

**2016 Fairview
Transportation System Plan:
DRAFT Volume I**



September 2016

Fairview

Transportation System Plan

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Volume 2 Contents

Volume 2 of the Fairview Transportation System Plan includes all background memoranda, meeting summaries, and technical data that were the basis for developing the Fairview Transportation System Plan.

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Context

Setting

The City of Fairview is located along Interstate 84 (I-84) approximately 15 miles east-northeast from downtown Portland in northern Multnomah County. Fairview borders the Columbia River and offers the charms of a small town community while providing convenient access to the many opportunities offered within the Portland Metropolitan Area.

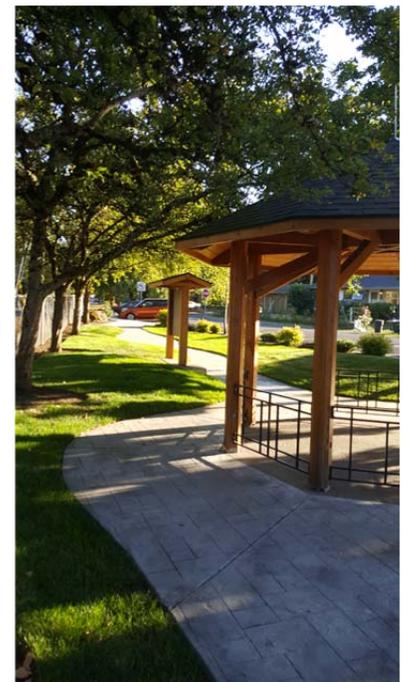
The city provides attractive neighborhoods, a diverse mix of commercial and employment areas, and numerous public parks, pathways (trails), and attractions. The attractiveness of the community is evident by the population growing approximately 18 percent from 7,561 in 2000 to 8,920 in 2010, according to the U.S. Census.

Fairview is organized around its outstanding neighborhoods, natural attractions, and critical transportation facilities. Neighborhoods include historic Old Town Fairview and Fairview Village, an award-winning mixed-use planned development which contains the city hall, schools, homes, and shopping.

Fairview also provides many opportunities for recreational activities, including access to the Columbia River, Blue and Fairview Lakes, and Salish Ponds. The city includes Chinook Landing Marine Park, Blue Lake Regional Park, and numerous city parks, pathways, and open spaces.

I-84 traverses east-west through the center of Fairview. Major east-west streets include NE Marine Drive, NE Sandy Boulevard, NE Halsey Street, and NE Glisan Street. Key north-south roadways include NE 201st Avenue, Fairview Parkway, and NE 223rd Avenue.

Figure 1 shows the roadway network of the city, along with eight study intersections of the Transportation System Plan.

