



To: Multnomah County

From: Alta Planning + Design

Date: July 2024

Re: **East Multnomah County Transportation Safety Action Plan**  
*Draft Plan and Regulatory Review Memorandum*

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## Plan and Regulatory Review

### 1. Introduction

This memo reviews existing plans, policies, and regulations related to transportation safety and planned/identified improvements in East Multnomah County and the Portland Metro region to provide an understanding of past and ongoing work that could guide the development of the East Multnomah County Transportation Safety Action Plan (TSAP). The following review summarizes some of the pertinent planning efforts, projects, and regulations that could shape the TSAP.

The documents reviewed fall into the following general categories:

#### Local Transportation Plans:

- Fairview Transportation System Plan
- Gresham Transportation System Plan
- Wood Village Transportation System Plan
- Troutdale Transportation System Plan
- Transportation System Plan for the Urban Pockets of Unincorporated Multnomah County
- Gresham Active Transportation Plan
- Main Streets on Halsey

#### Regional Plans and Strategies:

- Multnomah County REACH Transportation Crash and Safety Report
- Multnomah County Equity/Empowerment Lens
- Multnomah County Roads Capital Improvement Plan (RCIP)
- East Metro Connections Plan (EMCP)
- TriMet Pedestrian Plan
- METRO Regional Transportation Plan 2023 (RTP)
- Metro Regional Transport Safety Strategy
- METRO Regional Transit Strategy (RTS)

#### Regulations:

- Multnomah County Design and Construction Manual
- Multnomah County Road Rules



## 2. Key Findings

The following section synthesizes findings from all the reviewed plans that are relevant to the East Multnomah County TSAP. For more information on individual plans, refer to **Section 3**.

### Safety goals:

- As required by the Transportation Planning Rule, the cities' transportation system plans (TSP) include plans for reducing vehicle miles travelled and for improving public transportation, bicycle, and pedestrian infrastructure, use and safety. While safety considerations are included to some extent in TSP goals, project identification and prioritization, multimodal safety is not the central theme.
- Metro's RTP and Regional Transport Safety Strategy highlight the need for more ambitious goals and vision as it relates to transportation safety in the region. They adopt Vision Zero and Safe Systems approach in their plans and strategies. Objective 2.1 of the RTP aims to **eliminate fatal and severe injury crashes for all modes of travel by 2035**.

### Equity:

- Some projects take a more equity-focused approach to transportation planning, sometimes related to the plan purpose and funding. The Gresham ATP and Multnomah County REACH Transportation Crash and Safety Report were both funded by CDC's Racial and Ethnic Approaches to Community Health and had specific equity goals.
- The Multnomah County REACH Transportation Crash and Safety Report used a broader definition of what transportation safety means, including non-typical considerations like biased behavior among road users, biased policing, harassment, and violent crime.
- The Multnomah County Equity and Empowerment Lens with a Racial Justice Focus put forward a model grounded in racial equity and transformation principles that can be applied to any plan, procedure, or strategy.
- The RTP provides guidance on incorporating equity in transportation plans, specifically people of color, English Language Learners, and people with lower incomes.

### Performance Measures and Targets:

- Collision reduction and mode share are often used in performance measures and targets. For example, City of Wood Village aims to triple walking, biking, and transit mode shares in 2040 compared to 2010 levels. City of Troutdale aims to triple walking, biking and transit mode share compared by 2035 compared to 2005. The Gresham TSP targets reduction of serious injuries and fatalities of bicyclists and pedestrians by half (50%) between 2017 and 2040.
- Other measures include maintaining intersection Level of Service standards, travel times, parking ratios, and reducing total vehicle miles traveled.
- The RTP sets more ambitious targets in terms of safety and equity. RTP aims to eliminate transportation related fatalities and serious injuries for all users of the region's transportation system and in equity focus areas by 2035, with a sixteen percent reduction by 2020 (compared to 2015), and a fifty percent reduction by 2025.

**Jurisdictions:** Collaboration across jurisdictions will be important to create a shared vision of transportation safety, considering that several local connectors in East Multnomah County run across multiple cities. In the development of the Main Streets on Halsey Plan, the cities of Fairview, Wood Village and Troutdale worked to create a shared vision for Halsey that runs from Fairview Parkway to downtown Troutdale. Also, jurisdictions are not necessarily defined by city limits. For example, ODOT, Multnomah County, City of Gresham, and the City of Fairview monitor the condition of pavement in Fairview. Similarly, Gresham Transportation System Plan includes Gresham's city limits and the Springwater, Pleasant Valley, and Kelley Creek Headwaters Plan Areas.



**Project Prioritization:** Safety and Equity are often used in determining priority projects. The TriMet Pedestrian Plan used three overarching prioritization criteria - safety (40%), equity (30%), and demand (30%). Additional criteria could include nearby destinations, level of comfort. Projects are often prioritized if there is a documented safety problem at a documented high injury or high-risk locations. For instance, in Gresham TSP, high ranks were given when two or more pedestrian crashes have occurred along the segment or intersection in the last five years. While local plans identify and prioritize projects, further evaluation is often needed to determine the appropriate improvements at these locations.

### 3. Plan Review

#### 3.1. Fairview Transportation Systems Plan

Year Adopted: 2017

Lead Agency: City of Fairview and Oregon Department of Transportation (ODOT)

**Plan Description:** The TSP guides in addressing the long-range transportation needs of the community. The TSP focuses on making travel safer and more convenient for Fairview residents, businesses, and visitors and seen as an important “first step” to assist Fairview in competing for funding of transportation projects. The plan reviewed current travel conditions and forecasted travel trends through 2035. The plan embodies the community’s vision for an equitable, efficient, and financially stable transportation system and attempts to balance the needs of walking, bicycling, driving, transit, and freight in a manner that reflects community values.

#### Relevant Discussions and Recommendations:

##### Project Context

- The plan prioritizes community investments that provide for complete roadway corridors that make active transportation connections more convenient, direct, and comfortable and increase safety for everyone, among others.
- Eight study intersections are focused on of the Transportation System Plan (Figure 1, Page 2)
- Identifies increased transportation needs in locations associated with projected employment growth. The areas where population is expected to double include industrial areas north double of I-84 and east of NE 223rd Avenue, commercial and industrial lands on either side of NE Sandy Boulevard west of NE 223rd Avenue and Fairview Village and Town Center area, near NE Halsey Street and Fairview Parkway.

##### Project Goals and Objectives

TSP goals and objectives were used to define evaluation criteria that guide solutions and priorities during the TSP Update.

