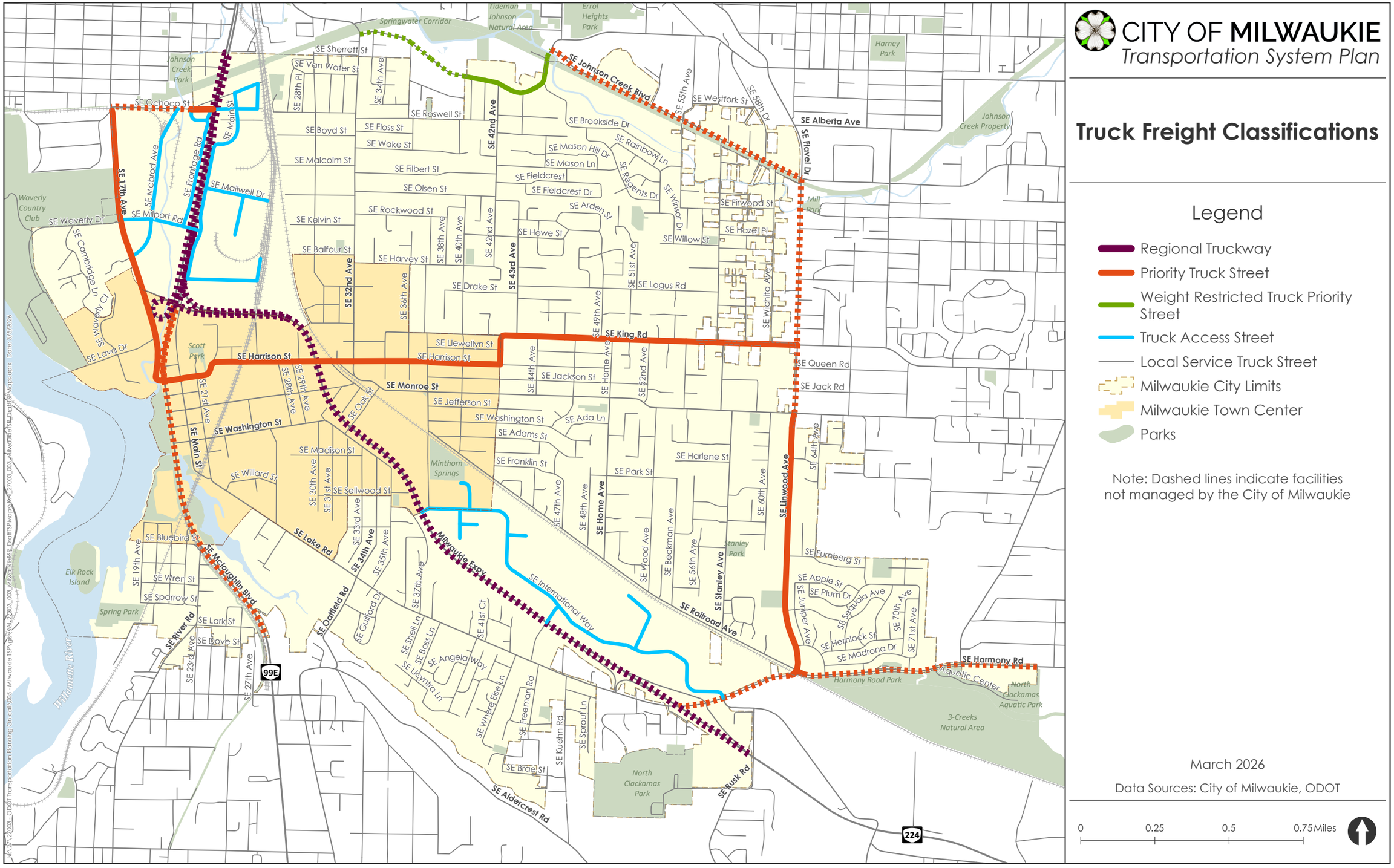
Local Service Truck Street

Local Service Truck Streets serve local truck circulation and access.

- **Land Use**: Local Service Truck Streets provide for goods and service delivery to individual commercial, employment, and residential land uses outside of industrial area.
- **Improvements**: Local Service Truck Streets should give preference to accessing individual properties and the specific needs of property owners and residents along the street.
- **Milwaukie Example**: Local Service Truck Streets are any street/route not designated as a Regional Truckway, Priority Truck Street, or Truck Access Street.



Figure 5-5. Truck Freight Classification Map



Roadway Classification Hierarchy and Descriptions

The roadway classification is broken into the following categories: Through Movement Priority Arterial, Local Access Arterial, Multimodal Travel Priority Arterial, Collector, Neighborhood Routes, and Local Street.

Through Movement Priority Arterial

Through Movement Priority Arterial segments prioritize the efficient movement of traffic over longer distances, with limited interruptions and access points. Through Movement Priority Arterials will generally limit access to limited intersections with the street network and support safe speeds.

- **Land Use**: Adjacent land uses typically are adjacent to longer block structures and do not have land use frontages facing the Through Movement Priority Arterial. A vegetative or other buffer may exist between the adjacent land use and roadway. They support a variety of land-use types including industrial, regional commercial centers, employment hubs, and large institutional sites that benefit from visibility but can buffer noise and traffic. Development standards require direct access to lower-classification streets so that access to the Through Movement Priority Arterial only occurs at key nodes.
- **Improvements**: Considers the following design treatments: coordinated signal timing, access management, medians, and enhanced pedestrian crossings at key nodes.
- **Milwaukie Example**: Milwaukie Expressway (OR 224) is an example of a Through Movement Priority Arterial, as it has limited access points, carries higher traffic volumes, and focuses more on accommodating regional through demand.

Multimodal Travel Priority Arterial

Multimodal Travel Priority Arterial segments are primarily, but not exclusively, located within or adjacent to Climate-Friendly Areas and prioritize high-quality, complete, connected facilities for people walking, bicycling, and using public transit.

- **Land Use**: Land uses are similar to those for Local Access Arterials but with higher densities such as the Milwaukie Town Center. Land uses also may be more transit oriented.
- **Improvements**: Considers the following design treatments: regular pedestrian crossings, streetscape improvements, medians or center turn lanes, driveway consolidation, and pedestrian-scale lighting to maintain accessibility and comfort.
- **Milwaukie Example**: SE King Road is an example of a Multimodal Travel Priority Arterial. It has moderate speeds for vehicles and includes enhanced crossings and will include on-street bike/ped pathways to provide high-quality, comfortable connections for people walking and biking.



Local Access Priority Arterial

Local Access Priority Arterial segments are roadways that prioritize direct access to properties and local street connections, balancing mobility with community accessibility and livability. Local Access Priority Arterials generally allow for more access from properties, more opportunities to make turns, more frequent intersections with other streets, and slower speeds.

- **Land Use**: Local Access Arterials support a mix of land uses, including commercial, institutional, and residential that may front connecting roadways or may front the Local Access Arterial directly.
- **Improvements**: Considers the following design treatments: regular pedestrian crossings, medians or center turn lanes, driveway consolidation, and pedestrian-scale lighting to maintain accessibility and comfort.
- **Milwaukie Example**: SE River Road south of OR 99E is an example of a Local Access Arterial, as it balances mobility with local access.

Collector

Collectors provide a link between neighborhood or local streets and arterials, balancing mobility and local access for all modes. They are slower and more access focused than arterials.

- **Land Use**: Support a mix of land uses, often transitioning between commercial and residential.
- **Improvements**: Considers the following design treatments: streetscape improvements, driveway consolidation, and multimodal accommodations.
- **Milwaukie Example**: SE 32nd Avenue is an example of a collector. Regular striped crosswalks keep speeds low and improve safety and access for active modes.

Neighborhood Route

Provides direct circulation within residential areas and links homes to collectors, with low speeds and an emphasis on livability.

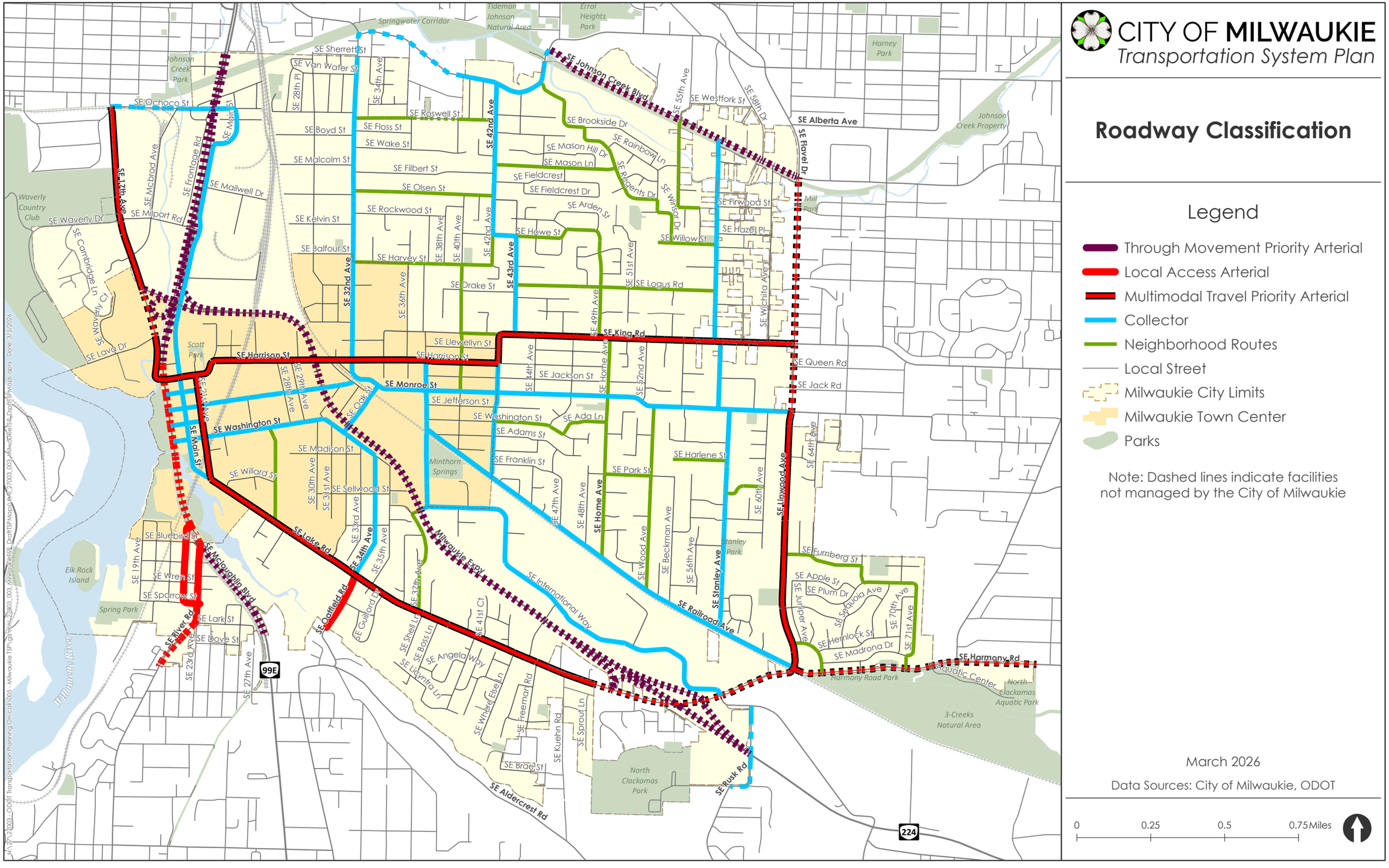
- **Land Use**: Support established residential neighborhoods, schools, parks, and neighborhood hubs. Land uses are generally low- to medium-density housing with occasional community destinations such as churches or small retail spots. Driveway access is common, but clustering driveways or using shared access is preferred to reduce conflicts.
- **Improvements**: Considers traffic-calming elements to maintain moderate speeds (e.g., speed cushions, curb extensions), shared travel lanes for bikes, well-marked crosswalks near schools and parks, street trees for shade, lighting, and wayfinding signage.
- **Milwaukie Example**: SE Logus Road is an example of a Neighborhood Route. It has low speeds and volumes while also providing connectivity to and from Local Streets.

Local Street

Local Streets primarily serve access to individual properties and carry very low traffic volumes. Streets are very low speed, focused on supporting community livability, and shared for all modes, prioritizing pedestrians and cyclists.

- **Land Use**: Local Streets typically support residential land uses, typically with closely spaced driveways and intersections.
- **Improvements**: Considers the following design treatments: narrow streets, on-street parking, no striped centerline, and traffic diverters.
- **Milwaukie Example**: SE Malcolm Street, SE Arden Street, SE Jackson Street, SE Franklin Streets, and SE Boss Lane are all examples of Local Streets.

Figure 5-6. Roadway Classification Map



ADOPTING NEW PERFORMANCE STANDARDS

Performance standards have long been part of Milwaukie's transportation planning framework; however, they previously focused entirely on automobile mobility and congestion. The Transportation Planning Rule now requires jurisdictions to adopt at least one standard that increases transportation options and avoids principal reliance on the automobile. In response, Milwaukie is introducing new performance standards that assess comfort for cyclists and pedestrians.

The city's multimodal performance standards mark a shift toward a more balanced and sustainable transportation system. While the city has retained a vehicular Level of Service (LOS) measure for continuity, the introduction of Bicycle and Pedestrian Level of Traffic Stress metrics represents a more holistic approach to system performance. These measures align with regional efforts to reduce greenhouse gas emissions under Metro's Climate Smart Strategy and advance local goals for safety, livability, and equity.

Bicycle and Pedestrian Level of Traffic Stress

Level of Traffic Stress is a way to measure how comfortable and safe a road, sidewalk, multiuse path, or bike lane feels for people walking and biking. It ranges from low-stress routes (Level of Traffic Stress 1) suitable for people of all ages and abilities, including children, to high-stress roads (Level of Traffic Stress 4) that only a small number of people would feel safe using. The city uses Level of Traffic Stress methodology adopted by the Oregon Department of Transportation.[1] The measurement uses two key sets of inputs to evaluate the level of stress: physical attributes of the user facility and the adjacent transportation context.

1. **Example facility characteristics:** Pavement condition, lane or sidewalk width, presence of a physical buffer (vegetation or bollards), intersection treatments.
2. **Example transportation context:** How much traffic is there on the roadway adjacent to the user facility (sidewalk, pathway, bike lane) and how fast automobiles are traveling.

The adopted performance standards, related TSP goals, and project priorities are summarized in ***Table 5-1*** and discussed more in ***Chapter 6***. While the city initially considered adopting single citywide mode-specific level of traffic stress (Pedestrian Level of Traffic Stress and Bicycle Level of Traffic Stress) standards, the introduction of a functional classification system clarifies which routes are most critical for bicycle and pedestrian travel, allowing the city to assign different stress targets based on classification. While Level of Traffic Stress 1 is the threshold for all bicycle facilities and is the ideal threshold for all pedestrian facilities, Pedestrian Level of Traffic Stress 2 has been identified as the design threshold for most pedestrian facilities based on the understanding that as an older and urbanized city, constraints make achieving Pedestrian Level of Traffic Stress 1 unrealistic in many contexts.

The new performance standards were essential for identifying projects. The city evaluated bicycle and pedestrian facilities within priority focus areas—the locations where multimodal access is most critical—against the minimum Level of Traffic Stress thresholds. Facilities that did not meet the threshold within these areas were defined as gaps. Projects proposed in ***Chapter 7*** are specifically designed to eliminate these gaps and bring facilities up to the required minimum Level of Traffic Stress threshold.

1 *Methodology can be found in ODOT's Analysis and Procedures Manual: Chapter 14 Multimodal Analysis:* https://www.oregon.gov/odot/Planning/Documents/APMv2_Ch14.pdf

Table 5-1. Milwaukie Performance Standards and Thresholds

PERFORMANCE STANDARD AND THRESHOLD	RELEVANT GOALS
Pedestrian Level of Traffic Stress: • Pedestrian Level of Traffic Stress 1 for Major City Walkways (Pedestrian Level of Traffic Stress 2 acceptable in constrained environments) • Pedestrian Level of Traffic Stress 2 for Neighborhood Walkways and Local Service Walkways	Climate Mitigation and Adaptation
	Healthy Environment
	Mobility, Accessibility, and Connectivity
	Active, Healthy, Transportation Choices
	Economic Vitality
	Safe System
Bicycle Level of Traffic Stress: Bicycle Level of Traffic Stress 1 for all classifications (Bicycle Level of Traffic Stress 2 acceptable in constrained environments)	Climate Mitigation and Adaptation
	Healthy Environment
	Mobility, Accessibility, and Connectivity
	Active, Healthy, Transportation Choices
	Economic Vitality
	Safe System
Level of Service: See Public Works Standards for additional context and details	Mobility, Accessibility, and Connectivity
	Economic Vitality
	Safe System

KEY DESTINATIONS AND PRIORITY FOCUS AREAS

While the multimodal functional classification system identifies the key corridors and routes that form the backbone of Milwaukie's transportation network, it does not account for how land uses and destinations influence where people most need to travel. To bridge this gap, the city identified priority focus areas, location where multimodal connectivity and community access are most critical.

This process began with developing a list of key destinations, as defined by Oregon's Transportation Planning Rule, which provides guidance on identifying places essential to community access. In Milwaukie, key destinations include schools, Neighborhood Hubs, parks, government facilities, grocery stores, prominent medical centers, major commercial centers. The list also highlights destinations particularly important to underserved populations—such as community centers and affordable housing sites—to ensure equitable access across the city.

To evaluate multimodal access to these destinations, the project team created ¼-mile walking buffers around each key destination. These buffers represent a reasonable walking distance and were used within the pedestrian and bicycle networks. Where multiple buffers overlapped, the overlapping zones highlighted areas within walking or biking distance of several key destinations.

These overlapping zones were designated as priority focus areas. Together with the multimodal functional classification, they help the city refine investment priorities—pinpointing the highest-value areas along key corridors where improvements will most effectively enhance multimodal connectivity, improve safety, and create more comfortable environments for walking and biking.

The following maps show the identified key designations, priority focus areas, and where facilities within those areas fail to meet the city's adopted Level of Traffic Stress targets.





Figure 5-7. Key Destinations

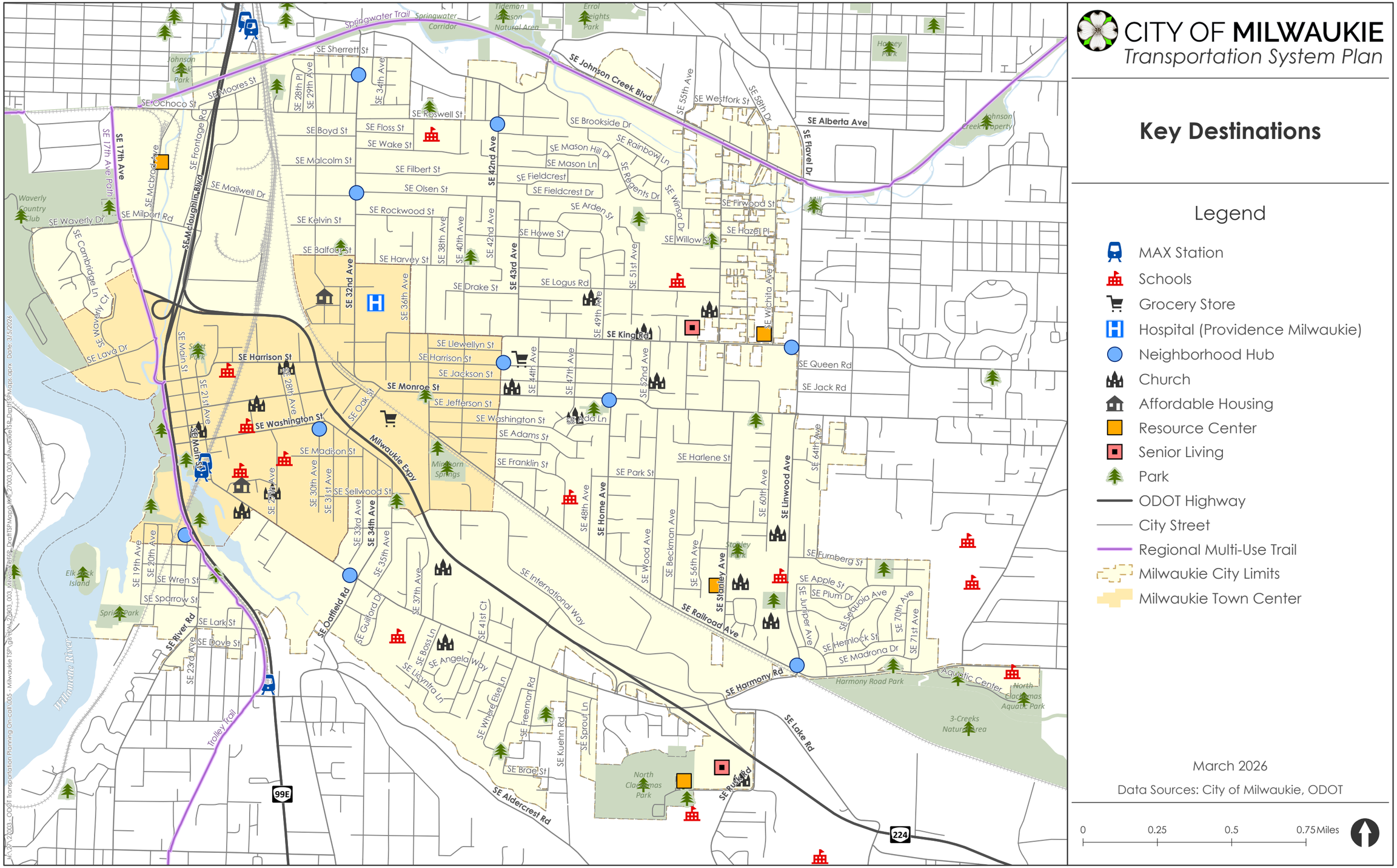


Figure 5-8. Pedestrian Gaps and Deficiencies Priority Focus Areas

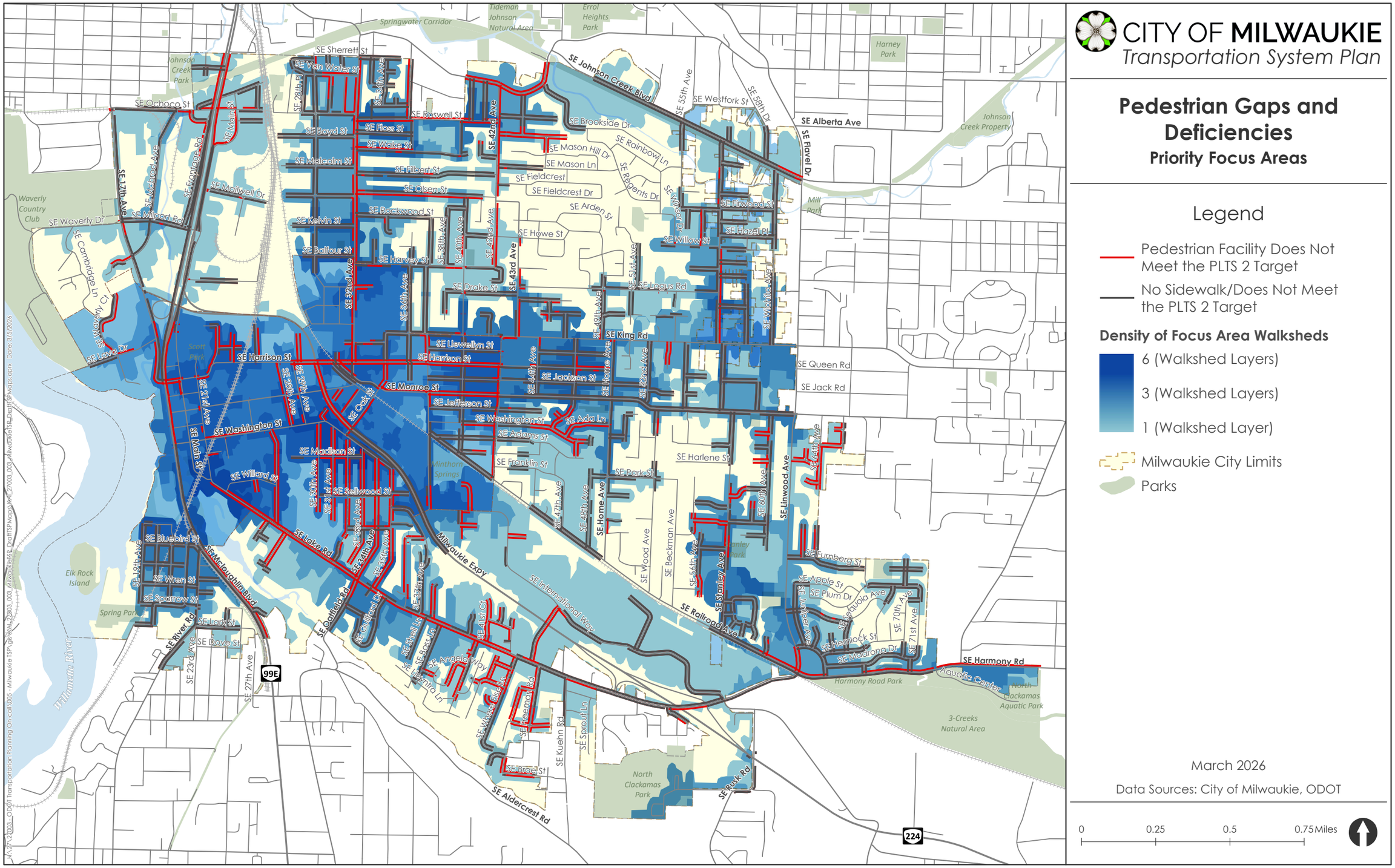
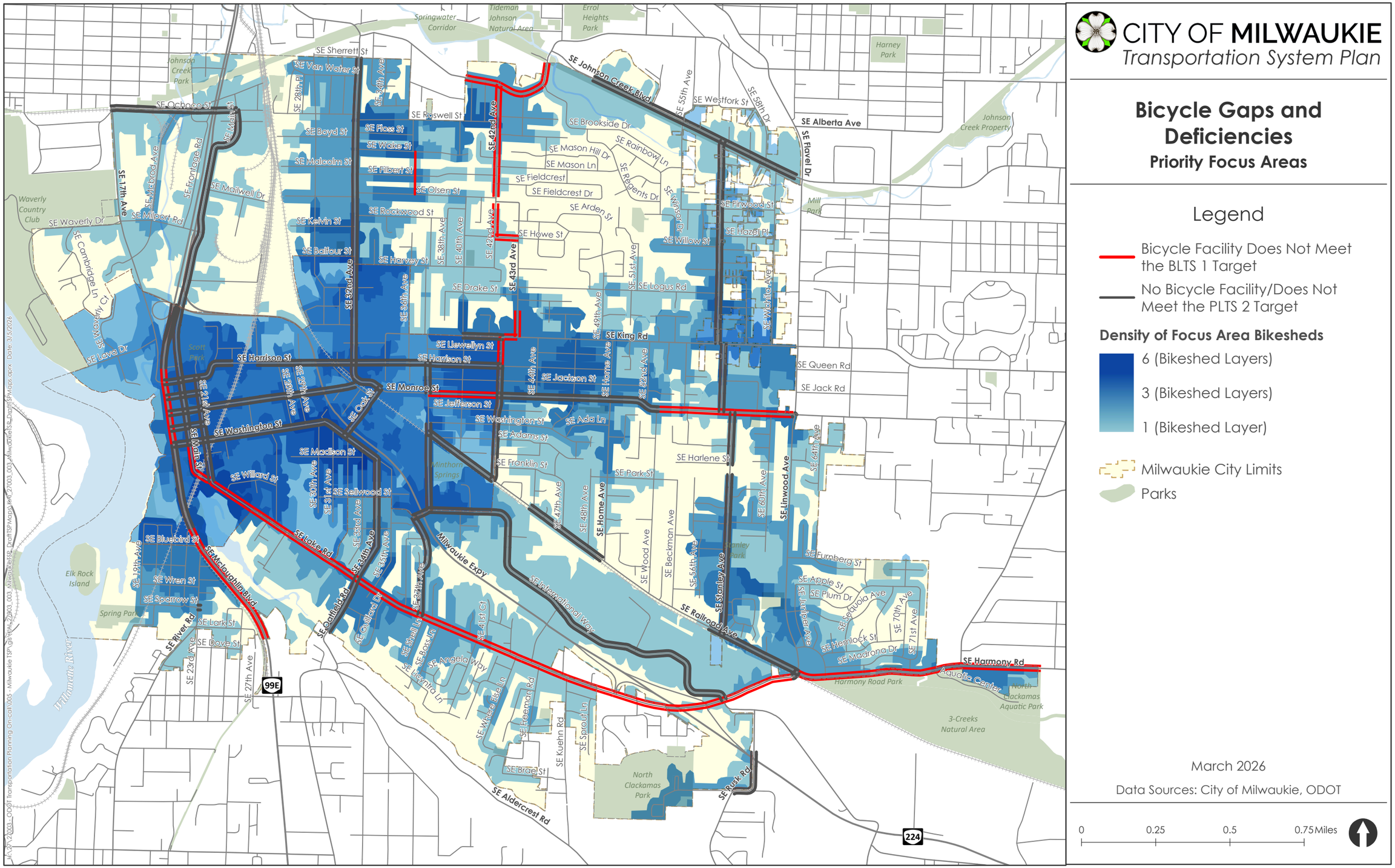


Figure 5-9. Bicycle Gaps and Deficiencies Priority Focus Areas



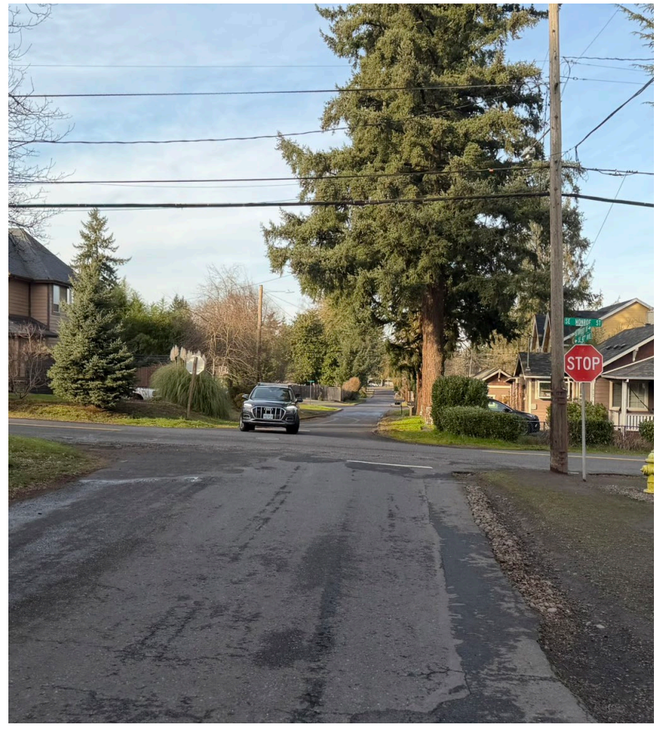
SUMMARIZING THE PROJECT DEVELOPMENT PROCESS

The project identification process brought together several key concepts to establish a clear, data-driven framework for prioritizing multimodal improvements. The existing conditions inventory provided the foundational dataset—such as facility characteristics, traffic volumes, and sidewalk conditions—needed to calculate Bicycle and Pedestrian Level of Traffic Stress. The multimodal functional classification system then established the intended future role of each corridor for every travel mode, clarifying where lower-stress travel is most essential. Priority focus areas further refined this framework by highlighting the parts of the city where multimodal access to key destinations is most critical. Using these components together, the city evaluated bicycle and pedestrian corridors within priority focus areas against the adopted Level of Traffic Stress performance standards. Facilities that did not meet their minimum Level of Traffic Stress target were identified as system gaps. Projects were then developed primarily along higher-classification pedestrian and bicycle corridors within priority focus areas to address those gaps and advance a comfortable, connected, and multimodal network.









CHAPTER 6. DESIGNING OUR STREETS AND PATHWAYS

Milwaukie's street network reflects a long history of development, encompassing both gridded and organic street patterns, improved and unimproved street segments, and corridors improved over time under evolving design standards. As a result, making improvements on Milwaukie's street network requires flexibility in design to accommodate right-of-way limitations, varying land-use contexts, and current expectations for adequately accommodating all users of the transportation system.

To ensure flexibility, the multimodal street network is guided at a policy framework level rather than a detailed design framework. This policy framework starts with the identification of different facility zones that could be accommodated within the public right-of-way. These zones and the street elements that comprise them are outlined below and conceptually illustrated in the following exhibit:

1. Street Zone

The Street Zone supports multiple travel zones and functions including:

a. **Motor Vehicle Zone:** Supports motor vehicle travel, and where appropriate, shared vehicle/bicycle travel

b. **Median Zone:** Where appropriate, supports medians for access management and safety

c. **Bicycle Zone:** Supports on-street bicycling, typically through striped bike lanes

d. **Parking Zone:** Supports on-street parking

2. Green Zone

The Green Zone is a landscaped or hardscaped area that buffers the Street Zone from the Pedestrian Zone. Depending on the land use context and available right-of-way, it can also support stormwater management, transit amenities, street furniture, and utilities.

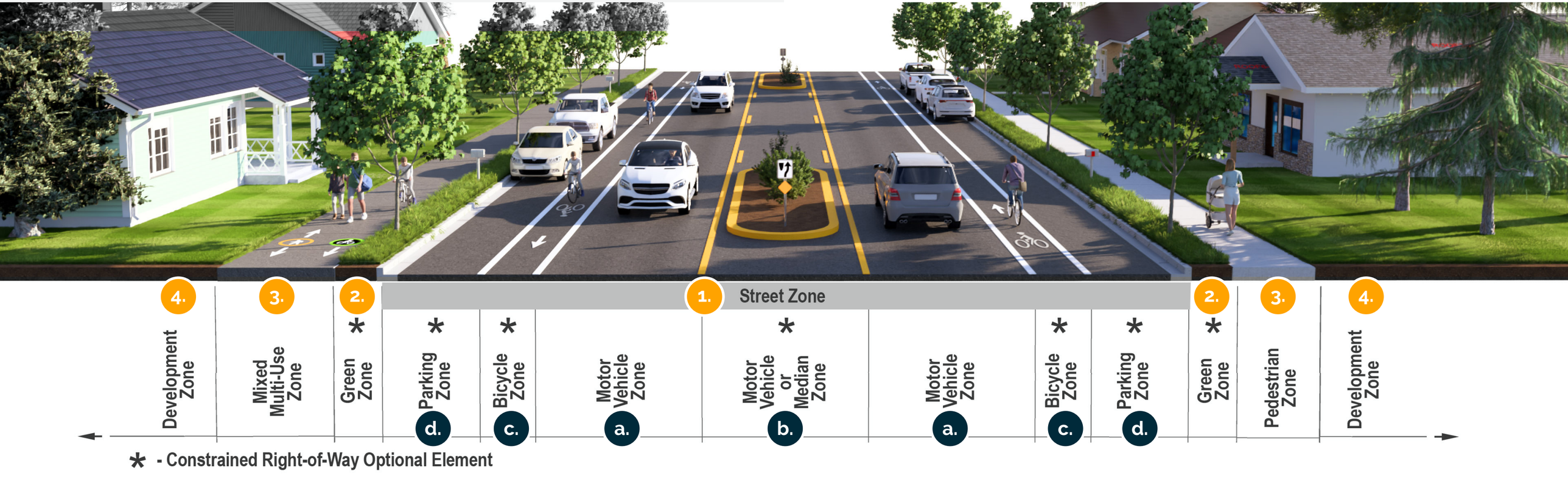
3. Pedestrian/Mixed Multi-Use Zone

The Pedestrian/Mixed Multi-Use Zone supports pedestrian travel. The Pedestrian Zone can vary in width depending on the land use context, and where appropriate, can provide shared bike/ped pathway accommodations.

4. Development Zone

The Development Zone is not in, but adjoins the public right of way (typically the Pedestrian Zone). Access to the Development Zone is almost always through the public right-of-way in the form of a driveway or sidewalk.

The following exhibit conceptually outlines these zones within the City of Milwaukie.



Based on this conceptual framework, the detailed design or modification of a facility occurs through a robust process that includes consideration of the facility's multimodal functional classifications, public engagement, coordination among city departments and partner agencies, and the detailed street design standards contained in the Milwaukie Public Works Standards and Milwaukie Municipal Code.

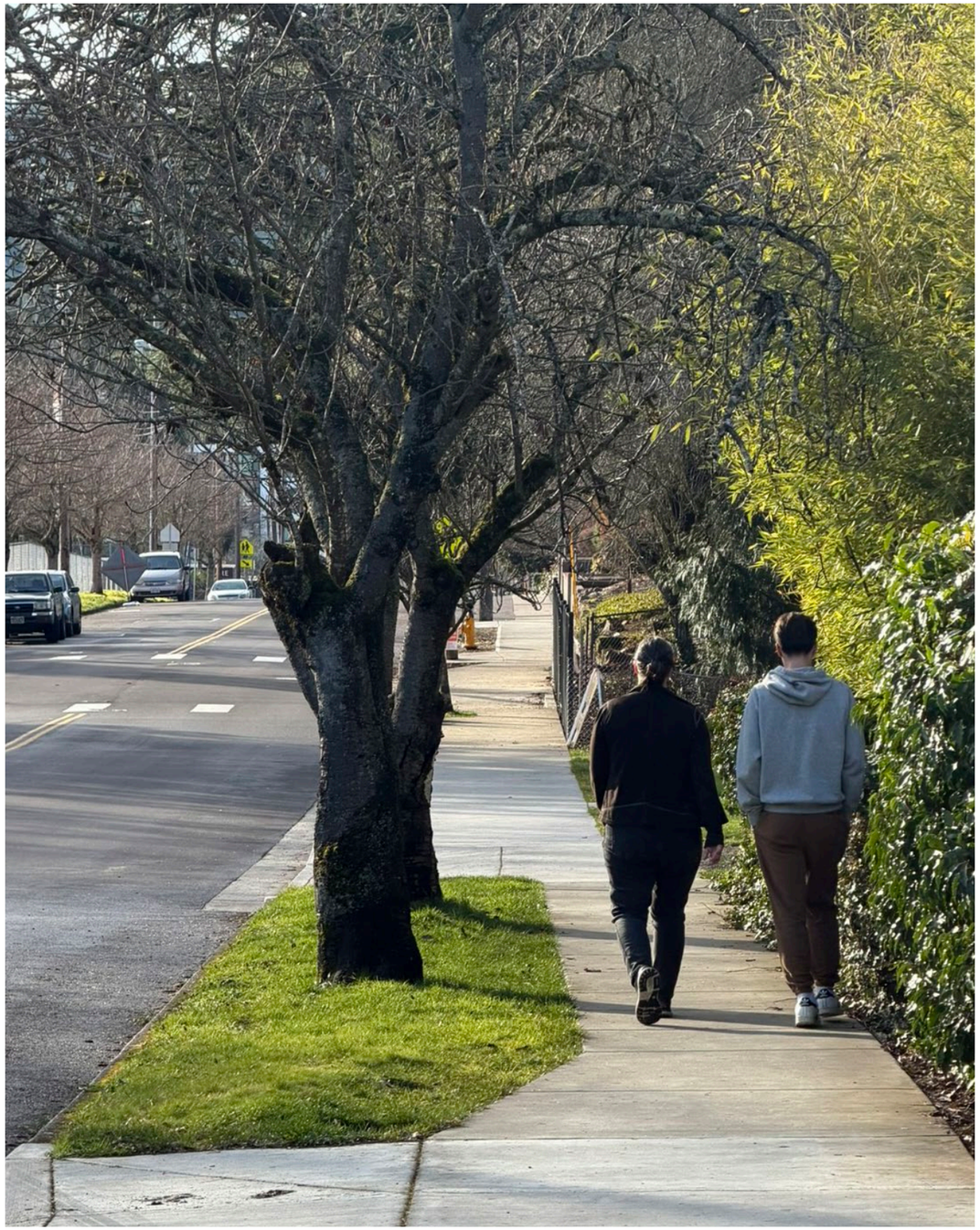
BEST PRACTICES AND DESIGN GUIDANCE

Roadway designers use several best-practice guidance manuals when designing transportation facilities. For example, generations of transportation engineers and planners have relied on A Policy on Geometric Design of Highways and Streets published by the American Association of State Highway and Transportation Officials (AASHTO) for guidance on geometric design, speeds, cross sections, alignment, and sight distance.

Over the past two decades, cities across the United States and internationally have developed a growing body of best practices for designing active transportation facilities, operations, and management. These resources—often maintained by professional organizations and government agencies such as the National Association of City Transportation Officials—are continually updated to reflect new research, technologies, and community expectations.

Past iterations of Milwaukie's TSP attempted to capture some of these best practices by including them in the active transportation sections of the TSP; however, as the research and practical experience with these facilities has expanded, it is no longer practical to list every design option in a single document. Instead, when designing facilities, the city will reference a set of nationally and regionally recognized design manuals to guide the application of context-appropriate treatments and innovations. Together, these resources provide up-to-date, evidence-based guidance for designing safe, multimodal, and livable streets that align with Milwaukie's transportation vision.





CHAPTER 7. TRANSPORTATION INVESTMENTS

TRANSPORTATION FUNDING PLAN

This funding plan was developed using historical revenue and expenditure data to forecast how much funding would be available for transportation projects for the 20-year horizon period (2025-2045). The forecasts assume that previous revenue and expenditure trends will continue over the next 20 years.

Table 7-1 summarizes the funding projection, while ***Table 7-2*** summarizes the projected expenses for the 20-Year Planning period.

Based on the estimates, the city is projected to have approximately $22 million available for capital projects over the next 20 years.



Table 7-1. Funding Projection for the 20-Year Planning Period

FUNDING SOURCE	TOTAL
Franchise Revenue	$26,500,000
Inter-governmental Sources	$46,000,000
Investment Earnings	$7,100,000[A]
Charges for Services / Fees	$43,500,000
Miscellaneous / Other	$1,500,000
Total Revenue (Excluding Potential Bonds)	**$124,600,000**

A. Investment earnings are assumed to continue at the same rate, though they may decline as bond funding is used.

Table 7-2. Projected Expenses for the 20-Year Planning Period

EXPENSE	TOTAL
Personnel	$11,800,000
Materials & Services	$11,100,000
Maintenance	$9,200,000
Debt Service	$34,400,000
Transfer to Other Funds	$36,000,000
Total Expenditures (Excluding Capital Investments)	**$102,500,000**

PROJECT PRIORITIZATION

As in most communities, the transportation needs identified through the transportation system planning process in Milwaukie exceed the funding that is reasonably expected to be available over the 20-year planning horizon. This reality makes it essential to prioritize projects to ensure that limited resources are used effectively.

In addition, the Transportation Planning Rule requires jurisdictions to create two prioritized lists of transportation projects:

1. **An unconstrained project list:** A complete list of all identified projects, regardless of funding availability.
2. **A financially constrained project list:** a subset of projects that can reasonably be funded within the 20-year planning period.

To develop these prioritized lists, the city developed a prioritization framework using the goals and policies outlined in ***Chapter 4***. The goals and policies were translated into evaluation criteria, and each criterion was assigned a numerical value. While the complete list of evaluation criteria is provided in ***Volume II, Appendix G***, an example criterion is included in ***Table 7-3*** for reference.

Table 7-3. Evaluation Criteria Example

GOAL STATEMENT	EVALUATION CRITERIA	SCORING KEY	
Safe System: Improve the safety and comfort of the multimodal transportation network	Improve safety on Milwaukie's roadway network	+2	The project is expected to have a positive vehicular safety impact and is at a location with a history of serious vehicle-related injury crashes and fatalities.
		+1	The project is expected to have a positive vehicular safety impact.
		0	The project is expected to have no measurable safety benefit.
	Improve safety for Milwaukie's vulnerable system users, including pedestrians, bicyclists, transit users, and rollers	+2	The project is expected to have a positive multimodal safety impact and is at a location with a history of serious injury crashes and fatalities.
		+1	The project is expected to have a positive multimodal safety impact.
		0	The project is expected to have no measurable safety benefit.

Each project was evaluated against the established criteria and ranked based on its total score. To further refine the prioritization, the initial ranking was divided into several lists: a financially constrained list and unconstrained Tiers I–III. The initial divisions were based on the following factors (see ***Volume II, Appendix H*** for the full prioritization summary):

1. Total score based on the evaluation criteria.
2. Score within each modal category (e.g., pedestrian, bicycle, transit, or vehicle).
3. Staff feedback on factors not represented in the evaluation criteria, such as recently awarded grants or opportunities to coordinate with other planned infrastructure projects.
4. Community input, particularly how often each project was prioritized in the public survey.

Following the initial sorting, the rankings were further refined through review and input from City staff, the Transportation System Plan Advisory Committee, the Technical Committee, the Planning Commission, and the City Council. Particular attention was given to developing the financially constrained list.

Planning-level cost estimates were developed for all projects. To account for potential variations in funding and maintain flexibility in project planning, the financially constrained list was limited to a total project cost not exceeding 125 percent of forecast revenues—approximately $27.5 million.

This framework provides a transparent and consistent approach for assessing and ranking projects and is aligned with the methodology established in Oregon's Transportation Planning Rule.

It is important to note that project sequencing may vary over time. Certain lower-ranked projects may advance sooner due to funding opportunities, partnerships, or coordination with other infrastructure efforts. Additionally, some projects have been intentionally divided into smaller, more manageable components to facilitate implementation, while others may be combined into larger, more comprehensive initiatives where appropriate.

PROJECT LISTS

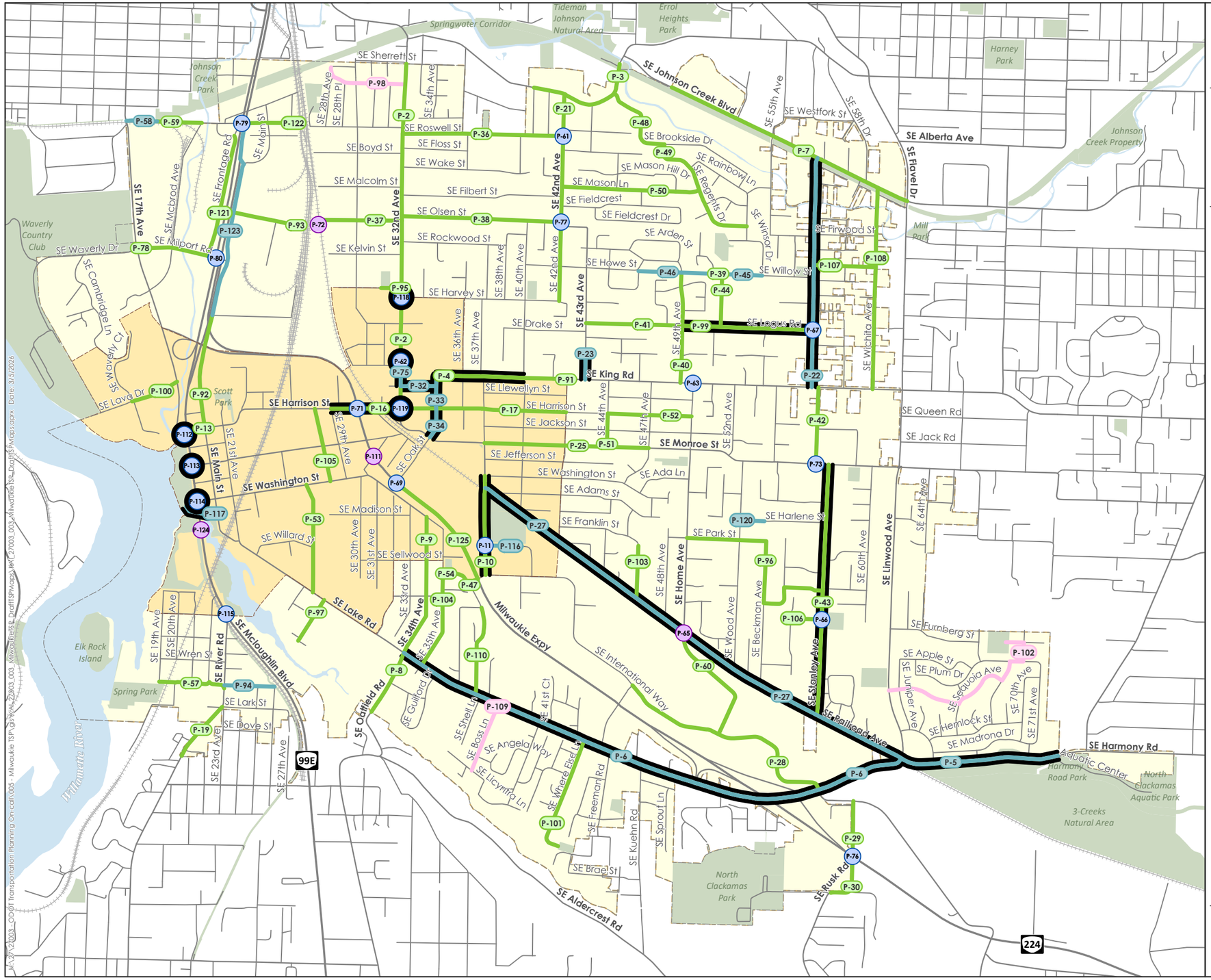
The complete multimodal financially constrained project list is included on the following page (***Table 7-4***). Following this table, projects are separated and presented by mode of travel. For the modal lists, the project's location on the financially constrained or unconstrained list, along with its tier, is noted in the rightmost column.



Table 7-4. Financially Constrained Projects

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE
P-27	SE Railroad Ave	SE 37th Ave	SE Harmony Rd	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$8.9M ($0.03M city match)
P-117	OR 99E	SE Harrison St	Kellow Creek	Construct a new ped/bike pathway under OR 99E at Kellog Creek following dam removal	$0.3M
P-22	SE Stanley Ave	SE Johnson Creek Blvd	SE King Rd	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$1.6M
P-6	SE Lake Rd	SE 34th Ave	SE Harmony Rd	Construct a new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$3.2M
P-119	SE 32nd Ave/SE Harrison St	Intersection	-	Construct ADA accessibility upgrades and signal modifications	$0.1M
P-43	SE Stanley Ave	SE Monroe St	SE Railroad Ave	Fill gaps and construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$1.3M
P-16	SE Harrison St	SE 29th St	SE 32nd Ave	Reconstruct new buffered pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$2.0M
P-99	SE Logus Rd	SE Stanley Ave	SE 43th Ave	Construct new ADA accessibility upgrades at intersection quadrants	$0.8M
P-5	SE Harmony Rd	SE Linwood Ave	Aquatic Center Access Rd	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2. Construct new ADA accessibility upgrades at intersection quadrants	$1.2M
P-62	SE 32nd Ave/SE Meek St	Intersection	-	Install enhanced pedestrian crossing treatment across SE 32nd Ave	$0.2M
P-75	SE 32nd Ave	SE Meek St	SE Llewellyn St	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 1 target	$0.3M
P-32	SE Llewellyn St	SE 32nd Ave	SE 34th Ave	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2	$0.2M
P-33	SE 34th Ave	SE King Rd	SE Harrison St	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2	$0.4M
P-34	SE 34th Ave	SE Harrison St	End of SE 34th Ave	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2. Install an enhanced pedestrian crossing treatment at SE Harrison St	$0.7M
P-4	SE King Rd	SE 34th Ave	SE 40th Ave	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.5M
P-118	32nd Ave/Harvey St	Intersection	-	Construct ADA accessibility upgrades	$0.1M
P-112	OR 99E/SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.5M
P-113	OR 99E/SE Monroe St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.5M
P-114	OR 99E/SE Washington St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.1M
P-10	SE 37th Ave	SE Washington St	SE International Way	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.1M
P-23	SE 43rd Ave	SE King Rd	SE Rhodesa St	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$0.4M
B-24	SE Harrison St	SE 26th Ave	SE 42nd Ave	Stripe/construct bike lanes on both directions, as constraints allow, to achieve BLTS 2 target	$3.4M
B-23	SE Harrison St	OR 99E	SE 24th Ave	Stripe bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$0.1M
B-25	SE King Rd	SE 34th Ave	SE 40th Ave	Install shared lane markings, signage, and traffic calming improvements	$0.1M
B-81	SE 37th Ave	SE International Way	SE Washington St	Install shared roadway lane markings, signage, and traffic calming improvements	$0.1M
B-84	SE Monroe St	SE 37th Ave	SE Garrett Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M
R-24	SE Oak St/SE Railroad Ave/ SE Monroe St	Intersection	-	Coordinate with Clackamas County to identify and implement traffic control revisions	$4.3M
R-3	SE Harrison St/SE 32nd Ave	Intersection	-	Acquire right of way in the southeast quadrant of the intersection as opportunities allow. Modify the north and south SE 32nd Ave approaches to provide separate through and turn lanes.	$1.5M
R-27	Local Streets	-	-	Change the speed zone signing on all local streets to 20 mph	$0.4M
R-28	SE Harrison St	Highway 99E	SE 42nd Ave	Prepare a multimodal safety and infrastructure needs assessment of the Harrison Street corridor focusing on safety improvements, multimodal accommodations, access management, and traffic control.	$0.4M
R-2	OR 224/SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement traffic signal, travel lane, geometric, and multimodal refinements that balance capacity, vehicle queuing, and multimodal safety needs.	$2.1M
R-7	SE Linwood Ave/SE Harmony Road/SE Railroad Ave	Intersection	-	Coordinate with Clackamas County and key local constituents to perform an intersection refinement study. The study will identify traffic control and geometric improvements that will more efficiently accommodate vehicles, freight, transit, pedestrians, bicycles, mobility devices, and the adjacent rail crossing.	$0.6M (city contribution)
R-4	SE King Rd/SE 42nd Ave	Intersection	-	Install permanent access management treatments at the intersection	$0.3M

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.
BLTS: *Bicycle Level of Traffic Stress*
PLTS: *Pedestrian Level of Traffic Stress*



CITY OF **MILWAUKIE**
Transportation System Plan

Pedestrian Projects

Legend

- Pedestrian Project at Intersection
- Grade Separated Crossing Project
- Sidewalk Project
- On-street Bike/Ped Pathway Project
- Shared Roadways
- Tier 1 Financially Constrained
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

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

March 2026

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

Pedestrian Projects

Pedestrian needs in Milwaukie generally fall into five categories:

1. Gaps in the overall sidewalk network.
2. Limited pedestrian connections:
   - To or within the priority focus areas
   - Identified on the pedestrian classification network
3. Sidewalks with obstacles that limit the effective walking space or result in accessibility challenges
4. A lack of connections that are created by barriers such as rail lines or regional highways.
5. A lack of pedestrian facilities comfortable for pedestrians of all ages and abilities.

To address these needs, Milwaukie is planning for a network of connected sidewalk segments, sidewalk enhancements, on-street and off-street multi-use pathways, and enhanced pedestrian crossings at key intersections and mid-block locations. These projects have been developed to enhance the quality of the pedestrian environment and prioritized based on funding limitations, the connections they are making, and the geographic areas they are serving. ***Figure 7-1*** and ***Table 7-5*** detail Milwaukie's planned pedestrian-focused projects.





Figure 7-1. Pedestrian Projects

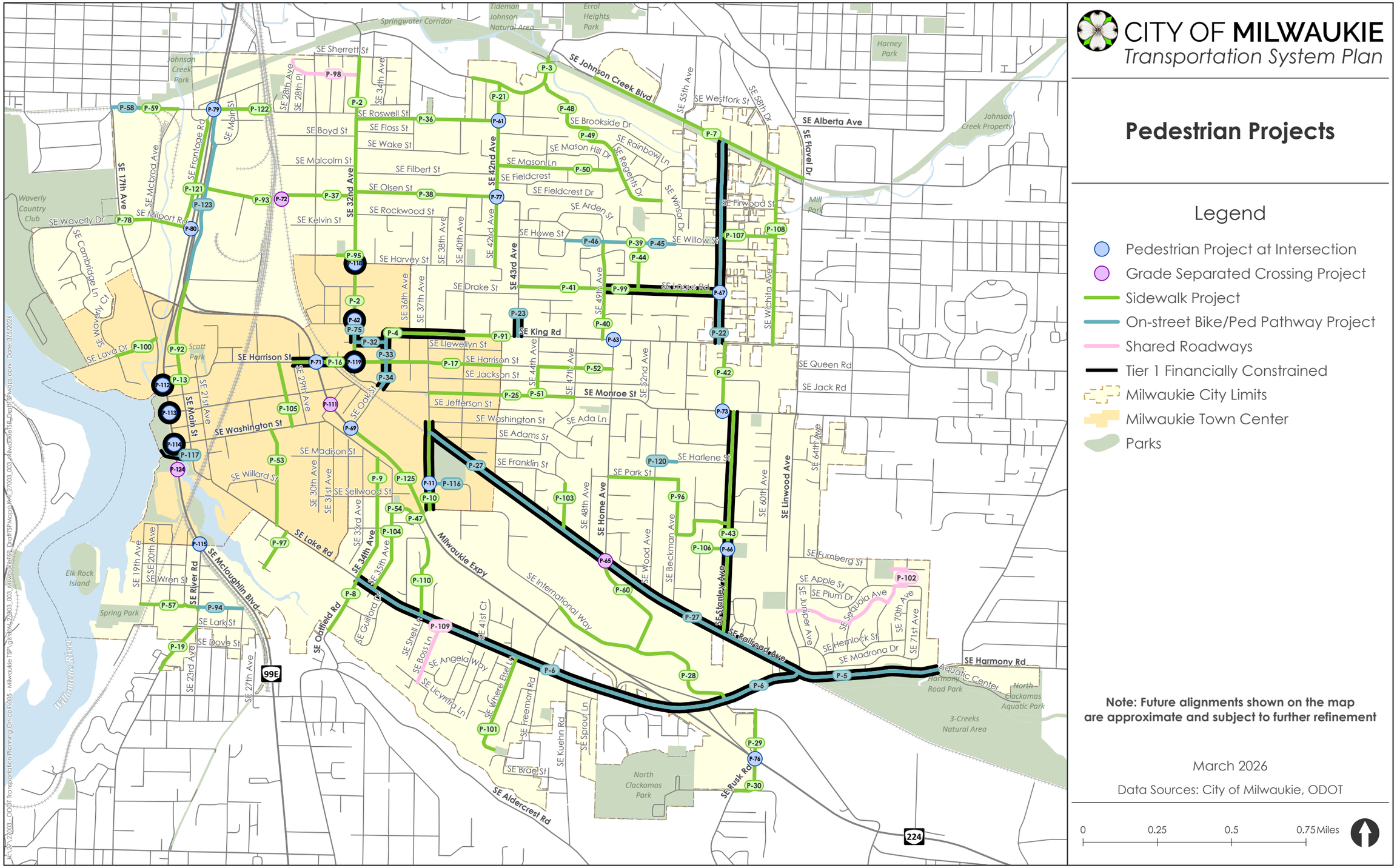


Table 7-5. Pedestrian Improvement Projects

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
P-27	SE Railroad Ave	SE 37th Ave	SE Harmony Rd	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$8.9M ($0.03M city match)	Tier 1 - Financially Constrained
P-117	OR 99E	SE Harrison St	Kellow Creek	Construct a new ped/bike pathway under OR 99E at Kellog Creek following dam removal	$0.3M	Tier 1 - Financially Constrained
P-22	SE Stanley Ave	SE Johnson Creek Blvd	SE King Rd	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$1.6M	Tier 1 - Financially Constrained
P-6	SE Lake Rd	SE 34th Ave	SE Harmony Rd	Construct a new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$3.2M	Tier 1 - Financially Constrained
P-119	SE 32nd Ave/SE Harrison St	Intersection	-	Construct ADA accessibility upgrades and signal modifications	$0.1M	Tier 1 - Financially Constrained
P-43	SE Stanley Ave	SE Monroe St	SE Railroad Ave	Fill gaps and construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$1.3M	Tier 1 - Financially Constrained
P-16	SE Harrison St	SE 29th St	SE 32nd Ave	Reconstruct new buffered pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$2.0M	Tier 1 - Financially Constrained
P-99	SE Logus Rd	SE Stanley Ave	SE 43th Ave	Construct new ADA accessibility upgrades at intersection quadrants	$0.8M	Tier 1 - Financially Constrained
P-5	SE Harmony Rd	SE Linwood Ave	Aquatic Center Access Rd	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2. Construct new ADA accessibility upgrades at intersection quadrants	$1.2M	Tier 1 - Financially Constrained
P-62	SE 32nd Ave/SE Meek St	Intersection	-	Install enhanced pedestrian crossing treatment across SE 32nd Ave	$0.2M	Tier 1 - Financially Constrained
P-75	SE 32nd Ave	SE Meek St	SE Llewellyn St	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 1 target	$0.3M	Tier 1 - Financially Constrained
P-32	SE Llewellyn St	SE 32nd Ave	SE 34th Ave	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2	$0.2M	Tier 1 - Financially Constrained
P-33	SE 34th Ave	SE King Rd	SE Harrison St	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2	$0.4M	Tier 1 - Financially Constrained
P-34	SE 34th Ave	SE Harrison St	End of SE 34th Ave	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2. Install an enhanced pedestrian crossing treatment at SE Harrison St	$0.7M	Tier 1 - Financially Constrained
P-4	SE King Rd	SE 34th Ave	SE 40th Ave	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.5M	Tier 1 - Financially Constrained
P-118	32nd Ave/Harvey St	Intersection	-	Construct ADA accessibility upgrades	$0.1M	Tier 1 - Financially Constrained
P-112	OR 99E/SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.5M	Tier 1 - Financially Constrained
P-113	OR 99E/SE Monroe St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.5M	Tier 1 - Financially Constrained
P-114	OR 99E/SE Washington St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.1M	Tier 1 - Financially Constrained
P-10	SE 37th Ave	SE Washington St	SE International Way	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.1M	Tier 1 – Financially Constrained
P-23	SE 43rd Ave	SE King Rd	SE Rhodesa St	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$0.4M	Tier 1 – Financially Constrained
P-17	SE Harrison St	SE 32nd Ave	SE 42nd Ave	Reconstruct buffered pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$1.9M	Tier 1 - Unconstrained
P-71	OR 224/SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.4M	Tier 1 - Unconstrained
P-45	SE Willow St	SE Winsor Dr	SE 51st Ave	Construct ped/bike pathway, as constraints allow, to achieve PLTS 1 target	$0.3M	Tier 1 - Unconstrained
P-46	SE Willow Ave alley	SE Winworth Ct	SE Howe St	Obtain right-of-way (as opportunities allow) and construct a formal ped/bike pathway, to achieve PLTS 1 target	$0.2M	Tier 1 - Unconstrained
P-25	SE Monroe St	SE 37th Ave	SE Garrett Dr	Construct new pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$1.9M	Tier 1 - Unconstrained
P-9	SE 34th Ave	SE Washington St	SE Lake Rd	Construct new pedestrian facilities (both sides), as constraints allow, to achieve PLTS 2 target	$1.2M	Tier 1 - Unconstrained
P-2	SE 32nd Ave	SE Sherrett St	SE Harrison St	Reconstruct barrier-free pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$3.9M	Tier 1 - Unconstrained

Note: Due to updates/changes, not all numbers are used in the project list.
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.
***PLTS:** Pedestrian Level of Traffic Stress*

Table 7-5. Pedestrian Improvement Projects Continued

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
P-42	SE Stanley Ave	SE King Rd	SE Monroe St	Construct new pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$0.8M	Tier 1 - Unconstrained
P-57	SE Sparrow St	SE 19th Ave	SE River Rd	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.3M	Tier 1 - Unconstrained
P-36	SE Roswell St	SE 32nd Ave	SE 42nd Ave	Remove sidewalk barriers/obstructions, as constraints allow, to achieve PLTS 2 target	$0.6M	Tier 1 - Unconstrained
P-110	SE 37th Ave	SE Lake Rd	SE Grogan Ave	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.5M	Tier 2 - Unconstrained
P-58	SE Ochoco St	SE 17th Ave	Springwater Trail	Coordinate with City of Portland to ensure construction of multi-use pathway, as constraints allow, to achieve PLTS 1 target	$0.2M	Tier 2 - Unconstrained
P-8	SE Oatfield Rd	SE Lake Rd	City Limits	Construct new buffered pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$1.0M	Tier 2 - Unconstrained
P-47	SE 37th Ave	SE Wister St Path	SE Edison St	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.4M	Tier 2 - Unconstrained
P-40	SE 49th Ave	SE Willow Ave	SE King Rd	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.5M	Tier 2 - Unconstrained
P-54	SE Edison St	SE 35th Ave	OR 224	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.2M	Tier 2 - Unconstrained
P-116	SE Minthorn Loop Rd	SE 37th Ave	SE Minthorn Loop Road	Construct a new ped/bike pathway along the south side of Minthorn North Natural Area	$0.5M	Tier 2 - Unconstrained
P-123	SE Main St	SE Hanna Harvester Dr	SE Ochoco St	Construct new on-street ped/bike pathway on one side, as constraints allow, to achieve PLTS 1	$3.7M	Tier 2 - Unconstrained
P-28	SE International Way	SE Freeman Way	SE Lake Rd	Construct new pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$2.3M	Tier 2 - Unconstrained
P-41	SE Logus Rd	SE 43rd Ave	SE 49th Ave	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.5M	Tier 2 - Unconstrained
P-59	SE Ochoco St	Springwater Trail	SE McBrod Ave	Coordinate with City of Portland to ensure construction of new pedestrian facilities on the north side, as constraints allow, to achieve PLTS 2 target	$0.2M	Tier 2 - Unconstrained
P-61	SE 42nd Ave/SE Roswell St	Intersection	-	Install enhanced pedestrian crossing treatment across SE 42nd Ave	$0.2M	Tier 2 - Unconstrained
P-95	SE Balfour Street	SE 32nd Ave	Balfour Park	Construct new pedestrian facilities on one side, as constraints allow, per Local Street standards to achieve PLTS 2 target	$0.0M	Tier 2 - Unconstrained
P-77	SE Olsen St/SE 42nd Ave	Intersection	-	Improve pedestrian crossing	$0.2M	Tier 2 - Unconstrained
P-78	SE Millport Rd	99E	SE 17th Ave	Construct new pedestrian facilities on both sides, as constraints allow, per Local Street standards to achieve PLTS 2 target	$0.8M	Tier 2 - Unconstrained
P-69	OR 224/SE Oak St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.2M	Tier 2 - Unconstrained
P-63	SE King Rd/SE Home St	Intersection	-	Install enhanced pedestrian crossing treatment across SE King Rd	$0.2M	Tier 2 - Unconstrained
P-73	SE Stanley Ave/SE Monroe St	Intersection	-	Install enhanced pedestrian crossing treatment across SE Monroe St	$0.2M	Tier 2 - Unconstrained
P-30	SE Rusk Rd	HWY 224	South City Limit	Coordinate with Clackamas County to ensure construction of pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.3M	Tier 2 - Unconstrained
P-67	SE Stanley Ave/SE Logus Rd	Intersection	-	Install enhanced pedestrian crossing treatment across SE Stanley Rd	$0.2M	Tier 2 - Unconstrained
P-7	SE Johnson Creek Blvd	West city limits	SE Linwood Ave	Coordinate with City of Portland to ensure construction of new pedestrian facilities on the north side, to achieve PLTS 2 target	$1.9M	Tier 2 - Unconstrained
P-37	SE Olsen St	SE 29th Ave	SE 32nd Ave	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.2M	Tier 2 - Unconstrained
P-107	SE Hazel Pl	SE Stanley Ave	SE Wichita Ave	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.3M	Tier 2 - Unconstrained
P-11	SE 37th Ave	Intersection	-	Install enhanced pedestrian crossing treatment across SE 37th Ave	$0.1M	Tier 2 - Unconstrained
P-38	SE Olsen St	SE 32nd Ave	SE 42nd Ave	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.8M	Tier 2 - Unconstrained

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***PLTS:** Pedestrian Level of Traffic Stress*

Table 7-5. Pedestrian Improvement Projects Continued

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
P-106	SE Harlow St/SE 56th Ave	SE 56th Ave	SE Stanley Ave	Reconstruct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.2M	Tier 2 - Unconstrained
P-108	SE Wichita Ave	SE King Rd	SE Johnson Creek Blvd	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.6M	Tier 2 - Unconstrained
P-39	SE Willow St	SE Winsor Dr	SE 49th Ave	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.1M	Tier 2 - Unconstrained
P-44	SE 51st Ave	SE Logus Rd	SE Winworth Ct	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.3M	Tier 2 - Unconstrained
P-51	SE 44th Ave	SE Monroe St	SE Harrison St	Construct new pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$0.3M	Tier 2 - Unconstrained
P-52	SE Harrison St	SE 44th Ave	SE Home St	Construct new pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$0.8M	Tier 2 - Unconstrained
P-115	OR 99E/SE River Rd	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.5M	Tier 2 - Unconstrained
P-65	SE Railroad Ave/SE Home Ave	Intersection	-	Install a grade-separated pedestrian crossing across Railroad Ave and adjacent rail line	$15.0M	Tier 2 - Unconstrained
P-29	SE Rusk Rd	SE Lake Rd	OR 224	Coordinate with Clackamas County to ensure construction of pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.3M	Tier 2 - Unconstrained
P-79	OR 99E/SE Ochoco St	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.2M	Tier 2 - Unconstrained
P-60	SE Mallard Way	End of road	SE International Way	Construct new pedestrian facilities on both sides, as constraints allow, per Local Street standards to achieve PLTS 2 target	$0.7M	Tier 2 - Unconstrained
P-80	OR 99E/SE Milport RD	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.2M	Tier 2 - Unconstrained
P-94	SE Sparrow Street	SE River Road	Trolley Trail / SE 26th Ave	Construct new ped/bike pathway on one side, as constraints allow, to achieve PLTS 1	$0.2M	Tier 2 - Unconstrained
P-76	OR 224/SE Rusk Rd	Intersection	-	Coordinate with ODOT to identify and implement ADA accessibility upgrades and pedestrian/bicycle crossing enhancements	$0.2M	Tier 2 - Unconstrained
P-120	SE Harlene St	west extents	SE Wood Ave	Construct a ped/bike on-street pathway	$0.6M	Tier 2 - Unconstrained
P-48	SE Brookside Drive	SE Johnson Creek Blvd	SE Regents Dr	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.4M	Tier 2 - Unconstrained
P-49	SE Regents Dr	SE Brookside Dr	SE Winsor Dr	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.7M	Tier 2 - Unconstrained
P-50	SE Mason Ln	SE 42nd Ave	SE Regents Dr	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.7M	Tier 2 - Unconstrained
P-66	SE Stanley Ave/SE Harlow St	Intersection	-	Install enhanced pedestrian crossing treatment across SE Stanley Rd	$0.2M	Tier 2 - Unconstrained
P-93	SE Mailwell Drive	SE Main St	UPRR	Construct new pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$0.2M	Tier 2 - Unconstrained
P-97	SE 26th Ave	SE Lake Rd	Lake Village Apartments	Construct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.1M	Tier 2 - Unconstrained
P-121	SE Frontage Rd	SE Ochoco St	SE Millport Rd	Reconstruct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$1.7M	Tier 2 - Unconstrained
P-122	SE Ochoco St	east extents	OR 99E	Reconstruct new pedestrian facilities on one side, as constraints allow, to achieve PLTS 2 target	$0.6M	Tier 2 - Unconstrained
P-96	SE Park St/SE Lloyd St	SE Home Ave	Stanley Avenue	Construct new pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$0.7M	Tier 2 - Unconstrained
P-19	SE River Rd	SE Lark St	South City Limit	Construct new pedestrian facilities on both sides, as constraints allow, to achieve PLTS 2 target	$0.5M	Tier 3 - Unconstrained
P-13	SE Harrison St	OR 99E	SE Main Street	Remove sidewalk barriers, as constraints allow, to achieve PLTS 2 target	$0.1M	Tier 3 - Unconstrained
P-91	SE King Road	SE 40th Ave	SE 43rd Ave	Construct ADA accessibility upgrades at SE King Road intersections	$0.2M	Tier 3 - Unconstrained
P-105	SE 28th Ave	SE Washington St	Harrison Street	Construct ADA accessibility upgrades at SE 28th Ave intersections	$0.3M	Tier 3 - Unconstrained
P-92	SE Main St	SE Harrison St	SE Hanna Harvester Dr	Construct ADA accessibility upgrades at SE Main St intersections	$0.3M	Tier 3 - Unconstrained

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***PLTS:** Pedestrian Level of Traffic Stress*

Table 7-5. Pedestrian Improvement Projects Continued

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
P-21	SE 42nd Ave	SE Harvey St	SE Johnson Creek Blvd	Remove barriers, as opportunities allow, to achieve PLTS 2 target	$0.8M	Tier 3 - Unconstrained
P-53	SE 27th Ave	SE Lake Rd	SE Washington St	Reconstruct barrier-free pedestrian facilities on east side, to achieve PLTS 2 target	$0.6M	Tier 3 - Unconstrained
P-109	SE Boss Ln	SE Lake Rd	SE Licyntra Ln	Maintain shared roadway environment with signing and striping enhancements	$0.2M	Tier 3 - Unconstrained
P-3	SE Johnson Creek Blvd	SE 40th Ave	SE 45th Ave	Reconstruct barrier-free pedestrian facilities on both sides, to achieve PLTS 2 target	$1.2M	Tier 3 - Unconstrained
P-104	SE 35th Ave	SE Lake Rd	Edison Street	Construct ADA accessibility upgrades at SE 35th Ave intersections	$0.3M	Tier 3 - Unconstrained
P-100	SE Lava Drive /SE Waverly Court	SE 17th Ave	Highland Apartments Entrance	Construct ADA accessibility upgrades at SE Lava Dr intersections	$0.2M	Tier 3 - Unconstrained
P-103	SE 47th Ave	SE Franklin St	SE Railroad Ave	Construct ADA accessibility upgrades at SE 47th Ave intersections	$0.2M	Tier 3 - Unconstrained
P-101	SE Where Else Lane	SE Lake Rd	Bowman and Brae Park	Construct ADA accessibility upgrades at SE Where Else Lane intersections	$0.3M	Tier 3 - Unconstrained
P-102	SE Aspen St	SE Lindwood Ave	Furnberg Park	Maintain shared roadway environment with signing and striping enhancements	$0.3M	Tier 3 - Unconstrained
P-98	SE 28th Ave/SE Van Water St	Springwater Corridor	SE 32nd Ave	Maintain shared roadway environment with signing and striping enhancements	$0.3M	Tier 3 - Unconstrained
P-111	OR 224	SE Harrison St	SE Oak St	Work with ODOT and prepare a feasibility study for a grade-separated pedestrian crossing of OR 224 located somewhere between SE Harrison St and SE Oak St	$0.1M	Tier 3 - Unconstrained
P-124	OR 99E	SE Harrison St	Kellog Creek crossing	Work with OODT and prepare a feasibility study for a grade-separated pedestrian crossing of OR 99E to be located between SE Harrison Street and the Kellog Creek crossing	$0.1M	Tier 3 - Unconstrained
P-72	SE Olsen St	Western extents of SE Olsen St	SE Mailwell Dr	Construct grade separated bike/ped crossing of rail line to SE Mailwell Dr	$15M	Tier 3 - Unconstrained
P-125	OR 224	SE Oak St	SE 37th Ave	Construct a new separated ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target	$3M	Tier 3 - Unconstrained
P-126	Future alignment	SE Linwood Ave	future SE 6th Ave extension	Construct a new ped/bike pathway, as constraints allow, to achieve PLTS/BLTS 1 target	<$1.0M	Tier 3 - Unconstrained

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***PLTS:** Pedestrian Level of Traffic Stress*

Bicycle Projects

Bicycle network needs in Milwaukie fall into three categories:

1. Gaps in the overall bicycling network.
2. Limited bicycle connections:
   - To or within the priority focus areas
   - Identified on the bicycle classification network
3. A lack of bicycle facilities that are comfortable for bicyclists of all ages and abilities.

To address these needs, Milwaukie is planning for a network of comfortable on-street and off-street multi-use pathways, buffered bicycle lanes, shared-lane signing and striping enhancements, and bicycle crossings at key intersections. These projects have been developed to enhance the quality of the biking environment and prioritized based on funding limitations, the connections they are making, and the geographic areas they are serving. ***Figure 7-2*** and ***Table 7-6*** detail Milwaukie's planned biking-focused projects.







Figure 7-2. Bicycle Projects

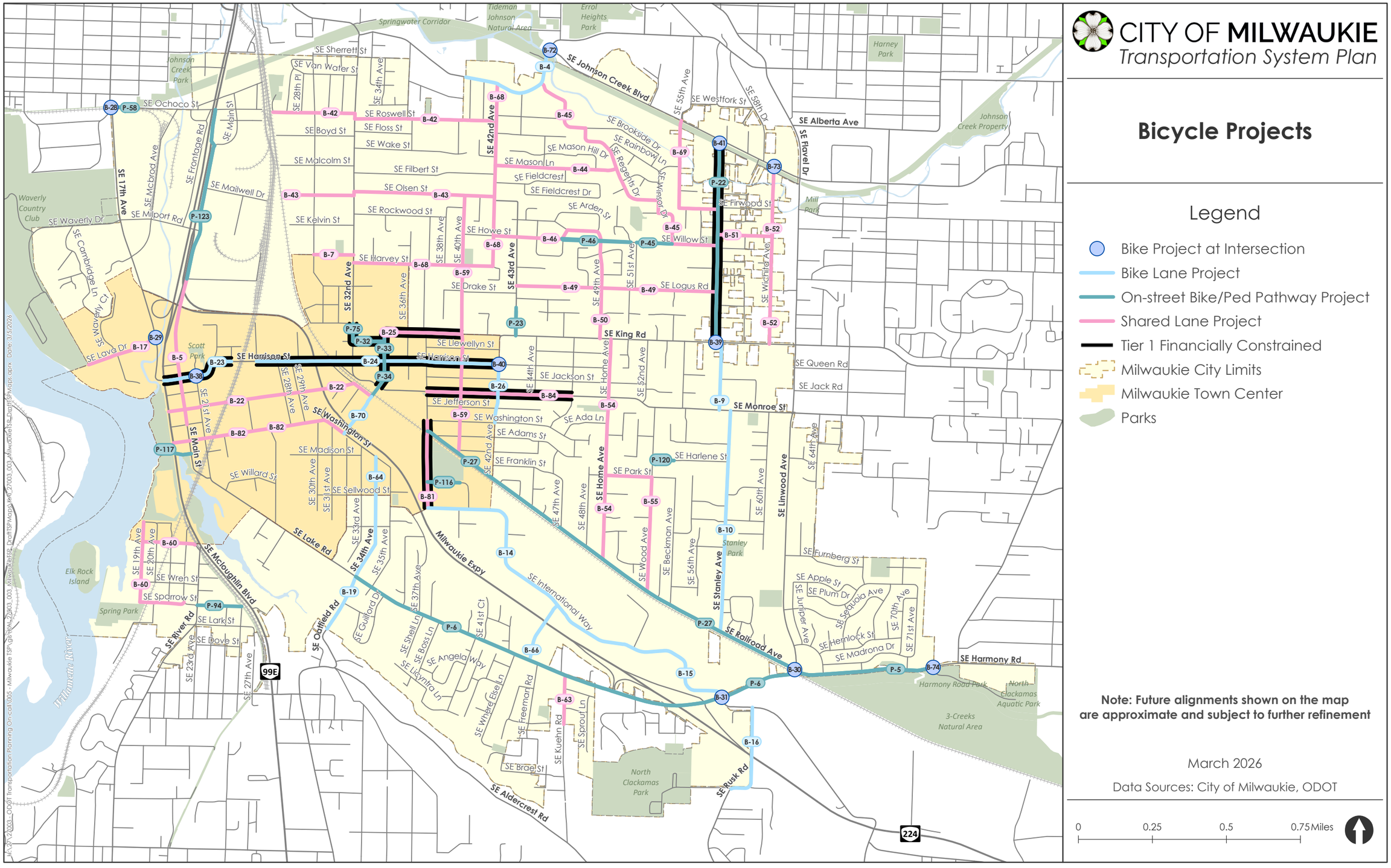


Table 7-6. Bicycle Improvement Projects

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
B-24	SE Harrison St	SE 26th Ave	SE 42nd Ave	Stripe/construct bike lanes on both directions, as constraints allow, to achieve BLTS 2 target	$3.4M	Tier 1 - Financially Constrained
B-23	SE Harrison St	OR 99E	SE 24th Ave	Stripe bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$0.1M	Tier 1 - Financially Constrained
B-25	SE King Rd	SE 34th Ave	SE 40th Ave	Install shared lane markings, signage, and traffic calming improvements	$0.1M	Tier 1 - Financially Constrained
B-81	SE 37th Ave	SE International Way	SE Washington St	Install shared roadway lane markings, signage, and traffic calming improvements	$0.1M	Tier 1 – Financially Constrained
B-84	SE Monroe St	SE 37th Ave	SE Garrett Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 1 – Financially Constrained
B-26	SE 42nd Ave	SE Harrison St	SE Washington St	Construct bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$0.7M	Tier 1 - Unconstrained
B-59	SE 40th Ave	SE Olsen St	SE Railroad Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$0.3M	Tier 1 - Unconstrained
B-64	SE 34th Ave	SE Lake Rd	SE Washington St	Stripe bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$1.5M	Tier 1 - Unconstrained
B-10	SE Stanley Ave	SE Monroe St	SE Railroad Ave	Construct bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$2.7M	Tier 1 - Unconstrained
B-28	SE Ochoco St/SE 17th Ave	Intersection	-	Coordinate with the City of Portland to identify and implement ADA accessibility and bicycle crossing improvements at the intersection	$1.4M	Tier 1 - Unconstrained
B-19	SE Oatfield Rd	SE Lake Rd	City limits	Construct bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$0.7M	Tier 2 - Unconstrained
B-15	SE International Way	SE Freeman Way	SE Lake Rd	Construct buffered bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$3.0M	Tier 2 - Unconstrained
B-66	SE Freeman Way	SE International Way	SE Lake Rd	Stripe bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$0.4M	Tier 2 - Unconstrained
B-9	SE Stanley Ave	SE King Rd	SE Monroe St	Construct bike lanes on both directions, as constraints allow, to achieve BLTS 1 target	$0.8M	Tier 2 - Unconstrained
B-16	SE Rusk Rd	SE Lake Rd	SE Kellog Creek Rd	Coordinate with Clackamas County on future bicycle facilities, to achieve BLTS 1 target	$1.2M	Tier 2 - Unconstrained
B-70	SE Oak St	SE Campbell St	SE Washington St	Construct bike lanes on both directions, as constraints allow, to achieve BLTS 2 target	$0.1M	Tier 2 - Unconstrained
B-14	SE International Way	SE 37th Ave	SE Freeman Way	Restripe roadway with buffered bicycle facilities, as constraints allow, to achieve BLTS 1 target	$0.4M	Tier 3 - Unconstrained
B-4	SE Johnson Creek Blvd	SE 40th	SE 45th Ave	Restripe bicycle facilities, as constraints allow, to achieve BLTS 1 target	$0.2M	Tier 3 - Unconstrained
B-38	SE Harrison St/SE 21st Ave	Intersection	-	Identify and implement geometric and signing/striping improvements that would increase safety of bicycle movements through the intersection	$0.4M	Tier 3 - Unconstrained
B-40	SE Harrison St/SE 42nd Ave	Intersection	-	Identify and implement geometric and signing/striping improvements that would increase safety of bicycle movements through the intersection	$0.4M	Tier 3 - Unconstrained
B-30	SE Railroad Ave/SE Linwood Ave	Intersection	-	Coordinate with Clackamas County to identify and implement geometric and signing/striping improvements that would increase safety of bicycle movements through the intersection	$1.7M	Tier 3 - Unconstrained
B-39	SE King Rd/SE Stanley Ave	Intersection	-	Identify and implement geometric and signing/striping improvements that would increase safety of bicycle and pedestrian movements through the intersection	$0.4M	Tier 3 - Unconstrained
B-22	SE Monroe St	OR 99E	SE Oak St	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 3 - Unconstrained
B-29	SE Lava Dr/SE 17th Ave	Intersection	-	Identify and implement signing/striping improvements that would increase safety of bicycle movements through the intersection	$0.2M	Tier 3 - Unconstrained
B-31	SE Lake Rd/ SE International Way	Intersection	-	Improve Identify and implement geometric and signing/striping improvements that would increase safety of bicycle movements through the intersection of crossing at intersection	$0.4M	Tier 3 - Unconstrained
B-41	SE Johnson Creek Blvd/SE Stanley Ave	Intersection	-	Identify and implement geometric and signing/striping improvements that would increase safety of bicycle movements through the intersection	$0.2M	Tier 3 - Unconstrained

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BLTS: Bicycle Level of Traffic Stress

Table 7-6. Bicycle Improvement Projects Continued

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
B-72	SE Johnson Creek Blvd/SE 45 Pl	Intersection	-	Coordinate with City of Portland to identify and implement geometric and signing/striping improvements that would increase safety of bicycle movements through the intersection	$0.2M	Tier 3 - Unconstrained
B-73	SE Johnson Creek Blvd/SE Wichita Ave	Intersection	-	Identify and implement geometric and signing/striping improvements that would increase safety of bicycle movements through the intersection	$0.1M	Tier 3 - Unconstrained
B-43	SE Olsen St	SE 29th Ave	SE 42nd Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 3 - Unconstrained
B-82	SE Washington St	OR 99E	SE Oak St	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 3 - Unconstrained
B-42	SE Roswell Ave	SE 29th Ave	SE 42nd Ave	Install shared lane markings, signage, and traffic calming improvements to emphasize a shared travel environment for bicyclists, pedestrians, and motorists	$0.4M	Tier 3 - Unconstrained
B-44	SE Mason Ln	SE 42nd Ave	SE Regents Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 3 - Unconstrained
B-49	SE Logus Rd	SE 43rd Ave	SE Stanley Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$0.3M	Tier 3 - Unconstrained
B-50	SE 49th Ave	SE King Rd	SE Logus Rd	Install shared roadway lane markings, signage, and traffic calming improvements	$0.1M	Tier 3 - Unconstrained
B-60	SE 19th Ave/SE Bluebird/SE Sparrow	SE Bluebird St	SE Sparrow St	Install additional shared lane markings, signage, and traffic calming improvements to emphasize a shared travel environment for bicyclists, pedestrians, and motorists	$0.2M	Tier 3 - Unconstrained
B-54	SE Home Ave	SE King Rd	SE Railroad Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$0.3M	Tier 3 - Unconstrained
B-69	SE 55th Ave	SE Firwood St	SE Johnson Creek Blvd	Install shared roadway lane markings, signage, and traffic calming improvements	$0.1M	Tier 3 - Unconstrained
B-51	SE Hazel St	SE Stanley Ave	SE Wichita Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$0.1M	Tier 3 - Unconstrained
B-52	SE Wichita Ave	SE King Rd	SE Johnson Creek Blvd	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 3 - Unconstrained
B-55	SE Park St	SE Home Ave	SE Wood Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 3 - Unconstrained
B-63	SE Kuehn Rd	SE Lake Rd	City limits	Install shared roadway lane markings, signage, and traffic calming improvements	$0.1M	Tier 3 - Unconstrained
B-45	SE Regents Dr	SE Brookside Dr	SE Winsor Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 3 - Unconstrained
B-5	SE Main St	SE Jefferson St	SE Hanna Harvester Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$0.2M	Tier 3 - Unconstrained
B-68	SE Harvey St/SE 42nd Ave	SE 32nd Ave	SE Johnson Creek Blvd	Install/enhance shared roadway lane markings, signage, and traffic calming improvements	$0.4M	Tier 3 - Unconstrained
B-17	SE Lava Dr	SE Waverly Ct	SE 17th Ave	Install/enhance shared roadway lane markings, signage, and traffic calming improvements	$0.1M	Tier 3 - Unconstrained

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BLTS: Bicycle Level of Traffic Stress

Roadway/Intersection Projects

Milwaukie's roadway network is the foundation of all local and regional travel, serving motorized vehicles, freight, transit (bus), pedestrians, bicyclists, and mobility device users. At the roadway segment and intersection level, needs in Milwaukie fall into the following categories:

1. Intersections with safety or capacity needs that require traffic control, access management, or geometric enhancements.
2. Roadway segments that require traffic calming.
3. Limited local street connectivity in some residential neighborhoods.
4. Neighborhood streets with posted speeds that are inconsistent with the adjacent land use context and/or desired function of the travel way.

To address these needs, Milwaukie is planning for the network of roadway and intersection improvements summarized in ***Figure 7-3*** and ***Table 7-7***.





Figure 7-3. Roadway and Intersection Projects

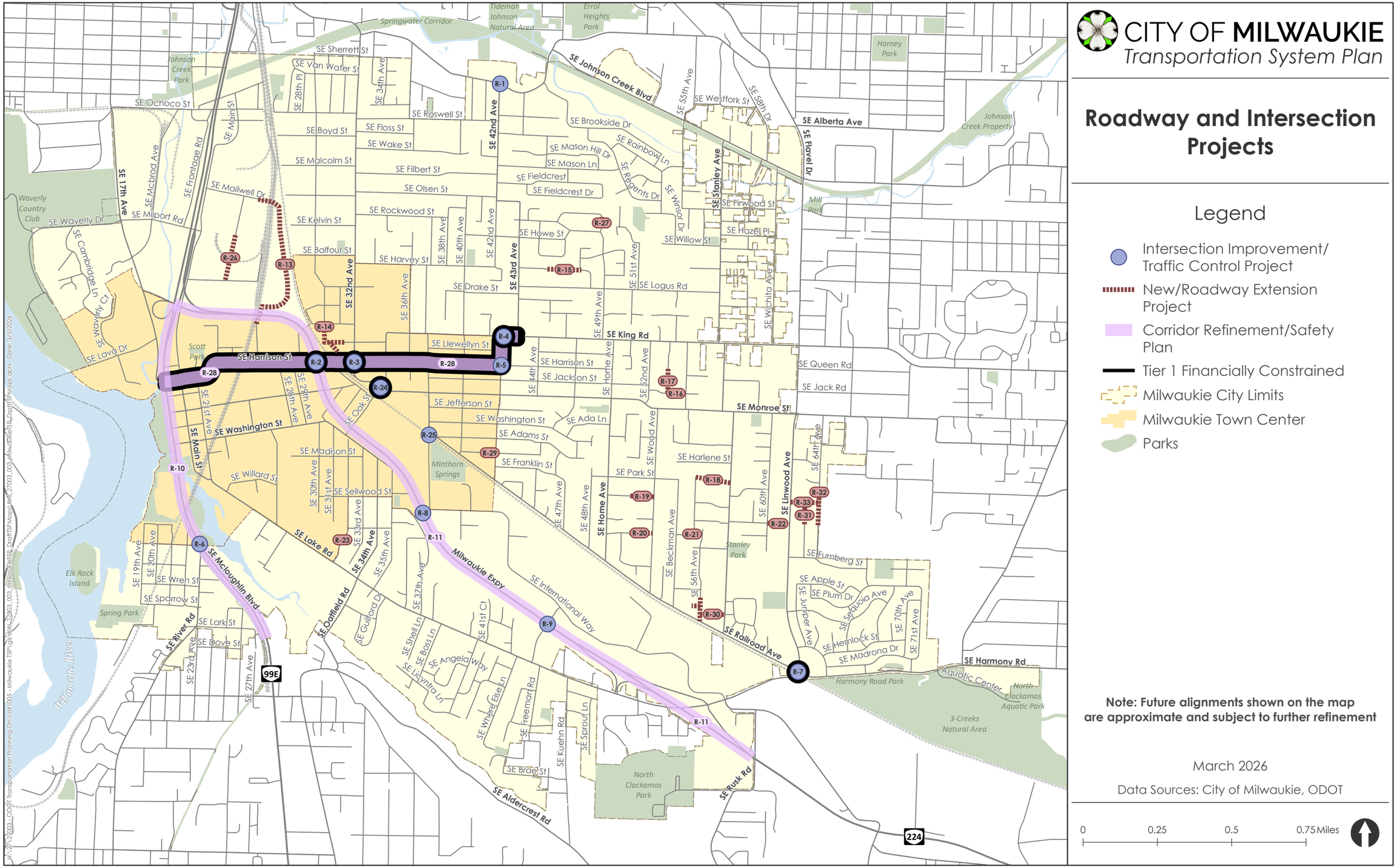


Table 7-7. Roadway/Intersection Improvement Projects

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
R-24	SE Oak St/SE Railroad Ave/SE Monroe St	Intersection	-	Coordinate with Clackamas County to identify and implement traffic control revisions	$4.3M	Tier 1 - Financially Constrained
R-3	SE Harrison St/SE 32nd Ave	Intersection	-	Acquire right of way in the southeast quadrant of the intersection as opportunities allow. Modify the north and south SE 32nd Ave approaches to provide separate through and turn lanes.	$1.5M	Tier 1 - Financially Constrained
R-27	Local Streets	-	-	Change the speed zone signing on all local streets to 20 mph	$0.4M	Tier 1 - Financially Constrained
R-28	SE Harrison St	Highway 99E	SE 42nd Ave	Prepare a multimodal safety and infrastructure needs assessment of the Harrison Street corridor focusing on safety improvements, multimodal accommodations, access management, and traffic control.	$0.4M	Tier 1 - Financially Constrained
R-2	OR 224/SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement traffic signal, travel lane, geometric, and multimodal refinements that balance capacity, vehicle queuing, and multimodal safety needs.	$2.1M	Tier 1 - Financially Constrained
R-7	SE Linwood Ave/SE Harmony Road/SE Railroad Ave	Intersection	-	Coordinate with Clackamas County and key local constituents to perform an intersection refinement study. The study will identify traffic control and geometric improvements that will more efficiently accommodate vehicles, freight, transit, pedestrians, bicycles, mobility devices, and the adjacent rail crossing.	$0.6M (city contribution)	Tier 1 - Financially Constrained
R-4	SE King Rd/SE 42nd Ave	Intersection	-	Install permanent access management treatments at the intersection	$0.3M	Tier 1 - Financially Constrained
R-25	SE Railroad Ave/SE 37th Ave	Intersection	-	Widen the westbound SE Railroad Ave approach to SE 37th Ave to provide additional left-turn storage	$2.2M	Tier 1 - Unconstrained
R-5	SE Harrison St/SE 42nd Ave	Intersection	-	Implement new traffic control treatments and geometric refinements	$4.9M	Tier 1 - Unconstrained
R-6	OR 99E/SE River Rd/SE Bluebird St	Intersection	-	Coordinate with ODOT to identify and implement geometric refinements that balance capacity needs, efficient intersection operations, and multimodal safety	$2.7M	Tier 1 - Unconstrained
R-1	SE Johnson Creek/SE 42nd Ave	Intersection	-	Implement new traffic control treatments and geometric refinement	$5.1M	Tier 2 - Unconstrained
R-9	OR 224/SE Freeman Way	Intersection	-	Coordinate with ODOT to identify and improve signing/striping and traffic signal operations at the intersection. Improve pedestrian and bicycle crossings of OR 224.	$0.5M	Tier 3 - Unconstrained
R-13	SE Mailwell Drive extension	SE Crystal Lake Dr	SE Mailwell Dr	As part of future redevelopment opportunities, establish a new local street connection between SE Mailwell Drive and SE 26th Ave	$20.0M	Tier 3 – Unconstrained[1]
R-8	SE 37th Ave/International Way/OR 224	Intersection	-	Prepare a detailed geometric, traffic control, access management, and multimodal accommodation refinement plan for the SE 37th Ave/SE International Way intersection. Coordinated with ODOT to identify and improve pedestrian and bicycle crossings of OR 224.	$0.8M	Tier 3 - Unconstrained
R-14	SE 29th Ave extension	SE Meek St	SE 32nd Ave	As part of future redevelopment opportunities, establish a new local street connection between SE Meek Street and SE 32nd Ave	$1.4M	Tier 3 – Unconstrained[1]
R-21	SE Beckman Terrace	East extents	SE 56th Ave	Extend SE Beckman Terrace to SE 56th Ave at the local street standard	$2.0M	Tier 3 - Unconstrained
R-23	SE 32nd Ave	-	-	As part of future redevelopment opportunities, construct the missing segment of SE 32nd Ave at the local street standard	$0.3M	Tier 3 – Unconstrained[1]
R-20	SE Guido Bocci Dr	SE Home Ave	SE Wood Ave	As part of future redevelopment opportunities, extend SE Guido Bocci Dr to SE Wood Ave	$2.6M	Tier 3 – Unconstrained[1]

1 *Project anticipated to be primarily development driven*

Note: Due to updates/changes, not all numbers are used in the project list.
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.

Table 7-7. Roadway/Intersection Improvement Projects Continued

PROJECT ID	STREET	START EXTENTS	END EXTENTS	PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
R-10	OR 99E	Northern City Limits	Southern City Limits	Perform a corridor study that assesses the opportunity costs/benefits of a potential jurisdictional transfer of OR 99E within the Milwaukie Town Center from ODOT to the City	$0.2M	Tier 3 - Unconstrained
R-11	OR 224	SE McLoughlin Blvd	Southern City Limits	Perform a corridor refinement plan focused on establishing alternative motor vehicle mobility targets (where applicable), identifying freight accommodating enhancements at major intersections, and exploring ways to minimize the barrier effect for multimodal travel	$0.2M	Tier 3 - Unconstrained
R-15	SE Melody Lane	East extents	-	As part of future infill development opportunities, extend SE Melody Lane to serve infill development	$1.6M	Tier 3 – Unconstrained[1]
R-16	SE Jackson Street	SE 55th Ave	SE 55th Ave	As part of future redevelopment opportunities, extend SE Jackson St to SE 55th Ave	$2.6M	Tier 3 – Unconstrained[1]
R-17	SE 53rd Pl	South extents	SE Jackson St extension	As part of future redevelopment opportunities, extend SE 53rd Pl to a future SE Jackson St extension	$2.7M	Tier 3 – Unconstrained[1]
R-18	SE Park St	SE 56th Ave	SE Stanley Ave	As part of future redevelopment opportunities, establish a new SE Park Street roadway connection between SE 56th Ave and SE Stanley Ave	$4.5M	Tier 3 – Unconstrained[1]
R-19	SE Hunter Ct	SE Home Ave	SE Wood Ave	As part of future redevelopment opportunities, extend SE Hunter St to SE Wood Ave	$5.8M	Tier 3 – Unconstrained[1]
R-22	SE Lloyd St	SE 60th Ave	SE Linwood Ave	As part of future redevelopment opportunities, extend SE Lloyd St from SE 60th Ave to SE Linwood Ave	$4.0M	Tier 3 – Unconstrained[1]
R-26	SE Omark Dr	SE Mailwall Dr	SE Hanna Harvester Dr	As part of future redevelopment opportunities, extend SE Omark Dr to SE Hanna Harvester Dr	$13.6M	Tier 3 – Unconstrained[1]
R-29	SE Rio Vista St	East extents	SE 42nd Ave	As part of future redevelopment opportunities, extend SE Rio Vista St to SE 42 Ave	$2.0M	Tier 3 – Unconstrained[1]
R-30	SE 56th Ave	South extents	SE Railroad Ave	As part of future redevelopment opportunities, extend SE 56th Ave to SE Railroad Ave and SE Stanley Ave	$2.0M	Tier 3 – Unconstrained[1]
R-31	SE 63rd Ave	North extents	future E/W roadway (see R-33)	As part of future redevelopment opportunities, extend SE 63rd Ave to the north.	$1.0M	Tier 3 – Unconstrained[1]
R-32	SE 64th Ave	South extents	SE Furnberg St	As part of future redevelopment opportunities, complete the gap in SE 64th Avenue.	$1.0M	Tier 3 – Unconstrained[1]
R-33	New local street	SE Linwood Ave	SE 64th Ave extension	As part of future redevelopment opportunities, establish a new local street connection between SE Linwood Ave and a future SE 64th Ave extension	<$1.0M	Tier 3 – Unconstrained[1]

1 *Project anticipated to be primarily development driven*

Note: Due to updates/changes, not all numbers are used in the project list.
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.

Transit Projects

TriMet is the regional transit provider and provides bus and light rail services to and within Milwaukie. While Milwaukie does not operate or control this system, the city is committed to supporting TriMet and creating a network where transit is an integral component of the multimodal system.

At a policy level, this is accomplished through:

- Land use regulations that increase the density of jobs and housing near transit facilities,
- Development of a compact, walkable, bikeable Milwaukie Town Center, and
- Development regulations that require new development to provide transit amenities and prioritize street improvements on transit corridors.

At a coordination and local implementation level, this is accomplished through:

- Stated recognition and support of future TriMet bus service and service enhancement projects that are currently being considered and planned on the regional network,
- Identification of service enhancements to existing bus routes within Milwaukie such as weekend service enhancements,
- Identification of supporting infrastructure that will improve the flow of transit within Milwaukie such as transit signal priority projects, and
- Planned multimodal infrastructure project that will improve pedestrian and bicycle access to transit stations, transit corridors, and transit stops.

To address these needs, Milwaukie is planning for the network of transit improvements summarized in ***Figure 7-4*** and ***Table 7-8***.

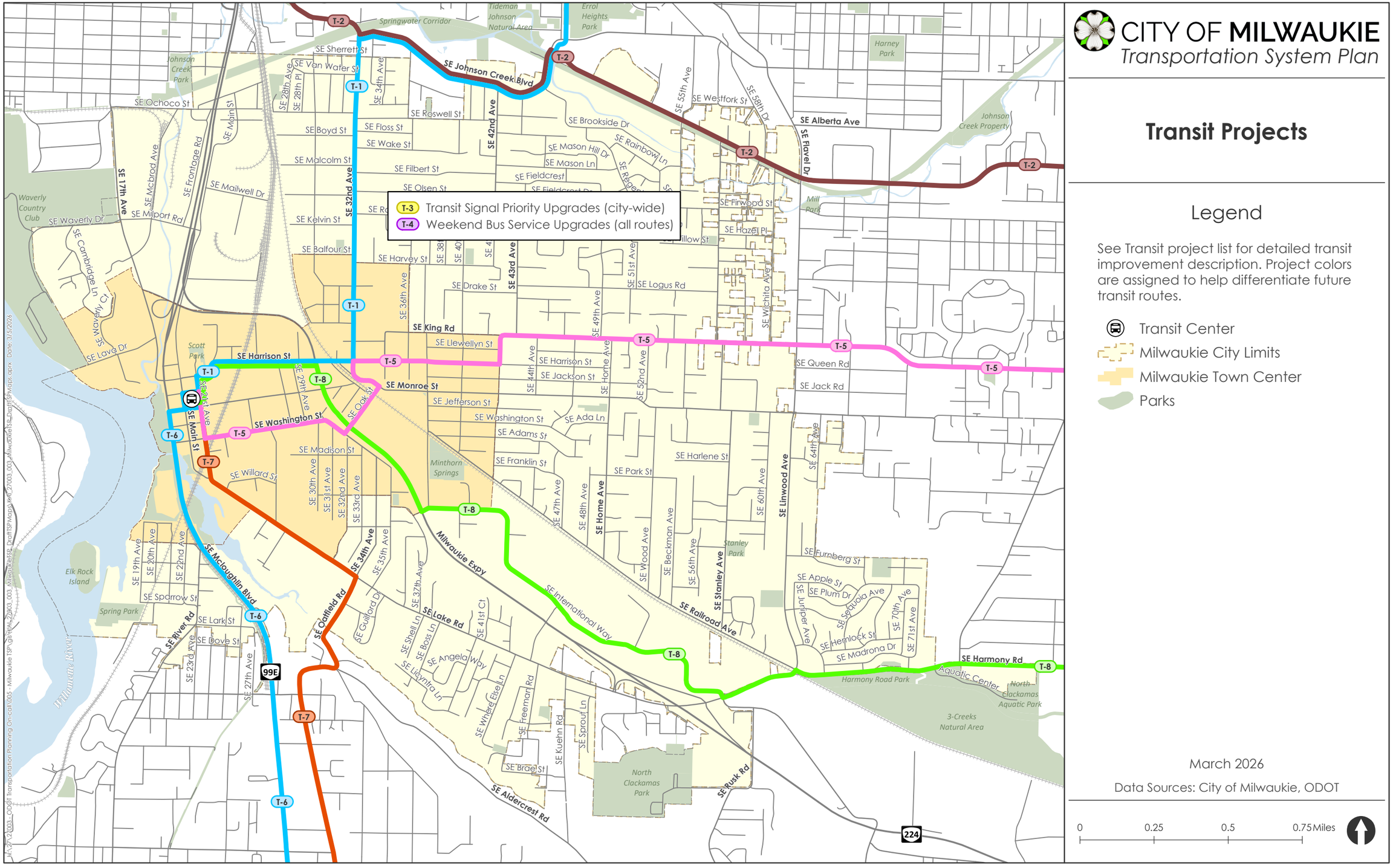


Table 7-8. Transit Improvement Projects

PROJECT ID	STREET	TRANSIT PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
T-1	New Bus Rapid Transit/Express Service route	Coordinate with TriMet to support and help implement new Bus Rapid Transit/Express Service route connecting Milwaukie Town Center to northerly regional destinations	$3.0M	Tier 1 - Unconstrained
T-2	New Frequent Service route	Coordinate with TriMet to help implement and support new Frequent Service Route along Johnson Creek Boulevard connecting to regional destinations	Vision	Tier 3 - Unconstrained
T-3	Transit Priority Signalization	Work with Clackamas County to implement transit priority signalization along key transit corridors citywide	$4.0M	Tier 2 - Unconstrained
T-4	Weekend Service Improvements	Coordinate with TriMet and support new weekend service enhancements where applicable	$0.0M	Tier 2 - Unconstrained
T-5	New Bus Rapid Transit/Express Service route	Coordinate with TriMet to help support and implement new Bus Rapid Transit/Express Service route along King Road/Harrison Street corridors, connecting to regional destinations	$6.0M	Tier 3 - Unconstrained
T-6	New Bus Rapid Transit/Express Service route	Coordinate with TriMet to support and help implement new Bus Rapid Transit/Express Service route connecting Milwaukie Town Center to southerly regional destinations	$11.0M	Tier 3 - Unconstrained
T-7	Upgrade to Frequent Service route	Coordinate with TriMet to help implement and support an upgrade to Frequent Service Route	Vision	Tier 3 - Unconstrained
T-8	Upgrade to Frequent Service route	Coordinate with TriMet to help implement and support an upgrade to Frequent Service Route	Vision	Tier 3 - Unconstrained



Figure 7-4. Transit Projects



Truck Freight Projects

Milwaukie's roadway network is also the foundation of all motorized freight travel within the city. Freight needs in Milwaukie generally fall in the following categories:

1. Wayfinding signage to improve motorized freight travel to/from Milwaukie's industrial areas.
2. Geometric and turning radii modifications at key intersections serving industrial uses.
3. Street surfacing and upgrades to better accommodate motorized freight travel.

To address these needs, Milwaukie is planning for the network of roadway and intersection improvements summarized in ***Figure 7-5*** and ***Table 7-9***.

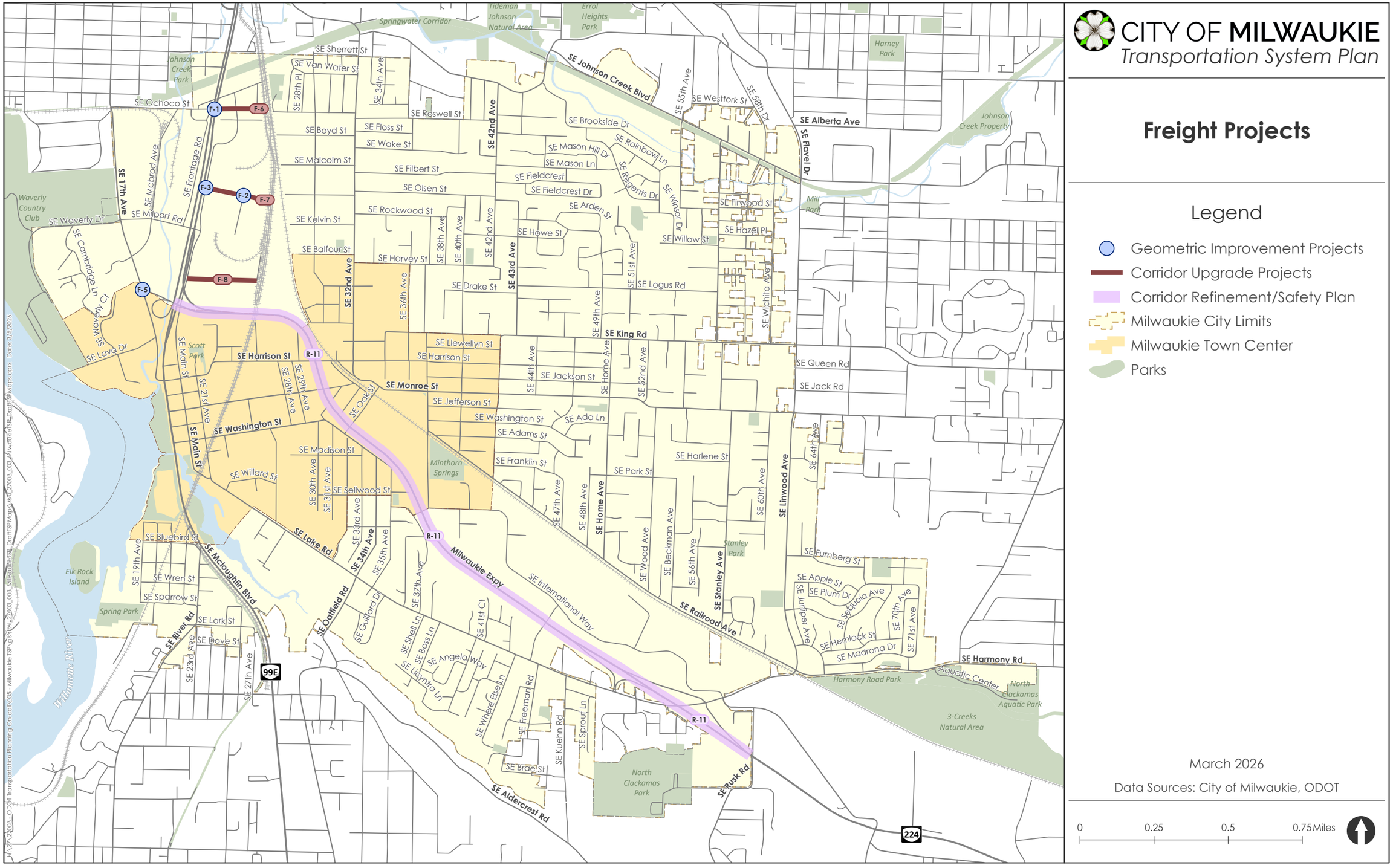


Table 7-9. Truck Freight Improvement Projects

PROJECT ID	STREET	START EXTENTS	END EXTENTS	FREIGHT PROJECT DESCRIPTION	COST ESTIMATE	PRIORITIZATION
F-1	OR 99E/SE Ochoco St	Intersection	-	Improve geometric and wayfinding/ signage to improve freight access	$0.2M	Tier 3 - Unconstrained
F-2	SE Omark Dr/ SE Mailwell Dr	Intersection	-	Upgrade intersection turning radii to better accommodate freight movements	$0.1M	Tier 3 - Unconstrained
F-3	SE Main St/SE Mailwell Dr	Intersection	-	Upgrade intersection turning radii to better accommodate freight movements	$0.2M	Tier 3 - Unconstrained
F-5	OR 224 Ramp/ SE 17th Ave	Intersection	-	Upgrade intersection turning radii to better accommodate freight movements	$0.1M	Tier 3 - Unconstrained
F-6	SE Ochoco St	SE Main St	East extents	Upgrade street to better accommodate freight vehicles	$1.1M	Tier 3 - Unconstrained
F-7	SE Mailwell Dr	SE Main St	SE Omark Dr	Upgrade street to better accommodate freight vehicles	$0.9M	Tier 3 - Unconstrained
F-8	SE Hanna Harvester Dr	SE Main St	SE Hanna Dr	Upgrade street to better accommodate freight vehicles	$1.9M	Tier 3 - Unconstrained



Figure 7-5. Freight Projects



TRANSPORTATION OPTIONS PLANNING

What Are Transportation Options?