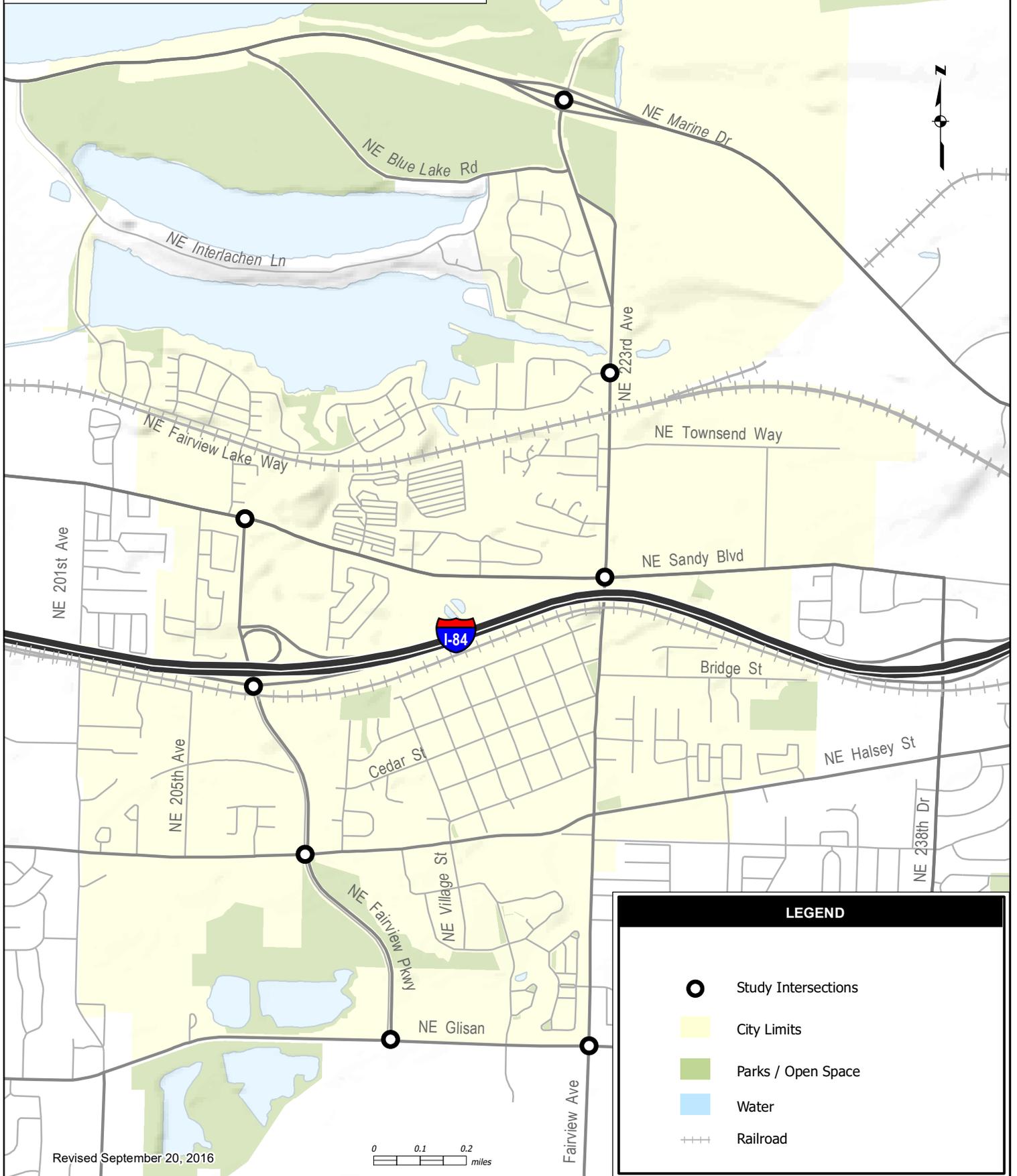


FIGURE

1

City of Fairview
TRANSPORTATION SYSTEM PLAN

Study Area



Revised September 20, 2016

0 0.1 0.2 miles

LEGEND

- Study Intersections
- City Limits
- Parks / Open Space
- Water
- ++++ Railroad

Context

Challenge

The role of the Transportation System Plan (TSP) is to guide how the long-range transportation needs of the community will be addressed. As Fairview grows to accommodate new businesses, residents, and visitors, the city faces a challenge to preserve and improve the transportation network that people rely upon. The TSP is an important “first step” toward implementing transportation improvements that will serve the expected future growth and address the current transportation issues in the city.

Significant changes have occurred in Fairview since the adoption of the 1999 TSP. This update reflects changes in existing conditions, needs through the year 2035, new state and regional policies, and new city and partner agency priorities.

The TSP includes an updated inventory of existing conditions, a new assessment of future transportation conditions, plans for improvements to the transportation system for all modes (e.g. roadway, pedestrian and bicycle), transportation policies and performance measures, and a financing and implementation plan. The financing plan will inform the identification of a “financially-constrained” set of projects that are likely to be constructed during the 20-year planning period.