##### Goals:

- Enhance livability in Fairview through planning and design of transportation improvements and support active transportation connections between key activity centers, transit services, and existing (and planned) transportation facilities.
- Provide users with balanced transportation choices for all modes of transportation.
- **Goal 3 - Safety:** Strive to achieve a safe transportation system that consider all modes of transportation.
  - Support safe travel for all users through safe facility design, traveler education, encouraging safe behavior, and law enforcement. (Policy 1, Page 13)
  - Coordinate with agency partners to review historical crash data and systematically identify, evaluate, prioritize, and remedy transportation safety issues. (Policy 6, Page 13)
  - The city shall coordinate with the Multnomah County lighting district to prioritize roadway lighting improvements near routes to schools, parks, and the town center. (Policy 10, 13)
- **Performance Measure:** Manage the transportation system based on performance measures set and maintained by the city including maintaining intersection Level of Service (LOS) standards, parking ratios, and reducing total vehicle miles traveled (VMT).



- **Accessibility:** Develop transportation facilities that are accessible to all members of the community including barrier free transportation choices and reduction in housing and transportation costs.
- **Equity:** Strive for equity in the distribution of benefits from potential transportation improvements and work towards fair transportation access for all users. (Objective 5, page 15)
- Reduce travel time reliability for all modes and employ **intelligent transportation system**.
- Support healthy and active living choices by encouraging active transportation modes for all ages and abilities, reducing emissions and reduce impacts on natural environment.

#### Constraints and Challenges (Page 19)

- Barriers to walking or biking include **limited crossing opportunities, infrastructure gaps, uncomfortable travel conditions** (e.g., along high speed or narrow roadways) and roadway network connectivity. Lack of safe and direct roadway crossing opportunities could limit access to transit.
- Each of the agencies that have jurisdiction of roadways in the city: ODOT, Multnomah County, City of Gresham and the City of Fairview monitor the condition of pavement in Fairview.
- **Industrial areas north of I-84 and east of NE 223rd Avenue** may benefit from strategies to enhance pedestrian and bicycle opportunities in the area.

**Solutions and Performance Measures:** Transportation System Management and Transportation Demand Management improvements are proposed to improve safety and encourage using the existing transportation system more efficiently.

- Solutions identified for roadways in Fairview include multi-modal corridor improvements, motor vehicle mobility improvements, and safety strategies (pages 45-47).
- The TSP identifies several projects to reduce travel conflicts, especially along Sandy Boulevard and NE Halsey Street where there are documented safety issues.
- The plan identifies NE 223rd Avenue Guardrail as high priority, as well as six other low priority projects.
- Street design standards and typical cross sections are included in the plan for various roadway classifications. The plan strives to achieving the regional goals as in the Metro RTP in the performance targets.



### 3.2. Gresham Transportation Systems Plan

Year Adopted: 2017

Lead Agency: City of Wood Village

**Plan Description:** The Plan is a 20-year blueprint for implementing a multimodal transportation network. It establishes policies and provides strategies that support the development of Gresham as an economically vital and livable community. A key objective of the TSP is to create a balanced transportation system where pedestrians, bicyclists and motorists have equal opportunity to get around.

**Relevant Discussions and Recommendations:**

- Gresham's city limits and the Springwater, Pleasant Valley and Kelley Creek Headwaters Plan Areas are considered the study area for this TSP.
- **Vision:** Gresham's Transportation System Plan will support the growth and development of the city of Gresham as an economically vital and livable community by providing its residents and all transportation system users' safe, pleasant, and convenient access and travel within, to and through the city.
- TSP goals include accessibility, livability, mobility, and safety. Safety goal aims to minimize dangers or risks in the transportation system so users feel safe driving, biking, walking, and taking transit.
- Currently only two of the 67 intersections monitored are operating at a high congestion level:
  - Mt. Hood Highway & SE Palmquist Street, which is operating at 0.95.
  - SW Pleasant View Drive & SW Highland Drive, which is operating at 0.93.
- **Policies and Action Measures:**
  - Develop a multi-modal transportation system that enables people walking, biking taking transit and driving to feel equally safe and comfortable (page 94)
  - Develop a Transportation Financing Plan that gives top priority to safety and the preservation and maintenance of existing transportation facilities (page 95)
  - In the development of the Street System, and in all land development, provide safe and convenient pedestrian circulation and safe and comfortable bike network.
- **Prioritization:** In the prioritization criteria, **high ranks were given when two or more pedestrian crashes have occurred** along the segment or intersection in the last five years for which there is data.
- Many pedestrian priority areas were identified at existing signals and crossings. Further evaluation is needed to determine the correct improvements at these locations.
- The priority Active Transportation Plan projects are only a fraction of the total projects that are needed to complete the overall pedestrian and bicycle systems. A more robust accounting of pedestrian and bicycle deficiencies is still needed.
- Recommended targets for safety:
  - **Collision Reduction:** Reduce serious injuries and fatalities of bicyclists and pedestrians by half (50%) between 2017 and 2040.
  - **Equity Project Completion:** Projects with the top equity score are completed at an equal rate (or higher) as the network as a whole.



### 3.3. Wood Village Transportation Systems Plan

Year Adopted: 2017

Lead Agency: City of Wood Village

**Plan Description:** The City of Wood Village adopted the TSP in 1999 and updated in 2012. The 2017 TSP update is built on the previous TSP and is developed to be in alignment with the East Metro Connections Plan, Wood Village Town Center Master Plan and includes several new draft policy statements to comply with the RTP. The plan update addresses the city's pedestrian, bicycle, and public transportation systems and guides the management and implementation of the transportation facilities, policies, and programs within Wood Village over the next twenty years.

**Relevant Discussions and Recommendations:**

- The City of Wood Village has several intersections along key roadways with **unmarked crossings that rely on drivers to yield the right-of-way** and there are several long segments without a marked pedestrian crossing.
- A majority of the collector and arterial roadways currently have bicycle facilities on both sides of the roadway except for segments along NE Sandy Boulevard, NE Arata Road, NE 238th Drive, and the NE 244th Avenue connection to the Columbia River Highway.
- Within Wood Village, ODOT has not identified sites in the top ten percent of ODOT's SPIS ranking program for 2010. However, ODOT has included the **segment of I-84 through Wood Village in the state's Safety Investment Program**, given that there have been three to five crashes over the last three-year period.
- Wood Village Street design standards are consistent with the Multnomah County Street design standards for all collector and higher streets. The local street design standards are unique to Wood Village.
- Major activity centers, with high levels of pedestrian and bicycle activity, include the retail and commercial areas located along NE Glisan Street and NE Sandy Boulevard, city parks and schools located along NE Halsey Street, and the multiple transit stops located along TriMet Routes 12 and 77.
- Many of the priority areas identified during the TSP process are located along major commercial and residential streets, such as NE Sandy Boulevard, NE Arata Road, and NE 242nd-238th Drive.