In addition to capital projects, the city can improve mobility by encouraging people to use existing infrastructure more efficiently—shifting some trips from driving to walking, biking, transit, shared rides, and telecommuting. These transportation options strategies reduce the need for roadway expansion, support climate goals, and improve access for people who cannot or choose not to drive. Oregon's Transportation Planning Rule requires local governments to include transportation options strategies as part of their Transportation System Plan.

Why Transportation Options Matter in Milwaukie

Milwaukie faces limited roadway capacity, expected growth, and constrained ability to expand the street network. Shifting trips to non-auto modes supports efficiency, reduces emissions, and improves equity. Additionally, there are many people within Milwaukie that cannot or choose not to dive. Increasing access to more transportation options benefits everyone, but especially folks that cannot drive. In Milwaukie, key populations who are more likely to rely on alternative modes of transportation include:

- Households without vehicles (~5%)
- Youth (~18%) and seniors (~16.5%)
- Low-income households (~6.8%)
- People with disabilities (~13.7%)



Existing Programs and Services in Milwaukie

While the city itself does not offer transportation options programming, there are several transportation options programs and services operated by other organizations within city limits. The city at times participates as a partner in supporting these programs and delivering these services.

- **Oregon Department of Environmental Quality's Employee Commute Options (ECO) Program**: Employers with 100+ on-site employees must encourage non-drive commuting through incentives such as transit subsidies, carpool support, telework, and bike/walk programs. About 15 Milwaukie employers meet the threshold and participate.
- **Oregon Department of Transportation (ODOT) Safe Routes to School (SRTS) Program**: ODOT's SRTS program supports safer walking and biking to school through education, planning, and infrastructure grants. To date, one school in Milwaukie, Seth Lewelling Elementary, has an SRTS plan developed with the city, county, and ODOT.
- **Metro Regional Travel Options (RTO) Program**: Through the RTO Program, Metro funds and coordinates demand-management programs including grants, outreach, and technical assistance support for local jurisdictions, schools, nonprofit, and employers.
- **Existing RTO programs in Milwaukie include**:Clackamas County Safe Routes to School (administered by The Street Trust): Supports education and encouragement programming at schools in the North Clackamas School District.
- **Walking School Bus & Bike Bus Support (administered by Oregon Walks)**: Advances walking school bus and bike bus efforts. In 2025, the first bike bus in Milwaukie launched at Ardenwald Elementary.
- **Get There Portland Metro (administered by Metro)**: Helps employers connect employees to commute options such as walking, biking, carpooling, vanpooling, and transit.
- **North Clackamas Parks and Recreation District (NCPRD) Milwaukie Community Center Services**: NCPRD offers transportation services through the Milwaukie Community Center Transportation Program to seniors and people with disabilities. Service includes door to door service to and from the Center for lunch, classes and other activities. They also provide bus transportation to a local grocery store on Tuesday and Thursday each week. The Center's buses are also used to transport people to popular destinations through their Travel Program
- **Clackamas Community College Xpress Bus**: Frequent service between CCC Harmony Campus, Clackamas Town Center, and the Oregon City campus.
- **Ride Connection**: Offers travel training, trip planning, and paratransit-style services for older adults, people with disabilities, and other underserved travelers.
- **TriMet Programs**: TriMet provides reduced-fare programs for youth, older adults, people with disabilities, and income-qualified riders, as well as LIFT paratransit service. TriMet also offers programs to support employers in providing transit passes to their employees.

Future Programming Needs

There are various opportunities for the city to further support and extend transportation options in Milwaukie. Looking forward, the city will consider the following:

- Providing financial support and staff time to organizations providing travel options programming.
- Providing centralized information for residents about local transportation options programming and organizations.
- Coordinating with and participating in regional travel options planning programs.

CHAPTER 8. MEASURING OUR PROGRESS AND PERFORMANCE

PERFORMANCE MEASUREMENT

Performance standards provide quantitative criteria by which the city evaluates transportation facility design and system performance. ***Chapter 5*** introduces Milwaukie's new Pedestrian Level of Traffic Stress and Bicycle Level of Traffic Stress standards. These new performance standards respond to several requirements established under the Transportation Planning Rule which outlines specific expectations for how jurisdictions must set, utilize, and report on performance standards.

By tracking system progress over time, the city can share the results of its investments, improve transparency for the community, and support continuous improvement by identifying areas of success as well as those needing additional attention.



PRIORITIZING PERFORMANCE STANDARDS

Expanding transportation options on existing roadways can be challenging. Limited right-of-way and other development constraints means it is not always possible to accommodate all modes of transportation or achieve all the target performance standards listed in ***Chapter 5 Table 5-1***. This section provides a policy framework for how the city will balance competing standards when making capital improvements through both city driven projects and when private development occurs.

Prioritization Framework

In areas with constrained rights-of-way where it is not feasible to meet all transportation performance standards listed in ***Table 5-1***, the following framework will be applied:

- The city will prioritize reducing bicycle and pedestrian Level of Traffic Stress over maintaining or improving level of service (LOS) for automobiles, allowing LOS to exceed the city's target if the project or improvements demonstrably improve Pedestrian Level of Traffic Stress and/or Bicycle Level of Traffic Stress on a facility.
- The city will consider the land use and transportation context of the corridor when making prioritization decisions (e.g., proximity to key destinations, such as schools, parks, transit).

When it is not possible to meet both pedestrian and bicycle Level of Traffic Stress targets, the city will use the following factors to prioritize improvements:

- Follow highest functional classification (e.g., Major City Walkway takes priory over City Bikeway)
- Prioritize improvements that serve the most vulnerable system users (e.g., pedestrians with disabilities, seniors, and children over cyclists).
- The improvement closes a critical gap or barrier in a bicycle or pedestrian network.

These exceptions must be documented as part of the project's design decision process.

MEASURING THE SYSTEM

As outlined in Chapter 5, the city has established Level of Traffic Stress thresholds for different pedestrian and bicycle functional classifications. The higher order multimodal functional classification facilities (Major City Walkways/Bikeways, City Walkways/Bikeways, and Neighborhood Walkways/Bikeways) provide the highest levels of connectivity to key destinations and priority focus areas like the Milwaukie Town Center, schools, neighborhood hubs, transit stops, and grocery stores. Therefore, building walking and biking facilities on these roadways is of highest priority to the city, and progress toward a more complete system will be tracked over time.

To track these, Milwaukie established the following performance measures:

- **Pedestrian System Completeness:** % of pedestrian network achieving a Pedestrian Level of Traffic Stress 2 or better
- **Bicycle System Completeness:** % of bicycle network achieving a Bicycle Level of Traffic Stress 1 or better

The baseline results for each performance measure are presented in Tables 8-1 and 8-2 below. The 2045 Projected Target provides the expected results based on the completion of projects in the Tier 1 Financially Constrained project list, while the 2045 Visionary Target provides the expected results based on the completion of all Financially Constrained and Unconstrained projects in the TSP.

Table 8-1. Tracking Pedestrian System Completeness: Baseline Results and Targets

DESCRIPTION	% OF FACILITIES WITH PEDESTRIAN LEVEL OF TRAFFIC STRESS 2 OR BETTER CONDITIONS		
	MAJOR CITY WALKWAYS	CITY WALKWAYS	NEIGHBORHOOD WALKWAYS
Existing Baseline	53%	28%	27%
2045 Projected Target (assumes implementation of the Planned Tier 1 Financially Constrained Projects)	65%	38%	40%
2045 Visionary Target (assumes implementation of all Planned Projects)	81%	50%	54%

Table 8-2. Tracking Bicycle System Completeness: Baseline Results and Targets

DESCRIPTION	% OF FACILITIES WITH BICYCLE LEVEL OF TRAFFIC STRESS 1 OR BETTER CONDITIONS		
	MAJOR CITY BIKEWAYS	CITY BIKEWAYS	NEIGHBORHOOD BIKEWAYS
Existing Baseline	28%	15%	3%
2045 Projected Target (assumes implementation of the Planned Tier 1 Financially Constrained Projects)	30%	27%	3%
2045 Visionary Target (assumes implementation of all Planned Projects)	55%	54%	13%

VEHICLE MILES TRAVELED PER CAPITA

The Transportation Planning Rule requires jurisdictions to adopt Transportation System Plans with financially constrained project lists that result in fewer vehicle miles traveled during the planning period. Meeting this requirement is especially challenging for smaller cities located within larger metropolitan areas, where local travel patterns are influenced by regional land use, employment distributions, and roadway and transit networks. As a result, estimating and forecasting VMT at the city scale can be complex and imprecise.

For this TSP, the city did not develop a new estimate of how the financially constrained project list would affect future VMT. Nonetheless, understanding Milwaukie's current VMT levels and likely future trajectory remains important for evaluating how local policies and investments support broader regional and statewide goals. To inform this understanding, ODOT and its consultants conducted a pilot analysis during the planning process to estimate VMT for Milwaukie. In 2025, ODOT updated procedures for estimating VMT to ensure consistency with the TPR, and Metro prepared revised estimates for the city using the updated procedures The results of that analysis are presented in ***Table 8-3*** and ***Table 8-4***.

The results are based on the Portland Metro Regional Travel Demand Model, using a 2020 base year, a 2045 future year, and the 2023 Regional Transportation Plan financially constrained network. The detailed methodology for this analysis is documented in the Chapter 17 of ODOT's Analysis Procedures Manual.

Table 8-3. Milwaukie VMT Per Capita Evaluation Results

SCENARIO	MILWAUKIE POPULATION	ESTIMATED VMT	VMT/CAPITA
2020	23,096	344,130	14.9

Table 8-4. VMT Performance Measure

MEASURE	BASELINE (2020 MODEL)	2045 EXPECTED
Vehicle Miles Traveled Per Capita	14.9	14.1

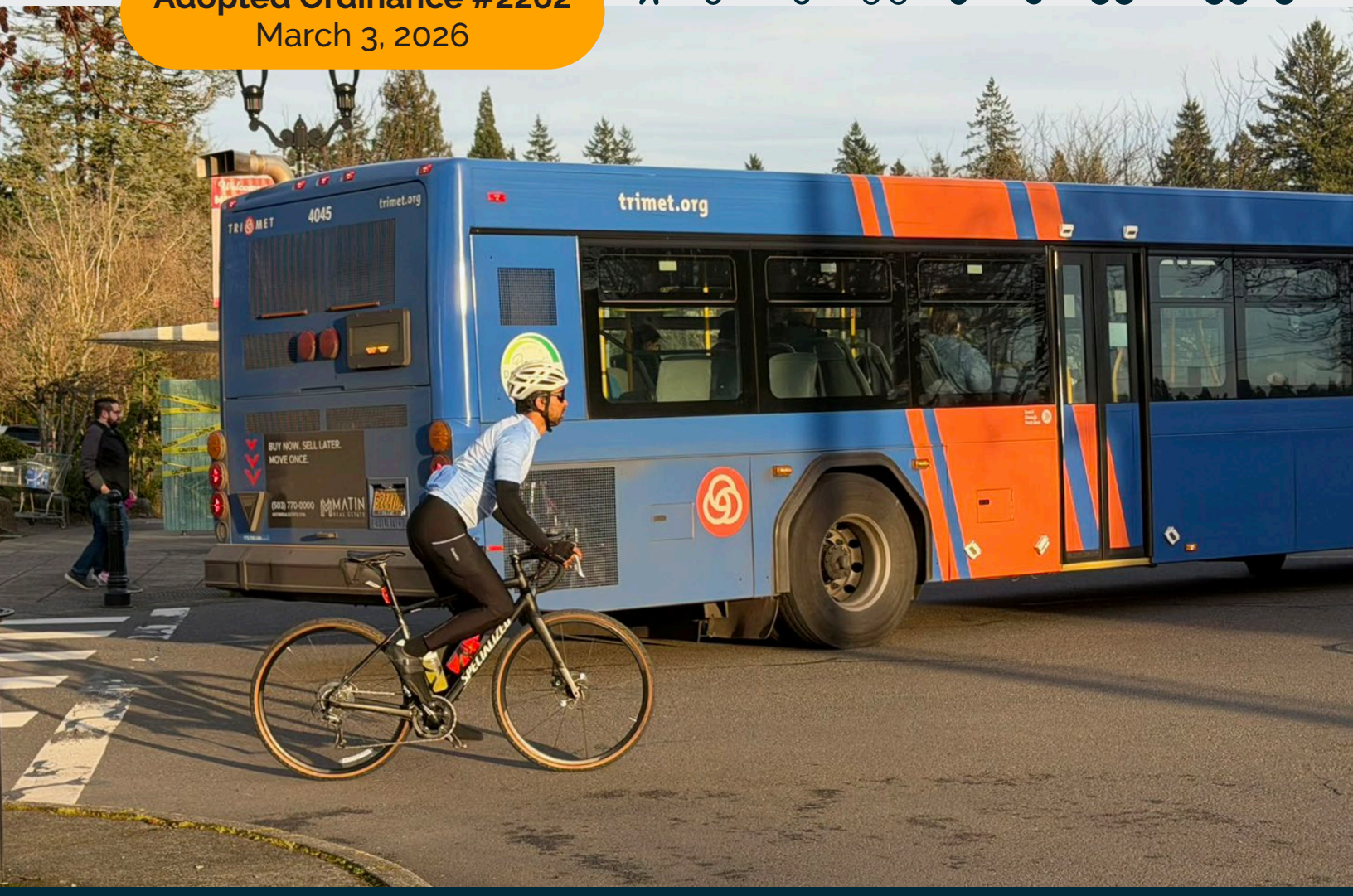
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TRANSPORTATION SYSTEM PLAN

Volume II Appendices

Adopted Ordinance #2262
March 3, 2026



APPENDICES

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Appendix B. Community Profile B1
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APPENDIX A. TSP FINDINGS

TSP FINDINGS

Document created in January 2026.

INTRODUCTION

The City is proposing to adopt an update of the Milwaukie Transportation System Plan (TSP) and associated policies and development requirements. The following findings demonstrate that the adoption of the 2026 Milwaukie TSP is consistent with relevant Statewide Land Use Planning Goals, Oregon Highway Plan policies, Oregon Administrative Rules (Transportation Planning Rule – TPR), and the Metro Regional Transportation Functional Plan.

STATEWIDE PLANNING GOAL FINDINGS

Goal 1: Citizen Involvement

Goal 1 requires the development of a citizen involvement program that is widespread, allows two-way communication, provides for citizen involvement through all planning phases, and is understandable, responsive, and funded.

Finding: Goal 1 requires the City to employ an appropriately-scaled involvement program to ensure the opportunity for meaningful public involvement throughout the land use planning process. Goal 1 requires the City to incorporate six key components in its public involvement program:

- Citizen Involvement: An officially-recognized committee for public involvement broadly representative of geographic areas and interests related to land use and land-use decisions to provide for widespread public involvement;
- Communication: Mechanisms for effective two-way communication between the public and elected/appointed officials;
- Influence: Opportunities for the public to be involved in all phases of the planning and decision-making process including developing, evaluating, and amending plans;
- Technical Information: Access to technical information used in the decision-making process, provided in an accessible and understandable format;
- Feedback Mechanisms: Programs to ensure that members of the public receive responses from policy-makers and that a written record for land-use decisions is created and made accessible; and,
- Financial Support: Adequate resources allocated for the public involvement program as an integral component of the planning budget.

The following is a summary of activities undertaken by the City associated with each of these elements of the City's community engagement effort undertaken to support the proposed Transportation System Plan update. A comprehensive summary of community outreach and engagement activities can be found in Appendix F.

- **Advisory and technical committees**. Milwaukie residents, community representatives, and agency partners participated throughout the TSP process through the TSP Advisory Committee (TSPAC) and the TSP Technical Committee (TSPTC). These committees reviewed draft materials, provided feedback and direction on key components, and shaped recommendations to staff and policy makers. The TSPAC consisted of 19 community members with a diversity of transportation interests and experiences, including representatives of the Public Safety Advisory Committee, each Milwaukie neighborhood, the Planning Commission, the Equity Steering Committee, the Comprehensive Plan Advisory/Implementation Committee, and the business/freight community. The group met 11 times over a two-year period and collectively spent many hours reviewing and providing feedback on draft materials. The TSPTC consisted of city staff and agency representatives that provided technical guidance through the TSP update. Agencies represented included the Oregon Department of Transportation, the Oregon Department of Land Conservation and Development, Metro, Clackamas County, TriMet, Clackamas Fire District #1, North Clackamas School District, and Portland General Electric. Like the TSPAC, the TSPTC met 11 times over the two-year period, reviewing materials and providing crucial guidance along the way.
- **Community-wide outreach.** The community was invited to participate in three in-person and online outreach activities intended to gather input on draft elements of the TSP. These activities were promoted using multiple methods, including articles in the Milwaukie Pilot (city newsletter), a promotional video, posts on the city website, email blasts to project subscriber lists, announcements at public meetings, weekly Neighborhood District Association updates, flyer distribution, bookmark advertisements, social media posts, and tabling at community events. The feedback gathered from these events helped inform transportation priorities, needs, goals, and TSP policies and projects.
- **Targeted outreach to underserved communities.** Focused outreach was conducted with key underserved populations identified in the Community Profile (Appendix B). Specifically, three focus groups were held to gather input on which proposed TSP projects would deliver to greatest benefits to the community. The following focus groups were held:
    1. Older adults 65+ at the Milwaukie Center
    2. Low income/wealth population at Hillside Manor
    3. BIPOC and Spanish-speaking residents at the Ledding Library

  Focus group participants emphasized safe, comfortable, and accessible options for walking, biking, and transit. Top priorities included enhanced pedestrian crossings, new bike lanes and off-street paths, improved bus stop amenities and service, and roadway safety improvements. Feedback from these sessions was incorporated into the project evaluation matrix to help shape which projects were prioritized within the financially constrained and unconstrained lists.

- **Additional Outreach**. City staff also attend numerous events throughout the course of the project to inform the community about the TSP project and let them know about opportunities to be involved. These events included:
    - Milwaukie Farmers' Market
    - Equity Steering Committee meetings
    - North Clackamas School District Noche Latina
    - North Clackamas School District Community Resource Fair
    - Scott Park Design Open House
    - Neighborhood District Association meetings

- Bike Milwaukie meetings
- Public Safety Advisory Committee meetings
- Monroe Greenway Design Open House

Goal 2: Land Use Planning

This goal requires that a land use planning process and policy framework be established as a basis for all decisions and actions relating to the use of land. All local governments and state agencies involved in the land use action must coordinate with each other. City, county, state and federal agency and special districts plans and actions related to land use must be consistent with the comprehensive plans of cities and counties and regional plans adopted under Oregon Revised Statues (ORS) Chapter 268.

Finding: The City has an established land use planning process and a policy framework that serves as a basis for the decision on this request. The policy framework is found in the City's acknowledged Comprehensive Plan, which includes policies and goals relevant to the decision. An analysis of how 2026 TSP is consistent with this policy framework is presented below.

- Amendments to the City's Comprehensive Plan become part of the policy framework that serves as the basis for decisions and actions related to the use of land. The proposal is to replace the currently adopted 2013 TSP with the 2026 TSP, to be adopted and incorporated by reference as an element of the Comprehensive Plan.
- Existing state, regional, and local plans, policies, and regulations relevant to the 2026 TSP were reviewed and summarized to help guide the development of the TSP. A summary of plans and regulations that provide the framework for the TSP can be found in the "Plans Background and Regulatory Context" section of TSP Chapter 1. A more detailed summary of the planning and policy framework can be found in TSP Appendix J (TM #1 Plans and Policy Framework).
- The analysis prepared for the TSP relied on a variety of land use information and conditions to effectively project transportation demands, including the City's zoning map and Development Code, population projections for Milwaukie prepared by Metro as part of the regional growth management process, and a review of more specific development plans and policies as noted above.
- Coordination between state, regional, and local agencies was accomplished through both the Project Management Team (PMT), which included key City staff members, and the TSPTC. Members of the TSPTC that provided guidance on the development of the TSP included representatives from multiple agencies and organizations, including those listed below.
    - Oregon Department of Transportation (ODOT)
    - Oregon Department of Land Conservation and Development (DLCD)
    - Metro
    - Clackamas County
    - TriMet
    - Clackamas Fire District #1
    - North Clackamas School District
    - Portland General Electric
- TSP Policy 9.3 encourages the City's transportation system to "Ensure consistency with federal, state, regional, and local planning rules, regulations, and standards." The TSP update includes proposed implementing ordinances (amendments) to Title 19 (Zoning) of the Milwaukie Municipal Code (Code), which will help ensure that TSP implementation is coordinated with the City's land use regulations and procedures. In addition, proposed

Code amendments ensure local consistency with relevant elements of the Oregon Transportation Planning Rule (TPR).

Goal 5: Natural Resources, Scenic and Historic Areas, and Open Space

To protect natural resources and conserve scenic and historic areas and open spaces. Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon's livability.

Finding: Goal 5 directs the City to inventory, evaluate, and develop conservation programs for specific natural and cultural resources. The proposed TSP update does not propose any changes to the City's habitat protection program or inventory of habitat resources or historic resources. Goal 5 does not directly apply to the proposed ordinance because no new Goal 5 program is advanced by this ordinance and no existing Goal 5 program is changed by this ordinance.

Although the TSP update does not include changes to the City's Goal 5 program, TSP Goal 8 – Healthy Environment – supports Statewide Planning Goal 5 by encouraging the City to "Create a transportation system that does not further degrade, and when possible, enhances the community's natural resources, such as clean air, clean water, and wildlife habitat." TSP Goal 8 also includes the following policies that support Statewide Goal 5 for natural resources:

- 8.1: Prioritize transportation improvements that preserve and enhance natural resources such as trees, streams, wetlands, wildlife corridors, and endangered species.
- 8.2: Consider best practices for wildlife crossings where transportation facilities intersect with waterbodies and habitat areas.
- 8.3: Minimize the impacts the transportation system has on the environment through the use of green infrastructure.
- 8.4: Evaluate and mitigate how transportation facilities negatively impact environmental quality and human health outcomes.

Goal 6: Air, Water and Land Resources Quality

To maintain and improve the quality of the air, water and land resources of the state. All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards.

Finding: Goal 6 requires cities and counties to ensure that solid waste, thermal, noise, atmospheric, or water pollutant and contaminant process discharges from existing and future developments do not violate state or federal environmental quality standards or degrade the quality of air, water, or land resources. Implementing ordinances must demonstrate consistency with the administrative rules related to air, water, and land quality established by the Environmental Quality Commission (EQC).

The TSP includes multiple goals and policies that support clean air, water, and land resources, including but not limited to the following:

- TSP Goal 4 – *Create a transportation system that reduces greenhouse gas pollution and is responsive to a changing climate.*
    - Policy 4.1 – Support the transition to low and zero-emission vehicles and other emerging sustainable modes of transportation through infrastructure investments, education, and regulations.
    - Policy 4.2 – Establish land use patterns that reduce vehicle miles traveled (VMT) and greenhouse gas emissions.
- TSP Goal 5 – *Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.*
- TSP Goal 6 – *Improve public transit service to, from, and within Milwaukie.*
- TSP Goal 8 – *Create a transportation system that does not further degrade, and when possible, enhances the community's natural resources, such as clean air, clean water, and wildlife habitat.* (see Statewide Goal 5 findings for applicable policies)

In addition, the TSP has been developed to be compatible with the state's recently adopted Climate Friendly and Equitable Communities (CFEC) legislation and associated state rules which emphasize implementation of a system that emphasizes use of walking, bicycling, and transit, in part to reduce impacts on air quality and other land and water resources.

Goal 7: Areas Subject to Natural Hazards

To protect people and property from natural hazards. Local governments shall adopt comprehensive plans (inventories, policies and implementing measures) to reduce risk to people and property from natural hazards.

Finding: Goal 7 requires Comprehensive Plans to reduce the risk to people and property from natural hazards, including floods, landslides, earthquakes, tsunamis, coastal erosion, and wildfires. TSP Goal 10 – Emergency Preparedness – includes the following:

Goal 10 – Develop a multimodal transportation system that provides travel options during normal conditions, natural disasters, or emergencies.

- Policy 10.1: Identify transportation improvements that increase the diversity and number of travel routes between key destinations.
- Policy 10.2: Coordinate with the Regional Disaster Preparedness Organization, Metro, and Clackamas County to improve designated emergency routes to aid in responding to natural disasters or weather-related events for all modes of transportation.
- Policy 10.3: Require facilities in the FEMA-designated special flood hazard area be designed for resiliency.

Goal 9: Economic Development:

This goal requires that local comprehensive plans and policies contribute to a stable and healthy economy in all regions of the state.

Finding: Goal 9 requires the City to maintain and plan for an adequate land supply to accommodate at least 20 years of future growth, ensuring citizens have adequate opportunities for a variety of

economic activities vital to the health, welfare, and prosperity of Oregon. TSP Goal 7 – Economic Vitality – includes the following:

Goal 7 – Develop a transportation system that supports and facilitates economic activity through the efficient movement of people, goods, and services.

- Policy 7.1: Identify new projects and improve the existing transportation infrastructure throughout the city that facilitates greater economic development, within commercial and industrial areas.
- Policy 7.2: Build low stress multimodal connections to and through designated Neighborhood Hubs and Milwaukie's 2040 Town Center to support business activity.
- Policy 7.3: Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.
- Policy 7.4: Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.
- Policy 7.5: Coordinate with regional rail providers to preserve rail freight service to businesses that depend on railroad service.
- Policy 7.6: Plan for light vehicle and human powered goods delivery throughout the city.

Goal 10: Housing

This goal requires the City's plans to provide for the appropriate type, location and phasing of public facilities and services sufficient to support housing development in areas presently developed or undergoing development or redevelopment.

Finding: Goal 10 requires the City to maintain and plan for an adequate land supply to accommodate at least 20 years of future growth, providing flexibility in housing location, type, and density to ensure the availability and prices of housing units are commensurate with the needs and financial capabilities of Oregon households. Comprehensive plans are required to include an analysis of community housing needs by type and affordability, an assessment of housing development potential, and an inventory of residential land; contain policies for residential development and supportive services based on that analysis that increase the likelihood that needed housing types will be developed; and provide for an adequate supply of a variety of housing types consistent with identified policies and meeting minimum density and housing mix requirements (established by OAR 660, Division 007).

Several TSP policies and projects promote a transportation system that can adequately support housing opportunities, existing residential areas, and future travel demand. TSP policies that address appropriate service for residential areas, population growth and travel demand needs include:

- Policy 1.1: Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.
- Policy 2.4: Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.

- Policy 3.1: Prioritize transportation improvements that improve access, safety, and connectivity to/from/for underserved population groups, lower-income neighborhoods, and transportation disadvantaged groups.
- Policy 5.1: Improve and maintain walking, biking, and rolling access to key destinations such as Neighborhood Hubs, public spaces, schools, parks, commercial centers, industrial areas, transit routes/stops/centers, and recreational opportunities.
- Policy 6.2: Advocate for prioritized and additional frequent transit service in areas that lack connectivity and have the potential for new growth.
- Policy 6.4 Work with transit providers to ensure all Neighborhood Hubs have adequate transit service.
- Policy 12.1: Promote the conversion of existing underused private and public parking areas to other uses.
- Policy 12.3: Employ parking management measures as needed to address the impacts of new infill development.

Goal 11: Public Facilities and Services

Goal 11 requires cities and counties to plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development. The goal requires that urban and rural development be "guided and supported by types and levels of urban and rural public facilities and services appropriate for, but limited to, the needs and requirements of the urban, urbanizable and rural areas to be served."

Finding: Goal 11 requires the City to "*plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.*" The City of Milwaukie coordinates with several other local service provides to ensure timely, orderly and efficient arrangement and provision of public services to serve development within the City of Milwaukie and its planning area between the city limits and UGB. The City of Milwaukie provides planning and zoning services inside the city limits, as well as provision of water, conveyance of wastewater, transportation facilities on city-owned facilities, law enforcement, and library services. The City is already in compliance with Goal 11 and updated specific facility master plans for stormwater in 2014, water in 2021, and wastewater in 2022.

Transportation facilities, including roadways, bikeways, sidewalks, and multi-use paths are a primary type of public facility and, in Milwaukie, are managed by public agencies including the City, Clackamas County, and ODOT. The 2026 TSP documents existing conditions and future needs for Milwaukie's transportation system – see TSP Appendix D and E, respectively. The TSP projects (listed in TSP Tables 7-5, 7-6, 7-7, 7-8, and 7-9) and the Financially Constrained Projects (TSP Table 7-4) are tailored to meet identified existing and future needs and address project goals and policies.

Goal 12: Transportation

Goal 12 requires cities, counties, metropolitan planning organizations, and ODOT to provide and encourage a "safe, convenient and economic transportation system." This is accomplished through development of Transportation System Plans based on inventories of local, regional and state transportation needs. Goal 12 is implemented through OAR 660, Division 12, also known as the

Transportation Planning Rule ("TPR"). The TPR contains numerous requirements governing transportation planning and project development. (See the "OAR 660, Division 12" section of this document for findings of compliance with the TPR.)

Finding: Project goals and priorities that address mobility, connectivity, safety, equity, climate mitigation/adaptation, active/healthy transportation modes, public transportation, economic vitality, environment, fiscal stewardship, and emergency preparedness all guided the development of the 2026 TSP. Existing conditions and future transportation needs were analyzed with respect to these goals and objectives. Elements of the 2026 TSP – including existing conditions and future needs, as well as transportation system standards, implementation strategies, and recommended transportation system improvements – are consistent with TPR Section -0020 requirements (as described in the following paragraphs).

The inventory and analysis of existing and future conditions identified opportunities, by mode, to improve the transportation system. These needs were identified in the existing conditions and needs analysis; by project team members, advisory committee members, and other community members; and through analysis using projected future traffic volumes and patterns, consistent with TPR Section -0030 requirements. For more details on the City's transportation system conditions and needs, see Appendix D (Transportation System Conditions).

Evaluation criteria, developed in accordance with TPR Section -0035 and based on the TSP goals and objectives, were used to evaluate improvement alternatives that would address identified needs. Evaluation criteria are detailed in the Appendix G (Evaluation Criteria). The criteria were presented to and refined during discussions with the advisory committees during their scheduled meetings and with community members at public meetings.

The regulatory basis for proposed transportation policies and development code amendments – in particular, TPR requirements – is outlined in the TSP Appendix A (Regulatory Solutions Memo) and Appendix J (Plans and Policy Framework). This coordination of land use and transportation planning is consistent with both the general purpose and specific requirements in the TPR, including Section -0045 (Implementation of the Transportation System Plan).

The 2026 TSP will be adopted as the Transportation Element of the City's Comprehensive Plan. TSP adoption will be accomplished through a legislative amendment process consistent with City procedures and requirements.

Goal 13: Energy Conservation

To conserve energy. Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles.

Finding: A number of TSP goals, policies, and projects promote energy conservation by encouraging energy efficient modes of transportation and land use/development patterns that support those transportation modes. This includes goals, policies, and projects that support walking, biking, taking transit, and reducing reliance on private automobiles. Some of the goals/policies and projects include the following:

- TSP Goal 1 – Provide *an efficient and well-connected multimodal transportation system that works to connect the community to key destinations.*
    - Policy 1.3 – Prioritize closing gaps in the existing pedestrian and bicycle network
    - Policy 1.5 – Manage the right-of-way to ensure street design standards equitably and safely allocate or share space for all modes of transportation, including pedestrians, bicycles, rollers, and transit
    - Policy 1.8 – Improve the comfort of walking, cycling, and rolling across Highway 224 and McLoughlin Blvd by slowing vehicle traffic on those facilities.
- TSP Goal 4 – Create a transportation system that reduces greenhouse gas pollution and is responsive to a changing climate.
    - Policy 4.1 – Support the transition to low and zero-emission vehicles and other emerging sustainable modes of transportation through infrastructure investments, education, and regulations.
    - Policy 4.2 – Establish land use patterns that reduce vehicle miles traveled (VMT) and greenhouse gas emissions.
- TSP Goal 5 – Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.
- TSP Goal 6 – Improve public transit service to, from, and within Milwaukie.
- TSP Goal 7, Policy 7.4 – Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.
- TSP Goal 7, Policy 7.6 – Plan for light vehicle and human powered goods delivery throughout the city.
- TSP Goal 12 – Reduce land used for parking to achieve local, state, and regional parking goals while also managing parking impacts.
    - Policy 12.1 – Promote the conversion of existing underused private and public parking areas to other uses.
    - Policy 12.3 – Employ parking management measures as needed to address the impacts of new infill development.
    - Policy 12.5 - Ensure bicycle and micro-mobility parking is provided and unobstructed in and between neighborhoods, schools, parks, transit facilities, employment centers, Neighborhood Hubs, and other key destinations.
- Relevant Transportation Projects:
    - 99 Pedestrian projects with an estimated total cost of $100 million (TSP Table 7-5 and Figure 7-2)
    - 45 Bicycle projects with an estimated total cost of $25 million (TSP Table 7-6 and Figure 7-3)
    - 8 Transit projects with an estimated total cost of $24 million (TSP Table 7-8 and Figure 7-5)

Goal 14: Urbanization

To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

Finding: The 2026 TSP includes policies and projects that will support future housing and employment growth. The following policies support transportation facilities and services that will accommodate future growth:

- Policy 1.1: Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.
- Policy 2.4: Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.
- Policy 5.1: Improve and maintain walking, biking, and rolling access to key destinations such as Neighborhood Hubs, public spaces, schools, parks, commercial centers, industrial areas, transit routes/stops/centers, and recreational opportunities.
- Policy 6.2: Advocate for prioritized and additional frequent transit service in areas that lack connectivity and have the potential for new growth.
- Policy 6.4: Work with transit providers to ensure all Neighborhood Hubs have adequate transit service.
- Policy 6.6: Work to ensure that employment centers are well served by public transit.
- Policy 7.4: Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.

OAR 660 DIVISION 12 TRANSPORTATION PLANNING RULE (TPR)

The Transportation Planning Rule (TPR) "(i)mplements Statewide Planning Goal 12 (Transportation) to provide and encourage a safe, convenient, and economic transportation system. This division also implements provisions of other statewide planning goals related to transportation planning in order to plan and develop transportation facilities and services in close coordination with urban and rural development." A major purpose of the TPR is to promote more careful coordination of land use and transportation planning, and to ensure that planned land uses are supported by and consistent with planned transportation facilities and improvements.

The TPR contains policies for preparing and implementing a transportation system plan.

Finding: The TSP Planning process included an evaluation of the City's compliance with the TPR, which is summarized in the Regulatory Solutions memo (Appendix A). The project team drafted amendments to Title 19 (Zoning) of the Milwaukie Municipal Code (Code) to support implementation of the Transportation System Plan (TSP) and to ensure the City's land use requirements and standards comply with the TPR, including elements of the Climate-Friendly and Equitable Communities (CFEC) rules. The amendments are summarized in the Implementing Ordinances memo. The Implementing Ordinances memo also assesses the City's consistency with CFEC "Walkable Neighborhood" rules, and potential Code updates for consistency with those rules will be considered at a later date.

OREGON HIGHWAY PLAN FINDINGS

The 1999 Oregon Highway Plan (OHP – updated through January 2023) establishes policies and investment strategies for Oregon's Statewide Highway System over a 20-year period and refines the goals and policies found in the OTP. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local vehicle, bicycle, pedestrian, transit, rail, and air systems and facilities. While the TSP meets all OHP policies, the following policy list details how the TSP meets the applicable policies. The 2026 Milwaukie TSP meets the state's policies as follows:

Policy 1A – Highway Classification

Defines the function of state highways to serve different types of traffic that should be incorporated into and specified through IAMPs.

Policy 1C – State Highway Freight System

States the need to balance the movement of goods and services with other uses.

Finding: OHP Policy 1A classifies OR 99E and OR 224 as Statewide Highways (OR 99E is also a District Highway facility south of the interchange with 224). These highways are also classified as OHP Freight Routes and as Regional Truckways in the TSP (TSP Figure 5-5). Multiple policies and projects are intended to maintain the function and capacity of existing transportation facilities, including OR 99E and OR 224, to facilitate efficient and functional movement through the City by reducing congestion and improving capacity and supporting freight movement. Specifically, the following policies and projects address the need to maintain the capacity and function of highway facilities and freight movement:

- Policy 7.3 – Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.
- Policy 11.2 – Improve the efficiency of the existing transportation network before adding additional vehicular travel lanes.
- Policy 11.3 – Invest in the maintenance of the transportation system.
- Relevant Transportation Projects:
    - TSP Project F-1 on OR 99E to improve signage to support freight access (TSP Table 7-9 and Figure 7-6).
    - TSP Project F-5 on OR 224 to upgrade the intersection to accommodate freight movement.
    - 6 roadway/intersection projects to improve facility capacity, function, and safety on OR 99E and OR 224 (TSP Table 7-7 and Figure 7-4).

Policy 1B – Land Use and Transportation

Recognizes the need for coordination between state and local jurisdictions.

Finding: Policy 1B recognizes that state highways serve as important transportation facilities in many communities. TSP Goal 9 – Coordination with Local, State, and Regional Partners – includes policies that encourage collaboration with state and regional agencies to ensure consistency with rules/regulations (Policy 9.3), fund transportation improvements (Policy 9.5), and advocate for safe/low-stress facilities (Policy 9.6). In addition, numerous projects targeted for ODOT facilities (OR 99E and OR 224) will necessitate coordination with state and regional partners.

Policy 1F – Highway Mobility Standards

Sets mobility standards for ensuring a reliable and acceptable level of mobility on the highway system by identifying necessary improvements that would allow the highway to function in a manner consistent with OHP mobility standards.

Finding: The City will continue working with ODOT to establish an alternative mobility target specifically for OR 224 (TSP Project R-11). TSP Policy 9.1 is to "Advocate for city priorities while coordinating city projects, policies, development actions, and mobility targets with partner agencies."

Policy 1G – Major Improvements

Requires maintaining performance and improving safety by improving efficiency and management before adding capacity. ODOT works with regional and local governments to address highway performance and safety.

Finding: The City will coordinate with ODOT on projects targeted for state highway facilities (OR 99E and OR 224), including 13 pedestrian projects (Table 7-5 and Figure 7-2), and 6 roadway/intersection projects (TSP Table 7-7 and Figure 7-4) and two Freight projects (TSP Table 7-9 and Figure 7-6) on OR 99E and OR 224. ODOT also was actively involved in creation of the TSP and has worked closely with the City on projects that will benefit the City and OR 99E and OR 224.

Policy 2F – Traffic Safety

Improves the safety of the highway system.

Finding: Several TSP policies and projects are intended to improve safety for all users along highway facilities in Milwaukie, including the following:

- Policy 1.4 – Minimize the barrier effect of large transportation facilities on connectivity and accessibility for all modes by improving east-west connectivity across Highway 224 to downtown, across McLoughlin to the Willamette River and western neighborhoods, across railroad facilities, and across the river.
- Policy 1.8 – Improve the comfort of walking, cycling, and rolling across Highway 224 and McLoughlin Blvd by slowing vehicle traffic on those facilities.
- Policy 2.1 – Advocate for ODOT and Clackamas County to create safe and comfortable pedestrian and bicycle movement on State/ County-owned and operated facilities, especially Highway 224, McLoughlin Boulevard, and Johnson Creek Boulevard.
- Policy 9.6 – Advocate for low-stress pedestrian and cyclist crossings across Highway 224, McLoughlin Blvd, and railroad crossings.

- Relevant Transportation Projects:
    - Project P-111 – Work with ODOT and prepare a feasibility study for a grade-separated pedestrian crossing of OR 224 located somewhere between SE Harrison St and SE Oak St.
    - Project P-124 – Work with ODOT and prepare a feasibility study for a grade-separated pedestrian crossing of OR 99E to be located between SE Harrison Street and the Kellog Creek crossing.
    - Project P-125 - Construct a new separated ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target.
    - Projects R-2, R-6, and R-9 – Coordinate with ODOT to identify and implement traffic signal, travel lane, geometric, and multimodal refinements that balance capacity, vehicle queuing, and multimodal safety needs.

Policy 4A – Efficiency of Freight Movement

It is the policy of the State of Oregon to maintain and improve the efficiency of freight movement on the state highway system and access to intermodal connections. The State shall seek to balance the needs of long distance and through freight movements with local transportation needs on highway facilities in both urban areas and rural communities.

Finding: OR 99E and OR 124 are ODOT designated Freight Routes in Milwaukie. Several policies and projects are intended to maintain the function and capacity of these highway facilities to facilitate efficient and functional movement through the City by reducing congestion and improving capacity. The following policies and projects promote more efficient freight movement on these facilities:

- Policy 7.3 – Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.
- Relevant Transportation Projects:
    - TSP Project F-1 on OR 99E to improve signage to support freight access (TSP Table 7-9 and Figure 7-6).
    - TSP Project F-5 on OR 224 to upgrade the intersection to accommodate freight movement.

Policy 4B – Alternative Passenger Modes

It is the policy of the State of Oregon to advance and support alternative passenger transportation systems where travel demand, land use, and other factors indicate the potential for successful and effective development of alternative passenger modes.

Finding: Several TSP policies and projects support multimodal transportation options (i.e., alternative modes), many of which apply to OR 99E and OR 224. As mentioned in previous findings, TSP projects include installation of multimodal crossings and a grade separated pathway along these facilities. TSP policies 1.8, 2.1, and 9.6 each advocate for multimodal safety and comfort improvements to OR 224.

Policy 4D – Transportation Demand Management

Support the efficient use of the state transportation system through investment in transportation demand management strategies.

Finding: TSP Policy 5.4 encourages the City to "Implement transportation demand management strategies, such as incentivizing employers to encourage active transportation and transit."

METRO REGIONAL TRANSPORTATION FUNCTIONAL PLAN FINDINGS

The Regional Transportation Functional Plan (RTFP) implements the goals, objectives, and policies of the Regional Transportation Plan (RTP). The State requires the RTFP to directs cities and counties within the metropolitan planning area boundary to implement the RTP through their TSPs and associated land use regulations. The updated TSP needs to be consistent with the Titles of the RTFP. In addition, the City needs to implement certain RTFP requirements through the Development Code.

The current RTFP was adopted in 2012. Metro anticipates beginning the update process for the RTFP in 2025, with adoption planned for 2026 or 2027. The RTFP update will ensure consistency with recent TPR updates associated with CFEC. It is assumed that TPR requirements shall take precedence over the RTFP wherever there are inconsistencies. Therefore, some of the following findings, particularly regarding performance measures and parking management, will defer to TSP/policy recommendations that comply with the TPR.

The following findings identify the elements of the Milwaukie TSP that satisfy each of the applicable RTFP Checklist items.

Title 1 – Street System Design, Section 3.08.110C

Include to the extent practicable, a network of major arterial streets at one-mile spacing and minor arterials or collectors at half-mile spacing, considering:

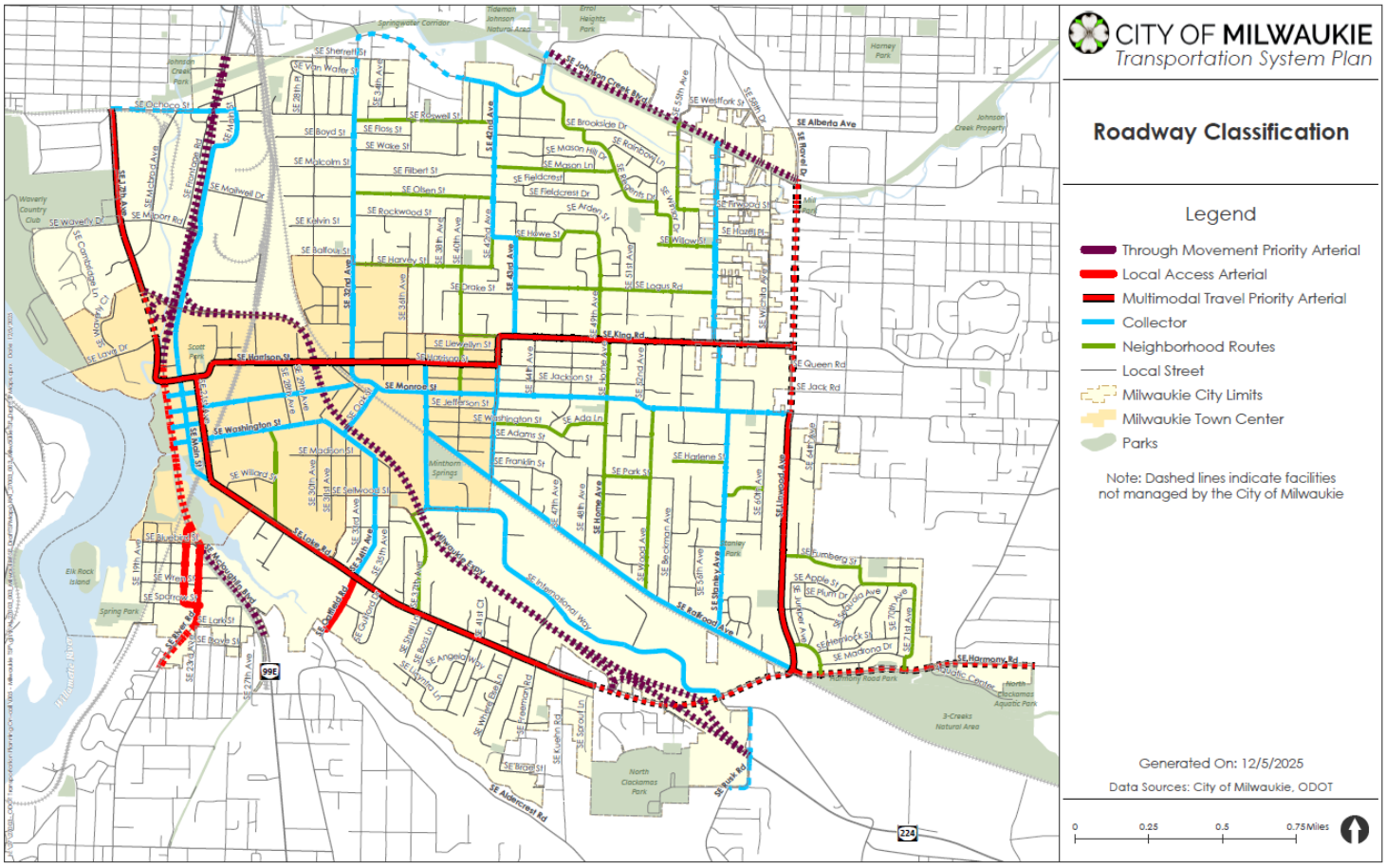
- *existing topography;*
- *rail lines; freeways; pre-existing development, leases, easements or covenants;*
- *requirements of Metro's Urban Growth Management Functional Plan Title 3 (Water Quality and Flood plains) and Title 13 (Nature in Neighborhoods), such as streams, rivers, flood plains, wetlands, riparian and upland fish and wildlife habitat areas.*
- *arterial design concepts in Chapter 3 of RTP (Section 3.5, Table 3.3 and Figure 3.11)*
- *best practices and designs as set forth in regional state or local plans and best practices for protecting natural resources and natural areas*

Finding: TSP Chapter 5 describes the City's roadway classification hierarchy, including a map and descriptions for the following:

- **Through Movement Priority Arterial** segments prioritize the efficient movement of traffic over longer distances, with limited interruptions and access points. Through Movement Priority Arterials will generally limit access to limited intersections with the street network and support safe speeds.

- **Local Access Priority Arterial** segments are roadways that prioritize direct access to properties and local street connections, balancing mobility with community accessibility and livability. Local Access Priority Arterials generally allow for more access from properties, more opportunities to make turns, more frequent intersections with other streets, and slower speeds.
- **Multimodal Travel Priority Arterial** segments are primarily, but not exclusively, located within or adjacent to Climate-Friendly Areas and prioritize high-quality, complete, connected facilities for people walking, bicycling, and using public transit.
- **Collectors** provide a link between neighborhood or local streets and arterials, balancing mobility and local access for all modes. They are slower and more access focused than arterials.
- **Neighborhood Routes** provide direct circulation within residential areas and links homes to collectors, with slow speeds and emphasis on livability.
- **Local Streets** primarily serve access to individual properties and carry very low traffic volumes.

As shown in TSP Figure 5-6, the City's "Through Movement" arterials (major arterials) generally meet the one-mile spacing requirement, and local access/multimodal arterials (minor arterials) and collectors generally meet the half-mile spacing requirement.



Title 1 – Street System Design, Section 3.08.110D

Include a conceptual map of new streets for all contiguous areas of vacant and re-developable lots and parcels of five or more acres that are zoned to allow residential or mixed-use development. The map shall identify street connections to adjacent areas and should demonstrate opportunities to extend and connect new streets to existing streets, provide direct public right-of-way routes and limit closed-end street designs consistent with Title 1, Sec 3.08.110E

Finding: The City does not have any areas where this applies, and therefore this RTFP requirement does not apply. While that is the case, the TSP Figure 7-4 identifies roadway extension projects that include opportunities to establish new local street connections as part of future infill and redevelopment.

Title 1 – Transit System Design, Section 3.08.120A

Include investments, policies, standards and criteria to provide pedestrian and bicycle connections to all existing transit stops and major transit stops designated in Figure 3.16 of the RTP.

Finding: The following policies and projects encourage multimodal connectivity to transit:

- Policy 1.1 – Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.
- Policy 2.4 – Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.
- Policy 5.1 – Identify and prioritize projects that close gaps in the existing active transportation network and support a street grid that provides options for transit, pedestrians, and bicyclists.
- Policy 12.5 – Ensure bicycle and micromobility parking is provided and unobstructed in and between neighborhoods, schools, parks, transit facilities, employment centers, Neighborhood Hubs, and other key destinations.

See Appendix A (Regulatory Solutions Memo) for details on the City's standards in the Development Code for bicycle and pedestrian connectivity to transit facilities.

Title 1 - Transit System Design, Section 3.08.120B(1)

Include a transit plan consistent with transit functional classifications shown in Figure 3.16 of the RTP that shows the locations of major transit stops, transit centers, high capacity transit stations, regional bike-transit facilities, inter-city bus and rail passenger terminals designated in the RTP, transit-priority treatments such as signals, park-and-ride facilities, and bicycle and pedestrian routes, consistent with sections 3.08.130 and 3.08.140, between essential destinations and transit stops.

Finding: The TSP includes a Transit Classification Hierarchy and descriptions beginning on page 42 and in Figure 5-4. These include Regional Transitways, Major Transit Priority Streets, Transit Access Streets, and Local Service Transit Streets. The TSP Transit Projects (Table 7-8 and Figure 7-5) include projects currently envisioned/planned by regional partners (TriMet, Metro, and Clackamas County) to implement frequent services, bus rapid transit, and transit signal priority facilities and services. Local implementation of these

services and facilities will include infrastructure improvements to support transit service, including but not limited to station/stop improvements and bicycle and pedestrian connectivity improvements.

Title 1 - Pedestrian System Design, Section 3.08.130A

Include a pedestrian plan for an interconnected network of pedestrian routes within and through the city or county. The plan shall include:

- *An inventory of existing facilities that identifies gaps and deficiencies in the pedestrian system;*
- *An evaluation of needs for pedestrian access to transit and essential destinations for all mobility levels, including direct, comfortable and safe pedestrian routes;*
- *A list of improvements to the pedestrian system that will help the city or county achieve the regional Non-SOV modal targets in Table 3.08-1 of the RTFP, and other targets established pursuant to section 3.08.230;*
- *Provisions for sidewalks along arterials, collectors and most local streets, except that sidewalks are not required along controlled roadways, such as freeways;*
- *Provision for safe crossings of streets and controlled pedestrian crossings on major arterials*

Finding: The TSP includes a Pedestrian Classification Hierarchy and descriptions beginning on page 34 and in Figure 5-2. These include Major City Walkways, City Walkways, Neighborhood Walkways, and Local Service Walkways. TSP Figure 5-8 identifies priority focus areas for pedestrian gaps and deficiencies. The TSP Pedestrian Projects List (Table 7-5 and Figure 7-2) includes a comprehensive list of pedestrian projects that are intended to meet identified pedestrian system needs and fill gaps/deficiencies, including access to key destinations and transit facilities, pedestrian facilities/sidewalks along each type of street classification, and safety/connectivity crossings.

Title 1 – Bicycle System Design Section 3.08.140

Include a bicycle plan for an interconnected network of bicycle routes within and through the city or county. The plan shall include:

- *An inventory of existing facilities that identifies gaps and deficiencies in the bicycle system;*
- *An evaluation of needs for bicycle access to transit and essential destinations, including direct, comfortable and safe bicycle routes and secure bicycle parking, considering TriMet Bike Plan;*
- *A list of improvements to the bicycle system that will help the city or county achieve the regional Non-SOV modal targets in Table 3.08-1 of the RTFP and other targets established pursuant to section 3.08.230;*
- *Provision for bikeways along arterials, collectors and local streets, and bicycling parking in centers, at major transit stops shown in Figure 3.16 in the RTP, park-and-ride lots and associated with institutional uses;*
- *Provision for safe crossing of streets and controlled bicycle crossings on major arterials*

Finding: The TSP includes a Bicycle Classification Hierarchy and descriptions beginning on page 38 and in Figure 5-3. These include Major City Bikeways, City Bikeways, Neighborhood Bikeways, and Local Service Bikeways. TSP Figure 5-9 identifies priority focus areas for bicycle gaps and deficiencies. The TSP Bicycle Projects List (Table 7-6 and Figure 7-3) includes a comprehensive list of bicycle projects that are intended to meet identified bicycle system needs and fill gaps/deficiencies, including access to key destinations and transit facilities, bike facilities along each type of street classification, and safety/connectivity crossings.

Title 1 – Freight System Design Section 3.08.150

Include a freight plan for an interconnected system of freight networks within and through the city or county. The plan shall include:

- *An inventory of existing facilities that identifies gaps and deficiencies in the freight system;*
- *An evaluation of freight access to freight intermodal facilities, employment and industrial areas and commercial districts;*
- *A list of improvements to the freight system that will help the city or county increase reliability of freight movement, reduce freight delay and achieve targets established pursuant to section 3.08.230.*

Finding: The TSP includes a Truck Freight Classification Hierarchy and descriptions on page 46 and in Figure 5-5. These include Regional Truckways, Priority Truck Streets, Truck Access Streets, and Local Service Truck Streets. The TSP Freight Projects (Table 7-9 and Figure 7-6) includes a list of 7 projects that are intended to meet identified freight needs which will help improve freight reliability and movement, including signage upgrades, intersection geometry upgrades, and street surfacing improvements.

Title 1 – Transportation System Management and Operations 3.08.160

Include a transportation system management and operations (TSMO) plan to improve the performance of existing transportation infrastructure within or through the city or county. A TSMO plan shall include:

- *An inventory and evaluation of existing local and regional TSMO infrastructure, strategies and programs that identifies gaps and opportunities to expand infrastructure, strategies and programs*
- *A list of projects and strategies, consistent with the Regional TSMO Plan, based upon consideration of the following functional areas:*
  - *Multimodal traffic management investments*
  - *Traveler Information investments*
  - *Traffic incident management investments*
  - *Transportation demand management investments*

Finding: The TSP summarizes existing Transportation Options Planning programs/resources and identifies future programming needs on page 111. The future needs include the following:

- Providing financial support and staff time to organizations providing travel options programming.
- Providing centralized information for residents about local transportation options programming and organizations.
- Coordinating with and participating in regional travel options planning programs.

Title 2 – Transportation Needs 3.08.210

Incorporate regional and state transportation needs identified in the RTP as well as local transportation needs. The determination of local transportation needs based upon:

- *System gaps and deficiencies identified in the inventories and analysis of transportation system pursuant to Title 1;*

- *Identification of facilities that exceed the Deficiency Thresholds and Operating Standards in Table 3.08-2 or the alternative thresholds and standards established pursuant to section 3.08.230;*
- *Consideration and documentation of the needs of youth, seniors, people with disabilities and environmental justice populations within the city or county, including minorities and low-income families.*

A local determination of transportation needs must be consistent with the following elements of the RTP:

- *The population and employment forecast and planning period of the RTP, except that a city or county may use an alternative forecast for the city or county, coordinated with Metro, to account for changes to comprehensive plan or land use regulations adopted after adoption of the RTP;*
- *System maps and functional classifications for street design, motor vehicles, transit, bicycles, pedestrians and freight in Chapter 3 of the RTP;*
- *Regional non-SOV modal targets in Table 3.08-1 and the Deficiency Thresholds and Operating Standards in Table 3.08-2.*

When determining its transportation needs, a city or county shall consider the regional needs identified in the mobility corridor strategies in the RTP.

Finding: As described in previous findings, bicycle and pedestrian system gaps/deficiencies are identified in TSP Figures 5-8 and 5-9, which consider insufficient facilities and access to key destinations. System needs and identified projects were also informed by community engagement outcomes and the Community Profile (Appendix B). The Performance Standards and targets are based on population and employment forecasts prepared by Metro as part of Metro's regional forecasting process; Identified TSP projects were identified and prioritized based on these forecasts and on evaluation criteria (Appendix G) and identified transportation needs.

Title 2 – Transportation Solutions 3.08.220

Evaluate the following strategies in the order listed, to meet the transportation needs determined pursuant to section 3.08.210 and performance targets and standards pursuant to section 3.08.230. The city or county shall document its choice of one or more of the strategies and why other strategies were not chosen:

- *TSMO, including localized TDM, safety, operational and access management improvements;*
- *Transit, bicycle and pedestrian system improvements;*
- *Traffic-calming designs and devices;*
- *Land use strategies in OAR 660-012-0035(2)*
- *Connectivity improvements to provide parallel arterials, collectors or local streets that include pedestrian and bicycle facilities, consistent with the connectivity standards in section*

3.01.110 and design classifications in Table 3.3 of the RTP,

- *Motor vehicle capacity improvements, consistent with the RTP Arterial and Throughway Design and Network Concepts in Table 3.3 and Section 3.5 of the RTP, only upon a demonstration that other strategies in this subsection are not appropriate or cannot adequately address identified transportation needs.*

A city or county shall coordinate its consideration of the above strategies with the owner of the transportation facility affected by the strategy. Facility design is subject to the approval of the facility owner.

If analysis under subsection 3.08.210A (Local Needs determination) indicates a new regional or state need that has not been identified in the RTP, the city or county may propose one of the following actions:

- *Propose a project at the time of Metro review of the TSP to be incorporated into the RTP during the next RTP update; or*
- *Propose an amendment to the RTP for needs and projects if the amendment is necessary prior to the next RTP update.*

Finding: As discussed in the findings under the TSMO requirements (3.08.160), the TSP summarizes existing Transportation Options Planning programs/resources and identifies future programming needs in TSP Chapter 7. The TSP also includes an extensive list of Pedestrian Projects (Table 7-5 and Figure 7-2), Bicycle Projects (Table 7-6 and Figure 7-3), and transit projects (Table 7-8 and Figure 7-5). In addition, the transportation performance standards use Pedestrian Level of Stress (PLTS) and Bicycle Level of Stress (BLTS) to help prioritize projects and improvements.

Title 2 – Performance Targets and Standards 3.08.230

Demonstrate that solutions adopted pursuant to section 3.08.220 (Transportation Solutions) will achieve progress toward the targets and standards in Tables 3.08-1, and 3.08-2 and measures in subsection D (local performance measures), or toward alternative targets and standards adopted by the city or county. The city or county shall include the regional targets and standards or its alternatives in its TSP.

A city or county may adopt alternative targets or standards in place of the regional targets and standards upon a demonstration that the alternative targets or standards:

- *Are no lower than the modal targets in Table 3.08-1 and no lower than the ratios in Table 3.08-2;*
- *Will not result in a need for motor vehicle capacity improvements that go beyond the planned arterial and throughway network defined in Figure 3.13 of the RTP and that are not recommended in, or are inconsistent with, the RTP; and*
- *Will not increase SOV travel to a degree inconsistent with the non-SOV modal targets in Table 3.08-1.*

If the city or county adopts mobility standards for state highways different from those in Table 3.08-2, it shall demonstrate that the standards have been approved by the Oregon Transportation Commission.

Each city and county shall also include performance measures for safety, vehicle miles traveled per capita, freight reliability, congestion, and walking, bicycling and transit mode shares to evaluate and monitor performance of the TSP.

To demonstrate progress toward achievement of performance targets in Tables 3.08-1 and 3.08-2 and to improve performance of state highways within its jurisdiction as much as feasible and avoid their further degradation, the city or county shall adopt the following:

- *Parking minimum and maximum ratios in Centers and Station Communities consistent with subsection 3.08.410A;*
- *Designs for street, transit, bicycle, freight and pedestrian systems consistent with Title 1: and*

- *TSMO projects and strategies consistent with section 3.08.160; and*
- *Land use actions pursuant to OAR 660-012-0035(2).*

Finding: The TSP includes Pedestrian System Completeness targets (Table 8-1) and Bicycle System Completeness Targets (Table 8-2), which establish target performance measures of the percentage of the pedestrian and bicycle network that reach Pedestrian/Bicycle Level of Stress (PLTS/BLTS) of two (2) or better. By using these target performance measures and PLTS/BLTS to identify and prioritize projects, vehicle capacity improvements and SOV travel will not exceed the thresholds identified in the RTP and RTFP. Given these results, the TSP is generally consistent with these requirements.

The City eliminated their minimum parking requirements in 2024, which included amendments to bring the City into compliance with OAR 660-012-0415 requirements for parking maximum maximums (see Appendix A for more details).

Title 3 – Defining Projects in Transportation System Plan 3.08.310

Specify the general locations and facility parameters, such as minimum and maximum ROW dimensions and the number and width of traffic lanes, of planned regional transportation facilities and improvements identified on general location depicted in the appropriate RTP map. Except as otherwise provided in the TSP, the general location is as follows:

- *For new facilities, a corridor within 200 feet of the location depicted on the appropriate RTP map;*
- *For interchanges, the general location of the crossing roadways, without specifying the general location of connecting ramps;*
- *For existing facilities planned for improvements, a corridor within 50 feet of the existing right-of-way and*
- *For realignments of existing facilities, a corridor within 200 feet of the segment to be realigned as measured from the existing right-of-way depicted on the appropriate RTP map.*

A City or county may refine or revise the general location of a planned regional facility as it prepares or revises impacts of the facility or to comply with comprehensive plan or statewide planning goals. If, in developing or amending its TSP, a city or county determines the general location of a planned regional facility or improvement is inconsistent with its comprehensive plan or a statewide goal requirement, it shall:

- *Propose a revision to the general location of the planned facility or improvement to achieve consistency and, if the revised location lies outside the general location depicted in the appropriate RTP map, seek an amendment to the RTP; or*
- *Propose a revision to its comprehensive plan to authorize the planned facility or improvement at the revised location.*

Finding: The TSP includes detailed project descriptions and a corresponding reference map for all identified local and regional facilities. All identified projects are within the general location depicted in the RTP maps.

Title 4 – Parking Management 3.08.410

Adopt parking policies, management plans and regulations for Centers and Station Communities. Plans may be adopted in TSPs or other adopted policy documents and may focus on sub-areas of Centers. Plans shall include an inventory of parking supply and usage, an evaluation of bicycle parking needs with consideration of TriMet Bike Plan. Policies shall be adopted in the TSP. Policies, plans and regulations must consider and may include the following range of strategies:

- *By-right exemptions from minimum parking requirements;*
- *Parking districts;*
- *Shared parking;*
- *Structured parking;*
- *Bicycle parking;*
- *Timed parking;*
- *Differentiation between employee parking and parking for customers, visitors and patients;*

- *Real-time parking information;*
- *Priced parking;*
- *Parking enforcement.*

Finding: The City eliminated their minimum parking requirements in 2024, which included amendments to bring the City into compliance with OAR 660-012-0415 requirements for parking maximum maximums (see Appendix J for more details).

Title 5 – Amendments of City and County Comprehensive and Transportation System Plans 3.08.510C

If a city or county proposes a transportation project that is not included in the RTP and will result in a significant increase in SOV capacity or exceeds the planned function or capacity of a facility designated in the RTP, it shall demonstrate consistency with the following in its project analysis:

- *The strategies set forth in subsection 3.08.220A(1-5) (TSMO, Transit/bike/ped system improvements, traffic calming, land use strategies, connectivity improvements)*
- *Complete street designs consistent with regional street design policies in Chapter 3 of the RTP (Section 3.3)*
- *Green street designs consistent with federal, state, regional and local regulations for stream protection.*

If the city or county decides not to build a project identified in the RTP, it shall identify alternative projects or strategies to address the identified transportation need and inform Metro so that Metro can amend the RTP.

This section does not apply to city or county transportation projects that are financed locally and would be undertaken on local facilities.

Finding: The TSP does not include any projects that will significantly increase SOV capacity or exceed the planned function. As discussed, Pedestrian/Bicycle Level of Stress performance measures help identify and prioritize TSP projects, which have taken priority over traditional Level of Service (LOS) measures that focus on automobile system performance. These performance measures, combined with project evaluation criteria (Appendix G) resulted in project identification that primarily prioritizes transportation options and safety/accessibility for multimodal users. As a result, roadway/intersection projects (Table 7-7) primarily focus on safety measures and will not exceed planned function of capacity.

APPENDIX B. COMMUNITY PROFILE

MILWAUKIE COMMUNITY PROFILE

Document created in January 2024.

PURPOSE AND CONTENTS

The Community Profile establishes a shared cultural and historical understanding of the city's growth and development and provides a factual socio-demographic summary of who lives in Milwaukie today. The historical narrative is primarily sourced from the Comprehensive Plan (2020) and the Historical Timeline created by the City of Milwaukie. It highlights trends and public policy decisions that have significantly shaped the city economically, culturally, and physically.

The profile also responds to specific requirements instituted through the Climate-Friendly and Equitable Communities (CFEC) program, which was adopted by the Oregon Land Conservation and Development Commission (LCDC) in April 2023. The CFEC rule amendments have two goals. The primary goal is to reduce transportation-related climate pollution through the promotion of cleaner vehicles, cleaner fuels, and development patterns that require less driving.[1] The second is to establish standards for more equitable planning processes and outcomes for all Oregonians, but especially those who have been or are currently marginalized by land-use and transportation policies.[2]

The Community Profile is divided into two sections.

1. **Section 1 Historical and Cultural Context:** The first section establishes a history of growth and development in Milwaukie. It provides context for Milwaukie's existing transportation systems and underscores how discriminative policies—including those related to transportation, zoning, and land use—have excluded and harmed underserved populations. It also includes a more recent history of actions the city and community have taken to redress past and current discrimination.

2. **Section 2 Community Demographics:** Using the best available data, the second section focuses on capturing quantitative information about Milwaukians with a focus on underserved populations.[3] While such aggregate data does not provide a comprehensive understanding of any population, this section offers a snapshot of who lives in the city. The demographic profile also informs the public engagement strategy for

[1] Reducing climate pollution by reducing dependence on automobiles has been a state priority since 1991 when the first administrative rules were adopted to implement Oregon Statewide Planning Goal 12 Transportation. For a history of rule adoption, see *Planning the Oregon Way*: A Twenty-Year Evaluation. Chapter 6: https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?article=1049&context=usp_fac

[2] Such groups are identified in Oregon Administrative Rule (OAR) 660-012-0125 as Underserved Populations. See: https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=293002

[3] Some observations regarding demographic trends included in this section are taken from the Milwaukie Housing Capacity Analysis, Chapter 4 Demographic and Other Factors Affecting Residential Development in Milwaukie.

the TSP and the plan's equity analysis, which is a new requirement instituted through the CFEC amendments.

Historical and Cultural Context

The Historical and Cultural Context section provides an overview of growth and development in Milwaukie. The section outlines major public policy developments—both national and local—that have influenced Milwaukie's transportation system. It also identifies where public and private decisions have excluded and harmed various communities. This history was published as part of the City's recent Comprehensive Plan (2020) and the Historical Timeline created by the City of Milwaukie. Consistent with OAR 660-012-0135, the section addresses, documents, and acknowledges where current and prior land use, transportation, and housing policies—along with current and past racism in these systems—have harmed underserved communities.[4]

Indigenous Context

Providing context to the indigenous experience in Milwaukie serves as an important reminder to recognize the history, heritage, resiliency, and diversity of the local Indigenous communities. In order to authentically engage with indigenous residents we must be clear on the ways in which colonial systems and infrastructure have displaced and harmed the local indigenous communities, and work to build understanding on the contemporary experience of Milwaukie's indigenous population. Colonialism is not in the past but is present in modern-day society.[5]

The City of Milwaukie is located on the ancestral homeland of the Clackamas people, who lived in permanent winter villages and in seasonal settlements between Tumwata (Willamette Falls) and St. Johns on the east bank of the Willamette River and into the foothills of the Cascades. Clackamas people were noted fishermen, hunters, and gatherers.

In 1855, the remaining members of the Clackamas were among the tribes that signed the Willamette Valley Treaty, which ceded land to the federal government. In 1856, the Clackamas, along with other Tribes across Western Oregon, were forcibly removed to the Grand Ronde Indian Reservation[6].

1855

By treaty, the 88 surviving members of the Clackamas tribe cede their lands (including Milwaukie) for an annual payment of $2,500 for ten years. Clackamas men who signed the treaty were allowed to occupy their traditional homes during their lifetimes but their children retained no land rights. The treaty was never ratified by congress.[7]

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[4] This is part of the broader equity analysis requirement. Other aspects of this rule requirement will be addressed elsewhere, including the requirement to assess the likely effects of climate change as it relates to underserved populations.

[5] Clackamas County Land Acknowledgement (pg.4)

[6] City of Milwaukie Comprehensive Plan (2020) (pg.14)

[7] City of Milwaukie Historical Timeline

Settlement and the Establishment of Milwaukie

In 1847 Lot Whitcomb made a land claim that encompassed Milwaukie Bay. On this claim, he platted the town of Milwaukie in 1848. Lot Whitcomb built a sawmill at Johnson Creek, a grist mill at Spring Creek, a flour mill at Kellogg Creek, and Milwaukie was established as a shipping hub. By 1850, Milwaukie had 500 residents, which helped establish Milwaukie Bay as the first official port on the Willamette River. Orchardists soon arrived via the Oregon Trail and brought with them 700 grafted fruit trees, establishing Milwaukie as the agricultural center of the Clackamas area for years to come[8].

1850-55

Between 1850 and 1855, the Donation Land Claim Act introduced 30,000 White settlers who claimed 2.5 million acres of land.

National and State Exclusion of Chinese, Black, and Indigenous Populations

As we look to build out the TSP and work to create equitable mobility infrastructure, it's important for us to first understand the history and legacy of urban exclusion both at a national, state, and local level. These narratives contextualize the current racial and cultural makeup of Milwaukie[9], and the systemic harms and barriers faced by certain communities of color. [10]

Chinese Exclusion - The 1850s also brought several thousand Chinese laborers to Oregon mainly to work on the railroads. In Milwaukie, orchardist Seth Lewelling employed several dozen Chinese workers in his orchards. Between 1882-1902, the US Congress passed several Chinese exclusion laws that blocked Chinese immigration and prevented Chinese immigrants who were already living in the area from becoming citizens or having families. The laws banned Chinese from attending public schools, serving on juries, voting or holding office, and they suffered from discrimination in finding housing. Many Chinese immigrants were forced to leave Oregon.[11]

Black and Indigenous Exclusion - In 1844, the Provisional Government of Oregon passed the first of a series of "Exclusion Laws," which banned slavery, but also prohibited Black people from settling or remaining in the territory. When Oregon became a state in 1859, its constitution forbade Black people from owning property or entering into contracts. This further enabled the exclusion of Black, Indigenous, and people of color in the state and in Milwaukie.[3]

Early Transportation Development

By 1887 the Oregon to California Railroad line was finished. It was the first line completing the connection from California to Washington. It allowed goods and people to transport freely along the West Coast. This is the track that still runs parallel to Railroad Ave, running through the Industrial District and Ardenwald. In 1892, an electric trolley line connected Milwaukie to Oregon City and Portland, which attracted Portland elites who built summer homes around Kellogg Lake

[8] City of Milwaukie Comprehensive Plan (2020) (pg.14)
[9] "A racist history shows why Oregon is still so white", OPB, 2020
[10] History of Racist Planning in Portland, City of Portland
[11] City of Milwaukie Comprehensive Plan (2020)(pg.14-15)

and near Elk Rock Island. Immigrants – primarily Germans, Italians, and Japanese – also arrived in larger numbers during this time[12].

1893 On February 16, the Interurban Line, an electric transport trolley, brought passengers to Portland, through Milwaukie, from Oregon City for the first time.

1906 The first street lights were installed, followed by sidewalks, paved streets, telephone service, natural gas and residential electricity[13].

New Deal

The Great Depression resulted in an economic downturn, which led to the creation of programs under President Franklin D. Roosevelt's New Deal. These programs helped create McLoughlin Boulevard, which provided direct automobile access to Portland and Oregon City, City Hall, and the building that houses Portland Waldorf School today.[14] McLoughlin runs North and South through Milwaukie, along the western part of the city, through Mcloughlin Industrial, Historic Milwaukie, and along the border of Ardenwald.

1939 The Oregon State Highway Commission pays $468.50 for a right-of-way along Johnson Creek to build a "superhighway" known today as McLoughlin Boulevard.[15]

World War II and Population Growth

The onset of World War II led to the creation of thousands of jobs in shipyards and other wartime industries in the region, which dramatically increased Milwaukie's population. The City reached a population of 5,000 people by the end of the war.[5]

Suburban Growth

Even with the post-war population increase, the city and region remained predominantly White. The lack of diversity can be attributed to federal, state, and local discriminatory laws and practices, including explicitly racist deed restrictions (declared unenforceable in 1948) that encumbered many real estate transactions in Milwaukie and the region. As a result, Milwaukie developed into a mostly White suburb of Portland, dominated by detached housing that excluded Black people and people of color through deed restrictions, redlining, and low-density zoning that prohibited more affordable housing types in most of the community.[16]

Redlining, racial covenants, exclusion laws, and economic discrimination were among the legal tools that restricted Black families from buying homes in certain neighborhoods. During the early 20th century until the Fair Housing Act in 1968, race-restrictive covenants in deeds systematically

[12] City of Milwaukie Comprehensive Plan (2020)(pg.16)
[13] City of Milwaukie Historical Timeline
[14] City of Milwaukie Comprehensive Plan (2020)(pg.16)
[15] City of Milwaukie Historical Timeline
[16] City of Milwaukie Comprehensive Plan (2020) (pg.17)

denied home loans to Black individuals and prevented them from buying homes in predominantly white neighborhoods. [17]

1942 On February 19, 1942, Executive Order 9066 called for the removal of Japanese Americans from their homes and business, despite the fact that two out of three were US citizens by birth[18].

1958 The Interurban Line, known as the trolley, made its final run after 65 years of carrying riders through Milwaukie.[19]

Even following the 1968 Fair Housing Act, Black people and people of color were left with little opportunity to create wealth through homeownership and further segregated them into areas zoned for more affordable, higher density rental housing.

During the 1950s, suburban growth was fueled by the rise of the automobile and continued by federal investments in highway building and rail lines coupled with local disinvestment in mass transportation. In 1958, the trolley line that connected Milwaukie to the region was shut down, increasing dependency on cars. This transportation change led to suburban style, low-density single-unit housing development, which continued through the 1960's and 70's.

Like most jurisdictions in the region and the country, institutional racism through a variety of policies, practices and programs, was established to the benefit of white people and the detriment of people of color. This includes the permitted housing types and development standards in Milwaukie's residential zones that have resulted in neighborhoods dominated by single housing types (detached single unit residences, apartment units, etc.).[20]

1970 Hillside Manor was constructed, which was a nine-story affordable housing building owned by the Housing Authority of Clackamas County. This building is located on the site of the Hillside Park housing complex, which was originally constructed to serve as working and military housing during World War II.

1974 Congress passed the Equal Credit Opportunity Act which prohibited lending discrimination based on sex or marital status when discrimination against women applying for credit was common. For example, mortgage lenders often discounted a married woman's income, especially if she was of childbearing age. At the time mortgage lenders were also more likely to deny credit to single women relative to other applicants.

Not long after the original law was passed, in March of 1976 Congress amended the law to further prohibit lending discrimination based on race, color, religion, national origin, age, the receipt of public assistance income, or exercising one's rights under certain consumer protection laws.[21]

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[17] City of Milwaukie Comprehensive Plan (2020) (pg.17)
[18] Executive Order 9066: Resulting in Japanese-American Incarceration (1942), National Archives
[19] City of Milwaukie Historical Timeline
[20] City of Milwaukie Comprehensive Plan (2020)(pg.107)
[21] Consumer Financial Protection Bureau

In 1983, Interstate 205 was completed and provided a new route to the east side of Milwaukie and a connection to OR 224, which had opened in 1969. The 1980s saw the creation of a new industrial area along International Way. Clackamas Town Center and other regional malls were also built during this time period, contributing to the economic decline of downtown Milwaukie businesses.[22]

Historical Civil Rights

1964 Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."[23]

1990 The Americans with Disabilities Act (ADA) of 1990 was passed, which prohibited discrimination and guarantees that people with disabilities have the same opportunities as everyone else to take part in the mainstream of American life – to enjoy employment opportunities, to purchase goods and services, and to participate in state and local government programs and services. The ADA is an equal opportunity law for people with disabilities.[24]

Economic and Transit Growth

Milwaukie's population grew by just over 10% from 1980 to 2000 and experienced no net population growth between 2000 and 2015. In 2015, however, the Metropolitan Area Transit (MAX) Orange Line opened, providing light rail access to Milwaukie and a reconnection to the rest of the region. Since that time, the city has seen increased interest in the downtown area, including the development of new housing that is anticipated to continue into the future.[25]

2012 Construction begins on the Portland-Milwaukie Light Rail project.

2015 On September 12, the Portland-Milwaukie Light Rail Line (the Orange Line) opened to the public, restoring commuter rail service between Milwaukie and Portland.[26]

There has been an uptick in residential development since TriMet began the MAX Orange Line light rail service in 2015, a trend that the city expects to continue in the near future as several public and private opportunity sites identified by the city are expected to be developed.[27]

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[22] City of Milwaukie Comprehensive Plan (2020)
[23] Title VI Compliance Plan, Clackamas County
[24] Clackamas County adopts revised accessibility requirements starting Sept. 7, Clackamas County, 2023
[25] City of Milwaukie Comprehensive Plan (2020) (pg.18)
[26] City of Milwaukie Historical Timeline
[27] City of Milwaukie Comprehensive Plan (2020) (pg.20)

Contemporary Activism and Racial Justice

2017

The Milwaukie community and City Council developed a new community vision stating, "In 2040, Milwaukie is a flourishing city that is entirely equitable, delightfully livable, and completely sustainable."

2020

Milwaukie - Hundreds gathered for a "Sit-In Solidarity" event organized by Black Lives Matter Milwaukie at 6 p.m. in Milwaukie, Oregon. Speakers, mainly young adults from the community, shared their experience with racism and called for the white people in the crowd to take action.[28]

The Black Lives Matter Ally Sit-In in June, 2020 received very positive feedback across the community, as the amount of people present provided overwhelming support and solidarity to the Black, Indigenous, people of color (BIPOC) community.
Following the Sit In, Milwaukie appointed and later elected its first Councilmember of color, Council President Desi Nicodemus who had been instrumental in the creation of the Sit In.

2020

Milwaukie City Council adopts Equity, Inclusion and Justice as one of their three goals. With that framework, in June Milwaukie City Council codified the Comprehensive plan, with equity serving as a key value for the policy creation and adoption. The city also held three listening sessions with community members of color to understand the realities facing our BIPOC community and hired its first Equity Coordinator in December. [29]

2021

Milwaukie City Council established the Equity Steering Committee (ESC) of community volunteers and appointed the first round of ESC members.

- The Milwaukie Police Department, in partnership with community members who identify as Black, Indigenous or people of color (BIPOC), undertook a comprehensive review of its law enforcement policies and practices and implemented modified policies through the police contract.
- The city supported community organizers in throwing Milwaukie's first Juneteenth celebration.

Declaring a Climate Crisis

2020

In the face of the climate crisis, the City of Milwaukie declared a climate emergency on January 21, 2020, accelerating the goals outlined in the original Climate Action Plan by five years and recommitting the city to taking fast and effective climate action. Milwaukie became the first city in Oregon to declare a climate emergency.[30]

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[28] Oregon Demonstrations 29https://www.milwaukieoregon.gov/sites/default/files/fileattachments/city_manager/page/117601/r58-2020_8182020_committing_to_creating_g_solidarity_with_our_black_indigenous_and_people_of_color_bipoc_neighbors.pdf)

[30] Milwaukie is Taking Climate Action

COMMUNITY DEMOGRAPHICS

The Community Demographics section documents and analyzes demographic data for the city of Milwaukie, focusing primarily on underserved populations, as identified in Oregon Administrative Rule (OAR) 660-012-0125. Additional demographic data, such as overall population growth is also reported to provide more context about the city's population, how it's changing, and how those changes are likely to impact the community's mobility needs. While the benefits of mobility are universal, sociodemographic characteristics, such as race, income, and gender influence the transportation options that are available to individuals and play a role in shaping transportation needs. Understanding the composition of the city's population can therefore help the city understand where needs are going unmet and how to best prioritize future investments.

Defining Underserved Populations

The populations bulleted below are identified as underserved in OAR 660-012-0125. The rule states that underserved populations are not limited to those specified below but that these groups deserve prioritized attention regarding transportation and land use planning due to historic and current marginalization. The identified communities have both been negatively impacted by transportation and land use policy decisions and excluded from planning processes. It is important to acknowledge that social identities intersect to create unique forms of discrimination and privilege for individuals and that there is significant diversity within any given population. For example, the Latino community encompasses individuals with various racial and ethnic backgrounds. Consequently, in many ways, the aggregate data presented in this section fails to capture how these different traits might interact to limit or expand an individual's transportation needs and experiences. The data reported here, therefore, should be used carefully.

- Black and African American people
- Indigenous people (including Tribes, American Indian/Alaska Native and Hawaii Native);
- People of Color (including but not limited to Hispanic, Latina/o/x, Asian, Arabic or North African, Middle Eastern, Pacific Islander, and mixed-race or mixed-ethnicity populations);
- Immigrants, including undocumented immigrants and refugees
- People with limited English proficiency
- People with disabilities
- People experiencing homelessness
- Low-income and low-wealth community members
- Low- and moderate-income renters and homeowners
- Single parents
- Lesbian, gay, bisexual, transgender, queer, intersex, asexual, or two-spirit community members; and
- Youth and seniors

Population Growth

Between the years 2000 and 2022, the population in Milwaukie grew by 4%. Notably, that growth has all occurred since 2010 and is slower than statewide and regional growth.

Table 1. Population Growth from 2000 to 2022, Milwaukie, Clackamas County, Oregon

Source(s): U.S. Census Bureau, Decennial Census 2000 and 2010, Table(s) DP1 and P1; U.S. Census Bureau. American Community Survey, ACS 1-Year Estimates, Table B01003, 2022; Portland State University Population Research Center. Certified 2022 Estimates

	2000	2010	2022	Change 2000 - 2022		
				Number	Percent	AAGR
U.S.	281,421,906	308,745,538	333,287,562	51,865,656	18%	0.8%
Oregon	3,421,399	3,831,074	4,290,225	868,826	25%	1.2%
Portland Tri-County	1,444,219	1,641,036	1,849,881	405,662	28%	1.3%
Milwaukie	20,490	20,291	21,305	815	4%	0.2%

Racial and Ethnic Diversity in Milwaukie

The majority of Milwaukie, an estimated 16,575, residents, or 78% of the population, identify as White alone. However, the city is home to people of diverse cultural, ethnic, and racial identities. About 4,620 residents identify as a race other than White alone. Figure 1 provides estimates of the Black Indigenous and People of Color (BIPOC) community in Milwaukie.[31] The city's major non-white ethnicity is Hispanic or Latino which represents 9.3% of the population. This is similar to the share of Latino/a/x in Clackamas County and somewhat smaller than the Latino/a/x population share statewide.

The share of Milwaukie's population that identified as Latino/a/x increased between 2000 and 2020 from 4% of the population to 9%, or from 813 people to 1,809. This reflects a national trend that the U.S. Census Bureau forecasts will continue in the decades to come.[32] While there are fewer racial and ethnic differences in public transit usage among those living in suburbs, generally the Latino/a/x population—like other underserved populations—in the U.S. is less likely to have access to an automobile and more likely to rely on public transit when compared to non-Latino/a/x Whites.[33]

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[31] These estimates are derived from the U.S. Census Bureau's American Community Survey and (except for the Latino/a/x population) contain a significant margin of error. The range of what is likely the true population is depicted using error bars in Figure 1. The numbers shown should be used with caution and only relied upon to provide a rough approximation of the total share of the population (see Table 2 in Appendix for complete data).

[32] U.S. Census Bureau, Demographic Turning Points for the United States: population Projections for 2020 to 2060: https://www.census.gov/library/publications/2020/demo/p25-1144.html.

[33] While the Black community represents a smaller share of Milwaukie's population compared to the state and nation, Black riders represent the highest share of transit-dependent riders nationally. Pew Research Center. (2016). *Who Relies on Public Transit in America.* https://www.pewresearch.org/short-reads/2016/04/07/who-relies-on-public-transit-in-the-u-s/

Milwaukie was just as diverse as Clackamas County and less diverse than Oregon during the 2018-2022 period.

Table 2. Population by Race/Ethnicity as Percent of Total Population, Milwaukie, Clackamas County, Oregon, 2018-2022 Period

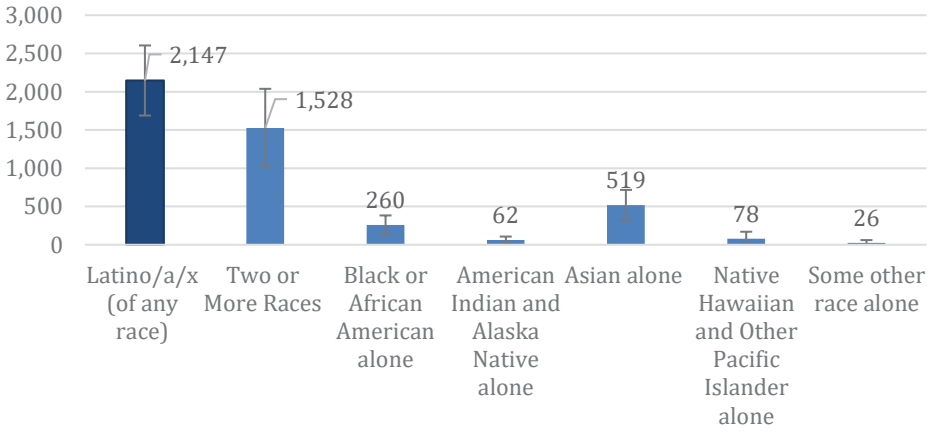
Source(s): U.S. Census Bureau, 2018-2022 Period ACS, Table DP05

	Milwaukie	Clackamas County	Oregon
White Alone	78.2%	79.0%	73.3%
Latino/a/x (of any race)	10.1%	9.3%	13.8%
Two or More Races	7.2%	5.2%	5.2%
Black or African American Alone	1.2%	0.8%	1.8%
American Indian and Alaska Native Alone	-	0.4%	0.7%
Asian Alone	2.4%	4.7%	4.4%
Native Hawaiian and Other Pacific Islander alone	-	0.2%	0.4%
Some other race alone	-	0.4%	0.4%

During the 2018-2022 period, approximately 4,620 people (one-fifth of the population) identified as a race other than White alone. Estimates are shown with error bars indicating the true range of possible values.

Figure 1. Number of People by Race and Ethnicity Milwaukie 2018-2022

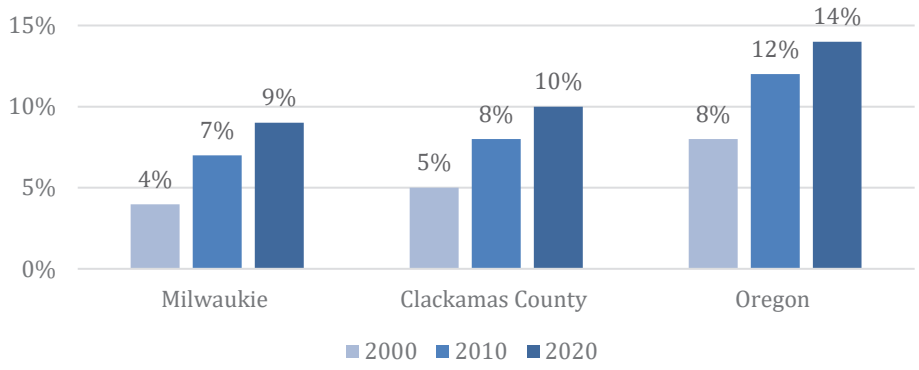
Source: US Census Bureau, 2018-2022 ACS, Table B03002



The share of Milwaukie's households that identified as Latino/a/x has more than doubled since 2000.

Figure 2. Latino/a/x Population as Percent of Total Population, Milwaukie Clackamas County, Oregon, 2000, 2010, 2020

Source: U.S. Census Bureau, 2000 Decennial Census: Table P008; 2010 Decennial Census: Table P9; 2020 Decennial Census: Table P9



Limited English Proficiency

Between 5.4% and 9% of Milwaukie residents speak a language other than English in their homes. As shown in Figure 3, fewer than 2.3% of residents speak English less than "very well". This is a smaller share when compared to Clackamas County (3.9%) and the statewide share (5.3%). Apart from English, Spanish is the most common language spoken in Milwaukie households; however, most Spanish speakers also speak English "well" or "very well". Various other languages are also spoken in Milwaukie, but data estimates from the U.S. Census Bureau are not useful due to significant error margins.

As the recipient of federal transportation funds, Metro is required to put together a plan for serving the region's Limited English Language (LEP) Population. The most recent plan, which was completed in 2021, involved holding four focus groups to capture attitudes and experiences from the four most spoken non-English languages in the greater Portland region, Mandarin, Russian, Spanish, and Vietnamese.[34]

Notably concerning transportation, the focus groups, which involved 44 people in total, found that the primary focus of the groups was roads and public transportation, rather than sidewalks and bicycle facilities.[35] Many used public transportation but found it to be unreliable—in part because of the lack of access to key destinations. Those living in suburbs especially viewed public transportation as an unrealistic option because of travel times, distance to destinations, and the cost associated with frequent travel. Safety was a concern across all modes of transportation and was mentioned as one—although perhaps not the primary—reason for preferring transit and vehicle travel to walking and bicycling.

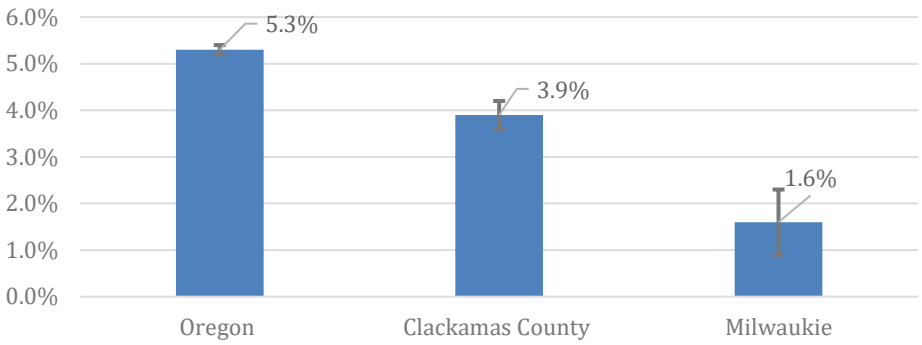
[34] The complete plan can be found on Metro's website here: https://www.oregonmetro.gov/sites/default/files/2022/03/31/2021_LEPplan-Metro%28Portland%2COre%29.pdf

[35] This, of course, only represents a very small segment of the LEP population. Metro estimates approximately 335,900 persons over the age of 5 in the Metro region speak a language other than English at home, with approximately 125,800 persons over the age of 5 speaking English less than "very well".

Despite viewing the automobile as the most convenient and reliable mode of transportation, when specifically asked, the majority (84%) of participants ranked addressing transportation-related climate pollution as a four or five on a 1-5 scale, with 1 being 'not important' and 5 being 'very important'. Most participants (86% ranked it a five) also highly valued reducing transportation-related injuries and deaths.

Approximately 1.6% of Milwaukie residents report speaking English less than "Very Well", a smaller share than the county and state.

Figure 3. Percent of Population that speaks English Less Than "Very Well", Milwaukie, Clackamas County, and Oregon, 2018-2022 Period
Source: U.S. Census Bureau, 2017-2021ACS, Table DP02



Youth and Seniors

As shown in Figure 4, roughly 18.1% of the City's population is under the age of 18, and approximately 16.5% of the City's population is over 65. Altogether, over one-third of the city's population falls into one of these two age cohorts. These populations are less likely to be able to drive and are more dependent on transit, walking, and biking to get around.

The share of people aged 65 and older grew in Milwaukie between 2000 and 2022. The City currently has a similar share of people aged 65 years or older compared to Clackamas County as a whole. The 65 and older cohort is expected to increase in absolute terms and as a share of Clackamas County's population over the next 20 years from 18.9% in the 2018-2022 period to roughly 24% in 2044.[36] It is reasonable to expect that this trend will also occur in Milwaukie.

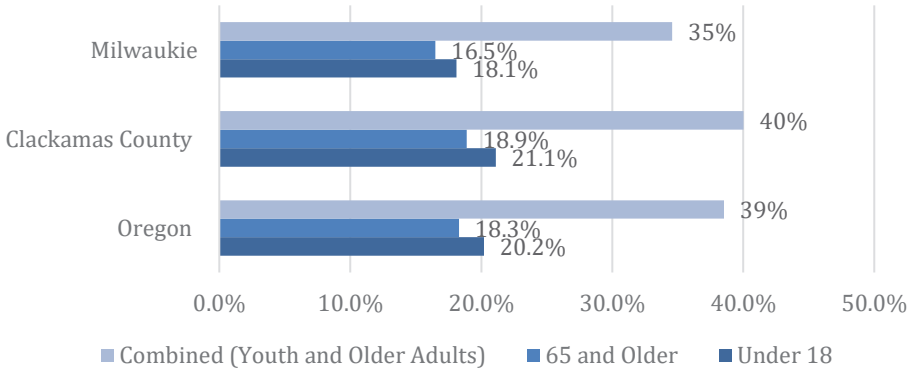
The Oregon Department of Transportation (ODOT) reports that older Oregonians are increasingly at risk of transportation-related injury or fatality. The study analyzing the problem reports that older drivers accounted for 18% of all traffic fatalities in 2016 nationally and 19.8% in Oregon. On a per-capita basis, older drivers are less likely than younger and middle-aged drivers to be involved in a crash but have the highest fatality rate of any group. While the authors conclude that the topic of mobility safety for older adults is complex, they find that providing access to other modes of transportation, aging-in-place strategies, and improving the safety of vehicles and roadways can help reduce crashes.

[36] Portland State University, Population Research Center, Population Forecast Program, Clackamas County 2023: https://www.pdx.edu/population-research/population-forecasts

Milwaukie had a similar share of youth and seniors in the 2018-2022 period compared to the county and state.

The margin of error (not shown) for the youth and senior populations is greater for Milwaukie than for the county and state.

Figure 4. Youth and Senior Population as Percent of Total Population, Milwaukie, Clackamas County, Oregon 2018-2022 Period
Source: Source: US Census Bureau, 2018-2022 ACS, Table S0101



Residents Living with a Disability

Between 11% and 16% of Milwaukie's population is living with a disability. Like the state and county, the share of older adults (65+) living with a disability is far greater compared to the population as a whole. While gathering reliable data about specific disabilities is challenging, the American Community Survey does provide estimates (see Figure 6).

Historic auto-centric transportation planning and infrastructure investments have left many with a disability without a reliable or affordable means of transportation. Even where pedestrian facilities do exist, poorly designed facilities or impediments, such as poorly placed utility polls in sidewalks make some existing facilities impracticable or unsafe. Although the city has been working to improve the accessibility of its pedestrian facilities through its SAFE program—adding 151 new ADA-compliant curb ramps since 2019, for example—much of the right-of-way still lacks facilities that are safe and accessible for all users.[37]

[37] See the city's SAFE program, which has been addressing safety concerns for people walking, biking, and rolling. https://www.milwaukieoregon.gov/engineering/safe.

In the 2018-2022 period, about 2,896 Milwaukie residents were living with a disability. Of that number, about 1,047 were older adults (65+).

Figure 5. Percent of Total Population and Older Adults living with Disability, Milwaukie, Clackamas County, Oregon 2018-2022 Period
Source: U.S. Census Bureau, 2017-2021 ACS, Table DP02

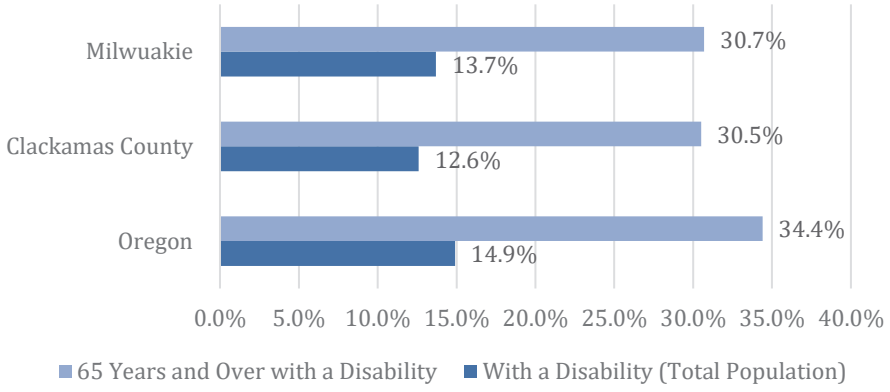
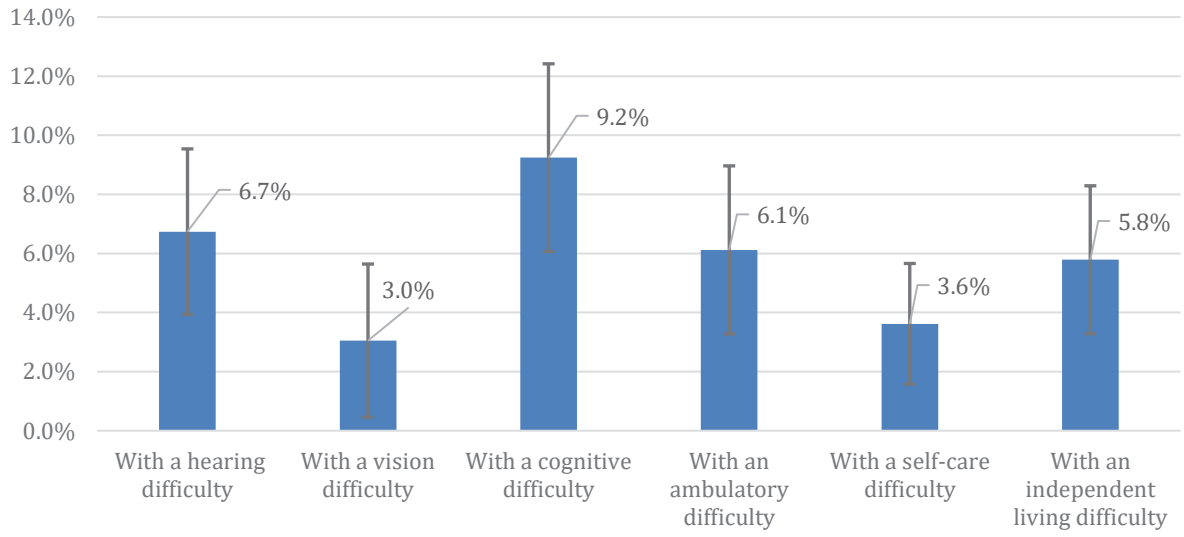


Figure 6. Persons Living with a Disability by Type and as a Percent of Total Population in Milwaukie 2022
Source: U.S. Census Bureau, 2022 ACS, Table K201803



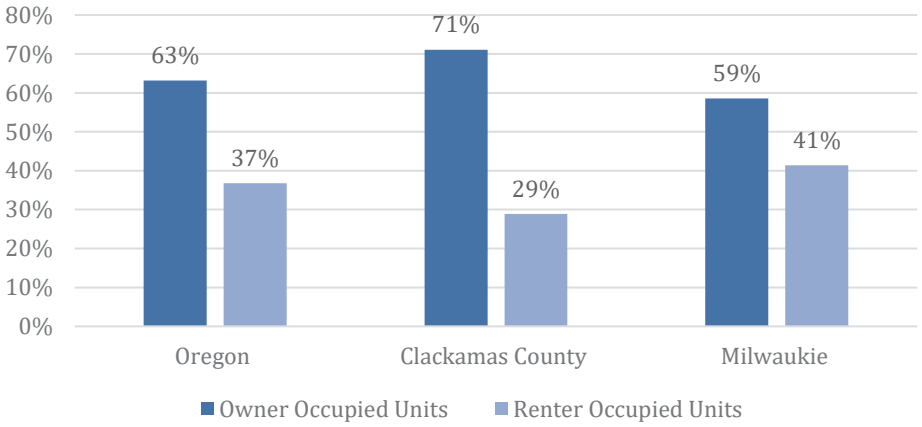
Renters and Occupancy

As shown in Table 4, nearly 60% of Milwaukie's residents own their homes, and an estimated 40% of occupied units are renter-occupied. Overall, the city has a vacancy rate of about 4.2%.[38] Low vacancy rates in housing markets are often linked to higher housing costs, placing a financial strain on households. As housing expenses consume a larger share of income, families may have fewer resources available for other essential needs, including transportation. This economic pressure can limit mobility options.

In the 2018-2022 period, about 59% of Milwaukie residents owned their homes.

More residents in Milwaukie rent compared to the county.

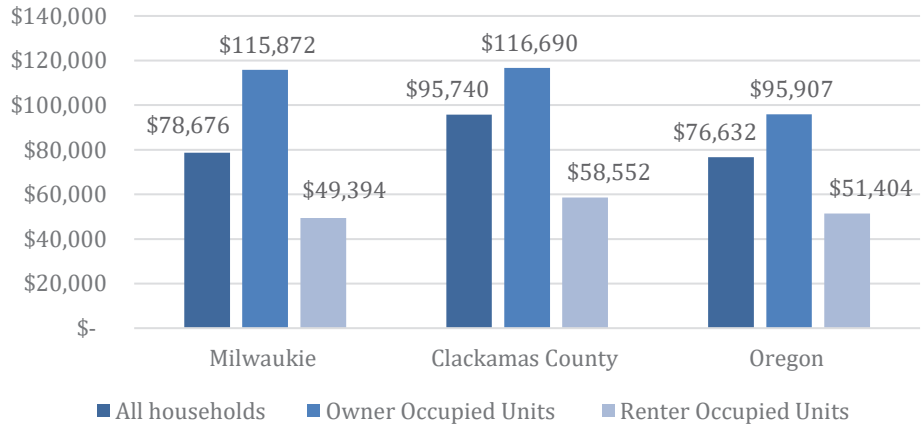
Figure 7.Share of Renter and Owner-Occupied Housing Units, Milwaukie, Clackamas County, Oregon, 2018-2022 Period
Source: U.S. Census Bureau, 2018-2022, Table B25003



Across the city, county, and state, the median household income of rental households is below that of owner-occupied units.

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Figure 8. Median Household Income by Renter and Owner-Occupied Housing
Source: U.S. Census Bureau, 2018-2022 ACS, Table B25119



[38] U.S. Census Bureau. 2018-2022 American Community Survey. Table DP04.

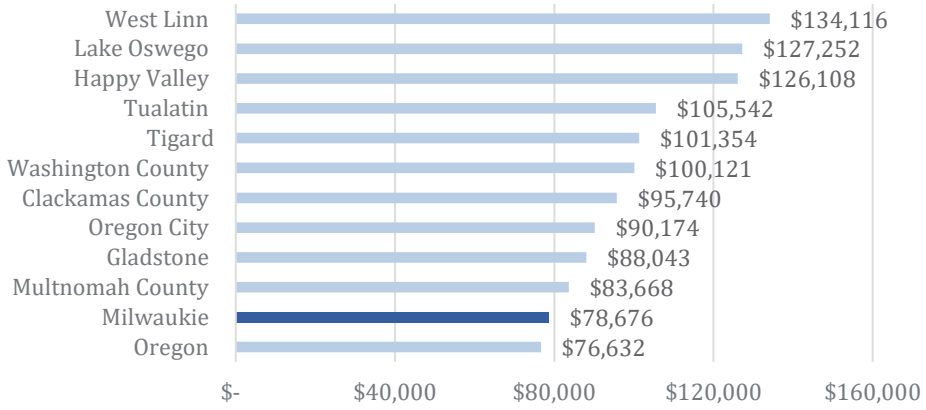
Poverty Status and Income[39]

Between 5.2% and 8.4% of Milwaukie residents live below the poverty line, with approximately 10% of the City's youth and almost 11% of the senior population living below the poverty line. The poverty level for youth and seniors is slightly higher than the poverty rate for the working-age population.

Within the region, for lower-income households, transportation expenses consume a greater proportion of the household's budget—this is especially true for the lowest-income families. Nationally, households earning $25,000 or less in 2022, spent roughly 30% of their after-tax income on transportation.[40] Transportation is also the largest household expenditure after housing in Oregon.[41]

Milwaukie's Median Household Income was below that of the county and many comparable communities during the 2018-2022 period.

Figure 9. Median Household Income, Milwaukie, Portland Area Counties, Comparison Cities, 2018 - 2022 Period. Source: U.S. Census Bureau, Table B25119



[39] It should be noted here that OAR 660-012-0125 identifies low-income and low-wealth individuals as underserved and deserving of prioritized attention in the planning process. Income and wealth are distinct; income refers to the flow of money received over a period, while wealth is one's total assets owned minus liabilities. Collecting data on wealth is generally more challenging and is not included here.

[40] U.S. Bureau of Transportation Statistics. (2023). *The Household Costs of Transportation: Is it Affordable?* https://www.bts.dot.gov/data-spotlight/household-cost-transportation-it-affordable.

[41] Oregon Department of Transportation (2022). *Oregon Transit and Housing Study*. *https://www.oregon.gov/odot/Planning/Documents/ODOT_Transit_%26_Housing_Study_Final_Report.pdf*.

The share of the total population in Milwaukie living below the poverty line was lower than the statewide share and similar to the share in the county during the 2018-2022 period.

Figure 10. Percent of Total Population Below Poverty Line 2018-2022 Period, Milwaukie, Clackamas County, Oregon
Source: U.S. Census Bureau 2018-2022 ACS, Table S1701

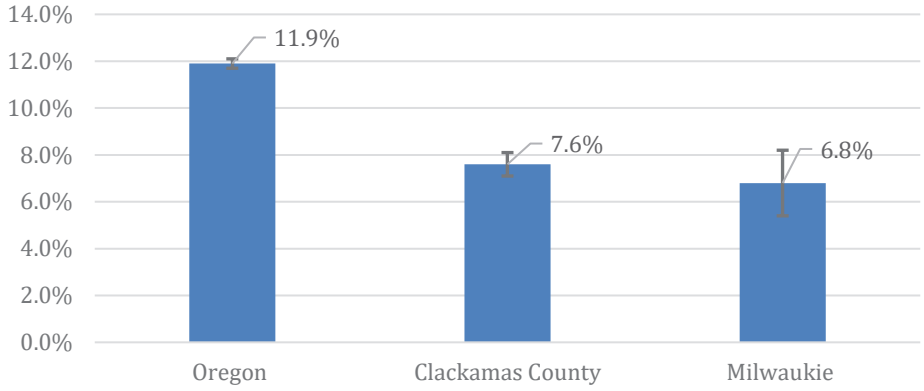
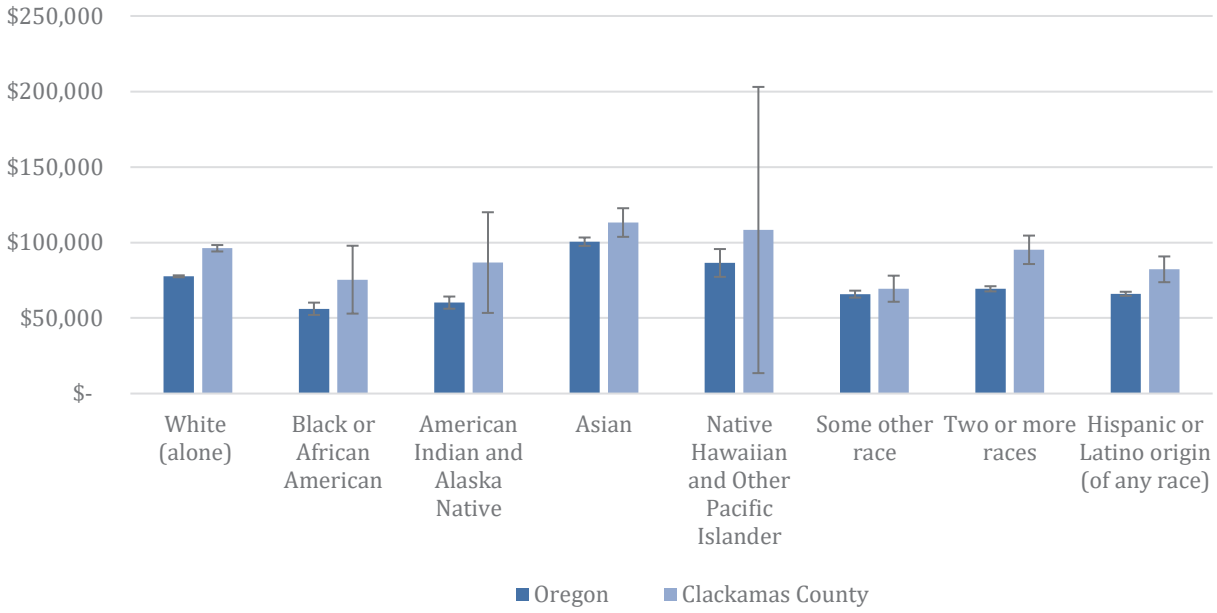


Figure 11. Median Household Income by Race/Ethnicity of the Head of Household, Clackamas County, Oregon 2018-2022 Period
Source: U.S. Census Bureau 2018-2022 ACS, Table S1901



Immigrants, including undocumented immigrants and refugees

Foreign-born residents, anyone who is not a U.S. Citizen at birth, make up approximately 4.6% of the total Milwaukie population. Statewide, the foreign-born share of the population is 9.8% and in Clackamas County, it is about 8.5% of the total population.