The TSP will assist Fairview in competing for funding of transportation projects by establishing community support and identifying priority improvements. This TSP update prioritizes community investments that:

- Provide for complete roadway corridors including walking and biking facilities that make active transportation connections more convenient, direct, and comfortable.
- Increase safety for everyone using the roads.
- Enhance popular recreational opportunities on pathways and in parks around Fairview.
- Support freight and other commercial activities.

The TSP focuses on making travel safer and more convenient for Fairview residents, businesses, and visitors.

The TSP is an important “first step” to assist Fairview in competing for funding of transportation projects.

Fairview in 2035

To determine needed investments for the city's transportation system, the project team reviewed current travel conditions and forecasted travel trends through 2035. The 2014 American Community Survey estimates Fairview's population at 9,218, close to the city's Comprehensive Plan build-out forecast of 10,500. As a result, the city expects relatively little growth in the number of households in Fairview.

The relatively small residential growth stands in contrast to the projected employment growth, which is expected to nearly double. Over 4,000 new jobs are expected to be added in Fairview by 2035.

Table 1: Land Use Control Totals (Fairview UGB Total)

Land Use Category	2015	2035	Growth
Households	4,591	4,929	339 (7%)
Employment	4,057	8,079	4,022 (99%)

Source: Metro Regional Travel Demand Forecast Model (2010 and 2040)

Note: Fairview Transportation Analysis Zone (TAZ) boundaries do not precisely correspond to city limits. Values shown in Table 1 include Metro TAZs 601 and 606-619.

TSP Volume II (Section E) includes details related to land use assumptions and traffic forecasts. The general areas with the largest employment growth include:

- Industrial areas north of I-84 and east of NE 223rd Avenue (approximately 1,700 new jobs)
- Commercial and industrial lands on either side of NE Sandy Boulevard west of NE 223rd Avenue (approximately 1,000 new jobs when including adjacent employment areas in Gresham)
- Fairview Village and Town Center area, near NE Halsey Street and Fairview Parkway (approximately 600 new jobs)

Fairview is expected to add about 4,000 jobs by 2035, nearly doubling current employment in the city.

Future land use development estimates are developed by Metro

Context

Purpose

The TSP prepares Fairview for accommodating travel in the best manner possible through 2035.¹ The long-term view will guide city actions in developing and maintaining transportation network performance more efficiently than a piecemeal approach. The plan attempts to balance the needs of walking, bicycling, driving, transit, and freight in a manner that reflects community values and protects what makes Fairview a great place to call home, do business, and visit.

As the transportation element of the city’s Comprehensive Plan, the TSP embodies the community’s vision for an equitable, efficient, and financially stable transportation system. The TSP outlines strategies and projects that are important for protecting and enhancing the quality of life in Fairview. It includes a collection of current data, future forecasts, project ideas, decisions, and standards in a single document. The city, Multnomah County, Metro, private developers, and state or federal agencies all have a role in implementing elements of the TSP.

By setting priorities for available and anticipated funds in the planning period, the TSP provides a foundation for budgeting, grant writing, and requiring public improvements of private development. It also identifies and advocates for the projects and services that the city would like to implement, but cannot reasonably expect to fund in the next 20 years.

The State of Oregon requires a TSP to integrate the city’s investment plans into the statewide transportation system. TSP Volume II, Section C presents the larger planning context, including details of applicable statewide plans and regulations that guide the TSP.

The Fairview TSP update is the result of a collaboration between city staff, various public agencies, key stakeholders, the community, and consultants. The Project Management Team (PMT) guided the process of updating the TSP and included staff from the City of Fairview, ODOT, and the consultant team. Throughout this process, the PMT took time to understand multiple points of view, obtain fresh ideas, and encourage broad participation, as it collected and analyzed data and developed possible solutions.