**Needs, Opportunities, & Constraints:**

- **NE Sandy Blvd:** Reconstruct Sandy Boulevard to minor arterial standards. Multnomah County initiated a street design refinement to see improved safety for all roadway users while responding to industrial and freight needs.
- **NE Arata Road:** Multimodal Street design was proposed to improve safety. Project was in construction and was expected to be completed in 2017.
- **Wood Village Town Center:** Wood Village Town Center Master Plan identified the need to enhance safety and comfort of multimodal travel as measured through pedestrian level of service. Create a trail connection between Arata Road and Glisan Street through the wooded areas along the eastern edge of the Town Center, to minimize safety concerns.
- **Pedestrian and Bicycle systems:** There are number of gaps in the pedestrian and bicycle systems and locations where opportunities to improve access and circulation exist. The pedestrian and bicycle system plan and public transportation plan within the TSP provide identify needed improvements (See pages 89 and 91).
- **Transit:** Work with TriMet to ensure that consistent pedestrian and bicycle facilities provide access to all existing and future transit stops, including enhanced pedestrian crossings in key locations, and that all transit stops are well lit.

**Performance Measures:**

- By 2040, reduce the number of fatal and severe injury crashes for pedestrians, bicyclists, and motor vehicle occupants each by 50% compared to 2007 – 2011 average.
- By 2040, triple walking, biking and transit mode shares compared to 2010 modeled mode shares.



### 3.4. Troutdale Transportation Systems Plan

Year Adopted: 2014 (Amended 2022)

Lead Agency: City of Troutdale

**Plan Description:** The City of Troutdale adopted the TSP in 1995 and was updated in 2014. The 2014 update included an evaluation of the existing multi-modal transportation system within Troutdale. The 2022 update incorporates the vision and goals for several opportunity sites and corridors in the Town Center, implementation of planned improvements in equity focused areas as guided by Metro's 2018 Regional Transportation Plan and emerging and future trends in transportation and mobility. Projects that are reasonably expected to be funded over the next 20 years were also identified and are referred to as Action Plans.

#### Relevant Discussions and Recommendations:

**Goals:** Some of the project goals include

- Provide a balanced, multi-modal transportation system and reduce the number of trips by single occupant vehicles.
- Develop transportation facilities which are accessible to all members of the community. This includes policies for ADA accessibility and improving access and circulation for all members of the community, including transportation disadvantaged populations.
- Protect the function of the I-84 Troutdale interchange.

**Pedestrian:** An inventory of the existing pedestrian system identified a variety of locations **in need of new sidewalks connections, new pedestrian crossings, and new multi-use paths and trails.** Pedestrian districts are areas of high or potentially high pedestrian activity where walking is a safe and convenient. The Pedestrian Master Plan identifies several potential projects that would improve pedestrian connectivity within the RTP designated areas (see Figure 1-1). The most significant pedestrian movements occur near retail, recreational, educational and town center areas, including **Buxton Road, Troutdale Road, Cherry Park Road, and 257th Avenue.** Additional crossings and connections to the pedestrian system could be provided to improve crossing spacing along 257th Avenue and Stark Street.

**Bicycle:** Although a majority of the collector and arterial streets in Troutdale currently provide on street bike lanes or shoulder bikeways, there are a few locations where new on-street bike lanes or other bicycle treatments, such as shared roadway pavement markings, and off-street multi-use paths could improve the overall bicycle system.

#### **Performance targets:**

- By 2035, reduce the number of pedestrian, bicyclist, and motor vehicle occupant fatalities plus serious injuries each by 50% compared to 2005.
- By 2035, triple walking, biking and transit mode share compared to 2005.

**Access Management:** The minimum spacing of roadways and driveways are consistent with Multnomah County's access spacing standards.

**Street Design:** The City of Troutdale has adopted standards for street cross sections that apply citywide to local streets neighborhood streets, and commercial/industrial streets. In addition, there is a special local street cross section for the Town Center area that allows narrower widths.

**Environmental Justice:** The transportation improvement projects identified in the pedestrian, bicycle, transit, and motor vehicle plans were selected to ensure that the transportation system meets the needs while not creating adverse conditions for select segments of the population. These projects will ensure that the transportation disadvantaged will have equal access to public facilities and services located throughout Troutdale as well as in neighboring communities.



### 3.5. Transportation System Plan for the Urban Pockets of Unincorporated Multnomah County

Year Adopted: 2002

Lead Agency: Multnomah County

**Plan Description:** In 2002, after the Multnomah County Board of Commissioners transferred responsibility for development review for land use in the unincorporated areas to the City, the plan establishes compatibility between the County and the City of Portland's Road classifications and requirements. TSP establishes a set of street classification maps that define applicable conversions of Multnomah County Street classifications to City policy designations. This project identifies opportunities to extend and connect streets to provide safe, convenient, and reasonably direct routes for all modes.

**Relevant discussions and recommendations:**

- Identify opportunities to extend and connect streets to provide safe, convenient, and reasonably direct routes for all modes and identify transportation infrastructure needs for the project areas.
- Address various transportation issues including
  - Lack of infrastructure that support safe and convenient travel on foot or by bike.
  - Traffic impacts: high traffic speeds and volumes on local and collector roads raise safety concerns.
  - Aims to improve motor vehicle, transit, bicycle, pedestrian, freight, and emergency vehicle access and circulation by planning for safe, direct, and convenient travel appropriate to the mode.
- Aims to ensure public concerns are addressed through a comprehensive technical and outreach process that identifies transportation needs and solutions through capital projects, programs, and strategies.
- Public engagement highlighted safety as the leading concern of most residents and is the most important issue for people living in the **Forest Park/Southwest Hills and Dunthorpe areas, and in the Far Southeast.**

### 3.6. Gresham Active Transportation Plan (ATP)

Year Adopted: 2018

Lead Agency: City of Gresham

**Plan Description:** The ATP was developed based on guidance from the Gresham Transportation System Plan that defined ATP as an important action item. This ATP is intended as a road map for defining where and how the City of Gresham might enhance walking and biking. ATP defines design options, criteria for prioritizing locations to enhance walking and biking, creates a prioritized project list, and defines programs plus funding options to support these modes of travel.