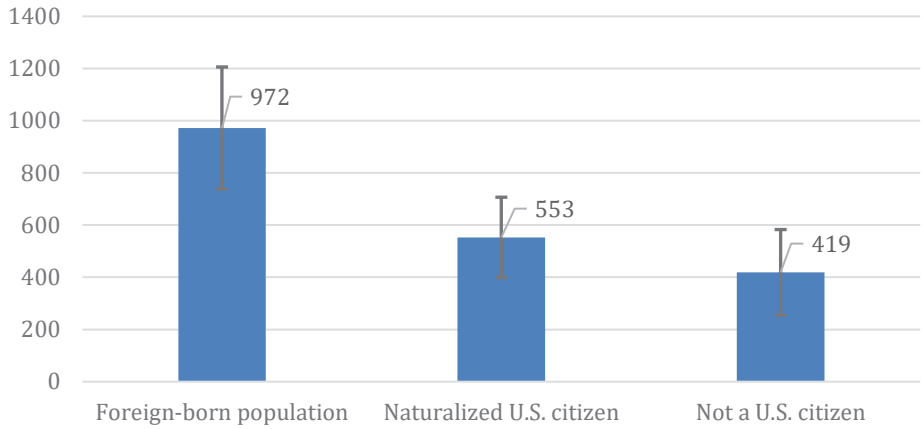
While the foreign-born estimate includes those who are undocumented, the U.S. Census Bureau does not report statistics on the undocumented population. Therefore, it is unclear of the

estimated 419 residents in Milwaukie who are not U.S. citizens, how many are lawful permanent non-citizen U.S. nationals, lawful permanent residents, temporary migrants (such as foreign students), humanitarian migrants (such as refugees and asylees), or undocumented.

Almost three-quarters of the total foreign-born population has been living in the U.S. since at least 2010.[42] The Pew Research Center estimates that in 2016, approximately 110,000 undocumented people were living in Oregon, or 2.6% of the population at that time; Pew also estimated that roughly 8.2% of Oregon's K-12 student population in 2016 had parents who were undocumented.

In the 2018-2022 period, about 972 people living in Milwaukie were born outside of the United States. About 58% of those have since obtained U.S. citizenship.

Figure 12. U.S. Citizenship Status, Milwaukie 2018-2022 Period
Source: U.S. Census Bureau, 2018-2022 ACS, Table DP02



Lesbian, Gay, Bisexual, transgender, queer, intersex, asexual, and two-spirit communities

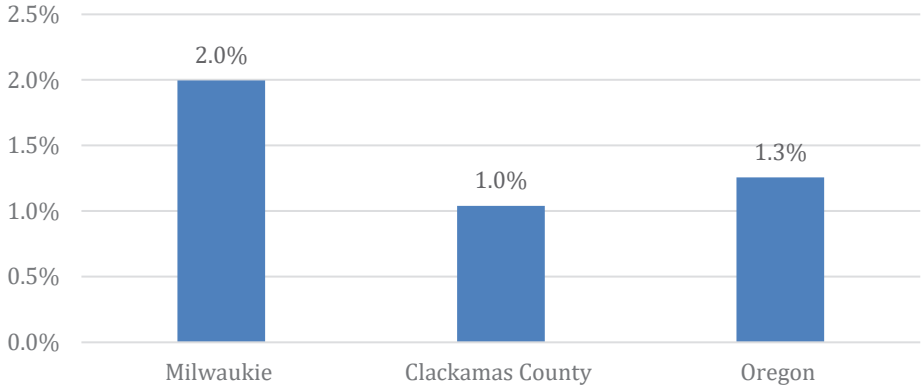
While the U.S. Census Bureau has collected data on same-sex couples for many years, it only recently began asking questions about sexual orientation and gender identity in the Household Pulse Survey.[43] This data is not available at the city level. The lack of systematically collected data on sexual orientation or gender identity and the resulting lack of understanding at a population level has been a contentious topic.

[42] U.S. Census Bureau, 2018-2022 American Community Survey, Table DP02.
[43] See reporting on new LGBTQ+ data collection through the Household Pulse Survey here: https://www.pbs.org/newshour/economy/the-census-bureaus-first-ever-data-on-lgbtq-people-indicates-deep-disparities

In 2020, 132, or 2% of Milwaukie's households were same-sex couple households.

The share in Milwaukie was greater than the share statewide and in the county.

Figure 13. Same-Sex Couple Households (married and unmarried) as Percentage of All Households Milwaukie, Clackamas County, Oregon
Source: U.S. 2020 Decennial Census, Table PCT15



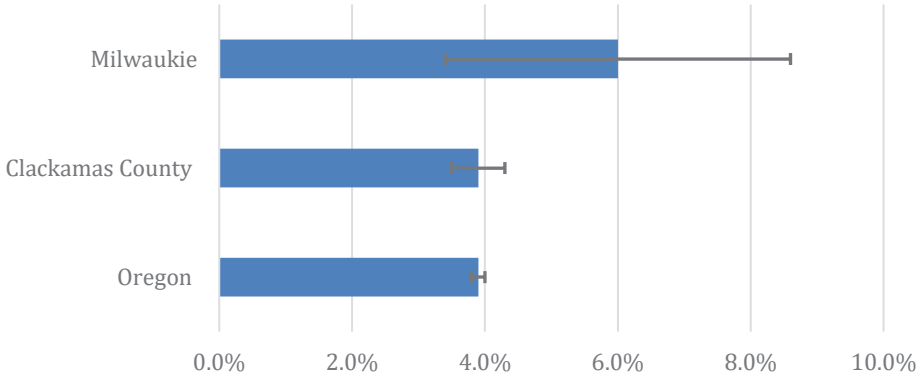
Single-Parent Households

About 8%, or 773, of all households in Milwaukie are single-parent households. Female householders make up about 71% of all single-parent households. Single-parent households often have limited time, financial resources, and flexibility compared to dual-parent households. These factors can limit mobility options and leave single-parent households more reliant on public transportation and spending a greater share of their income on transportation.

The share of households with a female-identifying single parent is about 4% in the county and state.

The margin of error for the estimate in Milwaukie shows that the share could be larger or smaller compared to the other regions.

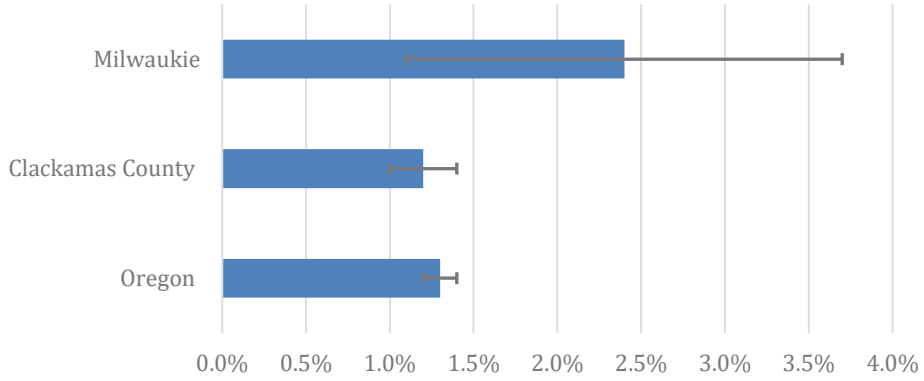
Figure 14. Share of Households with Female Single Parent, Milwaukie, Clackamas County, Oregon 2018-2022 Period
Source: U.S. Census Bureau, 2018-2022 ACS, Table DP02



The share of households with a male-identifying single parent is just over 1% in the county and state.

The share is likely similar in Milwaukie if not greater.

Figure 15. Share of Households with Male Single Parent, Milwaukie, Clackamas County, Oregon 2018-2022 Period
Source: U.S. Census Bureau, 2018-2022 ACS, Table DP02



People Experiencing Homelessness

The U.S. Department of Housing and Urban Development (HUD) requires Continuums of Care (CoC)—entities that coordinate housing and services for people experiencing homelessness—to conduct a Point-in-Time (PIT) Count annually for sheltered people and biannually for unsheltered people. The PIT is required to occur during the month of January and records certain demographic characteristics of the population, such as age, gender, race, and veteran status.

In 2021, HUD gave communities the option to cancel or modify the unsheltered PIT due to the risk of COVID-19. Consequently, no data was reported for the Clackamas County CoC for 2021 (see Figure 16). Beginning in 2022, Clackamas County joined with Multnomah and Washington Counties to jointly conduct an annual, regionally coordinated, PIT count. Although the PIT numbers in Figure 16 show a decrease in the number of people experiencing homelessness, the numbers should be used with caution, as PIT methodologies can change over time and various factors can influence the accuracy of the count.

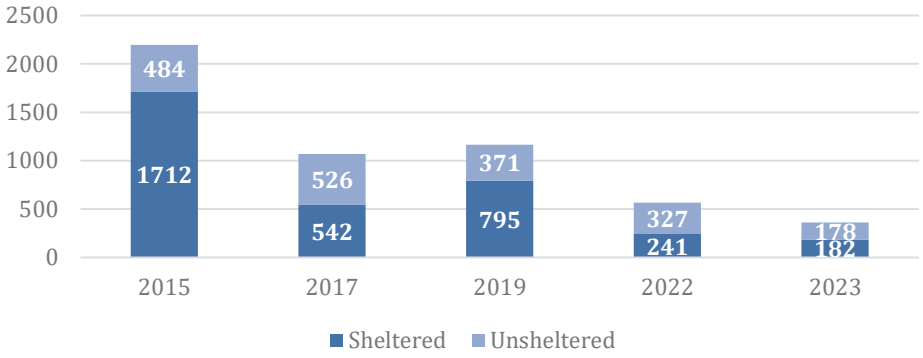
Reflecting national and statewide trends, homelessness disproportionately impacts communities of color in Clackamas County. Most notably, while only representing approximately 0.8% of the population in Clackamas County, the Black community represented roughly 5% of the total number of sheltered and unsheltered houseless individuals in 2023.

People experiencing homelessness are less likely to have access to a vehicle and more likely to be dependent on transit, walking, and biking to get around. This population is also at an increased risk of being injured or killed in a traffic crash.[44]

[44] A report from the Portland Bureau of Transportation indicates that 19 of the 27 pedestrians killed in 2021 were people experiencing homelessness. See the full report here: https://www.portland.gov/sites/default/files/2022/traffic-crash-report-2021.pdf.

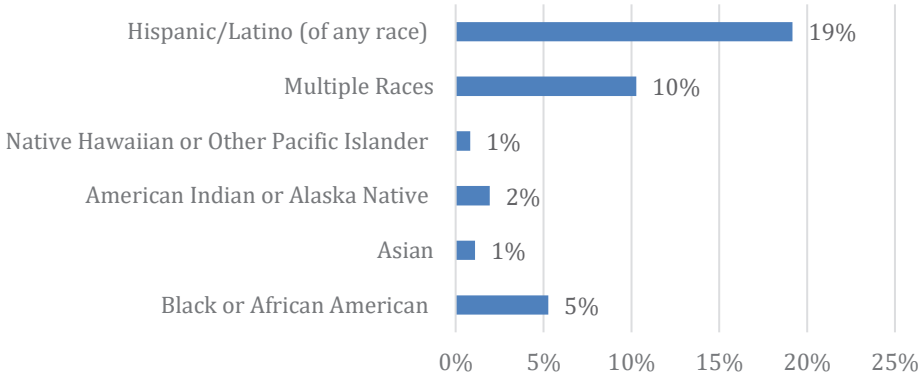
On January 24, 2023, 360 people were counted as homeless in Clackamas County.

Figure 16. Number of Persons Houseless by Living Situation, Clackamas County, Point-in-Time Count 2015, 2017, 2019, 2022, and 2023.
Source: Oregon Housing and Community Services and U.S. Department of Housing and Urban Development



BIPOC populations were overrepresented among people in Clackamas County experiencing homelessness during the 2023 PIT count.

Figure 17. Racial and Ethnic Composition of Houseless Popultion, Clackamas County, Point-in-Time Count 2023
Source: U.S. Department of Housing and Urban Development



APPENDIX C. FINANCIAL FORECAST

FINANCIAL FORECAST

This document was created in January 2024.

INTRODUCTION

Future federal, state, and local funding for transportation investments can be uncertain, creating a challenge to accurately forecast available revenue that can be used to make future transportation-related investments. In this context, the City of Milwaukie Transportation System Plan (TSP) Update will focus on identifying a prudent and conservative list of transportation investments, emphasize lower cost methods that strengthen mobility for all users within the City, reduce climate pollution, and increase reliance on technologies to promote efficient streets.

This memorandum presents information on the recent historical funding sources and forecasts amounts that could be available in the future to address near- and long-term transportation investments. This memorandum also identifies additional funding sources that the City may consider pursuing to address funding gaps when implementing future transportation investments. This information will help the City evaluate transportation projects, define priorities, and maximize all available funding opportunities to preserve and improve its infrastructure.

HISTORICAL FUNDING SOURCES

Understanding the City's historical funding sources for transportation investments helps to forecast potential funding available for TSP projects through the 2044 planning horizon, as well as identify funding needs. Based on data provided by the City, franchise revenue (including water, wastewater, and stormwater revenue), Safe Access for Everyone and Street Surface Maintenance Program taxes and fees, inter-governmental taxes and grants, and charges for development have been the primary sources of revenue for TSP projects; however, investment earnings and other miscellaneous funding have contributed to TSP projects as well. **Table 1** summarizes the historical funding sources between FY 2019- FY 2023.

Table 1. Historical Funding Sources

Funding Source	Fiscal Year					Notes
	2018-19	2019-20	2020-21	2021-22	2022-23[1]	
Franchise Revenue	$1,277,875	$1,361,934	$1,229,381	$1,284,892	$1,462,638	Ordinance 1905 dedicates 8% of net revenues of water, wastewater, stormwater to fund the transportation system
Inter-governmental Sources	$2,106,185	$2,621,106	$2,475,290	$2,421,213	$1,881,708	State gas tax, vehicle registration fee, local gas tax, Kronberg Park

						multi-use trail grant; Safe Routes to School grant
Investment Earnings	$536,040	$745,510	$86,439	$175,859	$227,862	Bond revenues invested with the City's banking partners
Charges for Services / Fees	$2,283,027	$2,030,403	$2,106,561	$2,188,594	$2,270,520	SAFE and SSMP fees, including PGE privilege taxes
Miscellaneous / Other	$177,031	$65,035	$61,444	$56,130	$6,060	
Total Revenue	***$6,380,158***	***$6,823,988***	***$5,959,115***	***$6,126,688***	***$5,848,788***	
Transportation Bonds	*$20,978,527*	-	-	-	*$18,807,270*	Transportation bond, has a specified project list
Revenue Including Bonds	***$27,358,685***	***$6,823,988***	***$5,959,115***	***$6,126,688***	***$24,656,058***	The transportation bonds are not a separate funding source and must be repaid

[1]FY 2022-23 data is unaudited.

Franchise Revenue

Ordinance 1905 dedicates 8% of net revenues of water, wastewater, stormwater to fund the transportation system. The City of Milwaukie received an average of $1.3 million per year from franchise revenue between FY 2019-FY 2023).

Inter-Governmental Sources

The City of Milwaukie received an average of $2.3 million per year from inter-governmental sources between FY 2019-FY 2023.

Taxes and Fees

State Gas Tax

The Oregon gas tax is currently $0.38 per gallon. A portion of this revenue is distributed to cities annually on a per capita basis. These funds may only be used for road-related purposes: Milwaukie primarily uses them for street department operations and maintenance activities.

Local Gas Tax

The City of Milwaukie has a gasoline tax rate of $0.02, and a diesel tax rate of $0.02, which is administered by Oregon Department of Transportation (ODOT) Fuels Tax Group. Money collected from this tax is dedicated to the Street Surface Maintenance Program for roadway surface preservation

(including maintenance, rehabilitation, and reconstruction). These funds cannot be used to construct capital projects.

Vehicle Registration Fees

Vehicle title fees range from $101 to $116, based on miles per gallon (MPG) – and $192 for electric vehicle titles. Registration fees include plate fees ($25.50), 2-year registration/renewal fees ($126 to $316 per vehicle, varying by vehicle year, fuel efficiency, and whether the vehicle is electric or not), County Fee (additional $30 annual fee for vehicles in Clackamas County)[1], and $6 for transfer plate fees.

Grants

The City of Milwaukie has benefited from several other revenue sources, such as transportation improvement grants and other miscellaneous programs administered by ODOT and the Federal Highway Administration (FHWA). Grants are non-repayable, and sometimes competitive funds given by an entity (in this case, ODOT and FHWA) typically for a certain purpose tied to public benefit. Although they are not considered consistent and reliable funding sources, grants have contributed (or will contribute) to several major projects identified in the City's Capital Improvement Plan (CIP). Recent grants include:

- Kronberg Park Multi-Use Trail Grant
- Safe Routes to School Grant

Kronberg Park Multi-Use Trail Grant

Located between Kellogg Lake and southeast McLoughin Boulevard, the Kronberg Park Multi-Use Trail will connect the Kellogg Creek Bike-Pedestrian Bridge and downtown Milwaukie area with the nearby sidewalk, crosswalk, and Trolley Trail at the south end of the park while restoring and preserving existing habitat. It will also improve access to the Main Street light rail station.

Safe Routes to School Grant

Safe Routes to School (SRTS) is an approach that promotes walking and bicycling to school through infrastructure improvements, enforcement, tools, safety education, and incentives to encourage walking and bicycling to school. SRTS initiatives improve safety and levels of physical activity for students. ODOT has two main types of Safe Routes to School programs: Construction and Education and technical assistance. Construction programs focus on making sure safe walking and biking routes exist through investments in crossings, sidewalks and bike lanes, flashing beacons, etc.

Investment Earnings

The City of Milwaukie invests bond revenues with the City's banking partners: Piper Sandler and Umpqua Bank. The majority of unused funds are invested in treasury bills for a duration of 6 months to a year with Piper Sandler at a current rate of 5.17%. Unused funds not invested in treasury bills are invested with Umpqua bank at a current rate of 4.23%. The amount of investment earnings will decrease as the City uses the bond and the investment amount decreases.

[1] According to ORDINANCE NO. 01-2022, An Ordinance Amending Chapter 7.07, Vehicle Registration Fee, of the Clackamas County Code, the County distributes 40% of the revenue to incorporated cities based on the total number of Clackamas County residents residing within incorporated cities.

The City of Milwaukie received an average of $0.4 million in investment earnings per year from FY 2019-FY 2023.

Charges for Services and Fees

The City of Milwaukie received an average of $2.2 million in charges for services and fees per year from FY 2019-FY 2023.

Safe Access for Everyone (SAFE)

SAFE is the City's program to improve safety for people walking, biking and more. SAFE calls for upgrading the City's network of connections, such as sidewalks, ramps and crossings to fill network gaps, replace portions that do not meet Americans with Disabilities Act (ADA) standards, and remove barriers for people to get where they need to go safely. SAFE's goal is to build 27.9 miles of sidewalk/multi-use paths and 900 ADA ramps in nine years.

The City collects a SAFE fee from residents as a part of the City's utility bill. The amount is based on the type of property and the way it is used. In addition, to support the SAFE program the City has received grants and urban renewal funds.

In 2016 the City established a Safe Access For Everyone (SAFE) Fee to support transportation projects to improve sidewalks and accessibility throughout the City. The Community identified priority one, two, and three projects to use these funds. The program would take over 25 years to complete. The Council decided to fast track the program and issue the first bond for priority one projects in 2018. Up until this time there was little funding available for transportation projects.

Street Surface Maintenance Program (SSMP)

SSMP was adopted by Ordinance No. 1966, effective on July 1, 2007. The ordinance, in concert with other related ordinances, established funding sources, including a street maintenance fee, an electric utility privilege tax, and a local gas tax. All funds were dedicated to street maintenance and rehabilitation, with the goal of bringing all arterials and collectors in the City to a "good" or better condition within ten years.

Miscellaneous

Possible miscellaneous revenues include reimbursement of damage claims by risk management and dividends on worker's compensation payments. Miscellaneous revenues are small and inconsistent.

The City of Milwaukie has received an average of less than $0.1 million per year from miscellaneous sources between FY 2019-FY 2023.

Transportation Bonds

The transportation SAFE and SSMP bond was issued in February 2023 in the amount of $18.9 million by Western Bank. The Transportation Bond was issued at an interest rate of 3.96% through June 2042. This is the second of three projected bonds to support the SAFE program. A third bond is anticipated to be issued in the early- to mid-2030s if the City Council approves to bond. This bond is not a separate revenue source, but is issued to bring funds forwards in order to pay for transportation projects for which there would not be funding for the next 25 years. Some revenue from the State Gas Tax is allocated to debt service of the transportation bonds.

The following projects are listed in the most recent bond:

- Harvey Street Improvements
- Ardenwald North Improvements
- King Road Improvements
- Washington Street Area Improvements
- Logus Road, 40th, 42nd Ave
- Monroe Street Greenway
- Residential Street Surface Repair
- Street Surface Surry Seal
- Signal Upgrades

HISTORICAL EXPENDITURES

Table 2 summarizes the historical expenditures sources between FY 2019- FY 2023. Capital projects and debt service for transportation bonds are the two highest historical expenditures.

Table 2. Historical Expenditures

Expense	Fiscal Year					Notes
	2018-19	2019-20	2020-21	2021-22	2022-23[1]	
Personnel	-$520,709	-$544,745	-$563,377	-$648,853	-$665,900	Labor and benefits cost.
Materials & Services	-$808,642	-$464,918	-$385,583	-$615,851	-$503,548	Professional service and contracting costs. This generally does not include materials and services dedicated to capital investments.
Maintenance	-$472,000	-$1,400,000	-$385,000	-	-$45,000	Maintenance funds are primarily allocated to road resurfacing. The City did not slurry seal any roadways in FY 2021-22.
Capital Projects	-$4,369,277	-$3,757,802	-$4,329,975	-$7,033,348	-$2,737,769	
Debt Service	-$1,995,576	-$1,996,831	-$1,995,332	-$640,831	-$1,972,596	Cost to repay the 2018 Transportation Bond, which is structured to repay both principal and

						interest in the first 3 years, then pay interest only until 2042. The Remainder of the principal bond cost and interest will then be paid from 2042 to 2048. This expenditure will increase in the future for the new 2023 bond.
Transfer to Other Funds	-$1,935,000	-$1,914,000	-$2,030,000	-$2,090,000	-$1,020,500	
Contingency and Reserve	-	-	-	-	-$2,235,000	Issued 10% of bond issued in 2022-2023. This expenditure is not expected to recur unless a new bond is issued.
Total Expenditures	***-$10,101,204***	***-$10,078,296***	***-$ 9,689,267***	***-$11,028,883***	***-$9,180,313***	

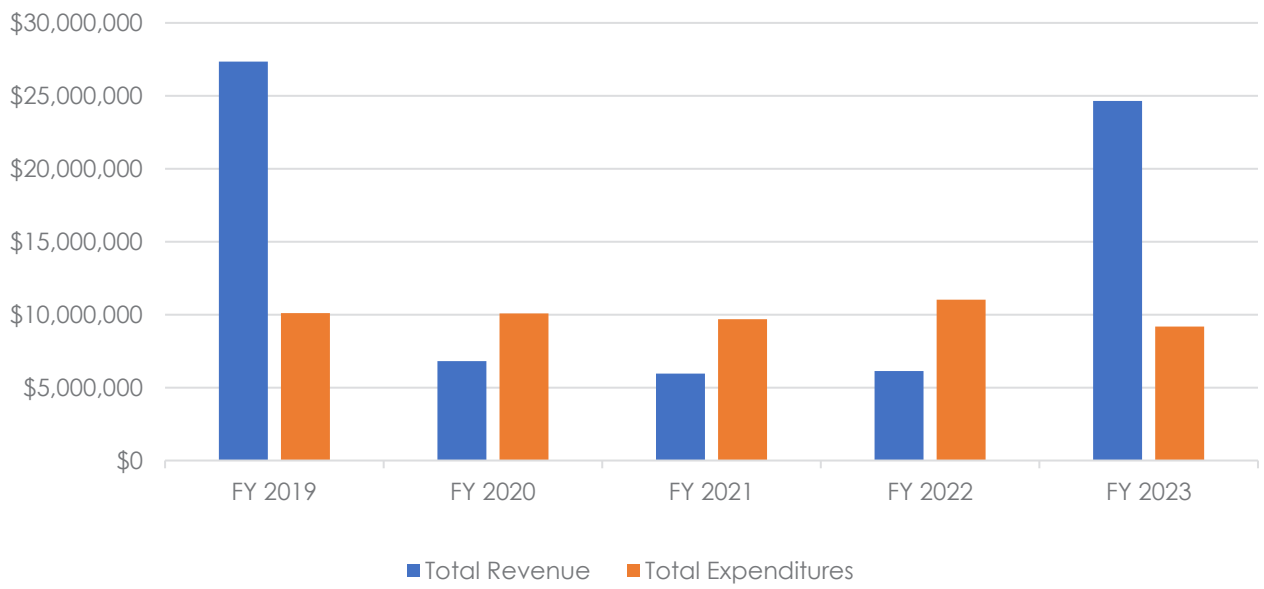
[1]FY 2022-23 data is unaudited

HISTORICAL FUNDING AVAILABLE

Figure 1 illustrates the annual revenue and expenditures, including transportation bonds, between FY 2019- FY 2023. On years where transportation bonds are not issued, total expenditures outpace revenue.[2]

[2] The City of Milwaukie requires a 17% policy reserve.

Figure 1. Total Revenue[1] vs. Expenditures



[1]Increased revenues in FY 2019 and FY 2023 are inclusive of transportation bonds, which are repaid over time.

Table 3 includes the beginning balance each fiscal year and provides the total funding available each year between FY 2019- FY 2023.

Table 3. Historical Funding Available

	Fiscal Year				
	2018-19	**2019-20**	**2020-21**	**2021-22**	**2022-23[1]**
Beginning Fund Balance	$4,447,806	$22,204,780	$18,950,472	$15,220,320	$10,318,125
Total Revenue (Excluding Bonds)	$6,380,158	$6,823,988	$5,959,115	$6,126,688	$5,848,788
Transportation Bonds	$20,978,527	-	-	-	$18,807,270
Total Expenditures	-$10,101,204	-$10,078,296	-$9,689,267	-$11,028,883	-$9,180,313
Total Funding Available with Bonds	***$21,705,287***	***$18,950,472***	***$15,220,320***	***$10,318,125***	***$25,793,870***

[1]FY 2022-23 data is unaudited

FUNDING FORECAST

The historical funding data shows that the City expects to continue to receive funds from a variety of federal, state, and local sources; however, the amount of funds could vary over time[3]. This section provides funding forecasts for the City for implementation of TSP projects. The forecasts are intended to model what revenue the City could anticipate over the next 20 years through the TSP planning horizon.

Table 4 summarizes the funding projection for the 20-Year Planning period. This projection assumes that the current funding generation will continue over the next 20 years. It was estimated by averaging the historical funding sources over the past 5 fiscal years. Potential funding that can be made available earlier through transportation bonds are excluded from this projection, however SAFE and SSMP fees and taxes are assumed to continue according to historic trends.

Table 4. Funding Projection for the 20-Year Planning Period (in 2023 dollars)

Funding Source	Total
Franchise Revenue	$26,467,000
Inter-governmental Sources	$46,022,000
Investment Earnings	$7,087,000[1]
Charges for Services / Fees	$43,516,000
Miscellaneous / Other	$1,463,000
Total Revenue (Excluding Potential Bonds)	**$124,555,000**

[1] Investment earnings are assumed to continue at the same rate, though they may decline as bond funding is used.

Table 5 summarizes the projected expenses for the 20-Year Planning period. This projection assumes that current expenditures will continue over the next 20 years. It excludes capital expenditures to calculate the availability for capital expenditures. It is assumed that the debt service continues at the historic rate while the City continues to repay past bonds.

Table 5. Projected Expenses for the 20-Year Planning Period (in 2023 dollars)

Expense	Total
Personnel	$11,774,000
Materials & Services	$11,114,000
Maintenance	$9,208,000
Debt Service	$34,405,000
Transfer to Other Funds	$35,958,000
Total Expenditures (Excluding Capital Investments)	**$102,459,000**

[3] It is likely that revenue from the vehicle fuel tax will decline due to increased usage of electric vehicles. ODOT is exploring alternatives to the vehicle fuel tax.

Based on the estimates from **Table 4** and **Table 5**, the City is projected to have approximately $22 million available for capital projects over the next 20 years.

ADDITIONAL FUNDING SOURCES

Additional funding sources are summarized below. The sources are organized by local, state, and federal funding mechanisms and are tailored to transportation-specific investments. In addition to these sources, the City may also seek state and federal grant opportunities where transportation facilities are a secondary focus of the funds. For example, the Statewide Transportation Improvement Fund (STIF) is intended for transit service, facility, and operations improvements, but transportation projects that improve access to transit – such as sidewalks or bike lanes leading to transit stops – could also be eligible for funds.

Local Funding Mechanisms

Potential local-level funding sources are summarized in **Table 6**. These funding sources can be used currently to fund capital projects or may be considered by the City for implementation as new funding sources. Including this table in the TSP does not create new funding sources but rather presents 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. Sources that the City already uses but that can have expanded funding generation or application are highlighted in dark grey.

Table 6. Potential Local Funding Mechanisms

Funding Source[1]	Description	Potential Application
General Fund Revenues	The City can contribute General Fund revenues to transportation projects and programs. Revenues are available if revenues or increased or funding is diverted from other City programs. The City Council decides where the general fund is allocated.	These revenues can be used for any aspect of the transportation system.
Street Utility Fees/Road Maintenance Fees	A fee based on the number of automobile trips that 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.	**The City already uses this funding source through the Street Surface Maintenance Program, however there are opportunities to continue and expand use by increasing the fees to generate more revenue.** This revenue can be applied to system-wide transportation facilities including streets, sidewalks, and bikeways. Projects eligible for SSMP funding include major rehabilitation and

Funding Source[1]	Description	Potential Application
		reconstruction of roadways.
Transportation System Development Charges (SDC)	SDCs are fees assessed to development for impacts on public infrastructure. SDCs may be an improvement fee, a reimbursement fee, or a combination thereof. Reimbursement fee revenues are dedicated to capital projects that increase capacity to meet the needs of growth. SDC credits are provided to developers for public improvements they construct which add capacity to the system beyond that required to serve their development. SDC credits may also be given for development provisions that reduce vehicular capacity demand on the transportation system, such as providing end-of-trip bike facilities within the new development. The city could expand the SDC rate for transportation.	**The City already uses this funding source, however there are opportunities to continue and expand use.** SDCs may only be used for the portion of transportation improvements that generate additional capacity demand related to growth.
Stormwater SDCs, Grants, and Loans	SDCs, grants, loans, and stormwater improvement fees can be obtained for improving stormwater management facilities constructed as part of transportation system improvements.	**The City already uses stormwater utility fees for transportation, but not stormwater SDCs. Applying stormwater specific SDCs could increase revenue generation and provide opportunity to expand use.** SDCs may only be used for the portion of transportation improvements that generate additional stormwater management capacity related to growth.
Local Fuel Tax	A local tax can be assessed on the purchase of fuel within the City. This tax is added to the cost of fuel at the pump, along with the state and federal fuel taxes. The City could increase the local gas tax leveraged per gallon.	**The City already uses this funding source, however there are opportunities to continue and expand use by increasing the local gas tax leveraged per gallon.** This revenue can be applied to system-wide transportation facilities including streets, sidewalks, and bikeways.
Incentives	The City could provide enticements such as bonus densities and flexibility in design in exchange for a public benefit. Examples might include providing miscellaneous facilities such as additional EV parking, bicycle parking,	**The City already uses this funding source, however there are opportunities to continue and expand**

Funding Source[1]	Description	Potential Application
	and transit stops in exchange for bonus densities. Incentives may be used with SDC methods to reduce transportation impacts from new development.	**use.** This revenue can be applied to system-wide transportation facilities including streets, sidewalks, bikeways, and transit.
Public/Private Partnerships	Public/private partnerships have been used around the country to provide public transportation amenities within the public right-of-way in exchange for operational revenue from the facilities. These partnerships could be used to provide services such as vehicle charging stations, public parking lots, bicycle lockers, or car share facilities.	This revenue can be applied to system-wide transportation facilities including streets, sidewalks, bikeways, and transit.
Tax Increment Financing (TIF)	TIF is a tool that cities and counties may use to create special districts (tax increment areas) where public improvements are made to generate private-sector development. During a defined period, the City freezes the tax base at the pre-development level. Property taxes for that period can be waived or paid, but taxes derived from increases in assessed values (the tax increment) resulting from new development can go into a special fund created to retire bonds issued to originate the development or leverage future improvements. A number of small-to-medium sized communities in Oregon have implemented, or consider implementing, urban renewal districts that will result in a TIF revenue stream.	**The City already uses this funding source, however there are opportunities to continue and expand use.** This revenue can be applied to system-wide transportation facilities including streets, sidewalks, bikeways, and transit.
Revenue and General Obligation Bonds	Bonding allows municipal and city government to finance construction projects by borrowing money and paying it back over time, with interest. Financing requires smaller regular payments over time compared to paying the full cost at once, but financing increases the total cost of the project by adding interest. General obligation bonds are often used to pay for construction of large capital improvements and must be approved by a public vote. These bonds add the cost of improvement to property taxes over time.	**The City already uses this funding source, however there are opportunities to continue and expand use.** Construction of major capital improvement projects within the City, street maintenance and incidental improvements.
Local Improvement Districts (LIDs)	LIDs pool funds from property owners to make local transportation improvements.	This revenue can be applied to transportation facilities including streets, sidewalks, bikeways, and transit located within the LID area.
Street Fund Serial Levy	This levy is a voter-approved property tax levied in addition to the permanent tax rate.	This revenue can be applied to operations or capital programs.

Funding Source[1]	Description	Potential Application
Vehicle Registration Fee	An extra fee on all registered motor vehicles in the City. Requires City-wide and county approval and implementation.	This revenue can be applied to operations or capital programs. Although the City already receives a county wide portion of the Vehicle Registration fee, the City may be able to increase this funding source by issuing an extra fee.
Hotel/Motel Taxes	Under state law, 70% of revenues from such taxes must fund programs boosting tourism. Many jurisdictions have hotel/motel taxes and could use a portion of the revenue for transportation investments.	There currently are no hotels or motels within City limits, however this could change in the future or the program could be expanded to include short-term rentals. This revenue can be applied to tourism, economic development, and sidewalk improvement programs.
Dedicated Property Taxes	The City can establish a dedicated property tax to fund its Major Streets Transportation Improvement Program (SSMP).	**The City already uses this funding source, however there are opportunities to continue and expand use.** This revenue can be applied to system-wide transportation facilities.

[1] Additional funding sources are presented for informational purposes only. Future consideration or implementation of funding sources should be evaluated outside of the TSP to consider impacts to residents, homeowners, property owners, business owners, and other City constituents.

State and Federal Funding Mechanisms

In addition to local funding sources, the City can seek opportunities to leverage funding from state and federal funding sources. **Table 7** outlines state and federal sources and their potential applications. The City has sought funding through several of these programs in the past and will continue to do so. State and federal sources change regularly as new transportation legislation is passed or existing legislation is modified. Potential state funding sources are limited and competitive. Any future improvements that rely on state funding may require City and regional consensus that they are more important than needs elsewhere in the region and the state.

Table 7. Potential State and Federal Funding Mechanisms

Funding Source	Description	Potential Application
State Fundings Mechanisms		
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.
All Roads Transportation Safety Program (ARTS)	The federal Highway Safety Improvement Program (HSIP) 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 City, consistent with Oregon's Transportation Safety Action Plan.
Immediate Opportunity Fund (IOF)	The IOF is discretionary and provides funding for transportation projects essential for supporting site-specific economic development projects. These funds are distributed on a case-by-case basis in cooperation with the Oregon Economic and Community Development Department. These funds can only be used when other sources of financial support are insufficient or unavailable. These funds are reserved for projects where a documented transportation problem exists or where private firm location decisions hinge on the immediate commitment of road construction. A minimum of 50 percent match is required from project applications.	Any identified projects that would improve economic development in the City and where there are documented transportation problems.
Connect Oregon	Lottery-backed bonds distributed to air, marine, and rail projects statewide. No less than 10 percent of Connect Oregon funds must be distributed to each of the five regions of the state, if there are qualified projects in the region. The objective is to improve the connections between the highway system and other modes of transportation.	System-wide transportation facilities.
Oregon Parks and Recreation Local 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. Local match is required.	Trails and other recreational facility development or rehabilitation.
Oregon Transportation Infrastructure Bank (OTIB)	A statewide revolving loan fund is available to local governments for many transportation infrastructure improvements, including highway, transit, and non-motorized projects. Most funds made available through this program are federal; streets must be functionally classified as a major collector or higher to be eligible for loan funding.	Infrastructure improvements to major collectors or higher classified roads for vehicle, transit, and non-motorized travel.
State Highway Fuel Tax	ODOT is currently researching a state user fee for drivers to address steady or declining state gas tax revenues. An	System-wide transportation facilities including streets,

Funding Source	Description	Potential Application
Increase or User Fee	increase in the state gas tax or a user fee would need to pass through state legislation and would increase the state's transportation funds.	sidewalks, bikeways, and transit.
Multi-modal Active Transportation Fund	This fund invests in multimodal transportation infrastructure improvements across Oregon.	Pedestrian and bicycle-related projects.
Safe Routes to School (SRTS)	SRTS, administered by ODOT, focuses on infrastructure and non-infrastructure programs to improve access and safety for children to walk, roll, and/or bike to school. The City can continue to pursue grant funding through this program.	Pedestrian and bicycle-related projects within the vicinity of local schools.
Oregon Community Paths (OCP)	This State of Oregon program combines funds from the Multimodal Active Transportation Fund, Oregon Bicycle Excise Tax, and federal Transportation Alternatives Program to help communities create and maintain connections with primarily off-street pedestrian and bicycle facilities.	Off-street pedestrian and bicycle facilities (primarily).
ODOT Bridge Program	ODOTs Bridge Section coordinates selection and funding of Federal Highway Bridge Program bridges through the Local Agency Bridge Selection Committee, a committee of City, County, and state representatives. Local agency bridges are prioritized using a Technical Ranking System and selected in categories of Large (30,000+ square feet of deck area), Small On-System, and Small Off-System.	Bridges: The City does not currently have any bridges that fall into this category as the County maintains most bridges.
ODOT Emergency Operations Program Funding	A federal program that provides emergency funding for repair or reconstruction of highways and roads damaged during natural disasters or catastrophic failures. ODOT's Maintenance and Operations Branch administers the Emergency Operations Program and can assist local agencies navigate the Emergency Repair process.	Highway and bridge repair from natural disasters or catastrophic failures.
Transportation Options	The TO program focuses on implementation of the Oregon Transportation Options Plan, including: managing demand across the transportation system; educating students and the public on travel options and how to safely use them; connecting veterans, low income populations, communities of color, and others with ways to get to and from work or school; supporting vanpooling; and more.	Projects supporting implementation of the Oregon Transportation Options Plan.
State Transit Improvement Fund (STIF) and Public Transportation Funds	STIF is a newer dedicated source of funding under Section 122 of the House Bill (HB) 2017 Transportation Funding Package for improving or expanding public transportation service in Oregon.	Pedestrian and bicycle improvements that provide connections to transit.

Funding Source	Description	Potential Application
State Highway Trust Fund/Bicycle Bill	When roads are constructed or reconstructed, Oregon law requires walkways and bikeways be provided. Additionally, all agencies receiving State Highway Funds are required to spend at least 1% of those funds on bicycle and/or pedestrian infrastructure improvements (ORS 366.514). Currently, cities and counties receive 20% and 30% of the state's highway trust funds, respectively, which can be used for walking and biking projects along roads.	Bicycle and pedestrian projects.
Sidewalk Improvement Program (SWIP)	ODOT's SWIP builds pedestrian and bicycle facilities on state roads and local roads that help people moving across or around the state system.	Bicycle and pedestrian projects.
Various Public or Private Grant Programs	Many public and private grant programs exist, such as People for Bikes, that offer funding support for transportation infrastructure. New such grant programs are formed often and should be regularly tracked by the City.	Various depending on the grant program.
Federal Funding Mechanisms		
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 over the next five years.	Projects around the state that will benefit drivers, transit riders, cyclists, and pedestrians, and that help maintain roads and bridges, and address climate change.
Infrastructure for Rebuilding America (INFRA)	INFRA (known statutorily as the Nationally Significant Multimodal Freight & Highway Projects) awards competitive grants for multimodal freight and highway projects of national or regional significance to improve the safety, efficiency, and reliability of the movement of freight and people in and across rural and urban areas.	Projects that improve safety, generate economic benefits, reduce congestion, enhance resiliency, and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.
Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	The RAISE Discretionary Grant program invests in road, rail, transit, and port projects that promise to achieve national objectives. RAISE can provide capital funding directly to any public entity, including municipalities, counties, port authorities, tribal governments, MPOs, or others in contrast to traditional Federal programs which provide funding to very specific groups of applicants (mostly State DOTs and transit agencies).	Road, rail, transit, and port projects aimed toward national objectives with significant local or regional impact.
National Highway Performance Program (NHPP)	The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are	NHS roads and bridges (and non-NHS bridges so long as bridge condition provision requirements are satisfied).

Funding Source	Description	Potential Application
	directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.	
Highway Safety Improvement Program (HSIP)	The HSIP is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance.	Safety projects.
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	CMAQ is a federally-funded program for surface transportation improvements designed to improve air quality and mitigate congestion. CMAQ funds are apportioned annually to each State according to the severity of its air quality problems. The program is jointly administered by Federal Highway Administration and the Federal Transit Administration.	All types of transportation projects that improve air quality and mitigate congestion.
Transportation Alternatives (TA)	The Bipartisan Infrastructure Law continues the TA set-aside from the Surface Transportation Block Grant (STBG) program. Eligible uses of the set-aside funds include all projects and activities that were eligible under the previous spending bill. This encompasses a variety of smaller-scale transportation projects.	Pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.
Federal Lands Access Program (FLAP)	The FLAP was established to improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands. The FLAP supplements State and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators.	Projects accessing high-use Federal recreation sites or Federal economic generators.
Congressionally Directed or Discretionary Funds	Congressionally Directed funds may be received through either highway program authorization or annual appropriation processes. These funds are generally described as "demonstration" or "earmark" funds.	Highway freight projects on the National Highway Freight Network, NHS highway/bridge projects/project in National Scenic Areas, freight rail/intermodal/port projects, rail-highway grade crossings or grade separation projects.

Funding Source	Description	Potential Application
National Highway Freight Program (NHFP)	The NHFP was created by the FAST Act to invest in freight projects on the National Highway Freight Network. This program is apportioned to States by formula and a State must have had a freight plan in place beginning FY 2018 in order to receive formula funding.	Construction, operational improvements, freight planning, and performance measures.

NEXT STEPS

This memorandum documents the estimated types and amounts of revenue the City will have through 2044 for implementing prioritized projects and programs. It was reviewed by the Project Management Team, the TSP Advisory Committee, and the TSP Technical Committee and updated to produce a final financial forecast. This financial forecast will be used when developing the financially constrained capital project lists.

APPENDIX D. EXISTING CONDITIONS SUMMARY

TRANSPORTATION SYSTEM CONDITIONS

This document was created in March 2025.

Introduction

The existing conditions inventory, needs, and gaps analysis is an assessment of Milwaukie's current transportation system within its city limits, as shown in Figure 1.

Information summarized in this memorandum was obtained and assembled using available Geographic Information System (GIS) data, aerial photography, field observations, and historical the Oregon Department of Transportation (ODOT) crash data.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 1

Study Area

Legend

- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 1/21/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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Existing Transportation System Inventory

The existing transportation system inventory evaluates current land uses within the city to understand the types of lands, and natural resources that the transportation system interacts with as well as the demographic cross section of community members relying on it. The inventory also assesses the current characteristics of the multimodal travel ways to understand how it is serving its users today.

Land Use and Population

Land use is a key factor in developing a functional transportation system. The amount of land planned for development, the types of land uses, and how they relate to each other have a direct relationship to the anticipated demands for the transportation system. This section identifies the zoning designations that help define land use within the study area.

Land Use

Figure 2 illustrates the current Comprehensive Plan land use designations. The majority of the land area in the City is designated for moderate density residential uses. The Town Center includes concentrations of high density residential, commercial, public, and mixed-use designations. Industrial uses are primarily concentrated in the North Milwaukie Innovation area along OR 99, the Johnson Creek Industrial Area along Johnson Creek Boulevard, and the International Way Business District along OR 224.

Key Destinations and Activity Centers

Key destinations and activity centers in the City of Milwaukie include schools, grocery stores, Neighborhood Hubs, transit stops, parks, and an assortment of other uses that include medical facilities, adult care facilities, childcare facilities, farmers market, places of worship, and the library. Priority Focus Areas are considered essential destinations for the public to access and are likely to generate multimodal trips. Priority focus areas are schools, Neighborhood Hubs, parks, transit stops, and areas where there are likely higher concentrations of underserved populations (including senior living facilities, low-income housing, and resource centers). The Milwaukie Town Center is also considered a key destination/priority focus area given its concentration of employment, higher-density housing, affordable housing development Hillside Park, commercial uses, and schools. Figure 3 illustrates the location of these facilities. These destinations will be integrated into considerations to improve multimodal access for people living, working, and visiting the City. Creating and maintaining access to these and other similar land uses is important for ensuring a well-connected and high-quality circulation network.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 2

Land Use

Legend

- MD - Moderate Density
- HD - High Density
- C - Commercial
- C/HD - Mixed Use
- I - Industrial
- P - Public
- TC - Town Center
- Milwaukie City Limits
- Milwaukie Town Center

Generated On: 1/21/2025

Data Sources: City of Milwaukie, ODOT

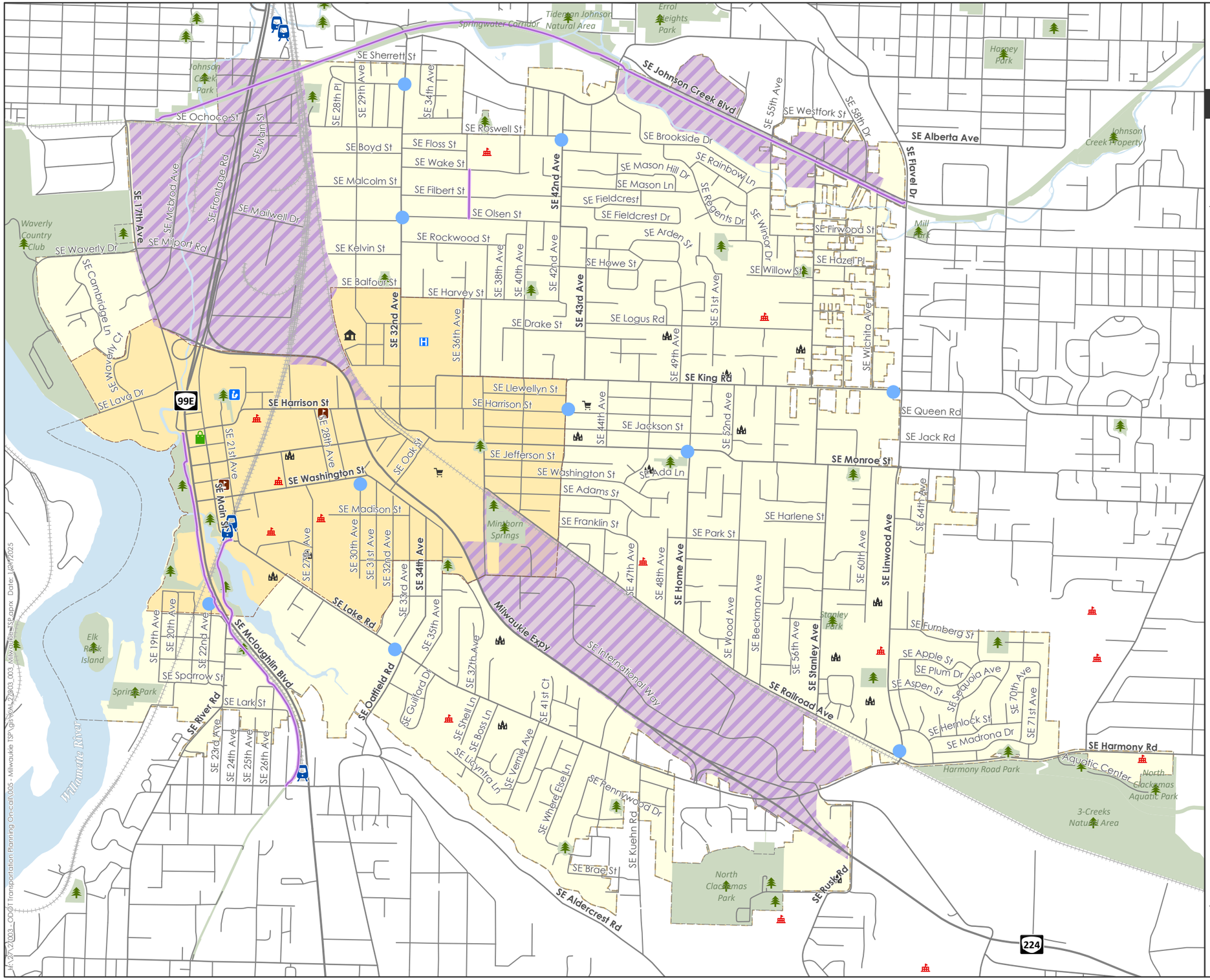
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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 3

Key Destinations



Legend

- MAX Station
- Schools
- Grocery Store
- Farmers markets
- Hospital (Providence Milwaukie)
- Library
- Neighborhood Hub
- Church
- Large Adult Care Facility
- Large Childcare Facility
- Housing
- Park
- Multi-Use Path
- Industrial Employment Zone
- Milwaukie City Limits
- Milwaukie Town Center

Generated On: 1/21/2025

Data Sources: City of Milwaukie, ODOT

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Population Demographics

The *Milwaukie Community Profile Memorandum* documents and analyzes demographic data for the city of Milwaukie, focusing on underserved populations, as identified in Oregon Administrative Rule (OAR) 660-012-0125. OAR 660-012-0125 specifically identifies the following populations as being underserved regarding transportation and land use planning due to historic and current marginalization.

- Black and African American people
- Indigenous people (including Tribes, American Indian/Alaska Native and Hawaii Native);
- People of Color (including but not limited to Hispanic, Latina/o/x, Asian, Arabic or North African, Middle Eastern, Pacific Islander, and mixed-race or mixed-ethnicity populations);
- Immigrants, including undocumented immigrants and refugees
- People with limited English proficiency
- People with disabilities
- People experiencing homelessness
- Low-income and low-wealth community members
- Low- and moderate-income renters and homeowners
- Single parents
- Lesbian, gay, bisexual, transgender, queer, intersex, asexual, or two-spirit community members; and
- Youth and seniors

As identified in the *Milwaukie Community Profile Memorandum*, disadvantaged populations are dispersed throughout the City[1], so when the TSP considers improving access for disadvantaged groups, there will be general emphasis on providing low-stress multimodal connections within the larger Milwaukie Town Center and priority focus areas.

[1] While it has been found that there is a general dispersal of disadvantaged populations throughout Milwaukie, Hillside Park is an important public housing community located on the west side of SE 32nd Avenue across from the Providence Milwaukie Hospital site. In association with the Housing Authority of Clackamas County (HACC), Hillside Park is currently undergoing a major redevelopment that will replace aging buildings and infrastructure with approximately 500 new affordable rental housing units. Hillside Park is located within the defined Milwaukie Town Center.

Roadway System

Roadways provide infrastructure for motor vehicles, freight, bicycle, pedestrian, and transit facilities. The roadway network establishes links both within the city and outside of its boundaries, connecting surrounding areas and neighboring jurisdictions. The following sections describe and inventory the existing roadway system within the City of Milwaukie, including roadway jurisdictions and functional classifications, freight routes, and key roadway and intersection characteristics.

Roadway Ownership

Public roadways within the City of Milwaukie are owned, operated and maintained by three primary jurisdictions: the City of Milwaukie, ODOT, and Clackamas County. These three jurisdictions coordinate planning, operations, maintenance, and improvements of roadway facilities within the urban area and ensure the continued performance and functionality of the transportation system to meet public needs. These jurisdictions are responsible for the following:

- Maintenance and operations;
- Determining the road's functional classification;
- Defining the roadway's design and multimodal features; and approving construction and access permits.

Figure 4 maps roadway facilities by ownership in the City of Milwaukie while Table 1 provides a more detailed breakdown of these roadways. As would be expected, the majority of the roadway corridors in the City are city-owned.

Table 1. Roadway Ownership

	City Owned Roadways	**Joint City/Portland Owned Roadways**	**Clackamas County Owned Roadways**	**ODOT Owned Roadways**
City-Wide	77.9 miles	0.8 miles	2.6 miles	8.1 miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 4

Roadway Ownership

Legend

- Milwaukie Road
- Milwaukie/Portland Shared
- Portland
- Clackamas County Road
- ODOT
- Public Road (Privately Maintained)
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/3/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

Roadway Functional Classification

Roadway functional classifications organize streets based on their role in the transportation system. The City's functional classifications form a hierarchy of streets ranging from those that are primarily for travel mobility (regional routes and arterials) to those that are primarily for access to property (neighborhood routes and local streets). The functional classification system is developed with the recognition that individual streets do not act independently of each other but form a network of streets that work together to serve travel needs on a local, citywide, and regional level.

The City's functional classification system includes regional routes, arterials, collectors, neighborhood routes, and local streets.

Figure 5 maps the current functional classifications while Table 2 summarizes the breakdown of the classifications in total miles of facilities. The majority of streets in the City are classified as local streets, focusing on providing direct access, with key arterial, collector roadways, and regional routes providing overall mobility.

Table 2. Roadway Functional Classification

	Regional Routes	Arterials	Collectors	Neighborhood Routes	Local Streets	Total
City-Wide	6.0 miles	11.0 miles	13.3 miles	9.3 miles	49.7 miles	**89.3 miles**

Functional Classification Needs/Gaps Assessment

The existing functional classifications were reviewed to ensure there are no gaps or inconsistencies in designations with partnering agencies such as ODOT or Clackamas County or adjacent agencies such as the City of Portland.

Functional Classification Missing Segments

Based on a review of the City's roadway functional classification map, the following roadway segments are not designated in the current Milwaukie TSP roadway functional classification map and would need modification in the new Milwaukie TSP:

- Johnson Creek Boulevard from SE 45th Place to the east city limits as highlighted in Figure 5. Although a Clackamas County owned/maintained roadway, a Milwaukie Arterial designation would ensure inter-agency consistency with the County.
- Harmony Road from SE Linwood Avenue to the east city limits as highlighted in Figure 5. Although a Clackamas County owned/maintained roadway, a Milwaukie Arterial designation would ensure inter-agency consistency with the County.
- SE 17th Avenue from roughly SE Waverly Place to the north city limits as highlighted in Figure 5 . This segment will be updated to an Arterial designation, consistent with the remainder of SE 17th Avenue.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 5

Functional Classification

Legend

- Regional Route
- Arterial
- Collector
- Neighborhood Routes
- Local Street
- Missing Designation
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 1/21/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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Freight

Freight route classifications are provided at the State, Federal, and local levels. In Oregon, the Oregon Highway Plan (OHP) documents State freight designations on the state highway system. As previously noted, the OR 99E corridor (segment north of OR 224) and the OR 224 corridor are classified by ODOT as Freight Routes. At the Federal level, there are no roadways within Milwaukie that are classified as part of the National Highway System (NHS), and therefore there are no roadways classified as National Highway Freight Routes.

Freight Classification Changes

The City is considering the incorporation of multimodal functional classifications into the new TSP. This will update the terminology used to describe freight routes. See accompanying *DRAFT Multimodal Functional Classification Memorandum for the updated Freight Classifications.*

Freight Needs/Gaps Assessment

The Freight Master Plan element in the current Milwaukie TSP was reviewed to identify projects that are still relevant and needed to address the efficient movement of freight. These projects are summarized in TSP Figure 9-1 and TSP Table 9-1 for freight planning projects that have not yet been completed. All of these projects were reviewed with city planning and engineering staff for inclusion in the new Milwaukie TSP project development and review process. Based on this assessment, all currently planned and unconstructed freight projects in the TSP were identified as having continued relevance. These projects are identified as gaps and mapped in Figure 6.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 6

Freight Gaps and Needs

Legend

- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/4/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

Intersection Traffic Control

Intersection traffic control in the City of Milwaukie primarily consists of all-way stop control and signalized intersections. Traffic signals exist mainly along OR 99E, OR 224. Harrison Street, King Road, Lake Road, Linwood Avenue, and Johnson Creek Boulevard. The location of existing traffic signals and all-way stop control intersections are mapped in Figure 7.

Intersection Operations Evaluation

Traffic operations were evaluated at the following five intersections as selected by City engineering staff. Some of these intersections have been formally studied as part of other planning efforts and are known to experience peak hour operational challenges.

- SE Oak Street / SE Railroad Avenue / SE Monroe Street
- SE 32nd Avenue / SE Harrison Street
- SE 42nd Avenue / SE Roswell Street
- SE 32nd Avenue / SE Harvey Street
- SE Railroad Avenue / SE 37th Avenue

When not already available from previous studies, supplemental weekday PM peak hour traffic counts were collected at the key intersections in September 2024 following the start of the school year. The traffic counts included the total number of vehicles, pedestrians, bicyclists, and heavy vehicles that entered the intersections in 15-minute intervals.

Analysis Methodology and Performance Standards

All traffic operations analyses described in this section conform with City standard methodologies and guidelines. The City of Milwaukie's operational standard for city-owned intersections is Level-of-Service "D" or better.

Existing Traffic Conditions

The intersection operations analysis was conducted using Synchro and PTV Vistro 2022, software tools designed to assist with operations analyses in accordance with Highway Capacity Manual (HCM, Reference 5) methodologies. The analysis results include level-of-service (LOS), delay, and volume-to-capacity (v/c) ratios at all intersections. The LOS, delay, and v/c ratios are reported for the overall intersection at signalized intersections and the critical movement at unsignalized intersections in accordance with the methodologies outlined in ODOT's *Analysis Procedures Manual*. Figure *8* summarizes existing lane configurations, traffic control devices, and PM peak hour operations at the study intersections. As shown in Figure 8, all study intersections meet the LOS D standard under the existing PM Peak Hour. *Traffic counts and operations worksheets are included in Appendix A.*

Year 2045 Baseline Traffic Operations

The year 2045 projected traffic conditions analysis identifies how the study area's transportation system will operate in the TSP horizon year 2045. Metro's Travel Demand Model provides base (2020) and future (2045) traffic volume projections that reflect anticipated land use changes and planned transportation improvements within the Metro region. Intersection turning

movement volumes were derived from the traffic volume projections by applying the post-processing methodology identified in the National Cooperative Highway Research Program (NCHRP) Report 765, *Analytical Travel Forecasting Approaches for Project-Level Planning and Design*. The methodology derives forecast traffic volumes based on the existing traffic volumes and base and future year traffic volume projections in the model. *The year 2045 traffic volume development worksheets and travel demand model outputs are provided in Appendix B.*

Figure *8* illustrates the additional study intersection forecast year 2045 traffic volumes and operations. Table 3 summarizes the forecast operations and findings.

Table 3. 2045 Additional Study Intersection Operations Summary

Intersection	2045 Future Conditions		Operational Challenge
	Forecast to Operate within LOS D Standard	**Forecast to Operate Above LOS D Standard**	
SE Roswell Street/ SE 42nd Avenue	x		The critical Roswell Street approach is forecast to operate within acceptable standards during peak travel periods. While the intersection does experience periods of short-term congestion during school release times at nearby Ardenwald Elementary, no capacity-based traffic control improvements are forecast to be needed. However, considering the large number of pedestrians that traverse this intersection due to its proximity to Ardenwald Elementary, pedestrian crossing enhancements such as an RRFB treatments across SE 42nd Avenue should be considered.
SE Harvey Street/ SW 32nd Avenue	x		While the critical Harvey Street approach is forecast to operate within acceptable standards during peak travel periods, enhanced pedestrian and bicycle crossing treatments of SE Harvey Street have been identified as part of other study efforts that should be incorporated as part of the new TSP project development and prioritization efforts.
SE Harrison Street/ SE 32nd Avenue	x		While forecast to have adequate long-term intersection capacity, the split phasing on the north and south approaches can result in long vehicle queues on the southbound through/left-turn lane during peak time periods. This intersection has also been identified as a challenging intersection for pedestrians and bicycles to cross.
SE Oak Street/ SE Railroad Ave/ SE Monroe Street		x	The westbound Monroe Street approach is forecast to operate over capacity in 2045 traffic conditions. This is attributed to growth along the Monroe and Oak Street corridors.

Intersection	2045 Future Conditions		Operational Challenge
	Forecast to Operate within LOS D Standard	Forecast to Operate Above LOS D Standard	
SE Railroad Ave/ SE 37th Avenue		x	The westbound left-turn movement is forecast to operate with high levels of delay resulting in LOS F conditions. This is attributed to forecast growth on the 37th Avenue and SE Railroad Avenue corridors.

Intersection Traffic Control Needs/Gaps Assessment

Based on the analysis above, intersections forecast to exceed the LOS D standard are identified in gaps and illustrated in Figure 9.

Additionally, the Street Network Master Plan element in the current Milwaukie TSP was reviewed to identify projects that are still relevant and needed to address traffic operations, safety, and geometric challenges. These intersection projects are summarized in TSP Figure 8-5 and TSP Table 8-10. The review determined that multiple intersection capacity or geometric improvement projects have been implemented as part of other capital projects such as the Linwood Avenue improvements and various projects along OR 99E. All other remaining projects have yet to be implemented. Based on conversations with City engineering staff, those remaining projects which are notated on Figure 9, are still needed to address various traffic control, safety, or geometric deficiencies. Projects in other planning efforts that have occurred since the last TSP update, such as the study of SE 42nd Avenue & SE Johnson Creek Boulevard, were also incorporated into Figure 9.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 7

Intersection Control

Legend

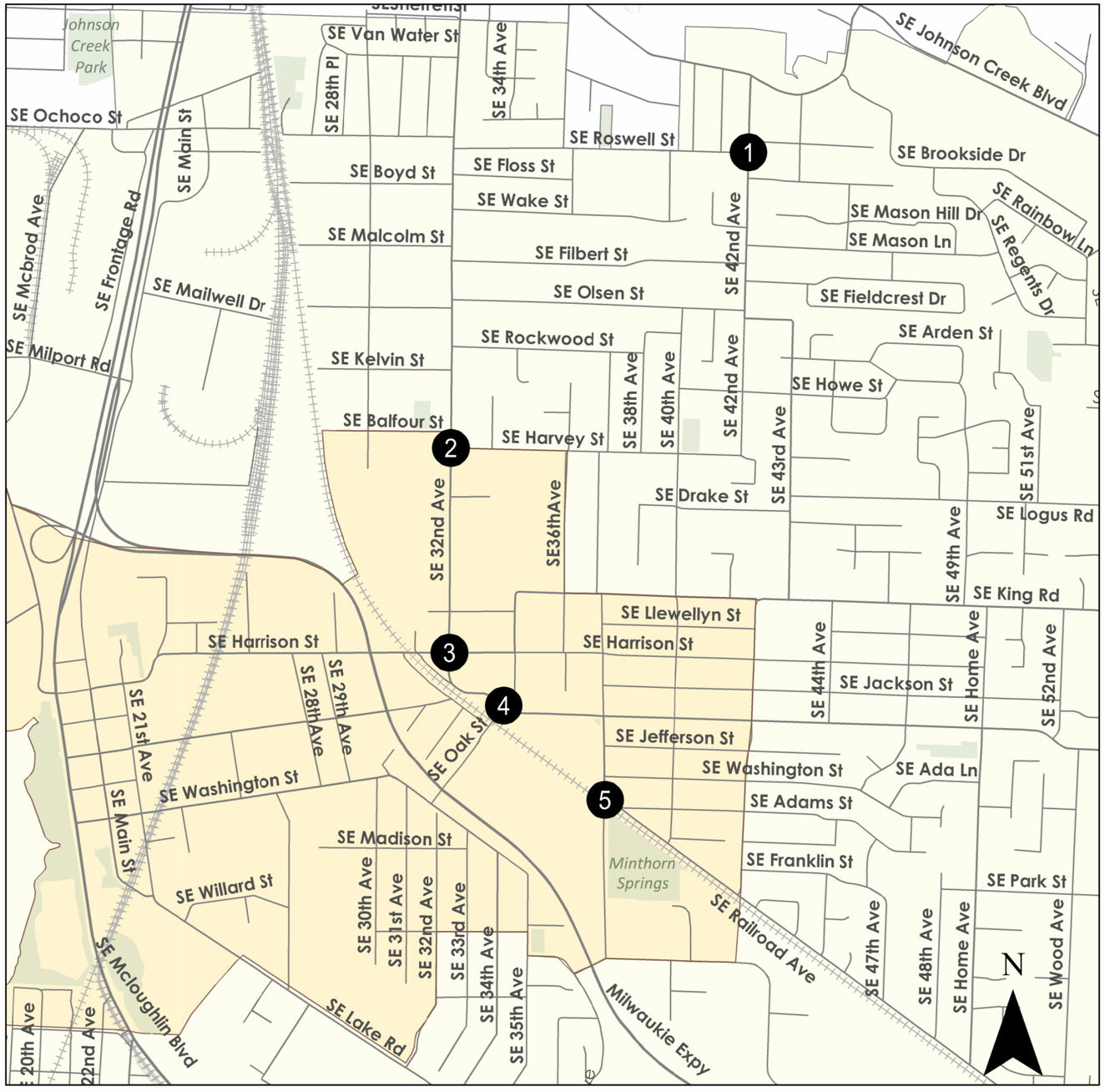
- All-Way Stop
- Signalized Intersection - City of Milwaukie Owned
- Signalized Intersection - Clackamas County Owned
- Signalized Intersection - ODOT Owned
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

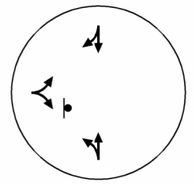
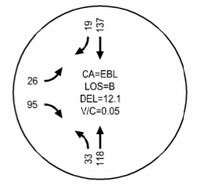
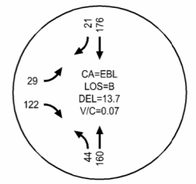
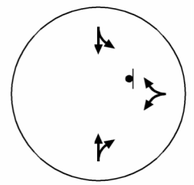
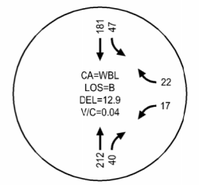
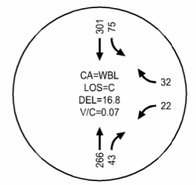
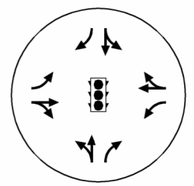
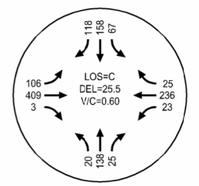
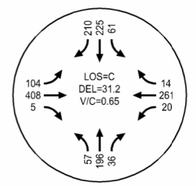
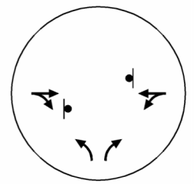
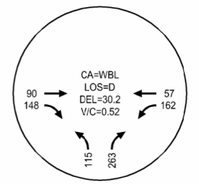
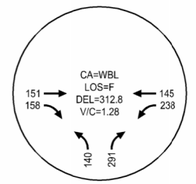
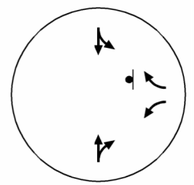
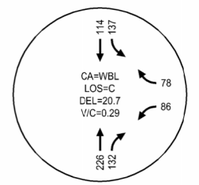
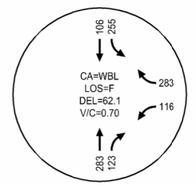
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Data Sources: City of Milwaukie, ODOT

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	Existing Lane Configurations	Existing PM Peak Hour Operations	Future Year (2045) PM Peak Hour Operations
1. SE ROSWELL ST / SE 42ND AVE			
2. SE HARVEY ST / SE 32ND AVE			
3. SE HARRISON ST / SE 32ND AVE			
4. SE OAK ST / SE RAILROAD AVE - SE MONROE ST			
5. SE RAILROAD AVE / SE 37TH AVE			

LEGEND

- (#) - STUDY INTERSECTIONS
- CA = CRITICAL APPROACH
- LOS = CRITICAL APPROACH LEVEL OF SERVICE
- DEL* = CRITICAL APPROACH AVERAGE CONTROL DELAY
- V/C* = CRITICAL APPROACH VOLUME-TO-CAPACITY RATIO
- *Critical Movement Delay and V/C Ratio Reported for TWSC Intersections - Overall Delay and V/C Ratio Reported for Signalized Intersection

- LANE SYMBOL
- STOP SIGN
- SIGNAL

Existing Lane Configurations, Traffic Control Devices, and PM Peak Hour Operations
Milwaukie Oregon

Figure 8

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 9

Intersection Control Gaps and Needs

Legend

- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/4/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

Roadway Characteristics

The following sections provide an overview of roadway characteristics within the City, including travel lanes, posted speed limits, intersection traffic control, and other key characteristics.

Travel Lanes

Roadway facilities by travel lanes are mapped in Figure 10. There are no identified projects in the current Milwaukie TSP that would add or substantively change the number of corridor-level travel lanes on existing Milwaukie roadways.

Posted Speeds

Roadway facilities by posted speeds are mapped in Figure 11. Roadways without posted speed limits are subject to statutory speed limits established by the state (ORS 811.11 and ORS 811.105), except for school zones that are posted at 20 MPH.

Posted speeds on City facilities are generally 25 to 35 MPH. Posted speeds on ODOT facilities range from 35 to 50 MPH, except for the segment of OR 99E near and through downtown Milwaukie, which is posted at 30 MPH.

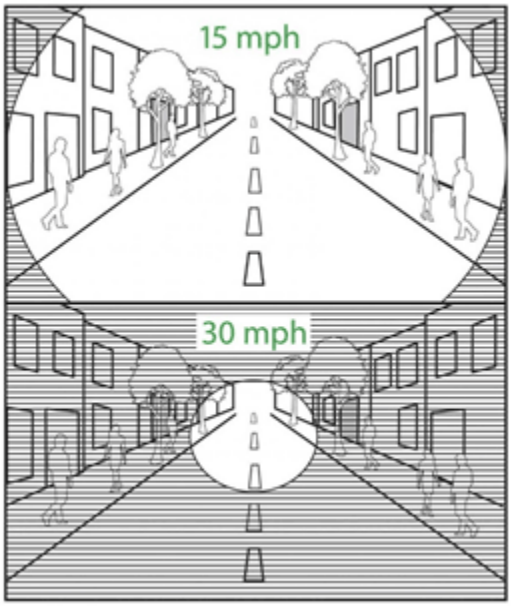
Due to recent legislative changes to ORS 810.180, The City of Milwaukie can establish by ordinance a reduction in the speed limit on local residential streets from 25 MPH to 20 MPH. As shown in Exhibit 1and Exhibit 2, reducing speeds decreases the likelihood of fatal injury crashes and makes it easier for drivers to see and react to people in the roadway.

Exhibit 1. Vehicle Speed Comparison to Chance of Pedestrian Injury and Fatality



Source: https://www.ite.org/technical-resources/topics/speed-management-for-safety/speed-as-a-safety-problem/

Exhibit 2. Field of Vision Bases on Speed of Motorist



Source: https://www.ite.org/technical-resources/topics/speed-management-for-safety/speed-as-a-safety-problem/

Roadway Gaps/Needs Assessment

The Street Network Master Plan element in the current Milwaukie TSP was reviewed to identify projects that are still relevant and needed to address corridor and intersection. These intersection projects are summarized in TSP Figure 8-5 and TSP Table 8-10. The review determined that multiple corridor and intersection approach projects have yet to be implemented. Based on conversations with City engineering staff, those remaining projects which are notated on Figure 12, are still needed to address various roadway corridor deficiencies.

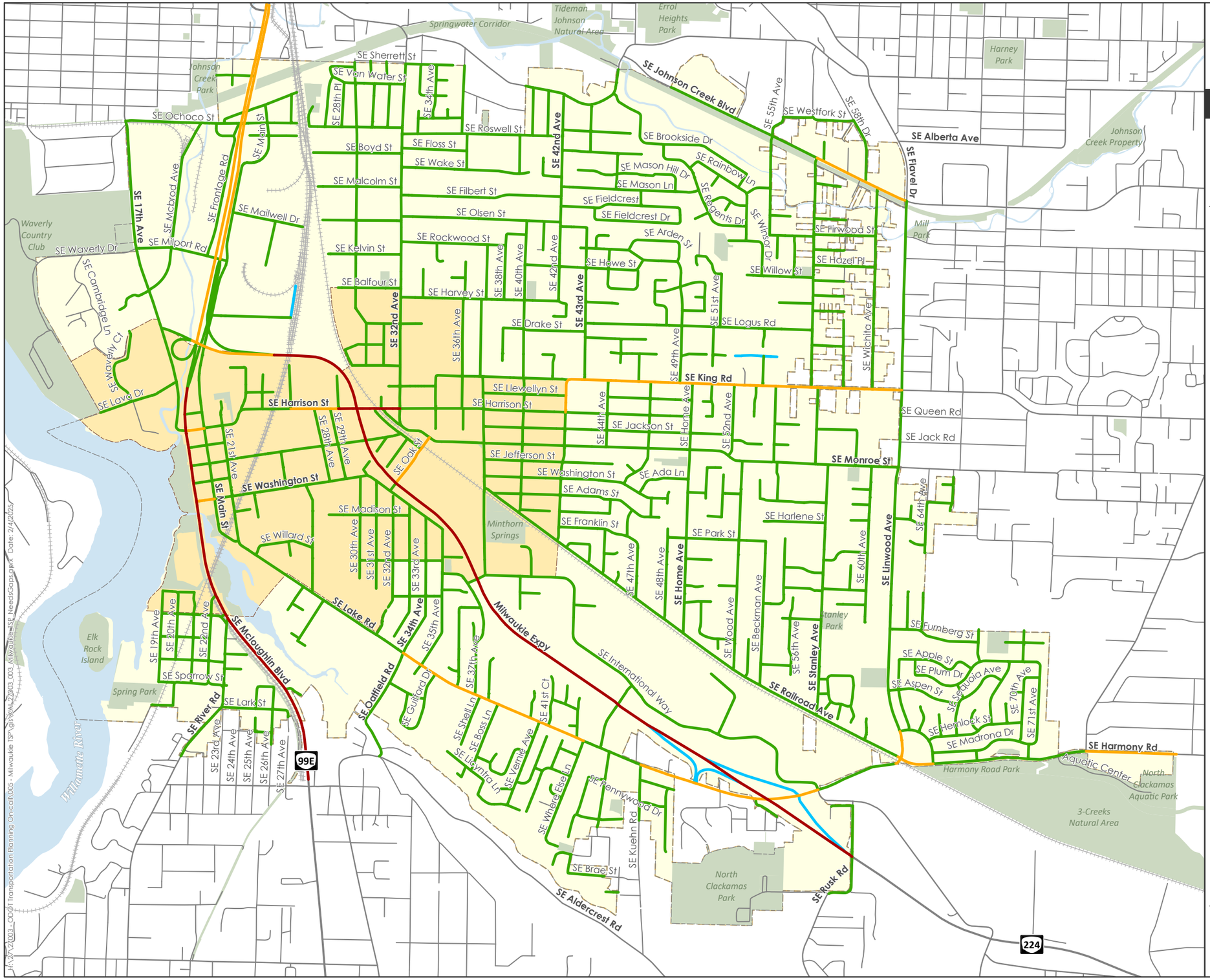
The local street network is an important part of Milwaukie's existing transportation network as it provides a fabric of roadways that provide local access and circulation to residential neighborhoods. The local street network in Milwaukie has essentially been built out over time, however it is not well connected in some parts of the city which can inhibit efficient connections to neighborhood schools, parks, and neighborhood hubs. The current Milwaukie TSP recognizes these challenges and has identified opportunities to improve local street connections over time. TSP Figure 8-4, the City's current street connectivity plan, was reviewed and updated based on input from City staff to refine the local street connections. This included updating the location of street extensions based on potential impacts to existing land use and identifying multimodal path connections for pedestrians and bicycles. This updated map is illustrated in Figure 12B.

There is also an opportunity to adopt a formal 20 MPH speed for local streets in Milwaukie. This is consistent with other neighboring jurisdictions such as the City of Portland. No other changes to the posted speeds have been identified at this time.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 10

Roadway Lanes



Legend

- 1 Lane
- 2 Lanes
- 3 Lanes
- 4+ Lanes
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/4/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 11

Posted Speed

Legend

- 50 MPH
- 45 MPH
- 40 MPH
- 35 MPH
- 30 MPH
- 25 MPH
- 20 MPH
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/4/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 12

Roadway Gaps and Needs

Legend

- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/4/2025

Data Sources: City of Milwaukie, ODOT

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 12B

Multimodal Connectivity Gaps and Needs

Legend

- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/6/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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Pedestrian and Bicycle Facilities

Pedestrian and bicycle facilities provide infrastructure for people to walk, bike, roll, or use mobility devices. In the City of Milwaukie, the pedestrian and bicycle accommodations primarily consist of on-street facilities and multi-use trails.

Pedestrian Facilities

Pedestrian facilities refer to infrastructure designed for people walking or using mobility devices and typically include sidewalks, trails, crossings, and curb ramps. A well-connected pedestrian network provides safe and efficient links between pedestrian trip generators like schools, parks, commercial areas, neighborhood hubs, residential neighborhoods, and other pedestrian attractors.

Figure 13 illustrates all pedestrian facilities within the City of Milwaukie. As shown, this consists of sidewalks on one or both sides of select roadways and a collection of trails and on-street multi-use pathways. As tabulated in Table 4, only 16 percent of the city's total potential sidewalk network has sidewalks greater than 5 feet and without barriers.

Table 4. Existing City-Wide Pedestrian Network Completeness by Functional Classification

	Regional Routes	**Arterials**	**Collectors**	**Neighborhood Routes**	**Local Streets**	**Total**
Sidewalks ≥5 feet Percent Complete	18%	26%	21%	13%	8%	16%

Pedestrian Level of Traffic Stress

The ODOT Analysis Procedures Manual (APM) provides a methodology for evaluating pedestrian environments called Pedestrian Level of Traffic Stress (PLTS)[2]. This methodology classifies four levels of traffic stress that a person walking can experience, ranging from PLTS 1 (little traffic stress) to PLTS 4 (high traffic stress). A segment that is rated PLTS 1 has wide sidewalks that are set back from adjacent traffic lanes and is typically suitable for all users, including young children and people using mobility devices. An example of a PLTS 1 facility is illustrated in Exhibit 3. Monroe Street is PLTS 1 because the width of facility is over 6 feet wide and the parking lane provides a comfortable buffer from traffic. A segment that is rated PLTS 4 is generally located along high speed, multilane roadways with narrow or missing sidewalks and would only be utilized by able-bodied adults with limited route choices. An example of a PLTS 4 facility is illustrated in Exhibit 4. Roswell Avenue is PLTS 4 because the sidewalk is curb-tight and there are several barriers reducing the effective width of the sidewalk: people using mobility devices or pushing strollers would not be able to use the sidewalk without significant challenges.

Exhibit 3. PLTS 1 Facility (Monroe Street)



Exhibit 4. PLTS 4 Facility (Roswell Avenue)



[2] The roadway network was estimated by multiplying roadway centerline miles by two, recognizing a complete pedestrian network would achieve PLTS 1 or 2 on both sides of the street.

Per the APM, PLTS 2 is considered a reasonable target for pedestrian facilities due to its acceptability for most adults; however, within a ¼ mile of schools, in downtown cores, and near transit stops, a target of PLTS 1 is recommended. The APM also notes that there should be no PLTS 3 or 4 facilities within ¼ mile of elementary schools because of the associated safety concerns. **The City of Milwaukie should strive to achieve PLTS 1 where feasible, particularly in the vicinity of schools, however given the fact that Milwaukie has few vacant parcels, there are constraints such as the lack of right-of-way available that make a PLTS 1 unfeasible in many situations. Based on the city's constraints the consultant team believes that in Milwaukie PLTS 2 is an acceptable target as it is accessible for most users.**

Figure 14 illustrates the existing PLTS in the planning area. Under existing conditions, approximately 15% of the existing roadway network in Milwaukie has a PLTS 1 or 2 score as tabulated in Table 5. Most of the roadways in the city have a PLTS 3 or 4 score due to the lack sidewalk facilities or they have obstructions that limit the effective sidewalk width to levels that impede walking and rolling.

Table 5. Existing City-Wide PLTS Inventory Network Completeness

	Regional Routes	Arterials	Collectors	Neighborhood Routes	Local Streets	Total
PLTS 1 or 2	0.0 (0% complete)	6.2 (29% complete)	7.2 (28% complete)	2.9 (16% complete)	7.9 (9% complete)	24.2 (15% complete

Pedestrian Classification Changes

The City is incorporating multimodal functional classifications into the TSP. This will update the terminology used to describe pedestrian routes. See accompanying *DRAFT Multimodal Functional Classification Memorandum for the updated Pedestrian Classifications.*

Pedestrian Gaps Inventory

Figure 15A illustrates the citywide pedestrian gaps. Gaps include the following conditions:

- Missing pedestrian facilities
- Segments that are PLTS 3 or PLTS 4
- Locations where there have been reported injuries and deaths of people walking or using a mobility device from the most recent 5 years of available crash data (2018-2022)
- Intersections that are challenging for pedestrians to cross or navigate. These challenges can be attributed to one or more issues such as a lack of pedestrian accommodations, wide intersections with long crossing distances, lack of wayfinding, poor geometrics, and high motor vehicle interactions.

Most roadways in Milwaukie do not meet the preliminarily identified PLTS 2 target. Consistent with the new TPR requirements, the Milwaukie TSP will focus on identifying and evaluating projects that are in the Milwaukie Town Center or that are within a ¼ mile walkshed of schools, grocery stores, neighborhood hubs, transit stops, and senior living/low income/resource centers. Figure

15B illustrates the gaps and needs in those priority focus areas. Figure 15C through Figure 15I provide the individual gaps for each of those respective geographic walksheds.

This map will be used in conjunction with committee input and input from the community to develop a prioritized list of constrained and unconstrained improvement projects.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 13

Pedestrian Facilities

Legend

- ADA Ramp
- Sidewalk ≥5 feet
- <5 feet or has barriers
- On-Street Ped/Bike Pathway
- Multi-Use Path
- Milwaukie Town Center
- Milwaukie City Limits

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Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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Transportation System Plan

FIGURE 14

Pedestrian Level of Traffic Stress

Legend

- PLTS 1
- PLTS 2
- PLTS 3
- PLTS 4
- No Sidewalk = PLTS 4

Note: Analysis Limited to Roadway Segments

- Schools
- Grocery Store
- Farmers markets
- Hospital (Providence Milwaukie)
- Library
- Neighborhood Hub
- Church
- Large Adult Care Facility
- Large Childcare Facility
- Housing
- MAX Station
- Park
- Milwaukie City Boundary
- Milwaukie Town Center
- Parks

Generated On: 2/4/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 15A

Pedestrian Gaps and Deficiencies

Citywide

Legend

- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target
- Challenging Intersections for Pedestrians
- Fatal Pedestrian Crash
- Severe Injury Pedestrian Crash
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 3/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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Transportation System Plan

FIGURE 15B

Pedestrian Gaps and Deficiencies

Priority Focus Areas

Legend

- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target

Density of Focus Area Walksheds

- 6 (Walkshed Layers)
- 3 (Walkshed Layers)
- 1 (Walkshed Layer)

- Milwaukie City Limits
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 15C

Pedestrian Gaps and Deficiencies

Milwaukie Town Center

Legend

- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 15D

Pedestrian Gaps and Deficiencies

Primary/Secondary/ Post-Secondary Schools

Legend

- Schools
- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target
- Quarter-Mile Walkshed Area
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

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Data Sources: City of Milwaukie, ODOT

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 15E

Pedestrian Gaps and Deficiencies

Grocery Stores

Legend

- Grocery Store
- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target
- Quarter-Mile Walkshed Area
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

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Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 15F

Pedestrian Gaps and Deficiencies

Neighborhood Hubs

Legend

- Neighborhood Hub
- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target
- Quarter-Mile Walkshed Area
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

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Data Sources: City of Milwaukie, ODOT

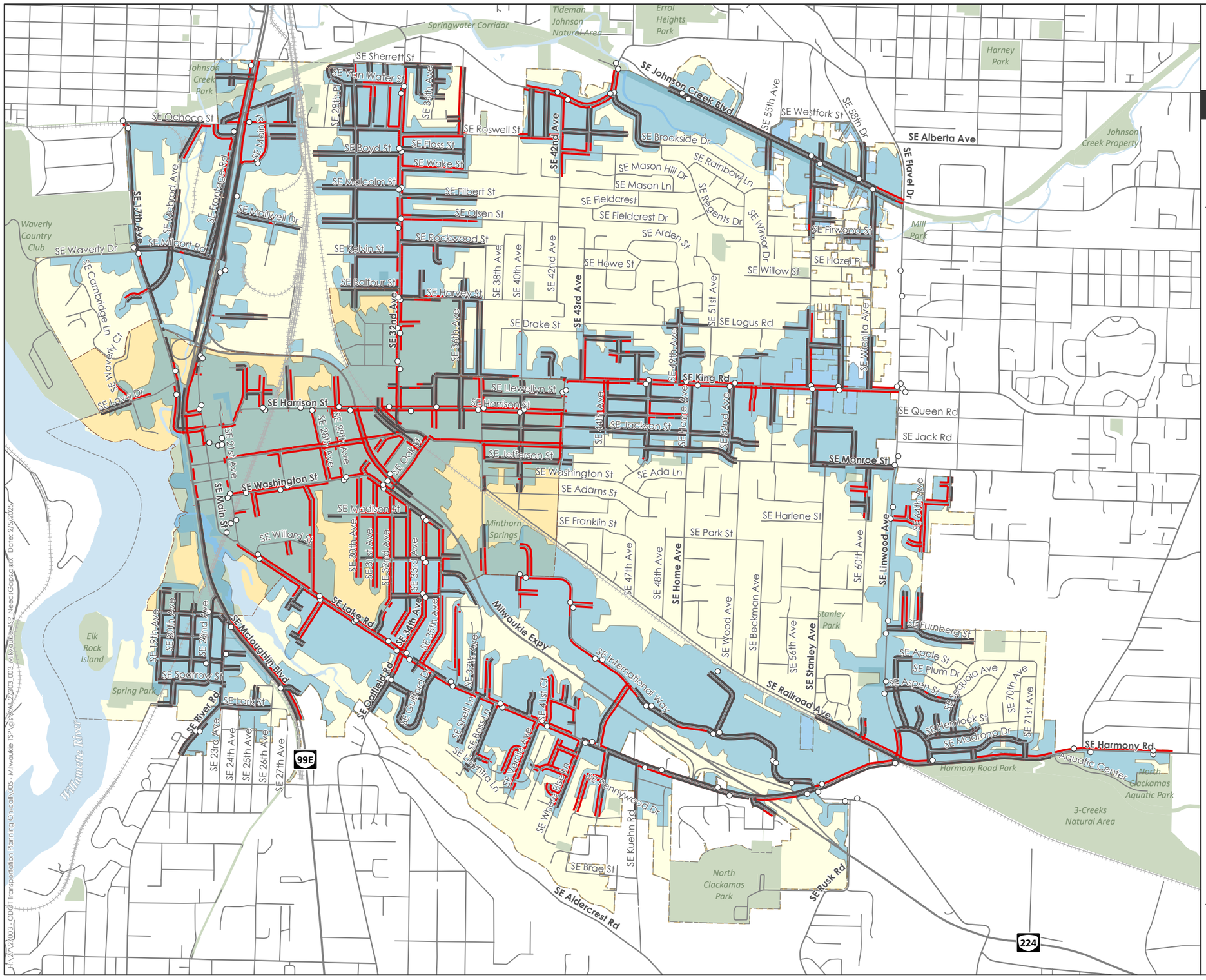
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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 15G

Pedestrian Gaps and Deficiencies

Transit Stops



Legend

- Bus Stop
- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target
- Quarter-Mile Walkshed
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 15H

Pedestrian Gaps and Deficiencies

Parks

Legend

- Park
- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target
- Quarter-Mile Walkshed
- Milwaukie City Limits
- Milwaukie Town Center

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Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 15I

Pedestrian Gaps and Deficiencies

Senior Living Facilities, Low-Income Housing, and Resource Centers

Legend

- Low-Income Housing
- Resource Center
- Senior Living Facility
- Pedestrian Facility Does Not Meet the PLTS 2 Target
- No Sidewalk/Does Not Meet the PLTS 2 Target
- Quarter-Mile Walkshed
- Milwaukie City Limits
- Milwaukie Town Center

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

Bicycle Facilities

Bicycle facilities refer to infrastructure designed for people biking, including bike lanes, shared use paths, paved shoulders, and the crossing infrastructure that supports a well-connected bicycle network, such as ramps and rectangular rapid flashing beacons (RRFBs).

Figure 16 maps existing bicycle facilities in the City of Milwaukie. Like pedestrian facilities, bicycle facilities serve a variety of trips, including trips to major attractions such as schools, parks, retail centers, and public facilities; commuter trips; recreational trips; and access to transit. The existing bicycle system in the City of Milwaukie consists of dedicated bicycle lanes, shared use paths/ trails, and paved shoulders. As tabulated in Table 6, only 31% of the city's total potential bicycle network (limited to Regional Routes, Arterials, and Collectors) has bicycle accommodations.

Table 6 Existing City-Wide Bicycle Network Completeness by Functional Classification

	Regional Routes	**Arterials**	**Collectors**	**Total**
Bicycle Network Percent Complete	0%	69%	6%	31%

Bicycle Level of Traffic Stress

The ODOT APM provides a methodology for evaluating bicycle environments called Bicycle Level of Traffic Stress (BLTS)[3]. As applied by ODOT, this methodology classifies four levels of traffic stress that a person biking can experience on the roadway, ranging from BLTS 1 (little traffic stress) to BLTS 4 (high traffic stress). A road segment that is rated BLTS 1 generally has low traffic volumes and travel speeds and/or enhanced bicycle facilities and is typically suitable for all users, including children. Exhibit 5 illustrates an example of a BLTS 1 facility that is BLTS 1 due to the low traffic volumes and travel speeds. A road segment that is rated BLTS 4 generally has high traffic volumes and travel speeds and is perceived as unsafe by most adults. Exhibit 6 illustrates an example of a BLTS 4 facility, which is BLTS 4 due the higher traffic speeds and volumes and lack of buffer for the bicycle facility.

[3] This methodology was completed using assumptions to fill in some missing data including precise bike lane widths, precise average daily traffic volumes on some streets, and roadway grades.

Exhibit 5. BLTS 1 Facility (Logus Road)



Exhibit 6. BLTS 4 Facility (OR 99E)



Per the ODOT APM, BLTS 2 is considered a reasonable target for bicycle facilities due to its acceptability for most adults; however, within a ¼ mile of schools, a target of BLTS 1 is recommended. **The City should strive to achieve BLTS 1 where feasible, particularly in the vicinity of schools and along priority bicycle routes.**

Figure 17 illustrates the existing BLTS in the planning area. Under existing conditions, approximately 70% of all existing roadways in Milwaukie are BLTS 1. Most roadways in Milwaukie are low-stress, local streets. However, of the Arterials and Collectors, there is a much lower level of BLTS 1 facilities.

Table 7 Existing City-Wide BLTS Inventory Network Completeness

	Regional Routes	Arterials	Collectors	Neighborhood Routes	Local Streets	Total
BLTS 1	0.0 (0% complete)	4.4 (40% complete)	0.9 (7% complete)	9.3 (100% complete)	48.2 (100% complete)	62.8 (70% complete)

Bicycle Classification Changes

The City is incorporating multimodal functional classifications into the TSP. This will update the terminology used to describe bicycle routes. See accompanying *DRAFT Multimodal Functional Classification Memorandum for the updated Bike Classifications.*

Bicycle Gaps Inventory

Figure 18A illustrates the citywide bicycle gaps. Gaps include the following conditions:

- Missing bicycle facilities on arterials or collectors[4]
- Segments that are BLTS 2, BLTS 3, or BLTS 4
- Locations where there have been reported severe injuries and deaths of people biking from the most recent 5 years of available crash data (2018-2022)
- Intersections that are challenging for bicyclists to cross or navigate. These challenges can be attributed to one or more issues such as a lack of bicycle infrastructure, lack of wayfinding, poor geometrics, and high motor vehicle interactions.

Consistent with the new TPR requirements, the TSP will focus on identifying and evaluating projects that are in the Town Center or that are within ¼ mile bikeshed[5] of schools, grocery stores, neighborhood hubs, transit stops, and senior living/low income/resource centers. Figure 18B illustrates the gaps and needs in those priority focus areas. Figure 18C through Figure 18H provide the individual gaps for each of those respective bikesheds.

This map will be used in conjunction with committee input and input from the community to develop a prioritized list of constrained and unconstrained improvement projects.

[4] Due to the low volume and speed nature of local streets, designated bicycle facilities are not required on local streets.

[5] Quarter-mile bikesheds are defined as the roadway segments that could be accessed by biking a quarter linear mile to a destination.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 16

Bicycle Facilities

Legend

- Bicycle Lanes
- Shared Roads
- On-Street Ped/Bike Pathway
- Multi-Use Path
- Greenway (Overlay Designation)
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

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Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 17

Bicycle Level of Traffic Stress

Legend

- BLTS 1
- BLTS 2
- BLTS 3
- BLTS 4

Note: Analysis Limited to Roadway Segments

- Schools
- Grocery Store
- Farmers markets
- Hospital (Providence Milwaukie)
- Library
- Neighborhood Hub
- Church
- Large Adult Care Facility
- Large Childcare Facility
- Housing
- MAX Station
- Park
- Milwaukie City Boundary
- Milwaukie Town Center
- Parks

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Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18A

Bicycle Gaps and Deficiencies

Citywide

Legend

- Bicycle Facility Does Not Meet the BLTS 1 Target
- No Bicycle Facility/Does No Meet the BLTS 1 Target
- Challenging Intersections for Bicycles
- Severe Injury
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 3/6/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

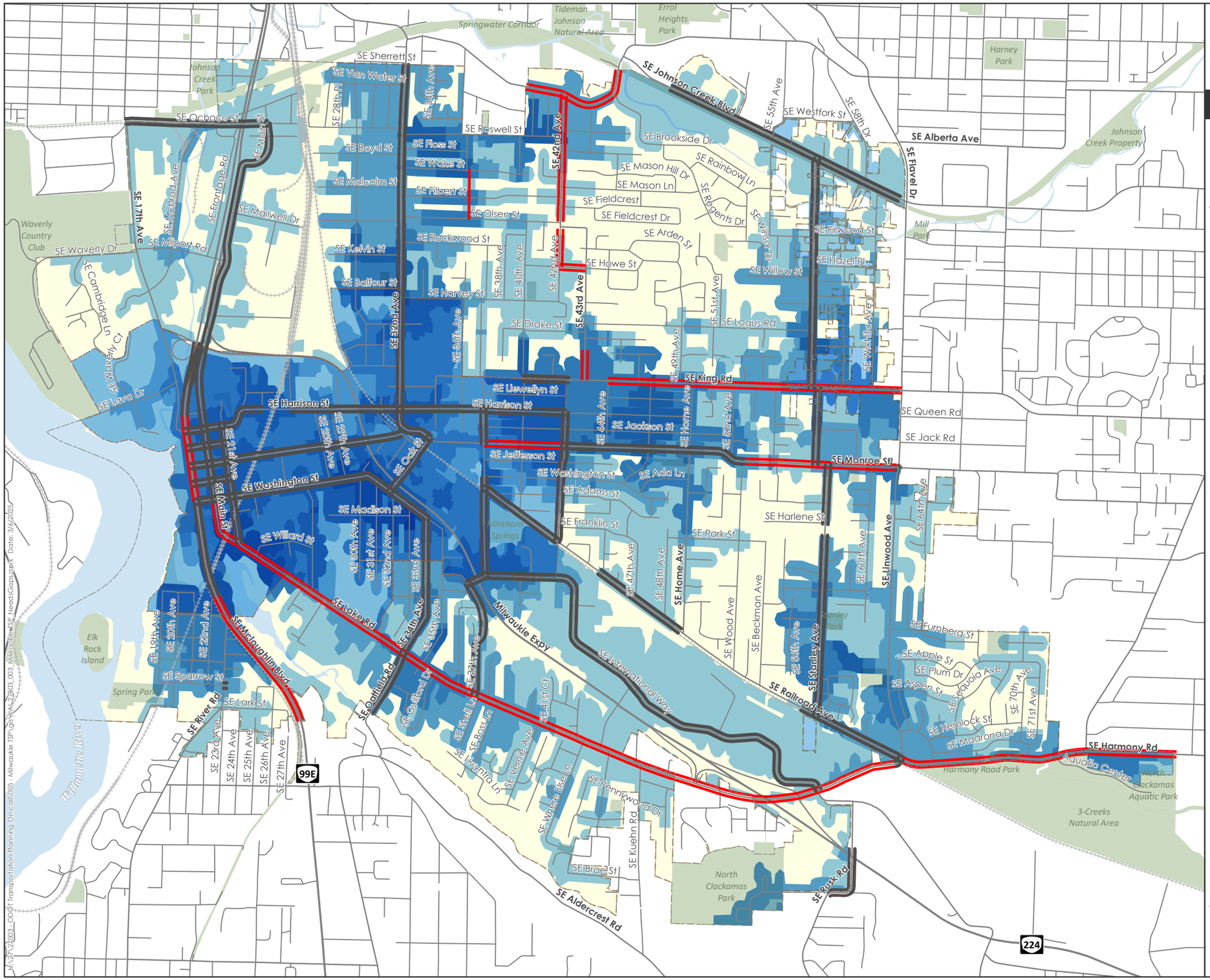
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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18B

Bicycle Gaps and Deficiencies

Priority Focus Areas



Legend

- Bicycle Facility Does Not Meet the BLTS 1 Target
- No Bicycle Facility/Does Not Meet the PLTS 2 Target

Density of Focus Area Bikesheds

- 6 (Bikeshed Layers)
- 3 (Bikeshed Layers)
- 1 (Bikeshed Layer)

- Milwaukie City Limits
- Parks

Generated On: 3/6/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18C

Bicycle Gaps and Deficiencies

Milwaukie Town Center

Legend

- Bicycle Facility Does Not Meet the BLTS 1 Target
- No Bicycle Facility/Does No Meet the BLTS 1 Target
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 3/6/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18D

Bicycle Gaps and Deficiencies

Primary/Secondary/ Post-Secondary Schools

Legend

- Schools
- Bicycle Facility Does Not Meet the BLTS 1 Target
- Quarter-Mile Bikeshed Area
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 3/6/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18E

Bicycle Gaps and Deficiencies

Grocery Stores

Legend

- Grocery Store
- Bicycle Facility Does Not Meet the BLTS 1 Target
- Quarter-Mile Bikeshed Area
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18F

Bicycle Gaps and Deficiencies

Neighborhood Hubs

Legend

- Neighborhood Hub
- Bicycle Facility Does Not Meet the BLTS 1 Target
- Quarter-Mile Bikeshed Area
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 3/6/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18G

Bicycle Gaps and Deficiencies

Transit Stops

Legend

- Bus Stop
- Bicycle Facility Does Not Meet the BLTS 1 Target
- Quarter-Mile Bikeshed
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 3/6/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18H

Bicycle Gaps and Deficiencies

Parks

Legend

- Park
- Bicycle Facility Does Not Meet the BLTS 1 Target
- Quarter-Mile Bikeshed
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 3/6/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 18I

Bicycle Gaps and Deficiencies

Senior Living Facilities, Low-Income Housing, and Resource Centers

Legend

- Low-Income Housing
- Resource Center
- Senior Living Facility
- Bicycle Facility Does Not Meet the BLTS 1 Target
- Quarter-Mile Bikeshed
- Milwaukie City Limits
- Milwaukie Town Center

Generated On: 3/6/2025

Data Sources: City of Milwaukie, ODOT

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Transit System

Public transit enhances climate-friendly and equitable outcomes by supporting accessibility for people who cannot drive and reducing reliance on single-occupancy vehicles. Public transit in Milwaukie includes the MAX Orange Line, TriMet Frequent Service Routes, TriMet Standard Service Routes, and paratransit service.

- The MAX Orange Line travels between Milwaukie, PSU, Pioneer Square, and Union Station. The stop at Pioneer Square provides connection to the MAX Blue, Red, Yellow, and Green Lines, connecting Milwaukie to the broader Metro region.
- Frequent Service Route 33-McLoughlin/King Road runs between Clackamas Community College and Clackamas Town Center and connects to Downtown Milwaukie and the Oregon City Transit Center.
- Frequent Service Route 75-Cesar Chavez/Lombard runs between Milwaukie City Center and St. Johns, connecting Milwaukie to jobs and services in east Portland.
- There are several additional Standard Service Routes, including 32-Oatfield, 34-Linwood/River Rd, and 152-Milwaukie providing additional connections within Milwaukie and to the broader Metro region.
- TriMet provides LIFT Paratransit service to people who are not able to use fixed-route transit services due to a disabling health condition throughout Milwaukie.

As illustrated in Figure 19, the majority of Milwaukie is located within a half-mile walkshed from an existing transit stop.

Transit Classification Changes

The City is incorporating multimodal functional classifications into the TSP. This will update the terminology used to describe transit routes. See accompanying *DRAFT Multimodal Functional Classification Memorandum for the updated Transit Classifications.*

Transit Needs/Gaps Assessment

The Public Transit Master Plan element in the current Milwaukie TSP was reviewed to identify projects that are still relevant and needed to address public transit needs. These projects are summarized in TSP Figure 7-3 and TSP Table 7-1. All of these projects were reviewed with city planning, engineering, and TriMet staff for inclusion in the new Milwaukie TSP project development and review process. Based on this assessment, all relevant projects have been identified as gaps and mapped in Figure19B.

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 19

Transit System

Legend

- Bus Stops
- Frequent Bus Routes
- Bus Routes
- Light Rail
- Quarter-Mile Walkshed from Bus Stops
- Half-Mile Walkshed from Bus Stops
- Milwaukie City Limits
- Milwaukie Town Center

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT, TriMet

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 19B

Transit Gaps and Needs

Legend

- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/11/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

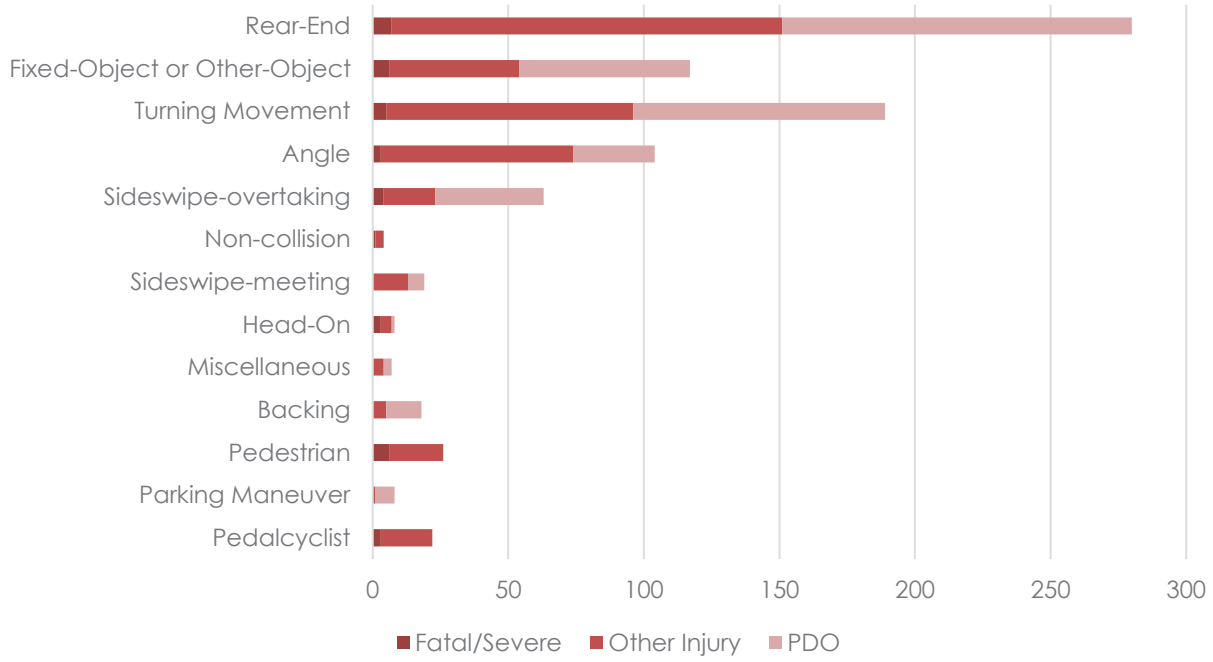
Safety

The most recent available crash data (January 1, 2018 to December 31, 2022) was downloaded from ODOT's crash data portal. This data was used to map the following:

- Total number of crashes by severity (Figure 20)
- Fatal and serious injury crashes, included as a focus area, consistent with the Vision Zero aspect of the Safe System Approach (Figure 21)
- Pedestrian involved crashes, included as a mapped component due to the vulnerability of this user group (Figure 22)
- Bicycle involved crashes, included as a mapped component due to the vulnerability of this user group (Figure 23)
- The 2022 ODOT Safety Priority Index System (SPIS) sites (Figure 24)

Chart 1 summarizes crash history by severity and type. Pedestrian and bicyclist-involved crashes are more likely to result in fatal and serious injuries than other crash types. Rear-end crashes are the most common crash type in the City.

Chart 1. Crash Severity by Type (January 1, 2018 to December 31, 2022)



CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 20

Crashes by Severity

January 1, 2018 to December 31, 2022

Legend

- Fatal
- Severe Injury
- Moderate Injury
- Minor Injury
- PDO
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

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CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 21

Fatal and Serious injury Crashes

January 1, 2018 to December 31, 2022

Legend

- Angle
- Fixed-Object or Other-Object
- Head-On
- Non-collision
- Pedalcyclist
- Pedestrian
- Rear-End
- Sideswipe-overtaking
- Turning Movement
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 22

Pedestrian Involved Crashes

January 1, 2018 to December 31, 2022

Legend

- Fatal
- Severe Injury
- Moderate Injury
- Minor Injury
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 23

Bicycle Involved Crashes

January 1, 2018 to December 31, 2022

Legend

- Severe Injury
- Moderate Injury
- Minor Injury
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

CITY OF **MILWAUKIE**
Transportation System Plan

FIGURE 24

ODOT Safety Priority Index System (SPIS) Sites

Legend

- 85% - 89.99%
- 90% - 94.99%
- 95% - 100%
- Milwaukie City Limits
- Milwaukie Town Center
- Parks

Generated On: 2/5/2025

Data Sources: City of Milwaukie, ODOT

0 0.25 0.5 0.75 Miles

Safety Gaps Inventory

The locations of fatal and serious injury crashes involving people walking and biking are mapped in the pedestrian and bicycle gaps inventory in Figure 22 and Figure 23. As illustrated in Figure 20, most of the severe injury crashes are centered along the Harrison Street corridor or involve crossings of the OR 224 (Milwaukie Expressway) corridor (Harrison Street and Oak Street). As illustrated in Figure 21, there were several sever injury crashes at the OR 99E/SE Milport Road, SE 17th Avenue/Milport Road, and SE Linwood Avenue/SE Railroad Avenue/SE Harmony Road intersections. The Future Conditions and Solutions Memo will identify potential projects to reduce pedestrian and bicycle exposure and/or vehicular speeds at these locations. As noted in the current Milwaukie TSP, these corridors have identified projects that call for future corridor refinement plans, justifying the continued need for these projects in the new Milwaukie TSP.

The ODOT SPIS identifies sites along State highways where crash history may warrant further investigation. It identifies locations by considering crash frequency, crash rate, and crash severity. Sites identified within the top 5% are investigated by ODOT staff and reported to the Federal Highway Administration (FHWA). The SPIS locations shown in Figure 24 indicate potential locations for safety-focused projects to reduce crash risk and will be advanced as needs to include in the Future Conditions and Solutions Memo accordingly.

Vehicle Miles Traveled

If a city includes in its TSP that is subject to "enhanced review"[6] under OAR 660-012-0830(1), then OAR 660-012-0160 stipulates that the TSP can only be adopted *"if the projected vehicle miles traveled per capita at the horizon year using the financially constrained project list is lower than estimated vehicle miles traveled per capita in the base year scenario."* As noted in *Analysis Methodology and Performance Measures Memorandum*, none of the projects in Milwaukie's currently adopted TSP were determined to be subject to "enhanced review". While it is unlikely that the new Milwaukie TSP will include a financially constrained project that requires "enhanced review", having an account of the City's current and future vehicle miles traveled (VMT) is still relevant for the following reasons:

- Under OAR 660-012-0155, cities and state agencies shall prioritize transportation facilities and services based on meeting greenhouse gas reduction targets and reducing vehicle miles traveled per capita:
- Under OAR 660-012-0179, the prioritization of unconstrained TSP projects shall be based on the project's ability to help reduce vehicle miles traveled.
- Under OAR 660-012-0180, the selection of projects on the financially constrained TSP project list shall reduce vehicle miles traveled as provided in OAR 660-013-0160.

Given the complexities of calculating VMT in a large urban setting, a travel demand model is typically required. While Milwaukie does not own or operate its own travel demand model, it is located within Metro which runs the Portland Metro Regional Travel Demand Model (RTDM) for the entire Portland metropolitan area.

The noted requirements to assess VMT, and more specifically VMT per capita, are relatively recent. As such, there was no established precedent or procedure for testing the RDTM's ability to localize VMT calculations for a smaller defined area within the larger model boundary. To address this, ODOT commissioned a consultant team to work with Metro modeling staff to test and refine the necessary modeling procedures[7]. While intended as a demonstration project with the stipulation that the results are not to be used to make technical findings, the modeling results from this effort have been included in this memorandum as it represents the only readily available estimate of VMT specific to Milwaukie.

These results from this analysis are presented in Table 8 and show Milwaukie's current household VMT to be 717,145 miles with a VMT/capita of 35. Additional details that went into the calculation process are available in the 2024 Milwaukie Climate Friendly Area Modeling Case Study report.

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[6] Enhanced review is a multi-step process that "prompts local agencies to develop and evaluate alternatives to roadway projects to determine if they could substantially meet the identified need without the implementation of the roadway projects." It is triggered by projects increasing roadway vehicular capacity by adding through lanes or auxiliary lanes above capital cost of $5 million. More details on the enhanced review process is available on ODOT's TSP Guidelines website.

[7] *Milwaukie DRAFT Climate Friendly Area Modeling Case Study*. April 2024. DKS Associates.

Table 8. Milwaukie VMT Per Capita Evaluation Results

Scenario	Milwaukie Population	Estimated VMT	VMT/Capita
2015	20,505	717,145	35

Note: Results based on 2018 RTP Model Financially Constrained Network as the modeling for the 2023 RTP was still underway at the time the case study was prepared.

Next Steps

This memorandum was reviewed by the Transportation System Technical and Advisory Committees to confirm the existing conditions and noted gaps/needs. Next, the project team will identify, score, and prioritize multimodal transportation improvement projects to address the needs and gaps.