- Local plans and documents considered in the TSP include:
- Metro Regional Transportation Plan (2014)
 - East Metro Connections Plan (2012)
 - TriMet Eastside Service Enhancement Plan (2015)
 - Sandy Boulevard Corridor Refinement Plan (2001)
 - Halsey Street Conceptual Design Project (2005)
 - Metro Regional Trails and Greenways Plan (2014)
 - Columbia-Cascade River District Economic Development Plan (2007)
 - Comprehensive Plan
 - Development Code

¹ The TSP horizon year was set to 2035 to align with the findings of the East Metro Connections Plan.

Public Involvement

Conversations with Fairview's Community Advisory Committee, residents, and business representatives were vitally important to the TSP update process.

The PMT received public input through the Community Advisory Committee, Technical Advisory Committee, a project website, and community events. The Public Involvement Plan (TSP Volume II, Section B) identified strategies for community engagement and stakeholder feedback early in the TSP Update process.

The Community Advisory Committee (CAC) engaged directly with the PMT throughout the update, reviewing and commenting on technical memoranda and meeting with the project team at four key stages during the project. The CAC helped to identify agreement on project issues and alternatives, and included voices from a range of community members and interests. The Technical Advisory Committee (TAC) included government agency representatives, key technical staff, and transit service providers. The TAC met three times to help guide the issues, needs, and solutions. The TAC also reviewed analysis results and discussed recommended solutions.

The city hosted a project website² that the PMT regularly updated. The website provided an opportunity to share TSP progress with the community. TSP materials and interactive surveys allowed the public to give their thoughts on transportation issues in Fairview and to explore possible solutions.

The PMT also held three community events to engage the public at critical stages of the update. Each TSP Open House gave residents and the broader community an opportunity to learn more about the project, review analysis results, provide ideas for solutions, and express their thoughts on priorities to improve the transportation system. The community events occurred on the following dates:

- Open House #1 – March 14, 2016
TSP Process, Goals & Objectives, Needs
- Open House #2 – August 2, 2016 (National Night Out)
Potential Projects & Solutions
- Open House #3 – September 15, 2016 (NeighborFair)
Review Draft TSP

² <http://fairvieworegon.gov/index.aspx?NID=448>

Process

TSP Development

The public involvement process occurred throughout the TSP update, as illustrated in Figure 2. The PMT reviewed and suggested revisions for each memorandum generated through the TSP update process and then distributed to a wider audience via the project website. The project team incorporated input from the CAC, TAC, and public into the final memoranda. TSP Volume II presents each of these memoranda, which serve as the basis of the content presented in the TSP.