**Relevant Discussions and Recommendations:**

**Equity:**

- In 2014 Multnomah County Health Department received a Racial and Ethnic Approaches to Community Health grant from Centers for Disease Control and Prevention which is aimed to reduce racial and ethnic disparities. A part of the grant was used to develop the ATP.
- This plan examined how transportation projects support enhanced access to recreation, alternative commute options, and more destinations with healthy food options.
- Actions to support equity include robust engagement including hard-reach communities, revised equitable investment policy, analysis of transportation benefits and burdens, equity criteria in prioritization and performance measures to ensure equitable future investments.
- **Equity Index map** was used to identify areas with higher numbers of people with low incomes, people of color, and youth and seniors.
- Walking and bicycling infrastructure is not evenly spread across the city. People in red areas of the equity index map have less sidewalks and less access to low-stress bike routes than other parts of the city.



### Engagement:

- Engagement leaned heavily on **community liaisons** who were trained for this project.
- Recreation and food were top reasons people in Gresham walked, biked, or rolled in Gresham.
- Some important barriers to walking and biking experience include **lack of safe pedestrian crossings, missing or inadequate sidewalks, personal safety related to traffic and lack of bike infrastructure.**
- Personal safety related to police behavior was also brought up.
- Results of community engagement were used to identify project areas for either pedestrian or biking projects.
- TSP policies were refined to include 'Increase safety for people walking and biking in Gresham', among others.
- High risks for injuries and fatal crashes were identified on the arterial street network.
- Pedestrian level of comfort along corridors and intersections were analyzed. High stress areas include **Glisan Street, Division Street, 162nd Avenue, 182nd Avenue, Hogan Drive and Orient Drive.**
- Roadways in Gresham that are categorized as PLOS 5 include 190th Drive, the southern portion of Hogan Road, portions of Highway 26, Orient Drive, and portions of Division Street.
- The pedestrian project list is comprised of two types of projects, Sidewalk Infill and Street Crossing Projects.
- The bicycle project list includes Bicycle Routes for Everyone. These are routes on low volume, low-speed streets.
- **Prioritization Criteria** were focused around six key themes: Serve Key Destinations, Promote Safety, Transit Access, Promote Health, Equity, Pedestrian Level of Comfort and Promote Bike Network Connectivity.
- Priority Project Example Sheets show alternatives for 11 specific bike routes in Gresham. This includes West Gresham Connector (I-84 to SE Division St along NE 169th Ave, NE 172nd Ave, and SE 176th Ave) and Wy'East Crosstown Bike Route (NE Hogan Dr to SE 174th Ave), among others.
- The City has several programs that promote active transportation including Safe Routes to School Programs, a Transportation Safety Fair promotes bicycle safety and educates the community about bikes on public transit as part of City of Gresham Bike Month, etc.

### 3.7. Main Streets on Halsey

This section includes review of the Strategic Economic Action Plan and the technical memorandums on Main Streets on Halsey Cross Section and Street Design Plan and Streetscape and Roadway Design Toolkit.

**Plan Description:** The cities of Fairview, Wood Village and Troutdale are working together to create a shared vision for Halsey Street that runs from Fairview Parkway to downtown Troutdale. The vision is to create a unified main street marked by pedestrian and bike-friendly features, public gathering spaces, new housing, and bustling shops and restaurants, pubs, and coffee shops.

#### Relevant Discussions and Recommendations:

##### **Strategic Economic Action Plan:**

- The Plan from 2017 developed over **20 street and safety improvements recommendations** to encourage new investment and make the corridor safer for people walking, biking, and driving.
- Guiding principles include establish planning and zoning that supports a range of housing types and densities in safe, attractive neighborhoods and provide opportunities for safe routes to schools.
- Current and future residents will benefit from new places to safely cross, improved intersections, new bike parking, human-scale lighting, and sidewalk improvements.
- The transportation improvement recommendations serve as an update to the 2005 Multnomah County Concept Design Project for Halsey. Recommended improvements include highly visible mid-block pedestrian crossings, bike lane improvements and bike parking, gateways, and landscaping. All these improvements serve to make the Halsey corridor safer and more welcoming for all people. See pages 47 – 65 for the various transportation improvements.
- Some safety improvements that were brought up in public engagement include:
  - Safety improvements are needed at Edgefield and where Halsey meets the Historic Columbia River Highway.
  - Signalized intersection at 223rd.



- Pedestrian lighting is needed near Edgefield.
- Need for safe pedestrian crossings is strongest at Edgefield.

#### Technical Memorandum on Main Streets on Halsey Cross Section:

- **Multnomah County is responsible** for the functional classification and coordinates with the three cities to ensure that the roadway is planned, operated, maintained, and improved to safely meet public needs. All three cities defer to Multnomah County design standards for arterial roadways.
- As a minor arterial, the three cities should work with Multnomah County to establish a community boulevard overlay along NE Halsey Street
- The cross section is generally consistent with Multnomah County's standard cross section; however, it identifies additional elements, such as bus pull-outs and pedestrian refuge islands, and it identifies wider travel lanes and narrower sidewalks.
- **NE Halsey Street is identified as a high injury corridor in the 2018 Regional Transportation Plan** and tends to be in **RTP equity focus areas** – areas with high concentrations of people of color, people with low incomes and low English.
- In the 2016 Visioning workshop, 83% identified investments in sidewalks, bike routes, and more crossings to improve safety along the Halsey corridor as a priority; an additional 3% did not know and unsafe pedestrian crossings were identified among the biggest issues on Halsey.
- See Table 3: Main Streets on Halsey Plan Recommendations on page 32 for a complete list of transportation improvements at several locations along the project corridor including intersection improvements and improvements to bicycle and pedestrian facilities and roadway striping along several segments.

#### Technical Memorandum on Streetscape and Roadway Design Toolkit:

- Intended to be used as a project resource to spark creative ideas for developing planning, design, and implementation standards to facilitate the orderly redevelopment of Halsey Street as a well-connected, inviting, safe and sustainable multi-modal facility.
- Provides a list of various traffic calming features and how they can improve safety. Some of the elements include Curb Extensions, Pedestrian and Bicycle Facilities, Speed Feedback Signs, Protected Intersections, raised Crosswalks, Crosswalk Enhancements, Mid-Block Crossings, Rectangular Rapid Flashing Beacon, and Pedestrian Hybrid Beacon.

### 3.8. Multnomah County REACH Transportation Crash and Safety Report

Year Adopted: 2021

Lead Agency: Multnomah County Health Department

**Plan Description:** The report is focused on health injustices and disparities in the Multnomah County focusing on data on transportation safety outcomes among the Black community. It defines transportation safety to go beyond physical injury and envisions public space where people are free from physical harm, biased behavior, harassment, violence, and unfair policing. The report helps build awareness of safety concerns and the Black communities' experience.