APPENDIX E. LIVABLE STREETS DESIGN

LIVABLE STREETS ANALYSIS AND RECOMMENDATIONS

Document created in July 2024.

PURPOSE OF THIS MEMORANDUM

As one of several steps in the development of Milwaukie's new Transportation System Plan (TSP), this memorandum focuses on Milwaukie's existing street design policies and standards. These policies and standards guide the planning, design, and construction of the public roadways in the City. The purpose of this memorandum is to review the documents that support and contain the street design policies and standards and assess their content against regional guidance, best practices, and adherence to modern design principles. Of particular focus are the principles contained within Livable Streets design concepts.

Following advisory committee and public review/feedback, the assessment findings and recommendations will be incorporated into the preparation of the new Milwaukie TSP.

WHAT IS A LIVABLE STREET?

Historically, many transportation systems were built before the adoption of modern roadway design standards or planned and built based on a rigid set of standards that did not consider the land use context, instances of constrained rights of way, and the needs of the neighborhoods that they served. The result was an underbuilt travel corridor, a corridor that prioritized motor vehicles, and/or a corridor that lacked multimodal accommodations.

Historically underserved populations, as defined in OAR 660-012-0125, are more likely to live in locations without access to livable streets.

In more recent years, jurisdictions have started to move away from these rigid design standards in favor of planning and design parameters that are flexible and compatible with the unique characteristics of the adjacent land uses. Commonly referred to as Livable Streets, this design concept focuses on the planning and design of roadways that are[1]:

- Safe and comfortable places to travel for people of all ages and abilities
- Designed to encourage slower travel speeds
- Welcoming, spaces for people of all backgrounds
- Places to interact and linger
- Designed to foster a sense of community, ownership, and responsibility
- Designed to protect the environment
- Able to adapt to new mobility technologies
- Resilient to changing climates and the impacts of weather events

[1] Source: Metro 2019. *Designing Livable Streets and Trails Guide*.

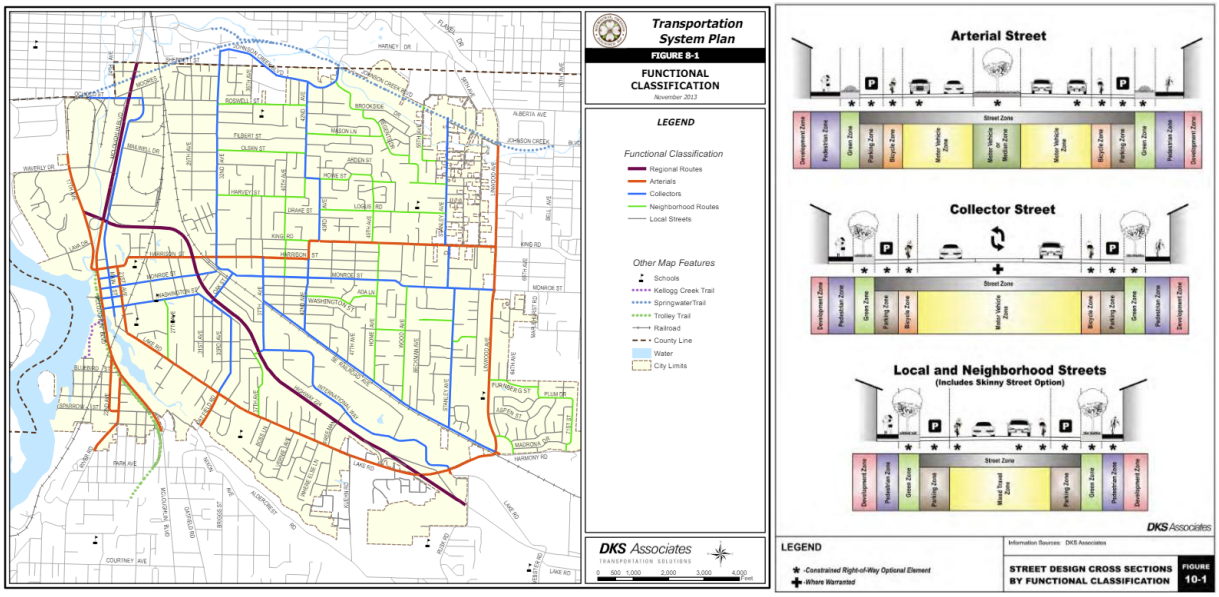
Livable Streets Assessment

To ensure Milwaukie's streets are more "livable" in the context of creating "safe and comfortable places to travel for people of all ages and abilities", the assessment initially focuses on those documents relevant to the planning, design, and implementation of the transportation system including Milwaukie's adopted TSP, its Public Works Standards, and its Municipal Code. A summary of the assessment findings and recommended changes for local consideration are presented in the following sections of this memorandum.

MILWAUKIE TRANSPORTATION SYSTEM PLAN

The adopted Milwaukie TSP, among many things, guides street design decisions through the establishment of a functional classification plan for City roadways. The functional classification plan establishes "*a hierarchy of streets ranging from those that are primarily for travel mobility (arterials) to those that are primarily for access to property (local streets). The functional classification system is developed with the recognition that individual streets do not act independently of each other but form a network of streets that work together to serve travel needs*". The TSP also sets street design policy by defining the typical elements of the different street types, provides guidance on typical widths for these elements, and outlines alternative design treatments that can be considered in various circumstances and constrained environments. Snapshots of the roadway functional classification map and street design cross section details are provided for visual context in Exhibit 1 below. A more detailed explanation and summary of these elements are included in *Appendix A of this memorandum*.

Exhibit 1 – Milwaukie TSP Functional Classification Map and Street Design Details



TSP Assessment Findings and Recommendations

In general, the currently adopted TSP's policy guidance is consistent with the overall principles of the Livable Streets design concepts. Specifically, it already identifies a flexible set of high-level

roadway design guidelines, and in most cases, establishes the general parameters for when flexible design treatments should be considered. These design guidelines and parameters have been found to be consistent with modern best practices, they advance Livable Streets design concepts through a recognition and emphasize on flexibility and context sensitive design that can be used to support equity and climate resilience, and as such, no major overhaul is recommended.

While no major changes are recommended, it is anticipated that as part of the new Milwaukie TSP, the street design policies and design principles in the current adopted TSP will undergo a general update and refresh per additional input from City planning/engineering staff, advisory committees, and public feedback. As part of this general update/refresh, it recommended that the following elements be added and reorganized.

Neighborhood Greenways

Discussion on the concept of neighborhood greenways is included in the currently adopted TSP in the Bicycle Element (Chapter 6). Neighborhood greenways are a design concept that primarily benefits bicyclists and other wheeled devices, but their design treatments also provide a more comfortable street environment for other users such as pedestrians.

Neither the adopted TSP nor the *Public Works Standards (see following section)* outline specific performance guidelines for when to consider or apply a neighborhood greenway overlay according to motor vehicle speeds and traffic volumes. To help guide future decision making, it is recommended that the following neighborhood greenway performance guidelines be incorporated into both the new Milwaukie TSP and *Public Works Standards*. These vehicle speed and volume performance guidelines are consistent with application guidelines used in neighboring cities including the City of Portland:

- Vehicle speeds should be no more than 20 mph on all neighborhood greenways.
- The ideal neighborhood greenway has a target volume of 1,000 motor vehicles a day or less.
- Neighborhood greenways can function effectively with added design features with an average of 1,500 motor vehicles per day.

Woonerfs

The currently adopted TSP does not discuss the street design concept known as a woonerf.

A woonerf is a type of road design that blends the vehicular and pedestrian spaces into one shared space. Typically, there is no formal division between the pedestrian zones and the mixed travel way zones, creating a pedestrian-focused space that is open for vehicles but with the expectation that vehicular travel will be minimal and at much slower speeds. Woonerfs have the following benefits:

- Creates a community-oriented space that is not dominated by vehicular travel.
- Encourages multimodal travel.
- Incorporates outdoor furnishings, landscaping, on-street parking, and lighting. These elements act as traffic calming devices to ensure slow travel speeds.

Woonerf treatments should follow the following general design parameters:

- Have a clear and distinct entrance with appropriate signing
- Incorporate different surface treatments
- Eliminate the continuous curb, creating a uniform surface that has no vertical separation between zones
- Incorporate traffic calming measures such as street furniture, landscaping, on-street parking
- Use a design speed for all wheeled vehicles of 10 mph.
- Seating, recreation, and other pedestrian-only areas within the woonerf are delineated and protected by a pavement change, planters, decorative bollards, and/or similar features.
- Do not incorporate speed bumps, humps, or tables; traffic signals; medians; pedestrian crossings; bike lanes
- Automobile parking spaces, if any, are dispersed within the woonerf
- Parking spaces are delineated by physical features such as landscaping, different paving materials

The descriptive inclusion of this design concept along with the visual representation shown in Exhibit 2 is recommended for the new TSP as it will provide policy-based direction for City staff to consider and implement this unique and transformative roadway design concept when appropriate.

Exhibit 2 – Woonerf Design Concept



Plaza/Festival Streets

The currently adopted TSP does not discuss the street design concept known as a plaza street or festival street.

A plaza/festival street is a short street segment that accommodates both vehicular and non-motorized travel, but has unique streetscape features and traffic calming design elements that allow it to be temporarily converted for special uses like festivals and gatherings. Live woonerfs, plaza/festival streets utilize shared travel lanes, they don't have elevated curbs, they can accommodate on-street parking, and they can incorporate street trees and outdoor furnishings. Temporary bollards are typically used to restrict vehicular movements during special events.

Plaza/festival street treatments should follow the following general design parameters:

- Have a clear and distinct entrance with appropriate signing and accommodations for bollards
- Appropriate for one or two city blocks
- Incorporate different paving materials and surface treatments that are appropriate for festival uses
- Eliminate the continuous curb, creating a uniform surface that has no vertical separation between zones
- Incorporate street furniture, landscaping, on-street parking
- Do not incorporate speed bumps, humps, or tables; traffic signals; medians; pedestrian crossings; bike lanes
- Automobile parking spaces, if any, are dispersed within the woonerf
- Parking spaces are delineated by physical features such as landscaping, different paving materials

The descriptive inclusion of this design concept along with the visual examples shown in Exhibit 4 is recommended for the new TSP as it will provide policy-based direction for City staff to consider and implement this unique and transformative roadway design concept when appropriate.

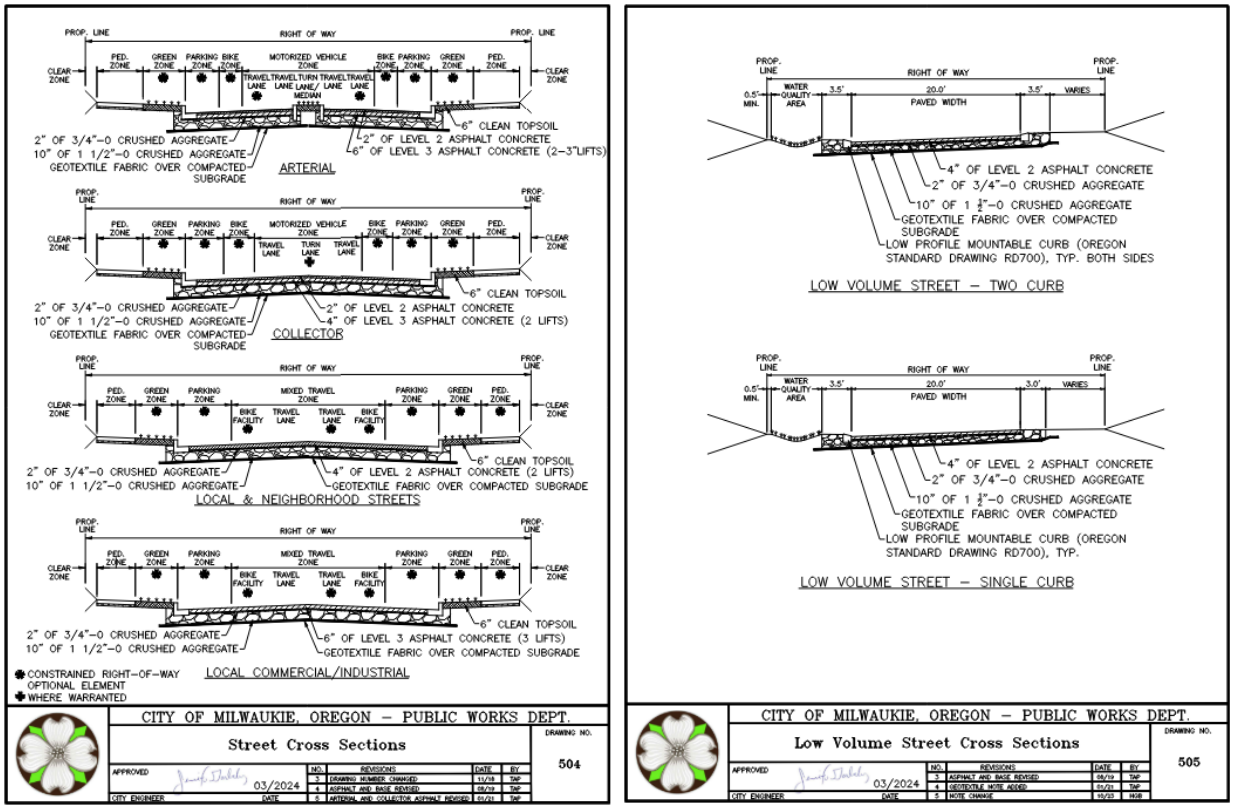
Exhibit 3 – Festival Street Example in the City of Hermiston (Source: City of Hermiston)



MILWAUKIE PUBLIC WORKS STANDARDS

Milwaukie's Public Works Standards, last revised March 2024, include detailed design-based street standards. *Section 5 Street Standards* outline the specific design requirements for street design and are used and referred to by City staff, developers, and roadway design professionals in the process of building and retrofitting streets in the City. Snapshots of the roadway cross section design details are included in Exhibit 3 for visual context. A more detailed explanation of the street design standards and other affiliated design details contained within Section 5 are provided in *Appendix B of this memorandum*.

Exhibit 4 – Public Works Street Cross Sections Design Details



Public Works Standards Assessment Findings and Recommendations

In general, the street standards are rooted in a structured but flexible set of guidelines that ensure all street designs will:

- Provide for safe and efficient travel of the public.
- Be designed to carry the appropriate traffic volumes for each street classification.
- Be designed to meet or exceed minimum guidelines set forth in the American Association of State Highway and Transportation Officials' (AASHTO) latest edition of *A Policy on Geometric Design of Highways and Streets*.
- Facilitate local circulation and discourage nonlocal, through traffic.

- Be designed to the full width cross section (the widest dimension of all individual street elements) as specified by functional classification.
- Be modified only when a full width cross section is not appropriate or feasible. These considerations include:

    1. Options and/or needs for environmentally beneficial and/or green street designs.
    2. Multimodal street improvements identified in the TSP.
    3. Street design alternative preferences identified in Chapter 10 of the adopted TSP, specifically regarding sidewalk and landscape strip improvements.
    4. Existing development pattern and proximity of existing structures to the right-of-way.
    5. Existing right-of-way dimensions and topography.

- Facilitate in-fill development by allowing for the reduction of standards on certain low volumes streets.

These guidelines are consistent with the Livable Street design concept and do not require modifications.

At a more detailed level, the design elements of these standards were reviewed and compared to best practices and local/regional guidance documents such as ODOT's *Highway Design Manual,* and Metro's *Designing Livable Streets and Trails Guide*. As shown in Table 1, Milwaukie's current design standards for local and collector streets[2] fall within the identified range of dimensions for the various street elements. In one case, recommendations for future modifications are identified in order to provide additional clarity and flexibility.

[2] Additional facility types and context for application are provided in the background documents and public works standards, however the table focuses on key elements appropriate for local, neighborhood, and collector streets.

Table 1 Public Works Street Design Guidance Findings and Recommendations for Local and Neighborhood Routes

Element	Dimensions from Regional Guidance and Best Practices	Milwaukie Public Works Standards	Findings	Recommendations
Clear Zone	0.5 – 4 ft. on both sides of the roadway	Minimum of 6 inches	Milwaukie's public works standards offer flexibility within this ideal range.	No changes are recommended.
Pedestrian Zone	5 – 10 ft. with an additional 0.5 – 2 ft. of curb/gutter	• 6 ft. sidewalk when curb tight (no adjacent green zone) • 5 ft. when separated by a green zone	Milwaukie's public works standards for sidewalks fall within this ideal range. The sidewalk standard in the Section 5.0030 design standards table identifies sidewalks will be 6 ft. in width for local and neighborhood collectors. However, the supplemental language identifies a minimum of 5 ft.	The supplemental language should be clarified to indicate local and neighborhood route sidewalks should be 6 ft. in width and can be reduced to 5 ft. when separated from travel lanes by a green zone.
Green Zone	0 – 6 ft. landscape strip	3 - 5 ft.	Milwaukie's public works standards offer flexibility within this range.	No changes are recommended.
Parking Zone	7 - 8 ft. on street parking	6 – 8 ft.	Milwaukie's public works standards generally fall within this ideal range. Flexibility provisions that allow 6 ft. parking lanes in residential zones where needed to accommodate constrained environments.	No changes are recommended.
Mixed Travel Zone	5 – 9 ft. bike lane 10 – 12 ft. travel lanes	• Travel lane - 8 ft. or 10 ft for local streets • Travel lane - 10 ft. for neighborhood streets • Bike Lane: 5 ft.	Milwaukie's public works standards fall within this range and offer flexibility within this ideal range for the accommodation of narrower bike and travel lane widths.	No changes are recommended.

Local/Neighborhood Street and Collector Design Illustrations

While the *Section 5 Street Design Standards* table and the accompanying Street Cross Sections identify a range of design guidelines for local, neighborhood, and collector streets, it is recognized that these particular street types often require the greatest level of flexibility and creativity given the unique travel needs and right of way constraints in the City. Based on recent and on-going street improvement projects, a visualization of several ideal local, neighborhood, and collector street cross sections have been prepared for potential inclusion in the new Milwaukie TSP. These visual cross sections are not meant to replace the street design cross sections/policy guidance in the TSP, nor are they meant to replace the more detailed street design standards in the Section 5 of the Public Works Standards. They are however presented to visually illustrate a range of design treatments that could be considered by City staff when planning for and designing different local street, neighborhood street, and collector street improvement projects. The visuals illustrate recent retrofits of streets in Milwaukie, and map the existing nature and topography of streets in Milwaukie. These design treatments have been prepared to be in alignment with the City's general design principles, but they are also rooted in the Livable Streets design concepts which focus on the provision of flexible, safe, comfortable, and inclusive spaces for travelers of all abilities.

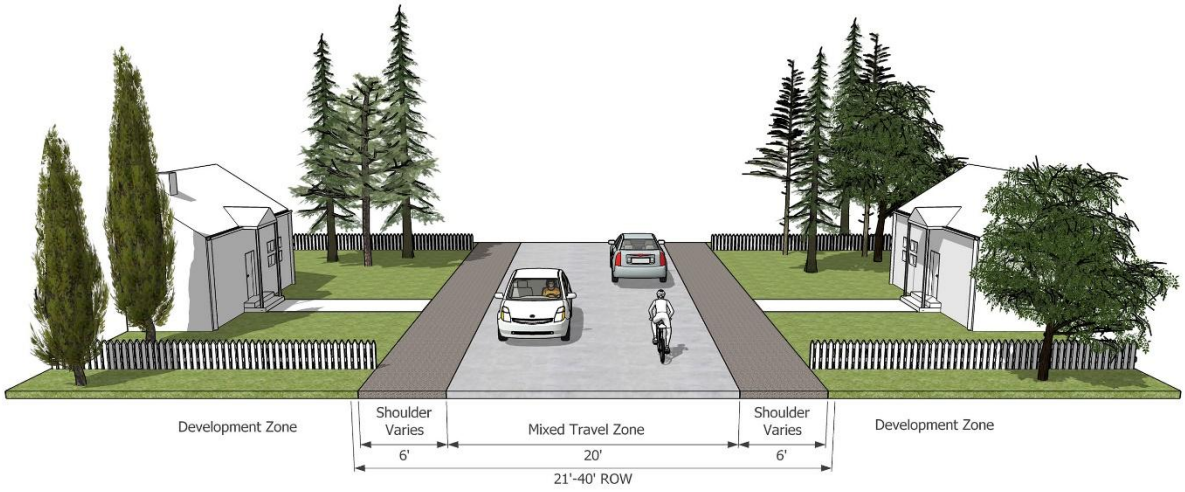
Local and Neighborhood Street Cross-Sections

The cross sections below (Figure 1 through Figure 5) build on the standard cross sections included in the Public Works Standards to provide illustrative examples of local and neighborhood street cross sections that the City can consider for planning and implementation purposes.

Unenhanced Local Street

Figure 1 illustrates an unimproved local street cross section that would apply to existing streets in the City. This cross section recognizes a minimum design allowance for specific situations where a full local street upgrade is not feasible or necessary and overall traffic volumes and speeds are very low.

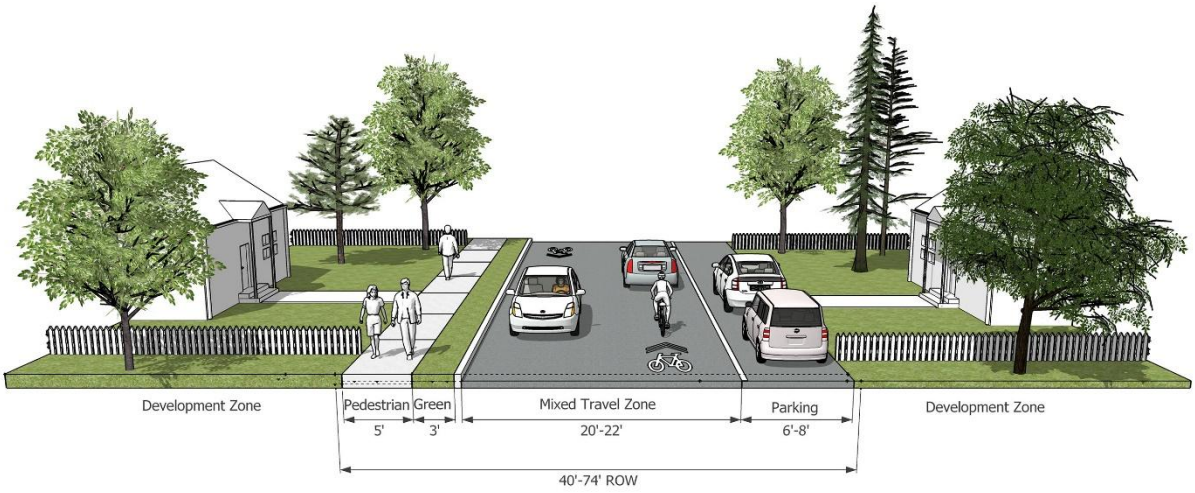
Figure 1 Local Street - Unimproved



Local/Neighborhood Street with Sidewalks on One Side

Figure 2 illustrates a local/neighborhood street cross section with a sidewalk on one side of the roadway and the accommodation of on-street parking on the other side. Bicyclists would share the roadway with vehicles. This cross section is appropriate for low traffic volumes and speeds. It could be a design application for a neighborhood greenway.

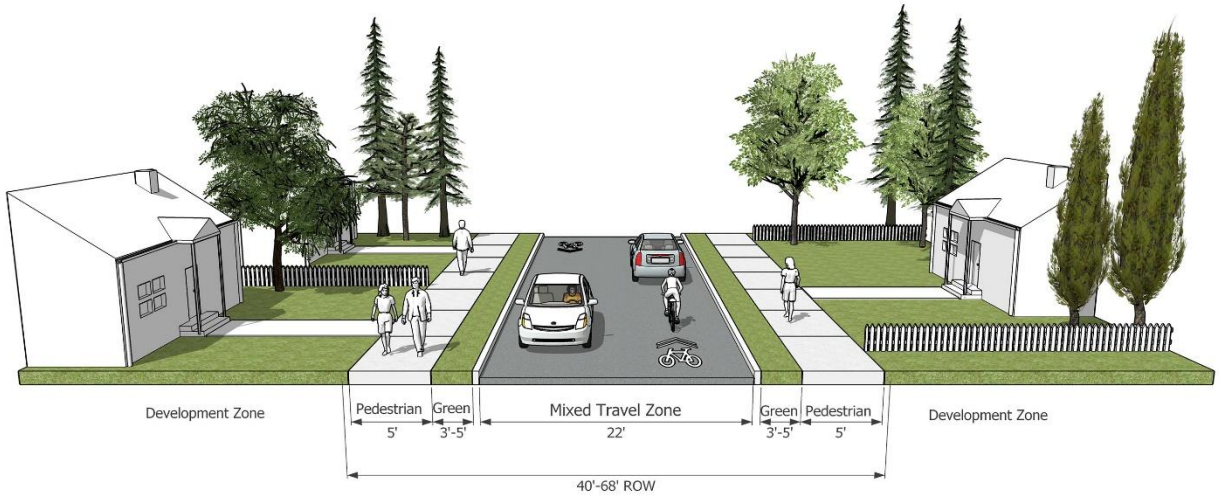
Figure 2. Local/Neighborhood Streets with Sidewalks on One Side



Local/Neighborhood Street with Sidewalks on Both Sides

Figure 3 illustrates a local/neighborhood street cross section, enhanced to provide separate sidewalk facilities for people walking. Bicyclists would share the roadway with vehicles. This cross section does not include on-street parking and would therefore only be appropriate on certain neighborhood streets that are not anticipated to have on-street parking needs. This cross section is appropriate for low traffic volumes and speeds. It could be a design application for a neighborhood greenway.

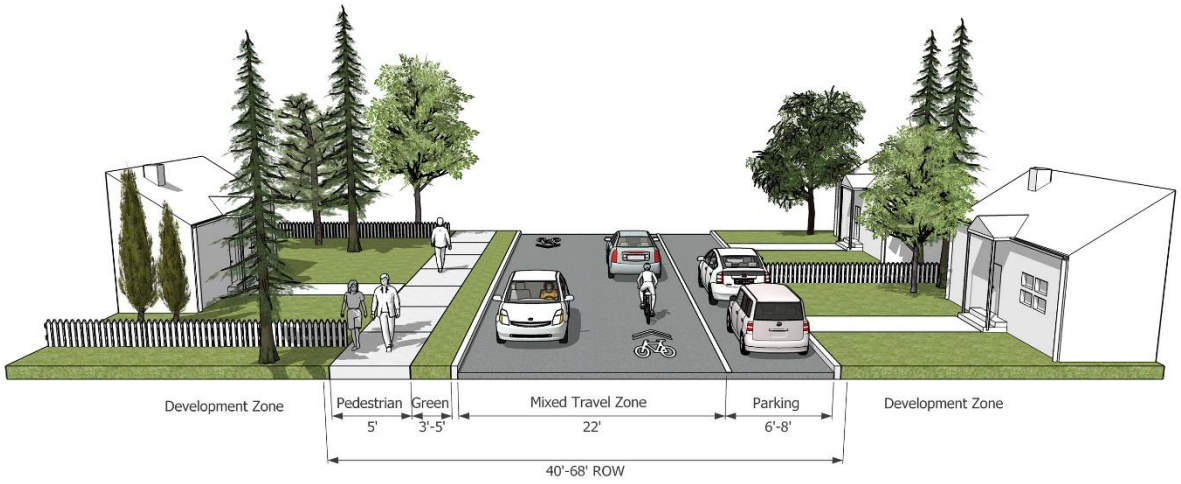
Figure 3. Local/Neighborhood Streets with Sidewalks on Both Sides



Local/Neighborhood Streets with Sidewalks and On-Street Parking

Figure 4 illustrates a local/neighborhood street cross section, enhanced to provide on-street parking and separate facilities for people walking. Bicyclists would share the roadway with vehicles. This cross section is appropriate for local and neighborhood streets with low traffic volumes and speeds. It could be a design application for a neighborhood greenway.

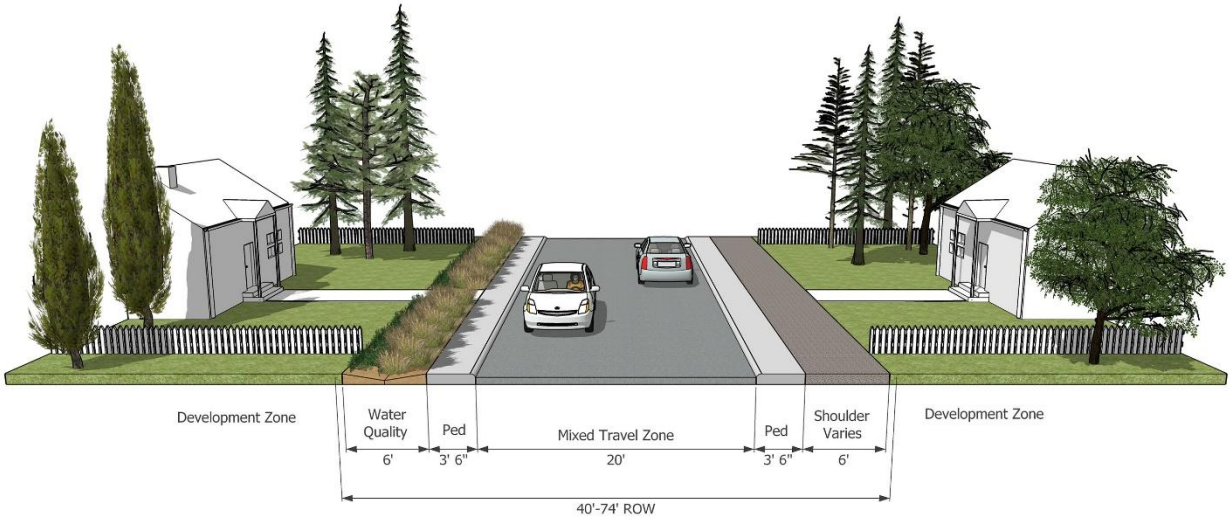
Figure 4. Local/Neighborhood Street with Sidewalks and On-Street Parking



Low Volume/Shared Street

Figure 5 illustrates a low volume street cross section. The Low Volume Street (LVS) standard is not intended to be used in lieu of one of the City's local street standard, but is intended to facilitate infill development in situations where development to the assigned standard would likely preclude such development. Appropriate for situations where traffic volumes and speeds should be considerably lower than the standards that allow 20 MPH streets.

Figure 5. Low Volume Street



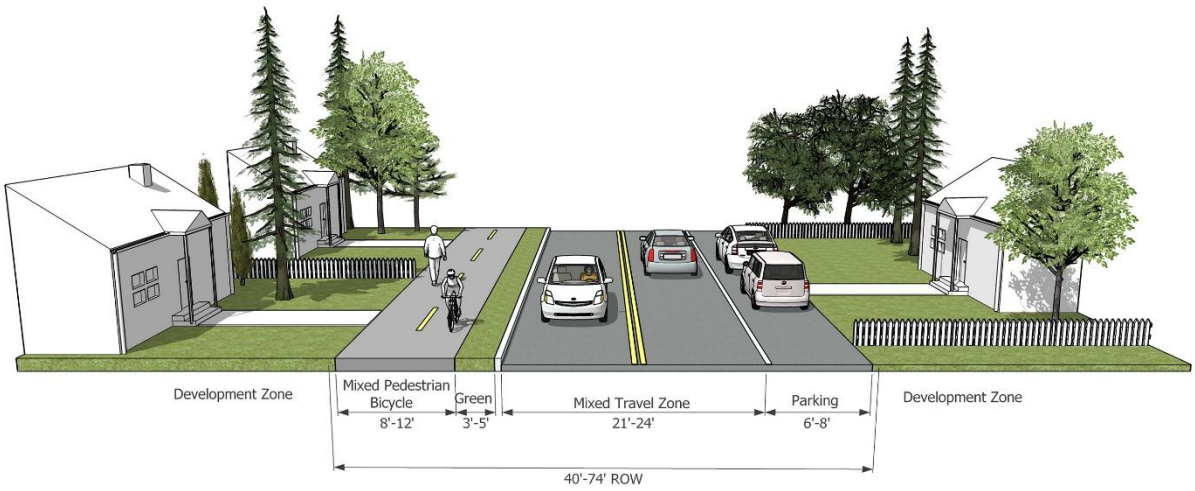
Collector Street Cross-Sections

The cross sections below (Figure 6 through Figure 9) build on the standard cross sections included in the Public Works Standards to provide illustrative examples of potential collector street cross sections.

Collector Street with Multiuse Use Path

Figure 6 illustrates a collector street, enhanced to provide separate facilities for people walking and biking on one side of the roadway while maintaining one lane of on-street parking. This cross section is appropriate for collector streets with moderate traffic volumes and speeds. It could be a design application in a constrained right of way setting when there is a need for enhanced bicycle accommodations.

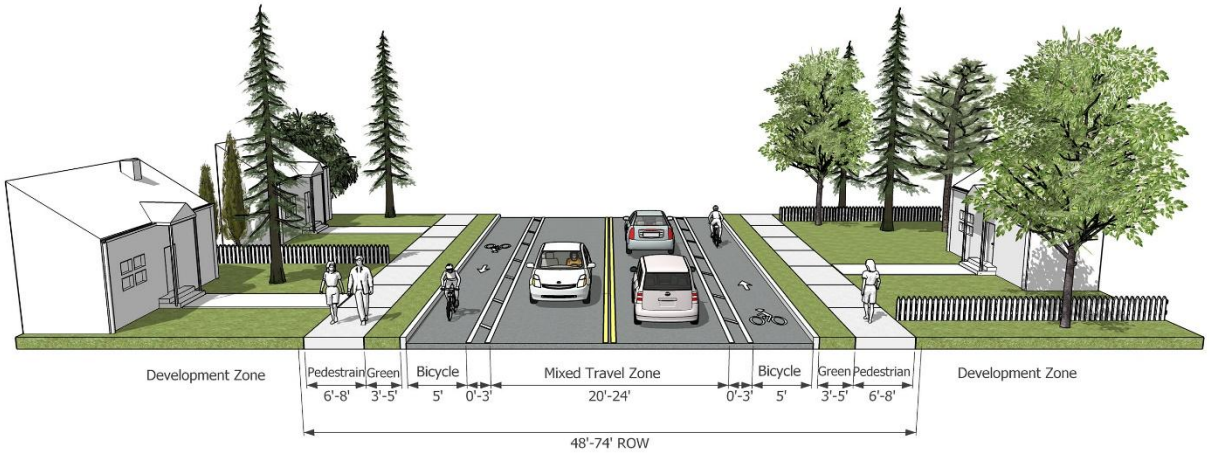
Figure 6. Collector Street with a Shared Use Path



Collector Street with Pedestrian and Bicycle Facilities

Figure 7 illustrates a collector street cross section, enhanced to provide more traditional sidewalk and bicycle facilities for multimodal travel. Right of way permitting, the bicycle lanes could be designed as buffered bicycle lanes. It does not include on-street parking. This cross section is appropriate for collector streets (and arterials is some settings) with moderate traffic volumes and speeds.

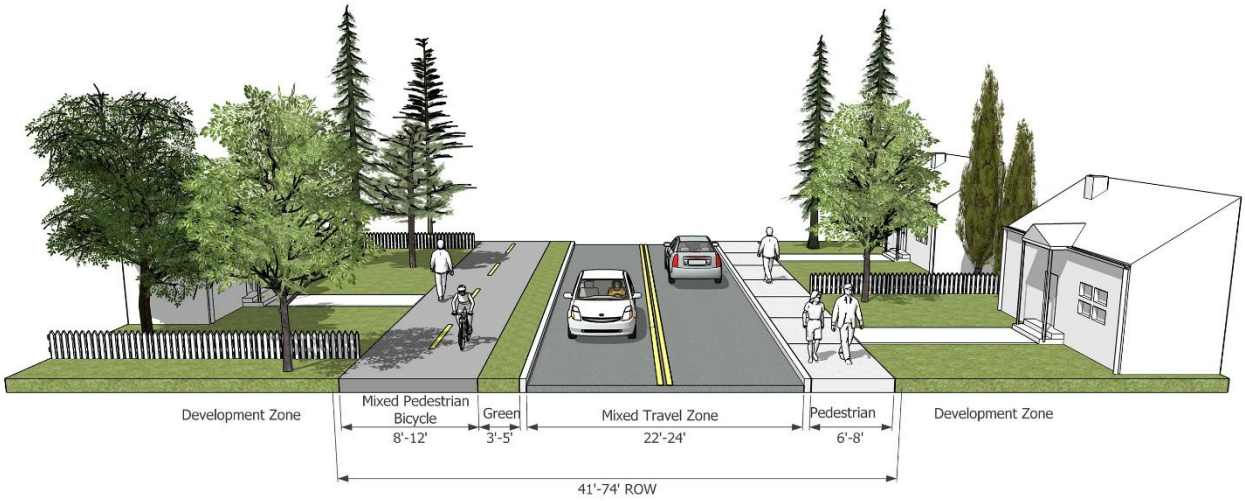
Figure 7. Collector Street with Separate Pedestrian and Bicycle Facilities



Collector Street with Multiuse Path on One Side

Figure 8 illustrates a collector street cross section, enhanced to provide a separate multiuse path for walking and biking on one side of the roadway and a simple sidewalk on the other. This cross section is appropriate for collector streets with moderate traffic volumes and speeds when there is a need for enhanced bicycle accommodations.

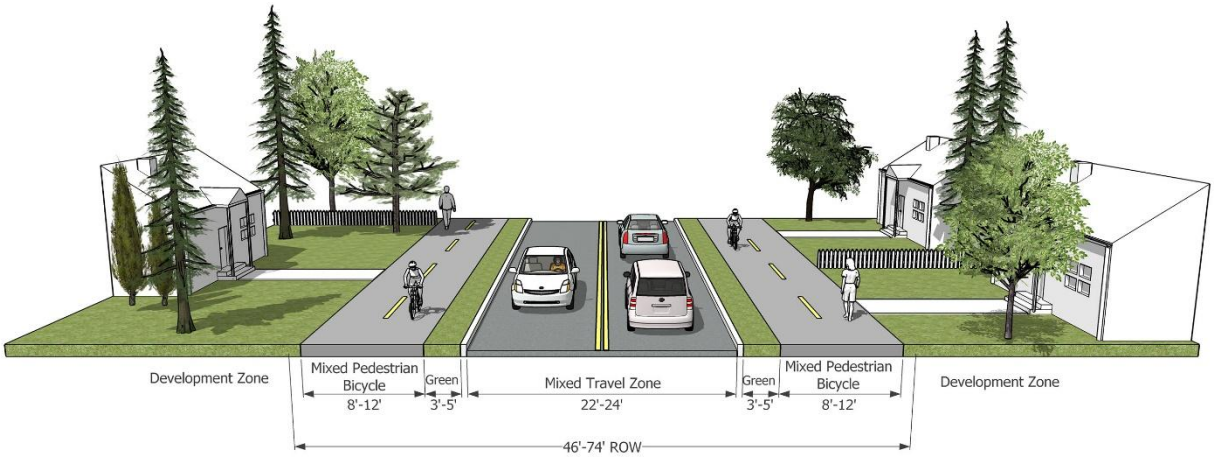
Figure 8. Collector Street with Multiuse Path on One Side



Collector Street with Multiuse Path on Both Sides

Figure 9. illustrates a collector street cross section, enhanced to provide separate facilities for people walking and biking on both sides of the roadway. This cross section is appropriate for collector streets (and arterials is some settings) with moderate to high traffic volumes/speeds and where there is a need for enhanced bicycle accommodations.

Figure 9. Collector Street with Multiuse Paths on Both Sides



NEXT STEPS

This memorandum was reviewed by the Transportation System Technical Committee, Advisory Committee, Planning Commission, and City Council. Following acceptance of the local street design standard recommendations and design concepts, the project team will begin the transportation system conditions and needs/gaps analysis with an eye towards including them as part of near- and long-term improvement projects. This will also include the identification of recommended code modifications needed to help implement the policy concepts and design standards.

APPENDIX A:
MILWAUKIE TRANSPORTATION SYSTEM PLAN

The adopted Milwaukie Transportation System Plan is a policy document that includes guidance on street design decisions through the establishment of a functional classification plan for City roadways; defining street elements, providing guidance on typical widths for these elements, and outlining various traffic calming and neighborhood traffic management techniques. These elements can all be found in adopted TSP: Chapter 8 Street Network, Chapter 10 Street Design, Chapter 5 Pedestrian Element, Chapter 6 Bicycle Element, and Chapter 11 Neighborhood Traffic Management.

TSP Street Design Policy/Guidance

Chapter 10 Street Design describes the importance of street design, why it matters, and the street design options available in Milwaukie. Figure 10 illustrates Milwaukie's street design cross sections. These cross sections provide a policy framework rather than specific design details. As shown, all streets are defined to include different design elements consisting of the following:

- Development Zone -The development zone is not in, but adjoins, the public right-of-way. Access to the development zone is almost always through the public right-of-way in the form of a driveway or sidewalk.
- Pedestrian Zone - The pedestrian zone is the public space between the development zone and the green zone. This area should support pedestrian activities by providing a comfortable space for walking, socializing, and accessing private property and buildings.
- Green Zone - The green zone is the public space that separates the pedestrian zone from the street zone. It functions as a buffer between pedestrians and motor vehicle, bicycle, and other street zone users. Depending on the context, it can accommodate street trees, plantings, utilities, and space to manage stormwater runoff.
- Street Zone - The street zone is the primary travel way for motor vehicles and bicycles. Depending on the classification of street, it may contain parking lanes, turning lanes, travel lanes, and bike lanes or mixed vehicle lanes that include bicycles.

While the TSP street design cross sections do not specify widths or ranges of widths for these zones (those are formally defined in the Milwaukie *Public Works Standards*), they do identify typical widths as summarized in Table 2.

Figure 10. Milwaukie TSP Street Design Cross Sections

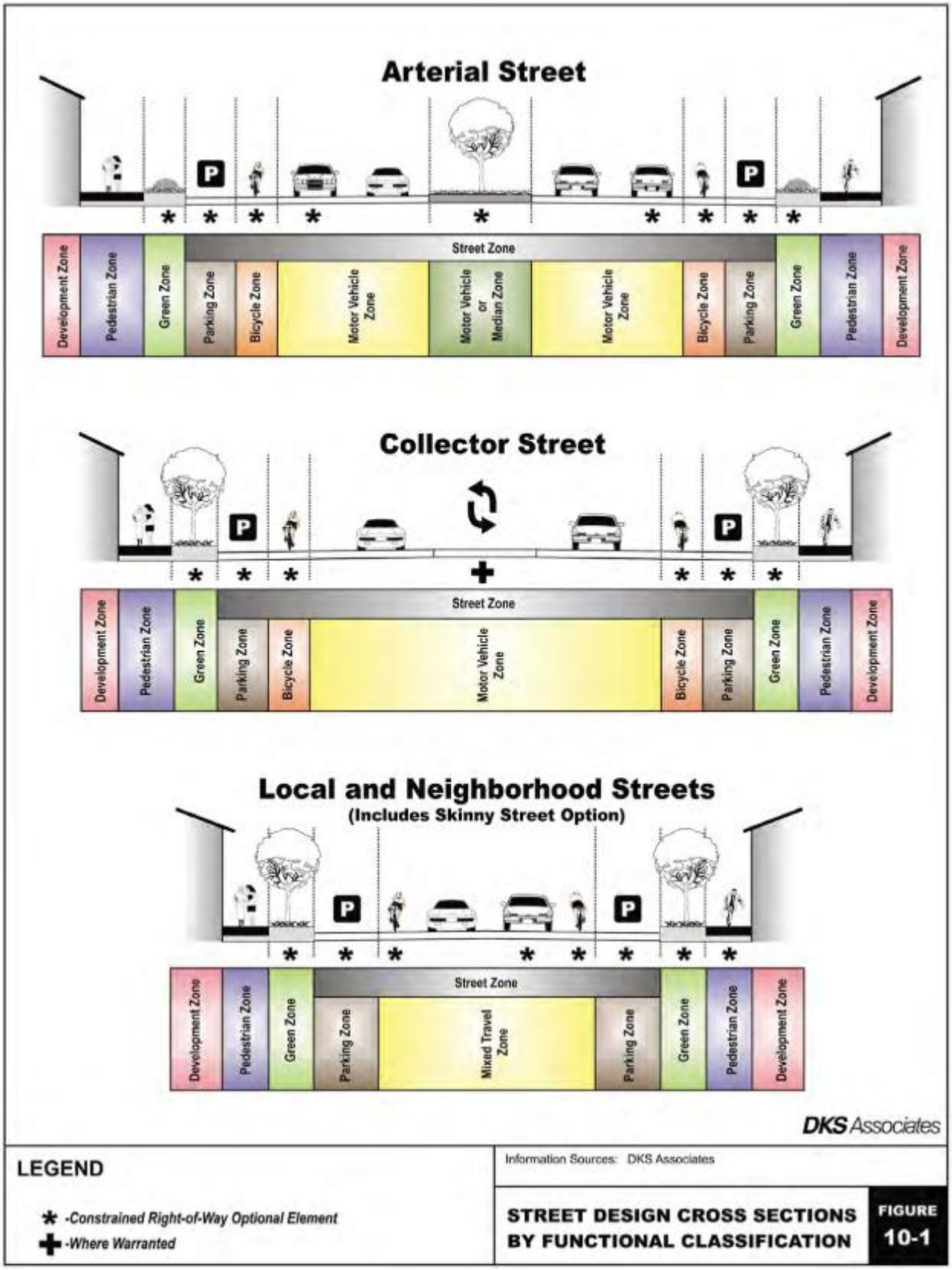


Table 2. Local Street Design Guidance from the Milwaukie TSP

Element	Typical Width	Policy Notes
Development Zone	Varies	The development zone is outside the public right of way. In commercial or industrial zones, a building face may clearly define the edge of the right-of-way. In residential zones, the outer edge of the right-of-way is often not clearly or accurately marked.
Pedestrian Zone	5 ft. when adjacent to a green zone; 6 ft. when adjacent to a street zone	Pedestrian zones should be wider in dense commercial zones and on streets with high traffic volumes and speeds and may be narrower on local streets with low traffic volumes.
Green Zone	At least 5 ft.	Green zones offers a place to locate street trees, bike racks, street furniture, transit amenities, utilities, and plantings designed to manage stormwater runoff.
Parking Zone	6 - 8 ft.	For skinny streets, streets can accommodate one-way travel at a time with parking on one or both sides of the roadway.
Street Zone (including the mixed travel zone)	Bicycle lane - 5-6 ft. Travel lane - 9-12 ft. Shared travel lane - 14-16 ft.	The street zone also contains pedestrian traffic at street intersections and midblock pedestrian crossings. The street zone may also contain green street treatments or traffic management devices to slow traffic or deter cut-through traffic.

One critical element recognized by the TSP is the importance of flexibility. Since the majority of Milwaukie's local street grid has already been developed (much of which without modern bicycle, pedestrian, or stormwater facilities), it can be difficult to upgrade streets due to insufficient right of way, cost, and topographic circumstances. The TSP therefore includes the following policy framework that allows for flexible parameters and decision-making[3].

- *Maintain flexibility in street design standards to allow for local design preferences and to avoid costly and time-consuming variance process requirements.*
- *Balance citywide needs, local design preferences, and best practices when utilizing street design standards.*
- *Provide for public involvement in the utilization of street design standards and during the design phase of street-related Capital Improvement Projects.*
- *Consider maintenance costs and issues when utilizing design standards.*
- *Utilize design standards, including alternative designs, which accommodate emergency response routes and needs.*
- *Require a minimum of one-sided pedestrian facilities on all streets.*
- *Require green zones and green street treatments where appropriate and practical.*
- *Maintain design consistency along a street's length where appropriate.*

[3] Source: 2018 Milwaukie Transportation System Plan, Chapter 10: Street Design

Street Design Alternatives

The TSP outlines several alternative design guidelines involving the accommodation of green streets, skinny streets, bicyclists, and green ways.

Green Streets

Green streets are special design features that accommodate stormwater management features in the roadway right-of-way where it can be treated through natural biological processes. Green street treatments are appropriate for all levels of roadway classifications.

Finding: While limited in scope and detail, the recognition of the importance of green streets as a beneficial environmental feature is consistent with Livable Streets design concepts and should be carried forward as part of the TSP update.

Skinny Streets

The TSP recognizes the importance of allowing for narrower or skinny streets when there are areas with limited right of way or physical constraints that prevent full width accommodations. In these situations, the TSP identifies the following circumstances when skinny street accommodations are appropriate:

- Low vehicular volumes and speeds
- Limited to local or neighborhood streets
- One-way couplet situations

Finding: The recognition of the importance of skinny streets as a flexible design treatment and the circumstances in which they should be considered is consistent with Livable Streets design concepts and should be carried forward as part of the TSP update.

Bicycle Accommodations

The TSP identifies the need to accommodate the many different types of bicyclists, skill levels and trip types by providing adequate facilities for all. Different bicycle facility types recognized by the TSP include the following:

- Multi-use paths – off street routes, typically recreation focused, appropriate for all user groups
- Cycle tracks – exclusive bike facilities that are separated from vehicle traffic
- Bike lanes – striped area within the roadway right of way for exclusive bicycle use
- Shared travelways – roadways where vehicles and bicyclists share the same travel space
- Neighborhood greenways - lower-order, lower-volume streets with various treatments to promote safe and convenient bicycle travel

Finding: The TSP provides general guidance on the application and typical widths of these bicycle accommodations and should be carried forward as part of the TSP update.

Neighborhood Greenways

Within the Bicycle Element of the TSP, neighborhood greenways have been defined and designated for select roadways in Milwaukie. Neighborhood greenways are described as having the following characteristics:

- Lower-order, lower-volume streets with various treatments to promote safe and convenient bicycle travel and enhance pedestrian travel as well.
- Usually accommodate bicyclists and motorists in the same travel lanes, often with no specific vehicle or bicycle lane delineation.
- Assign higher priority to through bicyclists, with secondary priority assigned to motorists.
- Include treatments to slow vehicle traffic to enhance the bicycling environment.
- Traffic controls along a neighborhood greenway assign priority to bicyclists while encouraging through-vehicle traffic to use alternate parallel routes.
- Work best in well-connected street grids, where riders can follow reasonably direct and logical routes and where higher-order, parallel streets exist to serve through-vehicle traffic.

The TSP does not define thresholds or specific design standards for neighborhood greenways, but it does identify potential treatments falling into the following five application levels:

- Level 1: Signage (e.g., wayfinding and warning signs along and approaching the neighborhood greenway).
- Level 2: Pavement markings (e.g., directional pavement markings, shared lane markings).
- Level 3: Intersection treatments (e.g., signalization, curb extensions, refuge islands).
- Level 4: Traffic calming (e.g., speed humps, mini traffic circles).
- Level 5: Traffic diversion (e.g., choker entrances, traffic diverters).

Finding: Discussion on the concept of neighborhood greenways is currently incorporated in Chapter 6 Bicycle Element. While primarily a design concept that benefits bicyclists, the supporting policy statements and design parameters would be more visible and impactful as a component of the Street Design Alternatives section in Chapter 10 Street Design.

In addition to potential reorganization of the neighborhood greenway guidelines, it is noted that neither the TSP nor the *Public Works Standards* outline specific performance guidelines for when to consider or apply a neighborhood greenway overlay according to motor vehicle speeds and traffic volumes. To help guide future decision making, it is recommended that the following neighborhood greenway performance guidelines be incorporated into the Milwaukie TSP update. These vehicle speed and volume performance guidelines are consistent with application guidelines used in neighboring cities including the City of Portland:

- *Vehicle speeds should be no more than 20 mph on all neighborhood greenways.*
- *The ideal neighborhood greenway has a target volume of 1,000 motor vehicles a day or less.*
- *Neighborhood greenways can function effectively with added design features with an average of 1,500 motor vehicles per day.*

APPENDIX B:
MILWAUKIE PUBLIC WORKS STANDARDS

Milwaukie's *Public Works Standards*, last revised March 2024, includes detailed design-based street standards for how to build and retrofit streets in the City. For reference, Figures 11-13 illustrate the street cross section graphics and street design details contained in the Public Works Standards.

Figure 11. Street Cross Sections from Public Works Standards

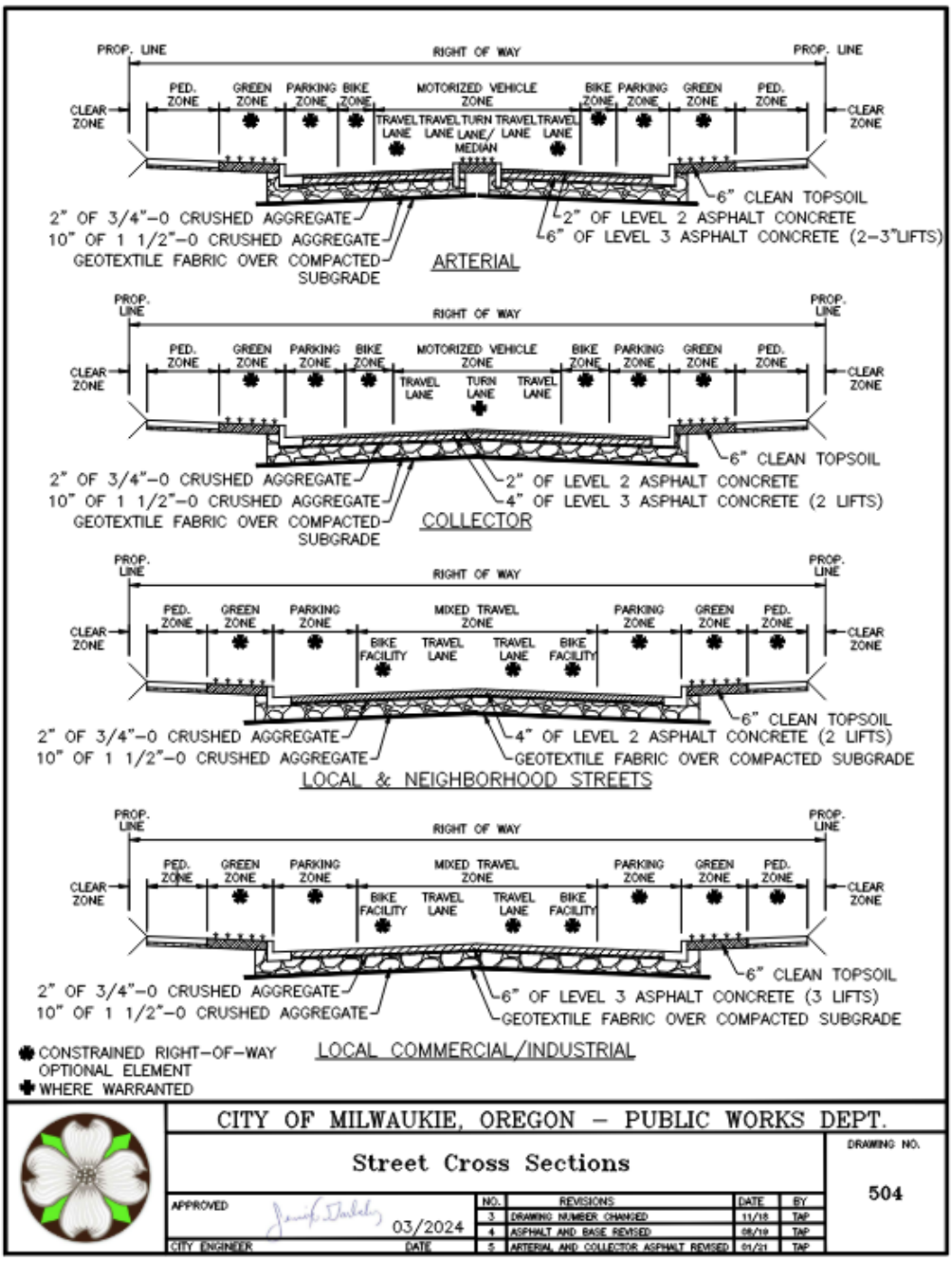


Figure 12. Low Volume Street Cross Sections from the Public Works Standards

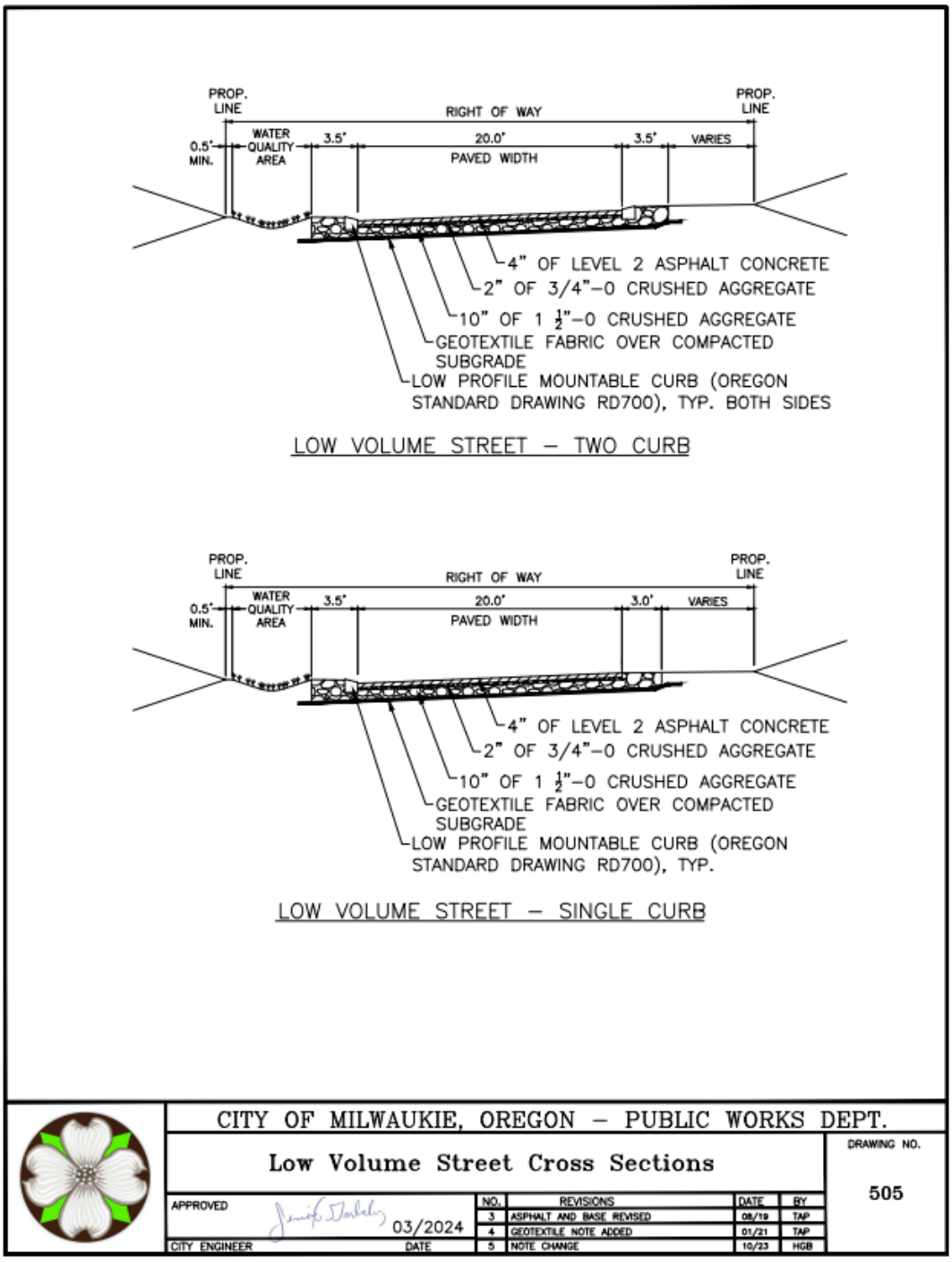


Figure 13. Street Design Elements and Dimensional Standards for Street Cross Sections by Functional Classification

Street Design Elements and Standards							
Street Classification	Full-Width Right-of-Way Dimension	Individual Street Elements					
		Travel Lane (Center Lane)	Bike Lane	On-Street Parking	Landscape Strips	Sidewalk Curb Tight	Sidewalk Setback
Arterial	54'-89'	11'-12' (12'-13')	5'-6'	6'-8'	3'-5'	8'-10'	6'
Collector	40'-74'	10'-11'	5'-6'	6'-8'	3'-5'	8'	6'
Neighborhood	20'-68'	10'	5'	6'-8'	3'-5'	6'	5'
Local	20'-68'	8' or 10'	5'	6'-8'	3'-5'	6'	5'
Truck Route	34'-89'	11'-12' (12'-13')	5'-6'	6'-8'	3'-5'	8'-10'	Per Street Classification
Transit Route	30'-89'	10'-12' (12'-13')	5'-6'	6'-8'	3'-5'	Per Street Classification	Per Street Classification

The Public Works Standards offer additional standards that supplement and support the dimensional standards shown in Figures 9 and 10 when needed for flexibility. These additional standards are summarized in Table 3.

Table 3. Local and Neighborhood Streets Design Elements According to Public Works Standards

Element	Standard Width	Notes
Clear Zone	Minimum of 6 inches	A clear zone is part of the public right of way and offers an unobstructed area beyond the edge of the multimodal travel area. A minimum of 6 inches will be required between a property line and the street element that abuts it; e.g., sidewalk or landscape strip.
Pedestrian Zone	• 6 ft. sidewalk when curb tight (no adjacent green zone) • 5 ft. when separated by a green zone	Sidewalk widths may be reduced to a minimum of 4 ft. for short distances for the purpose of avoiding obstacles within the public right-of-way including, but not limited to, trees and power poles. An 8' wide multiuse side path can be substituted for the bike lane and setback sidewalk. A 10' wide multiuse side path can be substituted for the bike lane and curb tight sidewalk.
Green Zone	3 - 5 ft.	Landscape strip widths will be measured from the back of curb to the front of sidewalk. Where water quality treatment is provided within the public right-of-way, the landscape strip width may be increased to accommodate the required treatment area.
Parking Zone	6 – 8 ft.	On-street parking in industrial zones will have a minimum width of 8 ft. On-street parking in commercial zones will have a minimum width of 7 ft. On-street parking in residential zones will have a minimum width of 6 ft.

Element	Standard Width	Notes
Mixed Travel Zone	• Travel lane - 8 ft. or 10 ft for local streets • Travel lane - 10 ft. for neighborhood streets • Bike Lane: 5 ft.	A minimum of 10-foot travel lane width will be provided on local streets with no on-street parking. Additional width is required for travel lanes located next to a curb line (1-2 feet). Where shared lanes or bicycle boulevards are planned, up to an additional 6 ft of travel lane width will be provided. Bike lane widths may be reduced to a minimum of 4 ft where unusual circumstances exist and where such a reduction would not result in a safety hazard.

In addition to this flexibility, the following language is provided that gives the City Engineer autonomy in determining when to deviate from these standards when needed to support special circumstances.

The City Engineer will determine the full-width cross section for a specific street segment based on functional classification using the dimensions and standards stated above. The full-width cross section is the sum total of the widest dimension of all individual street elements. If the City Engineer determines that a full-width cross section is not appropriate or feasible, the City Engineer may first reduce individual street elements to the minimum dimensions and standards stated above. If necessary to further reduce the street cross section width, the City Engineer may eliminate individual street elements on one or both sides of the street in accordance with Figure 10-1 of the TSP. When making a street design determination that varies from the full-width cross section, the City Engineer will consider the following:

1. *Options and/or needs for environmentally beneficial and/or green street designs.*
2. *Multimodal street improvements identified in the TSP.*
3. *Street design alternative preferences identified in Chapter 10 of the TSP, specifically regarding sidewalk and landscape strip improvements.*
4. *Existing development pattern and proximity of existing structures to the right-of-way.*
5. *Existing right-of-way dimensions and topography.*

Design Assessment Findings

Ideal dimensions of roadway design elements are shown in Table 4 for local and collector streets[4] based on best practices and general guidance in ODOT's *Highway Design Manual,* and the *Designing Livable Streets and Trails Guide*. As shown in the table, Milwaukie's current design standards fall within the range of ideal dimensions and no changes are needed/recommended.

Table 4. TSP Street Design Guidance Findings

Element	Ideal Dimensions from Regional Guidance and Best Practices	Findings
Clear Zone	0.5 – 4 ft. on both sides of the roadway	Milwaukie's public works standards offer flexibility within this ideal range.
Pedestrian Zone	5 – 10 ft. with an additional 0.5 – 2 ft. of curb/gutter	Milwaukie's public works standards for sidewalks fall within this ideal range and offers flexibility when needed. However, the supplemental language emphasizes a minimum dimension versus a desired dimension.
Green Zone	0 – 6 ft. landscape strip	Milwaukie's public works standards offer flexibility within this range.
Parking Zone	7 - 8 ft. on street parking	Milwaukie's public works standards offer flexibility within this range, but do provide provisions that allow 6' parking lanes in residential zones where needed to accommodate constrained environments.
Mixed Travel Zone	5 – 9 ft. bike lane 10 – 12 ft. travel lanes	Milwaukie's public works standards fall within this range and provide flexibility for the accommodation of narrower travel lane widths. However, the supplemental language emphasizes the minimum dimension for bicycle facilities versus a desired dimension.

[4] Additional facility types and context for application are provided in the background documents and public works standards, however the table focuses on key elements appropriate for local, neighborhood, and collector streets.

APPENDIX C:
MILWAUKIE MUNICIPAL CODE

The City's street design standards are referenced by the Milwaukie Municipal Code which is the City's main regulatory document. Code sections that regulate street design standards can be found in the following title sections:

Title 12 Streets, Sidewalks, and Public Spaces

Title 12 includes a code provision under section 12.02.010 that indicates all streets constructed in the City shall be constructed in conformance with the applicable public works standards.

Title 17 Land Division

Within this chapter, section 17.28.020 sets design standards for public facility improvements as part of land divisions and boundary changes. This section notes that all land divisions and boundary changes increasing the number of lots will be subject to Chapter 19.700 Public Facility Improvements and the Public Works Standards for improvements to streets, sidewalks, bicycle facilities, transit facilities, and public utilities.

Title 19 Zoning Ordinance

Section 19.700 ensures that development, including redevelopment, provides public facilities that are safe, convenient, and adequate in rough proportion to their public facility impacts. Section 19.701.1 provides standards for transportation facilities and states that design standards for transportation facilities must:

- Protect the functional classification, capacity, and LOS of transportation facilities;
- Ensure transportation facility improvements are provided in rough proportion to development impacts;
- Provide an equitable and consistent method of requiring transportation facility improvements; and
- Ensure that transportation facility improvements accommodate multimodal modes of travel including pedestrian, bicycle, transit, and auto.

Section 19.703.3 clarifies the approval criteria for transportation facility improvements. Either development will provide transportation improvements or mitigation at the time of development that is in rough proportion to its potential impacts (see Section 19.705 for rough proportionality definition), or pay a fee in lieu of construction as allowed by Chapter 13.32.

Section 19.708 contains the City's requirements and standards for improvements to public streets, including pedestrian, bicycle, and transit facilities. As noted in the section, *"The City acknowledges the value in providing street design standards that are both objective and flexible. Objective standards allow for consistency of design and provide some measure of certainty for developers and property owners. Flexibility, on the other hand, gives the City the ability to design streets that are safe and that respond to existing street and development conditions in a way that preserves neighborhood character."*

Section 19.708.2 "*contains the street design elements and dimensional standards for street cross sections by functional classification. Dimensions are shown as ranges to allow for flexibility in developing the most appropriate cross section for a given street or portion of street based on existing conditions and the surrounding development pattern. The additional street design standards in Subsection 19.708.2.A augment the dimensional standards contained in Table 19.708.2. The Engineering Director will rely on Table 19.708.2 and Subsection 19.708.2.A to determine the full-width cross section for a specific street segment based on functional classification. The full-width cross section is the sum total of the widest dimension of all individual street elements. If the Engineering Director determines that a full-width cross section is appropriate and feasible, a full-width cross section will be required. If the Engineering Director determines that a full-width cross section is not appropriate or feasible, the Engineering Director will modify the full-width cross section requirement using the guidelines provided in Subsection 19.708.2.B.*"

When making a street design determination that varies from the full-width cross section, the Engineering Director shall consider the following:

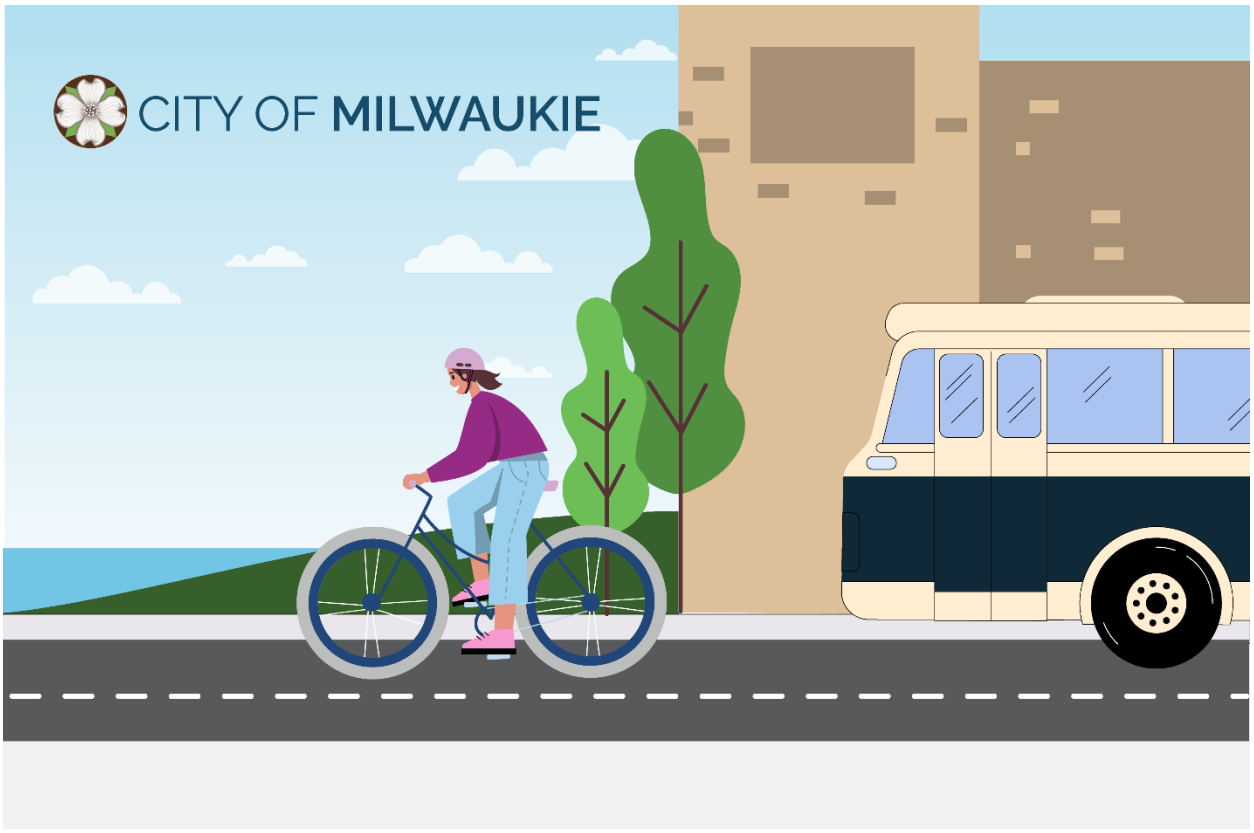
1. Options and/or needs for environmentally beneficial and/or green street designs.
2. Multimodal street improvements identified in the TSP.
3. Street design alternative preferences identified in Chapter 10 of the TSP, specifically regarding sidewalk and landscape strip improvements.
4. Existing development pattern and proximity of existing structures to the right-of-way.
5. Existing right-of-way dimensions and topography.

APPENDIX F. COMMUNITY ENGAGEMENT SUMMARY

CITY OF MILWAUKIE

MILWAUKIE TSP COMMUNITY ENGAGEMENT SUMMARY

Document created in October 2025.



Prepared by: JLA Public Involvement

PUBLIC INVOLVEMENT GOALS

The primary public involvement goals from the Engagement Plan were to:

- Plan for and conduct community engagement including a focus on equity
- Provide clear and timely opportunities for meaningful community participation in decision-making over the course of the planning process
- Give regular reports to the affected governing bodies, planning commissions, and the public on the progress of the planning process
- Coordinate with other engagement activities that may be concurrent and affect similar communities

SUMMARY OF ENGAGEMENT

From early 2024 through summer 2025, the project team conducted several community engagement events to inform the public about the project updates and consult them for feedback at key project milestones. Kittelson's team integrated public feedback into their work to shape the draft TSP.

The team concentrated their in-person outreach efforts on three TSP development milestones: the goals and policy setting in spring 2024, the needs and gaps analysis in December 2024, and the financially constrained project list in summer 2025. At the other development milestones, the City posted survey information on the Engage Milwaukie webpage to solicit feedback.

The following outreach events were hosted and promoted:

- **March 2024 Community Workshop** – 18 attendees
- **December 2024 Open House** – 22 attendees + 14 Online Forum responses
- **June 2025 Public Workshop/Open House** – 50 attendees
    - **Online Survey** (ArcGIS workshop component) – 28 online responses
- **Focus Groups**
    - **Milwaukie Center and Wichita Center** – 8 attendees
    - **Hillside Manor** – 13 attendees
    - **Spanish Bilingual & BIPOC** – 7 attendees
- **Tabling Events for Focus Group Recruitment:**
    - El Noche at Milwaukie High School
    - Ukelele Jam at the Milwaukie Center

AUDIENCES AND STAKEHOLDERS

Our goal was to engage as many people as possible throughout the project. We hoped to engage community members who haven't been involved in the past and those who have been

engaged in planning processes in the city for many years and have deep knowledge of some of the transportation concerns in the city. We invited the following audiences to public events:

- Residents and local businesses
- Historically Underrepresented Communities
- Neighborhood District Associations
- Bike/Ped Advocates
- Accessibility/Mobility Advocates

Jurisdictional Partners served as technical experts on the project and the City Council and the Planning Commission were briefed by city staff at various key points in the planning process.

ADVISORY COMMITTEES

Two advisory committees were consulted throughout the process to help guide the Project Management Team's decision making: a City Council-appointed Transportation System Plan Advisory Committee and a non-appointed technical committee (TSPTC).

EQUITY STEERING COMMITTEE

The project team met with the City's Equity Steering Committee in September 2023 to give a project overview, share the Community Profile and Engagement Plan highlights, and ask their advice on the best ways to engage underserved communities in the city. The team enacted the committee's recommendation to *meet the public where they are at and bring food* when presenting the financially constrained project list in summer 2025. The team held the three focus groups at convenient locations/times for the attendees and also served a meal and gave out grocery store gift cards.

COMMUNITY WORKSHOP – MARCH 2024

On March 21, 2024 from 6:00 to 7:30 p.m. the project team hosted a Community Workshop at City Hall in Council Chambers to invite community members to review the draft TSP Vision, Goals and Policies and to give feedback.

The City advertised the event in:

- *Milwaukie Pilot* articles
- A press release
- An email blast to the project email list
- The Engage Milwaukie website update and email blast containing event information
- Two social media posts

Eighteen members of the community came to learn more about the Milwaukie TSP and give feedback.

Event goals

- Understand the TSP process and schedule.
- Learn the constraints involved in planning.
- Give the project team feedback on refining the goals and policies.

Workshop Format

Between 6 and 6: 15 p.m., attendees were welcomed in the hallway outside of Council Chambers by Katie Nelson and encouraged to sign in and view the display boards in the lobby before entering the Council Chambers. The display boards gave background information on the TSP and the process by which the City of Milwaukie will update the plan.

At 6:15 p.m. Laura Wiegel gave a brief project overview to the gathered participants in Council Chambers and described how the workshop would be run. She referenced the Draft TSP Visions, Goals, and Policies Memo and noted that the group was charged with giving feedback on all of the draft goals and policies.

At each of the four small table groups, facilitated by project team staff, participants discussed two or three goals during 15-minute sessions and then rotated to another table group. Participants had the opportunity to discuss all of the 11 goals by the end of the workshop. Staff facilitated the discussions by asking participants to consider the following questions:

1. Is anything missing?
2. If anything is confusing, how could the language be changed?

Project staff took notes on flipcharts to capture participants' feedback (See Appendix B). At 7:15 p.m., Laura asked the four staff facilitators to summarize the feedback they had heard at their tables. At the end of the event, Laura gave a formal wrap-up and thanked participants for coming.

Draft TSP Goals and Policies

Below is a list of the 11 TSP goals that participants discussed. Each goal had between three and nine accompanying policies that participants conversed about. See Appendix A for memo listing the goals and their accompanying policies.

Goals – Goals are broad statements that identify how the vision statement will be achieved.
Policies – Specific and measurable statements that help to achieve the goal.

Goals included:

- Equity
- Climate Friendly
- Transit Forward
- Mobility, Accessibility, and Connectivity
- Active, Healthy, Transportation Choices
- Coordination with Local, Regional, and State Partners

- Resiliency
- Fiscal Stewardship and System Management
- Economic Vitality
- Parking
- Safety

In-person Event Feedback

In the small groups, participants shared their thoughts about how they would edit or clarify the policies under each goal. They offered suggestions on word choice, how to clarify sentence structures, and talked about their priorities for various policies. Staff recorded their feedback on flipcharts. For a complete list of participants' noted ideas, see photos of the flipcharts in Appendix B.



Online Survey Feedback

A total of 57 people participated in the online survey, which was open on the Engage Milwaukie page from March 22 through April 17. The webpage described each draft goal, listed its accompanying policies, one by one and invited people to give feedback on each goal. See Appendix C for all comments.

The project team studied all of the feedback and then edited the Draft TSP Vision, Goals, and Policies Memo to incorporate some of the feedback.

OPEN HOUSE – DECEMBER 2024

On December 5, 2024 from 5:30 to 7:30 p.m. the project team hosted an open house at the Ledding Library to inform community members about current multimodal gaps in the Transportation System plan (TSP) and to learn about how Milwaukie residents get around the city and their neighborhoods and their feedback on the identified gaps.

The City advertised the event through:

- Information on the city's webpage, the TSP project webpage and the Engage Milwaukie page containing event information

- 2 email blasts to the subscriber list from Planning Manager Laura Weigel – one on November 20, and one on December 2
- Weekly updates for NDA chairs in Jason's Friday email updates – the NDA chairs shared this information with their neighbors
- City of Milwaukie social media post on December 3
- *Milwaukie Pilot* Articles – an announcement message was posted in the November edition and another reminder was posted in the December edition

All attendees were entered into a drawing for two $50 gift cards to Spoke & Word Books, a local bookstore.

Approximately 22 members of the community came to learn more about the Milwaukie TSP and gave feedback.



Event Goals

The goals of the event were to share results of the multimodal needs/gaps analysis and gather community feedback on the legibility of the PLTS/BLTS methodology and any mistakes or omissions in the city's analysis.

Workshop Format

Matt Hughart (Kittleson & Associates) gave a brief presentation around 5:35 p.m. at the peak of public attendance. The presentation focused on room orientation and station content. After the presentation, open house attendees went around to the various display stations, where they were encouraged to ask questions and learn more about the existing conditions, current gaps/needs, and to provide feedback and suggestions. Additionally, attendees were encouraged to share how they get around the city and what they find challenging, including sharing their personal perspectives on the needs and gaps assessment.

A table near the center of the room contained comment forms, on which people could write any other suggestions they had about how to improve transportation safety in Milwaukie.

Workshop Stations

The following stations were set up in the room and were intended for participants to view in a counterclockwise manner. All stations except the overview station hosted a "feedback" flipchart page in which staff recorded notes on some of the feedback they heard.

- **Station 1: Welcome Table**

- **Station 2: Transportation System Plan (TSP) Overview**

This station was intended to orient attendees to the transportation system planning process. It answered questions about the purpose of a TSP, the city's legal obligations to create a TSP, how TSPs are updated, who is involved in the planning process, and how members of the public can participate in the update process.



- **Station 3: Existing Conditions**
  The intent of this station was to show current infrastructure and reorient the public to the various facility types—i.e., sidewalks, regional pathways, on-street pathways, greenways, etc.
  This station showed two maps—one of existing pedestrian facilities and one of existing bicycle facilities in the city**.**

- **Station 4: Performance Measures– Level of Traffic Stress**
  This station showed the level of safety (or the Level of Traffic Stress) of streets in Milwaukie for pedestrians and for bicycles. A numerical scale ranks the safety of a specific street. The numerical scale is from Level 1 to Level 4. **Level 1 is the ideal**—there is the lowest amount of stress, and the street is suitable for people of all ages and abilities. **Level 2 is low stress** and tolerable for most users. **Level 3 is medium stress**—and is mainly suitable for those folks who are confident and experienced. **Level 4 is the highest amount of stress**; this level requires users who are very experienced and comfortable being immersed in traffic tolerant conditions—this level requires the most amount of caution from bikes and pedestrians and can pose a serious safety risk for users.

  The following boards were posted for this station:
  - What is Pedestrian Level of Traffic Stress (PLTS)? – Summary board with photo examples from Milwaukie streets of various PLTS facility score examples
  - Updated PLTS results
  - What is Bicycle Level of Traffic Stress (BLTS)? – Summary board with photo examples from Milwaukie streets showing various BLTS facility score examples
  - Updated BLTS results

- **Station 5: Need/Gaps Analysis**
  This station was split into two sections: one for pedestrian needs/gaps and one for bicycle needs/gaps. Each of these stations had a board for each identified Priority Focus Area. Priority Focus Areas are based on the concept of Key Destinations in Oregon Administrative Rule 660-012-0360. They are locations that people are likely to visit frequently; they are attractive destinations to access by foot or by bike. The boards identified areas within a quarter-mile walking and bicycling distance of these destinations and identified transportation facilities where the exiting conditions do not meet the city's standards for low-stress walking and cycling.

The Priority Focus Areas were as follows:
  - Milwaukie Town Center
  - Schools
  - Grocery Stores
  - Neighborhood Hubs
  - Transit Stops
  - Parks

- **Station 6: Public Bicycle Parking**
  An additional display showed existing public bicycle parking locations in Milwaukie—i.e., bicycle parking in the right-of-way—and invited participants to use sticker dots to show where else they would like to see bicycle parking in the city.

In-person Feedback – Verbal and Flipcharts

Project staff members—as well as participants themselves—recorded feedback on flipcharts at the Existing Conditions, Performance Measures, and Pedestrian and Bicycle Needs/Gaps stations.

Below are the **main themes** from each station:

- **Station 3: Existing Conditions**
  - New Greenway routes were noted.
  - Concern regarding width a certain multiuse paths.
  - Public Bicycle Parking map location additions.
- **Station 4: Performance Measures – Level of Traffic Stress**
  - Safety concerns for pedestrians and bikers are a top priority.
  - Visibility issues.
  - Concerns about bioswales and folks tripping—causing safety concerns.
  - Improvements to many stressful intersections within the project area.
  - Need for lighting improvements.
  - Concerns regarding street width and narrowness of streets for all users.
- **Station 5: Needs/Gaps Analysis**
  - **Pedestrian Needs/Gaps**
    - Prioritization of areas with “no sidewalks” versus areas that are a PLTS level 3 or 4.
    - Concerns regarding drainage issues at many residential driveways.
    - Importance of engagement with homeowners.
    - Need for more active transportation connections.
  - **Bike Needs/Gaps**
    - Considerations for the quality of pavement that is used.
    - Need for more multiuse paths.

- Concerns for safety, specifically there are multiple dangerous crossings. At these intersections, there are often too many modes of transportation that inhibit flow with each other.
- Lots of concerns around Railroad Avenue—specifically safety.

Written Feedback – Comment forms

Beyond providing feedback to project staff and on the flipcharts at each station, event participants also had the opportunity to leave their feedback and ideas for project staff on physical comment forms. Four (4) attendees filled out and submitted comment forms. The main themes of attendees' comments are:

- Bike and pedestrian safety are priorities.
- More sidewalks and bike lanes.
- Consider that commuter and leisure cyclists may have different needs.
- Improvements to the connection on 29th and Monroe—specifically surrounding the Monroe Greenway.
- Multiuse path (MUP) on the north side of Railroad from Linwood to 37th Avenue.
- Consider long, continuous roads for pedestrians and runners.
- Improved sight distance at corners and consider grade separation for pedestrians.
- Improved paving—this can be a safety concern for cyclists.
- King Road from 36th Avenue to 40th Avenue is in need of a sidewalk; it is an essential route for folks walking to Safeway.

OPEN HOUSE AND ONLINE OPEN HOUSE – JUNE-JULY 2025

The following summary examines feedback from two different outreach events in the summer of 2025: the June 18 Open House Workshop and the online open house survey component that was open from June 3 through July 15. Both outreach efforts focused on understanding the individual projects and the types of projects that the public would like to prioritize in the Milwaukie Transportation System Plan (TSP) Update. In total, there were 78 participants.

Open House Workshop

The workshop on June 18 at the Milwaukie Ledding Library was from 6:00 p.m. to 7:30 p.m. It was a mixture of a self-guided open house and a workshop; **50 people attended**.

At the welcome table, participants were given a worksheet, pen, and clipboard to take with them throughout the evening. After stopping at the welcome table, participants were able to see large map of the projects (by mode) on the "wall stations." This station was managed by technical project staff who were able to answer questions. After completing their walkthrough of the "wall stations," participants went to the workshop style "table stations" which were organized by corresponding project modes. Participants could sit down and fill out their worksheet while looking at another set of the modal project maps and the project list.





Event Promotion
This event was promoted through the City's social media platforms: Instagram and Facebook. The City's Instagram account has 3,205 followers, while the Facebook page has 6,900 followers. On June 11, a digital flyer with the workshop information was posted. A TSP background and event promo video was posted on both platforms on June 16. On June 18, a reminder "re-post" of the flyer was uploaded onto Instagram. Additionally, there were promo articles published in both the *Milwaukie Pilot* Newsletter and the *PeachJar* – both for the June 2025 issues. City staff handed out promotional flyers at their Milwaukie Farmers Market booth: once in late May and once in early June. There was also event advertisement on the City of Milwaukie *Engage Page*.

Compensation & Incentives: There was no compensation for attending the workshop, but participants were able to enter one of two raffles for a $50 gift card to the new market and Spoke & Word Bookstore. Additionally, there were kids' activities and refreshments.

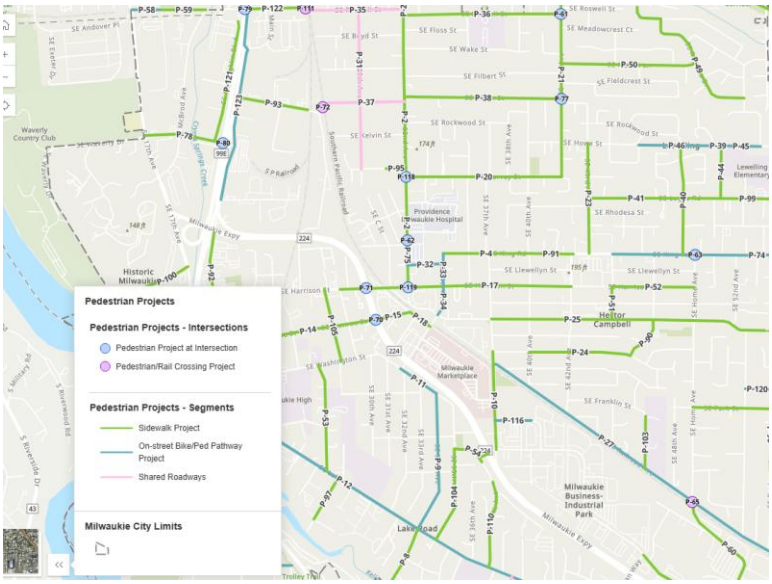
Online Open House Survey

The online survey served as the virtual component for the Open House Workshop. It was designed to gather the same feedback, for people who were unable to attend the in-person workshop, and **28 people participated**. The survey was hosted on ArcGIS StoryMaps and was open from June 3 through July 15. It had multiple map data layers that allowed participants to interact with (learn more, give a "thumbs up," etc.).

There were two open ended survey questions:

1. What are the top projects you'd like to see built? Write your overall top projects, regardless of mode/type.
2. Are there any projects we missed?

Promotion: The online survey was promoted in all of the same materials as the Open House Workshop. However, the City of Milwaukie Engage Page had an additional post highlighting the online survey.



Screenshot of a page on the online survey

Compensation & Incentives: There was no compensation or incentive for participating in the online survey.

Methodology of Feedback Collection

In-Person Workshop	Online Survey
Attendees at the June 18 Workshop were able to submit feedback in two ways: an open-ended comment form and a project priority worksheet. The latter was the basis for this data collection. Participants were asked to rank their two top (general) priorities within each project mode: Pedestrian Projects, Bicycle Projects, Roadway Projects, and Transit Projects. For the sake of simplicity, Freight Projects were grouped within Roadway Projects. On the other side of the form, participants were asked to list their Top 10 Projects that they would like to see prioritized—funding dependent. The actual "rankings" **held no value** within the Top 10 bracket.	The online survey was hosted on the GIS StoryMaps platform. This platform allows participants to search the map by project modal "layers." Following the maps, there were two open-ended questions that asked participants to list their Top 10 Projects and any additional feedback. There were multiple choice questions that allowed participants to check their top two categories of projects within each mode, similar to the in-person worksheet. For the online survey, most people did not list their Top 10 Priority Projects, but many folks at the in-person workshop did. Because of this, there are fewer Top Projects from the online component overall.

Top Project Categories

The information below identifies the top projects "types" that the public would like to prioritize within each mode. Each table below shows the top choices for both the in-person and online surveys, as well as the combined (in-person and online) totals. The rank of the top project "type" choices is analyzed from the combined totals of both outreach efforts.

Pedestrian Projects (5 Options)	In-person Workshop Responses (Number of People)	Online Survey Responses (Number of People)	Combined TOTALS of In-person and Online Responses
Wider/improved sidewalks on major streets	8 people	8 people	**16 people**
Expanded sidewalk system on neighborhood streets	6 people	10 people	**16 people**
New sidewalk routes that provide connections to key destinations like schools, parks, transit stops, shopping centers, and employment areas	27 people	17 people	**44 people**
Removal of barriers (poles, mailboxes) on existing sidewalks	7 people	2 people	**9 people**
Enhanced pedestrian crossings on major roadways	21 people	11 people	**32 people**
P- Top Focus Area Combined IN-PERSON and ONLINE TOTAL: New sidewalk routes that provide connections to key destinations like schools, parks, transit stops, shopping centers, and employment areas.	**44 people**		

The top project area of interest was **new sidewalk routes that provide connections to key destinations** (44 combined total mentions). The second choice was enhanced pedestrian crossings on major roadways with 32 combined total mentions. Widening sidewalks, expanding the sidewalk system on neighborhood streets, and removing barriers on existing sidewalks were not mentioned as frequently as top priorities.

Bicycle Projects (4 Options)	In-person Workshop Responses (Number of People)	Online Survey Responses (Number of People)	Combined TOTALS of In-person and Online Responses
Wider/improved bike lanes on major streets	13 people	10 people	**23 people**
New bike lanes on routes that provide connections to key destinations like schools, parks, transit stops, shopping centers, and employment areas	25 people	14 people	**39 people**
New separate off-street pathways	15 people	16 people	**31 people**
Additional shared lane signing and roadway markings on lower volume streets	3 people	4 people	**7 people**

B-Top Focus Area Combined IN-PERSON and ONLINE TOTAL: New bike lanes on routes that provide connections to key destinations like schools, parks, transit stops, shopping centers, and employment areas.	**39 people**

The top bicycle project area of interest was **new bike lanes on routes that provide connections to key destinations**, with 39 combined mentions. The second top area of interest, at 31 combined mentions, was new off-street pathways, followed by wider/improved bike lanes on major streets. The lowest area of interest, by far, was additional shared lane signing and roadway markings – this option only had 7 mentions total. It could be inferred from the bicycle project area priorities, that City of Milwaukie community members view larger investments as more worthwhile than smaller investments.

Transit Projects (3 Options)	**In-person Workshop Responses (Number of People)**	**Online Survey Responses (Number of People)**	**Combined TOTALS of In-person and Online Responses**
New bus routes	7 people	7 people	**14 people**
Enhanced service on existing routes	16 people	11 people	**27 people**
New bus stop amenities	18 people	14 people	**32 people**
T-Top Focus Area Combined IN-PERSON and ONLINE TOTAL: New bus stop amenities	**32 people**		

The top focus area for transit projects was **new bus stop amenities**, with 32 combined mentions. With slightly fewer mentions, enhanced service on existing routes had 27 combined mentions. Participants did not have a strong desire for new bus routes, and this project "type" was ranked much lower – with 14 total mentions. City of Milwaukie residents showed a clear preference for improvements of current transit services and mentions over the creation of new transit routes.

Roadway Projects (4 Options)	**In-person Workshop Responses (Number of People)**	**Online Survey Responses (Number of People)**	**Combined TOTALS of In-person and Online Responses**
New intersection traffic control improvements	26 people	20 people	**46 people**
Safety Improvements	27 people	21 people	**48 people**
Accommodation of freight movements	2 people	4 people	**6 people**
New local street connections	7 people	1 people	**8 people**
T-Top Focus Area Combined IN-PERSON and ONLINE TOTAL: Safety Improvements	**48 people**		

For roadway projects, the top focus area was **safety improvements**, with 48 combined mentions, followed closely by new intersection traffic control improvements with 46 combined mentions. Accommodation of freight movements and new local street connections were both listed as a significantly lower priority area for participants – with 6 and 8 combined mentions, respectively. The data shows that participants are much more interested in improving the current transportation infrastructure rather than building new infrastructure.

Top Priority Projects

The project prioritization list is categorized by modality and shows both the in-person workshop mentions and the online survey mentions in their respective columns. Each table is arranged from the most-mentioned project to the least mentioned project; many projects were not mentioned as a priority at all.

It's important to note that 15 pedestrian and bicycle projects are paired projects, indicating that the same project is represented with both a pedestrian and bicycle project ID. That means that both projects were counted together when calculating the number of total mentions. For example, for the paired set of B-8 and P-22, B-8 received 3 mentions and P-22 received 1 mention. Therefore, both B-8 and P-22 were ascribed 4 mentions.

Paired projects are enumerated below.

PEDESTRIAN & BICYCLE PAIRED PROJECTS

- B-1 = P-58
- B-7 = P-74
- B-8 = P-22
- B-12 = P-27
- B-13 = P-5
- B-18 = P-33 and P-34
- B-32 = P-76
- B-35 = P-69
- B-37 = P-71
- B-75 = P-45
- B-76 = P-46
- B-79 = P-116
- B-80 = P-117
- B-83 = P-120

Projects that are part of a pair are indicated by an asterisk (*) in the modality prioritization tables below. Each one's corresponding project name is listed, as well. Note that the total number of mentions do not add up cleanly across the columns below if their paired project had mentions in their modality table. The "Number of Mentions TOTAL" column includes all mentions from both the pedestrian project and bicycle project. For example, P-7 had a total of 8 pedestrian mentions but its corresponding B-12 project had 14 mentions. Therefore, the total number of mentions is 22.

The top 5 projects for each modality are listed in the tables below.

Priority Pedestrian Projects

Pedestrian Projects	Number of Mentions IN-PERSON	Number of Mentions ONLINE	Number of Mentions TOTAL
***P-27:** SE Railroad (SE 37th to Harmony) **PAIRED WITH B-12**	5	3	**22**
***P-5**: SE Harmony Road (SE Linwood Avenue to Aquatic Center Access Road) **PAIRED WITH B-13**	2	1	**10**
P-25: SE Monroe Street (SE 37th to Garrett)	4	4	**8**
***P-74:** SE King Road (SE 44th to Linwood) **PAIRED WITH B-7**	3	1	**8**
P-20: SE Harvey Street (SE 32nd Avenue to SE 42nd Avenue)	5	1	**6**

Priority Bicycle Projects

Bicycle Projects	Number of Mentions IN-PERSON	Number of Mentions ONLINE	Number of Mentions TOTAL
***B-12:** SE Railroad Avenue (SE 37th Avenue to Harmony) **PAIRED WITH P-27**	10	4	**22**
***B-13**: SE Harmony Road (SE Linwood Avenue to Aquatic Center Access Road) **PAIRED WITH P-5**	6	1	**10**
***B-7**: SE King Road (SE 44th Avenue to Linwood Avenue) **PAIRED WITH P-74**	4	0	**8**
B-71: SE Lake Road (SE Kuehn Road to SE 21st Avenue)	5	1	**6**
B-17: SE Lake Road (SE Kuehn Court to Harmony Road)	5	0	**5**

Priority Transit Projects

Transit Projects	Number of Mentions IN-PERSON	Number of Mentions ONLINE	Number of Mentions TRANSIT TOTAL
T-5: King Road (SE 42nd to Linwood Avenue)	1	2	**3**

T-3: Linwood Avenue (SE Johnson Creek Blvd to Railroad Avenue)	3	0	**3**
T-4: Harrison Street (SE 21st Avenue to King Road)	2	0	**2**
T-1: 32nd Avenue (Johnson Creek Blvd to Harrison Street)	1	1	**2**
T-6: McLoughlin Blvd (Milwaukie Town Center to Oregon City Town Center)	1	0	**1**

Priority Roadway Projects

Roadway Projects	Number of Mentions IN-PERSON	Number of Mentions ONLINE	Number of Mentions ROAD TOTAL
R-7: Linwood Avenue/Harmony Road	9	1	**10**
R-2: OR224/Harrison Street	4	1	**5**
R-5: Harrison Street/42nd Avenue	3	0	**3**
R-6: McLoughlin Blvd/River Road/Bluebird Street	3	0	**3**
R-4: King Road/42nd Avenue	2	1	**3**

Priority Freight Projects

Freight Projects	Number of Mentions IN-PERSON	Number of Mentions ONLINE	Number of Mentions FREIGHT TOTAL
F-1: OR 99E/SE Ochoco Street	1	0	**1**

Gaps in Analysis & Margin of Error

Although the online survey opportunity is designed largely for community members who were unable to attend the June 16 in-person workshop, it is important to note that there were several people who participated in ***both*** events. While this was not how the feedback system was designed, it reminds the project team to be mindful of potential repetition of feedback in the data.

FOCUS GROUPS – SUMMER 2025

Project staff conducted 3 community focus groups in July 2025 to ensure our outreach efforts reached underserved communities in Milwaukie, according to the project's Community Engagement Plan.

Staff set out to reach the following audiences in Milwaukie: BIPOC, low-income people, senior citizens, and youth. These meetings were smaller and more personal than the Open House Workshop event in June and were intended to be at convenient times and locations to reach people where they were at. Participants received a meal and a Safeway gift card for their time. A total of **28 people participated**.

Recruitment

City staff and JLA staff recruited for participation in these ways: at the Noche Latina event, tabling at the Milwaukie Center, networking with Wichita Center and Hillside staff and distributing flyers to their constituents, and contacting the Milwaukie El Puente PTO president.

Staff's attention to recruitment, networking, and follow up with focus group registrants proved successful, and we were pleased with the turn out. Our attempt to hold a focus group/conversation with students (and their parents) was unsuccessful due to lack of interest within the Milwaukie El Puente PTO, but we advertised the Open House Workshop/online open house to families via North Clackamas School District's Peachjar e-newsletter.

Run of Show

During each focus group, Ryan presented background information on the TSP process and goals, went over side one of the worksheet to describe the options for ranking project types within each project mode, and then gave an overview of the packets with the maps and lists for the 4 modes. Participants had work time to look through their packets and write their 10 top projects on their worksheet. There were a lot of good one-on-one conversations and individual question-and-answer exchanges over the course of the meetings.

Milwaukie Center and Wichita Center Focus Group

Event Logistics: July 10, 2025 from 6:30 p.m. to 7:30 p.m. at the Milwaukie Center.
Event Promotion: Event flyers were distributed in bags of food at the Wichita Center and hung up around the Milwaukie Center as the intended audience for this meeting was both low-income people and senior citizens. A week prior to the event, on July 3, Esme and Tracie hosted a recruitment tabling "power hour" at the Milwaukie Center. The latter was the most successful means of recruitment.



Left, **Ryan Dar,** City of Milwaukie, presented at the Milwaukie Center Focus Group on July 10. Participants filled out their worksheets and had a lively discussion about transportation improvements that would like to see in their neighborhoods.

Attendance: *8 people* attended and participated.
Compensation & Incentives: Attendees were given a $30 Safeway gift card for their time, as well as a pizza dinner and refreshments during the event.

Hillside Manor Focus Group

Event Logistics: July 15, 2025 from 1 p.m. to 2 p.m. at Hillside Manor
Event Promotion: Event flyers were distributed to residents at Hillside Manor roughly two weeks prior and was announced in the monthly bulletin. On the day of the event, a member of Resident Services recruited multiple additional attendees via word of mouth. This was the largest focus group of the three.





Above, Ryan Dar, City of Milwaukie, answers participant questions at the Hillside Manor Focus Group on July 15. Attendees of this focus group were largely public transit dependent.

Attendance: *13 people* attended and participated.
Compensation & Incentives: Attendees were given a $30 Safeway gift card for their time, as well as a pizza lunch and refreshments during the event.

Spanish Bilingual & BIPOC Focus Group

Event Logistics: July 19, 2025 from 10:30 a.m. to 11:30 a.m. at the Milwaukie Ledding Library.
Event Promotion: Recruitment for this focus group largely done by the City of Milwaukie Equity and Inclusion Coordinator, Gabriela Santoyo Gutierrez. Recruitment methods included: word of mouth, tabling at Noche Latina, bilingual flyers at the Wichita Center, and interest from attendees at the Open House Workshop.
Attendance: *7 people* attended and participated.
Compensation & Incentives: Each attendee received a $30 Safeway gift card for their time, as well as lunch during the event.

Methodology of Feedback Collection

Attendees shared their feedback via the project priority worksheet. On side one of the worksheet, participants were asked to rank their two top (general) priorities within each project mode: Pedestrian Projects, Bicycle Projects, Roadway Projects, and Transit Projects. For the sake of simplicity, Freight Projects were grouped within Roadway Projects.

On side two of the worksheet, participants were asked to list their Top 10 Projects that they would like to see prioritized—funding dependent. The actual “rankings” held no value within the Top 10 bracket.

Feedback

The following four tables show the totals of all participants’ top choices for their priority project type within each mode.

Pedestrian Projects (5 Options)	Focus Group Responses (Number of People)
Wider/improved sidewalks on major streets	11 people
Expanded sidewalk system on neighborhood streets	5 people
New sidewalk routes that provide connections to key destinations like schools, parks, transit stops, shopping centers, and employment areas	10 people
Removal of barriers (poles, mailboxes) on existing sidewalks	11 people
Enhanced pedestrian crossings on major roadways	14 people

Bicycle Projects (4 Options)	Focus Group Responses (Number of People)
Wider/improved bike lanes on major streets	4 people
New bike lanes on routes that provide connections to key destinations like schools, parks, transit stops, shopping centers, and employment areas	15 people
New separate off-street pathways	13 people
Additional shared lane signing and roadway markings on lower volume streets	4 people

Transit Projects (3 Options)	Focus Group Responses (Number of People)
New bus routes	14 people
Enhanced service on existing routes	17 people
New bus stop amenities	20 people

Roadway Projects (4 Options)	Focus Group Responses (Number of People)
New intersection traffic control improvements	14 people

Safety Improvements	8 people
Accommodation of freight movements	4 people
New local street connections	9 people

ADDITIONAL OUTREACH

City staff supplied factsheets about the project and/or upcoming outreach events at a few Farmers Markets over the summer of 2025. Laura Weigel brought display boards and factsheets to the joint City and ODOT multiple-project Open House in February 2024 and talked to community members early in the process, as well.

APPENDIX G. EVALUATION CRITERIA

EVALUATION CRITERIA

Goal Statement	Evaluation Criteria	Scoring Key	
Safe System - Improve the safety and comfort of the multimodal transportation network	Improve safety on Milwaukie's roadway network	2	The project is expected to have a positive vehicular safety impact and is at a location with a history of serious vehicle-related injury crashes and fatalities.
		1	The project is expected to have a positive vehicular safety impact.
		0	The project is expected to have no measurable safety benefit.
	Improve safety for Milwaukie's vulnerable system users, including pedestrians, bicyclists, transit users, and rollers	2	The project is expected to have a positive multimodal safety impact and is at a location with a history of serious injury crashes and fatalities.
		1	The project is expected to have a positive multimodal safety impact.
		0	The project is expected to have no measurable safety benefit.
Mobility, Accessibility, and Connectivity – Provide an efficient and well-connected multimodal transportation system that works to connect the community to key destinations	Fill existing infrastructure gaps in Milwaukie's multimodal network	2	The project will fill/partially fill an existing multimodal network gap and is either located in the Milwaukie Town Center or serves one or more priority focus areas.
		1	The project will fill/partially fill an existing multimodal network gap.
		0	The project does not address an existing multimodal network gap.
	Improve the quality of the connections to/from Milwaukie's neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations	2	The project will improve the facility to its target LTS score and is either located in the Milwaukie Town Center or serves one or more priority focus areas.
		1	The project will improve the facility to its target LTS score.
		0	The project does not involve or impact multimodal connections.
Active, Healthy, Transportation Choices - Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.	Promote new walking, biking, or rolling on Milwaukie's transportation system	2	The project will stimulate travel for all levels of pedestrians, bicyclists, or rollers and is either located in the Milwaukie Town Center or serves one or more priority focus areas.
		1	The project will stimulate travel for most levels of pedestrians, bicyclists.
		0	The project does not involve or impact travel conditions for pedestrians, bicyclists, or rollers.
Equitable Transportation - New investments in Milwaukie's transportation system are distributed fairly to reduce or eliminate transportation-related barriers and disparities, especially those experienced by marginalized or underserved populations.	Improve multimodal access and connections to/from Milwaukie's underserved population groups, lower-income neighborhoods, and/or transportation disadvantaged groups.	2	The project improves multimodal access and connections to/from underserved population groups and is either located in the Milwaukie Town Center or serves one or more priority focus areas.
		1	The project improves multimodal access and connections to/from underserved population groups;
		0	The project does not impact underserved population groups.
Public Transportation - Improve public transit service to, from, and within Milwaukie.	Improve Milwaukie's access to transit service	2	The project measurably improves access to transit service and is either located in the Milwaukie Town Center or serves one or more priority focus areas.
		1	The project measurably improves access to transit service.
		0	The project does not involve or impact access to transit service.
	Improve the quality of Milwaukie's transit service	2	The project improves the quality of transit service to/from and within Milwaukie and is either located in the Milwaukie Town Center or serves one or more priority focus areas.
		1	The project improves the quality of transit service to/from and within Milwaukie.
		0	The project does not involve transit service.
Climate Mitigation and Adaptation – Create a transportation system that reduces greenhouse gas pollution and is responsive to a changing climate.	Preserve the natural environment through reduced vehicle miles traveled (VMT) and greenhouse gas emissions	2	The project can be expected to lead to a reduction in VMT and greenhouse gas emissions and is either located within the Milwaukie Town Center or one or more priority focus areas.
		1	The project can be expected to lead to a reduction in VMT and greenhouse gas emissions.
		0	The project can be expected to have no measurable impact on VMT and greenhouse gas emissions.
		-1	The project can be expected to result in an increase in VMT and greenhouse gas emissions.
Healthy Environment - Create a transportation system that does not further degrade, and when possible, enhances the community's natural resources, such as clean air, clean water, and wildlife habitat.	Preserve Milwaukie's natural resources such as trees, streams, wetlands, wildlife corridors, and endangered species	2	The project can be expected to have a positive impact on natural resources; and is located near environmentally sensitive areas.
		1	The project can be expected to have a positive impact on natural resources.
		0	The project has no measurable positive or negative impact on natural resources.
		-1	The project can be expected to a negative impact on natural resources.
Emergency Preparedness - Develop a multimodal transportation system that provides travel options during normal conditions, natural disasters, or emergencies.	Improve the redundancy and resiliency of Milwaukie's multimodal travel network	2	The project increases or improves multimodal travel choices during normal or atypical conditions and serves key destinations or one or more priority focus areas.
		1	The project increases or improves multimodal travel choices during normal or atypical conditions.
		0	The project has no positive or negative impact on system resiliency and redundancy.
Economic Vitality - Develop a transportation system that supports and facilitates economic activity through the efficient movement of people, goods, and services.	Improve the transportation network to ensure the safe and efficient movement of freight to/from and within Milwaukie	2	The project can be expected to measurably improve the safe and efficient movement of freight and is either located in an industrial area or accesses a key freight route.
		1	The project can be expected to measurably improve the safe and efficient movement of freight.
		0	The project has no positive or negative impact on the movement of freight.
Fiscal Stewardship and System Management - Make the most of transportation resources by leveraging available funding opportunities, preserve existing infrastructure, and reduce system maintenance costs.	Preserve the transportation network and system maintenance costs	1	Project is expected to have minimal impacts on system maintenance costs.
		0	Project is expected to have no impact on system preservation and maintenance costs.
		-1	Project can be expected to significantly increase system maintenance costs.
Coordination with Local, Regional, and State Partners - Foster and maintain relationships with public and private partners in the common interest of enhancing the city's transportation network.	Coordinate transportation improvements with partnering agencies	1	Project is consistent with existing or planned transportation projects or is consistent with regional mobility policies.
		-1	Project is not consistent with existing or planned transportation projects or is inconsistent with regional mobility policies.

APPENDIX H. PROJECT EVALUATION SUMMARY

PROJECT PRIORITIZATION SUMMARY

Document created in January 2026.

Introduction

This memo documents the process of developing the prioritized constrained and unconstrained project list. It also described how the project prioritization was refined based on discussion with the Project Advisory Committee, Technical Committee, Planning Commission, and City Council.

Financial Forecast

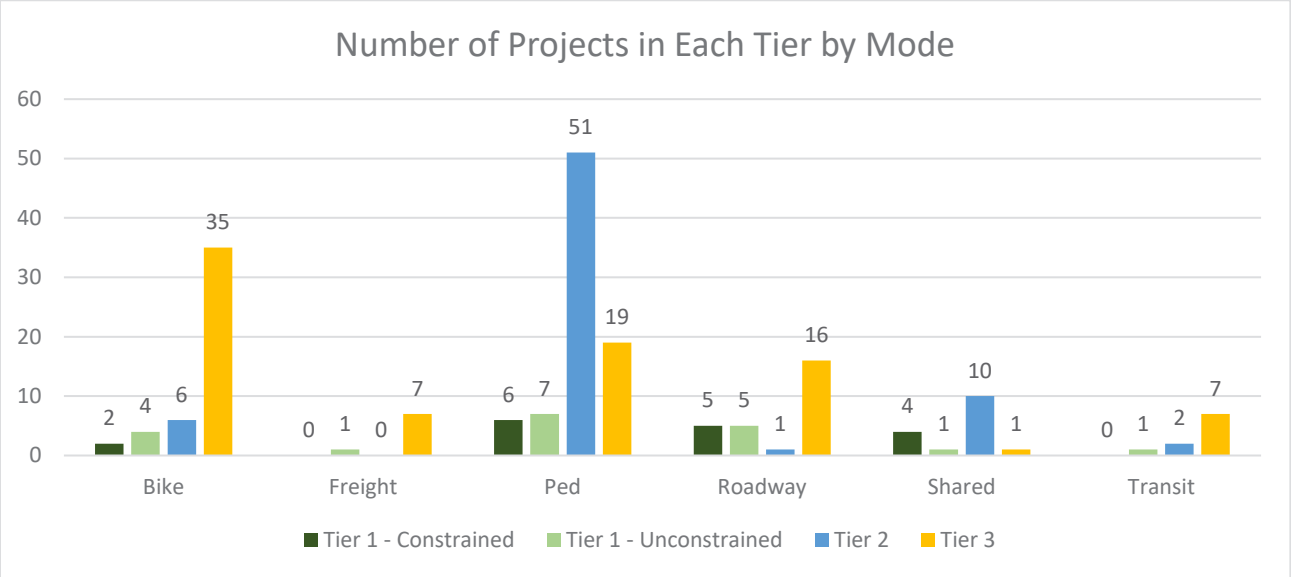
Based on the estimates documented in the financial forecast memorandum, the City is projected to have approximately $22 million available for capital projects over the next 20 years. Per OAR 660-012-0180, the financially constrained project list may not exceed 125% of funding available. Therefore, the financially constrained project list must total no more than $27.5 million.