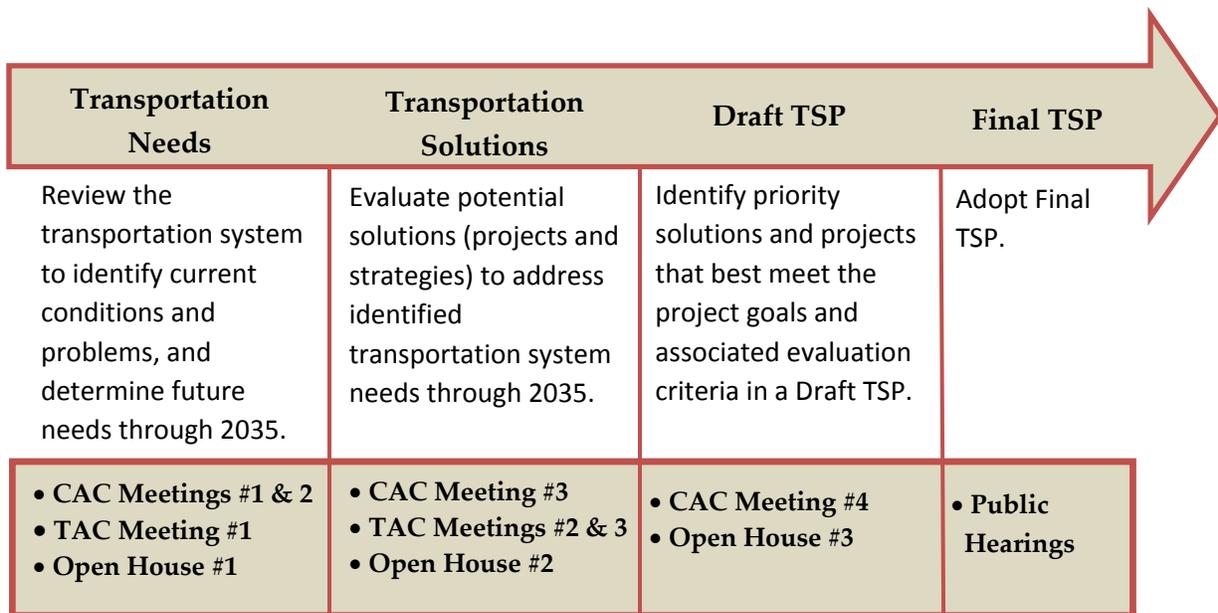


Figure 2: The TSP Process



Community Engagement

Goals, objectives, and policies that reflect the community's values and priorities embody the vision for the 2016 Fairview TSP. The goals, objectives, and policies integrate ideas from the previous TSP with more recent plans.

The goals, objectives, and policies provide a guide for the city's future actions.

The transportation goals set local priorities for TSP implementation by identifying desired outcomes or community characteristics. Objectives provide stepping-stones for achieving the goals. Policies guide future land use decisions and set out specific city actions to achieve the goals and objectives of the TSP.

The PMT also used the goals and objectives to define evaluation criteria that guided the development of solutions and identification of priorities during the TSP Update.

Goal I - Livability

Plan, design and construct transportation facilities in a manner that enhances the livability of Fairview.

- **Objective 1:** Maintain the livability of Fairview through proper location and design of transportation facilities.
- **Objective 2:** Provide direct, safe, and secure pedestrian, bicycle, and transit access to support active transportation connections between key activity centers, transit services, and existing (and planned) transportation facilities.
- **Objective 3:** Protect neighborhoods from excessive vehicular through traffic and travel speeds while providing reasonable access to and from residential areas.

Policy 1: The city shall develop and maintain design and spacing standards for roadways based on the roadway functional classification system and in consideration of surrounding land uses.

Policy 2: The city shall develop and maintain design and spacing standards for active transportation facilities (including sidewalks, pathways, and bike routes).

Policy 3: The city shall consider applying neighborhood traffic management strategies in residential areas with excessive traffic volumes or speeds.

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

Vision

Goal 2 - Balanced Transportation Choices

Provide legitimate choices for travelers in Fairview by developing a well-connected and balanced transportation system for all modes of transportation.

- **Objective 1:** Develop and implement roadway design standards that recognize the multi-purpose nature of the right-of-way for utility, pedestrian, bicycle, transit, truck and auto use.
- **Objective 2:** Coordinate with Tri-Met to improve transit services in Fairview.
- **Objective 3:** Provide direct access to bicycle facilities at all major activity centers (such as trails, schools, parks, public facilities and retail areas).
- **Objective 4:** Provide direct access to sidewalks or pathways at all major activity centers (such as trails, schools, parks, public facilities and retail areas).
- **Objective 5:** Develop active transportation facilities that serve recreational users and link to recreational pathways.
- **Objective 6:** Provide local street connections to minimize out-of-direction travel, especially for people who walk and bike.
- **Objective 7:** Support transportation demand management (TDM) programs and strategies.
- **Objective 8:** Support land use development that is compatible with transportation connections for bicycle, pedestrian and transit travel.

Policy 1: The city shall develop and maintain a transportation system that reasonably accommodates all modes of travel (including motor vehicles, bicycles, and pedestrians).

Policy 2: The city shall coordinate with TriMet to support transit service improvements for Fairview, including those identified in the TriMet Eastside Service Enhancement Plan.

Policy 3: The city shall support Tri-Met transit services by providing, or requiring through the development approval process, bicycle and pedestrian connections to transit stops and seeking opportunities to develop transit-supportive land uses.