#### Relevant discussions and recommendations:

- The report focusses on six intersecting concepts related to transportation safety: Fatal injuries, non-fatal injuries, biased behavior among road users, biased policing, harassment, violent crime.
- While there are indirect adverse impacts of transportation safety, the report is focused on direct impacts.
- Some important findings include:



- In 2013-2017, death rate from traffic crashes among Black residents was nearly twice the rate among white residents in Multnomah County. In this period, the death rate for the Black population and the total population increased, but the increase was greater for the Black population.
- Disproportionate representation of Black patients among people seeking treatment for traffic crash injuries. **77 percent of high crash corridors pass along or through a REACH focus census tract.**
- Road users exhibit biased behavior, such as failing to yield to Black pedestrians in a crosswalk. For example, black males waited 32 percent longer for cars to yield at a crosswalk in Portland.
- Real and perceived danger from violent crime influences travel choices in the Black community. Incidents and experience in ROW causes people to choose travel routes and modes that maximize personal safety despite higher costs.
- Portland's PedPDX plan shows East Portland having inadequate sidewalks, cross walks and streetlights and communities lack basic infrastructure for safe active transportation.
- City of Gresham Active Transportation Plan, the Portland Safe Routes to School Strategy, City of Portland Walking While Black Report/PedPDX, and the Regional Transportation Plan have all integrated health equity metrics into transportation planning processes.
- **Recommended Policy Strategies:** Adopt a policy of establishing measurable equity goals and engaging in routine evaluation to assess progress, institutionalize decision evaluation tools like Health Impact Assessments and work across jurisdictions for collective progress towards equity goals.
- **Recommended Systems Strategies:** Engage with and compensate community members and organizations experiencing/ representing groups experiencing health disparities.
- **Recommended Environmental Strategies:** Invest in infrastructure changes such as traffic calming, speed control, and mode separation to reduce injuries and prioritizing investments in neighborhoods with a high proportion of Black residents. Include artwork, street name changes, street lighting improvements and cultural events in the right-of-way enhance feelings of safety and belonging.
- **Recommended Communication Strategies:** Transportation messaging campaigns that center the Black experience, along with safety, equity, and justice.



### 3.9. Multnomah County Equity/Empowerment Lens

Year Adopted: 2014

Lead Agency: Multnomah County

**Plan Description:** The Equity and Empowerment Lens with a Racial Justice Focus is a set of principles, reflective questions and processes at the individual, institutional and systemic levels that can be used to improve planning, decision-making and resource allocation.

**Relevant discussions and recommendations:**

- The Equity and Empowerment Lens with a Racial Justice Focus (the Lens) put forward a model of change grounded in racial equity and transformation principles, that, as our colleagues have shared, responsibly and holistically speaks to transformation across various dimensions of well-being, and at all levels of change.
- Some ways to engage with the material:
- Apply the 5P's document to a program, policy, practice, or procedure.
- Review the outcomes; begin to develop evaluation methods to support tracking progress.
- System activities and outcomes noted in the logic model include
  - Identify and act upon culturally responsive and equity-based indicators in collecting data and measuring results.
  - Develop shared vision and purpose for change, including shared language.
  - Build meaningful community partnerships with communities of color.
  - Decreased environmental impacts for communities of color.

### 3.10. Multnomah County Roads Capital Improvement Plan (RCIP)

Year Adopted: 2020

Lead Agency: Multnomah County

**Plan Description:** The RCIP identifies transportation needs in the County with a comprehensive listing of transportation capital project needs in the next 20 or more years. The Multnomah County Roadway Capital Improvement Plan and Program is a two-part effort, consisting of the Roadway Capital Improvement Plan and the Roadway Capital Improvement Program. Service area includes roads and assets in the cities of Fairview, Troutdale, and Wood Village and in unincorporated areas including Sauvie Island, the West Hills, and the Corbett area. This service area also includes 6 Willamette River bridges within the City of Portland.

**Relevant discussions and recommendations:**

- Six goals, including safety and equity, were identified through stakeholder interviews, best practices summary and document review. Each goal had various sub-topics informed the Criteria and Measures.
- A scoring framework was used to assign priority to candidate projects.
- See Table 4: *Criteria and Measures Summary* on page 59 for detailed measures and scores for the goals, including for safety and equity.
- Safety and Equity were each weighted 20% in Criteria Rankings and Weights.



Revised March 24, 2014



- Safety includes crash frequency, rate, and severity, located near crash/unsafe locations and potential safety benefit for users.
- Equity factors include people of color, limited English proficiency, older adults, disability, low-income, environmental toxins, and health indicators.
- ADA compliance and school connections were considered in the 'Infrastructure' sub-topic under 'Mobility' goals.
- Measures related to areas with high risk of natural disasters and emergency response operations are divided among two sub-topics: Known Hazards and Access.
- 132 projects were scored and ranked based on a developed scoring methodology. Some high ranked safety projects include NE Corbett Hill Road Safety Improvements and SW 257th Avenue Pedestrian Safety Improvements (Gresham City Limits to I-84).



### 3.11. East Metro Connections Plan (EMCP)

Year Adopted: 2012

Lead Agency: Metro

Partner Agencies: Wood Village, Troutdale, Fairview, Gresham, Multnomah County, Metro, and ODOT

**Plan Description:** The Plan analyses transportation challenges and proposes recommendations that advance economic and community development in the East Metro Area. Investments are aimed at improving access and mobility, increasing safety, and helping in wayfinding. The prioritization of projects emerged from a focus on North/South connections, improving access to downtown and improving regional mobility. EMCP is a separate but complementary process to the various jurisdictions' TSP's and capital improvement programs.