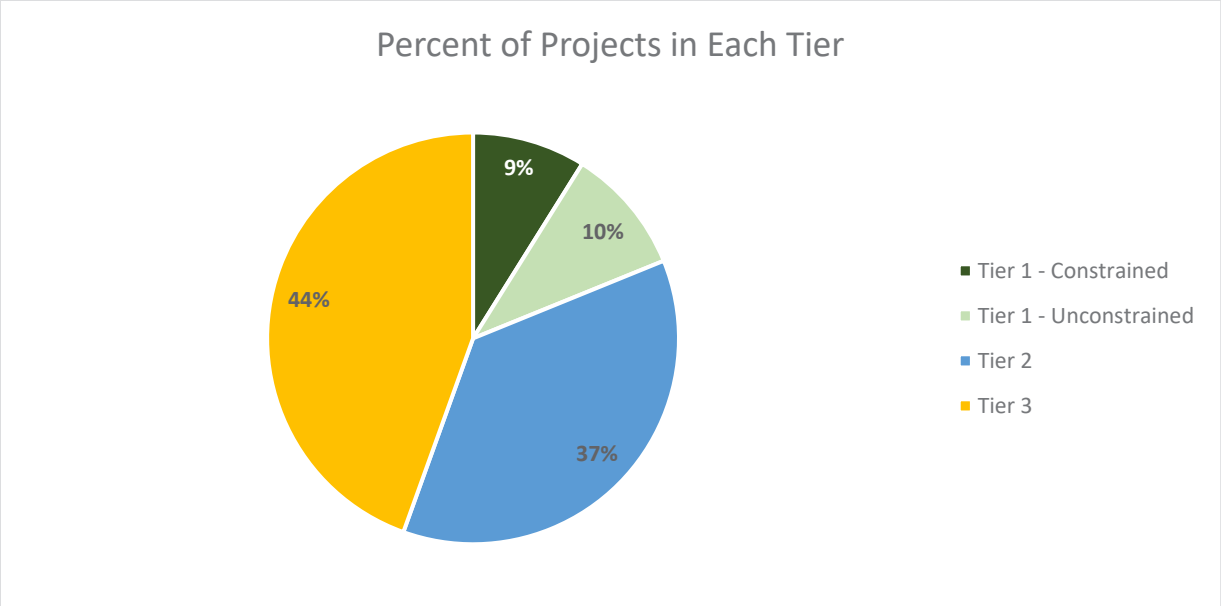
Prioritized Projects by Tier

The table below shows the initial process to developing prioritized project lists. This considered alignment with the and goals for the TSP and feedback from the public.

Tier	Criteria
Tier 1 – Financially Constrained	• Add projects scoring in the top 95th percentile for evaluation criteria based on all projects • Add projects that City Staff have indicated are Higher Priority • Remove projects that City Staff have indicated are Lower Priority • Future Action: Downgrade projects that do not fit into financial threshold
Tier 1 – Financially Unconstrained	• Add projects scoring in the top 95th percentile of mentions by the public • Add projects scoring in the top 90th percentile for evaluation criteria based on individual mode. • Add projects that were downgraded from Tier 1 – Constrained because they did not meet the financial threshold
Tier 2 - Financially Unconstrained	• Add projects scoring the median (top 50th percentile score overall) based on all projects • Add any project that is a top project category based on public feedback
Tier 3 - Financially Unconstrained	• Add any projects identified as Low Priority by City Staff • All other projects

Using the methodology documented in the table above, the following charts illustrate the distribution of projects into various tiers after the initial round of prioritization.




Percent of Projects in Each Tier
9%
10%
37%
44%
Tier 1 - Constrained
Tier 1 - Unconstrained
Tier 2
Tier 3

INITIAL PRIORITIZATION

Cost by Tier

As shown in the table below, the initial categorization approach resulted in a Tier 1 Financially Constrained project total that exceeds the allowable $27.5M threshold. The project team met with the Advisory Committee, Technical Committee, Planning Commission, and City Council discuss opportunities to move higher cost projects to the Tier 1- Unconstrained list.

	Bike	Freight	Ped	Roadway/Intersection	Shared Bike/Ped	Transit	Total
Tier 1 – Financially Constrained	$4,835,000	-	$9,155,000	$7,700,000	$8,580,000	-	$30,270,000
Tier 1 – Financially Unconstrained	$3,900,000	$200,000	$7,820,000	$10,280,000	$1,075,000	-	$23,275,000
Tier 2 - Unconstrained	$6,260,000	-	$23,235,000	$5,145,000	$6,935,000	-	$41,575,000
Tier 3 - Unconstrained	$10,550,000	$4,530,000	$6,055,000	$62,640,000	$180,000	-	$83,955,000
Grand Total	**$25,545,000**	**$4,730,000**	**$46,265,000**	**$85,765,000**	**$16,770,000**	**-**	**$179,075,000**

Prioritized Project List

The table below shows the initial prioritized project list based on the process documented herein.

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 1 - Financially Constrained	B-64	SE 34th Ave	SE Lake Rd	SE Washington St	Remove on-street parking and stipe 5.5ft bike lanes (both directions)	$1,465,000
Tier 1 - Financially Constrained	B-24	SE Harrison St	SE 26th Ave	SE 42nd Ave	Construct 5.5ft bike lanes (both directions)	$3,370,000
Tier 1 - Financially Constrained	P-27	SE Railroad Ave	SE 37th Ave	SE Harmony Rd	Construct 8-10ft ped/bike on-street pathway on north side of road	$3,450,000
Tier 1 - Financially Constrained	P-25	SE Monroe St	SE 37th Ave	SE Garrett Dr	Construct 6 ft minimum curb-tight sidewalks (both sides)	$1,855,000
Tier 1 - Financially Constrained	P-117	Kellog Creek	SE Main St	Trolley Trail	Construct an 8-10ft ped/bike on-street pathway underneath OR 99E after dam removal	$310,000
Tier 1 - Financially Constrained	P-22	SE Stanley Ave	SE Johnson Creek Blvd	SE King Rd	Construct 8-10ft ped/bike on-street pathway on the east side of road	$1,590,000
Tier 1 - Financially Constrained	P-6	SE Lake Rd	SE 34th Ave	SE Harmony Rd	Construct 8-10ft ped/bike on-street pathway on south side of road	$3,230,000
Tier 1 - Financially Constrained	P-17	SE Harrison St	SE 32nd Ave	SE 42nd Ave	Reconstruct buffered 6ft sidewalks (both sides)	$1,875,000
Tier 1 - Financially Constrained	P-119	SE 32nd Ave/SE Harrison St	Intersection	-	Signal retiming and improve safety of crossing at intersection	$125,000
Tier 1 - Financially Constrained	P-43	SE Stanley Ave	SE Monroe St	SE Railroad Ave	Fill gaps and construct 5ft minimum curb-tight sidewalks (both sides)	$2,480,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 1 - Financially Constrained	P-16	SE Harrison St	SE 29th St	SE 32nd Ave	Reconstruct buffered 6ft sidewalks (both sides)	$2,040,000
Tier 1 - Financially Constrained	P-99	SE Logus Rd	SE Stanley Ave	SE 43rd Ave	ADA accessibility upgrades	$780,000
Tier 1 - Financially Constrained	R-24	SE Oak St/SE Railroad Ave/SE Monroe St	Intersection	-	Construct a mini roundabout	$4,270,000
Tier 1 - Financially Constrained	R-3	SE Harrison St/SE 32nd Ave	Intersection	-	Modify the north and south SE 32nd Ave approaches to provide separate additional vehicle queue storage.	$470,000
Tier 1 - Financially Constrained	R-25	SE Railroad Ave/SE 37th Ave	Intersection	-	Widen WB Railroad Avenue approach to provide additional left-turn storage at SE 37th Ave	$2,160,000
Tier 1 - Financially Constrained	R-27	Local Streets			Change the speed zone signing on all local streets to 20 mph	$400,000
Tier 1 - Financially Constrained	R-28	SE Harrison St	Highway 99E	SE 42nd Ave	Prepare a detailed multimodal safety assessment of the Harrison Street corridor focusing on crash patterns, roadway infrastructure needs, access management, and traffic control, and crossing improvements.	$400,000
Tier 1 - Financially Unconstrained	P-31	SE 29th Ave	SE Sherrett St	SE Balfour St	Maintain shared roadway environment with signing and striping enhancements	$160,000
Tier 1 - Financially Unconstrained	R-2	OR 224/SE Harrison St	Intersection	-	Coordinate with ODOT to add left-turn lanes and protected signal phasing on the east and west Harrison Street approaches to OR 224. Improve pedestrian and bicycle crossings of OR 224	$2,060,000
Tier 1 - Financially Unconstrained	B-26	SE 42nd Ave	SE Harrison St	SE Washington St	Remove on-street parking and construct 5.5ft bike lane (both directions)	$700,000
Tier 1 - Financially Unconstrained	B-10	SE Stanley Ave	SE Monroe St	SE Railroad Ave	Construct 5.5ft bike lanes (both directions)	$2,730,000
Tier 1 - Financially Unconstrained	B-23	SE Harrison St	Hwy 99E	SE 24th Ave	Construct 5.5ft bike lanes (both directions)	$100,000
Tier 1 - Financially Unconstrained	B-37	OR 224/SE Harrison St	Intersection	-	Coordinate with ODOT to improve bicyclists safety across OR 224	$370,000
Tier 1 - Financially Unconstrained	P-5	SE Harmony Rd	SE Linwood Ave	Aquatic Center Access Rd	Construct 8-10ft ped/bike on-street pathway on south side of road	$1,075,000
Tier 1 - Financially Unconstrained	P-20	SE Harvey St	SE 32nd St	SE 42nd St	Construct 5ft minimum curb-tight sidewalks (north side)	$845,000
Tier 1 - Financially Unconstrained	P-9	SE 34th Ave	SE Washington St	SE Lake Rd	Reconstruct 6 ft curb-tight sidewalk on the both sides.	$1,190,000
Tier 1 - Financially Unconstrained	P-2	SE 32nd Ave	SE Sherrett St	SE Harrison St	Reconstruct 6 ft curb-tight sidewalks (both sides) and remove utility obstructions	$3,885,000
Tier 1 - Financially Unconstrained	P-42	SE Stanley Ave	SE King Rd	SE Monroe St	Construct 5ft minimum curb-tight sidewalks (both sides)	$760,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 1 - Financially Unconstrained	P-57	SE Sparrow St	SE 19th Ave	SE River Rd	Construct 5ft curb-tight sidewalk (south side)	$345,000
Tier 1 - Financially Unconstrained	P-36	SE Roswell St	SE 32nd Ave	SE 42nd Ave	Remove sidewalk obstructions (south side)	$620,000
Tier 1 - Financially Unconstrained	P-71	OR 224/SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 224	$175,000
Tier 1 - Financially Unconstrained	F-4	OR 224	OR 99E	Lake Rd	Conduct refinement plan with a focus on motor and freight mobility	$200,000
Tier 1 - Financially Unconstrained	R-7	SE Linwood Ave/SE Harmony Road	Intersection	-	Perform a refinement study that will look to accommodate vehicles, pedestrians, bicycles, and mobility vehicles. Retrofit existing traffic control infrastructure while maintaining optimal traffic operations.	$555,000
Tier 1 - Financially Unconstrained	R-5	SE Harrison St/SE 42nd Ave	Intersection	-	Replace all-way stop with a roundabout or traffic signal (when warranted)	$4,905,000
Tier 1 - Financially Unconstrained	R-4	SE King Rd/SE 42nd Ave	Intersection	-	Install permanent geometric delineators	$65,000
Tier 1 - Financially Unconstrained	R-6	SE McLoughlin Blvd/SE River Rd/SE Bluebird St	Intersection	-	Coordinate with ODOT and widen the northbound River Road approach to provide a second NB left-turn lane onto OR 99E.	$2,695,000
Tier 1 - Financially Unconstrained	T-1	SE 32nd Ave	SE Johnson Creek Blvd	SE Harrison St	Coordinate with TriMet to help implement new Bus Rapid Transit/Express Service route	
Tier 2 - Unconstrained	B-19	SE Oatfield Rd	SE Lake Rd	City limits	Construct 5.5ft bike lanes (both directions)	$720,000
Tier 2 - Unconstrained	B-15	SE International Way	SE Freeman Way	SE Lake Rd	Construct 7ft buffered bike lanes (both directions)	$3,030,000
Tier 2 - Unconstrained	B-66	SE Freeman Way	SE International Way	SE Lake Rd	Remove on-street parking and stipe 5.5ft bike lanes (both directions)	$380,000
Tier 2 - Unconstrained	B-9	SE Stanley Ave	SE King Rd	SE Monroe St	Construct 5.5ft bike lanes (both directions)	$840,000
Tier 2 - Unconstrained	B-16	SE Rusk Rd	SE Lake Rd	SE Kellog Creek Rd	Construct 5.5' bike lanes (both directions) Coordinate with Clackamas County on bicycle facility enhancements	$1,225,000
Tier 2 - Unconstrained	B-70	SE Oak St	SE Campbell St	SE Washington St	Construct 5.5ft bike lanes (both directions)	$65,000
Tier 2 - Unconstrained	P-58	SE Ochoco St	SE 17th Ave	Springwater Trail	Coordinate with City of Portland to ensure construction of a 10ft multi-use path	$220,000
Tier 2 - Unconstrained	P-32	SE Llewellyn St	SE 32nd Ave	SE 34th Ave	Construct 8-10ft ped/bike on-street pathway on north side of road	$245,000
Tier 2 - Unconstrained	P-33	SE 34th Ave	SE King Rd	SE Harrison St	Construct 8-10ft ped/bike on-street pathway on west side of road. Reconstruct 6ft curb-tight sidewalk on the east side.	$370,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 2 - Unconstrained	P-75	SE 32nd Ave	SE Meek St	SE Llewellyn St	Construct a new 8-10ft ped/bike on-street pathway on east side of road	$140,000
Tier 2 - Unconstrained	P-8	SE Oatfield Rd	SE Lake Rd	City Limits	Construct new buffered 8ft sidewalks (both sides)	$1,015,000
Tier 2 - Unconstrained	P-47	SE 37th Ave	SE Wister St Path	SE Edison St	Construct 5ft curb-tight sidewalk (south/west side)	$400,000
Tier 2 - Unconstrained	P-40	SE 49th Ave	SE Willow Ave	SE King Rd	Construct 5ft curb-tight sidewalk (west side)	$505,000
Tier 2 - Unconstrained	P-54	SE Edison St	SE 35th Ave	OR 224	Construct 5ft curb-tight sidewalk (north side)	$190,000
Tier 2 - Unconstrained	P-10	SE 37th Ave	SE Washington St	SE International Way	Construct new 6ft curb-tight sidewalk on the east side of road.	$120,000
Tier 2 - Unconstrained	P-116	SE Minthorn Loop Rd	SE 37th Ave	SE Minthorn Loop Road	Construct an 8-10ft ped/bike on-street pathway	$520,000
Tier 2 - Unconstrained	P-123	SE Main St	SE Hanna Harvester Dr	SE Ochoco St	Construct 8-10ft ped/bike on-street pathway on east side of road	$3,685,000
Tier 2 - Unconstrained	P-28	SE International Way	SE Freeman Way	SE Lake Rd	Construct 5ft minimum curb-tight sidewalks (both sides)	$2,340,000
Tier 2 - Unconstrained	P-34	SE 34th Ave	SE Harrison St	End of SE 34th Ave	Construct 8-10 ft ped/bike on-street pathway on west side of road. Reconstruct 6 ft curb-tight sidewalk on the east side. Install an enhanced pedestrian crossing treatment	$680,000
Tier 2 - Unconstrained	P-41	SE Logus Rd	SE 43rd Ave	SE 49th Ave	Construct 5ft curb-tight sidewalk (south side)	$515,000
Tier 2 - Unconstrained	P-59	SE Ochoco St	Springwater Trail	SE McBrod Ave	Coordinate with City of Portland to ensure construction of 5ft curb-tight sidewalk (north side)	$225,000
Tier 2 - Unconstrained	P-4	SE King Rd	SE 34th Ave	SE 40th Ave	Construct new 5ft minimum curb-tight sidewalk (north side)	$525,000
Tier 2 - Unconstrained	P-61	SE 42nd Ave/SE Roswell St	Intersection	-	Install RRFB across SE 42nd Ave	$175,000
Tier 2 - Unconstrained	P-95	SE Balfour Street	SE 32nd Ave	Balfour Park	Construct 5ft minimum curb-tight sidewalk (north side)	$35,000
Tier 2 - Unconstrained	P-118	32nd Ave/Harvey St	Intersection	-	Improve safety of crossing at intersection	$125,000
Tier 2 - Unconstrained	P-45	SE Willow St	SE Winsor Dr	SE 51st Ave	Construct an 8-10ft ped/bike on-street pathway	$275,000
Tier 2 - Unconstrained	P-62	SE 32nd Ave/SE Meek St	Intersection	-	Install RRFB across SE 32nd Ave	$175,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 2 - Unconstrained	P-77	SE Olsen St/SE 42nd Ave	Intersection	-	Improve pedestrian crossing	$175,000
Tier 2 - Unconstrained	P-78	SE Millport Rd	99E	SE 17th Ave	Construct 5ft minimum curb-tight sidewalks (both sides)	$780,000
Tier 2 - Unconstrained	P-69	OR 224/SE Oak St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian crossing improvements of OR 224	$175,000
Tier 2 - Unconstrained	P-63	SE King Rd/SE Home St	Intersection	-	Install RRFB across SE King Rd	$175,000
Tier 2 - Unconstrained	P-73	SE Stanley Ave/SE Monroe St	Intersection	-	Install RRFB across SE Monroe St	$175,000
Tier 2 - Unconstrained	P-30	SE Rusk Rd	HWY 224	South City Limit	Coordinate with Clackamas County to ensure construction of 6 ft curb-tight sidewalks (west/north side)	$275,000
Tier 2 - Unconstrained	P-67	SE Stanley Ave/SE Logus Rd	Intersection	-	Install RRFB across SE Stanley Ave	$175,000
Tier 2 - Unconstrained	P-7	SE Johnson Creek Blvd	West city limits	SE Linwood Ave	Coordinate with City of Portland to ensure construction of 6 ft curb-tight sidewalks (north side)	$1,905,000
Tier 2 - Unconstrained	P-37	SE Olsen St	SE 29th Ave	SE 32nd Ave	Construct 5ft curb-tight sidewalk (north side)	$225,000
Tier 2 - Unconstrained	P-107	SE Hazel Pl	SE Stanley Ave	SE Wichita Ave	Reconstruct 5ft minimum curb-tight sidewalks (south side)	$330,000
Tier 2 - Unconstrained	P-11	SE 37th Ave	Intersection	-	Install RRFB across SE 37th Ave	$50,000
Tier 2 - Unconstrained	P-110	SE 37th Ave	SE Lake Rd	SE Grogan Ave	Construct 5ft minimum curb-tight sidewalks (south side)	$515,000
Tier 2 - Unconstrained	P-38	SE Olsen St	SE 32nd Ave	SE 42nd Ave	Construct 5ft curb-tight sidewalk (north side)	$840,000
Tier 2 - Unconstrained	P-106	SE Harlow St/SE 56th Ave	SE 56th Ave	SE Stanley Ave	Reconstruct 5ft minimum curb-tight sidewalks (south side)	$170,000
Tier 2 - Unconstrained	P-108	SE Wichita Ave	SE King Rd	SE Johnson Creek Blvd	Reconstruct 5ft minimum curb-tight sidewalks (west side)	$645,000
Tier 2 - Unconstrained	P-39	SE Willow St	SE Winsor Dr	SE 49th Ave	Construct 5ft curb-tight sidewalk (south side) to connect Glover Street Alley	$80,000
Tier 2 - Unconstrained	P-44	SE 51st Ave	SE Logus Rd	SE Winworth Ct	Construct 5ft curb-tight sidewalk (east side)	$280,000
Tier 2 - Unconstrained	P-51	SE 44th Ave	SE Monroe St	SE Harrison St	Construct 5ft curb-tight sidewalk (both sides)	$330,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 2 - Unconstrained	P-52	SE Harrison St	SE 44th Ave	SE Home St	Construct 5ft curb-tight sidewalk (both sides)	$820,000
Tier 2 - Unconstrained	P-112	99E/SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 99E	$125,000
Tier 2 - Unconstrained	P-115	99E/SE River Rd	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 99E	$125,000
Tier 2 - Unconstrained	P-65	SE Railroad Ave/SE Home Ave	Intersection	-	Construct at grade bike/ped crossing of Railroad Ave and adjacent rail line to SE Mallard Way	$1,425,000
Tier 2 - Unconstrained	P-113	99E/SE Monroe St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 99E	$125,000
Tier 2 - Unconstrained	P-114	99E/SE Washington St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 99E	$125,000
Tier 2 - Unconstrained	P-29	SE Rusk Rd	SE Lake Rd	HWY 224	Coordinate with Clackamas County to ensure construction of 6 ft curb-tight sidewalks (west side)	$290,000
Tier 2 - Unconstrained	P-79	99E/SE Ochoco St	Intersection	-	To Be Determined	$175,000
Tier 2 - Unconstrained	P-60	SE Mallard Way	End of road	SE International Way	Construct 5ft minimum curb-tight sidewalks (both sides)	$710,000
Tier 2 - Unconstrained	P-80	99E/SE Milport RD	Intersection	-	To Be Determined	$175,000
Tier 2 - Unconstrained	P-94	SE Sparrow Street	SE River Road	Trolley Trail / SE 26th Avenue	Construct a new 8-10ft ped/bike on-street pathway	$245,000
Tier 2 - Unconstrained	P-76	OR 224/SE Rusk Rd	Intersection	-	Coordinate with ODOT to improve pedestrian crossings across OR 224	$175,000
Tier 2 - Unconstrained	P-120	SE Harlene St	west extents	SE Wood Ave	Construct an 8-10ft ped/bike on-street pathway	$555,000
Tier 2 - Unconstrained	P-48	SE Brookside Drive	SE Johnson Creek Blvd	SE Regents Dr	Construct 5ft curb-tight sidewalk (south side)	$440,000
Tier 2 - Unconstrained	P-49	SE Regents Dr	SE Brookside Dr	SE Winsor Dr	Construct 5ft curb-tight sidewalk (south side)	$720,000
Tier 2 - Unconstrained	P-50	SE Mason Ln	SE 42nd Ave	SE Regents Dr	Construct 5ft curb-tight sidewalk (south side)	$730,000
Tier 2 - Unconstrained	P-66	SE Stanley Ave/SE Harlow St	Intersection	-	Install RRFB across SE Stanley Ave	$175,000
Tier 2 - Unconstrained	P-93	SE Mailwell Drive	SE Main St	UPRR	Construct 5ft minimum curb-tight sidewalks (both sides)	$180,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 2 - Unconstrained	P-97	SE 26th Ave	SE Lake Rd	Lake Village Apartments	Construct 5ft minimum curb-tight sidewalk (west side)	$100,000
Tier 2 - Unconstrained	P-121	SE Frontage Rd	SE Ochoco St	SE Millport Rd	Construct 5ft minimum curb-tight sidewalks (west side)	$1,685,000
Tier 2 - Unconstrained	P-122	SE Ochoco St	east extents	Highway 99E	Reconstruct 5ft minimum curb-tight sidewalks (north side)	$555,000
Tier 2 - Unconstrained	P-96	SE Park St/SE Lloyd St	SE Home Ave	Stanley Avenue	Construct 5ft minimum curb-tight sidewalks (both sides)	$735,000
Tier 2 - Unconstrained	R-1	Johnson Creek/42nd Ave	Intersection	-	Replace all-way stop with a roundabout or traffic signal (when warranted)	$5,145,000
Tier 2 - Unconstrained	T-10	Transit Priority Signalization	Citywide	-	Work with Clackamas County to implement transit priority signalization along key transit corridors.	
Tier 2 - Unconstrained	T-11	Weekend Service Improvements	Citywide	-	Work with TriMet to improve bus service on various transit lines	
Tier 3 - Unconstrained	B-14	SE International Way	SE 37th Ave	SE Freeman Way	Restripe roadway to include 7ft buffered bike lanes (both directions)	$395,000
Tier 3 - Unconstrained	B-35	OR 224/SE Oak St	Intersection	-	Coordinate with ODOT to improve bicyclists safety across OR 224	$370,000
Tier 3 - Unconstrained	B-4	SE Johnson Creek Blvd	SE 40th	SE 45th Ave	Restripe roadway to a 5.5' bike lane (both directions)	$150,000
Tier 3 - Unconstrained	B-38	SE Harrison St/SE 21st Ave	Intersection	-	Improve safety of crossing at intersection	$370,000
Tier 3 - Unconstrained	B-40	SE Harrison St/SE 42nd Ave	Intersection	-	Improve safety of crossing at intersection	$370,000
Tier 3 - Unconstrained	B-30	SE Railroad Ave & SE Linwood Ave	Intersection	-	Improve safety of crossing at intersection	$1,745,000
Tier 3 - Unconstrained	B-39	SE King Rd/SE Stanley Ave	Intersection	-	Improve safety of crossing at intersection	$370,000
Tier 3 - Unconstrained	B-28	SE Ochoco St/SE 17th Ave	Intersection	-	Improve safety of crossing at intersection	$1,435,000
Tier 3 - Unconstrained	B-32	OR 224/SE Rusk Rd	Intersection	-	Coordinate with ODOT to improve bicyclists safety across OR 224	$185,000
Tier 3 - Unconstrained	B-22	SE Monroe St	OR 99E	SE Oak St	Install shared roadway lane markings, signage, and traffic calming improvements	$200,000
Tier 3 - Unconstrained	B-25	SE King Rd	SE 34th Ave	SE 40th Ave	Improve roadway surface and install shared lane markings (both directions)	$105,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	B-29	SE Lava Dr/SE 17th Ave	Intersection	-	Improve safety of crossing at intersection	$185,000
Tier 3 - Unconstrained	B-31	SE Lake Rd/SE International Way	Intersection	-	Improve safety of crossing at intersection	$370,000
Tier 3 - Unconstrained	B-41	SE Johnson Creek Blvd/SE Stanley Ave	Intersection	-	Improve safety of crossing at intersection	$185,000
Tier 3 - Unconstrained	B-72	SE Johnson Creek Blvd/SE 45 Pl	Intersection	-	Improve safety of crossing at intersection. Coordinate with City of Portland.	$185,000
Tier 3 - Unconstrained	B-73	SE Johnson Creek Blvd/SE Wichita Ave	Intersection	-	Improve safety of crossing at intersection	$95,000
Tier 3 - Unconstrained	B-74	SE Harmony Rd/Aquatic Center Rd	Intersection	-	Improve safety of crossing at intersection	$185,000
Tier 3 - Unconstrained	B-11	SE Monroe St/SE Washington St/SE Garrett Drive	SE 37th Ave	SE Linwood Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$485,000
Tier 3 - Unconstrained	B-43	SE Olsen St	SE 29th Ave	SE 42nd Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$235,000
Tier 3 - Unconstrained	B-81	SE 37th Ave	SE International Way	SE Washington St	Install shared roadway lane markings, signage, and traffic calming improvements	$115,000
Tier 3 - Unconstrained	B-82	SE Washington St	OR 99E	SE Oak St	Install shared roadway lane markings, signage, and traffic calming improvements	$225,000
Tier 3 - Unconstrained	B-42	SE Roswell Ave	SE 29th Ave	SE 42nd Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$240,000
Tier 3 - Unconstrained	B-44	SE Mason Ln	SE 42nd Ave	SE Regents Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$160,000
Tier 3 - Unconstrained	B-49	SE Logus Rd	SE 43rd Ave	SE Stanley Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$255,000
Tier 3 - Unconstrained	B-50	SE 49th Ave	SE King Rd	SE Logus Rd	Install shared roadway lane markings, signage, and traffic calming improvements	$70,000
Tier 3 - Unconstrained	B-59	SE 40th Ave	SE Olsen St	SE Railroad Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$330,000
Tier 3 - Unconstrained	B-60	SE 19th Ave/SE Bluebird/SE Sparrow	SE Bluebird St	SE Sparrow St	Install shared roadway lane markings, signage, and traffic calming improvements	$190,000
Tier 3 - Unconstrained	B-54	SE Home Ave	SE King Rd	SE Railroad Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$280,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	B-69	SE 55th Ave	SE Firwood St	SE Johnson Creek Blvd	Install shared roadway lane markings, signage, and traffic calming improvements	$115,000
Tier 3 - Unconstrained	B-51	SE Hazel St	SE Stanley Ave	SE Wichita Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$75,000
Tier 3 - Unconstrained	B-52	SE Wichita Ave	SE King Rd	SE Johnson Creek Blvd	Install shared roadway lane markings, signage, and traffic calming improvements	$225,000
Tier 3 - Unconstrained	B-55	SE Park St	SE Home Ave	SE Wood Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$205,000
Tier 3 - Unconstrained	B-63	SE Kuehn Rd	SE Lake Rd	City limits	Install shared roadway lane markings, signage, and traffic calming improvements	$70,000
Tier 3 - Unconstrained	B-45	SE Regents Dr	SE Brookside Dr	SE Winsor Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$155,000
Tier 3 - Unconstrained	B-5	SE 42nd Ave	SE Harvey St	SE Howe St	Install shared roadway lane markings, signage, and traffic calming improvements	$220,000
Tier 3 - Unconstrained	P-19	SE River Rd	SE Lark St	South City Limit	Construct new 8ft curb-tight sidewalk on both sides of road.	$470,000
Tier 3 - Unconstrained	P-13	SE Harrison St	HWY 99E	SE Main Street	Remove utility obstructions	$30,000
Tier 3 - Unconstrained	P-46	SE Willow Ave alley	SE Winworth Ct	SE Howe St	Obtain right-of-way (as opportunity allows), and construct an 8-10ft ped/bike on-street pathway	$180,000
Tier 3 - Unconstrained	P-91	SE King Road	SE 40th Ave	SE 43rd Ave	ADA accessibility upgrades	$205,000
Tier 3 - Unconstrained	P-105	SE 28th Ave	SE Washington St	Harrison Street	ADA accessibility upgrades	$255,000
Tier 3 - Unconstrained	P-35	SE Roswell St	SE 29th Ave	SE 32nd St	Maintain shared roadway environment with signing and striping enhancements	$175,000
Tier 3 - Unconstrained	P-92	SE Main St	SE Harrison St	Expressway (OR 224)	ADA accessibility upgrades	$280,000
Tier 3 - Unconstrained	P-21	SE 42nd Ave	SE Harvey St	SE Johnson Creek Blvd	Remove sidewalk obstructions (both sides) and opportunities allow	$805,000
Tier 3 - Unconstrained	P-53	SE 27th Ave	SE Lake Rd	SE Washington St	Reconstruct 5 ft curb-tight sidewalks (east side) and remove utility obstructions	$575,000
Tier 3 - Unconstrained	P-109	SE Boss Ln	SE Lake Rd	SE Licyntra Ln	Maintain shared roadway environment with signing and striping enhancements	$150,000
Tier 3 - Unconstrained	P-3	SE Johnson Creek Blvd	SE 40th Ave	SE 45th Ave	Reconstruct 6 ft curb-tight sidewalks (both sides) and remove utility obstructions	$1,235,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	P-104	SE 35th Ave	SE Lake Rd	Edison Street	ADA accessibility upgrades	$320,000
Tier 3 - Unconstrained	P-31	SE 29th Ave	SE Sherrett St	SE Balfour St	Maintain shared roadway environment with signing and striping enhancements	$160,000
Tier 3 - Unconstrained	P-55	SE Bluebird St	SE 19th Ave	SE 22nd Ave	Maintain shared roadway environment with signing and striping enhancements	$35,000
Tier 3 - Unconstrained	P-56	SE 19th Ave	SE Eagle St	SE Sparrow St	Maintain shared roadway environment with signing and striping enhancements	$65,000
Tier 3 - Unconstrained	P-100	SE Lava Drive /SE Waverly Court	SE 17th Ave	Highland Apartments Entrance	ADA accessibility upgrades	$170,000
Tier 3 - Unconstrained	P-103	SE 47th Ave	SE Franklin St	SE Railroad Ave	ADA accessibility upgrades	$190,000
Tier 3 - Unconstrained	P-101	SE Where Else Lane	SE Lake Rd	Bowman and Brae Park	ADA accessibility upgrades	$320,000
Tier 3 - Unconstrained	P-102	SE Aspen St	SE Lindwood Ave	Furnberg Park	Maintain shared roadway environment with signing and striping enhancements	$300,000
Tier 3 - Unconstrained	P-98	SE 28th Ave/SE Van Water St	Springwater Corridor	SE 32nd Ave	Maintain shared roadway environment with signing and striping enhancements	$315,000
Tier 3 - Unconstrained	F-1	OR 99E/Ochoco St	Intersection	-	Coordinate with ODOT to reconstruct the northwest corner of the intersection to provide enhanced turning movement accommodations for trailers.	$200,000
Tier 3 - Unconstrained	F-3	SE Main St/SE Mailwell Dr	Intersection	-	Upgrade intersection turning radii in the northeast and southeast quadrants to better accommodate freight movements	$230,000
Tier 3 - Unconstrained	F-5	OR 224 Ramp/17th Ave	Intersection	-	Coordinate with ODOT to upgrade intersection turning radii in the northeast quadrant to better accommodate freight movements	$80,000
Tier 3 - Unconstrained	F-6	SE Ochoco St	SE Main St	East extents	Upgrade street to better accommodate freight vehicles	$1,105,000
Tier 3 - Unconstrained	F-7	SE Mailwell Dr	SE Main St	SE Omark Dr	Upgrade street to better accommodate freight vehicles	$870,000
Tier 3 - Unconstrained	F-8	SE Hanna Harvester Dr	SE Main St	SE Hanna Dr	Upgrade street to better accommodate freight vehicles	$1,920,000
Tier 3 - Unconstrained	F-2	SE Omark Dr/SE Mailwell Dr	Intersection	-	Upgrade intersection turning radii in the northwest quadrant to better accommodate freight movements	$125,000
Tier 3 - Unconstrained	R-9	OR 224/SE Freeman Way	Intersection	-	Coordinate with ODOT to improve intersection operations at the OR 224/Freeman Way intersection. Improve pedestrian and bicycle crossings of OR 224	$495,000
Tier 3 - Unconstrained	R-13	SE Mailwell Drive extension	SE Crystal Lake Dr	SE Mailwell Dr	Extend SE Mailwell Drive east across MAX line connecting to Crystal Lake Drive/SE 26th Ave via the OR 224 underpass.	$20,000,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	R-8	37th Ave/International Way/OR 224	Intersection	-	Coordinate with ODOT to reconfigure the 37th/International Way intersection located just west of OR 224 to improve geometry and traffic flow limitations. Improve pedestrian and bicycle crossings of OR 224.	$760,000
Tier 3 - Unconstrained	R-14	SE 29th Ave extension	SE Meek St	SE 32nd Ave	Extend SE 29th Ave south of SE Meet St to SE 32nd Ave	$1,420,000
Tier 3 - Unconstrained	R-21	SE Beckman Terrace	East Extents	SE 56th Ave	Construct the missing one lot segment of SE Beckman Terrace and connect to SE 56th Ave extension at the local street standard.	$2,000,000
Tier 3 - Unconstrained	R-23	SE 32nd Ave			Construct the missing one lot segment of 32nd Ave at the local street standard.	$300,000
Tier 3 - Unconstrained	R-20	SE Guido Bocci Dr	SE Home Ave	SE Wood Ave	Extend SE Guido Bocci Dr between SE Home and SE Wood Street	$2,580,000
Tier 3 - Unconstrained	R-10	OR 99E	Northern City Limits	Southern City Limits	Conduct a refinement study to establish alternative mobility targets for OR 99E for locations not meeting applicable State targets, and explore ways to minimize barrier effect and improve auto and freight mobility	$200,000
Tier 3 - Unconstrained	R-11	OR 224	SE McLoughlin Blvd	Southern City Limits	Conduct a refinement study to establish alternative mobility targets for OR 224 for locations not meeting applicable State targets, and explore ways to minimize barrier effect and improve auto and freight mobility	$200,000
Tier 3 - Unconstrained	R-15	SE Melody Lane	East Extents	TBD	Extend SE Melody Lane	$1,640,000
Tier 3 - Unconstrained	R-16	SE Jackson Street	SE 55th Ave	SE 55th Ave	SE Jackson St extension	$2,555,000
Tier 3 - Unconstrained	R-17	SE 53rd Pl	South extents	SE Jackson St extension	SE 53rd Pl extension	$2,710,000
Tier 3 - Unconstrained	R-18	SE Park St	SE 56th Ave	SE Stanley Ave	SE Park extension	$4,490,000
Tier 3 - Unconstrained	R-19	SE Hunter Ct	SE Home Ave	SE Wood Ave	SE Hunter Ct extension	$5,750,000
Tier 3 - Unconstrained	R-22	SE Lloyd St	SE 60th Ave	SE Linwood Ave	Extend SE Lloyd St from SE 60th Ave to SE Linwood Ave as part of future redevelopment	$3,990,000
Tier 3 - Unconstrained	R-26	SE Omark Dr	SE Mailwall Dr	SE Hanna Harvester Dr	Extend SE Omark Dr to connect to SE Hanna Harvester Drive	$13,550,000
Tier 3 - Unconstrained	T-3	SE Linwood Ave	SE Johnson Creek Blvd	SE Railroad Ave	Coordinate with TriMet to help implement new bus service route	
Tier 3 - Unconstrained	T-8	SE Railroad Ave/SE 37th Ave	SE Railroad Ave	SE 37th Ave	Coordinate with TriMet to help implement new Frequent Service route	
Tier 3 - Unconstrained	T-4	SE Harrison St	SE 21st Ave	SE King Road	Coordinate with TriMet to help implement new Frequent Service Route	

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	T-5	SE King Road	SE 42nd Ave	SE Linwood Ave	Coordinate with TriMet to help implement new Bus Rapid Transit/Frequent Service route	
Tier 3 - Unconstrained	T-6	SE McLoughlin Blvd	Milwaukie Town Center	Oregon City Town Center	Coordinate with TriMet to help implement new Frequent Service route	
Tier 3 - Unconstrained	T-7	SE Lake Rd-SE Oatfield Rd	SE Monroe St	SE Oatfield Rd	Coordinate with TriMet to help implement new Frequent Service route	
Tier 3 - Unconstrained	T-2	SE Johnson Creek Blvd	SE 45th Ave	Eastern City Limits	Coordinate with TriMet to help implement new Frequent Service route	

Prioritization Refinement

City staff worked diligently with the Technical Committee, Advisory Committee, Planning Commission, and City Council to refine the project list based on local priorities and overarching connectivity needs. In some cases, costs were also revised based on anticipated project delivery methods.

The team met with the committees, Planning Commission, and City Council a combined total of six times between August and October to revise the list. The following tables document these revisions and their justification. The constrained project list with the revised prioritization list is within the allowable $27.5M threshold.

PRIORITIZATION REVISIONS

Cost by Tier - Suggested Edits per 9/16 City Council Work Session (Updated 10/22/25 after 10/21/25 City Council Meeting)

~~As shown in the table below, the initial categorization approach resulted in a Tier 1 Financially Constrained project total that exceeds the allowable $27.5M threshold. The project team will need to discuss opportunities to move higher cost projects to the Tier 1- Unconstrained list~~.

	Bike	Freight	Ped	Roadway/Intersection	Shared Bike/Ped	Transit	Total
Tier 1 – Financially Constrained	~~$3,575,000~~$3,850,000	-	~~$8,095,000~~$6,335,000	$8,405,000	~~$9,865,000~~$8,640,000	-	~~$29,940,000~~$27,230,000

Prioritized Project List - Suggested Edits per 9/16 City Council Work Session (Updated 10/22/25 after 10/21/25 City Council Meeting)

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 1 - Financially Constrained	B-24	SE Harrison St	SE 26th Ave	SE 42nd Ave	Construct 5.5ft bike lanes (both directions)	$3,370,000
Tier 1 - Financially Constrained	P-27	SE Railroad Ave	SE 37th Ave	SE Harmony Rd	Construct 8-10ft ped/bike on-street pathway on north side of road	$8,900,000~~3,450,~~000 ($310,000 city match)
Tier 1 - Financially Constrained	P-117	Kellog Creek	SE Main St	Trolley Trail	Construct an 8-10ft ped/bike on-street pathway underneath OR 99E after dam removal	$310,000
Tier 1 - Financially Constrained	P-22	SE Stanley Ave	SE Johnson Creek Blvd	SE King Rd	Construct 8-10ft ped/bike on-street pathway on the east side of road	$1,590,000
Tier 1 - Financially Constrained	P-6	SE Lake Rd	SE 34th Ave	SE Harmony Rd	Construct 8-10ft ped/bike on-street pathway on south side of road	$3,230,000
Tier 1 - Financially Constrained	P-119	SE 32nd Ave/ SE Harrison St	Intersection	-	Signal retiming and improve safety of crossing at intersection	$125,000
Tier 1 - Financially Constrained	P-43	SE Stanley Ave	SE Monroe St	SE Railroad Ave	Fill gaps and construct 5ft minimum curb-tight sidewalks (one side)	$1,330,000
Tier 1 - Financially Constrained	P-16	SE Harrison St	SE 29th St	SE 32nd Ave	Reconstruct buffered 6ft sidewalks (both sides)	$2,040,000
Tier 1 - Financially Constrained	P-99	SE Logus Rd	SE Stanley Ave	SE 43rd Ave	ADA accessibility upgrades	$780,000
Tier 1 - Financially Constrained	R-24	SE Oak St/ SE Railroad Ave/ SE Monroe St	Intersection	-	Construct a mini roundabout	$4,270,000
Tier 1 - Financially Constrained	R-3	SE Harrison St/ SE 32nd Ave	Intersection	-	Modify the north and south SE 32nd Ave approaches to provide separate additional vehicle queue storage.	$470,000
Tier 1 - Financially Constrained	R-27	Local Streets			Change the speed zone signing on all local streets to 20 mph	$400,000

Commented [MH1]: In recognition that the City would most likely pursue grant funding for the construction of this particular project, we have revised the amount to report both the total project cost and the amount of the likely 10% city match. Only the 10% city match is being used in the Financially Constrained cost.

Commented [MH2]: PC modified scope to sidewalks on one side which lowered cost.

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 1 - Financially Constrained	R-28	SE Harrison St	Highway 99E	SE 42nd Ave	Prepare a detailed multimodal safety assessment of the Harrison Street corridor focusing on crash patterns, roadway infrastructure needs, access management, and traffic control, and crossing improvements.	$400,000
Tier 1 - Financially Constrained	R-2	OR 224/ SE Harrison St	Intersection	-	Coordinate with ODOT to add left-turn lanes and protected signal phasing on the east and west Harrison Street approaches to OR 224. Improve pedestrian and bicycle crossings of OR 224	$2,060,000
Tier 1 - Financially Constrained	B-23	SE Harrison St	Hwy 99E	SE 24th Ave	Construct 5.5ft bike lanes (both directions)	$100,000
Tier 1 - Financially Constrained	P-5	SE Harmony Rd	SE Linwood Ave	Aquatic Center Access Rd	Construct 8-10ft ped/bike on-street pathway on south side of road	$1,200,000
Tier 1 - Financially Constrained	R-7	SE Linwood Ave/ SE Harmony Road	Intersection	-	Perform a refinement study that will look to accommodate vehicles, pedestrians, bicycles, and mobility vehicles. Retrofit existing traffic control infrastructure while maintaining optimal traffic operations.	$555,000
Tier 1 - Financially Constrained	R-4	SE King Rd/ SE 42nd Ave	Intersection	-	Install permanent ~~geometric delineators~~median treatments	$250,000
Tier 1 – Financially Constrained	P-62	SE 32nd Ave/ SE Meek St	Intersection	-	Install enhanced pedestrian crossing treatment	$175,000
Tier 1 – Financially Constrained	P-75	SE 32nd Ave	SE Meek St	SE Llewellyn St	Construct a new 8-10ft ped/bike on-street pathway on east or west side of road	$300,000
Tier 1 – Financially Constrained	P-32	SE Llewellyn St	SE 32nd Ave	SE 34th Ave	Construct 8-10ft ped/bike on-street pathway on north side of road	$245,000
Tier 1 – Financially Constrained	P-33	SE 34th Ave	SE King Rd	SE Harrison St	Construct 8-10ft ped/bike on-street pathway on west side of road. Reconstruct 6ft curb-tight sidewalk on the east side.	$370,000
Tier 1 – Financially Constrained	P-34	SE 34th Ave	SE Harrison St	End of SE 34th Ave	Construct 8-10 ft ped/bike on-street pathway on west side of road. Reconstruct 6 ft curb-tight sidewalk on the east side. Install an enhanced pedestrian crossing treatment	$680,000
Tier 1 – Financially Constrained	P-4	SE King Rd	SE 34th Ave	SE 40th Ave	Construct new 5ft minimum curb-tight sidewalk (north side)	$525,000
Tier 1 – Financially Constrained	B-25	SE King Rd	SE 34th Ave	SE 40th Ave	I~~mprove roadway surface and i~~nstall shared lane markings, signage, and traffic calming improvements (both directions)	$105,000
Tier 1 – Financially Constrained	P-118	32nd Ave/ Harvey St	Intersection	-	Construct ADA accessibility upgrades and other enhanced pedestrian crossing improvements	$125,000
Tier 1 – Financially Constrained	P-112	OR 99E/ SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 99E	$495,000
Tier 1 – Financially Constrained	P-113	OR 99E/ SE Monroe St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 99E	$125,000
Tier 1 – Financially Constrained	P-114	OR 99E/ SE Washington St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 99E	$495,000

Commented [MH3]: TC/AC moved up to Tier 1 Financially Constrained from Tier 1 Financially Unconstrained

Commented [MH4]: TC/AC moved up to Tier 1 Financially Constrained from Tier 1 Financially Unconstrained

Commented [MH5]: PC moved up to Tier 1 Financially Constrained from Tier 1 Financially Unconstrained

Commented [MH6]: PC moved up to Tier 1 Financially Constrained from Tier 1 Financially Unconstrained

Commented [MH7]: PC moved up to Tier 1 Financially Constrained from Tier 1 Financially Unconstrained

Commented [MH8]: PC moved up to Tier 1 Financially Constrained from Tier 2

Commented [MH9]: PC moved up to Tier 1 Financially Constrained from Tier 2

Commented [MH10]: TC/AC moved up to Tier 1 Financially Constrained from Tier 2

Commented [MH11]: TC/AC moved up to Tier 1 Financially Constrained from Tier 2

Commented [MH12]: TC/AC moved up to Tier 1 Financially Constrained from Tier 2

Commented [MH13]: PC moved up to Tier 1 Financially Constrained from Tier 2

Commented [MH14]: PC moved up to Tier 1 Financially Constrained from Tier 3. City recently completed paving project, so that detail from the description was removed

Commented [MH15]: PC moved up to Tier 1 Financially Constrained from Tier 2

Commented [MH16]: PC moved up to Tier 1 Financially Constrained From Tier 2

Commented [MH17]: TC/AC moved up to Tier 1 Financially Constrained from Tier 2

Commented [MH18]: PC moved up to Tier 1 Financially Constrained From Tier 2

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
~~Tier 1 – Financially Constrained~~	~~P-110~~	~~SE 37th Ave~~	~~SE Lake Rd~~	~~SE Grogan Ave~~	~~Construct 5ft minimum curb-tight sidewalks (east side)~~	~~$515,000~~
Tier ~~2~~1 ~~–~~ Financially C~~Unc~~onstrained	P-10	SE 37th Ave	SE Washington St	SE International Way	Construct new 6ft curb-tight sidewalk on the east side of road.	$120,000
Tier 1 – Financially ~~Unc~~Constrained	B-81	SE 37th Ave	SE International Way	SE Washington St	Install shared roadway lane markings, signage, and traffic calming improvements	$115,000
Tier ~~3~~1 - Financially ~~Unc~~Constrained	B-84	SE Monroe St	SE 37th Ave	SE Garrett Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$160,000
Tier 1 – Financially ~~Unc~~Constrained	P-23	SE 43rd Ave	SE King Road	SE Rhodesa St	Construct 8-10ft ped/bike on-street pathway on the west side of road	$~~410~~250,000
Tier 1 - Financially Unconstrained	P-17	SE Harrison St	SE 32nd Ave	SE 42nd Ave	Reconstruct buffered 6ft sidewalks (both sides)	$1,875,000
Tier 1 - Financially Unconstrained	B-26	SE 42nd Ave	SE Harrison St	SE Washington St	Construct 5.5ft bike lane (both directions)	$700,000
Tier 1 - Financially Unconstrained	P-71	OR 224/SE Harrison St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 224	$175,000
Tier 1 – Financially Unconstrained	P-45	SE Willow St	SE Winsor Dr	SE 51st Ave	Construct an 8-10ft ped/bike on-street pathway	$275,000
Tier 1 – Financially Unconstrained	B-59	SE 40th Ave	SE Olsen St	SE Railroad Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$330,000
Tier 1 – Financially Unconstrained	P-46	SE Willow Ave alley	SE Winworth Ct	SE Howe St	Obtain right-of-way (as opportunity allows), and construct an 8-10ft ped/bike on-street pathway	$180,000
Tier 1 - Financially Unconstrained	R-25	SE Railroad Ave/SE 37th Ave	Intersection	-	Widen WB Railroad Avenue approach to provide additional left-turn storage at SE 37th Ave	$2,160,000
Tier 1 - Financially Unconstrained	P-25	SE Monroe St	SE 37th Ave	SE Garrett Dr	Construct 6 ft minimum curb-tight sidewalks (both sides)	$1,855,000
Tier 1 - Financially Unconstrained	B-64	SE 34th Ave	SE Lake Rd	SE Washington St	Stipe 5.5ft bike lanes (both directions)	$1,465,000
~~Tier 1 - Financially Unconstrained~~	~~P-31~~	~~SE 29th Ave~~	~~SE Sherrett St~~	~~SE Balfour St~~	~~Maintain shared roadway environment with signing and striping enhancements~~	~~$160,000~~
Tier 1 - Financially Unconstrained	B-10	SE Stanley Ave	SE Monroe St	SE Railroad Ave	Construct 5.5ft bike lanes (both directions)	$2,730,000
Tier 1 - Financially Unconstrained	P-9	SE 34th Ave	SE Washington St	SE Lake Rd	Reconstruct 6 ft curb-tight sidewalk on the both sides.	$1,190,000

Commented [MH19]: AC moved up to Tier 1 Financially Constrained from Tier 2 unconstrained

Commented [MH20]: CC moved up to Tier 1 Financially Constrained

Commented [MH21]: TC/AC moved up to Financially Unconstrained from Tier 3. CC moved to Tier 1 Financially Constrained

Commented [MH22]: Project added at request of AC. CC requested project be moved up to Tier 1 Financially Constrained

Commented [MH23]: CC requested this project be moved up to Tier 1 FC from Tier 1 FUC. Cost updated from previous $250k

Commented [MH24]: PC moved down to Tier 1 Financially Unconstrained from Tier 1 Financially Constrained

Commented [MH25]: TC/AC moved up to Tier 1 Financially Constrained from Tier 1 Financially Unconstrained

PC moved back down to Tier 1 Financially Unconstrained.

Commented [MH26]: TC/AC moved up to Tier 1 Financially Constrained from Tier 1 Financially Unconstrained

PC moved back down to Tier 1 Financially Unconstrained.

Commented [MH27]: TC/AC moved up to Financially Unconstrained from Tier 2

Commented [MH28]: TC/AC moved up to Financially Unconstrained from Tier 3

Commented [MH29]: TC/AC moved up to Financially Unconstrained from Tier 3

Commented [MH30]: TC/AC moved down to Tier 1 Financially Unconstrained from Tier 1 Financially Constrained

Commented [MH31]: TC/AC moved down to Tier 1 Financially Unconstrained from Tier 1 Financially Constrained

Commented [MH32]: TC/AC moved down to Tier 1 Financially Unconstrained from Tier 1 Financially Constrained

Commented [MH33]: Project removed based on direction from City staff. Public Safety Advisory Committee is working on a proposal for safety improvements and the funding for the funding could come from SPOT program.

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 1 - Financially Unconstrained	P-2	SE 32nd Ave	SE Sherrett St	SE Harrison St	Reconstruct 6 ft curb-tight sidewalks (both sides) and remove utility obstructions	$3,885,000
Tier 1 - Financially Unconstrained	P-42	SE Stanley Ave	SE King Rd	SE Monroe St	Construct 5ft minimum curb-tight sidewalks (both sides)	$760,000
Tier 1 - Financially Unconstrained	P-57	SE Sparrow St	SE 19th Ave	SE River Rd	Construct 5ft curb-tight sidewalk (south side)	$345,000
Tier 1 - Financially Unconstrained	P-36	SE Roswell St	SE 32nd Ave	SE 42nd Ave	Remove sidewalk obstructions (south side)	$620,000
Tier 1 - Financially Unconstrained	F-4	OR 224	OR 99E	Lake Rd	Conduct refinement plan with a focus on motor and freight mobility	$200,000
Tier 1 - Financially Unconstrained	R-5	SE Harrison St/SE 42nd Ave	Intersection	-	Replace all-way stop with a roundabout or traffic signal (when warranted)	$4,905,000
Tier 1 - Financially Unconstrained	R-6	SE McLoughlin Blvd/SE River Rd/SE Bluebird St	Intersection	-	Coordinate with ODOT to implement geometric refinements that balance capacity needs, efficient intersection operations, and multimodal safety.	$2,695,000
Tier 1 - Financially Unconstrained	T-1	SE 32nd Ave	SE Johnson Creek Blvd	SE Harrison St	Coordinate with TriMet to help implement new Bus Rapid Transit/Express Service route	$3,000,000
Tier 1 – Financially Unconstrained	B-28	SE Ochoco St/SE 17th Ave	Intersection	-	Improve safety of crossing at intersection	$1,435,000
Tier 1 – Financially Unconstrained	P-110	SE 37th Ave	SE Lake Rd	SE Grogan Ave	Construct 5ft minimum curb-tight sidewalks (east side)	$515,000
Tier 2 - Unconstrained	B-19	SE Oatfield Rd	SE Lake Rd	City limits	Construct 5.5ft bike lanes (both directions)	$720,000
Tier 2 - Unconstrained	B-15	SE International Way	SE Freeman Way	SE Lake Rd	Construct 7ft buffered bike lanes (both directions)	$3,030,000
Tier 2 - Unconstrained	B-66	SE Freeman Way	SE International Way	SE Lake Rd	Stipe 5.5ft bike lanes (both directions)	$380,000
Tier 2 - Unconstrained	B-9	SE Stanley Ave	SE King Rd	SE Monroe St	Construct 5.5ft bike lanes (both directions)	$840,000
Tier 2 - Unconstrained	B-16	SE Rusk Rd	SE Lake Rd	SE Kellog Creek Rd	Construct 5.5' bike lanes (both directions) Coordinate with Clackamas County on bicycle facility enhancements	$1,225,000
Tier 2 - Unconstrained	B-70	SE Oak St	SE Campbell St	SE Washington St	Construct 5.5ft bike lanes (both directions)	$65,000
Tier 2 - Unconstrained	P-58	SE Ochoco St	SE 17th Ave	Springwater Trail	Coordinate with City of Portland to ensure construction of a 10ft multi-use path	$220,000

Commented [MH34]: Project cost added with input from TriMet

Commented [MH35]: PC moved up to Tier 1 Financially Unconstrained from Tier 3

Commented [MH36]: AC recommended this project be moved up to Tier 1 Financially Constrained from Tier 2 unconstrained. CC suggested it be moved back down to Tier 1 Financially Unconstrained give that 37th is not a higher classified pedestrian facility

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 2 - Unconstrained	P-8	SE Oatfield Rd	SE Lake Rd	City Limits	Construct new buffered 8ft sidewalks (both sides)	$1,015,000
Tier 2 - Unconstrained	P-47	SE 37th Ave	SE Wister St Path	SE Edison St	Construct 5ft curb-tight sidewalk (south/west side)	$400,000
Tier 2 - Unconstrained	P-40	SE 49th Ave	SE Willow Ave	SE King Rd	Construct 5ft curb-tight sidewalk (west side)	$505,000
Tier 2 - Unconstrained	P-54	SE Edison St	SE 35th Ave	OR 224	Construct 5ft curb-tight sidewalk (north side)	$190,000
Tier 2 - Unconstrained	P-116	SE Minthorn Loop Rd	SE 37th Ave	SE Minthorn Loop Road	Construct an 8-10ft ped/bike on-street pathway	$520,000
Tier 2 - Unconstrained	P-123	SE Main St	SE Hanna Harvester Dr	SE Ochoco St	Construct 8-10ft ped/bike on-street pathway on east side of road	$3,685,000
Tier 2 - Unconstrained	P-28	SE International Way	SE Freeman Way	SE Lake Rd	Construct 5ft minimum curb-tight sidewalks (both sides)	$2,340,000
Tier 2 - Unconstrained	P-41	SE Logus Rd	SE 43rd Ave	SE 49th Ave	Construct 5ft curb-tight sidewalk (south side)	$515,000
Tier 2 - Unconstrained	P-59	SE Ochoco St	Springwater Trail	SE McBrod Ave	Coordinate with City of Portland to ensure construction of 5ft curb-tight sidewalk (north side)	$225,000
Tier 2 - Unconstrained	P-61	SE 42nd Ave/SE Roswell St	Intersection	-	Install RRFB across SE 42nd Ave	$175,000
Tier 2 - Unconstrained	P-95	SE Balfour Street	SE 32nd Ave	Balfour Park	Construct 5ft minimum curb-tight sidewalk (north side)	$35,000
Tier 2 - Unconstrained	P-77	SE Olsen St/SE 42nd Ave	Intersection	-	Improve pedestrian crossing	$175,000
Tier 2 - Unconstrained	P-78	SE Millport Rd	99E	SE 17th Ave	Construct 5ft minimum curb-tight sidewalks (both sides)	$780,000
Tier 2 - Unconstrained	P-69	OR 224/SE Oak St	Intersection	-	Coordinate with ODOT to identify and implement pedestrian crossing improvements of OR 224	$175,000
Tier 2 - Unconstrained	P-63	SE King Rd/SE Home St	Intersection	-	Install RRFB across SE King Rd	$175,000
Tier 2 - Unconstrained	P-73	SE Stanley Ave/SE Monroe St	Intersection	-	Install RRFB across SE Monroe St	$175,000
Tier 2 - Unconstrained	P-30	SE Rusk Rd	HWY 224	South City Limit	Coordinate with Clackamas County to ensure construction of 6 ft curb-tight sidewalks (west/north side)	$275,000
Tier 2 - Unconstrained	P-67	SE Stanley Ave/SE Logus Rd	Intersection	-	Install RRFB across SE Stanley Ave	$175,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 2 - Unconstrained	P-7	SE Johnson Creek Blvd	West city limits	SE Linwood Ave	Coordinate with City of Portland to ensure construction of 6 ft curb-tight sidewalks (north side)	$1,905,000
Tier 2 - Unconstrained	P-37	SE Olsen St	SE 29th Ave	SE 32nd Ave	Construct 5ft curb-tight sidewalk (north side)	$225,000
Tier 2 - Unconstrained	P-107	SE Hazel Pl	SE Stanley Ave	SE Wichita Ave	Reconstruct 5ft minimum curb-tight sidewalks (south side)	$330,000
Tier 2 - Unconstrained	P-11	SE 37th Ave	Intersection	-	Install RRFB across SE 37th Ave	$50,000
~~Tier 2 - Unconstrained~~	~~P-110~~	~~SE 37th Ave~~	~~SE Lake Rd~~	~~SE Grogan Ave~~	~~Construct 5ft minimum curb-tight sidewalks (east side)~~	~~$515,000~~
Tier 2 - Unconstrained	P-38	SE Olsen St	SE 32nd Ave	SE 42nd Ave	Construct 5ft curb-tight sidewalk (north side)	$840,000
Tier 2 - Unconstrained	P-106	SE Harlow St/SE 56th Ave	SE 56th Ave	SE Stanley Ave	Reconstruct 5ft minimum curb-tight sidewalks (south side)	$170,000
Tier 2 - Unconstrained	P-108	SE Wichita Ave	SE King Rd	SE Johnson Creek Blvd	Reconstruct 5ft minimum curb-tight sidewalks (west side)	$645,000
Tier 2 - Unconstrained	P-39	SE Willow St	SE Winsor Dr	SE 49th Ave	Construct 5ft curb-tight sidewalk (south side) to connect Glover Street Alley	$80,000
Tier 2 - Unconstrained	P-44	SE 51st Ave	SE Logus Rd	SE Winworth Ct	Construct 5ft curb-tight sidewalk (east side)	$280,000
Tier 2 - Unconstrained	P-51	SE 44th Ave	SE Monroe St	SE Harrison St	Construct 5ft curb-tight sidewalk (both sides)	$330,000
Tier 2 - Unconstrained	P-52	SE Harrison St	SE 44th Ave	SE Home St	Construct 5ft curb-tight sidewalk (both sides)	$820,000
Tier 2 - Unconstrained	P-115	99E/SE River Rd	Intersection	-	Coordinate with ODOT to identify and implement pedestrian and bicycle crossing improvements of OR 99E	$495,000
Tier 2 - Unconstrained	P-65	SE Railroad Ave/SE Home Ave	Intersection	-	Construct a~~t~~ grade-separated bike/ped crossing of Railroad Ave and adjacent rail line to SE Mallard Way	$15,~~425~~000,000
Tier 2 - Unconstrained	P-29	SE Rusk Rd	SE Lake Rd	HWY 224	Coordinate with Clackamas County to ensure construction of 6 ft curb-tight sidewalks (west side)	$290,000
Tier 2 - Unconstrained	P-79	99E/SE Ochoco St	Intersection	-	To Be Determined	$175,000
Tier 2 - Unconstrained	P-60	SE Mallard Way	End of road	SE International Way	Construct 5ft minimum curb-tight sidewalks (both sides)	$710,000
Tier 2 - Unconstrained	P-80	99E/SE Milport RD	Intersection	-	To Be Determined	$175,000

Commented [MH37]: AC requested that this be moved up to Tier 1 FC

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 2 - Unconstrained	P-94	SE Sparrow Street	SE River Road	Trolley Trail / SE 26th Avenue	Construct a new 8-10ft ped/bike on-street pathway	$245,000
Tier 2 - Unconstrained	P-76	OR 224/SE Rusk Rd	Intersection	-	Coordinate with ODOT to improve pedestrian crossings across OR 224	$175,000
Tier 2 - Unconstrained	P-120	SE Harlene St	west extents	SE Wood Ave	Construct an 8-10ft ped/bike on-street pathway	$555,000
Tier 2 - Unconstrained	P-48	SE Brookside Drive	SE Johnson Creek Blvd	SE Regents Dr	Construct 5ft curb-tight sidewalk (south side)	$440,000
Tier 2 - Unconstrained	P-49	SE Regents Dr	SE Brookside Dr	SE Winsor Dr	Construct 5ft curb-tight sidewalk (south side)	$720,000
Tier 2 - Unconstrained	P-50	SE Mason Ln	SE 42nd Ave	SE Regents Dr	Construct 5ft curb-tight sidewalk (south side)	$730,000
Tier 2 - Unconstrained	P-66	SE Stanley Ave/SE Harlow St	Intersection	-	Install RRFB across SE Stanley Ave	$175,000
Tier 2 - Unconstrained	P-93	SE Mailwell Drive	SE Main St	UPRR	Construct 5ft minimum curb-tight sidewalks (both sides)	$180,000
Tier 2 - Unconstrained	P-97	SE 26th Ave	SE Lake Rd	Lake Village Apartments	Construct 5ft minimum curb-tight sidewalk (west side)	$100,000
Tier 2 - Unconstrained	P-121	SE Frontage Rd	SE Ochoco St	SE Millport Rd	Construct 5ft minimum curb-tight sidewalks (west side)	$1,685,000
Tier 2 - Unconstrained	P-122	SE Ochoco St	east extents	Highway 99E	Reconstruct 5ft minimum curb-tight sidewalks (north side)	$555,000
Tier 2 - Unconstrained	P-96	SE Park St/SE Lloyd St	SE Home Ave	Stanley Avenue	Construct 5ft minimum curb-tight sidewalks (both sides)	$735,000
Tier 2 - Unconstrained	R-1	Johnson Creek/42nd Ave	Intersection	-	Replace all-way stop with a roundabout or traffic signal (when warranted)	$5,145,000
Tier 2 - Unconstrained	T-10	Transit Priority Signalization	Citywide	-	Work with Clackamas County to implement transit priority signalization along key transit corridors.	
Tier 2 - Unconstrained	T-11	Weekend Service Improvements	Citywide	-	Work with TriMet to improve bus service on various transit lines	
Tier 2 - Unconstrained	B-7	SE Balfour St	SE 32nd Ave	SE 29th Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$80,000
Tier 2 - Unconstrained	B=17	SE Lava Dr	SE 17th Ave	SE Waverly Court	Install shared roadway lane markings, signage, and traffic calming improvements	$80,000
Tier 2 - Unconstrained	B-46	SE Howe St/SE 46th Ave/SE Rockwood St	SE 43rd Ave	SE Logus Rd	Install shared roadway lane markings, signage, and traffic calming improvements	$125,000

Commented [MH38]: Added from 09/16 City Council discussion

Commented [MH39]: Added from 09/16 City Council discussion

Commented [MH40]: Added from 09/16 City Council discussion

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	B-14	SE International Way	SE 37th Ave	SE Freeman Way	Restripe roadway to include 7ft buffered bike lanes (both directions)	$395,000
Tier 3 - Unconstrained	B-35	OR 224/SE Oak St	Intersection	-	Coordinate with ODOT to improve bicyclists safety across OR 224	$370,000
Tier 3 - Unconstrained	B-4	SE Johnson Creek Blvd	SE 40th	SE 45th Ave	Restripe roadway to a 5.5' bike lane (both directions)	$150,000
Tier 3 - Unconstrained	B-38	SE Harrison St/SE 21st Ave	Intersection	-	Improve safety of crossing at intersection	$370,000
Tier 3 - Unconstrained	B-40	SE Harrison St/SE 42nd Ave	Intersection	-	Improve safety of crossing at intersection	$370,000
Tier 3 - Unconstrained	B-30	SE Railroad Ave & SE Linwood Ave	Intersection	-	Improve safety of crossing at intersection	$1,745,000
Tier 3 - Unconstrained	B-39	SE King Rd/SE Stanley Ave	Intersection	-	Improve safety of crossing at intersection	$370,000
Tier 3 - Unconstrained	B-32	OR 224/SE Rusk Rd	Intersection	-	Coordinate with ODOT to improve bicyclists safety across OR 224	$185,000
Tier 3 - Unconstrained	B-22	SE Monroe St	OR 99E	SE Oak St	Install shared roadway lane markings, signage, and traffic calming improvements	$200,000
Tier 3 - Unconstrained	B-29	SE Lava Dr/SE 17th Ave	Intersection	-	Improve safety of crossing at intersection	$185,000
Tier 3 - Unconstrained	B-31	SE Lake Rd/SE International Way	Intersection	-	Improve safety of crossing at intersection	$370,000
Tier 3 - Unconstrained	B-41	SE Johnson Creek Blvd/SE Stanley Ave	Intersection	-	Improve safety of crossing at intersection	$185,000
Tier 3 - Unconstrained	B-72	SE Johnson Creek Blvd/SE 45 Pl	Intersection	-	Improve safety of crossing at intersection. Coordinate with City of Portland.	$185,000
Tier 3 - Unconstrained	B-73	SE Johnson Creek Blvd/SE Wichita Ave	Intersection	-	Improve safety of crossing at intersection	$95,000
Tier 3 - Unconstrained	B-11	SE Monroe St/SE Washington St/SE Garrett Drive	SE 37th Ave	SE Linwood Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$485,000
Tier 3 - Unconstrained	B-43	SE Olsen St	SE 29th Ave	SE 42nd Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$235,000
Tier 3 - Unconstrained	B-82	SE Washington St	OR 99E	SE Oak St	Install shared roadway lane markings, signage, and traffic calming improvements	$225,000
Tier 3 - Unconstrained	B-42	SE Roswell Ave	SE 29th Ave	SE 42nd Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$240,000

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	B-44	SE Mason Ln	SE 42nd Ave	SE Regents Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$160,000
Tier 3 - Unconstrained	B-49	SE Logus Rd	SE 43rd Ave	SE Stanley Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$255,000
Tier 3 - Unconstrained	B-50	SE 49th Ave	SE King Rd	SE Logus Rd	Install shared roadway lane markings, signage, and traffic calming improvements	$70,000
Tier 3 - Unconstrained	B-60	SE 19th Ave/SE Bluebird/SE Sparrow	SE Bluebird St	SE Sparrow St	Install additional shared roadway lane markings, signage, and traffic calming improvements to emphasize a shared travel environment for bicyclists, pedestrians, and motorists	$190,000
Tier 3 - Unconstrained	B-54	SE Home Ave	SE King Rd	SE Railroad Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$280,000
Tier 3 - Unconstrained	B-69	SE 55th Ave	SE Firwood St	SE Johnson Creek Blvd	Install shared roadway lane markings, signage, and traffic calming improvements	$115,000
Tier 3 - Unconstrained	B-51	SE Hazel St	SE Stanley Ave	SE Wichita Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$75,000
Tier 3 - Unconstrained	B-52	SE Wichita Ave	SE King Rd	SE Johnson Creek Blvd	Install shared roadway lane markings, signage, and traffic calming improvements	$225,000
Tier 3 - Unconstrained	B-55	SE Park St	SE Home Ave	SE Wood Ave	Install shared roadway lane markings, signage, and traffic calming improvements	$205,000
Tier 3 - Unconstrained	B-63	SE Kuehn Rd	SE Lake Rd	City limits	Install shared roadway lane markings, signage, and traffic calming improvements	$70,000
Tier 3 - Unconstrained	B-45	SE Regents Dr	SE Brookside Dr	SE Winsor Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$155,000
Tier 3 - Unconstrained	B-5	SE Main St	SE Jefferson St	SE Hanna Harvester Dr	Install shared roadway lane markings, signage, and traffic calming improvements	$~~220~~190,000
Tier 3 – Unconstrained	B-68	SE Harvey St/ SE 42nd Ave	SE 32nd Ave	SE Johnson Creek Blvd	Install/enhance shared roadway lade markings, signage, and traffic calming improvements	$400,000
Tier 3 - Unconstrained	P-19	SE River Rd	SE Lark St	South City Limit	Construct new 8ft curb-tight sidewalk on both sides of road.	$470,000
Tier 3 - Unconstrained	P-13	SE Harrison St	HWY 99E	SE Main Street	Remove utility obstructions	$30,000
Tier 3 - Unconstrained	P-91	SE King Road	SE 40th Ave	SE 43rd Ave	ADA accessibility upgrades	$205,000
Tier 3 - Unconstrained	P-105	SE 28th Ave	SE Washington St	Harrison Street	ADA accessibility upgrades	$255,000
Tier 3 - Unconstrained	P-35	SE Roswell St	SE 29th Ave	SE 32nd St	Maintain shared roadway environment with signing and striping enhancements	$175,000

Commented [MH41]: We found some unintentional overlap between B-60 and P-55/P-56. We are dropping P-55/P-56 and expanding the description for B-60 for simplification purposes

Commented [MH42]: The old B-5 was kept in the table by mistake. Using B-5 to now represent a CC request to add a shared lane project to Main Street

Commented [MH43]: B-68 is added back to the table after it was discovered accidentally missing. In response to CC comment/request to have the an enhanced bicycling project for SE 42nd Ave, the project description was revised to include the entirety of SE 42nd Ave to SE Johnson Creek Boulevard.

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	P-92	SE Main St	SE Harrison St	Expressway (OR 224)	ADA accessibility upgrades	$280,000
Tier 3 - Unconstrained	P-21	SE 42nd Ave	SE Harvey St	SE Johnson Creek Blvd	Remove sidewalk obstructions (both sides) and opportunities allow	$805,000
Tier 3 - Unconstrained	P-53	SE 27th Ave	SE Lake Rd	SE Washington St	Reconstruct 5 ft curb-tight sidewalks (east side) and remove utility obstructions	$575,000
Tier 3 - Unconstrained	P-109	SE Boss Ln	SE Lake Rd	SE Licyntra Ln	Maintain shared roadway environment with signing and striping enhancements	$150,000
Tier 3 - Unconstrained	P-3	SE Johnson Creek Blvd	SE 40th Ave	SE 45th Ave	Reconstruct 6 ft curb-tight sidewalks (both sides) and remove utility obstructions	$1,235,000
Tier 3 - Unconstrained	P-104	SE 35th Ave	SE Lake Rd	Edison Street	ADA accessibility upgrades	$320,000
~~Tier 3 - Unconstrained~~	~~P-31~~	~~SE 29th Ave~~	~~SE Sherrett St~~	~~SE Balfour St~~	~~Maintain shared roadway environment with signing and striping enhancements~~	~~$160,000~~
~~Tier 3 - Unconstrained~~	~~P-55~~	~~SE Bluebird St~~	~~SE 19th Ave~~	~~SE 22nd Ave~~	~~Maintain shared roadway environment with signing and striping enhancements~~	~~$35,000~~
~~Tier 3 - Unconstrained~~	~~P-56~~	~~SE 19th Ave~~	~~SE Eagle St~~	~~SE Sparrow St~~	~~Maintain shared roadway environment with signing and striping enhancements~~	~~$65,000~~
Tier 3 - Unconstrained	P-100	SE Lava Drive /SE Waverly Court	SE 17th Ave	Highland Apartments Entrance	ADA accessibility upgrades	$170,000
Tier 3 - Unconstrained	P-103	SE 47th Ave	SE Franklin St	SE Railroad Ave	ADA accessibility upgrades	$190,000
Tier 3 - Unconstrained	P-101	SE Where Else Lane	SE Lake Rd	Bowman and Brae Park	ADA accessibility upgrades	$320,000
Tier 3 - Unconstrained	P-102	SE Aspen St	SE Lindwood Ave	Furnberg Park	Maintain shared roadway environment with signing and striping enhancements	$300,000
Tier 3 - Unconstrained	P-98	SE 28th Ave/SE Van Water St	Springwater Corridor	SE 32nd Ave	Maintain shared roadway environment with signing and striping enhancements	$315,000
Tier 3 - Unconstrained	F-1	OR 99E/Ochoco St	Intersection	-	Coordinate with ODOT to reconstruct the northwest corner of the intersection to provide enhanced turning movement accommodations for trailers.	$200,000
Tier 3 - Unconstrained	F-3	SE Main St/SE Mailwell Dr	Intersection	-	Upgrade intersection turning radii in the northeast and southeast quadrants to better accommodate freight movements	$230,000
Tier 3 - Unconstrained	F-5	OR 224 Ramp/17th Ave	Intersection	-	Coordinate with ODOT to upgrade intersection turning radii in the northeast quadrant to better accommodate freight movements	$80,000
Tier 3 - Unconstrained	F-6	SE Ochoco St	SE Main St	East extents	Upgrade street to better accommodate freight vehicles	$1,105,000

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Commented [MH44]: Is this project still needed? Is it included in the Downtown Design Plan? Is it part of the Downtown Parking Plan? Is it part of the Downtown Parking Plan?

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	F-7	SE Mailwell Dr	SE Main St	SE Omark Dr	Upgrade street to better accommodate freight vehicles	$870,000
Tier 3 - Unconstrained	F-8	SE Hanna Harvester Dr	SE Main St	SE Hanna Dr	Upgrade street to better accommodate freight vehicles	$1,920,000
Tier 3 - Unconstrained	F-2	SE Omark Dr/SE Mailwell Dr	Intersection	-	Upgrade intersection turning radii in the northwest quadrant to better accommodate freight movements	$125,000
Tier 3 - Unconstrained	R-9	OR 224/SE Freeman Way	Intersection	-	Coordinate with ODOT to improve intersection operations at the OR 224/Freeman Way intersection. Improve pedestrian and bicycle crossings of OR 224	$495,000
Tier 3 - Unconstrained	R-13	SE Mailwell Drive extension	SE Crystal Lake Dr	SE Mailwell Dr	Extend SE Mailwell Drive east across MAX line connecting to Crystal Lake Drive/SE 26th Ave via the OR 224 underpass.	$20,000,000
Tier 3 - Unconstrained	R-8	37th Ave/International Way/OR 224	Intersection	-	Coordinate with ODOT to reconfigure the 37th/International Way intersection located just west of OR 224 to improve geometry and traffic flow limitations. Improve pedestrian and bicycle crossings of OR 224.	$760,000
Tier 3 - Unconstrained	R-14	SE 29th Ave extension	SE Meek St	SE 32nd Ave	Extend SE 29th Ave south of SE Meet St to SE 32nd Ave	$1,420,000
Tier 3 - Unconstrained	R-21	SE Beckman Terrace	East Extents	SE 56th Ave	Construct the missing one lot segment of SE Beckman Terrace and connect to SE 56th Ave extension at the local street standard.	$2,000,000
Tier 3 - Unconstrained	R-23	SE 32nd Ave			Construct the missing one lot segment of 32nd Ave at the local street standard.	$300,000
Tier 3 - Unconstrained	R-20	SE Guido Bocci Dr	SE Home Ave	SE Wood Ave	Extend SE Guido Bocci Dr between SE Home and SE Wood Street	$2,580,000
Tier 3 - Unconstrained	R-10	OR 99E	~~Northern City Limits~~OR 224	Southern City Limits	~~Conduct a refinement study to establish alternative mobility targets for OR 99E for locations not meeting applicable State targets, and explore ways to minimize barrier effect and improve auto and freight mobility~~Perform a corridor study that assesses the costs/benefits of a jurisdictional transfer of OR 99E within the Milwaukie Town Center) from ODOT to the City	$200,000
Tier 3 - Unconstrained	R-11	OR 224	SE McLoughlin Blvd	Southern City Limits	Conduct a refinement study to establish alternative mobility targets for OR 224 for locations not meeting applicable State targets, ~~and explore ways to minimize barrier effect and~~ explore ways to improve auto and freight mobility such as traffic control modifications at major intersections, and explore ways to minimize the barrier effect such as grade separated pedestrian crossings.	$200,000
Tier 3 - Unconstrained	R-15	SE Melody Lane	East Extents	TBD	Extend SE Melody Lane	$1,640,000
Tier 3 - Unconstrained	R-16	SE Jackson Street	SE 55th Ave	SE 55th Ave	SE Jackson St extension	$2,555,000
Tier 3 - Unconstrained	R-17	SE 53rd Pl	South extents	SE Jackson St extension	SE 53rd Pl extension	$2,710,000
Tier 3 - Unconstrained	R-18	SE Park St	SE 56th Ave	SE Stanley Ave	SE Park extension	$4,490,000

Commented [MH45]: Project description revised based on CC discussion. Description revised to focus primarily on costs/benefits of a potential jurisdictional transfer6

Commented [MH46]: Description modified based on CC request to include projects that look at major intersection modifications (roundabouts) and grade-separated pedestrian crossings of OR 224.

Tier	Project ID	Street	Start Extents	End Extents	Detailed Project Description	Estimated Cost
Tier 3 - Unconstrained	R-19	SE Hunter Ct	SE Home Ave	SE Wood Ave	SE Hunter Ct extension	$5,750,000
Tier 3 - Unconstrained	R-22	SE Lloyd St	SE 60th Ave	SE Linwood Ave	Extend SE Lloyd St from SE 60th Ave to SE Linwood Ave as part of future redevelopment	$3,990,000
Tier 3 - Unconstrained	R-26	SE Omark Dr	SE Mailwall Dr	SE Hanna Harvester Dr	Extend SE Omark Dr to connect to SE Hanna Harvester Drive	$13,550,000
Tier 3 - Unconstrained	T-3	Transit Signal Priority			Coordinate with Clackamas County to implement transit signal priority along key transit coordinators	$4,000,000
Tier 3 - Unconstrained	T-8	SE Railroad Ave/SE 37th Ave	SE Railroad Ave	SE 37th Ave	Coordinate with TriMet to help implement new Frequent Service route	Vision
Tier 3 - Unconstrained	T-4	Weekend service enhancements			Coordinate with TriMet to support new weekend service enhancements	Vision
Tier 3 - Unconstrained	T-5	SE King Road	SE 42nd Ave	SE Linwood Ave	Coordinate with TriMet to help implement new Bus Rapid Transit/Frequent Service route	$6,000,000
Tier 3 - Unconstrained	T-6	SE McLoughlin Blvd	Milwaukie Town Center	Oregon City Town Center	Coordinate with TriMet to help implement new Frequent Service route	$11,000,000
Tier 3 - Unconstrained	T-7	SE Lake Rd-SE Oatfield Rd	SE Monroe St	SE Oatfield Rd	Coordinate with TriMet to help implement new Frequent Service route	Vision
Tier 3 - Unconstrained	T-2	SE Johnson Creek Blvd	SE 45th Ave	Eastern City Limits	Coordinate with TriMet to help implement new Frequent Service route	Vision
Tier 3 – Unconstrained	P-72	SE Olsen St	Western extents of SE Olsen St	SE Mailwell Dr	Construct grade separated bike/ped crossing of rail line to SE Mailwell Dr	$15,000,000
Tier 3 – Unconstrained	P-111	OR 224	SE Harrison St	SE Oak St	Coordinate with ODOT and prepare a feasibility study for a grade-separated pedestrian crossing of OR 224 located somewhere between SE Harrison Street and SE Oak Street	$100,000
Tier 3 – Unconstrained	P-124	OR 99E	SE Harrison St	Kellog Creek crossing	Coordinate with ODOT and prepare a feasibility study for a grade-separated pedestrian crossing of OR 99E located somewhere between SE Harrison Street and the Kellog Creek crossing	$100,000
Tier 3 - Unconstrained	P-125	OR 224	SE Oak St	SE 37th Ave	Construct a new 8ft separated ped/bike pathway	$3,000,000

Commented [MH47]: Project cost added with input from TriMet

Commented [MH48]: Project cost added with input from TriMet

Commented [MH49]: Project added back in based on CC comment, but modified to a grade-separated crossing.

Commented [MH50]: Project added based on CC discussion

Commented [MH51]: Project added based on CC discussion

APPENDIX I. PERFORMANCE STANDARDS

Analysis Methodology and Performance Measures Memorandum

Document created in July 2024.

Introduction

Oregon Administrative Rule (OAR) 660-012, also known as the Transportation Planning Rule (TPR) provides requirements for Oregon jurisdictions creating and updating transportation system plans. The TPR was updated by the Oregon Department of Land Conservation and Development (DLCD) in 2022 and 2023 to implement the Climate-Friendly and Equitable Communities (CFEC) program. The CFEC program expanded upon the previous transportation system planning requirements, placing new emphasis on equity-based engagement efforts, and requiring a new performance-based transportation planning approach to help Oregon achieve its climate pollution goals.

As a component in the development of a new Milwaukie Transportation System Plan (TSP), this memorandum contains the following:

- Summation of the new performance-based planning requirements contained within the new CFEC rules. In particular, the new rules require the selection of performance standards for selecting and prioritizing the various modal-based transportation planning projects.
- Preliminary recommendations for specific performance standards that should be considered as part of the new TSP.
- Documentation of the intended methodology and assumptions that will be used to complete the various technical components of the TSP. This information is summarized primarily for review purposes by partnering agencies prior to beginning the technical analysis in the upcoming Transportation System Conditions and Needs/Gaps Analysis. Given the mainly informative and technical nature of this information, the methodology and assumptions are included in *Appendix A*.

PERFORMANCE-BASED APPROACH TO TSP DEVELOPMENT

Recent changes to the TPR (OAR 660-012) emphasize and require a performance-based approach to TSP development in metropolitan areas. The performance-based approach is rooted in the need to ensure local and regional transportation planning efforts are helping Oregon achieve its goals for reducing climate pollution. For Milwaukie's new TSP, this includes:

1. Inclusion of performance measures and targets that support achievement of OAR 660-044 greenhouse gas reduction performance measures and targets established through regional scenario planning. Cities, counties and Metro must report progress towards achieving the targets. (-0900, 0905 and -0910).
2. Identifying and applying local performance measures and/or evaluation criteria based on the jurisdiction's goals and objectives to identify needs, evaluate alternatives, and develop TSP modal plans. These will support the selection of performance standards for rule 0215.
3. Adopting at least two local performance standards per rule 0215 to apply to subsequent comprehensive plan amendments (including TSP updates) and land use decisions (including site development). These must be supportive of achieving the performance targets from the approved regional scenario plan.
4. Prioritizing facilities and projects using a framework that incorporates prioritization factors established in the TPR and considers local evaluation criteria per rules -0155, -0520, -0620, -0720, -0820.

Table 1 defines terms related to the performance-based approach for implementing the TPR. Following the table definition summary is a more detailed explanation of the terms and how they apply to the Milwaukie TSP update effort. *Appendix B* includes the OARs most frequently referenced in this memorandum.

Table 1. Definitions for the Performance-Based Approach to TSP Development

Term	Definition	Application to the Milwaukie TSP
Performance Measures	Indicators used to evaluate the performance of the transportation system and demonstrate progress towards meeting OAR 660-044 greenhouse gas reduction targets.	Milwaukie will be required to report progress on performance measures identified in Metro's *2023 Regional Transportation Plan under the Climate Smart Strategy performance measures.* The required performance measures can be supplemented with local evaluation criteria and local performance measures based on TSP goals and objectives to inform development of the TSP.
Performance Targets	Future year targets set for performance measures to be used in major reports to demonstrate progress towards meeting the region's greenhouse gas reduction target. They include an established baseline and	Performance targets must be set by Milwaukie at levels that are reasonably likely to achieve the regional greenhouse gas (GHG) reduction targets. In Milwaukie's case, the Metro 2023 *Regional Transportation Plan* has already identified targets for each of the selected performance measures. These are

Term	Definition	Application to the Milwaukie TSP
	benchmarks for performance of the planned system to track progress over time.	identified later in this memorandum (see Table 2).
Performance Standards	Performance standards are adopted during development of a TSP and include a threshold to determine whether the measured, estimated, or projected transportation facility performance meets the performance standards. Performance standards may vary by facilities and are used to review comprehensive plan and land use regulation amendments consistent with rule -0060 and to review land development applications consistent with the local development code.	Milwaukie must adopt at least two transportation performance standards per rule -0215. At least one must support increasing transportation options and avoiding principal reliance on the automobile. Performance standards can be selected by the City but must be supportive of achieving the Metro performance measures and targets in the Metro *2023 Regional Transportation Plan*.
Thresholds	Numerical value set for each performance standard to determine if the performance standard is met.	Thresholds can be set for different facility types, locations or other factors. Thresholds shall be set at the end of the planning period, time of development, or another time.
Evaluation Criteria	Used to compare and select alternatives.	Milwaukie will set these based on TSP goals and objectives.
Prioritization Factors	Criteria specified in the TPR used for prioritizing facilities and services by mode, in specific areas, and systemwide (rules -0155, -0520, -0620, -0720, and -0820).	Milwaukie must prioritize specific types of facilities to improve access, equity, and safety, among other factors. These can be supplemented with local prioritization factors.

Performance Measures

Consistent with -0900, 0905 and -0910, the City of Milwaukie will be required to coordinate its planning process with Metro's Climate Smart Strategy performance measures documented in the *Metro 2023 Regional Transportation Plan*. The following Table 2 documents the current implementation and performance monitoring results from the Metro 2023 *Regional Transportation Plan*.

These measures should be considered or evaluated, if needed, during the existing and future conditions analysis to establish baselines for the performance measures, establish targets for the -

0905 performance measures if a target has not been set already, and identify needs. They should influence modal plan development and be used to evaluate future performance of the system.

Table 2. Metro 2023 RTP Climate Smart Strategy Implementation and Performance Monitoring

	Climate Smart Strategy Baseline (2010)	Climate Smart Strategy Monitoring Target (2035)	2023 RTP Base Year (2020)	RTP 23 +STS Target Scenario Constrained (2045)
1. Implement the 2040 Growth Concept and local adopted land use and transportation plans				
a. Share of households living in a walkable mixed used development in the UGB	26%	37%	29%	37%
b. New residential units built through infill and redevelopment in the UGB[1]	58%	65%	TBD	75%
c. New residential units built on vacant land in the UGB[1]	42%	35%	TBD	25%
d. Acres of urban reserves[1]	Not applicable	12,000	Not applicable	TBD
e. Daily vehicle miles per capita	19	17	15	10
2. Make transit convenient, frequent, accessible and affordable				
a. Daily transit service revenue hours (excluding C-TRAN service hours)	4,900	9,400	7,390	10,192
b. Share of households within 1/4-mile all day frequent transit service	30%	37%	44%	41%
c. Share of low-income households within 1/4-mile all day frequent transit service	39%	49%	74%	82%
d. Share of employment within 1/4-mile all day frequent transit service	41%	52%	64%	67%
3. Make biking and walking safe and convenient				
a(1). Daily trips made walking	505,000	768,000	1,416,311	2,129,413
a(2). Daily trips made biking	179,000	280,000	91,000	121,552
b(1). Per capita biking miles per week	2.1	3.4	1.1	1.3
b(2). Per capita pedestrian miles per week	1.3	1.8	2.8	3.3
c(1 and 2). See 4a(2) and 4a(3) below	See 4a(2) and 4a(3) below			
d(1). New miles of bikeways[2]	623 existing miles	421	626 existing miles	76
d(2). New miles of sidewalks[2]	5072 existing miles	Data not available	TBD	59

	Climate Smart Strategy Baseline (2010)	Climate Smart Strategy Monitoring Target (2035)	2023 RTP Base Year (2020)	RTP 23 +STS Target Scenario Constrained (2045)
d(3). New miles of regional trails[2]	229 existing miles	140	247 existing miles	80
4. Make streets and highways safe, reliable				
a(1). Fatal and severe injury crashes - motor vehicles[3]	398	199	433	No forecast data
a(2). Fatal and severe injuries – pedestrians[3]	63	32	78	No forecast data
a(3). Fatal and severe injuries - bicyclists[3]	35	17	26	No forecast data
b. Change in travel time and reliability in regional mobility corridors	Data not available	Not evaluated	Data not available	No forecast data
c. Share of freeway lanes blocking crashes cleared within 90 minutes	Data not available	100%	Data not available	No forecast data
5. Use technology to actively manage the transportation system				
a. Share of arterial delay reduced by traffic management strategies	10%	35%	Data not available	No forecast data
b. Share of regional transportation system covered with system management/TSMO	Data not available	Data not available	Data not available	No forecast data
6. Provide information and incentives to expand the use of travel options				
a. Share of households participating in individual marketing	9%	45%	0.3%	0.6%
b. Share of workforce participating in commuter programs	20%	30%	17%	14%
7. Manage parking to make efficient use of vehicle parking and land dedicated to parking				
a(1). Share of work trips occurring in areas with actively managed parking	13%	30%	TBD	TBD
a(2). Share of non-work trips occurring in areas with actively managed parking	8%	30%	TBD	TBD
8. Support transition to cleaner low carbon fuels, efficient fuels and pay-as-you-go insurance				
a(1). Share of registered passenger cars that are electric or plug-in-hybrid electric	1%	8%	3%	48%

	Climate Smart Strategy Baseline (2010)	Climate Smart Strategy Monitoring Target (2035)	2023 RTP Base Year (2020)	RTP 23 +STS Target Scenario Constrained (2045)
a(2). Share of registered light trucks that are electric or plug-in-hybrid electric	1%	2%	2%	9%
b. Share of households using pay-as-you-go insurance	1%	40%	6%	91%
9. Secure adequate funding for transportation investments				
a. Address local, regional, and state transportation funding gap	Not evaluated		Regional funding discussions are ongoing	
10. Demonstrate leadership on climate change				
a. Region-wide annual tons per capita greenhouse gas emissions (MTCO2e) from household light-duty vehicles within the Target Rule area	Not evaluated		2.3	0.36
b. Region-wide annual tons per capita greenhouse gas emissions (MTCO2e) from all vehicles within the Target Rule area	Not evaluated		TBD	

Table Notes:

1. Data is derived from the 2018 Urban Growth Report adopted by the Metro Council in Dec. 2018.
2. Climate Smart Strategy target reflects number of miles of new bikeways, sidewalks and trails for projects in the 2014 RTP. 2023 RTP values reflect number of miles of new bikeways, sidewalks and trails for projects on planned regional networks in the 2023 RTP.
3. Climate Smart Strategy target reflects the 50 percent reduction target adopted in 2014 RTP. The 2023 RTP includes a target of zero fatal and severe injury crashes by 2035. The region does not currently have a safety predictive model to forecast this information, but will track progress toward the target through periodic RTP updates as required by federal transportation performance management requirements. Data shown for 2023 RTP Base Year (2020) reflects the annual average number of fatal and severe injury crashes reported by the Oregon Department of Transportation for the years 2016-2020.

Source: Metro 2023 *Regional Transportation Plan Draft Climate Smart Strategy Implementation and Performance Monitoring*

Performance Standards

Performance standards are selected from performance measures used to develop the TSP and contain specified thresholds. Performance standards are adopted metrics used to review comprehensive plan and land use regulation amendments and analyze transportation impacts as part of development review.

OAR 660-012-0215(3) requires Milwaukie to adopt at least two local transportation performance standards. Historically, performance standards have been heavily focused on the accommodation of vehicular travel such as level of service (a vehicular delay-based standard) or volume to capacity (a roadway/intersection-based capacity standard). Under the new rules, at least one performance standard must support increasing transportation options and avoiding principal reliance on the automobile. Collectively, the performance standards must also support achieving the targets for the performance measures from the Climate Smart Strategy section of the Metro 2023 Regional Transportation Plan developed to address OAR 660-044 greenhouse gas reduction requirements. Additionally, the performance standards must collectively evaluate at least two of the following objectives for the transportation system, for any or all modes of transportation:

1. Reducing climate pollution: creating feasible transportation options that reduce carbon emissions
2. Equity: consideration for existing or proposed transportation-related disparities and barriers experienced by historically underserved populations
3. Safety: providing a transportations system that reduces injuries and fatalities and that people feel comfortable using
4. Network connectivity: modal networks that provide route options to users and minimize out-of-direction travel
5. Accessibility: the ease of reaching (and interacting with) destinations or activities distributed in space
6. Efficiency: the maximization of transportation services at the lowest possible cost
7. Reliability: dependably provides users with a consistent range of predictable travel times
8. Mobility: the ability to move freely and easily

The performance standards could be based on a measure from the Metro Climate Smart Strategy or measures identified based on the City's TSP goals and objectives. While multiple performance measures will be considered during the development of the TSP, two or more need to be adopted as standards.

Table 3 shows the performance measures that have been included in a toolkit in ODOT's Analysis Procedures Manual to identify and select performance standards to meet the TPR requirements in OAR 660-12-0215. Jurisdictions may adopt performance standards based on different measures; however, these have been identified as good candidates for the City of Milwaukie based on their ability to document incremental changes impacted by projects, plan amendments, site developments and mitigations, their overall flexibility, ease of application and potential data availability. Table 3 also identifies the OAR 660-012-0215(3) objectives that the potential performance standards could have a primary impact upon (the two adopted standards must collectively address two or more of these) and which potential performance

standards would support increasing transportation options and avoiding principal reliance on the automobile (at least one performance standard must meet this criteria). Additional information on each of these potential performance standards is included in ODOT's Analysis Procedures Manual.

Table 3. Candidate Performance Measures for Adopting as Performance Standards

Performance Measures	**OAR 660-012-0215(3) Objectives with Primary Impact**	**Supports increasing transportation options and avoiding principal reliance on the automobile?**
Accessibility to key destinations	Accessibility, Equity	Yes
Accessibility to employment	Accessibility, Equity	Yes
Accessibility to transit	Accessibility, Equity	Yes
Bicycle level of traffic stress (BLTS)	Accessibility	Yes
Pedestrian level of traffic stress (PLTS)	Accessibility	Yes
System completeness	Network Connectivity, Accessibility	Yes
Bicycle crash risk	Safety	Yes
Pedestrian crash risk	Safety	Yes
Walking and biking facility condition	Accessibility	Yes
Pedestrian crossing spacing	Network Connectivity, Accessibility	Yes
AADT/capacity	Efficiency, Mobility	No
Hours of congestion/Duration of congestion	Efficiency, Reliability, Mobility	No
Level of service	Efficiency, Reliability, Mobility	No
Queuing	Mobility	No
Existing and predicted total crashes	Safety	No
Travel speed	Efficiency, Mobility	No
Vehicle hours traveled (VHT)	Reducing Climate Pollution	No
Household-based vehicle miles traveled (VMT) per capita	Reducing Climate Pollution	No
Volume-to-capacity ratio (V/C) at Intersections	Efficiency, Mobility	No
V/C for roadway links	Efficiency, Mobility	No

When selecting measures to adopt as performance standards, the City of Milwaukie needs to consider the following criteria:

- Does the standard help support progress for at least one of the OAR 660-012-0215(3) objectives? If so, which ones?
- Does the standard support increasing transportation options and avoiding principal reliance on the automobile? (One of the two measures must meet this criterion.)
- Can the City support the staff time or consultant time and expense to report on the standard or review the impact of the standard for transportation projects and land use and development applications?
- Does the City have the data available? If not, can they collect the necessary data and will they have the resources needed to do so?
- Does the standard support progress towards the TSP goals and objectives and support achieving the targets for the performance measures from the Metro Regional Transportation Plan? If so, which ones? Greater consideration could be given to standards that address multiple goals and performance measures.
- What will the thresholds be for the standard and will they create outcomes desired by the community?
- What standards do partner and neighboring agencies use and is there a benefit in coordinating standards? How will the two or more selected standards work together? Per OAR 660-012-0215(3), updated Transportation System Plans "must clearly establish how to apply the multiple performance standards to a proposal that meets some, but not all, of the transportation performance standards."

Recommended City of Milwaukie Performance Standards

The City of Milwaukie currently has a level of service (LOS) D standard[1] during the peak operating conditions for all intersections that fall within the City's jurisdiction. Keeping LOS as a performance standard or switching to a volume to capacity-based standard[2] would help the City to continue to support the goals of efficiency, reliability, and mobility by monitoring the degradation of intersection and/or roadway delay/capacity and identify the need for future improvements to maintain that standard.

The non-vehicular-based performance measures documented in Table 4 are recommended for consideration as part of development of the new TSP process. These performance standards would equip the city with tools to review and address comprehensive plan amendments, land use regulation amendments, and development applications while supporting the broader goals of network connectivity, accessibility, and equity. The methodology that would be applied to

[1] LOS D refers to a stable flow of traffic where vehicular volumes are near capacity at an intersection and the density of traffic restricts maneuverability and slows speeds. A LOS D standard indicates that intersections must be designed to operate at this level or better during peak traffic conditions.

[2] Volume to capacity standards compare how many vehicles use an intersection compared to how many vehicles could use the intersection over a time period.

measure these standards and the thresholds for the standards will be identified as part of this TSP process after the future conditions and solutions analysis.

Table 4. Potential Performance Standards Supporting Increasing Transportation Options

Potential Performance Standard	OAR 660-012-0215(3) Objectives with Primary Impact	Key Considerations
System Completeness	Network Connectivity, Accessibility	System completeness is often reviewed at the system-wide level but can be viewed at the facility level. This metric is easily understood by the public and can support a broad range of goals. For example, the TSP will include modal maps and identify gaps in the system as well as information about total miles of pedestrian and bicycle facilities, number of transit routes and stops in the City.
Bicycle Level of Traffic Stress (BLTS)	Accessibility	BLTS is well suited for high-level plans and has a direct connection to roadway characteristics. Most of the data points needed to calculate BLTS are readily available in the City's dataset for most roads. Data collection overlaps with PLTS and could be completed in tandem. BLTS 2 is often used as a target because it appeals to the majority of the potential bike-riding population. BLTS 1 is desired within school service boundaries. For example, the TSP will evaluate the percentage of neighborhood greenways, collector and arterial streets that are rated BLTS 1 or 2.
Pedestrian Level of Traffic Stress (PLTS)	Accessibility	PLTS is well suited for high-level plans and has a direct connection to roadway characteristics. Most of the data points needed to calculate PLTS are readily available in the City's dataset for most roads. Data collection overlaps with BLTS and could be completed in tandem. PLTS 2 is often used as a target because it appeals to the majority of users. PLTS 1 is the preferred target within school service boundaries and in land uses including downtown cores, medical facilities, areas near assisted living/retirement centers, and transit stops/corridors. For example, the TSP will evaluate the percentage of collector and arterial streets that are rated PLTS 1 or 2.
Accessibility to Transit	Accessibility, Equity	Accessibility to transit helps to compare transit system alternatives. Developing a complete and usable network can be cumbersome, so partnership with TriMet would be needed to establish base data for evaluation. Common distances used as analysis factors for walking and biking to/from transit stops can be between ¼ mile and 1 mile.

		For example, the TSP will evaluate the percentage of roadways and travel corridors in the City that are within ½ and ¼ miles of transit stops and will evaluate the characteristics of those facilities from an accessibility perspective.

Additional details on the strength and limitations of these, and other, potential performance standards are included in *Appendix C: Draft Performance Measure and Performance Standard Application Guidance.*

Prioritization Framework

In Milwaukie, the TPR provides a framework for decision making regarding the prioritization of transportation facilities and services that impact the types of solutions that are prioritized in different areas, and then provides guidance on how to prioritize projects by mode.



Source: ODOT's Performance-Based Planning Factsheet

Step 1: Solution Development Phase

OAR 660-012-0155 requires Milwaukie to consider facility classifications, planned land use contexts, expected primary users, local values per rule -0120, and the following factors when prioritizing transportation facilities and services.

Prioritization Factors (OAR 660-012-0155(3))

- Meeting greenhouse gas reduction targets
- Improving equitable outcomes for underserved populations
- Improving safety, particularly reducing or eliminating fatal and serious injuries
- Improving access for people with disabilities
- Improving access to key destinations
- Completing the multimodal transportation network (filling gaps, making connections)
- Supporting the economies of the community, regional, and state
- Other local factors

Area Specific Prioritization Factors (OAR 660-012-0155(5,6))

- Within climate-friendly areas
    - Agencies shall prioritize pedestrian, bicycle, and public transportation facilities and services and ensure planned facilities are safe, low stress, and comfortable for people of all ages and abilities.
- In areas with concentrations of underserved populations
    - Agencies shall prioritize projects addressing historic and current marginalization and work to rectify previous harms and prevent future harms from occurring.
- In industrial areas, along routes accessing key freight terminals, and other areas where accommodations for freight are needed
    - Agencies must consider the needs of freight users. Pedestrian, bicycle, and public transportation system connections must be provided in industrial areas at a level that provides safe access for workers.
- In areas near schools or areas with expected concentrations of children, older people, or people with disabilities
    - Agencies must prioritize safe, protected, and continuous pedestrian and bicycle networks connecting to key destinations, including transit stops.

Step 2: Mode Specific Prioritization Factors

OAR 660-012-0520, -0620, -0720, and -0820 provide mode specific prioritization factors and guidance for prioritizing projects within each modal plan. Cities and counties shall engage underserved populations when refining the mode specific prioritization factors per rule 0130. The mode specific prioritization factors shall also be consistent with the applicable rule 0155 factors applicable to each mode. These shall be used to develop a prioritized list of projects for each mode.

Pedestrian System Prioritization Factors (-0520)

When prioritizing pedestrian system projects systemwide, higher prioritization shall be given to projects that:

- Are located in Metro Region 2040 center / climate-friendly areas.
- Are located in areas with concentrations of underserved populations.
- Are located in areas with safety risk factors such as roadways with high speeds and high traffic volumes
- Are located in areas with reported crashes involving serious injuries and deaths to people walking and/or people riding bicycles
- Provide access to key destinations identified as provided in OAR 660-012-0360
- Connect to, fill gaps in, and expand the existing system networks
- Implement, where applicable, the adopted regional scenario plan developed to address OAR chapter 660, division 44 greenhouse gas reduction targets.

Bicycle System Prioritization Factors (-0620)

When prioritizing bicycle system projects systemwide, higher prioritization shall be given to projects that:

- Are located in Metro Region 2040 center / climate-friendly areas.
- Are located in areas with concentrations of underserved populations
- Are located in areas with safety risk factors such as roadways with high speeds and high traffic volumes
- Are located in areas with reported crashes involving serious injuries and deaths to people walking and/or people riding bicycles
- Provide access to key destinations identified as provided in OAR 660-012-0360
- Connect to, fill gaps in, and expand the existing system networks
- Implement, where applicable, the adopted regional scenario plan developed to address OAR chapter 660, division 44 greenhouse gas reduction targets.

Transit System Prioritization Factors (-0720)

When prioritizing transit system projects, higher prioritization shall be given to projects that:

- Are located in Metro Region 2040 center / climate-friendly areas
- Are located in areas with concentrations of underserved populations
- Provide access to key public transportation destinations identified as provided in OAR 660-012-0360
- Connect to, fill gaps in, and expand the existing public transportation network
- Implement, where applicable, the adopted regional scenario plan developed to address OAR 660-044 greenhouse gas reduction targets.

Street and Highway System Prioritization Factors (-0820)

When prioritizing street and highway system projects, higher prioritization shall be given to projects that:

- Reallocate right-of-way from facilities dedicated to moving motor vehicles to those for use by the pedestrian, bicycle, and public transportation systems, particularly in Metro Region 2040 center / climate-friendly areas, areas with concentrations of underserved populations, and areas with reported crashes involving serious injuries and deaths.
- Fill gaps in the existing street network.
- Implement, where applicable, the adopted regional scenario plan developed to address OAR 660-044 greenhouse gas reduction targets or help meet the performance targets per -0910.

Step 3: Unconstrained Project List

OAR 660-012-0170 requires Milwaukie to develop a method for prioritizing projects on the unconstrained project list. This should build upon the prioritization work in Steps 1 and 2. Projects can be ranked individually or in tiers from the mode specific prioritized project lists. The City must emphasize the following requirements when developing a method of prioritizing projects on the unconstrained project list:

- The project will help reduce vehicle miles traveled.
- The project burdens underserved populations less than and benefits underserved populations as much as the city or county population as a whole.
- The project will help achieve the rule -0910 performance targets

Step 4: Financially-Constrained Project List

OAR 660-012-0180 requires Milwaukie to include a financially-constrained project list in their TSP that is consistent with projected funding per rule 0115 and includes the top available projects from the unconstrained project list (from Step 3). This list may include projects that add up to no more than 125% of the projected available funding. The project list and funding shall include projects and funding identified in the plans of partner jurisdictions and transit service providers and may include programmatic funds for programs such as transportation options, safety, safe routes to school, complete streets, etc. The resulting financially-constrained project list must:

- Burden underserved populations less than the city or county population as a whole and benefit underserved populations as much as or more than the city or county population as a whole;
- Make significant progress toward meeting the rule 0910 performance targets; and
- Reduce vehicle miles traveled per capita per rule 0160 if the list includes capacity expanding projects that require enhanced review per rule 0830.

If the list of projects cannot meet these criteria, the city or county must adjust the project list to the highest-ranking set of projects that can meet the criteria.

Connection Between Prioritization Factors and the TSP Goals

Table 5 connects the prioritization framework above to the goals identified in Milwaukie's current Vision, Goals, and Policies memorandum. These performance measures will be used to evaluate existing and future conditions, identify needs and solutions, and will influence project prioritization.

Table 5. Prioritization Factors and TSP Goals

Goal	Goal Statement	Prioritization Factor
Safety	Improve the safety and comfort of the multimodal transportation network.	• Improve safety, particularly reducing or eliminating fatalities and serious injuries • Pedestrian and/or bicycle system projects are prioritized if they are located in areas with pedestrian and/or bicycle safety risk factors such as roadways with high speeds and high traffic volumes and/or are located in areas with reported crashes involving serious injuries and deaths to pedestrians and/or people riding bicycles
Active, Healthy, Transportation Choices	Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.	• Complete the multimodal transportation network, including filling gaps and making connections • Projects in industrial areas create or improve pedestrian, bicycle, and public transportation system connections at a level that provides safe access for workers • Pedestrian, bicycle, and/or transit projects that connect to, fill gaps in, and expand the existing pedestrian, bicycle, and/or transit system networks • Projects in Metro Region 2040 center / climate-friendly area that improve existing or provide new pedestrian, bicycle, and public transportation facilities and services, or create safe, low stress, and comfortable travel via walking, rolling, cycling, and public transportation for people of all ages and abilities. • Street and highway system projects that reallocate right-of-way from facilities dedicated to moving motor vehicles to those for use by the pedestrian, bicycle, and public transportation systems, particularly in Metro Region 2040 center / climate-friendly areas, areas with concentrations of underserved populations, and areas with reported crashes involving serious injuries and deaths.
Mobility, Accessibility, and Connectivity	Provide an efficient and well-connected multimodal transportation system that works to connect the community to key destinations.	• Improve access for people with disabilities • Improve access to destinations, particularly key destinations as identified in OAR 660-012-0360 • Projects in areas near schools or other locations with expected concentrations of children or areas with expected concentrations of older people or people with disabilities that provide safe, protected, and continuous pedestrian and bicycle networks connecting to key destinations, including transit stops • Pedestrian and/or bicycle system projects that provide access to key destinations identified as provided in OAR 660-012-0360 • Transit system projects that connect to, fill gaps in, and expand the existing public transportation network • Transit system projects that provide access to key public transportation destinations as provided in OAR 660-012-0360 • Street and highway system projects that fill gaps in the existing street network.
Coordination with Local, Regional, and State Partners	Foster and maintain relationships with public and private partners in the common interest of enhancing the city's transportation network.	*Prioritization factors do not directly relate to this goal, however local, regional, and state partners will be engaged in the TSP development process.*
Resiliency	Develop a multimodal transportation system that provides travel options during normal conditions, natural disasters, or emergencies.	
Parking	Reduce land used for parking to achieve local, state and regional parking goals while also managing parking impacts.	
Fiscal Stewardship and System Management	Make the most of transportation resources by leveraging available funding opportunities, preserve existing infrastructure, and reduce system maintenance costs.	