**Relevant discussions and recommendations:**

- The four cities of east Multnomah County will work closely with state, county, regional and federal partners to implement solutions in the plan area. Additionally, development will be coordinated with Columbia Cascade River District, as well as ongoing projects in east Portland and Clackamas County.
- Project goals include improving connectivity, developing solutions that encompass all modes of transportation, enhancing livability and safety in East Metro communities and ensuring distribution of both benefits and burdens of growth.
- The action plan represents the timeline, funding, and partnerships needed to implement the investments recommended in the East Metro Connections Plan.
- Investment packages are recommended based on 5 categories: Access and mobility, safety, economic development, multimodal and regional gateway.
- **181st/182nd Safety Corridor:** safety improvements high crash rates areas and improve safe routes to schools in the Centennial School District. Identified catalyst project is Safety projects on 181<sup>st</sup> & Stark and Halsey.
- **257<sup>th</sup> Safety corridor:** Create safe and attractive pedestrian crossings along 257th, particularly between Reynolds High School and Mt Hood Community College. Identified catalyst projects are safety improvements between Cherry Park and Division.
- **Regional East West Transit Link:** Projects include enhanced bus/bus rapid transit and safety, and pedestrian and bike improvements (sidewalks, medians, crossings, access management) to make Division a great corridor for transit and walking. Catalyst project is transit alternatives analysis for Powell/Division



### 3.12. TriMet Pedestrian Plan

Year Adopted: 2020

Lead Agency: TriMet

**Plan Description:** The TriMet Pedestrian Plan identifies priorities for improving walking and rolling access to transit across the TriMet service area, encompasses 26 cities in three counties in the Portland Metro region. The Plan helps to improve the safety and comfort of people walking and rolling to access transit through transportation plans, project development and implementation, grant application, and policy and program development and community engagement.

**Relevant discussions and recommendations:**

- Plan defined transit walksheds as the area around a transit stop or station that a person can reach by walking or rolling a quarter mile.
- Mapping analysis does not include crossing infrastructure or crossing gaps as regionwide data do not currently exist for types of crossings.
- Three overarching prioritization criteria—safety (40%), equity (30%), and demand (30%)
- Key findings from public outreach include:
  - Safety is the top priority for both agency stakeholders and the public.
  - Equity, safety, and universal accessibility are region-wide values that should drive investment in pedestrian access to transit.
  - Gaps in existing pedestrian infrastructure and amenities, and concerns over safety are region-wide barriers for pedestrians using transit.
  - Lack of crossings and lack of lighting are common issues when accessing transit.
- Safety components in prioritization include dangerous roads, dangerous locations, sidewalks, and barrier streets.
- The Plan not only established a prioritization score for each project, but also evaluated all the projects based on a number of attributes to help understand how they would impact pedestrian access to transit, if implemented.
- Maps 6 – 17 (pages 54-65) show high priority projects in various service areas.
- The plan’s recommendations have a direct policy nexus with ODOT’s Oregon Public Transportation Plan which establishes several goals including
  - Goal 1 addresses the importance of enabling transit users of all abilities to access transit safely.
  - Goal 4 speaks to addressing the needs of and better engaging with transportation-disadvantaged populations who rely on transit.
  - Goal 6 recognizes the need to provide a sense of safety and security for transit riders on the entirety of their trip, including those accessing it by foot or using a mobility device for the first and last mile.
- Strategy 3 of the recommendations focusses on making walking and rolling trips to transit safer and more comfortable. Actions include applying current best practices in pedestrian design and Include pedestrian-scale lighting within transit walksheds, among others.

### 3.13. METRO Regional Transportation Plan 2023

Year Adopted: 2023

Lead Agency: Metro

**Plan Description:** Metro's plan to guide transportation investments in the Portland region until fiscal year 2040, This document describes the goals, objectives, performance targets, and policies that guide regional transportation investment, funding streams, as well as regional transportation projects and programs. Metro formally updates the RTP every five years.



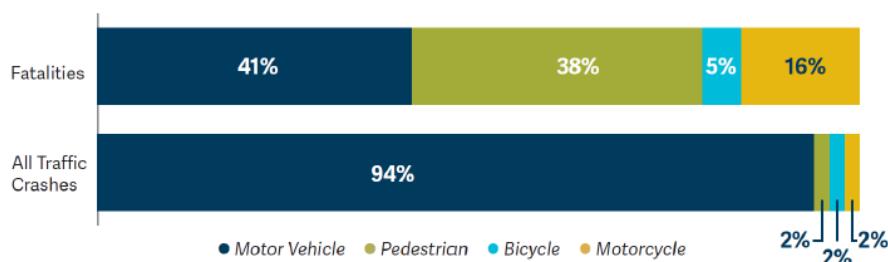
**Relevant discussions:**

- **Community engagement** identified 'Safety as the top concern'. Safety concerns include car crashes while walking and biking and related to personal safety in relation to hate crimes, harassment, violence, and people's unpredictable behavior. Potential investments identified include more investment in lighting, safe places to walk and roll, improved transit stops and security (not police) in and around transit.
- **Goals, objectives and related performance measures and targets** focus on five interconnected goals – equity, climate, safety, mobility, and the economy.
  - Goal 2: Safe System has two objectives:
    - Objective 2.1 Vision Zero – **Eliminate fatal and severe injury crashes for all modes of travel by 2035.**
    - Objective 2.2 Transportation Security – **Reduce the vulnerability** of travelers and critical passenger and freight transportation infrastructure to crime and terrorism.
  - Goal 3: Equitable Transportation identifies two objectives - Transportation Equity and Barrier Free Transportation.
  - Objective 5.5 Adaptation and Resilience – Increase the resilience of communities and regional transportation infrastructure to the effects of climate change and natural hazards. The plan notes the damage of extreme natural events and climate related events on transportation system safety and identifies policies to making our transportation system safe, reliable, healthy, and affordable.
  - Performance Measures:
    - **Serious Crashes:** Eliminate transportation related fatalities and serious injuries for all users of the region's transportation system by 2035, with a sixteen percent reduction. The region is not on track to meet its target of reducing fatal and serious injury crashes to zero by 2035.
    - **Safe system completion and equity:** The RTP prioritizes completing the bicycle and pedestrian system in equity focus areas (relative to other communities) to provide safe streets for the most vulnerable travelers.
- **Overarching Safety and Security Policies:**
  - Safety Strategy employs a safe system approach.
  - **Regional transportation safety strategies:** Protect vulnerable users and reduce disparities, design roadways for safety, reduce speeds and speeding, address aggressive and distracted driving, address impaired driving and ongoing engagement and coordination.
  - The Plan identifies **9 safety and security policies** including Vision Zero approach, increasing safety for all modes, prioritizing investments based on equity needs and high injury network. (pages 3-28 to 3-31)
- **Pricing and safety:** A combination of lower VMT, as a result of pricing, and reinvestment of pricing revenue in projects that increase safety can lead to decreases in crashes and injuries in and around priced facilities or areas in the long term. The pricing policies should center equity, address traffic safety and the safety of users of all travel modes, both on the priced system and in areas affected by diversion.
- **Mobility Policies:**
  - Equity – Black, Indigenous and people of color (BIPOC) community members, federally recognized tribes, and people with low incomes, youth, older adults, people living with disabilities and other marginalized and underserved communities experience equitable mobility.
  - People can travel safely and comfortably and feel welcome.
- **Design principles:** Design with a safe system approach, Design for safe speeds, Design for all users, and Design for personal security and equity.
- **Green infrastructure for a Safe System:** Street trees and other green infrastructure can help calm traffic to desired speeds, provide welcoming places that increase security, and improve resiliency and reduce impacts of major storm events.
- **Arterials:** 60 percent of the region's fatal and severe injury crashes occur on arterials and should be high priority, with a focus on the region's high injury corridors.



- **Transit Policy 1:** Provide a high quality, safe and accessible system that makes transit a convenient and comfortable transportation choice for everyone to use.
- **Regional freight Network Policies** include eliminating fatalities and serious injuries caused by freight vehicles.
- Regional Active Transportation Plan guides the development of the regional active transportation network
- Agencies should continue to pursue alternatives to policing (e.g., TriMet's Safety Response Team) that discourage harassment without enforcement.
- **Regional Bicycle Network Policies:**
  - Bicycle Policy 1 - Make bicycling the most convenient, safe, and enjoyable transportation choice for short trips of less than three miles.
  - Bicycle Policy 3. Complete a green ribbon of bicycle parkways as part of the region's mobility strategy.
- **Regional Pedestrian Network Policies:**
  - Policy 1. Make walking the most convenient, safe, and enjoyable transportation choice for short trips of less than one mile.
  - Policy 2: Complete a well-connected network of pedestrian routes and safe street crossings
- **TSMO Policy 5.** Improve incident detection and clearance times on the region's transit and motor vehicle networks to reduce the impact of crashes on the transportation system.
- Opportunities for jurisdictional partners to further advance RTP goals in the near term
- Safety Analysis:
  - Traffic fatalities in the Portland region have been increasing for users of all modes, except for people bicycling.
  - Pedestrians experience a disproportionately high number of traffic deaths.
  - There is a high level of overlap between the updated 2023 High Injury Corridors and those identified in the 2018 RTP.

Figure 4.13: All crashes and fatal crashes by mode, 2016-2020 (ODOT data, analyzed by Metro staff)



- Regional transportation agencies can advance equity by investing in transit service and safe biking and walking infrastructure in Equity Focus Areas (EFAs), which are communities with concentrations of people of color, people with low incomes, and people with limited English proficiency.
- EFAs are located throughout the region, and there are **large concentrations of all three EFA populations in East Portland and Multnomah County.** Three quarters of serious pedestrian and bicycle crashes and 65% of all serious crashes occur in Equity Focus Areas. Across the short-term and long-term constrained project lists, 451 projects are identified as safety benefit projects
- Metro's regional Safe Streets for All program activities support advancing the Safe System approach to achieve regional safety goals, policies, and targets, including zero serious crashes by 2035. Program activities are consistent with strategies and actions in the 2018 Regional Transportation Safety Strategy, the Regional Safe Routes to School Program, and local and state safety plans.
- Regional mobility corridor recommended for future refinement planning in East Multnomah County: Mobility Corridor #24 - Clackamas to Columbia Corridor Plan (Gresham/Fairview/Wood Village/Troutdale to Damascus).



### 3.14. Metro Regional Transport Safety Strategy

Year Adopted: 2018

Lead Agency: Metro

**Plan Description:** The Regional Transport Safety Strategy aims to achieve Vision Zero in the greater Portland region by employing a safe system approach with an adopted goal to eliminate deaths and severe injuries for all users of the transportation system by 2035. The Strategy sets regional transportation safety policy and provides a framework to achieve Vision Zero goals. The Regional Safety Strategy is a topical plan of the Regional Transportation Plan (2018).

**Relevant discussions and recommendations:**

- **Top findings:**
  - Traffic deaths are increasing and are disproportionately impacting people of color, people with low incomes and people over age 65.
  - Traffic deaths are disproportionately impacting people walking.
  - A majority of traffic deaths are occurring on a subset of arterial roadways.
- **Policy framework:** Sets ambitious transportation goals, brings in the Safe systems approach to transportation planning, uses a data-driven approach, applies social equity and public health perspectives, and recognizes vulnerable road users.
  - Seven guiding Principles of a Safe System Approach are set out in pgs 18-19.
  - The nine policies set out in the 2016 Oregon Transportation Safety Action Plan, which support the 2035 Vision Zero goal, are set out in pgs 43-45.
  - The Regional Safety Strategy strategies and actions are recommended best practices and are not mandated.
  - Arterial roadways have the highest percentage of serious crashes.
  - Wider roadways are the location of a disproportionate number of serious crashes in relation to both their share of the overall system and the vehicle-miles travelled they serve.
  - Intersection design is critical to bicycle safety.
  - Strategies: Protect vulnerable users and reduce disparities, design roadways for safety, reduce speeds and speeding, address aggressive and distracted driving, address impaired driving and ongoing engagement and coordination. Each of these strategies have numerous action items that give specific guidance to achieve intended goals.
- List of High Injury Corridors are set out from pgs 135 – 144.



### 3.15. METRO Regional Transit Strategy

Year Adopted: 2018

Lead Agency: Metro

**Plan Description:** The Regional Transit Strategy (RTS) was created to highlight the region's plans for meeting our future transit goals with a shared vision to make transit more frequent, convenient, accessible, and affordable for everyone. The actions developed to support this vision are aimed at making transit more frequent, convenient, accessible, and affordable for all. It is a comprehensive assessment of our transit priorities for the greater Portland region.