Goal	Goal Statement	Prioritization Factor
Economic Vitality	Develop a transportation system that supports and facilitates economic activity through the efficient movement of people, goods, and services.	• Support the economies of the community, region, and state
Equity	New investments in Milwaukie's transportation system are distributed fairly to reduce or eliminate transportation-related barriers and disparities, especially those experienced by marginalized or underserved populations.	• Improve equitable outcomes for underserved populations, as identified in OAR 660-012-0125 • Projects in areas with high concentrations of underserved populations that address historic and current marginalization and/or work to rectify previous harms and prevent future harms from occurring. These areas may have suffered from disinvestment or harmful investments, including transportation system investments. Such harms include but are not limited to displacement, increased exposure to pollutants, destruction and division of neighborhoods, heat islands, and unsafe conditions for pedestrians, cyclists, transit users, and others. • Pedestrian, bicycle, and/or transit system projects that are located in areas with concentrations of underserved populations
Climate Friendly	Develop a transportation system that works to minimize pollution and reduce impacts to the environment and climate change.	• Meeting greenhouse gas reduction targets • Implement, where applicable, the adopted regional scenario plan developed to address OAR 660-044 greenhouse gas reduction targets • Pedestrian, bicycle, and/or transit system projects that are located in Metro Region 2040 center / climate-friendly areas
Transit Forward	Make public transit service more viable.	• Transit elements incorporated in Equity and Mobility, Accessibility, and Connectivity measures.

Next Steps

This memorandum was reviewed by the Transportation System Plan Technical and Advisory Committees, Transportation Planning Analysis Unit, and Region 1 Traffic Section. After obtaining approval of the analysis methodology the project team will begin the transportation system conditions needs analysis.

APPENDIX A – MILWAUKIE TSP METHODOLOGY AND ASSUMPTIONS

Study Area

The study area for the Milwaukie TSP update is defined as the City of Milwaukie boundaries. The study area does not include areas that are in the Urban Growth Management Areas (Figure 1).

Data

Information contained within the City GIS, Metro Regional Land Information System, or other publicly available databases and imagery will be utilized for the existing transportation system conditions analysis. No new data will be collected for this element of the TSP update.

Analysis Methodology

This section documents the analysis methodology associated with the existing and future conditions analyses.

Land Use and Population Analysis

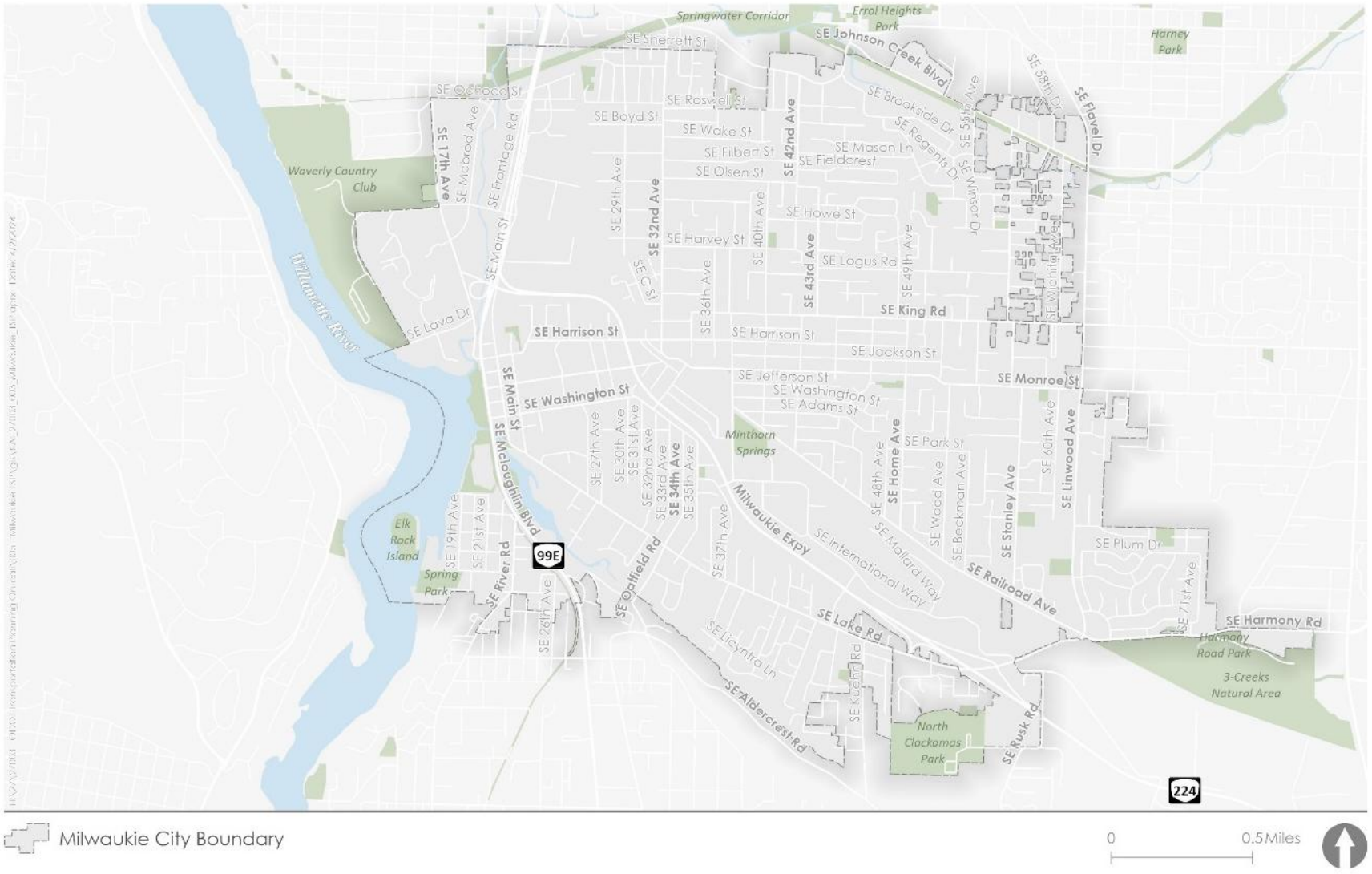
Current population locations and characteristics will be summarized according to most recent American Community Survey data and City GIS data. This will include:

9. Summaries of the locations of underserved and transportation-disadvantaged populations in Task 2.
10. Existing land uses including total land area by Comprehensive Plan Designation and Zoning and the locations and amounts of buildable lands by Comprehensive Plan Designation and Zoning.
11. Maps of identified activity centers and key destinations as identified and provided in GIS by City staff.
12. General characterization of the type of trips and seasonal variations in trips generated by activity centers.

Metro Model Versions/Assumptions

Metro, ODOT, and DKS Associates are currently working on a case study project for Milwaukie that is evaluating how to use the Metro regional travel demand model to comply with CFEC rules for jurisdictions within the region. The case study is anticipated to provide information supporting climate analyses, including greenhouse gas emissions and vehicle miles traveled. The Milwaukie TSP will document the findings of this study pending the timeframe and outcomes of that effort.

Figure 1: Study Area



Enhanced Review Process

Oregon Administrative Rule (OAR) 660-012-0830 requires enhanced review of select roadway projects when preparing a new or updated TSP. The enhanced review process applies to the City of Milwaukie as it is located within Metro. A new step in the preparation of TSPs, the enhanced review process applies specifically to existing planned TSP projects or new proposed TSP projects that fall under one of the following categories:

- New or extended arterial street, highway, or freeway projects that would carry vehicle traffic;
- New or expanded interchanges;
- An increase in the number of general purpose travel lanes for an existing arterial or collector street, highway, or freeway; and
- New or extended freeway auxiliary lanes.

If there are currently planned or anticipated new TSP projects that would meet the enhanced review criteria, the new process would require local agencies to develop new alternative projects to determine if these alternatives could substantially address the identified need without implementation of the roadway projects.

As part of this task, the Project Team, in coordination with ODOT and the Department of Land Conservation and Development (DLCD), has reviewed the list of projects from the existing 2018 *Milwaukie TSP* and the *Metro 2023 Regional Transportation Plan* (RTP). Based on this review, there are no currently planned projects that are likely to trigger enhanced review.

Livable Streets

The livable streets analysis and recommendations will identify standard cross-sections and right-of-way needs based on the land use context for the local street functional classifications.

Livable streets will reflect Metro's *Designing Livable Streets and Trails Guide* and ODOT's *Highway Design Manual*. Recommendations will include recommended changes to the City's Code as needed to support the local street and greenway standards.

Parking

OAR 660-012-0415 identifies that cities with populations over 25,000 within the Portland Metropolitan Area shall set parking maximums in Metro Region 2040 centers. According to the United States Census Bureau, the City of Milwaukie has a population of 21,375 (2022), therefore the requirement to identify parking maximums does not currently apply.

The TSP will include recommendations for locations of parking and charging stations for vehicles and bicycles.

Multimodal Analysis

The existing conditions inventory, needs determination, and solutions assessment will be consistent with the elements required under OAR 600-012-0150. Table 6 documents the "shall" statements required for cities and counties within metropolitan areas, which will be evaluated where there is available data and ability to evaluate based on the project scope and budget. Where there is no available data (e.g. data about the condition of bicycle facilities) or the evaluation goes beyond the project scope and budget, the TSP update will identify the need for additional data collection in the future. Items **bolded** in the table below are anticipated to be evaluated as part of this TSP update based on scope, budget, and available data.

Table 6. Transportation System Needs and Gaps Analysis According to OAR 660-020-0150[3]

Mode	Facility Inventory	Needs Determination	Deficiencies Determination	Developing Solutions
Bicycle	• **Identification of bicycle lanes, bicycle routes, accessways, paths, and other types of bicycle facilities, including pedestrian facilities that may be used by bicycles along bicycle boulevards and along all arterials and collectors within the planning area** • **Identification of bicycle facilities of all types within Climate-Friendly Areas, within Metro Region 2040 centers, within one-quarter mile of all primary and secondary schools, and on bicycle boulevards** • Identification of the width, type, and condition of bicycle facilities • Identification of the consistency of bicycle facilities with applicable state, regional, and local standards • Identification of crash risk factors of inventoried bicycle facilities, including speed, volume, separation, and roadway width • **Location of all reported injuries and deaths of people on bicycles from the most recent 5 years of available data** • **Identification of key bicycle destinations**	• Identification of the local, regional, and state standards for a complete bicycle system for people of all ages and abilities[4] • **Evaluation of gaps and deficiencies in the bicycle network relative to standards, including missing bike lanes**, narrow bike lanes, unmarked crossings, poor surface conditions, poor street lighting, roadway hazards, etc. • **Evaluation of gaps in bicycle access to/from key destinations, including transit stops, schools, shopping areas, medical facilities, civic and recreational uses, and trails** • Analysis of bicycle crash data and risk-based safety issues (see ODOT's Bicycle Safety Implementation Plan for additional information) • **Evaluation of high bicycle fatality and serious injury crash locations**	• **Evaluation of gaps in bicycle access to/from key destinations, including transit stops, schools, shopping areas, medical facilities, civic and recreational uses, and trails, based on future no-build condition and future land use conditions** • Analysis of bicycle risk-based safety issues (see ODOT's Bicycle Safety Implementation Plan for additional information), based on future no-build condition and future land use conditions	• **Completeness of the bicycle network** • **Gaps and deficiencies in the bicycle facilities along all arterials and collectors** • **Gaps and deficiencies in the bicycle facilities along all streets (including local streets) within climate-friendly areas, within Metro Region 2040 centers, within one-quarter mile of all primary and secondary schools, and along designated bicycle boulevards** • **Gaps in the bicycle facilities that would link key community destinations (e.g., major employment centers, schools, parks, transit stops, intermodal facilities, and recreation areas)** • **Known safety issues in the bicycle network (specifically, crash history, noting fatal and severe injury crashes,** or roadway characteristics such as number of lanes, speed, and volume of motor vehicles) • Enhanced facilities (above the minimum bicycle system requirements) where necessary or desirable • Bicycle facility design standards for arterials, collectors, and shared-use paths • **Bicycle projects identified in other relevant state, regional, and local plans** • Bicycle facilities with: – Separated bike lanes (including cycle tracks) – Buffered bike lanes – On-street bike lanes – Shoulder bikeways – Shared roadway pavement marking and signs – Shared use paths • Enhanced bicycle crossings with: – Bike boxes – Two-stage turn queue boxes – Intersection crossing markings

[3] This table was developed based on ODOT's draft Transportation System Plan Guidelines resource (https://www.oregon.gov/odot/Planning/TSP-Guidelines/Pages/Prepare.aspx) – the table is subject to change based on updates to the Transportation System Plan Guidelines.

[4] The pedestrian and bicycle analyses will follow the Pedestrian Level of Traffic Stress (PLTS) and Bicycle Level of Traffic Stress (BLTS) analysis methodologies outlined in the APM. Both PLTS and BLTS methods group facilities into four different stress levels for segments, intersection approaches, and intersection crossings. Facilities with an LTS 1 rating have little to no traffic stress, require less attention, and are suitable for all users. Facilities with an LTS 2 rating have little traffic stress, but require more attention and therefore, may or may not be suitable for small children. Facilities with an LTS 3 rating have moderate traffic stress and are suitable for adults. Facilities with an LTS 4 rating have high traffic stress and are only suitable for able-bodied adults with limited options.

Mode	Facility Inventory	Needs Determination	Deficiencies Determination	Developing Solutions
				– Median diverters – Protected intersections
Pedestrian	• **Identification of sidewalks, crosswalks, shared-use paths, trails, and other types of pedestrian facilities along all arterials and collectors within the planning area** • **Identification of pedestrian facilities of all types within Climate-Friendly Areas, within Metro Region 2040 centers, and within one-quarter mile of all primary and secondary schools** • Identification of the width, type, and condition of pedestrian facilities • Identification of crossing distances, type of crossing, closed crossings, curb ramps, and distance between crossings • Identification of the consistency of pedestrian facilities with applicable state, regional, and local design standards • Identification of crash risk factors of inventoried pedestrian facilities, including speed, volume, separation, and roadway width • **Location of all reported injuries and deaths of people walking or using a mobility device from the most recent 5 years of available data** • **Identification of key pedestrian destinations**	• Identification of the local, regional, and state standards for a complete pedestrian system[1] • **Evaluation of gaps and deficiencies in the pedestrian network relative to standards, including missing sidewalks**, narrow sidewalks, curb-tight sidewalks, poor sidewalk condition, poor street lighting, unmarked crossings, wide spacing between marked crossings, etc. • **Evaluation of gaps in pedestrian access to/from key destinations, including transit stops, schools, shopping areas, medical facilities, civic and recreational uses, and trails** • Pedestrian crash analysis and risk-based safety analysis • Analysis of pedestrian crash data and risk-based safety issues (see ODOT's Bicycle and Pedestrian Safety Implementation Plan for additional information) • **Evaluation of pedestrian fatality and serious-injury crash locations** • Evaluation of marked crossings, including location, spacing, treatments, etc.	• **Evaluation of gaps in pedestrian access to/from key destinations, including transit stops, schools, shopping areas, medical facilities, civic and recreational uses, and trails, based on future no-build condition and future land use conditions** • Analysis of pedestrian risk-based safety issues (see ODOT's Bicycle and Pedestrian Safety Implementation Plan for additional information), based on future no-build condition and future land use conditions • Evaluation of marked crossings, including location, spacing, treatments, etc., based on future no-build condition and future land use conditions	• **Completeness of the pedestrian network** • **Gaps and deficiencies in the pedestrian network along all arterials and collector** • **Gaps and deficiencies in the pedestrian network along all streets (including local streets) within climate-friendly areas, within Metro Region 2040 centers, and within one-quarter mile of all primary and secondary schools** • **Gaps in the pedestrian facilities that would link key community destinations (e.g., major employment centers, schools, parks, transit stops, intermodal facilities, and recreation areas)** • **Known safety issues in the pedestrian network (specifically, crash history, noting fatal and severe injury crashes**, or roadway characteristics such as number of lanes, speed, and volume of motor vehicles) • Enhanced facilities (above the minimum pedestrian system requirements) where necessary or desirable • Pedestrian facility design standards for arterials, collectors, and local streets • **Pedestrian projects identified in other relevant state, regional, and local plans** • Pedestrian facilities with: – Sidewalks – Landscape strips (protective buffers) – Pedestrian pathways/accessways – Pedestrian plazas – Shared-use paths and trails – Pedestrian scale lighting – Pedestrian amenities • Enhanced pedestrian crossings with: – High visibility pavement markings and signs – Raised median islands with pedestrian refuge – Flashing beacons (RRFBs, PHBs, etc.) – Curb extensions
Transit	• **Identification of local and intercity transit service providers** • **Identification of fixed-route and dial-a-ride service areas and the location of fixed routes, major stations, and transit stops** • **Identification of service characteristics, such as days and hours of operation and service frequency** • **Identification of intercity bus and passenger rail terminals and park-and-ride stations**	• Identification of the local, regional, and state standards for a complete public transportation system[6] • **Evaluation of gaps in the local transit network that serve key destinations, including schools, shopping areas, medical facilities, civic and recreational uses, and trails** • The item to evaluate "transit corridors, including priority and other transit corridors in areas with	• **Evaluation of gaps in the local transit network that serve key destinations, including schools, shopping areas, medical facilities, civic and recreational uses, and trails, based on future no-build condition and future land use conditions** • The item to evaluate "transit corridors, including priority and other transit corridors in areas with greater than 10,000 in population, based on	The project team will coordinate with TriMet in preparation of transit solutions. • **Completeness of the public transportation network** • **Gaps and deficiencies in the public transportation network, including transit supportive facilities (e.g., stations, hubs, stops, shelters, signs, and ancillary features)** • **Gaps in the public transportation network that would link key community destinations (e.g., major**

[6] The transit analysis will follow the qualitative multimodal assessment (QMA) methodology outlined in the APM. Transit QMA provides a qualitative "good", "fair", "poor" rating for transit service based on hours of service, service frequency, and service coverage.

Mode	Facility Inventory	Needs Determination	Deficiencies Determination	Developing Solutions
	• **Identification of the location of transportation-disadvantaged and disabled populations, including areas with disproportionate concentrations of these populations** • Identification of special service characteristics, such as bus rapid transit • Identification of transitways, transit lanes, transit priority signals, queue jumps, on-route charging, and other transit supportive facilities not otherwise inventoried • Identification of existing and planned transit trunk routes, exclusive transit ways, terminals and major transfer stations, major transit stops, and park-and-ride stations • The item to evaluate "the feasibility of developing a public transit system for areas within an urban area containing a population greater than 25,000 persons not currently served by transit" is not appliable[5] • Identification of ADA accessibility to individual transit stops and services • **Identification of key public transportation destinations**	greater than 10,000 in population" is not applicable[7]. • Evaluation of transit supportive facilities on priority and other transit corridors, including stations, hubs, stops, shelters, signs, and ancillary features • **Qualitative multimodal assessment of the public transit system (see ODOT's Analysis and Procedures Manual for technical guidance)** • Assessment of transit stops for accessibility by disabled and safety for all riders, including the accessibility of amenities such as bus shelters	future no-build condition and future land use conditions" is not appliable[8]. • Evaluation of transit supportive facilities on priority and other transit corridors, including stations, hubs, stops, shelters, signs, and ancillary features, based on future no-build condition and future land use conditions • **Qualitative multimodal assessment of the public transit system (see ODOT's Analysis and Procedures Manual for technical guidance), based on future no-build condition and future land use conditions**	**employment centers, schools, parks, transit stops, intermodal facilities, and recreation areas)** • **Gaps in the pedestrian and/or bicycle networks that limit access to/from existing or planned transit stops** • **Public transportation projects identified in other relevant transit agency plans**
Roadway	• **Document characteristics within the project limits of known roadway projects that will be moved into the updated TSP and that will be subject to an enhanced review process based on OAR 660-012-0830 (see Enhanced Review of Select Roadway Projects for more information)** • **Location of all publicly owned, operated, or supported streets** • **Identification of roadway ownership by jurisdiction** • **Identification of roadway classifications by jurisdiction, including federal, state, regional, and local classifications, as applicable** • Identification of primary uses, and whether they serve local, regional, pass-through, or freight traffic • Identification of primary users of a facility, including whether users are primarily on foot, bicycle, transit, freight, or personal vehicle • Identification of land use context for each segment of a facility, including types of planned land uses surrounding the facility • Identification of the location of key destinations • Identification of roadway characteristics:	• Identification of the local, regional, and state standards for a complete street and highway system • **Review state, regional, and local transportation/land use plans to identify roadway projects that will be moved into the updated TSP and that will be subject to an enhanced review process based on OAR 660-012-0830 (see Enhanced Review of Select Roadway Projects for more information)** • **Evaluation of local street design standards according to applicable state and regional standards and guidelines** • Comparison of roadway characteristics (travel lane widths, shoulder/bike lane widths, etc.) to applicable state, regional, and local standards • **Evaluation of the local street network and the identification of areas where new local streets will be needed. Cities and counties must plan local streets in climate-friendly areas and Metro Region 2040 centers to prioritize pedestrian and bicycle systems and be limited to local access for motor vehicles.**	• **Evaluation of the local street network and the identification of areas where new local streets will be needed, based on future no-build condition and future land use conditions. Cities and counties must plan local streets in climate-friendly areas and Metro Region 2040 centers to prioritize pedestrian and bicycle systems and be limited to local access for motor vehicles.** • Evaluation of the collector street network and the identification of new collector streets connected with local streets and arterials, based on future no-build condition and future land use conditions. Cities and counties must plan collectors in climate-friendly areas and Metro Region 2040 centers to prioritize pedestrian, bicycle, and public transportation systems. • Evaluation of the arterial street network, identification of new arterial streets connected with local streets and arterials, and designation of arterial streets as local access priority, through movement priority, or arterial segments in a Metro Region 2040 center / climate-friendly area, based on future no-build condition and future land use conditions.	• **Completeness of the roadway network and local street connectivity relative to local performance measures, standards, and targets** • Gaps and deficiencies in the roadway network along arterials, collectors, and local streets • Address gaps and deficiencies in the roadway network that would link key community destinations (e.g., major employment centers, schools, parks, transit stops, intermodal facilities, and recreation areas) • **Roadway design standards for** arterials, collectors, and **local streets that reflect the minimum size necessary for the identified function, planned land use context, and expected users of the facility (roadway design standards may be included as a reference if located in a separate manual)** • **Roadway projects identified in other relevant state, regional, and local plans (projects identified in other plans are also subject to the requirements of OAR 660-012-0830)**

[5] This will not be evaluated in the TSP Update because it is not applicable based on the population size of Milwaukie.

[7] This will not be evaluated in the TSP Update because it is not applicable based on the population density along transit corridors in Milwaukie.

[8] This will not be evaluated in the TSP Update because it is not applicable based on the population density along transit corridors in Milwaukie.

Mode	Facility Inventory	Needs Determination	Deficiencies Determination	Developing Solutions
	– For local streets include location – For collector streets include location, condition, and number of general-purpose travel lanes and turn lanes – For arterial streets include location, condition, and number of general-purpose travel lanes, turn lanes, and lane width – For expressways and other limited-access highways include location, condition, and number of general-purpose travel lanes, turn lanes, and lane width, as well as the locations and types of interchanges • An overview of pricing strategies in use, including specific facility pricing, area or cordon pricing, and parking pricing • Identification of pavement type and conditions through a windshield survey • **Location of all reported serious injuries and deaths of people related to vehicular crashes from the most recent 5 years of available data**	• Evaluation of the collector street network and the identification of new collector streets connected with local streets and arterials. Cities and counties must plan collectors in climate-friendly areas and Metro Region 2040 centers to prioritize pedestrian, bicycle, and public transportation systems. • Evaluation of the arterial street network, identification of new arterial streets connected with local streets and arterials, and designation of arterial streets as local access priority, through movement priority, or arterial segments in a Metro Region 2040 center / climate-friendly area.		
Freight	• **Identification of Oregon Highway Plan Freight Routes and Reduction Review Routes** • **Identification of National Highway System (NHS) freight intermodal connectors and facilities** (e.g., truck-rail intermodal yards, truck-rail reload facilities, marine terminals, pipeline terminals, air-cargo facilities, park-and-ride lots, highway-to-rail transfer facilities), including service levels and other characteristics • **Identification of the National Highway Freight Network Critical Urban and/or Rural Freight Corridors** • **Identification of local and regional truck freight routes**	• No freight needs identified as shall statements	• No freight deficiencies as shall statements	• Known multi-modal safety issues along designated freight routes • Existing or projected future operational issues and geometric bottlenecks that impact the movement of truck freight along designated freight routes • **Truck freight projects identified in other relevant state, regional, and local plans**

Crash Analysis

The five most recent years of complete crash data available will be obtained from ODOT's crash database. Currently, complete crash data is available for the period from January 1, 2017 through December 31, 2021. The crash data will be analyzed according to the shall statements of OAR 660-020-0150, as documented in Table 6.

Potential countermeasures (and resulting crash percentage reductions) will be taken from the All Roads Transportation Safety (ARTS) Crash Reduction Factors (CRF) listing, the CRF Appendix, or the Crash Modification Factor (CMF) Clearinghouse; CMFs from the Clearinghouse will be three stars or better.

Planning Level Cost Estimates

Planning level cost estimates will be developed for proposed solutions to inform the identification of a fiscally constrained project list.

According to the Financial Forecast Memo, the City is projected to have approximately $22 million available for capital projects over the next 20 years (excluding potential bonds). This amount of funding will be used to identify the fiscally constrained project list.

Appendix B: Oregon Administrative Rules

This appendix includes the Oregon Administrative Rules (OARs) reviewed to develop the analysis methodology and performance measures. They were copied from the OAR database in February 2022.

OAR 660-012-0155

Prioritization Framework

(1) Cities, counties, Metro, and state agencies shall use the framework in this rule for decision making regarding prioritization of transportation facilities and services. Cities, counties, Metro, and state agencies shall consider the following:

(a) Prioritization factors as provided in section (3);

(b) Classification of facilities or segments as provided in section (4);

(c) The planned land use context as provided in section (5); and

(d) Expected primary users as provided in section (6).

(2) Cities, counties, Metro, and state agencies may use local values determined through engagement as provided in OAR 660-012-0120 to weight various prioritized factors when making prioritization decisions as provided in this division.

(3) Cities, counties, Metro, and state agencies shall prioritize transportation facilities and services based on the following factors:

(a) Meeting greenhouse gas reduction targets, including:

(A) Reducing per-capita vehicle miles traveled to meet greenhouse gas reduction targets provided in OAR 660-044-0020 or OAR 660-044-0025;

(B) Supporting compact, pedestrian-friendly patterns of development in urban areas, particularly in climate-friendly areas;

(C) Reducing single-occupant vehicle travel as a share of overall travel; and

(D) Meeting performance targets set as provided in OAR 660-012-0910.

(b) Improving equitable outcomes for underserved populations identified in OAR 660-012-0125;

(c) Improving safety, particularly reducing or eliminating fatalities and serious injuries;

(d) Improving access for people with disabilities;

(e) Improving access to destinations, particularly key destinations identified as provided in OAR 660-012-0360;

(f) Completing the multimodal transportation network, including filling gaps and making connections;

(g) Supporting the economies of the community, region, and state; and

(h) Other factors determined in the community.

(4) Cities, counties, Metro, and state agencies shall consider the functional classification of planned or existing transportation facilities or segments when making decisions about appropriate transportation facilities and services. Cities, counties, Metro, and state agencies may establish mode-specific functional classifications for each mode on any facility or segment that they own and operate.

(5) Cities, counties, Metro, and state agencies shall consider the planned land use context around an existing or planned transportation facility or segment when making decisions about appropriate transportation facilities and services.

(a) Within climate-friendly areas, cities, counties, Metro, and state agencies shall prioritize pedestrian, bicycle, and public transportation facilities and services. Cities, counties, Metro, and state agencies shall ensure facilities are planned for these modes to experience safe, low stress, and comfortable travel for people of all ages and abilities within climate-friendly areas with minimal interference from motor vehicle traffic.

(b) In areas with concentrations of underserved populations, cities, counties, Metro, and state agencies shall prioritize transportation projects addressing historic and current marginalization. Proposed transportation projects in these areas must work to rectify previous harms and prevent future harms from occurring. These areas may have suffered from disinvestment or harmful investments, including transportation system investments. Such harms include but are not limited to displacement, increased exposure to pollutants, destruction and division of neighborhoods, heat islands, and unsafe conditions for pedestrians, cyclists, transit users, and others.

(6) Cities, counties, Metro, and state agencies shall consider the expected primary users of an existing or planned transportation facility or segment when making decisions about appropriate transportation facilities and services. In particular:

(a) In areas near schools or other locations with expected concentrations of children, or areas with expected concentrations of older people or people with disabilities, cities, counties, Metro, and state agencies must prioritize safe, protected, and continuous pedestrian and bicycle networks connecting to key destinations, including transit stops.

(b) In industrial areas, along routes accessing key freight terminals, and other areas where accommodations for freight are needed, cities, counties, Metro, and state agencies must consider the needs of freight users. Pedestrian, bicycle, and public transportation system connections must be provided in industrial areas at a level that provides safe access for workers.

Statutory/Other Authority: ORS 197.040
Statutes/Other Implemented: ORS 197.012, ORS 197.180, ORS 197.712 & ORS 468A.205
History:
LCDD 9-2023, amend filed 11/07/2023, effective 11/07/2023
LCDD 3-2022, adopt filed 08/17/2022, effective 08/17/2022
LCDD 2-2022, temporary adopt filed 06/01/2022, effective 06/01/2022 through 11/27/2022

OAR 660-012-0160

Reducing Vehicle Miles Traveled

(1) The following jurisdictions are exempt from the requirements of this rule:

(a) Cities under 5,000 population;

(b) Counties under 5,000 population within urban growth boundaries but outside of incorporated cities; and

(c) Counties under 10,000 population within urban growth boundaries but outside of incorporated cities.

(2) When a city or county, makes a major update to a transportation system plan as provided in OAR 660-012-0105, or Metro makes an update to a regional transportation plan as provided in OAR 660-012-0140, they shall use the following requirements to project vehicle miles traveled per capita for the planning period.

(a) The city, county, or Metro must prepare a projection that estimates changes between vehicle miles traveled per capita from the base year and vehicle miles traveled per capita that would result from all projects on the financially-constrained project list prepared as provided in OAR 660-012-0180; and

(b) Projections of vehicle miles traveled per capita must incorporate the best available science on latent and induced travel of additional roadway capacity.

(3) The projections prepared as provided in section (2) must be based on:

(a) Land use and transportation policies in an acknowledged comprehensive plan and in the proposed transportation system plan;

(b) Local actions consistent with the adopted performance targets under OAR 660-012-0910, or OAR 660-044-0110; and

(c) Forecast land use patterns as provided in OAR 660-012-0340.

(4) Cities and counties may only adopt a transportation system plan if the projected vehicle miles traveled per capita at the horizon year using the financially-constrained project list is lower than estimated vehicle miles traveled per capita in the base year scenario.

(5) A city or county is not required to meet the requirements in sections (2) through (4) of this rule if the city or county has selected a financially-constrained project list that does not contain any project that would require review as provided in OAR 660-012-0830(1).

(6) Metro shall adopt a regional transportation plan in which the projected vehicle miles traveled per capita at the horizon year using the financially-constrained project list is lower than the estimated vehicle miles traveled per capita at the base year by an amount that is consistent with the metropolitan greenhouse gas reduction targets in OAR 660-044-0020. Metro may rely on assumptions on future state and federal actions, including the following state-led actions that affect auto operating costs:

(a) State-led pricing policies, and energy prices; and

(b) Vehicle and fuel technology, including vehicle mix, vehicle fuel efficiency, fuel mix, and fuel carbon intensity.

Statutory/Other Authority: ORS 197.040
Statutes/Other Implemented: ORS 184.899, ORS 197.012, ORS 197.712 & ORS 486A.205
History:
LCDD 3-2022, adopt filed 08/17/2022, effective 08/17/2022
LCDD 2-2022, temporary adopt filed 06/01/2022, effective 06/01/2022 through 11/27/2022

OAR-660-012-0215

Transportation Performance Standards

(1) This rule applies to transportation performance standards that cities and counties use to review comprehensive plan and land use regulation amendments as provided in OAR 660-012-0060. If a city or county requires applicants to analyze transportation impacts as part of development review in acknowledged local land use regulations, then that review must include evaluation of the performance standards established under this rule. This rule applies to transportation performance standards that Metro uses to review functional plan amendments as provided in OAR 660-012-0060.

(2) Cities and counties shall adopt transportation performance standards. The transportation performance standards must support meeting the targets for performance measures set as provided in OAR 660-012-0910. The transportation performance standards must include these elements:

(a) Characteristics of the transportation system that will be measured, estimated, or projected, and the methods to calculate their performance;

(b) Thresholds to determine whether the measured, estimated, or projected performance meets the performance standard. Thresholds may vary by facility type, location, or other factors. Thresholds shall be set at the end of the planning period, time of development, or another time; and

(c) Findings for how the performance standard supports meeting the targets for performance measures set as provided in OAR 660-012-0910.

(3) Cities, counties, Metro, and state agencies shall adopt two or more transportation performance standards. Metro may adopt regional performance standards in a functional plan for use across regional and local plans. At least one of the transportation performance standards must support increasing transportation options and avoiding principal reliance on the automobile. The transportation system plan must clearly establish how to apply the multiple performance standards to a proposal that meets some, but not all, of the transportation performance standards. The transportation performance standards must evaluate at least two of the following objectives for the transportation system, for any or all modes of transportation:

(a) Reducing climate pollution;

(b) Equity;

(c) Safety;

(d) Network connectivity;

(e) Accessibility;

(f) Efficiency;

(g) Reliability; and

(h) Mobility.

Statutory/Other Authority: ORS 197.040
Statutes/Other Implemented: ORS 197.012, ORS 197.180 & ORS 197.712
History:
LCDD 9-2023, amend filed 11/07/2023, effective 11/07/2023
LCDD 3-2022, adopt filed 08/17/2022, effective 08/17/2022
LCDD 2-2022, temporary adopt filed 06/01/2022, effective 06/01/2022 through 11/27/2022

OAR 660-012-0905

Land Use and Transportation Performance Measures

(1) Cities, counties, and Metro that have a land use and transportation scenario approved by the commission as provided in OAR 660-044-0050 or OAR 660-044-0120 shall report on the performance measures from the approved regional scenario plan.

(2) Cities and counties that do not have a land use and transportation scenario approved by the commission as provided in OAR 660-044-0120 shall report on the specific actions, including capital improvements and the adoption of policies or programs that they have or will undertake to reduce pollution and increase equitable outcomes for underserved populations. At a minimum, this report must include the following performance measures:

(a) Compact Mixed-Use Development

(A) Number of publicly supported affordable housing units in climate-friendly areas.

(B) Number of existing and permitted dwelling units in climate-friendly areas and percentage of existing and permitted dwelling units in climate-friendly areas relative to total number of existing and permitted dwelling units in the jurisdiction.

(C) Share of retail and service jobs in climate-friendly areas relative to retail and service jobs in the jurisdiction.

(b) Active Transportation

(A) Percent of collector and arterial streets in climate-friendly areas and underserved population neighborhoods with bicycle and pedestrian facilities with Level of Traffic Stress 1 or 2.

(B) Percent of collector and arterial streets in climate-friendly areas and underserved population neighborhoods with safe and convenient marked pedestrian crossings.

(C) Percent of transit stops with safe pedestrian crossings within 100 feet.

(c) Transportation Options

(A) Number of employees covered by an Employee Commute Options Program.

(B) Number of households engaged with Transportation Options activities.

(C) Percent of all Transportation Options activities that were focused on underserved population communities.

(d) Transit

(A) Share of households within one-half mile of a priority transit corridor.

(B) Share of low-income households within one-half mile of a priority transit corridor.

(C) Share of key destinations within one-half mile of a priority transit corridor.

(e) Parking Costs and Management: Average daily public parking fees in climate-friendly areas.

(f) Transportation System

(A) Vehicle miles traveled per capita.

(B) Percent of jurisdiction transportation budget spent in climate-friendly areas and underserved population neighborhoods.

(C) Share of investments that support modes of transportation with low pollution.

Statutory/Other Authority: ORS 197.040
Statutes/Other Implemented: ORS 197.012, ORS 197.712 & ORS 468A.205
History:
LCDD 9-2023, amend filed 11/07/2023, effective 11/07/2023
LCDD 3-2022, adopt filed 08/17/2022, effective 08/17/2022
LCDD 2-2022, temporary adopt filed 06/01/2022, effective 06/01/2022 through 11/27/2022

Appendix C: Draft Performance Measure and Performance Standard Application Guidance

For each measure, the toolkit includes the following information:

- **Definition** – A brief description of the measure
- **Scale** – The scales the measure can be applied to such as to a facility, sub-area or jurisdiction
- **Strengths and Limitations** – Strengths and limitations of the measure that should be considered when considering selecting it as a performance standard
- **Data** – Describes the data needed to analyze or calculate the performance
- **Analytical Methods** – Describes the method for calculating the performance measure and provides references to more detailed guidance in the APM or other guidance document
- **Threshold Considerations** - Identifies potential ranges or approaches to establishing a threshold that could be established as the standard for the performance measure
- **Mitigations and Outcomes Considerations** - Identifies the types of mitigations that could help meet the standard if it's not being met and describes the outcomes that are likely to occur over time

SELECTING PERFORMANCE STANDARDS

OAR 660-012-0215(3) requires cities and counties within metropolitan areas and Metro to adopt at least two transportation performance standards. At least one of the transportation performance standards must support increasing transportation options and avoiding principal reliance on the automobile. Additionally, the performance standards must evaluate at least two of the following objectives for the transportation system, for any or all modes of transportation:

- Reducing climate pollution – creating feasible transportation options that reduce carbon emissions
- Equity – consideration for existing or proposed transportation-related disparities and barriers experienced by historically marginalized communities
- Safety – providing a transportations system that reduces injuries and fatalities and that people feel comfortable using
- Network connectivity – modal networks that provide route options to users and minimize out-of-direction travel
- Accessibility – the ease of reaching (and interacting with) destinations or activities distributed in space

- Efficiency - the maximization of transportation services at the lowest possible cost
- Reliability - dependably provides users with a consistent range of predictable travel times
- Mobility - the ability to move freely and easily.

Technical Memorandum #9 identified multiple performance measures that meet each of these OAR objectives and evaluated them based on the following criteria:

- Does it support the performance targets in OAR 660-012-0910?
- Can it document incremental changes or impacts resulting from a development or transportation improvement and be compared to a threshold?
- Can it be used at different scales to compare scenarios or alternatives?
- Is it reasonably simple to analyze?
- Is it easy for both the public and practitioners to understand?
- Are ODOT and local agencies (alone or working collectively toward the regional goals) able to impact these outcomes?
- Can it be reviewed through an equity lens?

For each evaluation criteria, the rating method was yes (+1) or no (0). The evaluation criteria were not weighted. Tables 1 and 2 below show the recommended performance measures for inclusion in a toolbox of the best measures for local jurisdictions to reference when selecting performance standards to adopt.

Table 1 shows the measures that support increasing transportation options and avoiding principal reliance on the automobile. Table 2 shows the measures focused on the automobile. Both tables include the OAR 660-012-0215(3) objectives that the potential performance standards have a primary impact upon as well as existing references in the APM.

Table 1 Recommended Performance Measures for the Toolbox – Support Increasing Transportation Options

ID	Performance Measure	OAR 660-012-0215(3) Objectives with Primary Impact	Existing APM Reference
2	Accessibility to key destinations	Accessibility, Equity	ODOT APM 9.5
3	Accessibility to employment	Accessibility, Equity	ODOT APM 9.5
4	Accessibility to transit	Accessibility, Equity	ODOT APM 9.5.2
11[1]	Bicycle level of traffic stress (BLTS)	Accessibility	ODOT APM 14.4 and 9.8.2
12[1]	Pedestrian level of traffic stress (PLTS)	Accessibility	ODOT APM 14.4 and 9.8.2
16	System completeness	Network Connectivity, Accessibility	ODOT APM 9.8.1
27	Bicycle crash risk	Safety	Not in APM at this time
28	Pedestrian crash risk	Safety	Not in APM at this time
33[2]	Walking and biking facility condition	Accessibility	Not in APM at this time
34[3]	Pedestrian crossing spacing	Network Connectivity, Accessibility	Not in APM but ODOT HDM Table 3-9 includes spacing ranges by context

1. Measures 32 (percent of collector and arterial streets in priority areas with bicycle and pedestrian facilities that are rated with a LTS 1 or 2) and 35 (percent of jurisdiction able to be reached by BLTS 1 routes) from Technical Memorandum #9 were combined into measures 11 and 12 because they are more related to threshold-setting, instead of being completed new metrics. The base metrics for measures 32 and 35 are BLTS and PLTS.
2. Measure 33 was modified to be called "walking and biking facility condition" to match the wording of the other performance measures described in this memorandum. The original measure from Technical Memorandum #9 was "percent of priority corridors with walking and bicycling facilities in fair or better condition" and this will be included in the potential thresholds.
3. Measure 34 was modified to be called "pedestrian crossing spacing" to match the wording of the other performance measures described in this memorandum. The original measure from Technical Memorandum #9 was "Percent of corridors or priority areas meeting target crossing spacing" and this will be included in the potential thresholds.

Table 2 Recommended Performance Measures for the Toolbox – Automobile-Focused Options

ID	Performance Measure	OAR 660-012-0215(3) Objectives with Primary Impact	Existing APM Reference
1	ADT/capacity	Efficiency, Mobility	ADT/capacity in ODOT APM 9.2.5
9	Hours of congestion/Duration of congestion	Efficiency, Reliability, Mobility	ODOT APM 9.2.5
10	Level of service	Efficiency, Reliability, Mobility	ODOT APM 9.4
15	Queuing	Mobility, Safety	ODOT APM 9.2.5
17	Existing and predicted total crashes	Safety	ODOT APM 9.6.5
19	Travel speed	Efficiency, Mobility	ODOT APM 3.5.2
23	Vehicle hours traveled (VHT)	Reducing Climate Pollution	Not in APM at this time
29	Household-based vehicle miles traveled (VMT) per capita	Reducing Climate Pollution	VMT in ODOT APM 9.2.5
30	Volume-to-capacity ratio (V/C) at Intersections	Efficiency, Mobility	ODOT APM 9.2.1
31	V/C for roadway links	Efficiency, Mobility	ODOT APM 9.2.1

Selecting Performance Standards

OAR 660-012-0215(3) requires cities, counties, and Metro to adopt at least two transportation performance standards. At least one of the transportation performance standards must support increasing transportation options and avoiding principal reliance on the automobile. Additionally, the performance standards must evaluate at least two of the objectives identified in OAR 660-012-0215(6) and identified in Tables 1 and 2.

When selecting measures to adopt as standards, local jurisdictions should consider applying the following evaluation criteria (criteria are organized in priority order, although the most important criteria for selecting standards may differ between local agencies):

- Does the measure help support progress for at least one of the OAR 660-012-0215(6) objectives? If so, which ones.
- Does the measure support increasing transportation options and avoiding principal reliance on the automobile? (One of the two measures must meet this criterion.)
- Can your jurisdiction support the staff time or consultant time to report on the measure or review the measure for transportation projects and land use and development applications?
  - Does your jurisdiction have the data available to support the measure? If not, are they able/willing to collect the necessary data to support the measure?
- Does the measure support progress towards the TSP goals and objectives?
  - If so, which ones? Greater consideration could be given to measures that address multiple goals.
- What will the thresholds be for the standard and will they create outcomes desired by the community?
- What standards do partner and neighboring agencies use and is there a benefit in coordinating standards?
- How will the two or more selected standards work together? Per OAR 660-012-0215(3), updated Transportation System Plans "must clearly establish how to apply the multiple performance standards to a proposal that meets some, but not all, of the transportation performance standards."

MEASURES FOCUSED ON INCREASING TRANSPORTATION OPTIONS

2. Accessibility to Key Destinations

Definition

The number of key destinations within a certain travel time or distance, by different modes.

Scale

This measure can be applied at a variety of scales. Typically, the measure is used to evaluate proposed project(s) impact on travel from a given location or set of destinations. For example, the number of key destinations within a 30-minute bike ride from an apartment building or sub-area might be compared between the existing condition and the addition of a bridge across a freeway or set of network improvements.

Strengths and Limitations

For this measure, strengths include:

- Can effectively compare the transportation system between modes.

For this measure, limitations include:

- Identifying key destinations may be subjective or require extensive manual effort or public outreach.
- Developing a complete and usable network can be time consuming.
- Assessing the transit network using scheduling and routing data may be cumbersome.

Data

Data collection for this measure is a medium to high level of effort, although it is lower once a travel demand model is established. To calculate accessibility to key destinations, several data points are needed.

- **Key Destinations** may be defined manually at the local level. Jurisdictions may have a previously developed a database of key destinations that can be considered. The TPR (-0360) defines Key Destinations as those listed below (but not limited to these) as well as other destinations determined locally that are expected to attract a higher than average rate of pedestrian, bicycle, or transit trips. The agency needs to complete an exercise to identify key destinations.
    - (a) Climate-friendly areas;
    - (b) Pedestrian-oriented commercial areas outside of climate-friendly areas;
    - (c) Transit stations, stops, and terminals;
    - (d) Retail and service establishments, including grocery stores;
    - (e) Child care facilities, schools, and colleges;
    - (f) Parks, recreation centers, paths, trails, and open spaces;
    - (g) Farmers markets;
    - (h) Libraries, government offices, community centers, arts facilities, post offices, social service centers, and other civic destinations;
    - (i) Medical or dental clinics and hospitals;
    - (j) Major employers;
    - (k) Gyms and health clubs;
    - (l) Major sports or performance venues; and
    - (m) Other key destinations determined locally.
- **Transportation Network data** should be developed such that a network analysis can be completed in GIS or a similar geospatial program. This involves making sure that roadway segments are connected and including attributes that may block travel, for example one way links, pedestrian facilities, and bicycle facilities. Transit network and scheduling data can be collected for many agencies from General Transit Feed Specification (GTFS).
- **Traveler Behavior** may inform the development of thresholds. For example, if people in the community tend to be willing to walk ½ mile, that may be an effective value to use for the pedestrian walkshed. If data is not available surrounding travel behavior, default values are a good alternative.

Analytical Methods

The methods of calculating accessibility to key destinations are discussed in the **APM Section 9.5.1 (Accessibility for Motorized Vehicles, Pedestrians and Bicyclists)**. This section includes discussion of the different models that may be used and how the outputs could support land use and development planning.

Threshold Considerations

Thresholds will vary greatly based on the existing conditions of the area that is being analyzed. In general, agencies should be working to increase accessibility with more key destinations able to be reached within a certain time or distance as the transportation system evolves.

Common travel times used as the analysis factors are often 20 to 30 minutes, for all modes. Common distances used as analysis factors for walking and biking are 1 mile and 5 miles, respectively.

Thresholds may be set from multiple perspectives:

- Accessibility to key destinations from a particular origin. For example, assessing the number of key destinations that can be reached within a 20-minute bike ride from a dense residential area, and then setting a relevant target.
- Travel shed from key destinations. For example, assessing the portion of households that are within a 30-minute transit trip of a specific destination, such as a library, or within a 30-minute transit trip from any key destination, and then setting a relevant target.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added connections for pedestrians and bicyclists, such as accessways between cul-de-sacs, filling sidewalks gaps, and installing new bike lanes
- Signal retiming
- Increased frequency of transit
- Expanded transit coverage
- Increased mixed-used development with key destinations, employment, and transit hubs located in closer proximity to residential nodes

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Improved safety for pedestrians and bicyclists
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing accessibility in areas with underserved populations

3. Accessibility to Employment

Definition

The number of jobs that can be reached within a certain travel time, cost or distance, by different modes.

Scale

This measure can be applied at a variety of scales. Typically, the measure is used to evaluate proposed project(s) impact on travel from a given location or set of destinations. For example, the number of jobs within a 30-minute bike ride from an apartment building or sub-area might be compared between the existing condition and the addition of a bridge across a freeway or set of network improvements.

Strengths and Limitations

For this measure, strengths include:

- Can effectively compare the transportation system between modes.

For this measure, limitations include:

- Developing a complete and usable network can be time consuming.
- Assessing the transit network using scheduling and routing data may be cumbersome.

Data

Data collection for this measure is a medium to high level of effort, although it is lower once a travel demand model is established. To calculate accessibility to employment, several data points are needed.

- **Employment data** should be available from the state or through census data.
- **Transportation Network data** should be developed such that a network analysis can be completed in GIS or a similar geospatial program. This involves making sure that roadway segments are connected and including attributes that may block travel, for example one way links, pedestrian facilities, and bicycle facilities. Transit network and scheduling data can be collected for many agencies from General Transit Feed Specification (GTFS).
- **Traveler Behavior** may inform the development of thresholds. For example, if people in the community tend to be willing to walk ½ mile, that may be an effective value to use for the pedestrian walkshed. If data is not available surrounding travel behavior, default values are a good alternative.

Analytical Methods

The methods of calculating accessibility to employment are discussed in the **APM Section 9.5.1 (Accessibility for Motorized Vehicles, Pedestrians and Bicyclists)**. This section includes discussion of the different models that may be used and how the outputs could support land use and development planning.

Threshold Considerations

Thresholds will vary greatly based on the existing conditions of the area that is being analyzed. In general, agencies should be working to increase accessibility with more jobs able to be reached within a certain time or distance as the transportation system evolves. Common travel times used as the analysis factors are often 20 to 30 minutes, for all modes.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added connections for pedestrians and bicyclists, such as accessways between cul-de-sacs, filling sidewalks gaps, and installing new bike lanes
- Signal retiming
- Increased frequency of transit
- Expanded transit coverage
- Increased mixed-used development with key destinations, employment, and transit hubs located in closer proximity to residential nodes

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Improved safety for pedestrians and bicyclists
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing accessibility in areas with underserved populations

4. Accessibility to Transit

Definition

The number or percent of a population, jobs, or households living within a defined distance or travel time from a transit stop. Transit stops should be considered for all transit modes including bus, bus rapid transit, commuter rail, and light rail.

Scale

This measure can be applied at a variety of scales. Typically, the measure is used to evaluate proposed project(s) impact on travel from an area's transit stop network. For example, the number of jobs within 0.25 miles from a sub-area's transit stop network might be compared between the existing condition and the addition of a bridge across a freeway or set of network improvements.

Strengths and Limitations

For this measure, strengths include:

- Can compare transit system alternatives.

For this measure, limitations include:

- Developing a complete and usable network can be time consuming.
- Assessing the transit network using scheduling and routing data may be cumbersome.

Data

Data collection for this measure is a medium to high level of effort, although it is lower once a travel demand model is established. To calculate accessibility to transit, several data points are needed.

- **Transportation Network data** should be developed such that a network analysis can be completed in GIS or a similar geospatial program. This involves making sure that roadway segments are connected and including attributes that may block travel, for example one way links, pedestrian facilities, and bicycle facilities. Transit network and scheduling data can be collected for many agencies from General Transit Feed Specification (GTFS).
- **Traveler Behavior** may inform the development of thresholds. For example, if people in the community tend to be willing to walk ½ mile, that may be an effective value to use for the pedestrian walkshed. If data is not available surrounding travel behavior, default values are a good alternative.

Analytical Methods

The methods of calculating accessibility to transit are discussed in the **APM Section 9.5.2 (Accessibility for Transit Riders)**. This section includes discussion of the different models that may be used to model transit.

Threshold Considerations

Thresholds will vary greatly based on the existing conditions of the area that is being analyzed. In general, agencies should be working to increase accessibility with more housing and employment able to be reached within a certain time or distance of transit stops as the transportation system evolves. Common travel times used as the analysis factors are often 20 to 30 minutes, for all modes.

Common distances used as analysis factors for walking and biking to/from transit stops are ¼ mile and 1 mile, respectively.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added connections for pedestrians and bicyclists, such as accessways between cul-de-sacs, filling sidewalks gaps, and installing new bike lanes
- Signal retiming
- Increased frequency of transit
- Expanded transit coverage
- Increased mixed-used development with key destinations, employment, and transit hubs located in closer proximity to residential nodes

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Improved safety for pedestrians and bicyclists
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing accessibility in areas with underserved populations

11. Bicycle Level of Traffic Stress (BLTS)

Definition

Level of traffic stress (LTS) classifies points and segments on routes into different categories of stress ranging from 1 (low stress) to 4 (high stress) based on factors that correlate to the comfort and safety of the bicyclist using that facility.

Scale

"Well suited for high-level plans such as corridor and transportation system plans (TSP). This method can also be used in detailed refinement-level plans and projects as a screening or flagging tool," (APM 14.4).

Strengths and Limitations

For this measure, strengths include:

- Direct connection to roadway characteristics.
- Most data points tend to be readily available in local jurisdiction or statewide datasets for most roads.

For this measure, limitations include:

- Not sensitive to land use changes and changes to bicycle trip volumes.
- Data collection may require extensive manual review of aerial photos.

Data

Data collection for this measure is a medium to high level of effort, dependent on what inventory data is available. "Traffic counts/daily volumes are not required except for higher-speed rural applications," (APM 14.4).

- Bike facility: Bike facilities should distinguish between >= 7' buffered bike lane, 5.5-7' bike lane, 4-5.5' bike lane, <4' bike lane, frequent blockage of bike lane, shared lane?, no facility, separated facility.
- Speed: Posted speed is typically available and can be used in this methodology. If there are identified areas where prevailing operating speed is known to be higher than posted speed, this could impact the results.
- Auto lanes per direction: The number of auto lanes per direction is typically available from ODOT or the local jurisdiction.
- Parking lane: Parking lane should distinguish the presence of the parking lane and if a bike lane is also available the combined width of the bike lane and the parking lane.
- Volume: Volumes for segments should be assessed in alignment with the APM Section 3.4 (Vehicle Count Surveys) section. In general, the following are found:
  - State Highways have readily available AADT and hourly volumes through ODOT.
  - Arterials and significant collectors may have estimated daily volumes available through local transportation plans or count programs.
  - The functional classification may be used in place of volume as a criteria in several conditions: (1) On mixed traffic segments in suburban or urban areas and (2) for unsignalized intersection crossings without a median refuge.

- Functional Class: ODOT maintains networks of functionally classified roadways[1]. Roadways that are not included in the functionally classified network are considered local roadways.

Analytical Methods

The methods of calculating BLTS are discussed in the **APM Section 14.4 (Bicycle Level of Traffic Stress)**. As noted, this methodology is modified from work originally documented by Mineta Transportation Institute. Analytical methods are available for segments, intersection approaches, and intersection crossings.

In addition to **APM Section 14.4 (Bicycle Level of Traffic Stress)**, BLTS is also discussed in **APM Section 9.8.2 (Bicycle or Pedestrian Level of Traffic Stress [LTS]).** This section discusses the use of BLTS as a performance measure.

Threshold Considerations

The following describes several potential ways a threshold could be established that is more nuanced than a BLTS 1 or 2 standard applied to all or specific facilities by functional classification.

- "A BLTS 2 is often used as the target as it will typically appeal to the majority of the potential bike-riding population and maximize the available bicycle mode share," (APM 14.4.2).
- "When evaluating networks near schools (within ¼ mile), the desirable level of traffic stress is BLTS 1 since BLTS 1 is targeted at 10-yr olds (5th grade) or parents of younger children. Elementary school-age children should be able to travel between homes and schools without having to cross arterial streets (LTS 3 and 4). Ideally, elementary schools and their related attendance boundaries should be placed to allow at least a few BLTS 1 routes. Middle and high school placement may not allow only BLTS 1 routes but routes should be no more than BLTS 2 since older students can use these without difficulty," (APM 14.4.2).
- Percent of collector and arterials streets in priority areas with bicycle and pedestrian facilities that are rated with a Level of Traffic Stress 1 or 2
- Percent of jurisdiction able to be reached by BLTS 1 routes

[1] https://www.oregon.gov/odot/data/pages/functional-class.aspx

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added facilities for bicyclists
- Enhanced bicycle facilities with increased buffer
- Reduced posted speed limit
- Reduced vehicular travel lanes
- Reorganized roadway space with parking as a buffer between bicyclists and vehicular travel lanes

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Improved safety for bicyclists
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing accessibility in areas with underserved populations

12. Pedestrian Level of Traffic Stress (PLTS)

Definition

Level of traffic stress (LTS) classifies points and segments on routes into different categories of stress ranging from 1 (low stress) to 4 (high stress) based on factors that correlate to the comfort and safety of the bicyclist using that facility.

Scale

"Well suited for high-level plans such as corridor and transportation system plans (TSP). This method can also be used in detailed refinement-level plans and projects as a screening or flagging tool," (APM 14.4).

Pedestrian LTS is used to evaluate segments and intersection crossings.

Strengths and Limitations

For this measure, strengths include:

- Data collection overlaps with Bicycle LTS allowing both to be completed in tandem.

For this measure, limitations include:

- Some data are not typically readily available for all roadways, notably: sidewalk condition and width, buffer type and width, parking width, and illumination presence.
- Not sensitive to pedestrian volumes.
- Data collection may require extensive manual review of aerials.

Data

Data collection for this measure is a medium to high level of effort, dependent on what inventory data is available. "Traffic counts/daily volumes are not required except for higher-speed rural applications," (APM 14.4).

Segment Analysis:

- Sidewalk Condition and Width
- Buffer Type and Width
- Bike Lane Width
- Parking Width
- Number of Lanes and Posted Speed
- Illumination Presence
- General Land Use

Crossing Analysis:

- Functional Class
- Number of Lanes
- Posted Speed
- Roadway Average Daily Traffic (optional)
- Sidewalk Ramps
- Median Refuge
- Illumination Presence
- Signalized Intersection

Most data is available for state highway segments, through ODOT's databases.

Most data can be easily collected through aerial review or field review on a site-by-site basis. Data may be more challenging to collect system wide, without conducting significant manual review.

If analysis is intended to be completed across the network and data is not available in a local database, use the best available data and consider using

assumptions to calculate an interim PLTS. For example, use the functional classification or land use context to approximate conditions of unavailable data. If data becomes available at a later date, the analysis can be updated.

Analytical Methods

The methods of calculating PLTS are discussed in the **APM Section 14.5 (Pedestrian Level of Traffic Stress)**. As noted, this methodology was created to be a companion to the BLTS methodology. Analytical methods are available for segments and intersection crossings.

In addition to **APM Section 14.5 (Pedestrian Level of Traffic Stress)**, PLTS is also discussed in **APM Section 9.8.2 (Bicycle or Pedestrian Level of Traffic Stress [LTS]).** This section discusses the use of BLTS as a performance measure.

Threshold Considerations

APM Section 15.4.3 (PLTS Targets) identifies several considerations for developing thresholds.

- PLTS 2 is generally a reasonable minimum target. The majority of users will find LTS 2 acceptable.
- PLTS 1 is a good target for routes heavily used by children, including routes within a ¼ mile of schools. The area around elementary schools should contain no PLTS 3 or 4.
- PLTS 1 is the preferred target for areas around middle and high schools, but may include PLTS 2 facilities.
- PLTS 1 is the preferred target for land uses including: downtown cores, medical facilities, areas near assisted living/retirement centers, and within ¼ mile of transit stops.
- Different land uses have different needs for the pedestrian network, a study area may have multiple targets for different portions of the area.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added facilities for pedestrians
- Reconstructed pedestrian facilities to improve the condition and/or width
- Updated pedestrian facilities with increased buffer
- Reduced posted speed limit
- Reduced vehicular travel lanes
- Reorganized roadway space with parking as a buffer between pedestrians and vehicular travel lanes
- Added illumination, including pedestrian-scale illumination
- New or improved pedestrian crossings
- New or improved sidewalk ramps

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Improved safety for pedestrians
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing accessibility in areas with underserved populations

16. System Completeness

Definition

The percent of planned facilities that are built within a specified network.

Scale

System completeness is most often reviewed at the system-wide level but can be viewed at the facility-level as well. The data collection for existing system completeness is done at a facility level.

Strengths and Limitations

For this measure, strengths include:

- Easily understood by the public.
- The planned system that is used as the basis for this measure will be highly dependent on the local agency. Their TSP needs to be up-to-date and have been vetted through a public engagement process.

For this measure, limitations include:

- The planned system could change whenever a TSP update or new plan document is created. Tracking over time could be impacted by these changes or show less progress depending on the changes.

Data

Data collection for this measure is a medium to high level of effort, dependent on what inventory data is available. System completeness heavily relies on inventory data. Ideally, facility characteristics can be collected by block or roadway segment and stored as geospatial data accessible for review, calculation, and visualization in programs such as ArcGIS. The following facility characteristics are needed for different planned modal networks being assessed:

- Facility type
- Location
- Other characteristics determined for the complete system, such as number of roadway lanes, bicycle facility type, etc.

The planned system must also be provided to compare what is on the ground versus what is planned for the future. These planned networks would also ideally be in a geospatial program such as ArcGIS.

Analytical Methods

The methods of calculating system completeness are discussed in the **APM Section 9.8.1 (Network Connectivity and System Completeness)**. As noted, this method is a simple percentage calculation based on planned and existing facility elements. The planned system will be determined by a local agency's transportation system plan, which must meet requirements in OAR 660-012. System completeness is evaluated for each mode.

Threshold Considerations

For system completeness, the target is to reach a 100 percent complete transportation network. But the reality of reaching that goal will vary greatly based on the existing conditions of the area that is being analyzed. In addition, the planned "complete" system may change over time, especially when Transportation System Plans (TSPs) or other planning documents are created or updated. A threshold could be based on maintaining or increasing the system completeness of an area.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added facilities for pedestrians and bicyclists
- Expanded transit coverage
- Added turn lanes and through lanes up to the planned system design standards
- New connections for all modes, such as new roadways, bike lanes, or multi-use paths

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Improved safety for pedestrians and bicyclists
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing accessibility in areas with underserved populations

27. Bicycle Crash Risk

Definition

A risk score for a roadway section based on bicyclist behavior, roadway features, and other contextual factors such as land use.

Scale

Bicycle crash risk is calculated at the facility level but can be aggregated to a system-wide review. For example, ODOT has calculated bicycle crash risk for all highways and then divided the highway segments into quintiles (i.e. 20% bins) to

note the top 20% with the highest bicycle crash risks based on urban contexts and based on rural contexts. See the Oregon Bicycle & Pedestrian Safety Implementation Plan from November 2020 for more information.

Strengths and Limitations

For this measure, strengths include:

- The needed data is likely already available or can use assumptions to fill gaps.
- ODOT calculated the bicycle crash risks for all state highways, as of 2020.

For this measure, limitations include:

- Risk factors include land use factors that may increase bicycle activity, but be conflated with increasing crash risk, for example proximity to schools or proximity to transit stops may increase the activity level, rather than increase the risk of crashes directly.

Data

Data collection for this measure is a medium to high level of effort, dependent on what inventory data is available. For ODOT's statewide systemic safety analysis completed in 2020, the bicycle risk factors used included:

- Principal Arterial
- Minor Arterials
- Number of Lanes (>= 4 Lanes)
- Posted Speed (>=35mph)
- No Bike Lane
- High-Access Density
- Mixed Use Zoning
- Proximity to Schools (one mile)
- Proximity to Transit Stops (1/4 mile)
- High Population over the Age of 64 (threshold of 16.8%)

Analytical Methods

As part of the Oregon Pedestrian and Bicycle Safety Implementation Plan, ODOT implemented the NCHRP Research Report 893 methodology in 2020. This methodology uses risk factors to complete a systemic safety analysis aimed at identifying high risk locations for pedestrian and bicycle crashes along the state

highway system. Systemic safety, opposed to the traditional review of crash history, allows practitioners to proactively identify high risk sites for potential safety improvements based on risk factors that often correlate to locations with low frequency but high injury crashes. Crash risk is the primary measure used by ODOT to assess bicycle and pedestrian safety.

To calculate bicycle crash risks, apply the following steps:

1. Collect data for the analysis roadway segments. If data is not available, apply assumptions to fill data gaps. For example, if posted speed data is not readily available in a geospatial format, posted speed could be assumed based on roadway classification (i.e. 25mph for local roadways, 30mph for collectors, etc.). Analysis segments should be separated every time a risk factor characteristic changes for the facility (i.e. when the posted speed changes from less than 35mph to more than 35mph).
2. Determine for each analysis segment whether the bicycle risk factor is present.
3. Add the risk factor weightings together for each analysis segment (weightings shown below based on urban or rural contexts). If a risk factor is present, the risk factor weight is added. If it is not present, then the risk factor weight is 0. If the risk factor is not applicable (i.e. shown as "-" in the table, then do not include that risk factor in the analysis.

Figure 1 Bicycle Risk Factor Screenings Weights from the Oregon Pedestrian and Bicycle Safety Implementation Plan

RISK FACTOR SCREENING WEIGHTS: BICYCLISTS

	Risk Factor Weights	
Risk Factor	**Urban**	**Rural**
Principal Arterial	1.13	1.39
Minor Arterials	1.07	—
Number of Lanes (>= 4 Lanes)	1.08	—
Posted Speed (>=35 mph)	1.11	1.09
No Bike Lane	1.06	—
High-Access Density	1.02	—
Mixed Use Zoning	1.00	—
Proximity to Schools (1 Mile)	1.01	1.00
Proximity to Transit Stops (1/4 Mile)	1.03	1.03
High Population over the Age of 64	1.00	1.00

Threshold Considerations

For this measure, the target is to reach a reduced risk factor. A threshold could be based on maintaining or decreasing the risk factor of a facility. A jurisdiction could also base a threshold off existing conditions. If the risk factors of all facilities or of facilities of a specific roadway classification or higher are calculated, the risk factor value that separates the top 20% from the top 40%, or a similar binning process, could be used to determine when a safety-based action is triggered.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added facilities for bicyclists
- Reduced posted speed limit
- Reduced vehicular travel lanes
- Access management to reduce high-access density

These types of mitigations could support the following outcomes:

- Increased multimodal reliability
- Improved safety for bicyclists
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing safety in areas with underserved populations

28. Pedestrian Crash Risk

Definition

A risk score for a roadway section based on pedestrian behavior, roadway features, and other contextual factors such as land use.

Scale

Pedestrian crash risk is calculated at the facility level but can be aggregated to a system-wide review. For example, ODOT has calculated pedestrian crash risk for all highways and then divided the highway segments into quintiles (i.e. 20% bins) to note the top 20% with the highest pedestrian crash risks based on urban contexts and based on rural contexts. See the Oregon Bicycle & Pedestrian Safety Implementation Plan from November 2020 for more information.

Strengths and Limitations

For this measure, strengths include:

- The needed data is likely already available or can use assumptions to fill gaps.
- ODOT calculated the pedestrian crash risks for all state highways, as of 2020.

For this measure, limitations include:

- Risk factors include land use factors that may increase pedestrian activity, but be conflated with increasing crash risk, for example proximity to schools or proximity to transit stops may increase the activity level, rather than increase the risk of crashes directly.

Data

Data collection for this measure is a medium to high level of effort, dependent on what inventory data is available. For ODOT's statewide systemic safety analysis completed in 2020, the pedestrian risk factors used included:

- Principal Arterial
- Number of Lanes (>=Four Lanes)
- High-Access Density
- No Sidewalks (or Only One Side)
- Posted Speed (>=35mph)
- Mixed Use Zoning
- Other Zoning[2]
- Proximity to Schools (one mile)
- Proximity to Transit Stops (1/4 mile)
- High Population over the Age of 64 (threshold of 16.8%)

Analytical Methods

As part of the Oregon Pedestrian and Bicycle Safety Implementation Plan, ODOT implemented the NCHRP Research Report 893 methodology in 2020. This methodology uses risk factors to complete a systemic safety analysis aimed at identifying high risk locations for pedestrian and bicycle crashes along the state

[2] "Other" zoning includes all zoning classifications within the Oregon Spatial Data Library (OSDL) with the exception of residential, commercial, industrial, mixed-use, and farm-use zoning. Examples of "Other" zoning including forest/federal lands, coastline, parks, range, and public health..

highway system. Systemic safety, opposed to the traditional review of crash history, allows practitioners to proactively identify high risk sites for potential safety improvements based on risk factors that often correlate to locations with low frequency but high injury crashes. Crash risk is the primary measure used by ODOT to assess bicycle and pedestrian safety.

To calculate pedestrian crash risks, apply the following steps:

1. Collect data for the analysis roadway segments. If data is not available, apply assumptions to fill data gaps. For example, if posted speed data is not readily available in a geospatial format, posted speed could be assumed based on roadway classification (i.e. 25mph for local roadways, 30mph for collectors, etc.). Analysis segments should be separated every time a risk factor characteristic changes for the facility (i.e. when the posted speed changes from less than 35mph to more than 35mph).
2. Determine for each analysis segment whether the pedestrian risk factor is present.
3. Add the risk factor weightings together for each analysis segment (weightings shown below based on urban or rural contexts). If a risk factor is present, the risk factor weight is added. If it is not present, then the risk factor weight is 0. If the risk factor is not applicable (i.e. shown as "-" in the table, then do not include that risk factor in the analysis.

Figure 2 Pedestrian Risk Factor Screenings Weights from the Oregon Pedestrian and Bicycle Safety Implementation Plan

RISK FACTOR SCREENING WEIGHTS: PEDESTRIANS

	Risk Factor Weights	
Risk Factor	**Urban**	**Rural**
Principal Arterial	1.24	1.46
Number of Lanes (>= 4 Lanes)	1.55	1.73
High-Access Density	1.64	—
No Sidewalks (or Only One Side)	1.38	—
Posted Speed (>=35 mph)	1.83	1.63
Mixed Use Zoning	1.00	—
Other Zoning	—	1.45
Proximity to Schools (1 Mile)	1.03	1.17
Proximity to Transit Stops (1/4 Mile)	1.08	1.00
High Population over the Age of 64	1.00	—

Threshold Considerations

For this measure, the target is to reach a reduced risk factor. A threshold could be based on maintaining or decreasing the risk factor of a facility. A jurisdiction could also base a threshold off existing conditions. If the risk factors of all facilities or of facilities of a specific roadway classification or higher are calculated, the risk factor value that separates the top 20% from the top 40%, or a similar binning process, could be used to determine when a safety-based action is triggered.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added facilities for pedestrians
- Reduced posted speed limit
- Reduced vehicular travel lanes
- Access management to reduce high-access density

These types of mitigations could support the following outcomes:

- Increased multimodal reliability
- Improved safety for pedestrians
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing safety in areas with underserved populations

33. Walking and Biking Facility Condition

Definition

A visual high-level classification of facility condition, ranging from good to very poor.

Scale

Walking and biking facility condition is collected at the facility level but can be aggregated to a system-wide review.

Strengths and Limitations

For this measure, strengths include:

- Once collected, the data for facility condition is easy to work with in programs such as ArcGIS.
- Facility condition data can be used in other metrics, such as PLTS and system completeness.

For this measure, limitations include:

- This measure involves a time-intensive data process. There are some products on the market that are targeting the collection of facility condition data, but they are not currently common. For most applications of this metric, personnel time is used to either review facility condition in person or via aerial imagery review.

Data

Data collection for this measure is a medium to high level of effort, dependent on what inventory data is available. Walking and biking facility condition is a characteristic that can be collected by block or roadway segment and stored as geospatial data accessible for review, calculation, and visualization in programs such as ArcGIS. The following roadway or facility characteristics are needed for all analysis roadway segments:

- Location (to determine number of roadside miles)
- Walking facility type and condition
- Biking facility type and condition

Analytical Methods

The methods of collecting walking and biking facility condition are discussed in the **APM Section 14.5.4 (PLTS Criteria)**. As noted, criteria and pictures for each category (good, fair, poor, very poor, no facility) are based off the Good-Fair-Poor (GFP) Pavement Condition Rating Manual for Bicycle and Pedestrian Facilities and the Pavement Distress Survey Manual developed by ODOT's Pavement Services Unit.

As part of the Oregon Pedestrian and Bicycle Performance Measure Recommendation report from September 2021, ODOT created a methodology for the percent of ODOT priority pedestrian and bicycle corridors with walking

and bicycling facilities in fair or better condition. To calculate a similar percent of walking and biking facilities with fair or better condition, apply the following steps:

1. Confirm the corridors where the facility condition will be reviewed. For example, ODOT is interested in knowing walking and biking facility condition on their designated priority pedestrian and bicycle corridors.
2. Gather existing data for the analysis roadway segments. If data is not available, collect the walking and biking facility condition data to fill the gaps.
3. In GIS or another geospatial program, conduct the following steps:
    a. **Setup**: Establish spatial correlation between the analysis roadway segments and walking and biking facilities if not already linked.
    b. **Target Roadside Miles:** Measure the total roadside miles located on the analysis roadways that should have walking and biking facilities, including bike lane, shared lane, shoulder bikeways, and sidewalk.
    c. **Fair or Better Condition Roadside Miles:** Measure roadway miles of walking and biking facilities in fair or better condition,
    d. **Percent Analysis:** Calculate the percentage of walking and biking facility roadside miles with fair or better condition using the equation presented below.

$$\textit{Percent Analysis Roadways with Walking and Biking Facilities of Fair or Better} = \frac{(Roadside\ Miles\ with\ Walking\ Facilities\ of\ Fair\ or\ Better + Roadside\ Miles\ with\ Bicycle\ Facilities\ of\ Fair\ or\ Better)}{(Target\ Roadside\ Miles\ for\ Walking\ Facilities + Target\ Roadside\ Miles\ for\ Bicycle\ Facilities)}$$

Threshold Considerations

For walking and biking facility condition, the target is to reach a 100 percent complete network of priority walking and biking facilities with fair or better condition. But the reality of reaching that goal will vary greatly based on the existing conditions of the area that is being analyzed. In addition, the planned walking and biking network of priority corridors may change over time, especially when Transportation System Plans (TSPs) or other planning documents are created or updated. A threshold could be based on maintaining or increasing the percent of priority corridors with walking and biking facilities in fair or better condition.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added facilities for pedestrians and bicyclists
- Reconstructed pedestrian and bicycle facilities to improve the condition

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Improved safety for pedestrians and bicyclists
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing accessibility in areas with underserved populations

34. Pedestrian Crossing Spacing

Definition

The distance between marked pedestrian crossings along a corridor or roadway segment.

Scale

Pedestrian crossing spacing is calculated at the facility level but can be aggregated to a system-wide review.

Strengths and Limitations

For this measure, strengths include:

- Once collected, the data for pedestrian crossing spacing is easy to work with in programs such as ArcGIS.
- Different target crossing spacings can be set based on land use and context of the corridors.

For this measure, limitations include:

- Calculating percent of analysis roadway segments meeting target crossing spacing may require multiple iterations per report if different target crossing spacings are established (i.e. instead of using a single target for the whole study area).
- While jurisdictions may have pedestrian crossing data, it may be in different formats that require additional analysis steps to join together. For example, ODOT's pedestrian crossing data includes both point and line files.

Data

Data collection for this measure is a medium to high level of effort, dependent on what inventory data is available. Pedestrian crossing location data can be stored as geospatial data accessible for review, calculation, and visualization in programs such as ArcGIS. The following roadway or facility characteristics are needed for all analysis roadway segments:

- Location (to determine number of centerline miles)
- Marked pedestrian crossing locations

Analytical Methods

Table 300-4 of ODOT's **Highway Design Manual (HDM)**, includes recommended pedestrian crossing spacing ranges by urban context, as shown below.

Figure 3 Target Crossing Spacing from the ODOT Highway Design Manual

Urban Context	Target Spacing (ft.)
Traditional Downtown/ CBD	250-550
Urban Mix	250-550
Commercial Corridor	500-1,000
Residential Corridor	500-1,000
Suburban Fringe	750-1,500
Rural Community	250-750

As part of the Oregon Pedestrian and Bicycle Performance Measure Recommendation report from September 2021, ODOT created a methodology for the percent of ODOT priority pedestrian and bicycle corridors meeting target

crossing spacing. To calculate a similar percent of walking and biking facilities meeting a **750-foot target crossing spacing**[3], apply the following steps:

1. Confirm the corridors where pedestrian crossing spacing will be reviewed. For example, ODOT is interested in knowing pedestrian crossing spacing on their designated priority pedestrian and bicycle corridors.
2. Gather existing data for the analysis roadway segments. If data is not available, collect marked pedestrian crossing location data to fill the gaps.
3. In GIS or another geospatial program, conduct the following steps:
    a. Determine the marked crossings along each high priority corridor and locate marked crossings on the linear referencing method (LRM) system for the roadway geospatial data. Consider what type of crossings will be included in the analysis, for example will all marked crossings be included or only marked crossings that include enhancements like signal control, pedestrian refuge, or beacons.
    b. Create 375-foot buffer area around marked crossings. The buffer distance should be half of the target crossing spacing, as two crossings with adjacent 375-ft buffers will have 750-ft spacing between them.
    c. Establish which marked crossings serve the priority corridors by referencing the LRM keys and milepoints for both data sets.
    d. Clip out the priority corridor segments that are covered by the marked crossing buffer area.
    e. Calculate the percentage using the equation presented below.

$$\textit{Percent Analysis Roadways Meeting Target Crossing Spacing} = \frac{\textit{Centerline Miles Covered by Marked Crossing Buffer Area on Analysis Roadway}}{\textit{Centerline Analysis Roadway Miles}}$$

[3] The buffer distance used in Step 3b is half of the target crossing spacing. The Oregon Pedestrian and Bicycle Performance Measure Recommendation report used a target spacing of 750 feet for all priority corridors since it fell within the target spacing for most ODOT Highway Design Manual recommendations for target spacing by urban context. An agency using this methodology can select a different target spacing for all priority corridors or select different target spacings for different corridors and then adjust the buffer distance accordingly.

Threshold Considerations

For pedestrian crossing spacing, the target is to reach a 100 percent complete network of priority corridors or priority areas meeting target crossing spacings. But the reality of reaching that goal will vary greatly based on the existing conditions of the area that is being analyzed. In addition, the planned walking and biking network of priority corridors may change over time, especially when Transportation System Plans (TSPs) or other planning documents are created or updated. A threshold could be based on maintaining or increasing the percentage of priority corridors or priority area meeting target crossing spacings.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- New or improved pedestrian crossings, which may include ramps

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Improved safety for pedestrians
- Decreased reliance on the automobile and reduced climate pollution
- Ability to focus on equity by increasing accessibility in areas with underserved populations

MEASURES FOCUSED ON AUTOMOBILES

1. Average Daily Traffic to Capacity Ratio (ADT/C)

Definition

The ratio of average daily traffic volume to the peak hour capacity of a facility.

Scale

This measure is well suited for higher planning level rating of congestion on segments or intersection approaches. This measure may be applied at the roadway segment level based on how the regional travel demand model is segmented.

Strengths and Limitations

For this measure, strengths include:

- This metric can be forecast using a travel demand model or the ODOT Highway Economic Requirements System – State Version (HERS-ST).
- Effective at measuring impacts of treatments to increase capacity or reduce demand (volume of traffic).

For this measure, limitations include:

- Model outputs can be used incorrectly if practitioners do not review whether they are based on total roadway trip estimates per direction or lane estimates per direction.
- This may not be the best indicator for areas that see high seasonal fluctuations, such as coastal destinations and even cities along coast destination routes. The roadway may fall within an acceptable ADT/C, during some months, but real-life conditions during several months of the year may be very congested.

Data

Data collection for this measure is a low to medium level of effort. To calculate ADT/C two data points are needed: ADT and peak hour capacity.

ADT: Volumes for segments should be assessed in alignment with the APM Section 3.4 (Vehicle Count Surveys) section. In general, the following are found:

- ADT may be calculated for different time periods depending on the agency requirements. ADT may be calculated over the course of a year, effectively using Annual Average Daily Traffic (AADT), or ADT may be calculated over a peak season, or another period may be used.
- State Highways have readily available AADT and hourly volumes through ODOT.
- Arterials and significant collectors may have estimated daily volumes available through local transportation plans or count programs.

Capacity: Peak capacity is calculated according to HCM methods. The data input for these methods is typically system wide adjustment values or roadway characteristics.

Analytical Methods

The methods of calculating ADT/C are discussed in the **APM Section 9.2.5 (Supplemental Vehicle Mobility Measures)**. As noted, this methodology was developed as part of studies prepared by FHWA and is the 24-hour volume divided by the 1-hour capacity which could be based on existing measured conditions or forecast conditions

Capacity is assessed in alignment with HCM methods. The APM includes methods for calculating capacity for different facilities:

- **APM Section 11.3 (Capacity-Related Inputs)** – Freeways and Multilane Highways
- **APM Section 12.3 (Unsignalized Intersection Capacity)** – Unsignalized Intersections

Threshold Considerations

The APM includes Exhibit 9-3 for recommended ADT/C threshold levels, as shown below. Agencies can determine the appropriate congestion level for specific facilities or areas under their jurisdiction based on roadway classifications, land use, or other factors or transportation system goals.

Figure 4 Exhibit 9-3 from the ODOT Analysis Procedures Manual

Level	Condition	Description	Lower ADT/C	Upper ADT/C
1	Uncongested	No decrease in speeds during the peak hour.	0.00	6.75
2	Uncongested to Moderately		6.75	8.25
3	Moderately Congested	Speeds decrease slightly during portions of the peak hour.	8.25	9.25
4	Moderately to Congested		9.25	9.75
5	Congested	Speeds decrease significantly during portions of the peak hour.	9.75	10.75
6	Congested to Very		10.75	12.25
7	Very Congested	Speeds decrease substantially for substantial portions of the peak hour.	12.25	13.75
8	Very to Extremely		13.75	15.25
9	Extremely Congested	Speeds decrease substantially for more than the peak hour.	15.25	24.00

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Signal retiming, at individual intersections or for a corridor
- Added turn lanes or through lanes
- Providing or increasing capacity on alternative routes
- Congestion pricing
- Travel demand management

These types of mitigations could support the following outcomes:

- Increased vehicular efficiency, reliability, and mobility
- Increased safety risks for pedestrians and bicyclists
- Increased reliance on the automobile

9. Hours of Congestion/Duration of Congestion

Definition

The number of hours within a time period, most often within a weekday, where a facility's congestion target is exceeded.

Scale

Hours of congestion (HOC) can be applied at different scales, using different methods. Most often, HOC is calculated for intersections or roadway segments.

Strengths and Limitations

For this measure, strengths include:

- There is flexibility to define "congestion" in many different ways (i.e. v/c above a threshold, travel speed below a threshold, ADT/C above a threshold, etc.).
- This metric can be forecast using a travel demand model, if a daily volume profile can be developed from the available data.

For this measure, limitations include:

- Measured data and/or forecasted output must include multiple of hours of the day.
- Accounting for peak spreading and multiple hours of analysis increases the complexity and time required for analysis.

Data

Data collection for this measure is a low to medium level of effort. The data needed to calculate HOC depends on how "congested" is defined. Likely data needs include:

- **Geometric Data** (lane numbers and arrangements, cross-section elements, turn lane storage lengths, etc.) should be verified for consistency with previous work efforts, reviewed through aerial photography, and confirmed through a site visit. Available as-built data may also be used to verify existing roadway geometry. A full list of geometric data that is typically collected is provided in **APM Section 3.3.1 (Geometric Data)**.

- **Operational Data** (such as posted speeds, intersection control, parking, right-turn on red, etc.) should be field verified and supplemented by available GIS data, aerials, and photos. A full list of data that is typically collected is provided in **APM Section 3.3.2 (Operational Data)**.
- **Vehicle Volumes** based on collected counts or forecasted volumes.

Analytical Methods

The methods of calculating hours of congestion or duration of congestion are discussed in the **APM Section 9.2.5 (Supplemental Vehicle Mobility Measures) and APM Chapter 8**. **APM Chapter 8** discusses how to forecast hours of congestion or duration of congestion, with consideration of peak spreading.

Threshold Considerations

Thresholds will vary based on the existing conditions of the roadway system that is being analyzed. In general, agencies should be working to maintain a similar level of congestion as existing or as reasonably forecast for the future. Thresholds should consider roadway classifications, including whether an HOC threshold is useful (i.e. may not be appropriate to apply to local streets). For example, in Metro's Public Review Draft 2023 Regional Transportation Plan (adopted by Metro Council on November 20, 2023), two HOC thresholds are set. For throughways with controlled access, the average speed shall not be below 35 mph for more than 4 hours per day. For throughways with traffic signals, the average speed shall not be below 20 mph for more than 4 hours per day. All other facilities do not have an HOC-based standard applied to them.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Added through lanes
- Increased ramp metering
- Congestion pricing
- Travel demand management

These types of mitigations could support the following outcomes:

- Increased vehicular efficiency, reliability, and mobility
- Increased reliance on the automobile

10. Level of Service (LOS)

Definition

An A to F rating scale of motorized mobility (typically as a function of delay or density) of a facility, segment, intersection, or approach during a specified analysis period. LOS A represents conditions where traffic moves without significant delays. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity.

Scale

LOS can be applied at different scales, using different methods. Most often, LOS is calculated for intersections or roadway segments.

Strengths and Limitations

For this measure, strengths include:

- Simple to understand output.
- Easy to communicate to the public because it is a measure of the user's experience based on average seconds of delay.

For this measure, limitations include:

- Tends to not be representative of the complex balance of priorities.
- In very congested conditions, this measure loses granularity. When an intersection is already at a LOS F, there isn't a lower grade to show further degradation of the intersection.

Data

Data collection for this measure is a low to medium level of effort. To calculate LOS, several types of data are needed.

- **Geometric Data** (lane numbers and arrangements, cross-section elements, turn lane storage lengths, etc.) should be verified for consistency with previous work efforts, reviewed through aerial photography, and confirmed through a site visit. Available as-built data may also be used to verify existing roadway geometry. A full list of geometric data that is typically collected is provided in **APM Section 3.3.1 (Geometric Data)**.

- **Operational Data** (such as posted speeds, intersection control, parking, right-turn on red, etc.) should be field verified and supplemented by available GIS data, aerials, and photos. A full list of data that is typically collected is provided in **APM Section 3.3.2 (Operational Data)**.
- **Vehicle Volumes** based on collected counts or forecasted volumes.

Analytical Methods

The methods of calculating LOS are discussed in the **APM Section 9.4.1 (Motorized Level of Service)**. As noted, the methodology is specified in the HCM.

Threshold Considerations

As discussed in **APM Section 9.4.1 (Motorized Level of Service)**, the HCM provides detailed considerations for thresholds based on each facility type, as shown below:

- Basic freeway segments – Chapter 12[4]
- Two lane highways – Chapter 15
- Signalized intersections – Chapter 19
- Unsignalized intersections – Chapters 20-22

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Signal retiming, at individual intersections or for a corridor
- Added turn lanes or through lanes

These types of mitigations could support the following outcomes:

- Increased vehicular efficiency, reliability, and mobility
- Increased safety risks for pedestrians and bicyclists
- Increased reliance on the automobile

[4] Chapter references are for the HCM 7th Edition

15. Queueing

Definition

The extent of vehicles queued on intersection approach lanes, including on and off ramps, during a specified analysis period.

Scale

This metric is most often applied at specific locations, for example intersection approaches.

Strengths and Limitations

For this measure, strengths include:

- Easily understood by the public.
- Used already by some jurisdictions to condition turn lanes for developments and plan amendments.

For this measure, limitations include:

- Highly detailed. Often measured for only the peak hour/period and therefore does not provide a good idea of overall system performance.
- In especially congested areas, the 95th percentile queue may need to be calculated using a calibrated microsimulation model to account for impacts of adjacent intersections. This greatly increases the complexity and time required to implement the measure.

Data

Data collection for this measure is a low to medium level of effort. To calculate queuing, several types of data are needed.

- **Geometric Data** (lane numbers and arrangements, cross-section elements, turn lane storage lengths, etc.) should be verified for consistency with previous work efforts, reviewed through aerial photography, and confirmed through a site visit. Available as-built data may also be used to verify existing roadway geometry. A full list of geometric data that is typically collected is provided in **APM Section 3.3.1 (Geometric Data)**.

- **Operational Data** (such as posted speeds, intersection control, parking, right-turn on red, etc.) should be field verified and supplemented by available GIS data, aerials, and photos. A full list of data that is typically collected is provided in **APM Section 3.3.2 (Operational Data)**.
- **Vehicle Volumes** based on collected counts or forecasted volumes.

Analytical Methods

The use of queueing as a performance measure is discussed in the **APM Section 9.2.5 (Supplemental Vehicle Mobility Measures)**. This section references several other sections in the APM for methods of calculating queue length. Methods described in the APM include:

- ODOT-developed queueing estimation methods (APM Section 12.5)
- Highway Capacity Manual (HCM) methods as implemented by software and non-HCM methods (APM Section 13.5)
- Microsimulation (APM Chapter 15)

In addition to methodologies currently described in the APM, data sources of probe data may be used to estimate queue lengths. This approach is beneficial for estimating queue lengths across the system but may be less accurate depending on the sample size. Field observations of queueing may also be used at specific locations.

Threshold Considerations

When an agency is setting a threshold, consider several components of a threshold:

- The analysis period may be for a peak hour, a peak period, or full day.
- The criteria being measured may be the length of a certain percentile queue (like the 95th percentile) or the number of cycles where the queue extends beyond a certain point (like a turn lane).
- For many thresholds, the percentile of queue is critical. Typically, a 95th percentile queue is used, but in some cases, it may be appropriate to use a lower percentile queue.

If the performance measure is intended to be applied at a larger scale than a specific intersection approach, consider options for aggregating the measure. For example, an agency may choose to identify the number of intersections where at least one queue meets the threshold.

Table 3: Example Queueing Thresholds by Scale

Specific Location	Corridor	Region
• 95th percentile queue length (feet) for an intersection approach during the peak hour • Portion of cycles (%) during the peak hour where the queue length blocks the turn lane	• Portion of approaches at signals on a corridor (%) that have a peak hour 95th percentile queue that blocks the turn lane • Number of intersections blocked by peak hour 95th percentile queues	• Number of signals in the region (%) that have an approach with a peak hour 95th percentile queue that blocks the turn lane

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Signal retiming, at individual intersections or for a corridor
- Added turn lanes

These types of mitigations could support the following outcomes:

- Increased vehicular efficiency, reliability, and mobility
- Increased safety risks for pedestrians and bicyclists
- Increased reliance on the automobile

17. Existing and Predicted Total Crashes

Definition

Number, severity, and location of all crashes within a specified time frame.

Scale

Existing and predicted total crashes are reviewed or calculated at the facility/intersection level but can be aggregated to a system-wide review.

Strengths and Limitations

For this measure, strengths include:

- The needed data is likely already available or can use assumptions to fill gaps.
- Easily understood by the public.

For this measure, limitations include:

- Predictive methods are detailed and more time-intensive than reporting existing crashes.

Data

Data collection may rely on existing databases, although data collection needs will likely vary depending on the type of facility or crash mode being analyzed. As discussed in the **APM Section 4.4 (Predictive Methods)**, the following data types are needed to calculate predicted total crashes:

- Crash frequency by severity, collision type, and pedestrian and bicyclist involvement [if using the Empirical Bayes (EB) Method]
- AADT traffic volumes for major and minor roads
- Pedestrian and bicyclist volumes or estimates
- Traffic control information
- Geometric design and roadway details
- Data requirements vary by predictive model and are discussed in APM Section 4.4.6. Complete HSM Part C data requirements can be found in HSM Part C, Sections 10.4, 11.4, and 12.4
- Per **APM Section 4.4 (Predictive Methods)**, "Predictive methods do not require observed crash data to derive quantitative safety evaluations, and therefore can be used with future scenarios or design alternatives that do not yet exist."

Analytical Methods

Existing crash documentation does not require a methodology for calculation.

The methods of calculating predicted total crashes are discussed in the **APM Section 4.4 (Predictive Methods)**. As noted, this methodology is based on the HSM.

In addition to **APM Section 4.4 (Predictive Methods)**, BLTS is also discussed in **APM Section 9.6.5 (Expected or Predicted Crash Frequency).** This section discusses the use of BLTS as a performance measure.

Threshold Considerations

For this measure, many jurisdictions have a target is to reach zero fatalities/serious injuries on the transportation system. A threshold could be based on maintaining or decreasing the predicted total crashes relative to the existing total crashes for a facility or area.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Reduced posted speed limit
- Reduced vehicular travel lanes
- New or updated pedestrian crossings
- Intersection control change
- Signal retiming
- New or updated signage, striping, or markings
- See ODOT's ARTS Crash Reduction Factor list for other potential mitigations and associated crash reduction factors that can be used for analysis
- Additionally, the Crash Modification Factor Clearinghouse includes a range of crash modification factors that can be used for analysis

These types of mitigations could support the following outcomes:

- Increased multimodal reliability
- Improved safety for all modes

19. Travel Speed

Definition

Average or a percentile speed for a network segment or between key origin-destination pairs, during a specific time period.

Scale

Travel speed is measured or calculated at the facility segment level but can be aggregated to a system-wide review.

Strengths and Limitations

For this measure, strengths include:

- Easily understood by the public.
- Can be measured through use of road tubes (on free-flow non-congested segments) or can be obtained from probe data.
- RITIS data is available statewide for many segments, through ODOT. RITIS data may be used to assess average speed for specific, predefined segments.

For this measure, limitations include:

- Increased vehicular speeds can have safety implications, especially on a multimodal corridor. Need to balance vehicular mobility and safety outcomes.

Data

Data collection for this measure is a low to medium level of effort. To document and/or calculate travel speed, several types of data may be needed.

- Measured speeds from road tubes with vehicle classifying counters
- Probe data

Analytical Methods

The methods of measuring or calculating travel speed are discussed in the **APM Section 3.5.2 (Speed)**. As shown throughout the APM, travel speed can be used as a singular metric but can also be incorporated into other metrics, such as hours of congestion. Travel speed may also be calculated using travel demand models or simulation tools. If models are used to determine travel speed, calibration and post-processing may be required to acquire relevant results.

Threshold Considerations

Thresholds will vary based on the existing conditions and posted speed of the roadway system that is being analyzed. In general, agencies should be working to maintain a similar level of congestion as existing or as reasonably forecast for the future. Thresholds should consider roadway classifications, including whether a travel speed threshold is useful (i.e. may not be appropriate to apply to local streets). For example, in Metro's Public Review Draft 2023 Regional Transportation Plan (adopted by Metro Council on November 20, 2023), two travel speed thresholds are set. For throughways with controlled access, the average speed shall not be below 35 mph for more than 4 hours per day. For throughways with traffic signals, the average speed shall not be below 20 mph for more than 4 hours per day. All other facilities do not have a travel speed-based standard applied to them.

Agencies may also consider an upper limit threshold to inform the use of travel speed as a measure for monitoring safety conditions.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Signal retiming, at individual intersections or for a corridor
- Added turn lanes or through lanes

When applying this measure as a standard, focused on managing speeds for safety considerations, potential mitigations could include speed management treatments like medians, curb extensions, and vertical deflection.

These types of mitigations could support the following outcomes:

- Increased vehicular efficiency, reliability, and mobility
- Increased safety risks for pedestrians and bicyclists
- Increased reliance on the automobile

23. Vehicle Hours Traveled

Definition

The hours traveled by all vehicles in a specific area during a specified time period.

Scale

Vehicle hours traveled is typically calculated for an area or system-wide view.

Strengths and Limitations

For this measure, strengths include:

- Is effective for evaluating projects that involve changes in trip lengths.
- Can easily be aggregated to the regional level.
- Can be used to understand the full trip, rather than just performance at a given intersection.
- VHT may resonate with the public and decision makers more than VMT. People tend to think about their travel time, rather than travel distance.
- If using real world measurements, this metric is not dependent on a traffic model or assumptions about traffic characteristics (like arrival rate) to calculate existing conditions.
- If using a travel demand model, the metric can be easily output by many different software packages.

For this measure, limitations include:

- Accuracy of VHT is highly dependent on the penetration rate of probe vehicles used to estimate traveled speed. A CalTrans report[5] estimates that a penetration rate of 7% is enough to obtain reliable and accurate estimates of VHT.
- VHT is also dependent on estimating daily volume and volume profiles throughout the system.

Data

Data collection for this measure is a low to medium level of effort. To calculate Vehicle Hours Traveled using data observations, two datapoints are needed:

- Hourly volumes
- Hourly speeds

Vehicle Hours Traveled may also be calculated using the Traffic Demand Model.

[5] Gan, Qijian, Gabriel Gomes, and Alexandre Bayen (2016). From LOS to VMT, VHT, and Beyond through Data Fusion: Application to Integrated Corridor Management. University of California Center for Economic Competitiveness in Transportation.

Analytical Methods

USDOT's Volpe Center calculates vehicle hours traveled using the method summarized below.

1. Allocate daily car and truck travel on each segment, by hour of the day and direction.
2. Calculate hourly speeds for each segment, using probe data.
3. Calculate VHT for cars and trucks during each hour of the day, by dividing the hourly vehicle miles traveled by the hourly average speed.

Volumes for segments should be assessed in alignment with the **APM Section 3.4 (Vehicle Count Surveys)** section. In general, the following are found:

- State Highways have readily available AADT and hourly volumes through ODOT.
- Arterials and significant collectors may have estimated daily volumes available through local transportation plans or count programs.

Where hourly volumes are not available, a volume profile needs to be developed to disaggregate the daily volume to segments by direction and hour of the day. When developing a volume profile for the region or corridor, consider characteristics that may impact some segments differently than others. For example, consider directional commuting patterns, or differences in weekend traffic in tourist oriented areas, or different functional classifications.

Hourly speeds should be assessed in alignment with **APM Section 3.5.2 (Speed)** section. This section describes several methods to assess speed. *INRIX link level speed data is the most effective method included in the APM for determining speed for use in calculating system level VHT. If VHT is being compared between time periods, for example if the agency is calculating VHT annually as a performance measure, ensure that similar segmentation and network is used for the analysis.*

VHT metric can also be generated by the Traffic Demand Model.

Threshold Considerations

Vehicle hours of delay can be calculated by comparing VHT to VHT under free flow conditions. This may be another metric to consider.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Signal retiming, at individual intersections or for a corridor
- Added turn lanes or through lanes
- Increased network connectivity
- Congestion pricing
- Travel demand management

These types of mitigations could support the following outcomes:

- Increased vehicular efficiency, reliability, and mobility
- Increased reliance on the automobile

29. Household-based Vehicle Miles Traveled per Capita (VMT/capita)

Definition

The number of miles traveled by household-based vehicles within a specified time period and study area, per the study area's population.

Scale

This can be applied at the regional, jurisdiction, subarea or transportation analysis zone (TAZ) levels with the travel demand model.

Strengths and Limitations

For this measure, strengths include:

- Demonstrates how project study area residents' vehicle travel levels vary based on land use mixes, densities, and based on the availability of travel options.

For this measure, limitations include:

- Useful as a target or to identify land use and transportation actions that help decrease local residents' household vmt/capita, but difficult to apply as a standard other than a standard of reduction at the planning area level at the planning horizon.
- Difficult to conceptualize the measure in relation to the use of the transportation system.
- Population growth and zoning allocation are outside the purview of some transportation agencies, including ODOT, therefore changes in this measure may not be solely attributed to actions implemented by the agency.

Data

Data collection for this measure is a medium to high level of effort, although it is lower once a travel demand model is established.

Analytical Methods

The methods of calculating household-based VMT/capita are discussed in the **APM Section 9.2.5 (Supplemental Vehicle Mobility Measures)**.

The measure is an output from the travel demand model. VMT/capita is calculated as the VMT from trips generated by households residing within the study area TAZs divided by the total households in the study area. This calculation excludes trips that pass through the study area (external-external) and trips that start outside the study area and end within the study area (external-internal). This calculation includes non-home based trips made by people residing outside of the study area, but occurring within the study area. This methodology is being further refined currently and will be detailed in ODOT's Modeling Guidebook once complete.

Threshold Considerations

The results will vary greatly within a jurisdiction from TAZ to TAZ based on location. But the citywide aggregate number could be used to set targets at city or sub-area level. The standard could be showing reduction with any land use or plan amendment. It is unlikely you could apply as a development in growth areas or redeveloping areas as vmt/capita reduction may require the full build-out

planned land uses and transportation options. The TPR postpones the use of vmt/capita as a required measure for evaluating land use decisions until 2028.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Increased pricing for parking and/or tolling
- Increased frequency of transit
- Expanded transit coverage, or improved walking access to transit stops
- New connections for modes, such as a pedestrian overcrossing or new roadway
- Increased mixed-used development with key destinations, employment, and transit hubs located in closer proximity to residential nodes

These types of mitigations could support the following outcomes:

- Increased multimodal mobility and network connectivity
- Decreased reliance on the automobile and reduced climate pollution

30 & 31. Volume-to-Capacity Ratio (V/C) at Intersections & Roadway links

Definition

The ratio of traffic volume to the capacity of an intersection during a specified analysis period.

Scale

V/C ratio is calculated for intersections or roadway segments.

Strengths and Limitations

For this measure, strengths include:

- Simple to understand output.

For this measure, limitations include:

- Tends to not be representative of the complex balance of priorities.

Data

Data collection for this measure is a low to medium level of effort. To calculate v/c, several types of data are needed.

- **Geometric Data** (lane numbers and arrangements, cross-section elements, turn lane storage lengths, etc.) should be verified for consistency with previous work efforts, reviewed through aerial photography, and confirmed through a site visit. Available as-built data may also be used to verify existing roadway geometry. A full list of geometric data that is typically collected is provided in **APM Section 3.3.1 (Geometric Data)**.
- **Operational Data** (such as signal timing plans, posted speeds, intersection control, parking, right-turn on red, etc.) should be field verified and supplemented by available GIS data, aerials, and photos. A full list of data that is typically collected is provided in **APM Section 3.3.2 (Operational Data)**.
- **Vehicle Volumes** based on collected counts or forecasted volumes.

Analytical Methods

The methods of calculating v/c at intersections are discussed in the **APM Section 9.2.5 (Volume to Capacity Ratio)**. As noted, the methodology is specified in the HCM.

Threshold Considerations

Many local agencies in Oregon have used v/c ratio as a standard. Thresholds often are set for different roadway classifications. ODOT also has used v/c ratio as a standard. For example, the Oregon Highway Plan Policy 1F Table 7 currently includes targets for v/c ratio ranging from 0.99 to 1.1, depending on the facility and time of day.

Mitigations and Outcomes Considerations

When applying this measure as a standard, potential mitigations could include:

- Signal retiming, at individual intersections or for a corridor
- Added turn lanes or through lanes

These types of mitigations could support the following outcomes:

- Increased vehicular efficiency, reliability, and mobility
- Increased safety risks for pedestrians and bicyclists
- Increased reliance on the automobile

APPENDIX J. PLANS AND POLICY FRAMEWORK

PLANS AND POLICY FRAMEWORK

Document created in September 2023.

INTRODUCTION

This memorandum presents a review of existing plans, regulations, and policies that affect transportation planning in the City of Milwaukie. The review explains the relationship between the documents and the current Transportation System Plan (TSP) update process, identifying key issues that will factor into the TSP update.[1] Of particular note are plans and policies that have been adopted or updated since the previous TSP update in 2013.

Some documents included in this review establish transportation-related standards, targets, and guidelines for which the TSP update must be coordinated and consistent with; others contain transportation improvements that will need to be factored into the future demand modeling and otherwise reflected in the draft TSP. Local policy and regulatory requirements described in this review – such as the Milwaukie Comprehensive Plan and Zoning Code – may be subject to recommended amendments in order to implement the recommendations of the updated TSP. This memorandum helps set the stage for those potential amendments.

The following documents were reviewed and are summarized in this memo:

- Climate Executive Order 20-04 – Climate Friendly and Equitable Communities,
- Metro's Climate Smart Strategy,
- Metro's 2018 Regional Transportation Plan,
- Regional and Local Growth Forecasts,
- Clackamas County Transportation System Plan,
- Trimet Southeast Service Enhancement Plan,
- The City of Milwaukie's:
    - Milwaukie 2040 Vision
    - 2020 Comprehensive Plan,
    - 2018 Climate Action Plan,
    - Safe Access for Everyone,
    - Neighborhood Hubs Project,
    - Housing Capacity Analysis, Housing Production Strategy, and Milwaukie Housing Affordability Strategy
    - Monroe Street Neighborhood Plan, and
    - Central Milwaukie Bikeway Concept plans

[1] Milwaukie Transportation System Plan: 2023-2025. https://www.milwaukieoregon.gov/planning/transportation-system-plan

The final section of this memo provides a table of relevant statewide policies and plans that summarizes the City's TSP compliance with state requirements.

PLANS AND POLICY REVIEW

Climate Executive Order 20-04 – Climate Friendly and Equitable Communities[2,3]

In March of 2020, former Oregon Governor Kate Brown issued an executive order directing several state agencies to establish new rules with the goal of reducing greenhouse gas emissions (GHG) emissions by at least 45 percent below 1990 emissions by 2035, and at least 80 percent below 1990 emissions levels by 2050. Part of the directive was for the Land Conservation and Development Commission (LCDC) to adopt amendments to the Transportation Planning Rule (TPR) that requires jurisdictions in metropolitan planning areas to meet GHG reduction goals. In addition, the Oregon Department of Transportation (ODOT) and the Department of Land Conservation and Development (DLCD) were directed to identify and implement new requirements for jurisdictions in metropolitan areas to amend their land use and transportation plans to meet the state's GHG reduction targets. In response to the Governor's directives, LCDC launched the Climate-Friendly and Equitable Communities (CFEC) rulemaking process. CFEC rulemaking led to LCDC adopting amendments to the TPR (OAR 660-012) that are intended to implement transportation-related strategies for emissions reduction in metropolitan areas. The new metropolitan TPR requirements are established in OAR 660-012-0100 through -0920. Some of the main CFEC TPR requirements include the following:

- Removal of minimum parking requirements or parking requirement reform
- Electric vehicle charging requirements
- New bicycle, pedestrian, and transit system requirements
- Establishment of "Climate-Friendly Areas" (CFA) and specific land use and transportation requirements for CFAs.

Project Relevance: The TSP update will need to comply with the new state CFEC requirements. The TSP updates must be consistent with OAR 660-012-0105 through OAR 660-012-0215 and include all the elements listed in OAR 660-012-0100.[4] In addition, the City will need to amend Title 19 (Zoning) of the Milwaukie Municipal Code to comply with TSP implementation requirements established in OAR 660-012-0060 and -0330 (Land Use Requirements), -0405 (Parking Regulation Improvements), -0410 (Electric Vehicle Charging), and -0630 (Bicycle Parking). Zoning Code updates will be addressed as a part of the Regulatory Solutions and Implementing Ordinances tasks of the TSP update. The Regulatory Solutions task will evaluate the City's compliance with these rules and identify needed Zoning Code updates, and the Implementing Ordinances task will support adoption of amendments to meet CFEC and TPR rules. In addition, the state is currently engaged in a rulemaking process to make minor amendments to the CFEC TPR

[2] Executive Order 20-04. https://www.oregon.gov/gov/eo/eo_20-04.pdf

[3] Climate-Friendly and Equitable Communities. https://www.oregon.gov/lcd/CL/Pages/CFEC.aspx

[4] Transportation System Plans in Metropolitan Areas. https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=292997

requirements. The project should track the progress of those amendments and address them in the TSP update accordingly.[5]

Equity Implications and Objectives: CFEC includes TPR requirements for jurisdictions to "prioritize community-led engagement and decision-making, with specific attention to underserved populations."[6] In addition, cities must consider "equitable outcomes" for land use and transportation planning and performance measures. Community engagement activities and planning for equitable outcomes will evaluate the potential trade-offs and equity impacts that may be associated with the CFEC requirements. To that effect, the TSP update will follow the state's guidance on conducting equitable engagement and planning for equitable outcomes.

Climate Smart Strategy (2015)[7]

The Metro Climate Smart Strategy (Strategy) implements OAR 660-044 – Metropolitan Greenhouse Gas Reduction Targets.[8] The goal of the state mandate is to reduce greenhouse gas (GHG) emissions from cars and small trucks by 2035 in the Metro region. The Strategy is a transportation and land use scenario plan that is intended to reduce greenhouse gas emissions by 20% by 2035, consistent with the state's reduction targets for Metro. Jurisdictions must also identify performance measures for tracking progress and implementation must prioritize underserved populations.

The Strategy includes nine policies to help Metro jurisdictions meet the state's goals and targets:

1. *Implement adopted local and regional land use plans*
2. *Make transit convenient, frequent, accessible and affordable*
3. *Make biking and walking safe and convenient*
4. *Make streets and highways safe, reliable and connected*
5. *Use technology to actively manage the transportation system*
6. *Provide information and incentives to expand the use of travel options*
7. *Make efficient use of vehicle parking and land dedicated to parking*
8. *Support Oregon's transition to cleaner, low carbon fuels and more fuel- efficient vehicles*
9. *Secure adequate funding for transportation investments*

Project Relevance: OAR 660-044-0130 requires the City's TSP to be consistent with and implement relevant portions of the Climate Smart Strategy.[9] The TSP update should incorporate transportation-related policies, projects, and funding strategies to support local implementation

[5] 2023 CFEC Rulemaking. https://www.oregon.gov/lcd/LAR/Pages/CFEC.aspx

[6] Underserved Populations. https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=293002

[7] Climate Smart Strategy. https://www.oregonmetro.gov/climate-smart-strategy

[8] OAR 660-044 Metropolitan Greenhouse Gas Reduction Targets. https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=3093

[9] OAR 660-044-0130 Local Amendments to Implement Approved Land Use and Transportation Scenario Plan. https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=293075

of the Climate Smart Strategy and OAR 660-044. In addition, the Performance Monitoring approach may be used to help inform the TSP Performance Measures and Methodology (TSP Task 5), particularly for greenhouse gas computations. Findings associated with adoption of the TSP should discuss consistency with these requirements.

Equity Implications and Objectives: Although this planning document does not directly address equity goals or requirements, local implementation of the policies in the plan should reflect other equity goals and policies embedded in the City's Comprehensive Plan and TSP, as well as other relevant local, regional and state guidance documents. In addition, TSP performance measures and methodology intended to comply with the Climate Smart Strategy should consider and prioritize underserved populations.

Metro Regional Transportation Plan (2018, 2023 pending)

The Metro Regional Transportation Plan (RTP) guides and implements federally mandated regional transportation planning for Metro, which is the region's designated Metropolitan Planning Organization (MPO). Furthermore, Metro uses federal transportation funds to coordinate transportation and air quality planning in the region. The RTP is updated every five years to address changing transportation trends and conditions. When updating the RTP, transportation providers throughout the region coordinate with Metro to identify short term and long term transportation needs and investments with a 20-year time horizon.

The RTP also implements Oregon Transportation Planning Rule (TPR) requirements by serving as the regional TSP. Therefore, the RTP is required to be consistent with the Oregon Transportation Plan and various statewide modal/facility plans, and local TSPs within Metro must be consistent with the RTP.

The most recent RTP update was completed in 2018, and Metro is currently in the process of updating the RTP.[10] The RTP adoption process is expected to take place from September 2023 to November 2023.

Project Relevance: The updated TSP will need to be consistent with the 2023 RTP goals and policies. In addition, the RTP projects that are identified in Milwaukie should be incorporated into the TSP project list.[11] The TSP update should also consider funding sources and programs outlined in the RTP.

Equity Implications and Objectives: Goal 3 of the RTP is Equitable Transportation, which is articulated as follows:

Transportation system disparities experienced by Black, Indigenous and people of color and people with low incomes, are eliminated. The disproportionate barriers people of color, people who speak limited English, people with low incomes, people with disabilities, older adults, youth and other marginalized communities face in meeting their travel needs are removed.

. The TSP will need to address objectives articulated in this goal.

- Objective 1: Transportation Equity. Eliminate disparities related to access, safety, affordability, and health outcomes experienced by people of color and other historically marginalized groups.

[10] 2023 Regional Transportation Plan. https://www.oregonmetro.gov/public-projects/2023-regional-transportation-plan

[11] 2023 Regional Transportation Plan Projects. https://www.oregonmetro.gov/public-projects/2023-regional-transportation-plan/projects

- Objective 2: Barrier Free Transportation. Eliminate barriers that people of color, low income people, youth, older adults, and people with disabilities and other historically marginalized communities face to meet their travel needs.

Other goals which relate to transportation equity include vibrant communities, shared prosperity, transportation choices, reliability, efficiency, safety and security, healthy environment, healthy people, climate leadership, transparency and accountability.

The Metro Regional Travel Options (RTO) Racial Equity Strategy was developed in alignment with the RTP to identify equity-specific transportation goals and outcomes for the Regional Travel Options program.[12] TSP update policies and projects that are specific to equity should refer to the RTO Racial Equity Strategy goals and outcomes. Historically underserved community members have been unjustly impacted by previous transportation planning efforts. Removing barriers to transportation means centering and uplifting these communities' experiences and understanding that these communities will need increased support, engagement, and inclusion through the TSP planning process.

Growth Forecast

The state requires Metro to provide 20-year population and employment forecasts at least every six years. The 2045 growth forecast was published in August 2023.[13] Population and employment forecasts for Milwaukie, Clackamas County, and the metro area are shown in Table 1 and Table 2. The City is forecast to add nearly 3,000 residents by 2045. The City's population is expected to grow at about half the rate (13%) of the entire region (26%). The City's employment growth rate is also projected to grow at a slightly faster rate (15%) than the population growth, but a lower rate than the rest of the region (22%).

Table 1. 2045 Population Forecast for Milwaukie, Clackamas County, and Portland Metro Area

	2020	2030	2045
Milwaukie	20,594	22,859	23,268
Clackamas County	428,614	493,892	593,665
Metro Area Total*	1,882,155	2,094,881	2,373,462

* The combined populations of Clackamas, Multnomah, and Washington Counties

Table 2. 2045 Employment Forecast for Milwaukie, Clackamas County, and the Portland Metro Area

	2020	2030	2045
Milwaukie	13,273	13,274	15,221
Clackamas County	173,891	181,792	212,341
Metro Area Total*	1,026,032	1,091,568	1,255,143

[12] Metro Regional Travel Options Racial Equity Strategy. https://www.oregonmetro.gov/sites/default/files/2022/08/05/RTO%20Racial%20Equity%20Strategy_July%202022.pdf

[13] 2045 Distributed Growth Forecast. https://www.oregonmetro.gov/2045-distributed-forecast

Project Relevance: The TSP update will consider population and employment growth forecasts to help identify transportation service and facility needs. In addition, TSP Task 7 – Transportation System Conditions and Need/Gaps Analysis – will include a summary of population and land use distribution/patterns, which should draw from Metro's population estimates and forecasts.

Equity Implications and Objectives: TSP update policies and projects that are informed by population and employment forecasts need to consider the City's demographic profile, which is documented in a separate memo. These TSP policies and projects should prioritize the needs of underserved groups and be sensitive to and minimize potential negative impacts that any TSP recommendations may have on disadvantaged community members.

Clackamas County Transportation System Plan (2022)

The Clackamas County TSP serves as the transportation element of the County Comprehensive Plan, which guides transportation planning for unincorporated Clackamas County.[14] The County TSP establishes the following goals:

- *Goal 1: Provide a transportation system that optimizes benefits to the environment, the economy and the community.*
- *Goal 2: Plan the transportation system to create a prosperous and adaptable economy and further the economic well-being of businesses and residents of the County.*
- *Goal 3: Tailor transportation solutions to suit the diversity of local communities.*
- *Goal 4: Promote a transportation system that maintains or improves our safety, health, and security.*
- *Goal 5: Provide an equitable transportation system.*
- *Goal 6: Promote a fiscally responsible approach to protect and improve the existing transportation system and implement a cost-effective system to meet future needs.*

The County TSP contains a number of policies organized by major topic or transportation mode, including the following:

- Foundation and Framework
- Land Use and Transportation
- Active Transportation
- Roadways
- Transit
- Freight, Rail, Air, Pipeline, and Water Transportation

[14] Clackamas County TSP. https://www.clackamas.us/transportation/tsp

The County TSP also establishes transportation/roadway facility design standards (e.g., cross sections, intersection dimensions, etc.) and identifies numerous projects.[15] TSP projects are categorized by Long Term Capital Projects, 20-Year Capital Projects, Regional Capital Projects, Non-Capital Projects, and Preferred Projects.

Project Relevance: The TSP update should avoid developing any goals, policies, or strategies that conflict with the goals and policies in the County TSP as they relate to County transportation facilities located in Milwaukie. In addition, TSP projects that overlap or align with County facilities should be coordinated with the County. TSP project identification should also consider any projects that may have the potential to connect with County projects or existing County facilities, such as regional multi-use paths, regional roadways, or public transit facilities.

Equity Implications and Objectives: Goal 5 of the County TSP calls for provision of an equitable transportation system, consistent with a number of goals and policies related to transportation found in the Milwaukie Comprehensive Plan. In addition, Goal 3 encourages transportation options to be tailored to suit the diversity of the community. These goals should help provide a guiding framework to ensure TSP policies and projects center the needs and experiences of underserved community members.

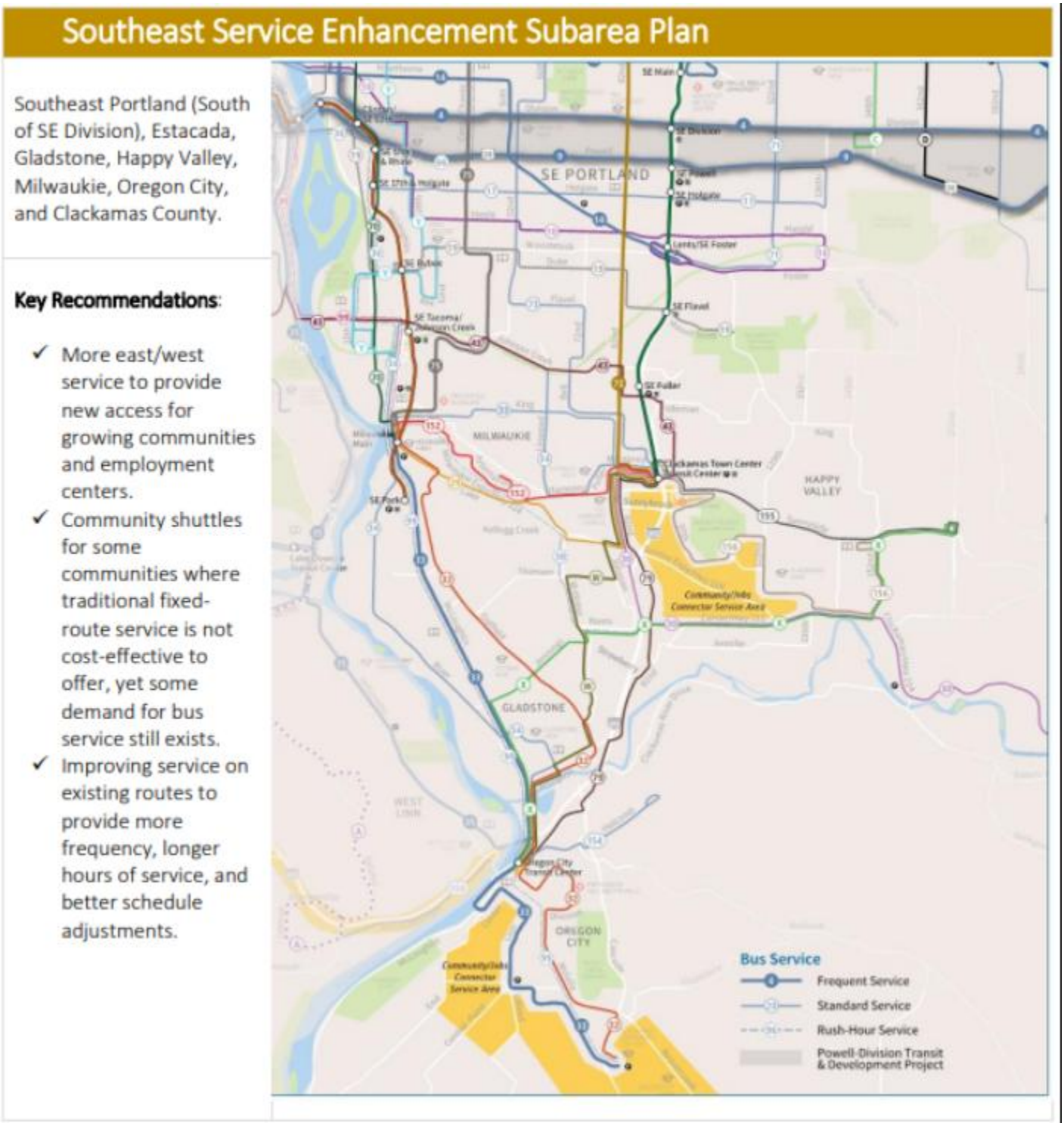
TriMet Southeast Service Enhancement Plan (2016)[16]

The Southeast Service Enhancement Plan identifies needed bus transit service improvements for the Southeastern region of TriMet's Service District. The Plan was informed by extensive outreach and engagement, particularly in underrepresented communities in the Southeast Service District. Service enhancement needs were also informed by transit ridership patterns, concentration of jobs and housing, and other demographic information. The Plan provides three primary recommendations for service improvements:

1. More East-West Service
2. Access to Opportunities
3. Community/Jobs Connector Services

[15] Clackamas County Index to Maps, Tables, and Figures. https://www.clackamas.us/planning/maptoc.html
[16] Making Transit Better in Southeast. https://trimet.org/future/southeast.htm

Figure 1. Bus Transit Service and Key Recommendations for Southeast Service Area



Project Relevance: The TSP transit projects should include any unfinished or unaddressed service enhancements that are in Milwaukie. In addition, the TSP should also include an inventory of existing transit lines in Milwaukie and identify any planned improvements.

Equity Implications and Objectives. TriMet utilized a multi-level engagement strategy which uplifted the experiences of marginalized people, consistent with Title VI requirements. The TSP update process should recognize and utilize similar engagement strategies to support new transportation connections. Residents in the greater-Portland area continue to experience barriers in traveling from Clackamas County to Multnomah County and Washington County. Utilizing TriMet's strategy to increase east-west connections will continue to address these barriers. TSP update policies and project may also address commute challenges related to public transportation and promote improved transit experience for underserved residents.

Milwaukie Community Vision and Action Plan (2040 Vision)

The Milwaukie Community Vision and Action Plan (2040 Vision) establishes near-term priorities that were determined through a community visioning process that was completed in 2017. The Milwaukie City Council, City Manager, and City departments will use the 2040 Vision as a guiding framework to develop and expand local programs and policies. The complete 2040 Vision is described below:

In 2040, Milwaukie is a flourishing city that is entirely equitable, delightfully livable, and completely sustainable. It is a safe and welcoming community whose residents enjoy secure and meaningful work, a comprehensive educational system, and affordable housing. A complete network of sidewalks, bike lanes, and paths along with well-maintained streets and a robust transit system connect our neighborhood centers. Art and creativity are woven into the fabric of the city.

Milwaukie's neighborhoods are the centers of daily life, with each containing amenities and community-minded local businesses that meet residents' needs. Our industrial areas are magnets for innovation, and models for environmentally-sensitive manufacturing and high wage jobs. Our residents can easily access the training and education needed to win those jobs.

Milwaukie nurtures a verdant canopy of beneficial trees, promotes sustainable development, and is a net-zero energy city. The Willamette River, Johnson Creek, and Kellogg Creek are free flowing, and accessible. Their ecosystems are protected by a robust stormwater treatment system and enhanced by appropriate riparian vegetation. Milwaukie is a resilient community, adaptive to the realities of a changing climate, and prepared for emergencies, such as the Cascadia Event.

Milwaukie's government is transparent and accessible, and is committed to promoting tolerance and inclusion and eliminating disparities. It strongly encourages engagement and participation by all and nurtures a deep sense of community through celebrations and collective action. Residents have the resources necessary to access the help they need. In this great city, we strive to reach our full potential in the areas of education, environmental stewardship, commerce, culture, and recreation; and are proud to call it home.

The 2040 Vision is also organized into "Goal Areas" which are depicted in **Figure 2**.

Figure 2. Diagram of Community Vision, Goal Areas, and Actions



To achieve the Vision and Goal Areas, a series of Priority Actions were identified to achieve the Vision and Goal Areas. Each Priority Action identifies a city department to lead as well as potential partner agencies/organizations. Priority Actions were also used as the organizational framework for the 2020 Comprehensive Plan update. The Priority Actions are categorized into the following five "Superactions":

1. *Make Milwaukie a Model of Resiliency, Environmental Stewardship and Disaster-Preparedness*
2. *Continually Improve our Transportation System so that it Provides Safety and Connectivity for All Users*
3. *Create Complete Neighborhoods that Offer a Range of Housing Types and Amenities and Enhance Local Identity and Character*
4. *Support Local Businesses and Entrepreneurship through Training, Programs and Partnerships*
5. *Cultivate a Sense of Community, Culture, and Belonging by Encouraging Public Involvement, Diversity, Equity, and Inclusion*

Project Relevance: The TSP update should consider the guiding framework in the 2040 Vision to ensure goal/policy updates and projects are consistent with the Vision Goal Statements and Priority Actions. Specifically, the second goal listed above and the following Goal Area Statement should serve as a guiding principle for the TSP update:

"Milwaukie has a complete, clean and attractive network of sidewalks, bike lanes and paths that enable accessibility, mobility, and safety for all. Streets are tree-lined, well-lit and designed

to promote a healthy and active lifestyle. There is a seamless transition between walking, biking, and transit to key amenities and neighborhood centers."

TSP policies and projects should be consistent with the nine actions identified under this Goal Area Statement. These actions may also be incorporated directly into the TSP as potential projects, programs, or funding sources, depending on their status. The most relevant actions include the following:

- *1.1: Improve walkability and bikeability within the network by creating dedicated bike paths and walking trails that connect transit, neighborhood business hubs and public spaces, including Milwaukie Bay Park*
- *1.2: Utilize the Safe Access for Everyone (SAFE) Program to fill in sidewalk gaps construct ADA improvements in support of the Safe Routes to School Program*
- *1.3: Make pedestrian and bicycle safety improvements along and across the 224 and 99E corridors and major arterials, such as separated paths, bridges and tunnels.*
- *1.4: Research and consider developing a Vision Zero program that seeks to eliminate traffic deaths and life changing injuries on Milwaukie's streets*
- *1.5: Develop walking and cycling tour maps connecting points of interest such as parks, plazas, art installations and historical markers.*
- *1.6: Implement road paving and funding strategies that improve road maintenance in Milwaukie.*
- *1.9: Research and examine funding strategies for innovative local transit options that complement the regional transit network and help connect residents and employees to local amenities, employment areas, and neighborhoods throughout the city*

Equity Implications and Objectives:

The 2040 Vision includes the following Goal Area Statement:

"Milwaukie is an inclusive community of diverse people from a variety of backgrounds that honors our differences and shared similarities. We are engaged and come together in many ways through various events and community gathering places, where we can celebrate our interests and passions."

This Goal Area Statement includes a Priority Action to "Form a committee dedicated to equity, diversity, and inclusion that evaluates City decisions and actions based on City standards and reviews programs and policies for protected classes." The Equity Steering Committee (ESC) was formed in 2020 and should be involved in all aspects of the TSP update process and should help inform key decisions associated with the project. In addition, TSP update policies and projects related to walkability, bikeability, safety, and complete streets should consider how these Priority Actions can benefit underserved communities and avoid negative impacts on transportation disadvantaged groups.

Milwaukie Comprehensive Plan (2020)

The Milwaukie Comprehensive Plan establishes goals and policies that are intended to guide growth and development in the City on a 20-year horizon. The Vision, Goals, and Priorities identified in the Milwaukie 2040 Vision and Action Plan provide the framework for the most recent Comprehensive Plan update. Section 13 of the Comprehensive Plan provides transportation goals, including the following:

- Goal 13.1: Livability – Design and construct transportation facilities in a manner that enhances the livability of Milwaukie's community.
- Goal 13.2: Safety – Develop and maintain a safe and secure transportation system.
- Goal 13.3: Travel Choices – Plan, develop, and maintain a transportation system that provides travel choices and allows people to reduce the number of trips made by single-occupant vehicles.
- Goal 13.4: Quality Design – Establish and maintain a set of transportation design and development regulations that are sensitive to local conditions.
- Goal 13.5: Reliability and Mobility – Develop and maintain a well-connected transportation system that reduces travel distance, improves reliability, and manages congestion.
- Goal 13.6: Sustainability – Provide a sustainable transportation system that meets the needs of present and future generations.
- Goal 13.7: Efficient and Innovative Funding – Efficiently allocate available funding for recommended transportation improvements, and pursue additional transportation funding that includes innovative funding methods and sources.
- Goal 13.8: Compatibility – Develop a transportation system that is consistent with the city's Comprehensive Plan and coordinates with County, State, and regional plans.
- Goal 13.9: Economic Vitality – Promote the development of Milwaukie's, the region's and state's economies through the efficient movement of people, goods and services, and the distribution of information.
- Goal 13.10: Barriers – Update the Transportation System Plan (TSP) to address the transportation barriers and safety concerns resulting from Hwy 224, Hwy 99E, and the railroads bisecting the city.

Project Relevance: The Comprehensive Plan transportation section essentially serves as a placeholder for TSP update goals and policies, which will be incorporated directly into the Comprehensive Plan. The TSP update goals and policies will also need to be consistent with relevant goals and policies related to land use, stewardship and resilience, complete neighborhoods, and economic development. Some of the specific goals and policies that the TSP should address include the following:

- Policy 3.6.4: Encourage or require building and landscape design, land use patterns, and transportation design that limit or mitigate negative noise impacts to building users and residents, particularly in areas near freeways, regional freight ways, rail lines, major city traffic streets, and other sources of noise.

- Policy 4.5.3: Within the Willamette Greenway, accommodate a trail system along the river that is intended to connect with future Willamette Greenway trails to the north and south of the City. Develop a trail plan, acquire right-of-way, and build trail segments as funding becomes available.
- Policy 4.5.4: Connect City bicycle and pedestrian trail systems with the trail system through the Willamette Greenway.
- Goal 4.6 – Public Access and View Protection: Provide, improve, and maintain public access and visual access to the lands and water that make up the Willamette River Greenway.
- Policy 4.7.1: Provide safe pedestrian connections between downtown Milwaukie and the Willamette River consistent with the Downtown and Riverfront Land Use Framework Plan.
- Policy 6.1.6: Encourage the creation of compact, walkable neighborhoods and neighborhood hubs throughout the city that provide a mix of uses and help reduce transportation emissions and energy usage.
- Goal 6.2 – Transportation and Utility Infrastructure: Maintain and expand Milwaukie's transportation and utility infrastructure in a manner that facilitates greater redundancy, resiliency, energy conservation, and emissions reductions.
- Policy 6.2.5: Aim to increase the use of electric and other clean energy vehicles through a mix of infrastructure improvements, incentives, and development requirements.
- Policy 7.3.4: Promote the use of active transportation modes and transit to provide more reliable options for neighborhood residents and help reduce driving.
- Policy 7.3.9: Advocate for additional frequent transit service in areas with the potential for significant residential growth.
- Policy 7.4.2: Require that new development improves the quality and connectivity of active transportation modes by providing infrastructure and connections that make it easier and more direct for people to walk or bike to destinations such as parks, schools, commercial services, and neighborhood gathering places.
- Various area/zone-specific transportation policies in the Plan include the following:
    - Provide a high-quality pedestrian environment that supports safe, convenient access to the Downtown area's multiple transportation modes.
    - Prioritize pedestrian access and movement in the downtown while also improving safety and access for cyclists. **Establish targets in the Transportation System Plan (TSP) for all transportation modes.**
    - Ensure that new development and redevelopment supports better transportation connectivity, especially for pedestrians and cyclists. Increased connectivity should include pedestrian and bicycle improvements through large sites.
    - Enhance Highway 224 intersections to increase the safety and comfort for pedestrians and cyclists traveling on cross streets. Implement these safety improvements through the TSP.

  - Ensure buildings and sites are designed to support a pedestrian-friendly streetscape and establish a storefront environment along key streets as set out in the Central Milwaukie Land Use and Transportation Plan.
  - Require that new development connect to surrounding neighborhoods for pedestrians and others using active transportation modes to travel to and within the Neighborhood Mixed Use district.
  - Ensure that new mixed-use and commercial buildings provide a commercial storefront environment with sidewalks and amenities appropriate to create an active, pedestrian-focused streetscape in the Neighborhood Mixed-Use district.
  - Work to ensure districts are well-served by public transportation options and that transit stops and shelters are safe, comfortable, and easy to access.
  - Make Downtown Milwaukie a regional destination with uses and amenities that capitalize on its proximity to the Willamette waterfront and multimodal transportation options.
  - Provide opportunities for higher intensity development in areas within walking distance of existing or planned frequent transit service.

- Policy 8.2.1- a) – j): Pedestrian and bicycle environment design policies
- Policy 8.2.4.b: Design streets to provide for the equitable allocation of space for different modes including pedestrians, bicycles, and transit.
- Goal 9.3 – Transportation and Connectivity: Increase safe and convenient access to and between natural areas, parks, and recreation opportunities for community members of all ages and abilities through a variety of transportation options.
- Goal 10.1 – Public Services: Provide high quality public services to current and future Milwaukie residents.
- Policy 10.7.3: Provide transportation improvements such as sidewalks and bikeways that promote safe access to schools.
- Policy 10.7.6: Establish a Transportation Demand Management (TDM) program for schools and other large institutions and businesses.
- Policy 10.9.3: Encourage the provision of electric vehicle charging stations in appropriate locations.
- Policy 11.1.11: Aim to reduce Milwaukie's carbon footprint by encouraging local food production, import substitution, rail access, clean and carbon-free energy, and active transportation.
- Policy 11.2.2: Improve infrastructure and utilities throughout the city in a manner that facilitates greater economic development.

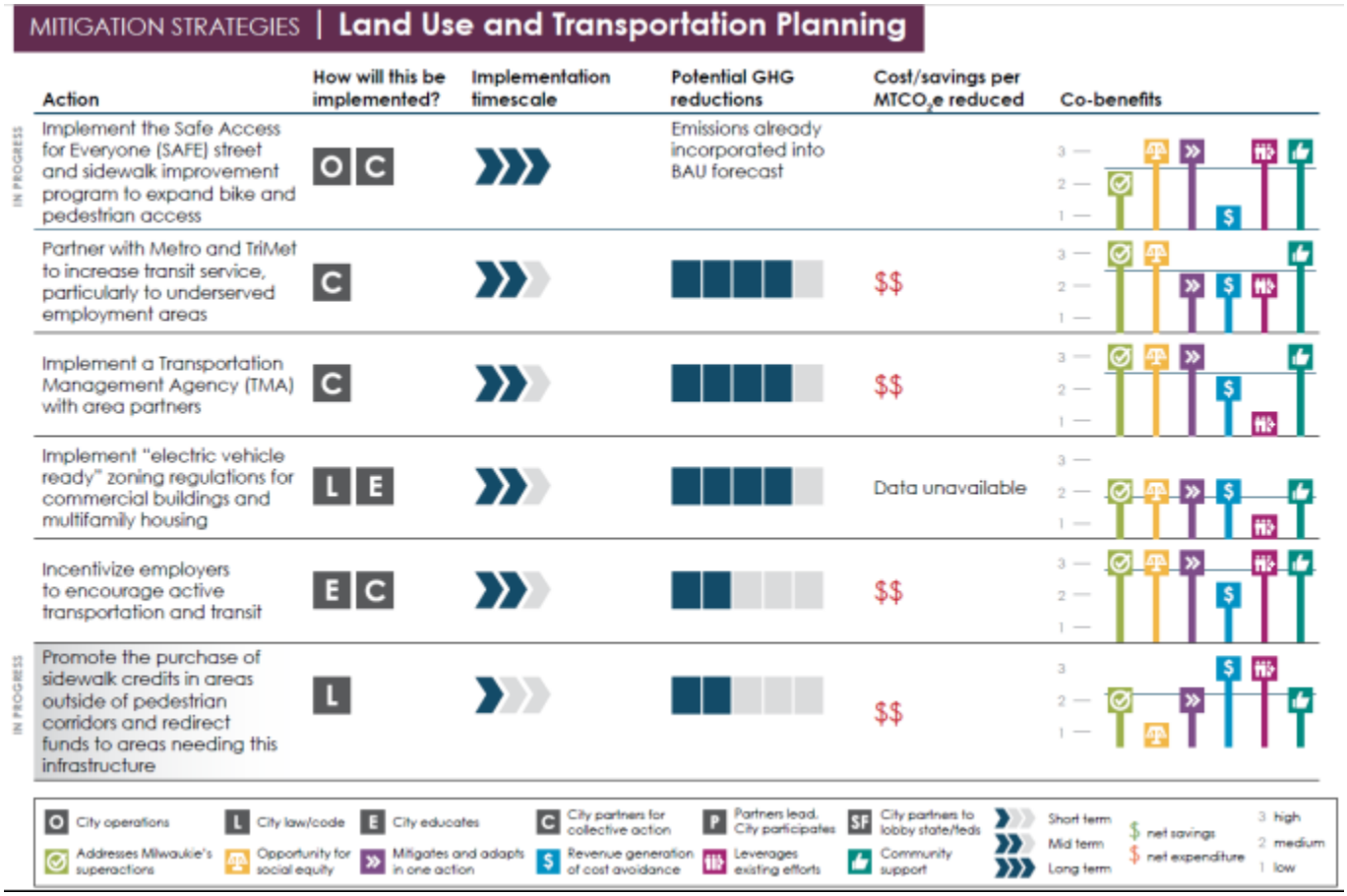
Equity Implications and Objectives: The TSP update process should reflect the Comprehensive Plan Community Engagement goals and policies. The overarching goal of this section of Comprehensive Plan goals and policies is to "Engage in inclusive, collaborative, transparent, accountable, and equitable decision-making through a broad range of strategies that inform

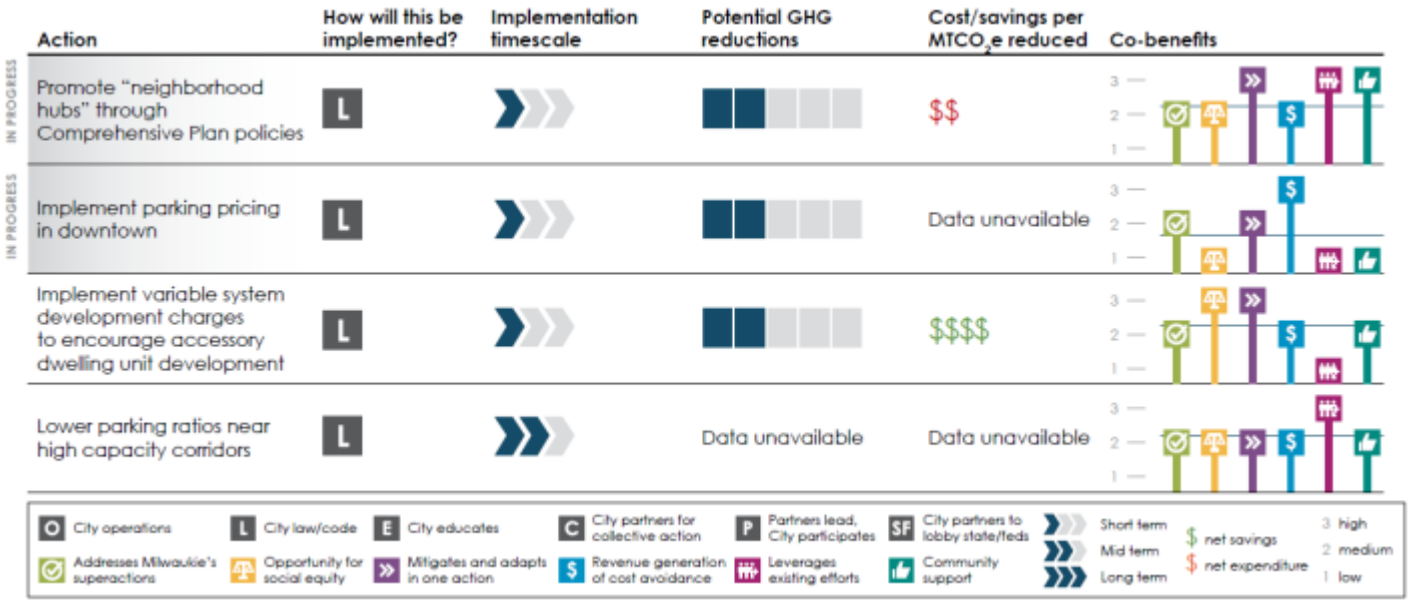
and involve a full spectrum of community members, in particular those traditionally left out of the planning process." TSP projects and policies should prioritize removing barriers to transportation options, particularly for underserved community members.

Milwaukie Climate Action Plan (2018)

The Milwaukie Climate Action Plan (CAP) provides a roadmap for the City to become carbon neutral by 2049 through a variety or mitigation strategies. The CAP outlines the science behind climate action goals, the City's carbon footprint, the timeline to change, projected impacts from identified climate actions, and the needs to achieve identified actions. These factors informed the identification of a series of "Topic-specific" climate strategies and actions, which includes Land Use and Transportation Planning. This Topic section notes that transportation emissions account for 29% of the City's carbon footprint. To mitigate the City's land use and transportation emissions, the CAC identifies ten Mitigation Strategies described in **Table 3**.

Table 3. Land Use and Transportation – City-led Mitigation Strategies





The Land Use and Transportation Topic Area section notes that these mitigation actions and strategies will account for a 9% local emissions reduction by 2049. This Topic Area includes twelve implementation recommendations, including recommendations to integrate the CAC into the Comprehensive Plan and relevant areas of the City's Code.

Project Relevance: The TSP update policies, projects, and funding should all consider and/or incorporate relevant CAP strategies, actions and recommendations. In addition to all of the Land Use and Transportation Topic Areas, the TSP update should also consider relevant actions identified in the Vehicles and Fuels Topic Area, including the following:

- Support outreach efforts to encourage shift to electric vehicles.
- Create a program to install electric vehicle charging infrastructure at multi-family housing complexes.
- Work with Clackamas County, TriMet, and Metro to develop micro-transit from park-and-ride or light rail stations to local destinations.
- Incentivize workplace electric vehicle charging in parking lots.

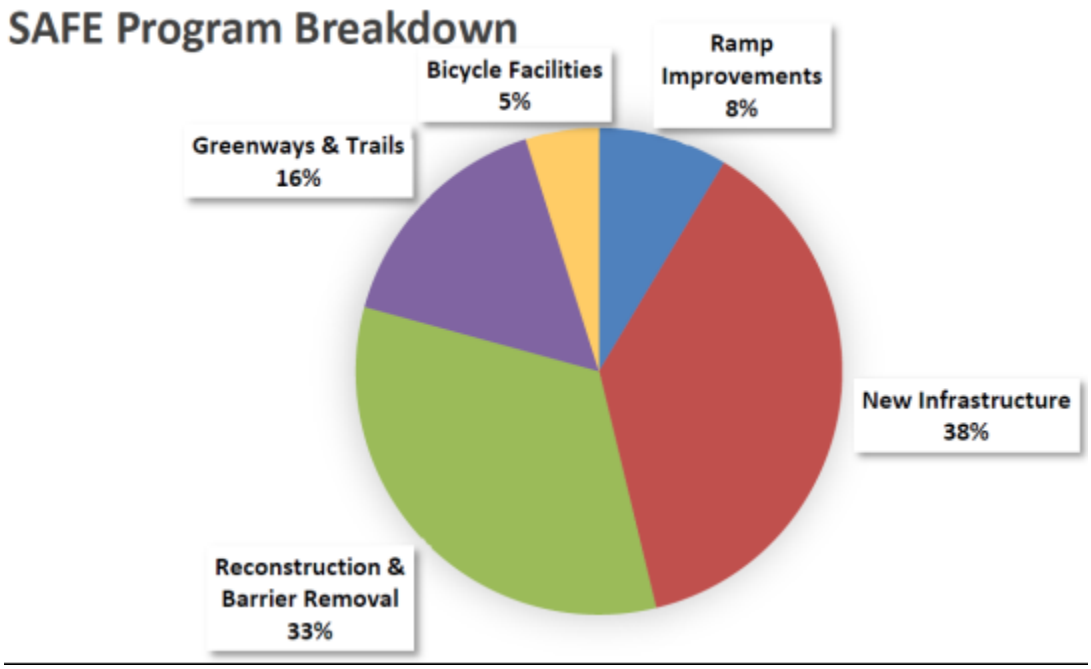
The TSP implementing ordinances will include amendments to the City's Municipal Code – specifically Title 17 (land Division) and Title 19 (Zoning). Transportation-related CAC actions that are implemented via City law/code should be addressed in the TSP implementing ordinances.

Equity Implications and Objectives: The TSP update should prioritize incorporating relevant CAC actions that provide the greatest benefit to underserved community members. The TSP update should also ensure CAC actions are coordinated with relevant Climate Friendly and Equitable Communities (CFEC) requirements that are related to equity and transportation.

Safe Access for Everyone (SAFE)[17]

The Safe Access for Everyone (SAFE) program is a City initiative to improve safety for pedestrians, bicyclists, and other users of the City's transportation system. The program began in 2019 with the goal of building 27.9 miles of sidewalk/multi-use paths and 900 ADA ramps in nine years. **Figure 3** shows the distribution of SAFE project types.

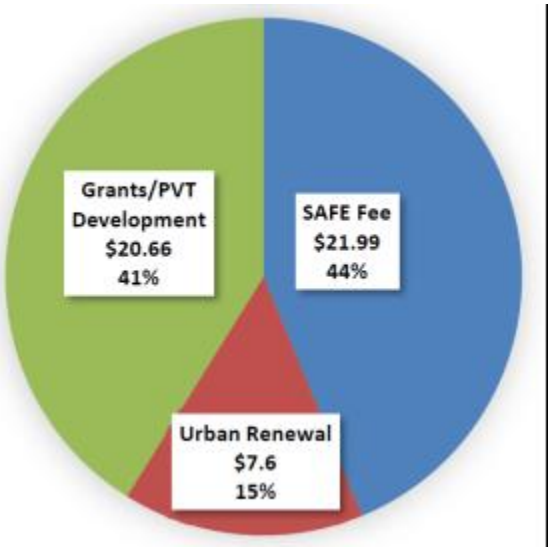
Figure 3. SAFE Program Project Distribution



The SAFE program costs $51.1 million and receives funding from the City's "SAFE" fees, Urban Renewal funding, and Grants/PVT Development (**Figure 4**).
Figure 5 illustrates the program's progress to date, and **Figure 6** shows the location and timeline for remaining projects.

[17] Safe Access for Everyone. https://www.milwaukieoregon.gov/engineering/safe

Figure 4. SAFE Funding Breakdown (dollar amount in millions)



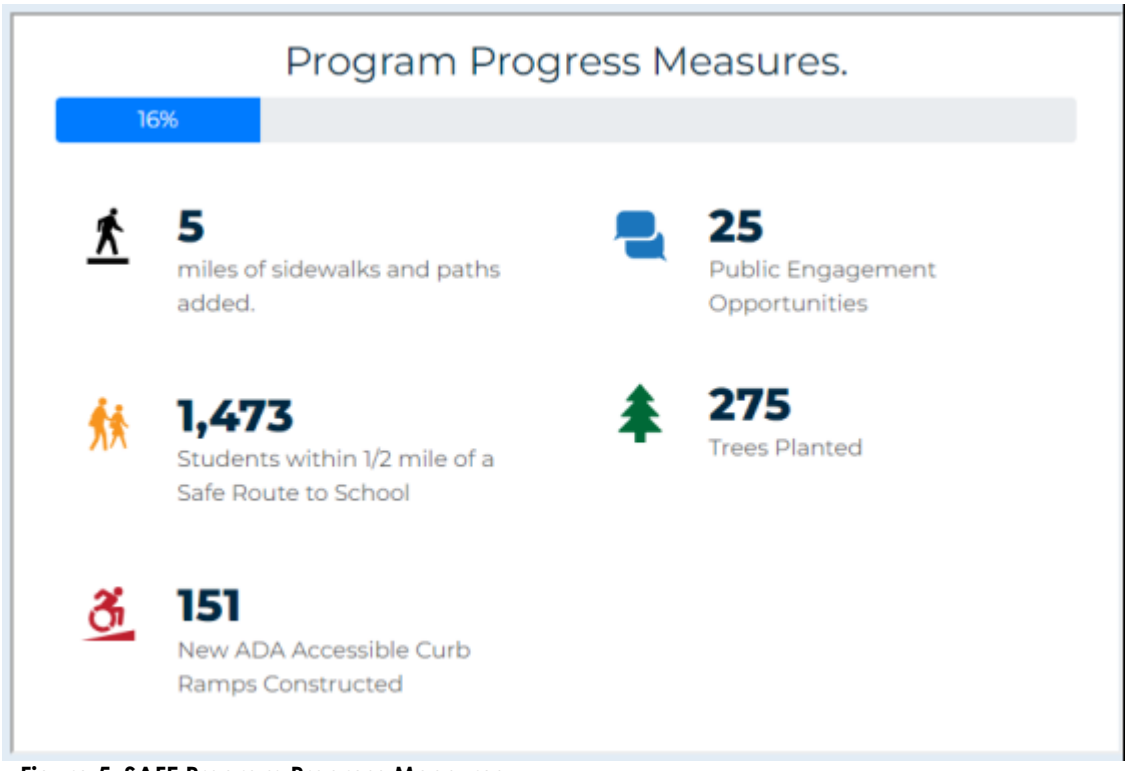
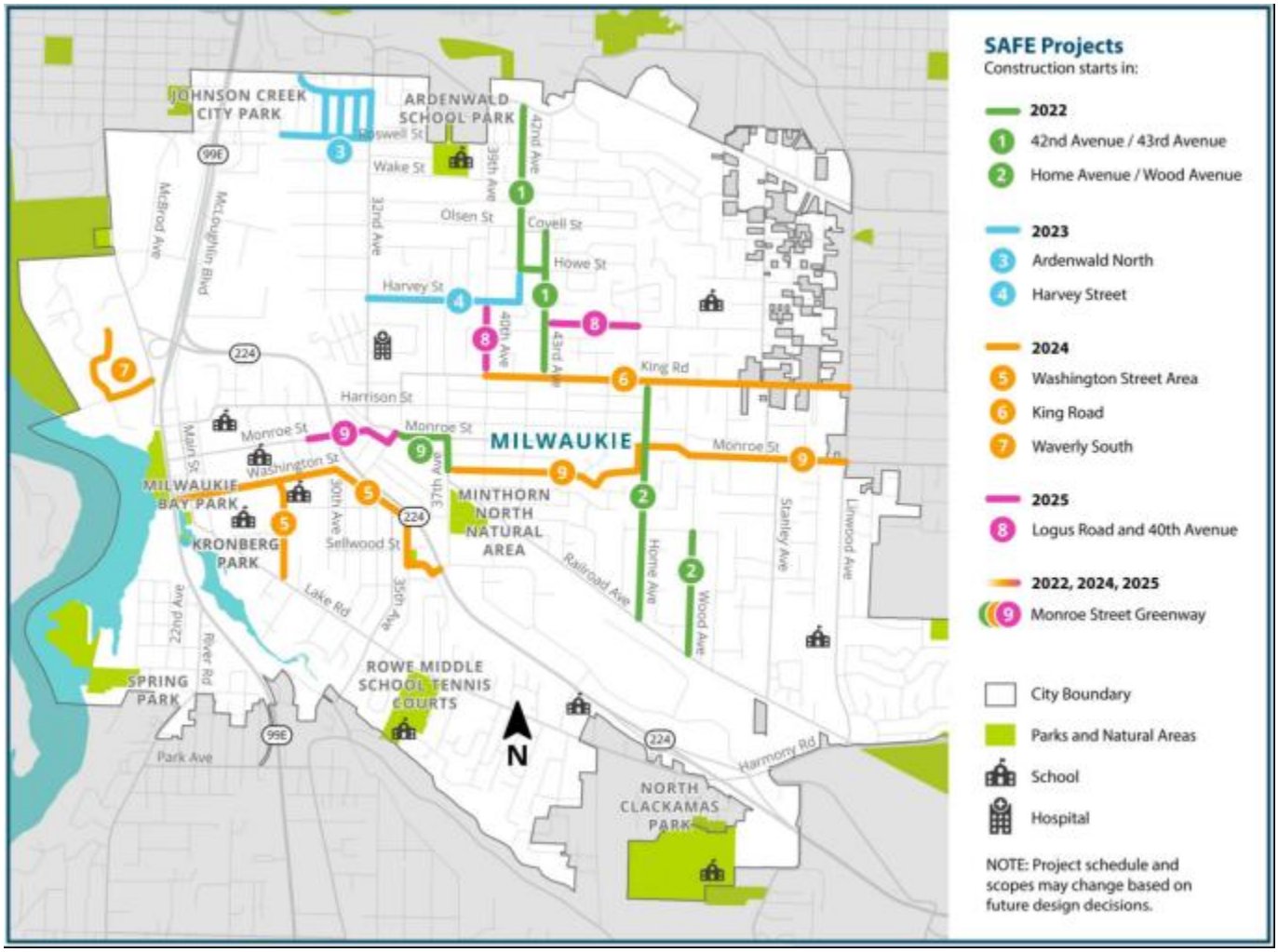


Figure 5. SAFE Program Progress Measures

Figure 6. Remaining SAFE Project Locations and Timeline[18]



Project Relevance: The TSP update projects should incorporate any remaining SAFE projects as potential safety-related TSP projects.

Equity Implications and Objectives: The City of Milwaukie continues to address the challenges presented by historical land-use and housing policies which have caused barriers to the creation of equitable transportation access. The Safe Program has increased access for those who do not have access to a car or have mobility challenges benefit from the project. The measures of success for the SAFE program include the number ADA ramps that are installed and the number of public engagement opportunities that are held. These new ramps are primarily located areas of high-volume traffic, which historically contained limited accessible transportation facilities. The TSP should utilize and incorporate lessons learned from the SAFE Project.

[18] Milwaukie SAFE Project Locations and Descriptions. https://maps.jla.us.com/milwaukie-safe

Neighborhood Hubs Project[19]

The Neighborhood Hubs project combines planning, placemaking, and economic development programs to increase access to goods and services in residential areas. Hubs are envisioned to be local gathering destinations for residents to have access to various goods and services, including open space or other places to socialize within walking or biking distance.

The Neighborhood Hubs project will result in program and policy changes that will make it easier for Neighborhood Hubs to become a reality in the near and long-term future. The project is exploring a variety of tools that will help develop Hubs at various stages of growth while allowing a path for new Hubs to emerge.

Hubs will vary in size and intensity, some can be as small as a neighborhood amenity like a tool library or pop-up event. Others could be larger like a cluster of buildings with housing located above shops and services. Hubs take time to develop; some may take several years and some may never develop.

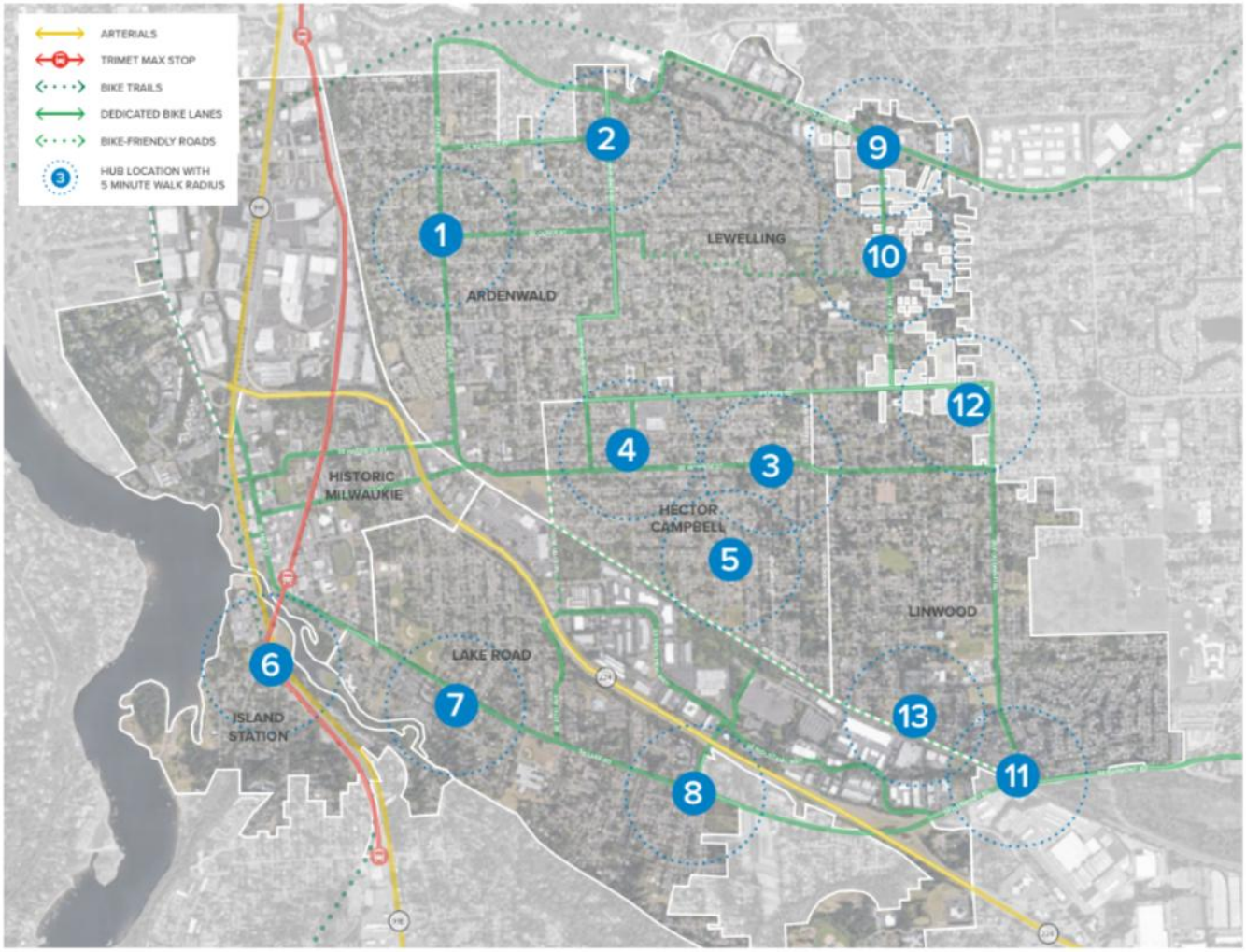
Community input was gathered to help develop Neighborhood Hub concepts throughout the City., The City's Comprehensive Plan adopted policies to promote the development of Neighborhood Hubs, including the following transportation-related policies:

- Policy 6.1.6: Encourage the creation of compact, walkable neighborhoods and neighborhood hubs throughout the city that provide a mix of uses and help reduce transportation emissions and energy usage.
- Policy 6.2.2: Work with local businesses and regional partners to increase transit usage and develop last mile solutions to Milwaukie homes, businesses, and neighborhood hubs.
- Policy 8.1.4 – Neighborhood Hubs
    - c) Ensure new development contributes to a pedestrian friendly environment along the property frontage.
- Policy 8.2.1.g: Use urban design features to reduce trips or slow traffic through areas where pedestrian safety is especially a concern, e.g., NMU districts and neighborhood hub areas.
- Policy 11.1.9: Foster a series of distinct neighborhood hubs that include services and amenities such as childcare, gathering places, restaurants and fresh food sources to which residents can walk, bike, or ride transit.

Error! Reference source not found. shows the locations of suggested Neighborhood Hubs and bike and t ransit routes.

[19] Neighborhood Hubs Project – Phase II. https://engage.milwaukieoregon.gov/hubs-phase2/widgets/71545/faqs#11550

Figure 7. Neighborhood Hubs Locations and Transit and bike Routes



Project Relevance: The TSP update should prioritize projects that enhance bike, pedestrian, or transit connectivity and access to Neighborhood Hubs. In addition, the TSP update should consider policies to promote safe, multimodal access to Neighborhood Hubs, consistent with the Comprehensive Plan Neighborhood Hub policies.

Equity Implications and Objectives: Neighborhood Hubs were created to promote continued development of more complete neighborhoods that include opportunities to shop, eat, drink and gather in a more geographically equitable way. They provide a neighborhood level planning focus to promote multi-modal options. TSP policies and projects that support access to Neighborhood Hubs should prioritize safety and access for underserved groups, including multimodal connections (e.g., bike routes, pedestrian/sidewalk connectivity, transit access) and ADA accessibility. In addition, TSP policies and projects should address any concerns related to mobility in Neighborhood Hubs.

Housing Capacity Analysis and Housing Production Strategy (2023)[20]

The Milwaukie Housing Capacity Analysis (HCA) compares residential land supply and housing unit capacity with the City's forecasted 20-year housing needs. As shown in **Table 4**, the City has sufficient capacity to accommodate forecasted housing needs over the next 20 years. However, the City has a deficit of capacity for high density housing over the next 20 years, and the HCA also identified a greater need for housing that is affordable to renters and homeowners.

Table 4. Milwaukie Housing Capacity and Housing Needs Comparison

Plan Designation	Capacity (Dwelling Units)		Demand (Dwelling Units)	Capacity less Demand (Dwelling Units)	
	Low	High		Low	High
Moderate Density	748	1,748	969	(221)	779
High Density	92	92	450	(358)	(358)
Commercial Mixed Use	2,118	2,118	251	1,867	1,867
Total	2,958	3,958	1,670	1,288	2,288

The HCA estimates that over one-third of new units in the next 20 years will need to be affordable to residents with low or extremely low incomes. The City's Housing Production Strategy (HPS) identifies actions and strategies that are intended to help Milwaukie meet its housing needs.[21] The HPS builds upon the Milwaukie Housing Affordability Strategy (MHAS)[22] by identifying funding, key partnerships, and implementation timelines for each of the housing actions. Overall, the HPS includes the following ten actions:

A. Develop a Land Bank Strategy and Partnerships to Support Affordable Housing Development
B. Reduce SDCs or Planning Fees
C. Implement the Multiple-Unit Limited Tax Exemption Program
D. Increase Capacity in the HDR Zone
E. Evaluate Incentives for Affordable Housing Development such as Density Bonuses
F. Develop Pre-Approved Plan Sets for ADUs and Middle Housing Typologies
G. Develop Housing Options and Services to Address and Prevent Houselessness
H. Establish and Implement a Revolving Loan Fund for Homeownership Assistance
I. Use Urban Renewal/Tax Increment Finance (TIF)
J. Administer a Construction Excise Tax

[20] Milwaukie Housing Capacity Analysis and Production Strategy. https://www.milwaukieoregon.gov/housingaffordability/housing-capacity-analysishousing-production-strategy

[21] Milwaukie Housing Production Strategy. https://www.oregon.gov/lcd/UP/Documents/20230802_HPS_Milwaukie.pdf

[22] Milwaukie Housing Affordability Strategy (MHAS) 2018-2023 Action Plan. https://www.milwaukieoregon.gov/sites/default/files/fileattachments/community_development/page/78261/final_mhas_report.pdf

Project Relevance: The HPS includes several actions focused on boosting affordable housing and increasing density. The TSP update should consider areas in the City that will anticipate housing growth over the next 20 years to determine potential travel demand associated with residential growth. Transportation projects identified for certain areas that will experience growth should also consider the type of housing growth and anticipated density to determine appropriate modal projects and facility capacity (e.g., areas that will support more multi-family development may be candidates for transit or bike/ped improvements).

Equity Implications and Objectives: A significant portion of the City's housing needs are for low income and extremely low-income residents. TSP update policies and projects should be coordinated with the HPS strategies that are intended to meet the needs of low income or disadvantaged residents. TSP policies and projects should also coordinate with HPS strategies that are intended to mitigate residential displacement risk associated with public facility or transportation investments.

Monroe Street Neighborhood greenway Concept Plan (2015)

The Monroe Street Neighborhood Greenway Concept Plan provided a series of street design, safety, and traffic calming treatments that are intended to improve safety for pedestrians and bicyclists as well as enhance the overall neighborhood environment. The Greenway is currently under phased construction.

As an important east-west route across Milwaukie, Monroe Street connects several neighborhoods and downtown Milwaukie, and has been identified in the city's Transportation System Plan (TSP) as a "neighborhood greenway." Neighborhood greenways are low-volume, low-speed routes that provide safe, quiet routes for motorists, pedestrians, and cyclists. Neighborhood greenways often include improvements that reduce vehicle speeds (for example, with curb extensions or mini traffic circles), which makes them safer and more inviting for neighbors, walkers, and bikers, while also reducing cut-through traffic from outside the neighborhood.

The Monroe Street Greenway will run from the Trolly Trail at Milwaukie Bay Park through downtown Milwaukie and all the way to the multi-use paths constructed along Linwood Ave. Separately, Clackamas County will extend the Linwood multi-use paths to the Springwater Corridor and is undertaking design and construction of the Monroe Street Greenway from Linwood Avenue to Fuller Road (construction in 2024-25).

Project Relevance: The Concept Plan includes a number of identified improvements that are organized into three phases based on anticipated implementation timeline;

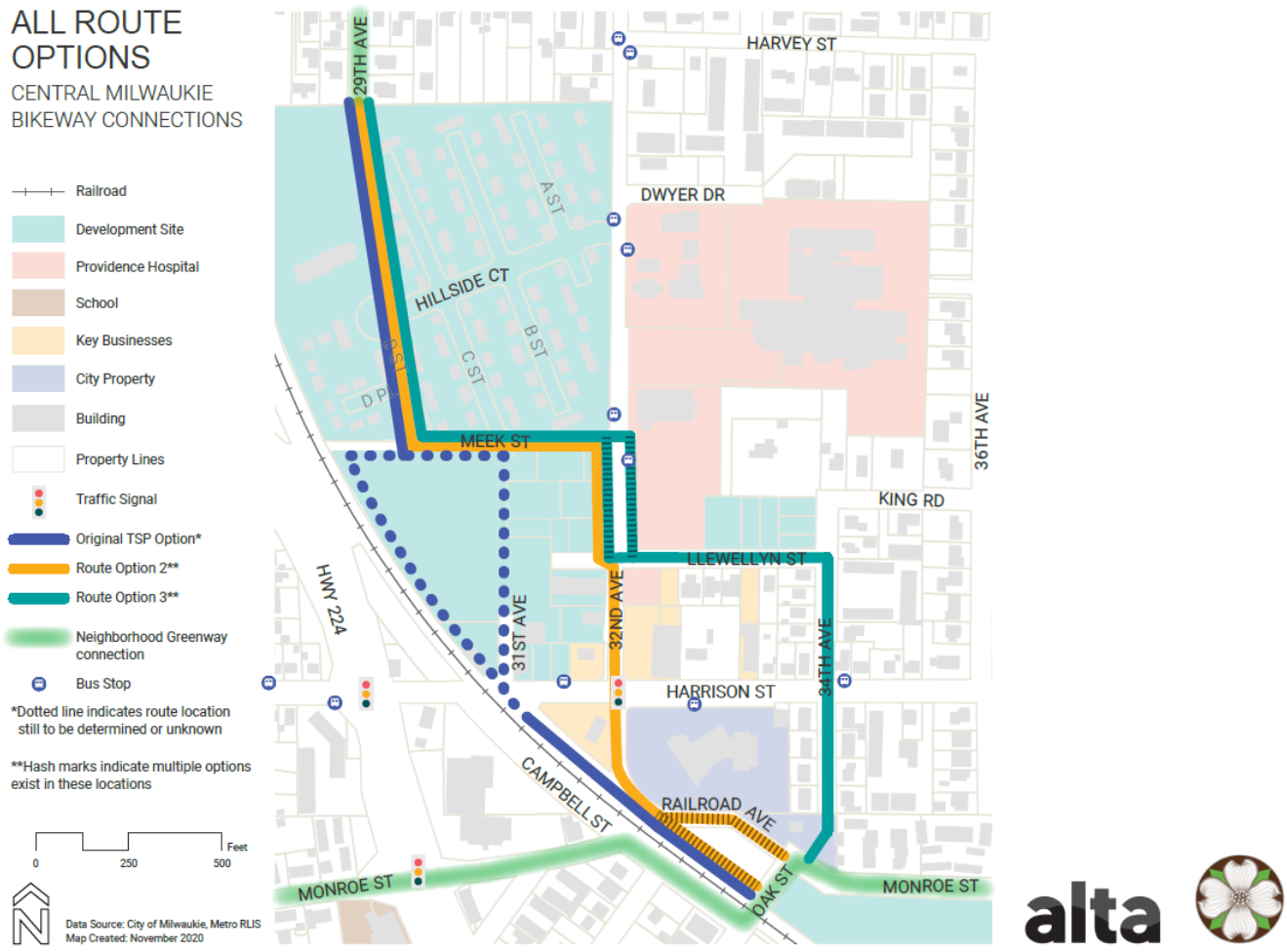
- The Downtown Segment runs from 21st Avenue to 29th Avenue. It runs from downtown, across the light rail and ends at 29th Avenue. Milwaukie is currently looking into funding this segment.
- The Central Segment runs from 29th Avenue to 34th Avenue. It crosses Highway-224 and turns onto Campbell Street to use the Oak Street railroad crossing. Milwaukie is in the process of signing an agreement with ODOT to contribute $1.55 Million dollars (Statewide Transportation Improvement Program: STIP) to the construction of this segment. This segment is scheduled to be completed in 2025-2026.
- The East Segment runs from 34th Avenue to Linwood Avenue. It will run along the Seven Acre Apartments and turn onto 37th Avenue and Washington Street for a safer route. The Seven Acre Apartments is completing their part in 2023. ODOT and Milwaukie segment is scheduled to be constructed in 2025-2026.

Equity Implications and Objectives. This Concept Plan represents a community-based planning initiative to increase active transportation and address safety concerns. This project should be a base line and example for future transportation projects which look to do the same. Understanding and replicating the neighborhood-based alignment needed to develop this concept plan can address the economic and social impacts that underserved community members may face with Greenway projects. However, as the community continues to change it will be important to review previous project decisions, engagement, and community feedback to ensure this project aligns with new equity strategies.

Central Milwaukie Bikeway Connections Plan

The Central Milwaukie Bikeway Connections (CMBC) Plan identifies a safe and comfortable bikeway connection through Central Milwaukie. The bikeway connects the 29th Avenue Neighborhood Greenway to the north and the Monroe Neighborhood Greenway to the south and east. The Plan evaluated three route options and scored the options based on various criteria, including traffic safety, route comfort, costs, and several other factors. The three route options were studied further in 2021, however City Council did not select a preferred route. The preferred route should be discussed as part of the TSP update.

Figure 8. CMBC Bikeway Preferred Alternative



Project Relevance: The TSP update should consider incorporating unfinished CMBC improvements as new TSP projects. The TSP update process may also identify the gaps needed to complete unfinished projects.

Equity Implications: The Central Milwaukie Bikeway Connection Plan represents a neighborhood-based planning initiative to increase active transportation and address safety concerns. This project should be an example for future transportation projects which look to do the same. Understanding and replicating the neighborhood-based alignment needed to develop this plan can address the economic and social impacts that underserved community members may face with Bike projects. However, as the community continues to change it will be important to review previous project decisions, engagement, and community feedback to ensure this project aligns with new equity strategies.

STATEWIDE PLANS AND POLICIES

State Plan/Policy	Plan/Policy Summary	TSP Relevance
Oregon Transportation Plan (2006)	The Oregon Transportation Plan (OTP) is the state's long-range multi-modal transportation plan that addresses the future transportation needs of the State of Oregon through the year 2030. The primary function of the OTP is to establish goals, policies, strategies, and initiatives that are translated into a series of modal plans, such as the Oregon Highway Plan and Oregon Bicycle and Pedestrian Plan.	The OTP's key initiatives will guide the TSP update, specifically in the areas of system management, maximizing performance of the existing transportation system using technology and creative design solutions, pursuing sustainable funding sources, and investing strategically in capacity projects. Consistent with a central OTP policy, the TSP update will seek to maximize the performance of the existing local transportation system by the use of technology and system management before considering larger and costlier additions to the system.
Oregon Highway Plan (1999, Amended 2015)	The Oregon Highway Plan (OHP) is a modal plan of the OTP that guides planning, operations, and financing for ODOT's Highway Division. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity.	OHP policies provide guidance related to the accessibility, mobility, and function of state highways. The TSP planning process will consider policies in the OHP to guide proposed improvements, modifications, or local policies that could affect any of the state facilities in the City.

State Plan/Policy	Plan/Policy Summary	TSP Relevance
Oregon Bicycle and Pedestrian Plan (2016)	The intent of the Oregon Bicycle and Pedestrian Plan (OBPP) is to create a policy foundation that supports decision-making for walking and biking investments, strategies, and programs that help to develop an interconnected, robust, efficient, and safe transportation system. The OBPP establishes the role of walking and biking as essential modes of travel within the context of the entire transportation system and recognizes the benefit of these modes to the people and places in Oregon.	The policies and design guidance in the OBPP apply to state highway facilities in Milwaukie. State policy and design guidance will be considered in evaluating and planning for the TSP's local street standards and bicycle and pedestrian system elements.
Oregon Rail Plan (2020)	The Oregon State Rail Plan is a state modal plan under the OTP that addresses long-term freight and passenger rail planning in Oregon. The plan provides a comprehensive assessment of the state's rail planning, freight rail, and passenger rail systems. It identifies specific policies concerning rail in the state, establishes a system of integration between freight and passenger elements into the land use and transportation planning process, and calls for cooperation between state, regional, and local jurisdictions in planning for rail.	The TSP will consider the needs of the freight and modal connections to the rail system within the City while developing recommended policies and projects related to improving safety, mobility, and freight efficiency.
Oregon Freight Plan (2023)	The Oregon Freight Plan (OFP) is the modal plan that guides the movement of goods and commodities on the State highway system. Its purpose statement identifies the intent to "improve freight connections to local, Native American, state, regional, national and global markets in order to increase trade-related jobs and income for workers and businesses." The objectives of the plan include prioritizing and facilitating investments in freight facilities (including rail, marine, air, and pipeline infrastructure) and adopting strategies to maintain and improve the freight transportation system.	Maintaining and enhancing efficiency of the truck freight system in the study area will be an objective of the updated TSP. The project advisory committee should include members that represent freight interests.
Oregon Public Transportation Plan (2017)	The Oregon Public Transportation Plan (OPTP) provides guidance for ODOT and public transportation agencies regarding the development of public transportation systems. The OPTP is intended to establish a common foundation for local, regional, and	The TSP will consider the needs of transit in Milwaukie while developing recommended policies and projects related to improving transit service. In addition, the project advisory committee will include a representative from

State Plan/Policy	Plan/Policy Summary	TSP Relevance
	state agencies by establishing a public transportation vision and goal and providing a policy and strategy framework to inform decision making.	ODOT and TriMet who will advise on transit needs and improvements.
Oregon Transportation Safety Action Plan (2021)	An element of the OTP, the Oregon Transportation Safety Action Plan (TSAP) provides long-term goals, policies and strategies and near-term actions to eliminate deaths and life-changing injuries. The TSAP addresses all modes on all public roads in Oregon.	The TSAP will be used as a resource while updating the TSP, in particular when developing local goals, policies, and strategies to improve safety in Milwaukie and prioritizing projects related to enhancing multi-modal safety. The City's planning project includes a safety goal that will inform the development of the TSP update, including the identification of transportation improvements that improve safety for all road users.
Oregon Transportation Options Plan (2015)	The Oregon Transportation Options Plan (OTOP) is a topic plan that establishes policies, strategies, and programs that promote efficient use of existing transportation system investments, thereby reducing reliance on the single-occupancy vehicle and facilitating more transportation by walking, biking, taking transit, and ridesharing.	The updated TSP will draw on program and strategy ideas in the OTOP as appropriate in order to enhance opportunities for non-motorized transportation modes and transit in Milwaukie.
Access Management Rule (OAR 734-051) (2014)	Oregon Administrative Rule (OAR) 734-051 defines the State's role in managing access to highway facilities in order to maintain functional use and safety and to preserve public investment. OHP Policy 3A and OAR 734-051 set access spacing standards for driveways and approaches to the state highway system.	Analysis for the TSP update and final project recommendations will need to reflect state requirements for state facilities; the updated TSP will comply with, or move in the direction of compliance for meeting access management standards on state highway facilities in Milwaukie. Implementation measures that will be developed for the TSP update may entail amendments to city code to ensure local development requirements are consistent with state access management requirements as well as reflect the draft TSP recommendations related to safety and access management.
ORS 366.215 (Freight Routes – Vehicle Carrying Capacity)	State statutes dictate that the Oregon Transportation Commission may not permanently reduce the "vehicle-carrying capacity" of an identified Freight Route (Reduction Review Route) unless safety or access considerations require the reduction, or a local government requests an exemption	US 224 (Clackamas Hwy No. 171) and US 99 E (Pacific Hwy No. 081) are listed on TransGIS as Reduction Review Routes. Planning documents that propose features that could be a reduction of vehicle-carrying capacity must be in compliance with the statute. Where necessary for safety or access considerations,

State Plan/Policy	Plan/Policy Summary	TSP Relevance
	and the Commission determines it is in the best interest of the state and freight movement is not unreasonably impeded.	the TSP may identify a need to obtain approval for proposed future actions by following the ORS 366.215 Review Process.
ODOT Highway Design Manual (2023)	The Highway Design Manual (HDM) provides ODOT with uniform standards and procedures for planning studies and project development for the state's roadways. It is intended to provide guidance for the design of all projects on the State's highways. The ODOT Blueprint for Urban Design (BUD) was recently incorporated into the HDM.	The ODOT HDM and BUD provide design standards and guidance applicable to state highway facilities in Milwaukie. Proposed improvements on these state facilities as part of the Milwaukie TSP update will be informed by the HDM and BUD.
ODOT Analysis Procedures Manual (2020)	The Analysis Procedures Manual (APM) provides the current methodologies, practices, and procedures for conducting long term analysis of ODOT plans and projects. The APM is generally based on methodologies found in the Highway Capacity Manual (HCM).	The Milwaukie TSP update will use APM methodology to forecast future transportation growth rates and analyze safety at study intersections and to assess the quality of the pedestrian network and the quality of the bicycle facility inventory (using Bicycle Level of Traffic Stress methodology).
Statewide Planning Goals	The foundation of Oregon's statewide land use planning program is a set of 19 Statewide Planning Goals. The goals express the state's policies on land use and other related topics, such as citizen involvement, housing, and natural resources. Oregon's statewide goals are achieved through local comprehensive planning, including the development and implementation of TSPs.	The TSP update analysis will ensure consistency with the Statewide Planning Goals listed above. The TSP adoption findings will describe how each of the relevant goals are satisfied by the Milwaukie TSP.
Statewide Transportation Improvement Program (2021-2024) & Draft Update (2024-2027)	The State Transportation Improvement Program (STIP) is the four-year programming and funding document for transportation projects and programs on state and regional transportation systems, including federal land and Indian reservation road systems, interstate, state, and regional highways, bridges, and public transit. It includes improvements that have approved state and federal funding and that are expected to be undertaken during the upcoming four-year period.	The TSP update analysis will take into account projects that are programmed in the STIP. An expected outcome of this planning process is proposed recommendations to amend the STIP to include projects from the updated TSP. Projects recommended in the updated TSP may be eligible for funding through the ODOT Enhance program, which awards funding through a competitive application process. The TSP update will also consider proposed projects that are a part of the 2024-2027 STIP.
Oregon Statewide Transportation Strategy (2013)	The Statewide Transportation Strategy (STS) is a state-level scenario planning effort that examines all aspects of the transportation system, including the movement of people	The TSP planning process will consider the strategies identified in the STS and will help articulate the City of Milwaukie's commitment

State Plan/Policy	Plan/Policy Summary	TSP Relevance
	and goods, and identifies a combination of strategies to reduce greenhouse gas, or GHG emissions. The STS identifies a variety of effective GHG emissions reduction strategies in transportation systems, vehicle and fuel technologies, and urban land use patterns.	to reducing GHG emissions in the development of plan recommendations.
Transportation Planning Rule (OAR 660-012)	The Transportation Planning Rule (TPR), OAR 660-012, implements Statewide Planning Goal 12: Transportation. The TPR contains numerous requirements governing transportation planning and project development, including the required elements of a TSP. In addition to guiding local plan development, the TPR requires each local government to amend its land use regulations (e.g., development code) to implement its TSP.	As mentioned, the state's Climate Friendly and Equitable Communities (CFEC) requirements included updates to the TPR to account for climate change in land use and transportation planning in metropolitan areas. The TSP update will need to comply with the CFEC rules. See the discussion on the Climate Executive Order and CFEC for more information.
Oregon Roadway Departure Implementation Plan (2017)	Roadway Departures (RwD) are defined by the Federal Highway Administration as a highway accident that "occurs after a vehicle crosses an edge line or a center line, or otherwise leaves the traveled way." The Oregon Roadway Departure Implementation Plan identifies RwD safety measures. It also identifies the locations, deployment levels, and expected safety benefits of systemic implementation of RwD countermeasures.	To the extent that the crash data for highway facilities in Milwaukie reveals a significant number of RwD accidents, RwD countermeasures will be considered for Milwaukie TSP Safety projects.
Oregon Intersection Safety Implementation Plan (2012)	Oregon's Transportation Safety Action Plan (TSAP) includes an overall goal of reducing the roadway fatality rate, and the Oregon Intersection Safety Action Plan seeks to advance this goal by offering a systematic approach of cost-effective countermeasures for moderate- to high-crash intersections. The Plan provides a comprehensive analysis of intersection types and their historic crash patterns and suggests a suite of countermeasures that may be appropriate for the various intersection types.	The Milwaukie TSP should evaluate the counter-measures presented int the Oregon Intersection Safety Action Plan and their applicability for moderate- and high-crash intersections in Milwaukie. Appropriate counter-measures may be considered for TSP intersection and safety projects.
Oregon Bicycle and Pedestrian Safety Implementation Plan (2014)	The Oregon Bicycle and Pedestrian Safety Implementation Plan includes a systematic analysis of bicycle and pedestrian safety of Oregon's highway network. This analysis includes a comprehensive review and	The Milwaukie TSP process will consider the methods and results from the Oregon Bicycle and Pedestrian Implementation Plan when evaluating bicycle and pedestrian safety issues in Milwaukie. The TSP will also consider the

State Plan/Policy	Plan/Policy Summary	TSP Relevance
	evaluation of bicycle and pedestrian crash data across Oregon. Based on the results of the bicycle and pedestrian crash analysis, the Plan provides a countermeasure selection process for high-risk locations for bicycle and pedestrian crashes.	counter-measures provided from the Plan to help determine the appropriate improvements and interventions for bicycle and pedestrian safety projects.
Oregon Standard Specifications for Construction (2021)	The Oregon Standard Specifications for Construction provide the construction and design guidelines for all ODOT construction projects. ODOT contractors must follow practices that are consistent with the specifications included in the Specifications manual.	Planned projects that involve facilities under ODOT or the City of Milwaukie's jurisdiction will ultimately need to be constructed pursuant to the applicable design specifications included in the Oregon Standard Specifications for Construction. The required specifications for a specific improvement may also help determine project timelines and cost estimates.
TSP Guidelines (2023)	The TSP Guidelines were created to assist local jurisdictions in the preparation and update of city and county Transportation System Plans and Regional Transportation System Plans (RTSPs). The guidelines have helped cities, counties, and metropolitan planning organizations develop plans that meet local needs and comply with state regulation and policy direction, including applicable elements of the TPR, the OTP, and associated mode and topic plans, such as meeting the OHP's Mobility Policy 1F. The TSP Guidelines have been periodically updated to reflect various State modal plan updates; an update is currently underway that will address the most recent TPR updates.	The Milwaukie TSP process will reflect the phases and steps that are outlined in the Transportation System Plan Guidelines. As needed, the TSP planning process will also account for any revisions to the Guidelines that are intended to incorporate any TPR amendments or other modal plan updates that occur during this project.
ODOT Traffic Manual (2023)	The ODOT Traffic Manual offers policy guidance for traffic engineering and provides methods and procedures for ODOT facility design and development. The Traffic Manual is organized by general highway development procedures, safety guidance, traffic control tools, intersection control measures, and other traffic operations.	The TSP update will consider the Traffic Manual guidance for proposed policies and projects related to highway facilities in Milwaukie.
ODOT Active Transportation	The ATNI compiles existing active transportation facilities on state highways to assess needs and deficiencies.[23] It prioritizes	The ATNI web map includes prioritization scores for bicycle and pedestrian needs on ODOT

[23] Statewide Active Transportation Needs Inventory. https://www.oregon.gov/odot/RPTD/Pages/Statewide-Active-Transportation-Needs-Inventory.aspx

State Plan/Policy	Plan/Policy Summary	TSP Relevance
Needs Inventory (ATNI)	active transportation on State facilities based on evaluation criteria. Evaluation criteria are based on safety, connectivity, demand, equity, stakeholder input, and existing conditions.	facilities.[24] The TSP's needs and deficiencies inventory should take the ATNI prioritization scores for highway facilities in Milwaukie into account. In addition, the TSP update should consider the ATNI evaluation criteria and prioritization methods when identifying additional bicycle and pedestrian deficiencies and needs.
Oregon Resilience Plan (2013)	The Oregon Resilience Plan (ORP) identifies critical state facilities and needed improvements to prepare for the Cascadia earthquake.	The TSP update will account for transportation facilities in Milwaukie identified in the ORP. Critical facilities in the ORP may be considered for TSP projects.
Oregon Wildlife Corridor Action Plan (2023)	The Oregon Wildlife Corridor Action Plan is intended to help preserve long-term habitat connectivity for wildlife and provide guidance for the state to develop strategies to protect wildlife corridors.[25] The Plan includes an inventory of Priority Wildlife Connectivity Areas[26] that were identified by the Oregon Department of Fish and Wildlife (ODFW), and it contains recommendations for conservation actions and coordination with ODOT to reduce wildlife-vehicle collisions on the state's transportation facilities.	The TSP update will account for ODFW mapped Priority Wildlife Connectivity Areas that intersect existing or planned transportation facilities.

[24] ODOT ATNI – Evaluation Criteria and Prioritization Web Map. https://kai.maps.arcgis.com/apps/MapSeries/index.html?appid=fd738594718a403aa58d5faa033fc044

[25] Wildlife Corridor Action Plan. https://oregon.public.law/statutes/ors_496.272

[26] Priority Wildlife Connectivity Areas. https://experience.arcgis.com/experience/6979b6598f904951bd0af1821e1595f1/

EXHIBIT B

Findings in Support of Approval
Milwaukie Municipal Code
Primary File #CPA-2025-001, Transportation System Plan Adoption

Sections of the Milwaukie Municipal Code not addressed in these findings are found to be inapplicable to the decision on this application.

1. The applicant, the City of Milwaukie, proposes to amend the Milwaukie Comprehensive Plan (MCP) policy document by adopting a new Transportation System Plan (TSP), an ancillary document to the MCP. The application also includes updates to land use regulations in Title 19: Zoning of the Milwaukie Municipal Code. These text amendments are intended to support the policy objectives of the TSP and comply with new state administrative rules. The primary land use application file number is CPA-2025-001, with ZA-2025-004 for the zoning text amendments.

2. The purpose of the amendment is to adopt an updated TSP that provides a modern, multimodal transportation planning framework consistent with Oregon Administrative Rule (OAR) Chapter 660, Division 12 (Transportation Planning Rule), as amended through the Climate Friendly and Equitable Communities rulemaking. The City's existing TSP has not been substantially updated since 2007. This amendment constitutes a "Major Update" under OAR 660-012-0105.

   The amendment updates transportation policies and implementation measures by updating city transportation goals, adopting a new list of capital projects, establishing new performance standards, implementing a multimodal functional classification system, and amending the City's zoning code as necessary to implement and ensure consistency with the updated TSP and the Transportation Planning Rule.

3. The proposal is subject to the following provisions of the Milwaukie Municipal Code (MMC):
   - MMC Section 19.902 Amendments to Maps and Ordinances
   - MMC Chapter 19.1000 Review Procedures

   The application has been processed and public notice provided in accordance with MMC Section 19.1008 Type V Review. Public hearings were held before Planning Commission on January 27, 2026, and before City Council on March 17, 2026.

4. MMC Chapter 19.1000 establishes the initiation and review requirements for land use applications. The City Council finds that these requirements have been met as follows.

   a. MMC Subsection 19.1001.6 requires that Type V applications be initiated by the Milwaukie City Council, Planning Commission, Planning Manager, or any individual.

      The amendments were initiated by the Planning Manger on December 23, 2025.

b. MMC Section 19.1008 establishes requirements for Type V review. The procedures for Type V review have been met as follows:

(1) Subsection 19.1008.3.A.1 requires opportunity for public comment.

During the Transportation System Plan update, the City developed and implemented a robust community engagement strategy. That strategy included multiple opportunities for the public to participate in the plan making process. Methods included two advisory committees, community workshops, targeted focus groups with underserved communities, and online forums and surveys through the Engage Milwaukie platform. A summary of engagement can be found in the TSP Technical Appendix F. These engagement activities were broadly publicized and provided multiple points at which the public could review draft materials and provide comments to City staff prior to hearings.

In addition, as discussed under Finding 4(b)(2), since December 23, 2025, the draft TSP and related materials were made available on the City's project webpage, and notice of the public first public hearing with the Planning Commission was been posted at City facilities on the same date.

(2) Subsection 19.1008.3.A.2 requires notice of public hearing on a Type V Review to be posted on the City website and at City facilities that are open to the public at least 30 days prior to the hearing.

A notice of the Planning Commission's January 27, 2026, hearing was posted as required on December 23, 2025. A notice of City Council's March 17, 2026, hearing was posted as required on February 10, 2026.

(3) Subsection 19.1008.3.A.3 requires notice be sent to individual property owners if the proposal affects a discrete geographic area or specific properties in the City.

The Planning Manager has determined that the proposal affects a large geographic area (the entire city).

(4) Subsection 19.1008.3.B requires notice of a Type V application be sent to the Department of Land Conservation and Development (DLCD) 35 days prior to the first evidentiary hearing.

Notice of the proposed amendments was sent to DLCD using the Post-Acknowledgement Plan Amendment (PAPA) Online portal on December 23, 2025.

(5) Subsection 19.1008.3.C requires notice of a Type V application be sent to Metro 35 days prior to the first evidentiary hearing.

Notice of the proposed amendments was sent to Metro via email on December 23, 2025.

(6) Subsection 19.1008.3.D requires notice to property owners if, in the Planning Director's opinion, the proposed amendments would affect the permissible uses of land for those property owners.

The proposed amendments generally do not further restrict the use of property.

(7) Subsection 19.1008.4 and 5 establish the review authority and process for review of a Type V application.

The Planning Commission held a duly advertised public hearing on January 27 and passed a motion recommending that the City Council approve the proposed amendments. The City Council held a duly advertised public hearing on March 17, 2026, and approved the application.

5. MMC 19.902 Amendments to Maps and Ordinances

a. MMC Subsection 19.902.3.A requires that changes to the text of the MCP shall be evaluated through a Type V review per Section 19.1008.

The Planning Commission held a duly advertised public hearing on January 27, 2026, and passed a motion recommending that the City Council approve the proposed amendments. The City Council held a duly advertised public hearing on March 17, 2026, and approved the application. Public notice was provided in accordance with Type V noticing requirements in MMC Subsection 19.1008.3.

b. MMC Subsection 19.902.3.B contains approval criteria for changes to the text of the MCP.

(1) MMC Subsection 19.902.3.B.1 requires that the proposed amendment be consistent with the goals and policies of the Comprehensive Plan, as proposed to be amended.

The proposed amendment would adopt a new Transportation System Plan (TSP), an ancillary document to the MCP, and would replace the existing goals and policies of the MCP's transportation chapter.

The Comprehensive Plan is grounded in the City's long-range vision for Milwaukie, which describes a flourishing, equitable, livable, and sustainable community supported by a safe, multimodal transportation system, climate resilience, and connected neighborhood centers. That vision served as the basis for the development of the Comprehensive Plan and informs its goals and policies across all plan chapters.

The proposed TSP implements this vision by advancing a transportation framework and set of investments that emphasizes safety, equity, multimodal connectivity, and environmental sustainability.

Consistency with the Comprehensive Plan is evaluated by examining whether the proposed amendment advances the MCP vision, rather than through a policy-by-policy comparison of each plan chapter. The proposed amendment updates and replaces the transportation goals and policies in a manner that is integrated with other elements of the Comprehensive Plan and does not create conflicts with adopted land use, housing, recreation, environmental, or economic development policies.

Therefore, the proposed amendment is consistent with the goals and policies of the Comprehensive Plan, as proposed to be amended, and complies with MMC 19.902.3.B.1.

(2) MMC Subsection 19.902.3.B.2 requires that the proposed amendment is in the public interest with regard to neighborhood or community conditions.

The proposed TSP responds to existing neighborhood and community conditions, including a documented lack of complete and connected multimodal transportation infrastructure in many areas of the city. The amendment is intended to address these conditions by establishing policies and priorities that improve safety, access, and connectivity for people traveling by walking, bicycling, transit, and motor vehicle, consistent with community needs and adopted citywide goals.

The amendment serves the public interest by providing a comprehensive and coordinated framework for future transportation decision-making. The identified improvements are conceptual in nature and would be subject to future planning, design, funding decisions, and applicable public processes prior to implementation. This approach establishes a comprehensive long-term vision, while allowing for transportation investments to be evaluated over time in response to neighborhood context, community input, and changing conditions.

By improving the City's ability to plan for and prioritize multimodal transportation investments, the proposed TSP supports neighborhood livability, equitable access to services and employment, and overall community safety, sustainability, and resilience.

The amendment therefore serves the public interest with regard to neighborhood and community conditions and complies with MMC 19.902.3.B.2.

(3) MMC Subsection 19.902.3.B.3 requires the public need be best satisfied by this particular proposed amendment.

The public need addressed by the amendment is the adoption of an updated, comprehensive transportation policy framework and proposed list of improvements that reflect current neighborhood and community conditions and planning priorities. The City's existing Transportation System Plan was last updated in 2007. As such, it no longer fully reflects present-day conditions, needs, or contemporary transportation planning practices.

Rather than relying on incremental, disconnected amendments, this new TSP provides a unified response to the city's growth. This approach ensures that transportation goals are cohesive and grounded in current public input.

The proposed changes are the culmination of a two-year collaborative process involving city staff, consultants, and the community. By providing a coordinated roadmap for system improvements, this amendment best satisfies the public need and complies with MMC 19.902.3.B.3.

(4) MMC Subsection 19.902.3.B.4 requires that the proposed amendment is consistent with the Metro Urban Growth Management Functional Plan and relevant regional policies.

The Urban Growth Management Function Plan (UGMFP) implements the Regional Framework Plan and 2040 Growth Concept by establishing land use planning requirements and recommendations that guide local comprehensive plans and ensure consistency with regional growth management objectives. Regional transportation policy is implemented through a related but distinct framework, including the Regional Transportation Plan (RTP) and Metro's Regional Transportation Functional Plan (RTFP), which translates regional transportation goals into actionable process and policy expectations for local jurisdictions.

Consistency of the proposed TSP with the regional frameworks was evaluated through a separate set of findings that address applicable regional transportation requirements (see Exhibit 4c). Based on that review, the City received a letter of support from Metro for adoption of the TSP, confirming that the plan aligns with relevant regional transportation policies and implementation expectations. Therefore, the amendment complies with MMC 19.902.3.B.4.

(5) MMC Subsection 19.902.3.B.5 requires that the proposed amendment be consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule (TPR).

The TPR implements Statewide Planning Goal 12 – Transportation – and establishes clear rules for how jurisdictions conduct transportation planning, including establishing policy objectives and procedural requirements for updating Transportation System Plans (TSPs) in a manner that furthers state priorities, such as reducing greenhouse gas pollution and promoting multimodal transportation options. The proposed amendment would adopt a new TSP and replace the transportation goals and policies of the MCP.

Consistency of the proposed TSP with the Statewide Planning Goals and the TPR has been evaluated in a separate set of findings (see Exhibit 4d). Based on that analysis, the proposed amendment is consistent with applicable Statewide Planning Goals and the TPR. Accordingly, the proposed amendment complies with MMC 19.902.3.B.5.

c. MMC Subsection 19.902.5.A requires that changes to the text of Titles 14, 17, or 19 be evaluated through a Type V review per Section 19.1008

The Planning Commission held a duly advertised public hearing on January 27, 2026, and passed a motion recommending that the City Council approve the proposed amendments. The City Council held a duly advertised public hearing on March 17, 2026, and approved the application. Public notice was provided in accordance with Type V noticing requirements in MMC Subsection 19.1008.3.

d. MMC Subsection 19.902.5.B contains approval criteria for changes to the text of the Milwaukie Municipal Code.

(1) MMC Subsection 19.902.5.B.1 requires that amendments be consistent with other provisions of the Milwuakie Municipal Code.

The proposed amendments update multiple sections of Title 19 to implement the policy objectives of the newly adopted Transportation System Plan (TSP), to update TSP references, and to adopt development standards required by the Transportation Planning Rule (TPR) that a multimodal transportation system. By clarifying and updating code provisions to implement the TSP, the amendments reinforce existing regulatory structure while ensuring consistency, predictability, and usability of the code. Therefore, the proposed zoning amendments are consistent with other provisions of the Milwaukie Municipal Code and comply with MMC 19.902.5.B.1.

(2) MMC Subsection 19.902.5.B.2 requires that amendments be consistent with the goals and policies of the Comprehensive Plan.

The proposed amendments are part of a comprehensive approach to implementing the TSP's policy vision, which itself has been found to be consistent with the Comprehensive Plan's vision of establishing a well-maintained complete and integrated multimodal network (see Finding 5(b)(1)).

The amendments update development standards to ensure that private and public development support the City's adopted vision and policies, as articulated in the MCP.

By codifying standards that implement TSP objectives, the amendments reinforce the Comprehensive Plan's policy framework. Therefore, the proposed zoning amendments are consistent with the Comprehensive Plan and comply with MMC 19.902.5.B.2

(3) MMC Subsection 19.902.5.B.3 requires that amendments be consistent with the Metro Urban Growth Management Functional Plan and relevant regional policies.

The proposed zoning amendments promote development that supports a multimodal transportation system, consistent with UGMFP provisions for compact development, connected neighborhood centers, and multimodal access. The amendments also align with relevant regional transportation standards by facilitating safe, accessible, and efficient movement for all travel modes. As with the TSP, Metro has provided support for the amendments.

Accordingly, the proposed zoning amendments are consistent with the Metro UGMFP and relevant regional policies and comply with MMC 19.902.5.B.3.

(4) MMC Subsection 19.902.5.B.4 requires that amendments be consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.

The TPR implements Statewide Planning Goal 12 – Transportation – by establishing procedural requirements for updating Transportation System Plans (TSPs) and specifying required plan elements. The TPR also requires that local jurisdictions adopt development standards and regulations that discourage reliance on single-occupancy vehicle (SOV) travel, reduce greenhouse gas pollution, and support multimodal transportation options.

A separate set of findings demonstrates the consistency of the TSP and implementing code amendments with Statewide Planning Goals and TPR requirements.

Therefore, the proposed zoning amendments are consistent with relevant state statutes, administrative rules, and planning goals, and comply with MMC 19.902.5.B.4.

(5) MMC Subsection 19.902.5.B.5 requires that amendments be consistent with relevant federal regulations.

As a general matter of law, the federal government defers to states and in turn local jurisdictions in the establishment of land use and development standards. The City's land use regulations are part of a statewide planning framework overseen by the Oregon Department of Land Conservation and Development (DLCD). Because the Oregon Administrative Rules (OARs), including the Transportation Planning Rule (TPR), are designed to be consistent with federal mandates, the City's compliance with these state rules serves as a primary basis for finding consistency with federal law.

Where federal law may be applicable, the amendments are specifically designed to align with and support those mandates. The primary substantive amendments to the zoning code include introducing new development standards for commercial and mixed-use areas that require sites and buildings to be designed for pedestrian access and convenience. In doing so, the amendments directly support the objectives of the Americans with Disabilities Act (ADA) regarding accessible and barrier-free mobility. Furthermore, by codifying a framework that reduces vehicle dependency and promotes multimodal transportation, the amendments support the pollution reduction goals of the federal Clean Air Act.

Accordingly, the amendments are found to be consistent with federal regulations and comply with MMC 19.902.5.B.5.

EXHIBIT C

Findings in Support of Approval
Metro Regional Transportation Functional Plan
Primary File #CPA-2025-001, Transportation System Plan Adoption

The Regional Transportation Functional Plan (RTFP) implements the goals, objectives, and policies of the Regional Transportation Plan (RTP). The State requires the RTFP to direct cities and counties within the metropolitan planning area boundary to implement the RTP through their Transportation System Plan (TSP) and associated land use regulations. The updated TSP needs to be consistent with the Titles of the RTFP. In addition, the City needs to implement certain RTFP requirements through the Development Code.

The current RTFP was adopted in 2012. Metro anticipates beginning the update process for the RTFP in 2025, with adoption planned for 2026 or 2027. The RTFP update will ensure consistency with recent TPR updates associated with CFEC. It is assumed that TPR requirements shall take precedence over the RTFP wherever there are inconsistencies. Therefore, some of the following findings, particularly regarding performance measures and parking management, will defer to TSP/policy recommendations that comply with the TPR.

The following findings identify the elements of the Milwaukie TSP that satisfy each of the applicable RTFP Checklist items.

Title 1 – Street System Design, Section 3.08.110C

Include to the extent practicable, a network of major arterial streets at one-mile spacing and minor arterials or collectors at half-mile spacing, considering:

- existing topography;
- rail lines; freeways; pre-existing development, leases, easements or covenants;
- requirements of Metro's Urban Growth Management Functional Plan Title 3 (Water Quality and Flood plains) and Title 13 (Nature in Neighborhoods), such as streams, rivers, flood plains, wetlands, riparian and upland fish and wildlife habitat areas.
- arterial design concepts in Chapter 3 of RTP (Section 3.5, Table 3.3 and Figure 3.11)
- best practices and designs as set forth in regional state or local plans and best practices for protecting natural resources and natural areas

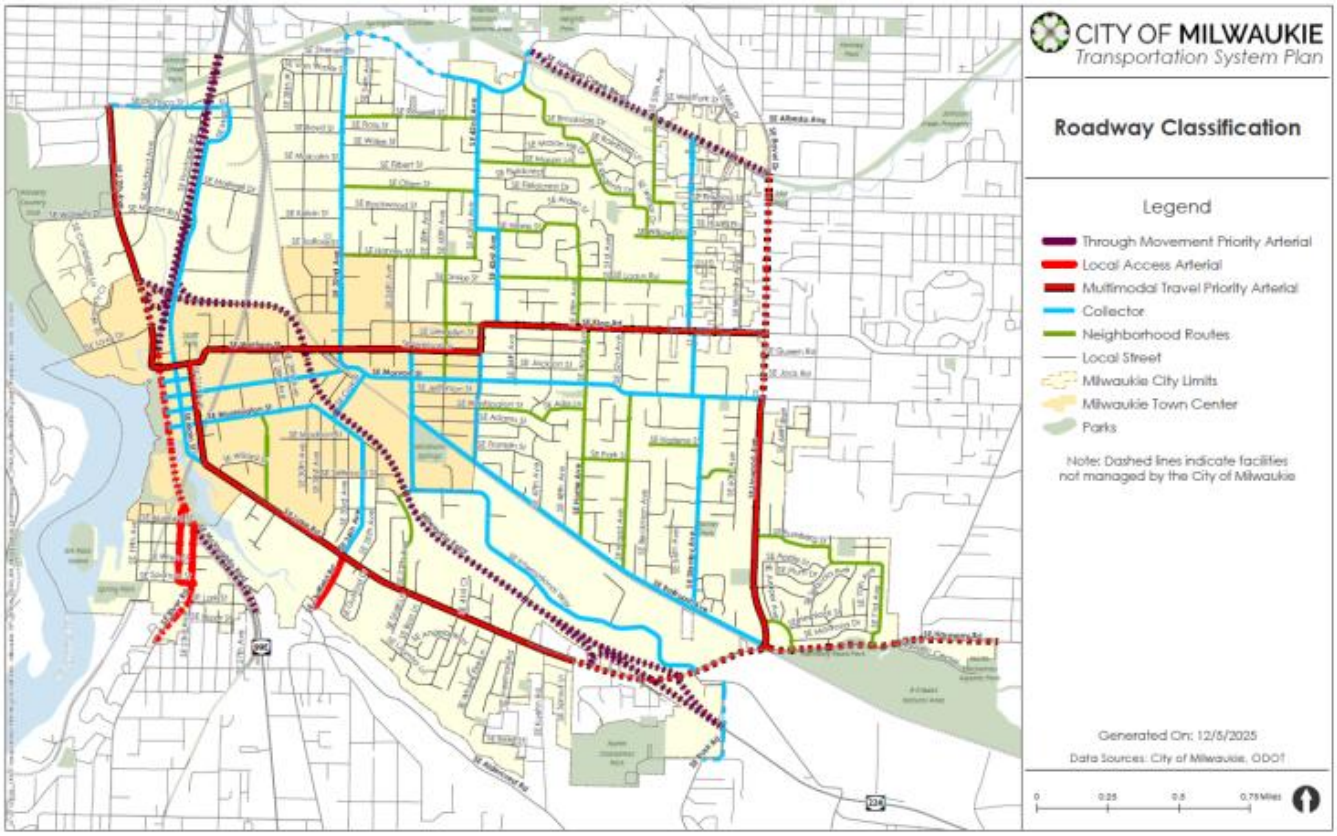
Finding: *TSP Chapter 5 describes the City's roadway classification hierarchy, including a map and descriptions for the following:*

- ***Through Movement Priority Arterial*** *segments prioritize the efficient movement of traffic over longer distances, with limited interruptions and access points. Through Movement Priority Arterials will generally limit access to limited intersections with the street network and support safe speeds.*
- ***Local Access Priority Arterial*** *segments are roadways that prioritize direct access to properties and local street connections, balancing mobility with community accessibility and livability.*

Local Access Priority Arterials generally allow for more access from properties, more opportunities to make turns, more frequent intersections with other streets, and slower speeds.

- ***Multimodal Travel Priority Arterial*** *segments are primarily, but not exclusively, located within or adjacent to Climate-Friendly Areas and prioritize high-quality, complete, connected facilities for people walking, bicycling, and using public transit.*
- ***Collectors*** *provide a link between neighborhood or local streets and arterials, balancing mobility and local access for all modes. They are slower and more access focused than arterials.*
- ***Neighborhood Routes*** *provide direct circulation within residential areas and links homes to collectors, with slow speeds and emphasis on livability.*
- ***Local Streets*** *primarily serve access to individual properties and carry very low traffic volumes.*

As shown in TSP Figure 5-6, the City's "Through Movement" arterials (major arterials) generally meet the one-mile spacing requirement, and local access/multimodal arterials (minor arterials) and collectors generally meet the half-mile spacing requirement.



Title 1 – Street System Design, Section 3.08.110D

Include a conceptual map of new streets for all contiguous areas of vacant and re-developable lots and parcels of five or more acres that are zoned to allow residential or mixed-use

development. The map shall identify street connections to adjacent areas and should demonstrate opportunities to extend and connect new streets to existing streets, provide direct public right-of-way routes and limit closed-end street designs consistent with Title 1, Sec 3.08.110E

Finding: *The City does not have any areas where this applies, and therefore this RTFP requirement does not apply. While that is the case, the TSP Figure 7-4 identifies roadway extension projects that include opportunities to establish new local street connections as part of future infill and redevelopment.*

Title 1 – Transit System Design, Section 3.08.120A

Include investments, policies, standards and criteria to provide pedestrian and bicycle connections to all existing transit stops and major transit stops designated in Figure 3.16 of the RTP.

Finding: *The following policies and projects encourage multimodal connectivity to transit:*

- *Policy 1.1 – Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.*
- *Policy 2.4 – Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.*
- *Policy 5.1 – Identify and prioritize projects that close gaps in the existing active transportation network and support a street grid that provides options for transit, pedestrians, and bicyclists.*
- *Policy 12.5 – Ensure bicycle and micromobility parking is provided and unobstructed in and between neighborhoods, schools, parks, transit facilities, employment centers, Neighborhood Hubs, and other key destinations.*

See Appendix A (Regulatory Solutions Memo) for details on the City's standards in the Development Code for bicycle and pedestrian connectivity to transit facilities.

Title 1 - Transit System Design, Section 3.08.120B(1)

Include a transit plan consistent with transit functional classifications shown in Figure 3.16 of the RTP that shows the locations of major transit stops, transit centers, high capacity transit stations, regional bike-transit facilities, inter-city bus and rail passenger terminals designated in the RTP, transit-priority treatments such as signals, park-and-ride facilities, and bicycle and pedestrian routes, consistent with sections 3.08.130 and 3.08.140, between essential destinations and transit stops.

Finding: *The TSP includes a Transit Classification Hierarchy and descriptions beginning on page 42 and in Figure 5-4. These include Regional Transitways, Major Transit Priority Streets, Transit Access Streets, and Local Service Transit Streets. The TSP Transit Projects (Table 7-8 and Figure 7-5) include projects currently envisioned/planned by regional partners (TriMet, Metro, and Clackamas County) to*

implement frequent services, bus rapid transit, and transit signal priority facilities and services. Local implementation of these services and facilities will include infrastructure improvements to support transit service, including but not limited to station/stop improvements and bicycle and pedestrian connectivity improvements.

Title 1 - Pedestrian System Design, Section 3.08.130A

Include a pedestrian plan for an interconnected network of pedestrian routes within and through the city or county. The plan shall include:

- An inventory of existing facilities that identifies gaps and deficiencies in the pedestrian system;
- An evaluation of needs for pedestrian access to transit and essential destinations for all mobility levels, including direct, comfortable and safe pedestrian routes;
- A list of improvements to the pedestrian system that will help the city or county achieve the regional Non-SOV modal targets in Table 3.08-1 of the RTFP, and other targets established pursuant to section 3.08.230;
- Provisions for sidewalks along arterials, collectors and most local streets, except that sidewalks are not required along controlled roadways, such as freeways;
- Provision for safe crossings of streets and controlled pedestrian crossings on major arterials

Finding: *The TSP includes a Pedestrian Classification Hierarchy and descriptions beginning on page 34 and in Figure 5-2. These include Major City Walkways, City Walkways, Neighborhood Walkways, and Local Service Walkways. TSP Figure 5-8 identifies priority focus areas for pedestrian gaps and deficiencies. The TSP Pedestrian Projects List (Table 7-5 and Figure 7-2) includes a comprehensive list of pedestrian projects that are intended to meet identified pedestrian system needs and fill gaps/deficiencies, including access to key destinations and transit facilities, pedestrian facilities/sidewalks along each type of street classification, and safety/connectivity crossings.*

Title 1 – Bicycle System Design Section 3.08.140

Include a bicycle plan for an interconnected network of bicycle routes within and through the city or county. The plan shall include:

- An inventory of existing facilities that identifies gaps and deficiencies in the bicycle system;
- An evaluation of needs for bicycle access to transit and essential destinations, including direct, comfortable and safe bicycle routes and secure bicycle parking, considering TriMet Bike Plan;
- A list of improvements to the bicycle system that will help the city or county achieve the regional Non-SOV modal targets in Table 3.08-1 of the RTFP and other targets established pursuant to section 3.08.230;
- Provision for bikeways along arterials, collectors and local streets, and bicycling parking in centers, at major transit stops shown in Figure 3.16 in the RTP, park-and-ride lots and associated with institutional uses;

- Provision for safe crossing of streets and controlled bicycle crossings on major arterials

Finding: *The TSP includes a Bicycle Classification Hierarchy and descriptions beginning on page 38 and in Figure 5-3. These include Major City Bikeways, City Bikeways, Neighborhood Bikeways, and Local Service Bikeways. TSP Figure 5-9 identifies priority focus areas for bicycle gaps and deficiencies. The TSP Bicycle Projects List (Table 7-6 and Figure 7-3) includes a comprehensive list of bicycle projects that are intended to meet identified bicycle system needs and fill gaps/deficiencies, including access to key destinations and transit facilities, bike facilities along each type of street classification, and safety/connectivity crossings.*

Title 1 – Freight System Design Section 3.08.150

Include a freight plan for an interconnected system of freight networks within and through the city or county. The plan shall include:

- An inventory of existing facilities that identifies gaps and deficiencies in the freight system;
- An evaluation of freight access to freight intermodal facilities, employment and industrial areas and commercial districts;
- A list of improvements to the freight system that will help the city or county increase reliability of freight movement, reduce freight delay and achieve targets established pursuant to section 3.08.230.

Finding: *The TSP includes a Truck Freight Classification Hierarchy and descriptions on page 46 and in Figure 5-5. These include Regional Truckways, Priority Truck Streets, Truck Access Streets, and Local Service Truck Streets. The TSP Freight Projects (Table 7-9 and Figure 7-6) includes a list of 7 projects that are intended to meet identified freight needs which will help improve freight reliability and movement, including signage upgrades, intersection geometry upgrades, and street surfacing improvements.*

Title 1 – Transportation System Management and Operations 3.08.160

Include a transportation system management and operations (TSMO) plan to improve the performance of existing transportation infrastructure within or through the city or county. A TSMO plan shall include:

- An inventory and evaluation of existing local and regional TSMO infrastructure, strategies and programs that identifies gaps and opportunities to expand infrastructure, strategies and programs
- A list of projects and strategies, consistent with the Regional TSMO Plan, based upon consideration of the following functional areas:
    - Multimodal traffic management investments
    - Traveler Information investments
    - Traffic incident management investments
    - Transportation demand management investments

Finding: *The TSP summarizes existing Transportation Options Planning programs/resources and identifies future programming needs on page 111. The future needs include the following:*

- *Providing financial support and staff time to organizations providing travel options programming.*
- *Providing centralized information for residents about local transportation options programming and organizations.*
- *Coordinating with and participating in regional travel options planning programs.*

Title 2 – Transportation Needs 3.08.210

Incorporate regional and state transportation needs identified in the RTP as well as local transportation needs. The determination of local transportation needs based upon:

- System gaps and deficiencies identified in the inventories and analysis of transportation system pursuant to Title 1;
- Identification of facilities that exceed the Deficiency Thresholds and Operating Standards in Table 3.08-2 or the alternative thresholds and standards established pursuant to section 3.08.230;
- Consideration and documentation of the needs of youth, seniors, people with disabilities and environmental justice populations within the city or county, including minorities and low-income families.

A local determination of transportation needs must be consistent with the following elements of the RTP:

- The population and employment forecast and planning period of the RTP, except that a city or county may use an alternative forecast for the city or county, coordinated with Metro, to account for changes to comprehensive plan or land use regulations adopted after adoption of the RTP;
- System maps and functional classifications for street design, motor vehicles, transit, bicycles, pedestrians and freight in Chapter 3 of the RTP;
- Regional non-SOV modal targets in Table 3.08-1 and the Deficiency Thresholds and Operating Standards in Table 3.08-2.

When determining its transportation needs, a city or county shall consider the regional needs identified in the mobility corridor strategies in the RTP.

Finding: *As described in previous findings, bicycle and pedestrian system gaps/deficiencies are identified in TSP Figures 5-8 and 5-9, which consider insufficient facilities and access to key destinations. System needs and identified projects were also informed by community engagement outcomes and the Community Profile (Appendix B). The Performance Standards and targets are based on population and employment forecasts prepared by Metro as part of Metro's regional forecasting process; Identified TSP projects were identified and prioritized based on these forecasts and on evaluation criteria (Appendix G) and identified transportation needs.*

Title 2 – Transportation Solutions 3.08.220

Evaluate the following strategies in the order listed, to meet the transportation needs determined pursuant to section 3.08.210 and performance targets and standards pursuant to section 3.08.230. The city or county shall document its choice of one or more of the strategies and why other strategies were not chosen:

- TSMO, including localized TDM, safety, operational and access management improvements;
- Transit, bicycle and pedestrian system improvements;
- Traffic-calming designs and devices;
- Land use strategies in OAR 660-012-0035(2)
- Connectivity improvements to provide parallel arterials, collectors or local streets that include pedestrian and bicycle facilities, consistent with the connectivity standards in section

3.01.110 and design classifications in Table 3.3 of the RTP,

- Motor vehicle capacity improvements, consistent with the RTP Arterial and Throughway Design and Network Concepts in Table 3.3 and Section 3.5 of the RTP, only upon a demonstration that other strategies in this subsection are not appropriate or cannot adequately address identified transportation needs.

A city or county shall coordinate its consideration of the above strategies with the owner of the transportation facility affected by the strategy. Facility design is subject to the approval of the facility owner.

If analysis under subsection 3.08.210A (Local Needs determination) indicates a new regional or state need that has not been identified in the RTP, the city or county may propose one of the following actions:

- Propose a project at the time of Metro review of the TSP to be incorporated into the RTP during the next RTP update; or
- Propose an amendment to the RTP for needs and projects if the amendment is necessary prior to the next RTP update.

Finding: *As discussed in the findings under the TSMO requirements (3.08.160), the TSP summarizes existing Transportation Options Planning programs/resources and identifies future programming needs in TSP Chapter 7. The TSP also includes an extensive list of Pedestrian Projects (Table 7-5 and Figure 7-2), Bicycle Projects (Table 7-6 and Figure 7-3), and transit projects (Table 7-8 and Figure 7-5). In addition, the transportation performance standards use Pedestrian Level of Stress (PLTS) and Bicycle Level of Stress (BLTS) to help prioritize projects and improvements.*

Title 2 – Performance Targets and Standards 3.08.230

Demonstrate that solutions adopted pursuant to section 3.08.220 (Transportation Solutions) will achieve progress toward the targets and standards in Tables 3.08-1, and 3.08-2 and measures in subsection D (local performance measures), or toward alternative targets and standards

adopted by the city or county. The city or county shall include the regional targets and standards or its alternatives in its TSP.

A city or county may adopt alternative targets or standards in place of the regional targets and standards upon a demonstration that the alternative targets or standards:

- Are no lower than the modal targets in Table 3.08-1 and no lower than the ratios in Table 3.08-2;
- Will not result in a need for motor vehicle capacity improvements that go beyond the planned arterial and throughway network defined in Figure 3.13 of the RTP and that are not recommended in, or are inconsistent with, the RTP; and
- Will not increase SOV travel to a degree inconsistent with the non-SOV modal targets in Table 3.08-1.

If the city or county adopts mobility standards for state highways different from those in Table 3.08-2, it shall demonstrate that the standards have been approved by the Oregon Transportation Commission.

Each city and county shall also include performance measures for safety, vehicle miles traveled per capita, freight reliability, congestion, and walking, bicycling and transit mode shares to evaluate and monitor performance of the TSP.

To demonstrate progress toward achievement of performance targets in Tables 3.08-1 and 3.08-2 and to improve performance of state highways within its jurisdiction as much as feasible and avoid their further degradation, the city or county shall adopt the following:

- Parking minimum and maximum ratios in Centers and Station Communities consistent with subsection 3.08.410A;
- Designs for street, transit, bicycle, freight and pedestrian systems consistent with Title 1: and
- TSMO projects and strategies consistent with section 3.08.160; and
- Land use actions pursuant to OAR 660-012-0035(2).

Finding: *The TSP includes Pedestrian System Completeness targets (Table 8-1) and Bicycle System Completeness Targets (Table 8-2), which establish target performance measures of the percentage of the pedestrian and bicycle network that reach Pedestrian/Bicycle Level of Stress (PLTS/BLTS) of two (2) or better. By using these target performance measures and PLTS/BLTS to identify and prioritize projects, vehicle capacity improvements and SOV travel will not exceed the thresholds identified in the RTP and RTFP. Given these results, the TSP is generally consistent with these requirements.*

The City eliminated their minimum parking requirements in 2024, which included amendments to bring the City into compliance with OAR 660-012-0415 requirements for parking maximum maximums (see Appendix A for more details).

Title 3 – Defining Projects in Transportation System Plan 3.08.310

Specify the general locations and facility parameters, such as minimum and maximum ROW dimensions and the number and width of traffic lanes, of planned regional transportation facilities and improvements identified on general location depicted in the appropriate RTP map. Except as otherwise provided in the TSP, the general location is as follows:

- For new facilities, a corridor within 200 feet of the location depicted on the appropriate RTP map;
- For interchanges, the general location of the crossing roadways, without specifying the general location of connecting ramps;
- For existing facilities planned for improvements, a corridor within 50 feet of the existing right-of-way and
- For realignments of existing facilities, a corridor within 200 feet of the segment to be realigned as measured from the existing right-of-way depicted on the appropriate RTP map.

A City or county may refine or revise the general location of a planned regional facility as it prepares or revises impacts of the facility or to comply with comprehensive plan or statewide planning goals. If, in developing or amending its TSP, a city or county determines the general location of a planned regional facility or improvement is inconsistent with its comprehensive plan or a statewide goal requirement, it shall:

- Propose a revision to the general location of the planned facility or improvement to achieve consistency and, if the revised location lies outside the general location depicted in the appropriate RTP map, seek an amendment to the RTP; or
- Propose a revision to its comprehensive plan to authorize the planned facility or improvement at the revised location.

Finding: *The TSP includes detailed project descriptions and a corresponding reference map for all identified local and regional facilities. All identified projects are within the general location depicted in the RTP maps.*

Title 4 – Parking Management 3.08.410

Adopt parking policies, management plans and regulations for Centers and Station Communities. Plans may be adopted in TSPs or other adopted policy documents and may focus on sub-areas of Centers. Plans shall include an inventory of parking supply and usage, an evaluation of bicycle parking needs with consideration of TriMet Bike Plan. Policies shall be adopted in the TSP. Policies, plans and regulations must consider and may include the following range of strategies:

- By-right exemptions from minimum parking requirements;
- Parking districts;
- Shared parking;
- Structured parking;
- Bicycle parking;

- Timed parking;
- Differentiation between employee parking and parking for customers, visitors and patients;
- Real-time parking information;
- Priced parking;
- Parking enforcement.

Finding: *The City eliminated their minimum parking requirements in 2024, which included amendments to bring the City into compliance with OAR 660-012-0415 requirements for parking maximum maximums (see Appendix J for more details).*

Title 5 – Amendments of City and County Comprehensive and Transportation System Plans 3.08.510C

If a city or county proposes a transportation project that is not included in the RTP and will result in a significant increase in SOV capacity or exceeds the planned function or capacity of a facility designated in the RTP, it shall demonstrate consistency with the following in its project analysis:

- The strategies set forth in subsection 3.08.220A(1-5) (TSMO, Transit/bike/ped system improvements, traffic calming, land use strategies, connectivity improvements)
- Complete street designs consistent with regional street design policies in Chapter 3 of the RTP (Section 3.3)
- Green street designs consistent with federal, state, regional and local regulations for stream protection.

If the city or county decides not to build a project identified in the RTP, it shall identify alternative projects or strategies to address the identified transportation need and inform Metro so that Metro can amend the RTP.

This section does not apply to city or county transportation projects that are financed locally and would be undertaken on local facilities.