**Relevant discussions and recommendations:**

- The Regional Transit Vision will be implemented through improving transit service, investing in transit infrastructure, collaborating between transit providers and local jurisdictions, and expanding transit supportive elements.
- Provide a seamless, integrated, affordable, safe, and accessible transit network (Policy 1, page '4-11')
- Make transit more accessible by improving pedestrian and bicycle access (Policy 6, page '4-11')
- Transit supportive elements include programs, policies, capital investments and incentives such as Travel Demand Management and physical improvements such as sidewalks, crossings, and complementary land uses.
- One aspect of accessibility is to ensure that transit is physically accessible to everyone, regardless of age or ability. The first/last mile is also an important part of accessibility, as it often represents the best opportunity for people living in rural towns or outlying areas to access our transit system.
- A foundational element of the transportation equity evaluation of the 2018 RTP investment strategy was based on defining equity focus areas.
- Engagement with historically marginalized communities identified accessibility, affordability, safety, and environmental health as priorities in the transportation system.
- Recommendations related to safety include
  - Make more near-term progress on key regional priorities including safety and equity.
  - Make more near-term progress to reduce disparities and barriers that exist for historically marginalized communities.
  - Prioritize projects that focus on safety in high injury corridors.
- Actions are developed to make transit more accessible that provide safe and direct biking and walking routes and crossings that connect to transit stops to ensure transit services are fully accessible to people of all ages and abilities.
- Gresham Transit Center access & design enhancements is noted in the RTP investment strategy (Page '6-19')
- Portland to Gresham in the vicinity of Powell Corridor remains a future high-capacity transit project, while the Portland to Gresham in the vicinity on SE Division St is a high-capacity transit project under development
- In East Multnomah County, Roads and bridges projects comprise a majority of costs and number of projects due in large part to the County's six Willamette River bridges.
- There is a relatively moderate increase from 2015 to 2040 Constrained for travel in East Multnomah County.
- **Measuring Progress:** System completeness, access to bicycle and pedestrian parkways, and congestion are highly correlated with achieving safety and security goals.
- Mobility Corridors Recommended for Future Corridor Refinement Planning include Mobility Corridor #24 - Clackamas to Fairview/Wood Village/Troutdale, which includes OR 212 and Sunrise Corridor.



### 3.16. Multnomah County Road Rules

Year Adopted: 2020

Lead Agency: Multnomah County

**Plan Description:** The purpose of these rules is to govern the administration of roads under the jurisdiction of Multnomah County. These rules are the “Street Standards Rules” and are one of the implementation tools for establishing standards for street design and improvements. It sets out the process and procedures for Development Review and Permitting and refers to the Design and Construction Manual for certain standards.

**Relevant discussions and recommendations:**

- Refers to and often requires adherence American Association of State Highway and Transportation Officials (AASHTO) guidelines, Design or Construction Manual, or other Multnomah County Codes including for access management.
- Several standards are associated with site development. Transportation impact of site developments are to be determined based on calculations from the most recent edition of the Institute of Transportation Engineers’ Trip Generation or impact study conducted by a professional engineer. County policy could require off-site improvements as a condition of a site development permit to satisfy safety requirements.
- In addition to easement and right-of-way dedication requirements, a prorate share may include half-street improvements along all the site’s County Road frontage(s). Half-street improvements can include curb and sidewalk improvements, traffic controls, lighting facilities and bicycle facilities, among others.
- In addition to standard cross sections set forth in the Multnomah County Design and Construction Manual (See section 3.17 - Multnomah County Design and Construction Manual), corridor specific cross-section overlay design could be developed for all or a portion of a County Road. The overlay cross sections must be developed in cooperation with any cities through which the road passes and adopted by the Board.
- Right of way improvements may be imposed on local access roads to address factors including traffic safety, traffic conditions, bicycle access, pedestrian access, and vegetation.
- Trucks of any size and transit vehicles are prohibited on local roads within the County’s jurisdiction that are not arterials or collectors.
- Permitting processes for various permits and possible variances, including for safety reasons, are detailed in the document.

### 3.17. Multnomah County Design and Construction Manual

Year Adopted: 2002

Lead Agency: Multnomah County

**Plan Description:** The Manual provides the standards for access management, road construction, traffic management, street lighting, and pavement design, among others. It is currently in the process of being updated. A table of Contents and framework is close to being finalized (May 2024), with Phase II (the actual update of County specific standards) likely to begin in 2025. The manual will complement other County projects and initiatives, especially SS4A Safety Plans.

**Relevant discussions and recommendations:**

- **Traffic Planning:** Access management will be important for improving safety, traffic efficiency, and to reduce travel times.
  - Minimum Traffic Signal Spacing based on functional classification of roads – see Table 1.2.1 Minimum Traffic Signal Spacing Standards on page 1-8. But signals closer than the minimum standard spacing can be considered to improve vehicle capacity and safety. Alternatives to signals should be investigated and final decisions shall be made on a case-by-case basis.
  - Standards to Non-Traversable Median Openings and public intersection spacing are included.



- Minimum distance between a mid-block crosswalk and an intersection crosswalk shall be such that pedestrians do not need to walk more than 45 m to reach either a crosswalk or an intersection in fully developed urban areas and 90m in other urban areas.
- **Geometric Design**
  - For design standards, current AASHTO Standards and Manual of Uniform Traffic Control Devices are used, among others.
  - Roadway Cross sections: For each street functional classification, minimum, preferred, and maximum cross section are recommended.
    - Urban Arterials: They can be as wide as 7 lanes and either a raised median or center two-way left turn lane are required on all arterials. Bicycle lanes are required on all urban arterials.
    - Urban collectors: Three lane facilities and should have striped bicycle lanes, detached sidewalks, and on-street parking lanes on both sides.
    - Urban local streets: They have on-street parking and bikes share pavement with vehicles.
    - Rural Arterials, Collectors, and Local Streets: Paved shoulders are needed to accommodate bikes and pedestrians and in areas with anticipated equestrian use, a portion of the shoulder will need to be gravel.
    - Variance from Preferred Standards can be made for a variety of reasons including improvements to traffic safety.
  - ADA standard sidewalk ramps shall be provided at all corners of all Multnomah County intersections which have sidewalks within the urban growth boundary.
  - In areas with on-street parking and where treatments are needed to reduce pedestrian crossing distance and improve pedestrian circulation, curb extensions can be provided.
- **Traffic Engineering Design**
  - All intersections should have pedestrian crossings unless a dangerous situation requires the removal of a crossing.
  - Parallel pavement markings shall be used for crosswalks at signalized or stop-controlled crosswalks.
  - Ladder pavement markings shall be used for crosswalks at school crossings, mid-block crosswalks, pedestrian flasher crossings, and other crosswalks as determined by the county engineer.
  - Provides standards and guidelines for using speed bumps in "local streets" or "neighborhood collectors."
- AASHTO design methods as in the latest AASHTO Guide for Design of Pavement Structures shall be used as a standard.
- **Street Lighting:** Minimum Average Maintained in Lux for street lighting according to each street classification and other pedestrian or bicycle ways are provided.
- **Transit:**
  - The standards for transit facilities on Multnomah County roadways shall follow those set forth by Tri-Met.
  - 10 and 15 lux of illumination should be provided at each bus stop for providing transit users with a sense of security and to provide adequate visibility for bus operators.
- **Landscape Treatments:** Landscape treatments can be based on zoning, street classification and within Metro design guidelines framework with intended goals of providing a safe environment, supporting regional multi-modal travel, and creating pedestrian and bicycle accessibility. Planting strips in pedestrian spaces are intended to provide physical and psychological buffer for pedestrians from traffic.