Finding: *The TSP does not include any projects that will significantly increase SOV capacity or exceed the planned function. As discussed, Pedestrian/Bicycle Level of Stress performance measures help identify and prioritize TSP projects, which have taken priority over traditional Level of Service (LOS) measures that focus on automobile system performance. These performance measures, combined with project evaluation criteria (Appendix G) resulted in project identification that primarily prioritizes transportation options and safety/accessibility for multimodal users. As a result, roadway/intersection projects (Table 7-7) primarily focus on safety measures and will not exceed planned function of capacity.*

EXHIBIT D

Findings in Support of Approval
Statewide Planning Goals, Oregon Administrative Rules, and Oregon Highway Plan
Primary File #CPA-2025-001, Transportation System Plan Adoption

The findings below summarize the consistency of the Transportation System Plan (TSP) with the applicable statewide planning goals listed below. Statewide Planning Goals not listed are considered inapplicable to the adoption of the TSP.

- Goal 1: Citizen Involvement
- Goal 2: Land Use Planning
- Goal 5: Natural and Historic Resources
- Goal 6: Air, Land, and Water Resources
- Goal 7: Natural Hazards
- Goal 9: Economic Development
- Goal 10: Housing
- Goal 11: Public Facilities
- Goal 12: Transportation
- Goal 13: Energy
- Goal 14: Urbanization/Growth Management

The findings also evaluate the consistency of the TSP with Oregon Administrative Rule (OAR) Chapter 660, Division 12 (Transportation Planning Rule), and the Oregon State Highway Plan.

Consistency with applicable statewide goals, administrative rules, statutes, and state plans is required for any amendment to a city's Comprehensive Plan, including the adoption of ancillary documents. Based on the findings described below, the proposed amendment to the ancillary document is consistent with all applicable Statewide Planning Goals and associated Oregon Revised Statutes (ORS) and Oregon Administrative Rules (OAR).

Oregon statewide Planning Goals

Goal 1: Citizen Involvement

Goal 1 requires the development of a citizen involvement program that is widespread, allows two-way communication, provides for citizen involvement through all planning phases, and is understandable, responsive, and funded.

***Finding**: Goal 1 requires the City to employ an appropriately-scaled involvement program to ensure the opportunity for meaningful public involvement throughout the land use planning process. Goal 1 requires the City to incorporate six key components in its public involvement program:*

- *Citizen Involvement: An officially-recognized committee for public involvement broadly representative of geographic areas and interests related to land use and land-use decisions to provide for widespread public involvement;*
- *Communication: Mechanisms for effective two-way communication between the public and elected/appointed officials;*
- *Influence: Opportunities for the public to be involved in all phases of the planning and decision-making process including developing, evaluating, and amending plans;*
- *Technical Information: Access to technical information used in the decision-making process, provided in an accessible and understandable format;*
- *Feedback Mechanisms: Programs to ensure that members of the public receive responses from policy-makers and that a written record for land-use decisions is created and made accessible; and,*
- *Financial Support: Adequate resources allocated for the public involvement program as an integral component of the planning budget.*

The following is a summary of activities undertaken by the City associated with each of these elements of the City's community engagement effort undertaken to support the proposed Transportation System Plan update. A comprehensive summary of community outreach and engagement activities can be found in Appendix F.

- *Advisory and technical committees: Milwaukie residents, community representatives, and agency partners participated throughout the TSP process through the TSP Advisory Committee (TSPAC) and the TSP Technical Committee (TSPTC). These committees reviewed draft materials, provided feedback and direction on key components, and shaped recommendations to staff and policy makers. The TSPAC consisted of 19 community members with a diversity of transportation interests and experiences, including representatives of the Public Safety Advisory Committee, each Milwaukie neighborhood, the Planning Commission, the Equity Steering Committee, the Comprehensive Plan Advisory/Implementation Committee, and the business/freight community. The group met 11 times over a two-year period and collectively spent many hours reviewing and providing feedback on draft materials. The TSPTC consisted of city staff and agency representatives that provided technical guidance through the TSP update. Agencies represented included the Oregon Department of Transportation, the Oregon Department of Land Conservation and Development, Metro, Clackamas County, TriMet, Clackamas Fire District #1, North Clackamas School District, and Portland General Electric. Like the TSPAC, the TSPTC met 11 times over the two-year period, reviewing materials and providing crucial guidance along the way.*
- *Community-wide outreach: The community was invited to participate in three in-person and online outreach activities intended to gather input on draft elements of the TSP. These activities were promoted using multiple methods, including articles in the Milwaukie Pilot (city newsletter), a promotional video, posts on the city website, email blasts to project subscriber lists, announcements at public meetings, weekly Neighborhood District Association updates, flyer*

distribution, bookmark advertisements, social media posts, and tabling at community events. The feedback gathered from these events helped inform transportation priorities, needs, goals, and TSP policies and projects.

- *Targeted outreach to underserved communities: Focused outreach was conducted with key underserved populations identified in the Community Profile (Appendix B). Specifically, three focus groups were held to gather input on which proposed TSP projects would deliver to greatest benefits to the community. The following focus groups were held:*
    1. *Older adults 65+ at the Milwaukie Center*
    2. *Low income/wealth population at Hillside Manor*
    3. *BIPOC and Spanish-speaking residents at the Ledding Library*

Focus group participants emphasized safe, comfortable, and accessible options for walking, biking, and transit. Top priorities included enhanced pedestrian crossings, new bike lanes and off-street paths, improved bus stop amenities and service, and roadway safety improvements. Feedback from these sessions was incorporated into the project evaluation matrix to help shape which projects were prioritized within the financially constrained and unconstrained lists.

- *Additional Outreach: City staff also attend numerous events throughout the course of the project to inform the community about the TSP project and let them know about opportunities to be involved. These events included:*
    - *Milwaukie Farmers' Market*
    - *Equity Steering Committee meetings*
    - *North Clackamas School District Noche Latina*
    - *North Clackamas School District Community Resource Fair*
    - *Scott Park Design Open House*
    - *Neighborhood District Association meetings*
    - *Bike Milwaukie meetings*
    - *Public Safety Advisory Committee meetings*
    - *Monroe Greenway Design Open House*

Goal 2: Land Use Planning

This goal requires that a land use planning process and policy framework be established as a basis for all decisions and actions relating to the use of land. All local governments and state agencies involved in the land use action must coordinate with each other. City, county, state and federal agency and special districts plans and actions related to land use must be consistent with the comprehensive plans of cities and counties and regional plans adopted under Oregon Revised Statues (ORS) Chapter 268.

Finding: *The City has an established land use planning process and a policy framework that serves as a basis for the decision on this request. The policy framework is found in the City's acknowledged Comprehensive Plan, which includes policies and goals relevant to the decision. An analysis of how 2026 TSP is consistent with this policy framework is presented below.*

- *Amendments to the City's Comprehensive Plan become part of the policy framework that serves as the basis for decisions and actions related to the use of land. The proposal is to replace the currently adopted 2013 TSP with the 2026 TSP, to be adopted and incorporated by reference as an element of the Comprehensive Plan.*
- *Existing state, regional, and local plans, policies, and regulations relevant to the 2026 TSP were reviewed and summarized to help guide the development of the TSP. A summary of plans and regulations that provide the framework for the TSP can be found in the "Plans Background and Regulatory Context" section of TSP Chapter 1. A more detailed summary of the planning and policy framework can be found in TSP Appendix J (TM #1 Plans and Policy Framework).*
- *The analysis prepared for the TSP relied on a variety of land use information and conditions to effectively project transportation demands, including the City's zoning map and Development Code, population projections for Milwaukie prepared by Metro as part of the regional growth management process, and a review of more specific development plans and policies as noted above.*
- *Coordination between state, regional, and local agencies was accomplished through both the Project Management Team (PMT), which included key City staff members, and the TSPTC. Members of the TSPTC that provided guidance on the development of the TSP included representatives from multiple agencies and organizations, including those listed below.*
    - *Oregon Department of Transportation (ODOT)*
    - *Oregon Department of Land Conservation and Development (DLCD)*
    - *Metro*
    - *Clackamas County*
    - *TriMet*
    - *Clackamas Fire District #1*
    - *North Clackamas School District*
    - *Portland General Electric*
- *TSP Policy 9.3 encourages the City's transportation system to "Ensure consistency with federal, state, regional, and local planning rules, regulations, and standards." The TSP update includes proposed implementing ordinances (amendments) to Title 19 (Zoning) of the Milwaukie Municipal Code (Code), which will help ensure that TSP implementation is coordinated with the City's land use regulations and procedures. In addition, proposed Code amendments ensure local consistency with relevant elements of the Oregon Transportation Planning Rule (TPR).*

Goal 5: Natural Resources, Scenic and Historic Areas, and Open Space

To protect natural resources and conserve scenic and historic areas and open spaces. Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon's livability.

Finding: *Goal 5 directs the City to inventory, evaluate, and develop conservation programs for specific natural and cultural resources. The proposed TSP update does not propose any changes to the City's habitat protection program or inventory of habitat resources or historic resources. Goal 5 does not directly apply to the proposed ordinance because no new Goal 5 program is advanced by this ordinance and no existing Goal 5 program is changed by this ordinance.*

Although the TSP update does not include changes to the City's Goal 5 program, TSP Goal 8 – Healthy Environment – supports Statewide Planning Goal 5 by encouraging the City to "Create a transportation system that does not further degrade, and when possible, enhances the community's natural resources, such as clean air, clean water, and wildlife habitat." TSP Goal 8 also includes the following policies that support Statewide Goal 5 for natural resources:

- *8.1: Prioritize transportation improvements that preserve and enhance natural resources such as trees, streams, wetlands, wildlife corridors, and endangered species.*
- *8.2: Consider best practices for wildlife crossings where transportation facilities intersect with waterbodies and habitat areas.*
- *8.3: Minimize the impacts the transportation system has on the environment through the use of green infrastructure.*
- *8.4: Evaluate and mitigate how transportation facilities negatively impact environmental quality and human health outcomes.*

Goal 6: Air, Water and Land Resources Quality

To maintain and improve the quality of the air, water and land resources of the state. All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards.

Finding: *Goal 6 requires cities and counties to ensure that solid waste, thermal, noise, atmospheric, or water pollutant and contaminant process discharges from existing and future developments do not violate state or federal environmental quality standards or degrade the quality of air, water, or land resources. Implementing ordinances must demonstrate consistency with the administrative rules related to air, water, and land quality established by the Environmental Quality Commission (EQC).*

The TSP includes multiple goals and policies that support clean air, water, and land resources, including but not limited to the following:

- *TSP Goal 4 – Create a transportation system that reduces greenhouse gas pollution and is responsive to a changing climate.*
    - *Policy 4.1 – Support the transition to low and zero-emission vehicles and other emerging sustainable modes of transportation through infrastructure investments, education, and regulations.*
    - *Policy 4.2 – Establish land use patterns that reduce vehicle miles traveled (VMT) and greenhouse gas emissions.*
- *TSP Goal 5 – Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.*
- *TSP Goal 6 – Improve public transit service to, from, and within Milwaukie.*
- *TSP Goal 8 – Create a transportation system that does not further degrade, and when possible, enhances the community's natural resources, such as clean air, clean water, and wildlife habitat. (see Statewide Goal 5 findings for applicable policies)*

In addition, the TSP has been developed to be compatible with the state's recently adopted Climate Friendly and Equitable Communities (CFEC) legislation and associated state rules which emphasize implementation of a system that emphasizes use of walking, bicycling, and transit, in part to reduce impacts on air quality and other land and water resources.

Goal 7: Areas Subject to Natural Hazards

To protect people and property from natural hazards. Local governments shall adopt comprehensive plans (inventories, policies and implementing measures) to reduce risk to people and property from natural hazards.

Finding: *Goal 7 requires Comprehensive Plans to reduce the risk to people and property from natural hazards, including floods, landslides, earthquakes, tsunamis, coastal erosion, and wildfires. TSP Goal 10 – Emergency Preparedness – includes the following:*

Goal 10 – Develop a multimodal transportation system that provides travel options during normal conditions, natural disasters, or emergencies.

- *Policy 10.1: Identify transportation improvements that increase the diversity and number of travel routes between key destinations.*
- *Policy 10.2: Coordinate with the Regional Disaster Preparedness Organization, Metro, and Clackamas County to improve designated emergency routes to aid in responding to natural disasters or weather-related events for all modes of transportation.*

- *Policy 10.3: Require facilities in the FEMA-designated special flood hazard area be designed for resiliency.*

Goal 9: Economic Development:

This goal requires that local comprehensive plans and policies contribute to a stable and healthy economy in all regions of the state.

Finding: *Goal 9 requires the City to maintain and plan for an adequate land supply to accommodate at least 20 years of future growth, ensuring citizens have adequate opportunities for a variety of economic activities vital to the health, welfare, and prosperity of Oregon. TSP Goal 7 – Economic Vitality – includes the following:*

Goal 7 – Develop a transportation system that supports and facilitates economic activity through the efficient movement of people, goods, and services.

- *Policy 7.1: Identify new projects and improve the existing transportation infrastructure throughout the city that facilitates greater economic development, within commercial and industrial areas.*
- *Policy 7.2: Build low stress multimodal connections to and through designated Neighborhood Hubs and Milwaukie's 2040 Town Center to support business activity.*
- *Policy 7.3: Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.*
- *Policy 7.4: Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.*
- *Policy 7.5: Coordinate with regional rail providers to preserve rail freight service to businesses that depend on railroad service.*
- *Policy 7.6: Plan for light vehicle and human powered goods delivery throughout the city.*

Goal 10: Housing

This goal requires the City's plans to provide for the appropriate type, location and phasing of public facilities and services sufficient to support housing development in areas presently developed or undergoing development or redevelopment.

Finding: *Goal 10 requires the City to maintain and plan for an adequate land supply to accommodate at least 20 years of future growth, providing flexibility in housing location, type, and density to ensure the availability and prices of housing units are commensurate with the needs and financial capabilities of Oregon households. Comprehensive plans are required to include an analysis of community housing needs by type and affordability, an assessment of housing development potential, and an inventory of*

residential land; contain policies for residential development and supportive services based on that analysis that increase the likelihood that needed housing types will be developed; and provide for an adequate supply of a variety of housing types consistent with identified policies and meeting minimum density and housing mix requirements (established by OAR 660, Division 007).

Several TSP policies and projects promote a transportation system that can adequately support housing opportunities, existing residential areas, and future travel demand. TSP policies that address appropriate service for residential areas, population growth and travel demand needs include:

- *Policy 1.1: Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.*
- *Policy 2.4: Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.*
- *Policy 3.1: Prioritize transportation improvements that improve access, safety, and connectivity to/from/for underserved population groups, lower-income neighborhoods, and transportation disadvantaged groups.*
- *Policy 5.1: Improve and maintain walking, biking, and rolling access to key destinations such as Neighborhood Hubs, public spaces, schools, parks, commercial centers, industrial areas, transit routes/stops/centers, and recreational opportunities.*
- *Policy 6.2: Advocate for prioritized and additional frequent transit service in areas that lack connectivity and have the potential for new growth.*
- *Policy 6.4 Work with transit providers to ensure all Neighborhood Hubs have adequate transit service.*
- *Policy 12.1: Promote the conversion of existing underused private and public parking areas to other uses.*
- *Policy 12.3: Employ parking management measures as needed to address the impacts of new infill development.*

Goal 11: Public Facilities and Services

Goal 11 requires cities and counties to plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development. The goal requires that urban and rural development be "guided and supported by types and levels of urban and rural public facilities and services appropriate for, but limited to, the needs and requirements of the urban, urbanizable and rural areas to be served."

Finding: *Goal 11 requires the City to "plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development." The City of Milwaukie coordinates with several other local service provides to ensure timely, orderly and efficient*

arrangement and provision of public services to serve development within the City of Milwaukie and its planning area between the city limits and UGB. The City of Milwaukie provides planning and zoning services inside the city limits, as well as provision of water, conveyance of wastewater, transportation facilities on city-owned facilities, law enforcement, and library services. The City is already in compliance with Goal 11 and updated specific facility master plans for stormwater in 2014, water in 2021, and wastewater in 2022.

Transportation facilities, including roadways, bikeways, sidewalks, and multi-use paths are a primary type of public facility and, in Milwaukie, are managed by public agencies including the City, Clackamas County, and ODOT. The 2026 TSP documents existing conditions and future needs for Milwaukie's transportation system – see TSP Appendix D and E, respectively. The TSP projects (listed in TSP Tables 7-5, 7-6, 7-7, 7-8, and 7-9) and the Financially Constrained Projects (TSP Table 7-4) are tailored to meet identified existing and future needs and address project goals and policies.

Goal 12: Transportation

Goal 12 requires cities, counties, metropolitan planning organizations, and ODOT to provide and encourage a "safe, convenient and economic transportation system." This is accomplished through development of Transportation System Plans based on inventories of local, regional and state transportation needs. Goal 12 is implemented through OAR 660, Division 12, also known as the Transportation Planning Rule ("TPR"). The TPR contains numerous requirements governing transportation planning and project development. (See the "OAR 660, Division 12" section of this document for findings of compliance with the TPR.)

Finding: *Project goals and priorities that address mobility, connectivity, safety, equity, climate mitigation/adaptation, active/healthy transportation modes, public transportation, economic vitality, environment, fiscal stewardship, and emergency preparedness all guided the development of the 2026 TSP. Existing conditions and future transportation needs were analyzed with respect to these goals and objectives. Elements of the 2026 TSP – including existing conditions and future needs, as well as transportation system standards, implementation strategies, and recommended transportation system improvements – are consistent with TPR Section -0020 requirements (as described in the following paragraphs).*

The inventory and analysis of existing and future conditions identified opportunities, by mode, to improve the transportation system. These needs were identified in the existing conditions and needs analysis; by project team members, advisory committee members, and other community members; and through analysis using projected future traffic volumes and patterns, consistent with TPR Section -0030 requirements. For more details on the City's transportation system conditions and needs, see Appendix D (Transportation System Conditions).

Evaluation criteria, developed in accordance with TPR Section -0035 and based on the TSP goals and objectives, were used to evaluate improvement alternatives that would address identified needs. Evaluation criteria are detailed in the Appendix G (Evaluation Criteria). The criteria were presented to

and refined during discussions with the advisory committees during their scheduled meetings and with community members at public meetings.

The regulatory basis for proposed transportation policies and development code amendments – in particular, TPR requirements – is outlined in the TSP Appendix A (Regulatory Solutions Memo) and Appendix J (Plans and Policy Framework). This coordination of land use and transportation planning is consistent with both the general purpose and specific requirements in the TPR, including Section -0045 (Implementation of the Transportation System Plan).

The 2026 TSP will be adopted as the Transportation Element of the City's Comprehensive Plan. TSP adoption will be accomplished through a legislative amendment process consistent with City procedures and requirements.

Goal 13: Energy Conservation

To conserve energy. Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles.

Finding: *A number of TSP goals, policies, and projects promote energy conservation by encouraging energy efficient modes of transportation and land use/development patterns that support those transportation modes. This includes goals, policies, and projects that support walking, biking, taking transit, and reducing reliance on private automobiles. Some of the goals/policies and projects include the following:*

- *TSP Goal 1 – Provide an efficient and well-connected multimodal transportation system that works to connect the community to key destinations.*
    - *Policy 1.3 – Prioritize closing gaps in the existing pedestrian and bicycle network*
    - *Policy 1.5 – Manage the right-of-way to ensure street design standards equitably and safely allocate or share space for all modes of transportation, including pedestrians, bicycles, rollers, and transit*
    - *Policy 1.8 – Improve the comfort of walking, cycling, and rolling across Highway 224 and McLoughlin Blvd by slowing vehicle traffic on those facilities.*
- *TSP Goal 4 – Create a transportation system that reduces greenhouse gas pollution and is responsive to a changing climate.*
    - *Policy 4.1 – Support the transition to low and zero-emission vehicles and other emerging sustainable modes of transportation through infrastructure investments, education, and regulations.*
    - *Policy 4.2 – Establish land use patterns that reduce vehicle miles traveled (VMT) and greenhouse gas emissions.*
- *TSP Goal 5 – Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.*

- *TSP Goal 6 – Improve public transit service to, from, and within Milwaukie.*
- *TSP Goal 7, Policy 7.4 – Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.*
- *TSP Goal 7, Policy 7.6 – Plan for light vehicle and human powered goods delivery throughout the city.*
- *TSP Goal 12 – Reduce land used for parking to achieve local, state, and regional parking goals while also managing parking impacts.*
    - *Policy 12.1 – Promote the conversion of existing underused private and public parking areas to other uses.*
    - *Policy 12.3 – Employ parking management measures as needed to address the impacts of new infill development.*
    - *Policy 12.5 - Ensure bicycle and micro-mobility parking is provided and unobstructed in and between neighborhoods, schools, parks, transit facilities, employment centers, Neighborhood Hubs, and other key destinations.*
- *Relevant Transportation Projects:*
    - *99 Pedestrian projects with an estimated total cost of $100 million (TSP Table 7-5 and Figure 7-2)*
    - *45 Bicycle projects with an estimated total cost of $25 million (TSP Table 7-6 and Figure 7-3)*
    - *8 Transit projects with an estimated total cost of $24 million (TSP Table 7-8 and Figure 7-5)*

Goal 14: Urbanization

To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

Finding: *The 2026 TSP includes policies and projects that will support future housing and employment growth. The following policies support transportation facilities and services that will accommodate future growth:*

- *Policy 1.1: Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.*
- *Policy 2.4: Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.*

- *Policy 5.1: Improve and maintain walking, biking, and rolling access to key destinations such as Neighborhood Hubs, public spaces, schools, parks, commercial centers, industrial areas, transit routes/stops/centers, and recreational opportunities.*
- *Policy 6.2: Advocate for prioritized and additional frequent transit service in areas that lack connectivity and have the potential for new growth.*
- *Policy 6.4: Work with transit providers to ensure all Neighborhood Hubs have adequate transit service.*
- *Policy 6.6: Work to ensure that employment centers are well served by public transit.*
- *Policy 7.4: Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.*

OAR 660 Division 12 Transportation Planning Rule (TPR)

The Transportation Planning Rule (TPR) implements Statewide Planning Goal 12 (Transportation) to provide and encourage a safe, convenient, and economic transportation system. This division also implements provisions of other statewide planning goals related to transportation planning in order to plan and develop transportation facilities and services in close coordination with urban and rural development." A major purpose of the TPR is to promote more careful coordination of land use and transportation planning, and to ensure that planned land uses are supported by and consistent with planned transportation facilities and improvements.

The TPR contains policies for preparing and implementing a transportation system plan.

Finding: *The TSP Planning process included an evaluation of the City's compliance with the TPR, which is summarized in the Regulatory Solutions memo (Appendix A). The project team drafted amendments to Title 19 (Zoning) of the Milwaukie Municipal Code (Code) to support implementation of the Transportation System Plan (TSP) and to ensure the City's land use requirements and standards comply with the TPR, including elements of the Climate-Friendly and Equitable Communities (CFEC) rules. The amendments are summarized in the Implementing Ordinances memo. The Implementing Ordinances memo also assesses the City's consistency with CFEC "Walkable Neighborhood" rules, and potential Code updates for consistency with those rules will be considered at a later date.*

Oregon State Highway Plan

The 1999 Oregon Highway Plan (OHP – updated through January 2023) establishes policies and investment strategies for Oregon's Statewide Highway System over a 20-year period and refines the goals and policies found in the OTP. Policies in the OHP emphasize the efficient

management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local vehicle, bicycle, pedestrian, transit, rail, and air systems and facilities. While the TSP meets all OHP policies, the following policy list details how the TSP meets the applicable policies. The 2026 Milwaukie TSP meets the state's policies as follows:

Policy 1A – Highway Classification

Defines the function of state highways to serve different types of traffic that should be incorporated into and specified through IAMPs.

Policy 1C – State Highway Freight System

States the need to balance the movement of goods and services with other uses.

Finding: *OHP Policy 1A classifies OR 99E and OR 224 as Statewide Highways (OR 99E is also a District Highway facility south of the interchange with 224). These highways are also classified as OHP Freight Routes and as Regional Truckways in the TSP (TSP Figure 5-5). Multiple policies and projects are intended to maintain the function and capacity of existing transportation facilities, including OR 99E and OR 224, to facilitate efficient and functional movement through the City by reducing congestion and improving capacity and supporting freight movement. Specifically, the following policies and projects address the need to maintain the capacity and function of highway facilities and freight movement:*

- *Policy 7.3 – Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.*
- *Policy 11.2 – Improve the efficiency of the existing transportation network before adding additional vehicular travel lanes.*
- *Policy 11.3 – Invest in the maintenance of the transportation system.*

Relevant Transportation Projects:

- *TSP Project F-1 on OR 99E to improve signage to support freight access (TSP Table 7-9 and Figure 7-6).*
- *TSP Project F-5 on OR 224 to upgrade the intersection to accommodate freight movement.*
- *Six roadway/intersection projects to improve facility capacity, function, and safety on OR 99E and OR 224 (TSP Table 7-7 and Figure 7-4).*

Policy 1B – Land Use and Transportation

Recognizes the need for coordination between state and local jurisdictions.

***Finding**: Policy 1B recognizes that state highways serve as important transportation facilities in many communities. TSP Goal 9 – Coordination with Local, State, and Regional Partners – includes policies that encourage collaboration with state and regional agencies to ensure consistency with rules/regulations (Policy 9.3), fund transportation improvements (Policy 9.5), and advocate for safe/low-stress facilities (Policy 9.6). In addition, numerous projects targeted for ODOT facilities (OR 99E and OR 224) will necessitate coordination with state and regional partners.*

Policy 1F – Highway Mobility Standards

Sets mobility standards for ensuring a reliable and acceptable level of mobility on the highway system by identifying necessary improvements that would allow the highway to function in a manner consistent with OHP mobility standards.

***Finding**: The City will continue working with ODOT to establish an alternative mobility target specifically for OR 224 (TSP Project R-11). TSP Policy 9.1 is to "Advocate for city priorities while coordinating city projects, policies, development actions, and mobility targets with partner agencies."*

Policy 1G – Major Improvements

Requires maintaining performance and improving safety by improving efficiency and management before adding capacity. ODOT works with regional and local governments to address highway performance and safety.

***Finding**: The City will coordinate with ODOT on projects targeted for state highway facilities (OR 99E and OR 224), including 13 pedestrian projects (Table 7-5 and Figure 7-2), and 6 roadway/intersection projects (TSP Table 7-7 and Figure 7-4) and two Freight projects (TSP Table 7-9 and Figure 7-6) on OR 99E and OR 224. ODOT also was actively involved in creation of the TSP and has worked closely with the City on projects that will benefit the City and OR 99E and OR 224.*

Policy 2F – Traffic Safety

Improves the safety of the highway system.

***Finding**: Several TSP policies and projects are intended to improve safety for all users along highway facilities in Milwaukie, including the following:*

- *Policy 1.4 – Minimize the barrier effect of large transportation facilities on connectivity and accessibility for all modes by improving east-west connectivity across Highway 224 to downtown, across McLoughlin to the Willamette River and western neighborhoods, across railroad facilities, and across the river.*
- *Policy 1.8 – Improve the comfort of walking, cycling, and rolling across Highway 224 and McLoughlin Blvd by slowing vehicle traffic on those facilities.*

- *Policy 2.1 – Advocate for ODOT and Clackamas County to create safe and comfortable pedestrian and bicycle movement on State/ County-owned and operated facilities, especially Highway 224, McLoughlin Boulevard, and Johnson Creek Boulevard.*
- *Policy 9.6 – Advocate for low-stress pedestrian and cyclist crossings across Highway 224, McLoughlin Blvd, and railroad crossings.*

Relevant Transportation Projects:

- *Project P-111 – Work with ODOT and prepare a feasibility study for a grade-separated pedestrian crossing of OR 224 located somewhere between SE Harrison St and SE Oak St.*
- *Project P-124 – Work with ODOT and prepare a feasibility study for a grade-separated pedestrian crossing of OR 99E to be located between SE Harrison Street and the Kellog Creek crossing.*
- *Project P-125 - Construct a new separated ped/bike pathway on one side, as constraints allow, to achieve PLTS 2 target.*
- *Projects R-2, R-6, and R-9 – Coordinate with ODOT to identify and implement traffic signal, travel lane, geometric, and multimodal refinements that balance capacity, vehicle queuing, and multimodal safety needs.*

Policy 4A – Efficiency of Freight Movement

It is the policy of the State of Oregon to maintain and improve the efficiency of freight movement on the state highway system and access to intermodal connections. The State shall seek to balance the needs of long distance and through freight movements with local transportation needs on highway facilities in both urban areas and rural communities.

***Finding**: OR 99E and OR 124 are ODOT designated Freight Routes in Milwaukie. Several policies and projects are intended to maintain the function and capacity of these highway facilities to facilitate efficient and functional movement through the City by reducing congestion and improving capacity. The following policies and projects promote more efficient freight movement on these facilities:*

- *Policy 7.3 – Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.*

Relevant Transportation Projects:

- *TSP Project F-1 on OR 99E to improve signage to support freight access (TSP Table 7-9 and Figure 7-6).*
- *TSP Project F-5 on OR 224 to upgrade the intersection to accommodate freight movement.*

Policy 4B – Alternative Passenger Modes

It is the policy of the State of Oregon to advance and support alternative passenger transportation systems where travel demand, land use, and other factors indicate the potential for successful and effective development of alternative passenger modes.

***Finding**: Several TSP policies and projects support multimodal transportation options (i.e., alternative modes), many of which apply to OR 99E and OR 224. As mentioned in previous findings, TSP projects include installation of multimodal crossings and a grade separated pathway along these facilities. TSP policies 1.8, 2.1, and 9.6 each advocate for multimodal safety and comfort improvements to OR 224.*

Policy 4D – Transportation Demand Management

Support the efficient use of the state transportation system through investment in transportation demand management strategies.

***Finding**: TSP Policy 5.4 encourages the City to "Implement transportation demand management strategies, such as incentivizing employers to encourage active transportation and transit."*

EXHIBIT E

Milwaukie Comprehensive Plan
Document Text Amendments
Underline/Strikeout

Chapter: Introduction
Section: What is a Comprehensive Plan and Why Do We Plan

Local jurisdictions such as Milwaukie use their comprehensive plans to show how they comply with the 2040 Growth Concept and Statewide Planning goals. The Urban Growth Management Functional Plan (UGMFP) includes directives for changes to a local government's comprehensive plan, development code, and associated maps, and provides the tools and guidance for local jurisdictions to implement the regional policies outlined in the 2040 Growth Concept and Regional Framework Plan.

The UGMFP consists of 12 code titles pertaining to compliance procedures, as well as regulations for a range of topics covering many sections of Milwaukie's Comprehensive Plan.

Milwaukie's Transportation System Plan (TSP), a component of the Comprehensive Plan, must also comply with the requirements of Metro's Regional Transportation Plan (RTP). The RTP is used to coordinate and plan investments to the transportation system for metropolitan region and was most recently updated in ~~December 2018~~ November 2023. ~~As further detailed at the end of Section 1.4, the city will be updating its TSP in 2021, and will be updating the transportation chapter (Chapter 6) when the new TSP is adopted.~~ The city most recently updated its TSP in 2026.

Chapter: Safe & Accessible Transportation
Section 13 Transportation

~~As noted in Chapter 1 of this document, the City's Transportation Systems Plan (TSP) and the Comprehensive Plan transportation goals and policies were not updated as part of the 2020 plan adoption. Work on the updated TSP is expected to commence in 2021, at which point this chapter will incorporate the updated transportation goals and policies. In the interim period, the City is carrying~~

~~forward the existing TSP and Comprehensive Plan policies, which saw its last major update in 2007 and additional changes in 2013 and 2016.~~

The TSP is the City's long-term plan for transportation improvements and includes policies and projects that could be implemented through the City Capital Improvement Plan (CIP), development review, or grant funding. The TSP fulfills the requirements of Statewide Planning Goal 12 (Transportation), which is largely implemented through the state's Transportation Planning Rule (TPR).

A comprehensive update of the City's TSP was completed from 2023-2026. Extensive input was gathered from a wide range of stakeholders throughout the drafting process, including the Transportation System Plan Advisory Committee, the Transportation System Plan Technical Committee, the Milwaukie Planning Commission, and the Milwaukie City Council. Input from the general public was also critical, gathered through various engagement opportunities to ensure the plan reflected community values and priorities.

OVERARCHING SECTION GOAL:

~~Transportation goals form the basis for how the local transportation system will be developed and maintained over the long term. Given their importance, the City involved agency, business, and citizen stakeholders in developing goals that support a multimodal approach to transportation planning that reflects how citizens think about and experience the transportation system. Since they are equally important in different ways, they are not listed in order of importance or priority.~~ The goals and policies identified in this chapter are taken directly from the 2045 TSP. They were instrumental in prioritizing capital projects in the TSP and will continue to guide system improvements through development review and ongoing maintenance. Because the goals and policies serve different purposes, they are not listed in order of importance or priority.

~~**GOAL 13.1 - LIVABILITY**~~

~~Design and construct transportation facilities in a manner that enhances the livability of Milwaukie's community.~~

~~**GOAL 13.2 - SAFETY**~~

~~Develop and maintain a safe and secure transportation system.~~

~~**GOAL 13.3 - TRAVEL CHOICES**~~

~~Plan, develop, and maintain a transportation system that provides travel choices and allows people to reduce the number of trips made by single-occupant vehicles.~~

~~GOAL 13.4 - QUALITY DESIGN~~

~~Establish and maintain a set of transportation design and development regulations that are sensitive to local conditions.~~

~~GOAL 13.5 - RELIABILITY AND MOBILITY~~

~~Develop and maintain a well-connected transportation system that reduces travel distance, improves reliability, and manages congestion.~~

~~GOAL 13.6 - SUSTAINABILITY~~

~~Provide a sustainable transportation system that meets the needs of present and future generations.~~

~~GOAL 13.7 - EFFICIENT AND INNOVATIVE FUNDING~~

~~Efficiently allocate available funding for recommended transportation improvements, and pursue additional transportation funding that includes innovative funding methods and sources.~~

~~GOAL 13.8 - COMPATIBILITY~~

~~Develop a transportation system that is consistent with the City's Comprehensive Plan and CP:48 coordinates with County, State, and regional plans.~~

~~GOAL 13.9 - ECONOMIC VITALITY~~

~~Promote the development of Milwaukie's, the region's and state's economies through the efficient movement of people, goods and services, and the distribution of information.~~

~~GOAL 13.10 - BARRIERS~~

~~Update the Transportation System Plan (TSP) to address the transportation barriers and safety concerns resulting from Hwy 224, Hwy 99E, and the railroads bisecting the City.~~

~~The 2007 Transportation System Plan (TSP) Advisory Committee and Working Groups assisted city staff in refining and developing policies that further define the nine multimodal goals listed above. They also translated transportation needs and improvements into mode-specific master plans that prioritize the improvements the City should undertake in the short and long term. Refer to the TSP for additional details, as it is the city's guiding transportation document.~~

Goal 13.1 – Mobility, Accessibility, and Connectivity

Provide an efficient and well-connected multimodal transportation system that works to connect the community to key destinations.

Policy 13.1.1 Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.

Policy 13.1.2 Prioritize local connectivity and safety needs while accommodating regional mobility needs.

Policy 13.1.3 Prioritize closing gaps in the existing pedestrian and bicycle network.

Policy 13.1.4 Minimize the barrier effect of large transportation facilities on connectivity and accessibility for all modes by improving east-west connectivity across Highway 224 to downtown, across McLoughlin to the Willamette River and western neighborhoods, across railroad facilities, and across the river.

Policy 13.1.5 Manage the right-of-way to ensure street design standards equitably and safely allocate or share space for all modes of transportation, including pedestrians, bicycles, rollers, and transit.

Policy 13.1.6 Increase street grid connectivity to reduce out-of-direction travel and prevent neighborhoods with limited ingress and egress.

Policy 13.1.7 Minimize cut-through traffic on local streets.

Policy 13.1.8 Improve the comfort of walking, cycling, and rolling across Highway 224 and McLoughlin Blvd by slowing vehicle traffic on those facilities.

Goal 13.2 Safe System

Improve the safety and comfort of the multimodal transportation network.

Policy 13.2.1 Advocate for ODOT and Clackamas County to create safe and comfortable pedestrian and bicycle movement on State/County-owned and operated facilities, especially Highway 224, McLoughlin Boulevard, and Johnson Creek Boulevard.

Policy 13.2.2 Prioritize the safety of vulnerable system users over on-street parking convenience and when improving the public right of way.

Policy 13.2.3 Improve safety for more vulnerable system users, including pedestrians, bicyclists, transit users, rollers and those who need special accommodations under the Americans with Disabilities Act.

Policy 13.2.4 Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.

Policy 13.2.5 Coordinate with local and regional agency partners to develop street design standards that equitably balance the needs of emergency vehicles, freight vehicles, and multimodal users.

Policy 13.2.6 Improve circulation around schools to minimize pedestrian, automobile, and cyclist conflicts.

Policy 13.2.7 Realize zero traffic deaths or serious injuries on the roadway network.

Policy 13.2.8 Monitor the system to identify, prioritize, and mitigate safety issues at high crash locations for all modes.

Policy 13.2.9 Maintain a neighborhood traffic management program to address issues of excessive speeding and manage the use of the public right-of-way on local residential streets.

Policy 13.2.10 Reduce speeds systemwide to improve safety.

Policy 13.2.11 Implement educational campaigns to increase safety awareness, especially near high crash locations, along school routes, and higher classification bikeways.

Goal 13.3 Equitable Transportation

New investments in Milwaukie's transportation system are distributed fairly to reduce or eliminate transportation-related barriers and disparities, especially those experienced by marginalized or underserved populations.

Policy 13.3.1 Prioritize transportation improvements that improve access, safety, and connectivity to/from/for underserved population groups, lower-income neighborhoods, and transportation disadvantaged groups.

Policy 13.3.2 Improve existing transportation facilities to meet Americans with Disabilities Act (ADA) standards.

Policy 13.3.3 Prevent and mitigate human exposure to transportation-related pollution along major transportation facilities, especially along facilities that are located near underserved populations.

Goal 13.4 Climate Mitigation and Adaptation

Create a transportation system that reduces greenhouse gas pollution and is responsive to a changing climate.

Policy 13.4.1 Support the transition to low and zero-emission vehicles and other emerging sustainable modes of transportation through infrastructure investments, education, and regulations.

Policy 13.4.2 Establish land use patterns that reduce vehicle miles traveled (VMT) and greenhouse gas emissions.

Policy 13.4.3 Explore establishing targets for transportation mode splits.

Policy 13.4.4 Design and maintain transportation systems and facilities to ensure they are resilient and adaptive to a changing climate based on the best available science and technology.

Goal 13.5 Active, Healthy, Transportation

Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.

Policy 13.5.1 Improve and maintain walking, biking, and rolling access to key destinations such as Neighborhood Hubs, public spaces, schools, parks, commercial centers, industrial areas, transit routes/stops/centers, and recreational opportunities.

Policy 13.5.2 Expand and improve wayfinding for active modes of travel to guide people to the safest and most efficient ways to actively navigate the transportation system.

Policy 13.5.3 Identify and prioritize projects that close gaps in the existing active transportation network and support a street grid that provides options for transit, pedestrians, and bicyclists.

Policy 13.5.4 Implement transportation demand management strategies, such as incentivizing employers to encourage active transportation and transit.

Policy 13.5.5 Support the creation of valuable public and private space that is first-and-foremost designed for people, not automobiles, that prioritizes and enhances the experience for people walking, biking, and rolling, and is safe for users of all ages and abilities.

Policy 13.5.6 Improve connections between the city's multimodal network and the regional trail system to promote active transportation and recreational opportunities.

Policy 13.5.7 Prioritize a complete, connected, low stress network of transportation facilities for pedestrians, cyclists, and rollers.

Policy 13.5.8 Prioritize the functionality of bicycle and pedestrian higher classification routes over the functionality of roadway facilities neighborhood greenways over other functional classifications.

Goal 13.6

Improve public transit service to, from, and within Milwaukie

Policy 13.6.1 Support TriMet and other transit providers in enhancing transit services and amenities, especially along congested corridors in low-income communities, and in underserved population centers.

Policy 13.6.2 Advocate for prioritized and additional frequent transit service in areas that lack connectivity and have the potential for new growth.

Policy 13.6.3 Work with transit agencies to identify and eliminate existing transit deficiencies and increase the accessibility of transit services to all potential users.

Policy 13.6.4 Work with transit providers to ensure all Neighborhood Hubs have adequate transit service.

Policy 13.6.5 Support TriMet's efforts to improve the safety, accessibility, and maintenance of transit stops and services in the city.

Policy 13.6.6 Work to ensure that employment centers are well served by public transportation.

Policy 13.6.7 Advocate for increased high-capacity transit options in Milwaukie and the larger region.

Policy 13.6.8 Support TriMet's efforts to serve all Milwaukie residents through the provision of paratransit services.

Goal 13.7 Economic Vitality

Develop a transportation system that supports and facilitates economic activity through the efficient movement of people, goods, and services.

Policy 13.7.1 Identify new projects and improve the existing transportation infrastructure throughout the city that facilitates greater economic development, within commercial and industrial areas.

Policy 13.7.2 Build low stress multimodal connections to and through designated Neighborhood Hubs and Milwaukie's 2040 Town Center to support business activity.

Policy 13.7.3 Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.

Policy 13.7.4 Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.

Policy 13.7.5 Coordinate with regional rail providers to preserve rail freight service to businesses that depend on railroad service.

Policy 13.7.6 Plan for light vehicle and human powered goods delivery throughout the city.

Goal 13.8 Healthy Environment

Create a transportation system that does not further degrade, and when possible, enhances the community's natural resources, such as clean air, clean water, and wildlife habitat.

Policy 13.8.1 Prioritize transportation improvements that preserve and enhance natural resources such as trees, streams, wetlands, wildlife corridors, and endangered species.

Policy 13.8.2 Consider best practices for wildlife crossings where transportation facilities intersect with waterbodies and habitat areas.

Policy 13.8.3 Minimize the impacts the transportation system has on the environment through the use of green infrastructure.

Policy 13.8.4 Evaluate and mitigate how transportation facilities negatively impact environmental quality and human health outcomes.

Goal 13.9 Coordination with Local, Regional, and State Partners

Foster and maintain relationships with public and private partners in the common interest of enhancing the city's transportation network.

Policy 13.9.1 Advocate for city priorities while coordinating city projects, policies, development actions, and mobility targets with partner agencies.

Policy 13.9.2 Coordinate with emergency service providers to design streets to accommodate emergency service vehicles while ensuring city streets support active transportation.

Policy 13.9.3 Ensure consistency with federal, state, regional, and local planning rules, regulations, and standards.

Policy 13.9.4 Work with regional partners to build support for the improvement of regional connections for all modes.

Policy 13.9.5 Collaborate with other agencies to efficiently fund transportation improvements and programs.

Policy 13.9.6 Advocate for low-stress pedestrian and cyclist crossings across Highway 224, McLoughlin Blvd, and railroad crossings.

Policy 13.9.7 Advocate for other jurisdictions to use Milwaukie Public Works Standards on transportation projects in the city's Urban Growth Management Area.

Goal 13.10 Emergency Preparedness

Develop a multimodal transportation system that provides travel options during normal conditions, natural disasters, or emergencies.

Policy 13.10.1 Identify transportation improvements that increase the diversity and number of travel routes between key destinations

Policy 13.10.2 Coordinate with the Regional Disaster Preparedness Organization, Metro, and Clackamas County to improve designated emergency routes to aid in responding to natural disasters or weather-related events for all modes of transportation.

Policy 13.10.3 Require facilities in the FEMA-designated special flood hazard area be designed for resiliency.

Goal 13.11 Fiscal Stewardship and System Management

Make the most of transportation resources by leveraging available funding opportunities, preserve existing infrastructure, and reduce system maintenance costs.

Policy 13.11.1 Identify diverse and stable funding sources, including grant opportunities, to implement multimodal transportation improvement projects.

Policy 13.11.2 Improve the efficiency of the existing transportation network before adding additional vehicular travel lanes.

Policy 13.11.3 Invest in the maintenance of the transportation system.

Policy 13.11.4 Utilize safety and engineering best practices to identify low-cost, quick-to-implement, and effective treatments that can be implemented systematically in shorter timeframes than large capital projects.

Policy 13.11.5 Require that new development citywide improves the quality and connectivity of the transportation system proportionate to its impacts.

Policy 13.11.6 Account for rapidly changing technologies such as autonomous vehicles and other intelligent transportation systems while managing the transportation system.

Policy 13.11.7 Identify opportunities to make transportation investments that complement and leverage other public and private capital investments.

Goal 13.12 Parking Management

Reduce land used for parking to achieve local, state and regional parking goals while also managing parking impacts.

Policy 13.12.1 Promote the conversion of existing underused private and public parking areas to other uses.

Policy 13.12.2 Facilitate shared parking agreements.

Policy 13.12.3 Employ parking management measures as needed to address the impacts of new infill development.

Policy 13.12.4 Develop parking management plans when warranted for major employment districts, downtown and key destinations.

Policy 13.12.5 Ensure bicycle and micro-mobility parking is provided and unobstructed in and between neighborhoods, schools, parks, transit facilities, employment centers, Neighborhood Hubs, and other key destinations.

Policy 13.12.6 Reduce the negative environmental and human health impacts of large parking lots, such as degradation of water quality, the heat island effect, and reduced pedestrian connectivity and safety.

EXHIBIT F

Milwaukie Comprehensive Plan
Document Text Amendments
Clean Version

Chapter: Introduction
Section: What is a Comprehensive Plan and Why Do We Plan

Local jurisdictions such as Milwaukie use their comprehensive plans to show how they comply with the 2040 Growth Concept and Statewide Planning goals. The Urban Growth Management Functional Plan (UGMFP) includes directives for changes to a local government's comprehensive plan, development code, and associated maps, and provides the tools and guidance for local jurisdictions to implement the regional policies outlined in the 2040 Growth Concept and Regional Framework Plan.

The UGMFP consists of 12 code titles pertaining to compliance procedures, as well as regulations for a range of topics covering many sections of Milwaukie's Comprehensive Plan.

Milwaukie's Transportation System Plan (TSP), a component of the Comprehensive Plan, must also comply with the requirements of Metro's Regional Transportation Plan (RTP). The RTP is used to coordinate and plan investments to the transportation system for metropolitan region and was most recently updated in November 2023. The city most recently updated its TSP in 2026.

Chapter: Safe & Accessible Transportation
Section 13 Transportation

The TSP is the City's long-term plan for transportation improvements and includes policies and projects that could be implemented through the City Capital Improvement Plan (CIP), development review, or grant funding. The TSP fulfills the requirements of Statewide Planning Goal 12 (Transportation), which is largely implemented through the state's Transportation Planning Rule (TPR).

A comprehensive update of the City's TSP was completed from 2023-2026. Extensive input was gathered from a wide range of stakeholders throughout the drafting process, including the Transportation System Plan Advisory Committee, the Transportation

System Plan Technical Committee, the Milwaukie Planning Commission, and the Milwaukie City Council. Input from the general public was also critical, gathered through various engagement opportunities to ensure the plan reflected community values and priorities.

OVERARCHING SECTION GOAL:

The goals and policies identified in this chapter are taken directly from the 2045 TSP. They were instrumental in prioritizing capital projects in the TSP and will continue to guide system improvements through development review and ongoing maintenance. Because the goals and policies serve different purposes, they are not listed in order of importance or priority.

Goal 13.1 – Mobility, Accessibility, and Connectivity

Provide an efficient and well-connected multimodal transportation system that works to connect the community to key destinations.

Policy 13.1.1 Improve existing and create new diverse, multimodal connections between neighborhoods, schools, parks, transit stops, employment centers, Neighborhood Hubs, and other key destinations.

Policy 13.1.2 Prioritize local connectivity and safety needs while accommodating regional mobility needs.

Policy 13.1.3 Prioritize closing gaps in the existing pedestrian and bicycle network.

Policy 13.1.4 Minimize the barrier effect of large transportation facilities on connectivity and accessibility for all modes by improving east-west connectivity across Highway 224 to downtown, across McLoughlin to the Willamette River and western neighborhoods, across railroad facilities, and across the river.

Policy 13.1.5 Manage the right-of-way to ensure street design standards equitably and safely allocate or share space for all modes of transportation, including pedestrians, bicycles, rollers, and transit.

Policy 13.1.6 Increase street grid connectivity to reduce out-of-direction travel and prevent neighborhoods with limited ingress and egress.

Policy 13.1.7 Minimize cut-through traffic on local streets.

Policy 13.1.8 Improve the comfort of walking, cycling, and rolling across Highway 224 and McLoughlin Blvd by slowing vehicle traffic on those facilities.

Goal 13.2 Safe System

Improve the safety and comfort of the multimodal transportation network.

Policy 13.2.1 Advocate for ODOT and Clackamas County to create safe and comfortable pedestrian and bicycle movement on State/County-owned and operated facilities, especially Highway 224, McLoughlin Boulevard, and Johnson Creek Boulevard.
Policy 13.2.2 Prioritize the safety of vulnerable system users over on-street parking convenience and when improving the public right of way.
Policy 13.2.3 Improve safety for more vulnerable system users, including pedestrians, bicyclists, transit users, rollers and those who need special accommodations under the Americans with Disabilities Act.
Policy 13.2.4 Prioritize sidewalk and bikeway improvements that provide safe access to/from schools, parks, Neighborhood Hubs, activity centers, transit centers/stops, and Downtown Milwaukie.
Policy 13.2.5 Coordinate with local and regional agency partners to develop street design standards that equitably balance the needs of emergency vehicles, freight vehicles, and multimodal users.
Policy 13.2.6 Improve circulation around schools to minimize pedestrian, automobile, and cyclist conflicts.
Policy 13.2.7 Realize zero traffic deaths or serious injuries on the roadway network.
Policy 13.2.8 Monitor the system to identify, prioritize, and mitigate safety issues at high crash locations for all modes.
Policy 13.2.9 Maintain a neighborhood traffic management program to address issues of excessive speeding and manage the use of the public right-of-way on local residential streets.
Policy 13.2.10 Reduce speeds systemwide to improve safety.
Policy 13.2.11 Implement educational campaigns to increase safety awareness, especially near high crash locations, along school routes, and higher classification bikeways.

Goal 13.3 Equitable Transportation

New investments in Milwaukie's transportation system are distributed fairly to reduce or eliminate transportation-related barriers and disparities, especially those experienced by marginalized or underserved populations.

Policy 13.3.1 Prioritize transportation improvements that improve access, safety, and connectivity to/from/for underserved population groups, lower-income neighborhoods, and transportation disadvantaged groups.
Policy 13.3.2 Improve existing transportation facilities to meet Americans with Disabilities Act (ADA) standards.

Policy 13.3.3 Prevent and mitigate human exposure to transportation-related pollution along major transportation facilities, especially along facilities that are located near underserved populations.

Goal 13.4 Climate Mitigation and Adaptation

Create a transportation system that reduces greenhouse gas pollution and is responsive to a changing climate.

Policy 13.4.1 Support the transition to low and zero-emission vehicles and other emerging sustainable modes of transportation through infrastructure investments, education, and regulations.

Policy 13.4.2 Establish land use patterns that reduce vehicle miles traveled (VMT) and greenhouse gas emissions.

Policy 13.4.3 Explore establishing targets for transportation mode splits.

Policy 13.4.4 Design and maintain transportation systems and facilities to ensure they are resilient and adaptive to a changing climate based on the best available science and technology.

Goal 13.5 Active, Healthy, Transportation

Establish and/or complete a network of multimodal facilities that make walking, biking, and rolling an attractive, comfortable, healthy, and convenient choice for people of all ages and abilities.

Policy 13.5.1 Improve and maintain walking, biking, and rolling access to key destinations such as Neighborhood Hubs, public spaces, schools, parks, commercial centers, industrial areas, transit routes/stops/centers, and recreational opportunities.

Policy 13.5.2 Expand and improve wayfinding for active modes of travel to guide people to the safest and most efficient ways to actively navigate the transportation system.

Policy 13.5.3 Identify and prioritize projects that close gaps in the existing active transportation network and support a street grid that provides options for transit, pedestrians, and bicyclists.

Policy 13.5.4 Implement transportation demand management strategies, such as incentivizing employers to encourage active transportation and transit.

Policy 13.5.5 Support the creation of valuable public and private space that is first-and-foremost designed for people, not automobiles, that prioritizes and enhances the experience for people walking, biking, and rolling, and is safe for users of all ages and abilities.

Policy 13.5.6 Improve connections between the city's multimodal network and the regional trail system to promote active transportation and recreational opportunities.

Policy 13.5.7 Prioritize a complete, connected, low stress network of transportation facilities for pedestrians, cyclists, and rollers.

Policy 13.5.8 Prioritize the functionality of bicycle and pedestrian higher classification routes over the functionality of roadway facilities neighborhood greenways over other functional classifications.

Goal 13.6

Improve public transit service to, from, and within Milwaukie

Policy 13.6.1 Support TriMet and other transit providers in enhancing transit services and amenities, especially along congested corridors in low-income communities, and in underserved population centers.

Policy 13.6.2 Advocate for prioritized and additional frequent transit service in areas that lack connectivity and have the potential for new growth.

Policy 13.6.3 Work with transit agencies to identify and eliminate existing transit deficiencies and increase the accessibility of transit services to all potential users.

Policy 13.6.4 Work with transit providers to ensure all Neighborhood Hubs have adequate transit service.

Policy 13.6.5 Support TriMet's efforts to improve the safety, accessibility, and maintenance of transit stops and services in the city.

Policy 13.6.6 Work to ensure that employment centers are well served by public transportation.

Policy 13.6.7 Advocate for increased high-capacity transit options in Milwaukie and the larger region.

Policy 13.6.8 Support TriMet's efforts to serve all Milwaukie residents through the provision of paratransit services.

Goal 13.7 Economic Vitality

Develop a transportation system that supports and facilitates economic activity through the efficient movement of people, goods, and services.

Policy 13.7.1 Identify new projects and improve the existing transportation infrastructure throughout the city that facilitates greater economic development, within commercial and industrial areas.

Policy 13.7.2 Build low stress multimodal connections to and through designated Neighborhood Hubs and Milwaukie's 2040 Town Center to support business activity.

Policy 13.7.3 Ensure a safe and efficient freight system that facilitates the movements of goods to, from, and through Milwaukie, the region, and the state while minimizing conflicts with other transportation modes and impacts to surrounding areas.

Policy 13.7.4 Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas.

Policy 13.7.5 Coordinate with regional rail providers to preserve rail freight service to businesses that depend on railroad service.

Policy 13.7.6 Plan for light vehicle and human powered goods delivery throughout the city.

Goal 13.8 Healthy Environment

Create a transportation system that does not further degrade, and when possible, enhances the community's natural resources, such as clean air, clean water, and wildlife habitat.

Policy 13.8.1 Prioritize transportation improvements that preserve and enhance natural resources such as trees, streams, wetlands, wildlife corridors, and endangered species.

Policy 13.8.2 Consider best practices for wildlife crossings where transportation facilities intersect with waterbodies and habitat areas.

Policy 13.8.3 Minimize the impacts the transportation system has on the environment through the use of green infrastructure.

Policy 13.8.4 Evaluate and mitigate how transportation facilities negatively impact environmental quality and human health outcomes.

Goal 13.9 Coordination with Local, Regional, and State Partners

Foster and maintain relationships with public and private partners in the common interest of enhancing the city's transportation network.

Policy 13.9.1 Advocate for city priorities while coordinating city projects, policies, development actions, and mobility targets with partner agencies.

Policy 13.9.2 Coordinate with emergency service providers to design streets to accommodate emergency service vehicles while ensuring city streets support active transportation.

Policy 13.9.3 Ensure consistency with federal, state, regional, and local planning rules, regulations, and standards.

Policy 13.9.4 Work with regional partners to build support for the improvement of regional connections for all modes.

Policy 13.9.5 Collaborate with other agencies to efficiently fund transportation improvements and programs.

Policy 13.9.6 Advocate for low-stress pedestrian and cyclist crossings across Highway 224, McLoughlin Blvd, and railroad crossings.

Policy 13.9.7 Advocate for other jurisdictions to use Milwaukie Public Works Standards on transportation projects in the city's Urban Growth Management Area.

Goal 13.10 Emergency Preparedness

Develop a multimodal transportation system that provides travel options during normal conditions, natural disasters, or emergencies.

Policy 13.10.1 Identify transportation improvements that increase the diversity and number of travel routes between key destinations

Policy 13.10.2 Coordinate with the Regional Disaster Preparedness Organization, Metro, and Clackamas County to improve designated emergency routes to aid in responding to natural disasters or weather-related events for all modes of transportation.

Policy 13.10.3 Require facilities in the FEMA-designated special flood hazard area be designed for resiliency.

Goal 13.11 Fiscal Stewardship and System Management

Make the most of transportation resources by leveraging available funding opportunities, preserve existing infrastructure, and reduce system maintenance costs.

Policy 13.11.1 Identify diverse and stable funding sources, including grant opportunities, to implement multimodal transportation improvement projects.

Policy 13.11.2 Improve the efficiency of the existing transportation network before adding additional vehicular travel lanes.

Policy 13.11.3 Invest in the maintenance of the transportation system.

Policy 13.11.4 Utilize safety and engineering best practices to identify low-cost, quick-to-implement, and effective treatments that can be implemented systematically in shorter timeframes than large capital projects.

Policy 13.11.5 Require that new development citywide improves the quality and connectivity of the transportation system proportionate to its impacts.

Policy 13.11.6 Account for rapidly changing technologies such as autonomous vehicles and other intelligent transportation systems while managing the transportation system.

Policy 13.11.7 Identify opportunities to make transportation investments that complement and leverage other public and private capital investments.

Goal 13.12 Parking Management

Reduce land used for parking to achieve local, state and regional parking goals while also managing parking impacts.

Policy 13.12.1 Promote the conversion of existing underused private and public parking areas to other uses.

Policy 13.12.2 Facilitate shared parking agreements.

Policy 13.12.3 Employ parking management measures as needed to address the impacts of new infill development.

Policy 13.12.4 Develop parking management plans when warranted for major employment districts, downtown and key destinations.

Policy 13.12.5 Ensure bicycle and micro-mobility parking is provided and unobstructed in and between neighborhoods, schools, parks, transit facilities, employment centers, Neighborhood Hubs, and other key destinations.

Policy 13.12.6 Reduce the negative environmental and human health impacts of large parking lots, such as degradation of water quality, the heat island effect, and reduced pedestrian connectivity and safety.

EXHIBIT G

TITLE 19 ZONING

CHAPTER 19.200 DEFINITIONS AND MEASUREMENTS

19.201 Definitions

[…]

"Primary building entrance" means the entrance that ~~most pedestrians are expected to use~~ is designed to facilitate ingress and egress for the highest volume of building users. The primary entrance is the entrance that is open to the public during business hours. Generally, each building has one primary entrance; however, some buildings may have more than one primary entrance or may have entrances that open directly into the building's lobby or principal interior ground-level circulation space.

[…]

"Secondary building entrance" means the entrance to a building that may or may not be open to the public and is not designed to facilitate ingress and egress for the highest volume of building users.

[…]

CHAPTER 19.300 BASE ZONES

19.303 Commercial Mixed Use Zones

[…]

19.303.4 Detailed Development Standards.

[…]

E. Primary Building Entrances

[…]

2. Standards.

a. All new buildings ~~shall~~ must have at least ~~1~~ one (1) primary entrance facing an abutting public street (i.e., within 45 degrees of the street property line); or, if the building entrance must be turned more than 45 degrees from the public street (i.e., front door is on a side or rear elevation) due to the configuration of the site or similar constraints, a pedestrian walkway must connect the primary entrance to the sidewalk. Primary building entrances must not face an off-street parking area that is located on the same lot or parcel.

19.307 General Commercial Zone C-G

[…]

19.307.3 Standards.

[…]

G. Off-street parking and loading. ~~As specified in Chapter 19.600.~~ No vehicle parking is permitted between the building and the street. Vehicle parking must be located behind and/or to the side of buildings, except in cases of a through-lot or lots which front on three (3) or more streets, in which case this standard applies to two (2) streets. All other parking standards must follow the requirements as specified in Chapter 19.600.

[…]

N. Primary Building Entrances. All new buildings must have at least 1 primary entrance facing an abutting public street (i.e., within 45 degrees of the street property line); or, if the building entrance must be turned more than 45 degrees from the public street (i.e., front door is on a side or rear elevation) due to the configuration of the site or similar constraints, a pedestrian walkway must connect the primary entrance to the sidewalk. Primary building entrances must not face an off-street parking area that is located on the same lot or parcel.

19.308 Community Shopping Commercial Zone C-CS

[…]

19.308.5 Development Standards.

[…]

H. Parking requirements of Chapter 19.600. No vehicle parking is permitted between the building and the street. Vehicle parking must be located behind and/or to the side of buildings, except in cases of a through-lot or lots which front on three (3) or more streets, in which case this standard applies to two (2) streets. All other parking standards must follow the requirements as specified in Chapter 19.600.

[…]

K. Primary Building Entrances. All new buildings must have at least 1 primary entrance facing an abutting public street (i.e., within 45 degrees of the street property line); or, if the building entrance must be turned more than 45 degrees from the public street (i.e., front door is on a side or rear elevation) due to the configuration of the site or similar constraints, a pedestrian walkway must connect the primary entrance to the sidewalk. Primary building entrances must not face an off-street parking area that is located on the same lot or parcel.

19.312 North Milwaukie Innovation Area

[…]

19.312.7 Design Standards for All Uses in the MUTSA and on NME Key Streets.

The following ~~development~~ design standards apply to all uses in the MUTSA Zone and in the NME Zone on properties located on the following key streets and key corners: McBrod Avenue, Main Street, 17th Avenue, and Ochoco Street. (See Figure 312.7.1)

[…]

A. Design Standards for All New Construction and Major Exterior Alterations

[…]

2. Building Orientation

All buildings ~~shall~~ must have at least one primary building entrance (e.g., dwelling entrance, customer entrance, tenant entrance, lobby entrance, or breezeway/courtyard entrance) facing an adjoining street (i.e., within 45 degrees of the street property line). If the building entrance is turned more than 45 degrees from the street (e.g., front door is on a side wall), the primary entrance ~~shall~~ must not be more than 40 ft from a street sidewalk, except to provide pedestrian amenities. In all cases, a walkway ~~shall~~ must connect the primary entrance to the sidewalk. Primary building entrances must not face an off-street parking area that is located on the same lot or parcel. See Figure 19.312.7.A.2 for illustration.

[…]

19.500 SUPPLEMENTARY DEVELOPMENT REGULATIONS

19.504 Site Design Standards

[…]

19.504.7 On-Site Walkway and Circulation.

[…]

C. Connections. Walkways ~~shall~~ must connect building entrances to one another and building entrances to adjacent public streets and existing or planned transit stops. On-site walkways ~~shall~~ must connect with walkways, sidewalks, bicycle facilities, alleys, and other bicycle or pedestrian connections on adjacent properties used or planned for commercial, multifamily, institutional, or park use. The City may require connections to be constructed and extended to the property line at the time of development.

D. Routing. Walkways ~~shall~~ must be reasonably direct, unless a longer distance is necessary to comply with ADA grade requirements. ~~Driveway crossings shall be minimized~~. Internal parking lot circulation and design ~~shall~~ must provide reasonably direct access for pedestrians from streets and transit stops to primary buildings on the site. "Reasonably direct" means the walkway is no more than 120 percent of the straight-line distance between the entrance and the adjacent street or transit stop.

E. Design Standards. Walkways ~~shall~~ must be constructed with a hard surface material, ~~shall~~ must be permeable for stormwater, and ~~shall~~ must be no less than 5 ft in width. If adjacent to a parking area where vehicles will overhang the walkway, a 7-ft-wide walkway ~~shall~~ must be provided. The walkways ~~shall~~ must be separated from parking areas and internal driveways using curbing, landscaping, or distinctive paving materials. On-site walkways ~~shall~~ must be lighted to an average 5/10-footcandle level. Stairs or ramps shall be provided where necessary to provide a direct route.

19.505 Building Design Standards

[…]

19.505.7 Nonresidential Development.

[…]

C. Building Design Standards

[…]

4. Windows and Doors

[…]

(2) Doors and/or primary entrances must be located on the street-facing block faces and must be unlocked when the business located on the premises is open. Doors/entrances to second-floor residential units may be locked. Any entrance that faces the parking area must be secondary to the primary entrance.

[…]

19.508 Downtown Site and Building Design Standards and Guidelines

[…]

19.508.4 Downtown Design Elements.

[…]

E. Building Entrances

[…]

2. Design Standards

a. All new buildings must have at least one primary entrance facing an abutting street. For purposes of this standard, "facing" means within 45 degrees of the street property line. Any entrance that faces the parking area must be secondary to the primary entrance.

[…]

19.600 OFF STREET PARKING AND LOADING

19.606 Parking Area Design and Landscaping

[…]

19.606.2 Landscaping

[…]

E. Other Parking Area Landscaping Provisions

1. Preservation of existing trees is encouraged in the off-street parking area and may be credited toward the total number of trees required, based on staff's review.
2. Installation of parking area landscaping ~~shall be~~ is required before a certificate of occupancy is issued, unless a performance bond is posted with the City. Then landscaping ~~shall~~ must be installed within 6 months thereafter or else the bond will be foreclosed and plant materials installed by the City.
3. Parking area landscaping ~~shall~~ must be maintained in good and healthy condition.
4. Required parking landscaping areas may serve as stormwater management facilities for the site. The ~~Engineering Director~~ City Engineer has the authority to review and approve the design of such areas for conformance with the Public Works Standards. This allowance does not exempt the off-street parking landscape area from meeting the design or planting standards of Subsection 19.606.2.
5. Pedestrian walkways are allowed within perimeter and interior landscape buffers if the landscape buffer is at least 2 ft wider than required in Subsections 19.606.2.C.1 and 19.606.2.D.3.b.

19.606.3 Additional Design Standards.

[…]

E. Internal Circulation

[…]

3. Drive-Through Uses and Queuing Areas

   The following standards apply to uses with drive-through services and uses such as gas stations and quick vehicle service facilities where vehicles queue rather than park on the site. The Planning Manager has the authority to determine when the standards apply to a proposed use.

   a. The drive-up/drive-through facility ~~shall~~ must be along a building face that is oriented to an alley, driveway, or interior parking area, and ~~shall~~ must not be on a building face oriented toward a street.

   b. None of the drive-up, drive-in, or drive-through facilities (e.g., driveway queuing areas, windows, teller machines, service windows, kiosks, drop-boxes, or similar facilities) are located within 20 ft of the right-of-way.

   c. Queuing areas ~~shall~~ must be designed so that vehicles do not obstruct a driveway, fire access lane, walkway, or public right-of-way. Applicants may be required to submit additional information regarding the expected frequency and length of queues for a proposed use.

   d. None of the drive-up, drive-in, or drive-through facilities (e.g., driveway queuing areas, windows, teller machines, service windows, kiosks, drop-boxes, or similar facilities) are located within 50 feet of a street intersection. If a drive-through facility has frontage on two streets, the drive-through facilities must receive access from the street with the lower classification.

   e. Drive-up/drive through uses and facilities must provide at least one walk-up service area. Examples of a walk-up service area include an indoor service area directly accessible from a public street or an outdoor walk-up service window. Walk-up service areas must be accessible by customers arriving on foot, using a mobility device, or by bicycle. Customers using a walk-up service area must have the same or better access to goods and services as customers using the drive-through.

   f. If a walk-up service area is limited to an outdoor service window, it must meet the following standards:

i. The walk-up service area must not also be used by vehicles. Walk-up service may be provided by facility staff or by automatic teller-style machines.

ii. The walk-up service area may abut or be connected to the street by a walkway or a pedestrian plaza.

g. Service access for pedestrians and bicyclists must be connected to the street by a direct and convenient walkway that meets the standards of MMC 19.504.7 – On-Site Walkways and Circulation.

[…]

19.700 PUBLIC FACILITY IMPROVEMENTS

[A global amendment is hereby made to Chapter 19.700 replacing the title "Engineering Director" with "City Engineer." This amendment is illustrated in the sections of the chapter set forth below, and shall apply to all provisions of Chapter 19.700, regardless of whether such provisions are specifically amended herein].

19.703 Review Process

[…]

19.703.4 Determinations.

[…]

B. Street Design

Given the City's existing development pattern, it is expected that most transportation facility improvements will involve existing streets and/or will serve infill development. To ensure that required improvements are safe and relate to existing street and Development conditions, the City Engineer will determine the most appropriate

street design cross section using the modal classifications in the TSP, and the standards and guidelines contained in Section 19.708 and ~~or in conformance to~~ the Public Works Standards. On-site frontage improvements are not required for downtown development that is exempt per Subsection 19.702.3.B.

[…]

19.703.5 Remedies.

[…]

B. Appeals

Appeal of a land use decision is subject to the provisions of Chapter 19.1009. Appeal of a rough proportionality determination (Subsection 19.702.2 and Section 19.705) or street design standard determination ~~(Subsection 19.708.2)~~ not associated with a land use decision is subject to the provisions of Section 19.1006 Type III Review.

[…]

19.704 Transportation Impact Evaluation

[…]

19.704.1 TIS Determination.

A. Based on information provided by the applicant about the proposed development, the ~~Engineering Director~~ City Engineer will determine when a TIS is required and will consider the following when making that determination.

1. Changes in land use designation, zoning designation, or development standard.
2. Changes in use or intensity of use.
3. Projected increase in trip generation.

4. Potential impacts to residential areas and local streets.
5. Potential impacts to priority pedestrian and bicycle routes, including, but not limited to, school routes and multimodal street improvements identified in the TSP.
6. Potential impacts to intersection level of service (LOS), consistent with the City's adopted transportation performance measures established in the TSP.
7. Potential impacts to the City's non-vehicular-based transportation performance measures established in the TSP, including the following:
    a. Bicycle Level of Traffic Stress (BLTS)
    b. Pedestrian Level of Traffic Stress (PLTS)
8. The balancing of likely transportation impacts to project benefits based on the TSP Goals and Objectives

B. It is the responsibility of the applicant to provide enough detailed information for the ~~Engineering Director~~ City Engineer to make a TIS determination.

C. A TIS determination is not a land use action and may not be appealed.

D. Notwithstanding A through C of this subsection, the City Engineer will apply the limitations of traffic impact study requirements for middle housing set forth in ORS 197A.420(6).

[…]

19.704.3 TIS Requirements.

[…]

B. TIS Content

A project-specific TIS checklist will be provided by the City once the ~~Engineering Director~~ City Engineer has

determined the TIS scope. A TIS ~~shall~~ must include all of the following elements, unless waived by the ~~Engineering Director~~ City Engineer.

[…]

6. Transportation Performance.

   This section should evaluate the potential impacts of the proposal on the City's adopted non-vehicular-based transportation performance standards in the TSP, including the following:

   a. BLTS

   b. PLTS

7. Multi-modal assessment.

   This section should describe how the proposal supports pedestrian, bicycle, or transit goals, policies, or objectives in the TSP.

[…]

19.705 Rough Proportionality

[…]

19.705.2. Rough Proportionality Guidelines.

[…]

E. Applicable TSP goals, policies, modal classifications, and plans.

[…]

19.707 Agency Notification and Coordinated Review

19.707.1 Agency Notification.

A. Metro and Clackamas County: If the proposed development is within 200 ft of a designated arterial (Through Movement Priority Arterial, Local Access Arterial, or Multimodal Travel Priority Arterial) or collector roadway, as identified in Figure ~~8-1~~ 5-6 of the TSP.

B. Metro: If the proposed development is within 200 ft of a designated regional multiuse trail, as identified in the Regional Transportation Plan.

C. TriMet: If the proposed development (excluding ~~single-family~~ single-unit or middle housing development on an existing lot) is within 200 ft of an existing or proposed transit route as identified on the current TriMet service map and Figure ~~7-3~~ 5-4 of the TSP.

19.708 Transportation Facility Requirements

This section contains the City's requirements and standards for improvements to public streets, including pedestrian, bicycle, and transit facilities. For ease of reading, the more common term "street" is used more frequently than the more technical terms "public right-of-way" or "right-of-way." As used in this section, however, all three terms have the same meaning.

The City recognizes the importance of balancing the need for improved transportation facilities with the need to ensure that required improvements are fair and proportional.

The City also acknowledges the value in providing street design standards that are both objective and flexible. Objective standards allow for consistency of design and provide some measure of certainty for developers and property owners. Flexibility, on the other hand, gives the City the ability to design streets that are safe and that respond to existing street and development conditions in a way that preserves neighborhood character.

The City's street design standards found in this chapter and the Public Works Standards are based on the street classification system described in the TSP. ~~Figure 8-1 of the TSP identifies the functional street classification for every street in the City and Figure 10-1 identifies the type and size of street elements that may be appropriate for any given street based on its classification.~~ The TSP establishes functional classifications maps for each transportation mode, including pedestrian, bicycle, transit, freight, and motor vehicle network. Street design

and right-of-way improvements must be guided by the applicable modal classifications, the goals and policies of the TSP, and the facility design guidance found in Chapter 5, which emphasize safe, context-sensitive, and multimodal design.

[…]

19.708.1. General Street Requirements and Standards.

[…]

D. Development in Non-Downtown Zones

Development in a non-downtown zone that has frontage on a street section shown in the PAR is subject to the requirements of the Milwaukie Public Works Standards, which implements the street design standards and right-of-way dedication requirements contained in the PAR for that street frontage. The following general provisions apply only to street frontages that are not shown in the PAR and for Development that is not in any of the downtown zones listed in Subsection19.708.1.C above:

1. Streets ~~shall~~ must be designed and improved in accordance with the standards of this chapter and the Public Works Standards. ODOT facilities ~~shall~~ must be designed consistent with State and federal standards. County facilities ~~shall~~ must be designed consistent with County standards.
2. Streets ~~shall~~ must be designed according to their modal functional classifications ~~per Figure 8-3b of~~ in the TSP.
3. Street right-of-way ~~shall~~ must be dedicated to the public for street purposes in accordance with ~~Subsection 19.708.2~~ the Public Works Standards. Right-of-way ~~shall~~ must be dedicated at the corners of street Intersections to accommodate the required turning radii and transportation facilities in accordance with Section 19.708 and the Public Works Standards. Additional dedication may be required at intersections for improvements identified by the TSP or a required transportation impact study.
4. The City ~~shall~~ will not approve any development permits for a proposed development unless it has

frontage or approved access to a public street.

5. Off-site street improvements ~~shall~~ will only be required to ensure adequate access to the proposed development and to mitigate for off-site impacts of the proposed development.
6. The following provisions apply to all new public streets and extensions to existing public streets.

    a. All new streets ~~shall~~ must be dedicated and improved in accordance with this chapter and the Public Works Standards.

    b. Dedication and construction of a half-street is generally not acceptable. However, a half-street may be approved where it is essential to allow reasonable development of a property and when the review authority finds that it will be possible for the property adjoining the half-street to dedicate and improve the remainder of the street when it develops. The minimum paved roadway width for a half-street ~~shall~~ must be the minimum width necessary to accommodate 2 travel lanes pursuant to ~~Subsection 19.708.2~~ the Public Works Standards.

[…]

19.708.2 Street Design Standards.

~~Table 19.708.2 contains the street design elements and dimensional standards for street cross sections by functional classification. Dimensions are shown as ranges to allow for flexibility in developing the most appropriate cross section for a given street or portion of street based on existing conditions and the surrounding development pattern. The additional street design standards in Subsection 19.708.2.A augment the dimensional standards contained in Table 19.708.2. The Engineering Director will rely on Table 19.708.2 and Subsection 19.708.2.A to determine the full-width cross section for a specific street segment based on functional classification. The full-width cross section is the sum total of the widest dimension of all individual street elements. If the Engineering Director determines that a full-width cross section is appropriate and feasible, a full-width cross Section will be required. If the Engineering Director determines that a full-width cross section is not appropriate or feasible, the Engineering Director will modify the full-width cross section requirement using the~~

~~guidelines provided in Subsection 19.708.2.B. Standards for design speed, horizontal/vertical curves, grades, and curb return radii are specified in the Public Works Standards.~~ All transportation improvements must comply with the street design elements and dimensional standards established in the City of Milwaukie Public Works Standards. These standards provide dimensional ranges rather than fixed measurements to ensure flexibility in crafting cross-sections that are context-sensitive to existing physical conditions and surrounding land-use patterns. The City Engineer will determine the required cross-section for a specific street segment based on its modal classifications as defined in Chapter 5 of the TSP. The default requirement is the "Full-Width Cross-Section," calculated as the sum of the maximum dimensions for all individual street elements (e.g., sidewalks, planter strips, and travel lanes). Where the City Engineer determines a full-width cross-section is not feasible or appropriate due to site-specific constraints, the City Engineer may modify the requirements using the context-sensitive guidelines provided in the Public Works Standards. All technical specifications, including design speed, curvature, and curb radii, are governed by the Public Works Standards.

~~Table 19.708.2~~

~~Street Design Standards (Dimensions are Shown in Feet)~~

~~Street Classification~~	**~~Full-Width Right-of-Way Dimension~~**	**~~Individual Street Element~~**					
		~~Travel Lane (Center Lane)~~	**~~Bike Lane~~**	**~~OnStreet Parking~~**	**~~Landscape Strips~~**	**~~Sidewalk Curb Tight~~**	**~~Sidewalk Setback~~**
~~Arterial~~	~~54'–89'~~	~~11'–12' (12'–13')~~	~~5'–6'~~	~~5'–6'~~	~~3'–5'~~	~~8'–10'~~	~~6'~~

~~Collector~~	~~40′–74′~~	~~10′–11′~~	~~5′–6′~~	~~5′–6′~~	~~3′–5′~~	~~8′~~	~~6′~~
~~Neighborhood~~	~~20′–68′~~	~~10′~~	~~5′~~	~~5′–6′~~	~~3′–5′~~	~~6′~~	~~5′~~
~~Local~~	~~20′–68′~~	~~8′ or 10′~~	~~5′~~	~~5′–6′~~	~~3′–5′~~	~~6′~~	~~5′~~
~~Truck Route~~	~~34′–89′~~	~~11′–12′ (12′–13′)~~	~~5′–6′~~	~~5′–6′~~	~~3′–5′~~	~~8′–10′~~	~~Per street classification~~
~~Transit Route~~	~~30′–89′~~	~~10′–12′ (12′–13′)~~	~~5′–6′~~	~~5′–6′~~	~~3′–5′~~	~~Per street classification~~	~~Per street classification~~

A. ~~Additional Street Design Standards.~~

~~These standards augment the dimensional standards contained in Table 19.708.2 and may increase the width of an individual street element and/or the full-width right-of-way dimension.~~

1. ~~Minimum 10-ft travel lane width shall be provided on local streets with no on-street parking.~~
2. ~~Where travel lanes are next to a curb line, an additional one ft of travel lane width shall be provided. Where a travel lane is located between curbs, an additional 2 ft of travel lane width shall be provided.~~
3. ~~Where shared lanes or bicycle boulevards are planned, up to an additional 6 ft of travel lane width shall be provided.~~
4. ~~Bike lane widths may be reduced to a minimum of 4 ft where unusual circumstances exist, as determined by the City Engineer, and where such a reduction would not result in a safety hazard.~~
5. ~~Where a curb is required by the City Engineer, it must be designed in accordance with the Public~~

~~Works Standards.~~

6. ~~Center turn lanes are not required for truck and bus routes on street classifications other than arterial roads.~~
7. ~~On-street parking in industrial zones must have a minimum width of 8 ft.~~
8. ~~On-street parking in commercial zones must have a minimum width of 7 ft.~~
9. ~~On-street parking in residential zones must have a minimum width of 6 ft.~~
10. ~~On-street parking on local streets in residential zones adjacent to middle housing, community service use, or other uses as allowed by code and as approved by the City Engineer may include diagonal parking, with minimum dimensions as provided in Table 19.708.3. Diagonal parking would be allowed as determined by the City Engineer, where sufficient right-of-way exists outside of the paved street area, and where it would not result in a safety hazard.~~

~~Table 19.708.3~~

~~Street Parking Design Standards~~

~~Angle (A)~~	~~Width (B)~~	~~Curb Length (C)~~	~~Depth (D)~~
	~~Full and Mid-Size Vehicles~~		
~~0° (parallel)~~	~~8~~	~~22~~	~~8~~
~~30°~~	~~8~~	~~16~~	~~16.5~~
~~45°~~	~~8~~	~~11.5~~	~~18.5~~
~~60°~~	~~8~~	~~9.5~~	~~19~~

~~Table 19.708.3~~ ~~Street Parking Design Standards~~			
~~Angle (A)~~	~~Width (B)~~	~~Curb Length (C)~~	~~Depth (D)~~
~~90° (perpendicular)~~	~~8~~	~~8~~	~~18~~
~~Compact Size Vehicles~~			
~~0° (parallel)~~	~~7~~	~~20~~	~~7~~
~~30°~~	~~7~~	~~14~~	~~14.5~~
~~45°~~	~~7~~	~~10~~	~~16.5~~
~~60°~~	~~7~~	~~8.5~~	~~17~~
~~90° (perpendicular)~~	~~7~~	~~7~~	~~16~~

11. ~~The dimension and number of vehicle parking spaces provided for disabled persons must be according to federal and state requirements.~~

12. ~~Sidewalk widths may be reduced to a minimum of 4 ft for short distances for the purpose of avoiding obstacles within the public right-of-way, including, but not limited to, trees and power poles.~~

13. ~~Landscape strip widths shall be measured from back of curb to front of sidewalk.~~

14. ~~Where landscape strips are required, street trees shall be provided a minimum of every 40 ft in~~

~~accordance with the Public Works Standards and the Milwaukie Street Tree List and Street Tree Planting Guidelines.~~

15. ~~Where water quality treatment is provided within the public right-of-way, the landscape strip width may be increased to accommodate the required treatment area.~~

16. ~~A minimum of 6 in shall be required between a property line and the street element that abuts it; e.g., sidewalk or landscape strip.~~

B. ~~Street Design Determination Guidelines~~

~~The Engineering Director shall make the final determination regarding right-of-way and street element widths using the ranges provided in Table 19.708.2 and the additional street design standards in Subsection 19.708.2.A. The Engineering Director shall also determine whether any individual street element may be eliminated on one or both sides of the street in accordance with Figure 10-1 of the TSP. When making a street design determination that varies from the full-width cross section, the Engineering Director shall consider the following:~~

1. ~~Options and/or needs for environmentally beneficial and/or green street designs.~~
2. ~~Multimodal street improvements identified in the TSP.~~
3. ~~Street design alternative preferences identified in Chapter 10 of the TSP, specifically regarding sidewalk and landscape strip improvements.~~
4. ~~Existing development pattern and proximity of existing structures to the right-of-way.~~
5. ~~Existing right-of-way dimensions and topography.~~

19.708.3 Sidewalk Requirements and Standards.

A. General Provisions

1. Goals, objectives, and policies relating to walking are included in Chapter ~~5~~ 4 of the TSP and provide the context for needed pedestrian improvements. Figure 5-2 of the TSP illustrates the Pedestrian Functional Classification Map. Figure ~~5-1~~ 7-2 of the TSP illustrates the Pedestrian Project ~~Master~~ Plan. ~~and~~ Table ~~5-3~~ 7-5 of the TSP contains the ~~Pedestrian Action Plan~~ list of pedestrian improvement projects.

2. Americans with Disabilities Act (ADA) requirements for public sidewalks ~~shall apply~~ applies where there is a conflict with City standards.

B. Sidewalk Requirements

1. Requirements

   Sidewalks ~~shall~~ must be provided on the public street frontage of all development per the requirements of this chapter. Sidewalks ~~shall~~ must generally be constructed within the dedicated public right-of-way, but may be located outside of the right-of-way within a public easement with the approval of the City Engineer.

2. Design Standards

   Sidewalks shall be designed and improved in accordance with the pedestrian functional classification and PLTS thresholds in the TSP, the requirements of this chapter and the Public Works Standards.

3. Maintenance

   Abutting property owners ~~shall be~~ are responsible for maintaining sidewalks and landscape strips in accordance with Chapter 12.04.

19.708.4. Bicycle Facility Requirements and Standards.

A. General Provisions

1. Bicycle facilities include bicycle parking and on-street and off-street bike lanes, shared lanes, ~~bike boulevards,~~ and bike or multiuse ~~paths~~ pathways.

2. Goals, objectives, and policies relating to bicycling are included in Chapter ~~6~~ 4 of the TSP and provide the context for needed bicycle improvements. Figure 5-3 of the TSP illustrates the Bicycle Functional Classification map, and Figure ~~6-2~~ 7-3 of the TSP illustrates the Bicycle ~~Master~~ Project Plan~~,~~. ~~and~~ Table ~~6-3~~ 8-2 of the TSP contains the ~~Bicycle Action Plan~~ list of bicycle improvement projects.

B. Bicycle Facility Requirements

1. Requirements

   Bicycle facilities ~~shall~~ must be provided in accordance with this chapter, Chapter 19.600, the TSP, and the ~~Milwaukie Downtown and Riverfront Plan: Public Area Requirements~~ Public Works Standards. ~~r~~Requirements include, but are not limited to, parking, signage, pavement markings, intersection treatments, traffic calming, and traffic diversion.

2. Timing of Construction

   To assure continuity and safety, required bicycle facilities ~~shall~~ must generally be constructed at the time of development. If not practical to sign, stripe, or construct bicycle facilities at the time of development due to the absence of adjacent facilities, the development ~~shall~~ must provide the paved street width necessary to accommodate the required bicycle facilities.

3. Design Standards

   Bicycle facilities ~~shall~~ must be designed and improved in accordance with the bicycle functional classification and BLTS threshold in the TSP, the requirements of this chapter and the Public Works Standards. Bicycle parking ~~shall~~ must be designed and improved in accordance with Chapter 19.600 and the ~~Milwaukie Downtown and Riverfront Plan: Public Area Requirements~~ Public Works Standards.

[…]

19.708.5 Pedestrian/Bicycle Path Requirements and Standards

[…]

C. Design Standards.

Pedestrian/bicycle paths ~~shall~~ must be designed and improved in accordance with the requirements of this chapter and the Public Works Standards. Paths ~~shall~~ must be located to provide a reasonably direct connection between likely pedestrian and bicyclist destinations. "Reasonably direct" means no more than 120 percent of the straight-line distance between the pedestrian and bicyclist destinations. A path ~~shall~~ must have a minimum right-of-way width of 15 ft and a minimum improved surface of 10 ft. If a path also provides secondary fire access or a public utility corridor, it ~~shall~~ must have a minimum right-of-way width of 20 ft and a minimum improved surface of 15 ft. Additional standards relating to entry points, maximum length, visibility, and path lighting are provided in the Public Works Standards.

[…]

19.708.6 Transit Requirements and Standards.

A. General Provisions

1. Transit facilities include bus stops, shelters, and related facilities. Required transit facility improvements may include the dedication of land or the provision of a public easement.

2. Goals, objectives, and policies relating to transit are included in Chapter ~~7~~ 4 of the TSP. Figure 5-4 of the TSP illustrates the Transit Functional Classification Map. Figure ~~7-3~~ 7-5 of the TSP illustrates the Transit ~~Master~~ Project Plan, and Table ~~7-2~~ 7-8 contains the ~~Transit Action Plan~~ list of transit improvement projects.

B. Transit Facility Requirements

1. Requirements

Factors that determine the level of transit facility requirements include, but are not limited to, ~~street~~

~~classification~~ modal classifications, existing and planned level of transit service on adjacent streets, block length, proximity of major pedestrian destinations, existing and projected ridership, and transit needs of the development. Required improvements may include provision of an easement or dedication of land for transit facilities, benches, shelters, bus turnouts, curb extensions, median refuges for pedestrian crossings, public telephones, or Pedestrian lighting. The required improvements ~~shall~~ must reflect a reasonable and proportionate share of the potential impacts of the proposed development pursuant to Section 19.705.

[…]

19.900 LAND USE APPLICATIONS

19.902 Amendments to Maps and Ordinances

[…]

19.902.3 Comprehensive Plan Text Amendments.

[…]

B. Approval Criteria

[…]

4. The proposed amendment is consistent with the Metro Urban Growth Management Functional Plan, the Metro Regional Transportation Plan, the Metro Regional Transportation Functional Plan, and other relevant regional policies.

5. The proposed amendment is consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.

[…]

19.902.5 Zoning Text Amendments.

[…]

B. Approval Criteria

[…]

3. The proposed amendment is consistent with the Metro Urban Growth Management Functional Plan, the Metro Regional Transportation Plan, the Metro Regional Transportation Functional Plan, and other relevant regional policies.
4. The proposed amendment is consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.
5. The proposed amendment is consistent with relevant federal regulations.
6. The proposed amendment is consistent with relevant goals and policies of the Transportation System Plan.

19.904 Community Service Uses

[…]

19.904.5 Procedures for Reviewing a Community Service Use.

[…]

B. In permitting a community service use or the modification of an existing one, the City may impose suitable conditions which assure compatibility of the use with other uses in the vicinity. These conditions may include but are not limited to:

[…]

8. Requiring adequate public transportation, pedestrian, and bicycle facilities.

19.905 Conditional Uses

[…]

19.905.5 Conditions of Approval.

The Planning Commission, or Planning Manager in the case of minor modifications, may impose conditions of approval that are suitable and necessary to assure compatibility of the proposed use with other uses in the area and minimize and mitigate potential adverse impacts caused by the proposed use.

Conditions of approval may include, but are not limited to, the following aspects of the proposed use:

[…]

K. Requiring adequate public transportation, pedestrian, and bicycle facilities and public utilities prior to occupancy.

[…]

EXHIBIT H

TITLE 19 ZONING

CHAPTER 19.200 DEFINITIONS AND MEASUREMENTS

19.201 Definitions

[…]

"Primary building entrance" means the entrance that is designed to facilitate ingress and egress for the highest volume of building users. The primary entrance is the entrance that is open to the public during business hours. Generally, each building has one primary entrance; however, some buildings may have more than one primary entrance or may have entrances that open directly into the building's lobby or principal interior ground-level circulation space.

[…]

"Secondary building entrance" means the entrance to a building that may or may not be open to the public and is not designed to facilitate ingress and egress for the highest volume of building users.

[…]

CHAPTER 19.300 BASE ZONES

19.303 Commercial Mixed Use Zones

[…]

19.303.4 Detailed Development Standards.

[…]

E. Primary Building Entrances

[…]

2. Standards.

a. All new buildings must have at least one (1) primary entrance facing an abutting public street (i.e., within 45 degrees of the street property line); or, if the building entrance must be turned more than 45 degrees from the public street (i.e., front door is on a side or rear elevation) due to the configuration of the site or similar constraints, a pedestrian walkway must connect the primary entrance to the sidewalk. Primary building entrances must not face an off-street parking area that is located on the same lot or parcel.

19.307 General Commercial Zone C-G

[…]

19.307.3 Standards.

[…]

G. Off-street parking and loading. No vehicle parking is permitted between the building and the street. Vehicle parking must be located behind and/or to the side of buildings, except in cases of a through-lot or lots which front on three (3) or more streets, in which case this standard applies to two (2) streets. All other parking standards must follow the requirements as specified in Chapter 19.600.

[…]

N. Primary Building Entrances. All new buildings must have at least 1 primary entrance facing an abutting public street (i.e., within 45 degrees of the street property line); or, if the building entrance must be turned more than 45 degrees from the public street (i.e., front door is on a side or rear elevation) due to the configuration of the

site or similar constraints, a pedestrian walkway must connect the primary entrance to the sidewalk. Primary building entrances must not face an off-street parking area that is located on the same lot or parcel.

19.308 Community Shopping Commercial Zone C-CS

[…]

19.308.5 Development Standards.

[…]

H. Parking requirements of Chapter 19.600. No vehicle parking is permitted between the building and the street. Vehicle parking must be located behind and/or to the side of buildings, except in cases of a through-lot or lots which front on three (3) or more streets, in which case this standard applies to two (2) streets. All other parking standards must follow the requirements as specified in Chapter 19.600.

[…]

K. Primary Building Entrances. All new buildings must have at least 1 primary entrance facing an abutting public street (i.e., within 45 degrees of the street property line); or, if the building entrance must be turned more than 45 degrees from the public street (i.e., front door is on a side or rear elevation) due to the configuration of the site or similar constraints, a pedestrian walkway must connect the primary entrance to the sidewalk. Primary building entrances must not face an off-street parking area that is located on the same lot or parcel.

19.312 North Milwaukie Innovation Area

[…]

19.312.7 Design Standards for All Uses in the MUTSA and on NME Key Streets.

The following design standards apply to all uses in the MUTSA Zone and in the NME Zone on properties located on the following key streets and key corners: McBrod Avenue, Main Street, 17th Avenue, and Ochoco Street. (See Figure 312.7.1)

[…]

A. Design Standards for All New Construction and Major Exterior Alterations

[…]

2. Building Orientation

All buildings must have at least one primary building entrance (e.g., dwelling entrance, customer entrance, tenant entrance, lobby entrance, or breezeway/courtyard entrance) facing an adjoining street (i.e., within 45 degrees of the street property line). If the building entrance is turned more than 45 degrees from the street (e.g., front door is on a side wall), the primary entrance must not be more than 40 ft from a street sidewalk, except to provide pedestrian amenities. In all cases, a walkway must connect the primary entrance to the sidewalk. Primary building entrances must not face an off-street parking area that is located on the same lot or parcel. See Figure 19.312.7.A.2 for illustration.

[…]

19.500 SUPPLEMENTARY DEVELOPMENT REGULATIONS

19.504 Site Design Standards

[…]

19.504.7 On-Site Walkway and Circulation.

[…]

C. Connections. Walkways must connect building entrances to one another and building entrances to adjacent public streets and existing or planned transit stops. On-site walkways must connect with walkways, sidewalks, bicycle facilities, alleys, and other bicycle or pedestrian connections on adjacent properties used or planned for commercial, multifamily, institutional, or park use. The City may require connections to be constructed and extended to the property line at the time of development.

D. Routing. Walkways must be reasonably direct, unless a longer distance is necessary to comply with ADA grade requirements. Internal parking lot circulation and design must provide reasonably direct access for pedestrians from streets and transit stops to primary buildings on the site. "Reasonably direct" means the walkway is no more than 120 percent of the straight-line distance between the entrance and the adjacent street or transit stop.

E. Design Standards. Walkways must be constructed with a hard surface material, must be permeable for stormwater, and must be no less than 5 ft in width. If adjacent to a parking area where vehicles will overhang the walkway, a 7-ft-wide walkway must be provided. The walkways must be separated from parking areas and internal driveways using curbing, landscaping, or distinctive paving materials. On-site walkways must be lighted to an average 5/10-footcandle level. Stairs or ramps shall be provided where necessary to provide a direct route.

19.505 Building Design Standards

[…]

19.505.7 Nonresidential Development.

[…]

C. Building Design Standards

[…]

4. Windows and Doors

[…]

(2) Doors and/or primary entrances must be located on the street-facing block faces and must be unlocked when the business located on the premises is open. Doors/entrances to second-floor residential units may be locked. Any entrance that faces the parking area must be secondary to the primary entrance.

[…]

19.508 Downtown Site and Building Design Standards and Guidelines

[…]

19.508.4 Downtown Design Elements.

[…]

E. Building Entrances

[…]

2. Design Standards

a. All new buildings must have at least one primary entrance facing an abutting street. For purposes of this standard, "facing" means within 45 degrees of the street property line. Any entrance that faces the parking area must be secondary to the primary entrance.

[…]

19.600 OFF STREET PARKING AND LOADING

19.606 Parking Area Design and Landscaping

[…]

19.606.2 Landscaping

[…]

E. Other Parking Area Landscaping Provisions

1. Preservation of existing trees is encouraged in the off-street parking area and may be credited toward the total number of trees required, based on staff's review.
2. Installation of parking area landscaping is required before a certificate of occupancy is issued, unless a performance bond is posted with the City. Then landscaping must be installed within 6 months thereafter or else the bond will be foreclosed and plant materials installed by the City.
3. Parking area landscaping must be maintained in good and healthy condition.
4. Required parking landscaping areas may serve as stormwater management facilities for the site. The City Engineer has the authority to review and approve the design of such areas for conformance with the Public Works Standards. This allowance does not exempt the off-street parking landscape area from meeting the design or planting standards of Subsection 19.606.2.
5. Pedestrian walkways are allowed within perimeter and interior landscape buffers if the landscape buffer is at least 2 ft wider than required in Subsections 19.606.2.C.1 and 19.606.2.D.3.b.

19.606.3 Additional Design Standards.

[…]

E. Internal Circulation

[…]

3. Drive-Through Uses and Queuing Areas

   The following standards apply to uses with drive-through services and uses such as gas stations and quick vehicle service facilities where vehicles queue rather than park on the site. The Planning Manager has the authority to determine when the standards apply to a proposed use.

   a. The drive-up/drive-through facility must be along a building face that is oriented to an alley, driveway, or interior parking area, and must not be on a building face oriented toward a street.

   b. None of the drive-up, drive-in, or drive-through facilities (e.g., driveway queuing areas, windows, teller machines, service windows, kiosks, drop-boxes, or similar facilities) are located within 20 ft of the right-of-way.

   c. Queuing areas must be designed so that vehicles do not obstruct a driveway, fire access lane, walkway, or public right-of-way. Applicants may be required to submit additional information regarding the expected frequency and length of queues for a proposed use.

   d. None of the drive-up, drive-in, or drive-through facilities (e.g., driveway queuing areas, windows, teller machines, service windows, kiosks, drop-boxes, or similar facilities) are located within 50 feet of a street intersection. If a drive-through facility has frontage on two streets, the drive-through facilities must receive access from the street with the lower classification.

   e. Drive-up/drive through uses and facilities must provide at least one walk-up service area. Examples of a walk-up service area include an indoor service area directly accessible from a public street or an outdoor walk-up service window. Walk-up service areas must be accessible by customers arriving on foot, using a mobility device, or by bicycle. Customers using a walk-up service area must have the same or better access to goods and services as customers using the drive-through.

   f. If a walk-up service area is limited to an outdoor service window, it must meet the following standards:

i. The walk-up service area must not also be used by vehicles. Walk-up service may be provided by facility staff or by automatic teller-style machines.

ii. The walk-up service area may abut or be connected to the street by a walkway or a pedestrian plaza.

g. Service access for pedestrians and bicyclists must be connected to the street by a direct and convenient walkway that meets the standards of MMC 19.504.7 – On-Site Walkways and Circulation.

[…]

19.700 PUBLIC FACILITY IMPROVEMENTS

[A global amendment is hereby made to Chapter 19.700 replacing the title "Engineering Director" with "City Engineer." This amendment is illustrated in the sections of the chapter set forth below, and shall apply to all provisions of Chapter 19.700, regardless of whether such provisions are specifically amended herein].

19.703 Review Process

[…]

19.703.4 Determinations.

[…]

B. Street Design

Given the City's existing development pattern, it is expected that most transportation facility improvements will involve existing streets and/or will serve infill development. To ensure that required improvements are safe and relate to existing street and Development conditions, the City Engineer will determine the most appropriate

street design cross section using the modal classifications in the TSP, and the standards and guidelines contained in Section 19.708 and the Public Works Standards. On-site frontage improvements are not required for downtown development that is exempt per Subsection 19.702.3.B.

[…]

19.703.5 Remedies.

[…]

B. Appeals

Appeal of a land use decision is subject to the provisions of Chapter 19.1009. Appeal of a rough proportionality determination (Subsection 19.702.2 and Section 19.705) or street design standard determination not associated with a land use decision is subject to the provisions of Section 19.1006 Type III Review.

[…]

19.704 Transportation Impact Evaluation

[…]

19.704.1 TIS Determination.

A. Based on information provided by the applicant about the proposed development, the City Engineer will determine when a TIS is required and will consider the following when making that determination.

1. Changes in land use designation, zoning designation, or development standard.
2. Changes in use or intensity of use.
3. Projected increase in trip generation.
4. Potential impacts to residential areas and local streets.

5. Potential impacts to priority pedestrian and bicycle routes, including, but not limited to, school routes and multimodal street improvements identified in the TSP.
6. Potential impacts to intersection level of service (LOS), consistent with the City's adopted transportation performance measures established in the TSP.
7. Potential impacts to the City's non-vehicular-based transportation performance measures established in the TSP, including the following:
    a. Bicycle Level of Traffic Stress (BLTS)
    b. Pedestrian Level of Traffic Stress (PLTS)
8. The balancing of likely transportation impacts to project benefits based on the TSP Goals and Objectives

B. It is the responsibility of the applicant to provide enough detailed information for the City Engineer to make a TIS determination.

C. A TIS determination is not a land use action and may not be appealed.

D. Notwithstanding A through C of this subsection, the City Engineer will apply the limitations of traffic impact study requirements for middle housing set forth in ORS 197A.420(6).

[…]

19.704.3 TIS Requirements.

[…]

B. TIS Content

A project-specific TIS checklist will be provided by the City once the City Engineer has determined the TIS scope. A TIS must include all of the following elements, unless waived by the City Engineer.

[…]

6. Transportation Performance.

   This section should evaluate the potential impacts of the proposal on the City's adopted non-vehicular-based transportation performance standards in the TSP, including the following:

   a. BLTS

   b. PLTS

7. Multi-modal assessment.

   This section should describe how the proposal supports pedestrian, bicycle, or transit goals, policies, or objectives in the TSP.

[…]

19.705 Rough Proportionality

[…]

19.705.2. Rough Proportionality Guidelines.

[…]

E. Applicable TSP goals, policies, modal classifications, and plans.

[…]

19.707 Agency Notification and Coordinated Review

19.707.1 Agency Notification.

A. Metro and Clackamas County: If the proposed development is within 200 ft of a designated arterial

(Through Movement Priority Arterial, Local Access Arterial, or Multimodal Travel Priority Arterial) or collector roadway, as identified in Figure 5-6 of the TSP.

B. Metro: If the proposed development is within 200 ft of a designated regional multiuse trail, as identified in the Regional Transportation Plan.

C. TriMet: If the proposed development (excluding single-unit or middle housing development on an existing lot) is within 200 ft of an existing or proposed transit route as identified on the current TriMet service map and Figure 5-4 of the TSP.

19.708 Transportation Facility Requirements

This section contains the City's requirements and standards for improvements to public streets, including pedestrian, bicycle, and transit facilities. For ease of reading, the more common term "street" is used more frequently than the more technical terms "public right-of-way" or "right-of-way." As used in this section, however, all three terms have the same meaning.

The City recognizes the importance of balancing the need for improved transportation facilities with the need to ensure that required improvements are fair and proportional.

The City also acknowledges the value in providing street design standards that are both objective and flexible. Objective standards allow for consistency of design and provide some measure of certainty for developers and property owners. Flexibility, on the other hand, gives the City the ability to design streets that are safe and that respond to existing street and development conditions in a way that preserves neighborhood character.

The City's street design standards found in this chapter and the Public Works Standards are based on the street classification system described in the TSP. The TSP establishes functional classifications maps for each transportation mode, including pedestrian, bicycle, transit, freight, and motor vehicle network. Street design and right-of-way improvements must be guided by the applicable modal classifications, the goals and policies of the TSP, and the facility design guidance found in Chapter 5, which emphasize safe, context-sensitive, and multimodal design.

[…]

19.708.1. General Street Requirements and Standards.

[…]

D. Development in Non-Downtown Zones

Development in a non-downtown zone that has frontage on a street section shown in the PAR is subject to the requirements of the Milwaukie Public Works Standards, which implements the street design standards and right-of-way dedication requirements contained in the PAR for that street frontage. The following general provisions apply only to street frontages that are not shown in the PAR and for Development that is not in any of the downtown zones listed in Subsection19.708.1.C above:

1. Streets must be designed and improved in accordance with the standards of this chapter and the Public Works Standards. ODOT facilities must be designed consistent with State and federal standards. County facilities must be designed consistent with County standards.
2. Streets must be designed according to their modal functional classifications in the TSP.
3. Street right-of-way must be dedicated to the public for street purposes in accordance with the Public Works Standards. Right-of-way must be dedicated at the corners of street Intersections to accommodate the required turning radii and transportation facilities in accordance with Section 19.708 and the Public Works Standards. Additional dedication may be required at intersections for improvements identified by the TSP or a required transportation impact study.
4. The City will not approve any development permits for a proposed development unless it has frontage or approved access to a public street.
5. Off-site street improvements will only be required to ensure adequate access to the proposed development and to mitigate for off-site impacts of the proposed development.
6. The following provisions apply to all new public streets and extensions to existing public streets.

    a. All new streets must be dedicated and improved in accordance with this chapter and the Public Works Standards.

b. Dedication and construction of a half-street is generally not acceptable. However, a half-street may be approved where it is essential to allow reasonable development of a property and when the review authority finds that it will be possible for the property adjoining the half-street to dedicate and improve the remainder of the street when it develops. The minimum paved roadway width for a half-street must be the minimum width necessary to accommodate 2 travel lanes pursuant to the Public Works Standards.

[…]

19.708.2 Street Design Standards.

All transportation improvements must comply with the street design elements and dimensional standards established in the City of Milwaukie Public Works Standards. These standards provide dimensional ranges rather than fixed measurements to ensure flexibility in crafting cross-sections that are context-sensitive to existing physical conditions and surrounding land-use patterns. The City Engineer will determine the required cross-section for a specific street segment based on its modal classifications as defined in Chapter 5 of the TSP. The default requirement is the "Full-Width Cross-Section," calculated as the sum of the maximum dimensions for all individual street elements (e.g., sidewalks, planter strips, and travel lanes). Where the City Engineer determines a full-width cross-section is not feasible or appropriate due to site-specific constraints, the City Engineer may modify the requirements using the context-sensitive guidelines provided in the Public Works Standards. All technical specifications, including design speed, curvature, and curb radii, are governed by the Public Works Standards.

19.708.3 Sidewalk Requirements and Standards.

A. General Provisions

1. Goals, objectives, and policies relating to walking are included in Chapter 4 of the TSP and provide the context for needed pedestrian improvements. Figure 5-2 of the TSP illustrates the Pedestrian Functional Classification Map. Figure 7-2 of the TSP illustrates the Pedestrian Project

Plan. Table 7-5 of the TSP contains the list of pedestrian improvement projects.

2. Americans with Disabilities Act (ADA) requirements for public sidewalks applies where there is a conflict with City standards.

B. Sidewalk Requirements

1. Requirements

Sidewalks must be provided on the public street frontage of all development per the requirements of this chapter. Sidewalks must generally be constructed within the dedicated public right-of-way, but may be located outside of the right-of-way within a public easement with the approval of the City Engineer.

2. Design Standards

Sidewalks shall be designed and improved in accordance with the pedestrian functional classification and PLTS thresholds in the TSP, the requirements of this chapter and the Public Works Standards.

3. Maintenance

Abutting property owners are responsible for maintaining sidewalks and landscape strips in accordance with Chapter 12.04.

19.708.4. Bicycle Facility Requirements and Standards.

A. General Provisions

1. Bicycle facilities include bicycle parking and on-street and off-street bike lanes, shared lanes, and bike or multiuse pathways.

2. Goals, objectives, and policies relating to bicycling are included in Chapter 4 of the TSP and provide the context for needed bicycle improvements. Figure 5-3 of the TSP illustrates the Bicycle Functional Classification map, and Figure 7-3 of the TSP illustrates the Bicycle Project Plan. Table 8-2 of the TSP contains the list of bicycle improvement projects.

B. Bicycle Facility Requirements

1. Requirements

Bicycle facilities must be provided in accordance with this chapter, Chapter 19.600, the TSP, and the Public Works Standards. Requirements include, but are not limited to, parking, signage, pavement markings, intersection treatments, traffic calming, and traffic diversion.

2. Timing of Construction

To assure continuity and safety, required bicycle facilities must generally be constructed at the time of development. If not practical to sign, stripe, or construct bicycle facilities at the time of development due to the absence of adjacent facilities, the development must provide the paved street width necessary to accommodate the required bicycle facilities.

3. Design Standards

Bicycle facilities must be designed and improved in accordance with the bicycle functional classification and BLTS threshold in the TSP, the requirements of this chapter and the Public Works Standards. Bicycle parking must be designed and improved in accordance with Chapter 19.600 and the Public Works Standards.

[…]

19.708.5 Pedestrian/Bicycle Path Requirements and Standards

[…]

C. Design Standards.

Pedestrian/bicycle paths must be designed and improved in accordance with the requirements of this chapter and the Public Works Standards. Paths must be located to provide a reasonably direct connection between likely pedestrian and bicyclist destinations. "Reasonably direct" means no more than 120 percent of the straight-line distance between the pedestrian and bicyclist destinations. A path must have a minimum right-of-way width of 15 ft and a minimum improved surface of 10 ft. If a path also

provides secondary fire access or a public utility corridor, it must have a minimum right-of-way width of 20 ft and a minimum improved surface of 15 ft. Additional standards relating to entry points, maximum length, visibility, and path lighting are provided in the Public Works Standards.

[…]

19.708.6 Transit Requirements and Standards.

A. General Provisions

1. Transit facilities include bus stops, shelters, and related facilities. Required transit facility improvements may include the dedication of land or the provision of a public easement.

2. Goals, objectives, and policies relating to transit are included in Chapter 4 of the TSP. Figure 5-4 of the TSP illustrates the Transit Functional Classification Map. Figure 7-5 of the TSP illustrates the Transit Project Plan, and Table 7-8 contains the list of transit improvement projects.

B. Transit Facility Requirements

1. Requirements

Factors that determine the level of transit facility requirements include, but are not limited to, modal classifications, existing and planned level of transit service on adjacent streets, block length, proximity of major pedestrian destinations, existing and projected ridership, and transit needs of the development. Required improvements may include provision of an easement or dedication of land for transit facilities, benches, shelters, bus turnouts, curb extensions, median refuges for pedestrian crossings, public telephones, or Pedestrian lighting. The required improvements must reflect a reasonable and proportionate share of the potential impacts of the proposed development pursuant to Section 19.705.

[…]

19.900 LAND USE APPLICATIONS

19.902 Amendments to Maps and Ordinances

[…]

19.902.3 Comprehensive Plan Text Amendments.

[…]

B. Approval Criteria

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4. The proposed amendment is consistent with the Metro Urban Growth Management Functional Plan, the Metro Regional Transportation Plan, the Metro Regional Transportation Functional Plan, and other relevant regional policies.

5. The proposed amendment is consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.

[…]

19.902.5 Zoning Text Amendments.

[…]

B. Approval Criteria

[…]

3. The proposed amendment is consistent with the Metro Urban Growth Management Functional Plan, the Metro Regional Transportation Plan, the Metro Regional Transportation Functional Plan, and other relevant regional policies.

4. The proposed amendment is consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.
5. The proposed amendment is consistent with relevant federal regulations.
6. The proposed amendment is consistent with relevant goals and policies of the Transportation System Plan.

19.904 Community Service Uses

[…]

19.904.5 Procedures for Reviewing a Community Service Use.

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B. In permitting a community service use or the modification of an existing one, the City may impose suitable conditions which assure compatibility of the use with other uses in the vicinity. These conditions may include but are not limited to:

[…]

8. Requiring adequate public transportation, pedestrian, and bicycle facilities.

19.905 Conditional Uses

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19.905.5 Conditions of Approval.

The Planning Commission, or Planning Manager in the case of minor modifications, may impose conditions of approval that are suitable and necessary to assure compatibility of the proposed use with other uses in the area and minimize and mitigate potential adverse impacts caused by the proposed use.

Conditions of approval may include, but are not limited to, the following aspects of the proposed use:

[…]

K. Requiring adequate public transportation, pedestrian, and bicycle facilities and public utilities prior to occupancy.

[…]