Policy 4: All newly constructed (or reconstructed) streets in Fairview where average daily traffic volumes are expected to exceed 3,000 vehicles per day (through the future horizon year) and vehicle speeds are expected to exceed 30 miles per hour shall include bicycle lanes.

Policy 5: All newly constructed (or reconstructed) streets in Fairview shall include sidewalks except where a specific alternative plan has been developed (e.g., Fairview Village Plan).

Policy 6: The city shall develop and maintain a transportation system that supports recreational uses (i.e., travel for exercise or enjoyment).

Policy 7: The city shall apply spacing standards for local or neighborhood street connections associated with new development to be no more than 530 feet apart and active transportation connections to be no more than 330 feet apart, wherever feasible.

Policy 8: The city shall support bicycle and pedestrian connections between activity centers, streets, and other transportation facilities.

Policy 9: The city shall support the implementation of local, regional, and statewide Transportation Demand Management (TDM) programs and strategies to encourage shifts to off-peak travel periods and reductions in overall motor vehicle trips.

Policy 10: The city shall support land uses that support transit service and accommodate pedestrian and bicycle connections.

Goal 3 - Safety

Strive to achieve a safe transportation system by developing facility design standards, access management policies and speed controls that consider all modes of transportation.

- **Objective 1:** Relate transportation facility design to the intended use and be sensitive to context, including the needs of other agencies and neighboring communities.
- **Objective 2:** Maintain transportation infrastructure to safe standards.
- **Objective 3:** Provide safe and secure active transportation facilities and crossings that create connections between activity centers in Fairview.

Vision

- **Objective 4:** Designate safe and secure routes to all schools.
- **Objective 5:** Implement access management standards for arterial and collector streets that are consistent with ODOT, Metro and Multnomah County policies and standards, where applicable.
- **Objective 6:** Use available historical crash data to identify, evaluate and prioritize high accident locations within the city.
- **Objective 7:** Improve transportation safety through a comprehensive program of engineering, education and enforcement.
- **Objective 8:** Meet Illuminating Engineering Society (IES) lighting standards for all new roadways and retrofit existing roadways to provide energy efficient roadway lighting.

Policy 1: The city shall support safe travel for all users through safe facility design, traveler education, and law enforcement.

Policy 2: The city shall consider safety and security for all travelers in the design of active transportation facilities and roadway crossings.

Policy 3: The city shall consider context sensitive design exceptions to react to practical needs of individual cases or to limit environmental and cost impacts, as long as the basic needs of the transportation system are met.

Policy 4: The city shall support application of Multnomah County design standards for arterial and collector streets under Multnomah County jurisdiction.

Policy 5: The city shall apply jurisdictionally appropriate access spacing standards as part of development review and to all new road construction. For roadway reconstruction, reasonable solutions (e.g., consolidating driveways) shall be required to more closely meet adopted standards.

Policy 6: The city shall coordinate with agency partners to review historical crash data and systematically identify, prioritize and remedy transportation safety issues.

Policy 7: The city shall maintain transportation facilities under city jurisdiction and coordinate with Multnomah County and/or ODOT for the maintenance of other transportation facilities within the city.

Policy 8: The city shall require any proposed development that includes more than 10 dwelling units or generates at least 100 vehicle trips per day to provide a transportation impact analysis pursuant to requirements in the Fairview Development Code.

Policy 9: The city shall partner with each school to identify safe routes to school and require residential development to identify and support safe routes to school.

Policy 10: 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 11: The city shall require all new streets to meet IES lighting standards.

Goal 4 - Performance-Based Management

Manage the transportation system based on performance measures set and maintained by the city.

- **Objective 1:** Maintain a minimum intersection Level of Service (LOS) standard for the City of Fairview.
- **Objective 2:** Establish parking ratios to provide adequate parking, while providing an incentive to limit the use of single occupant vehicles.
- **Objective 3:** Provide a cost-effective transportation system where the public, land use developers and users pay their respective share of the system's costs proportional to their respective demands placed upon the multi-modal system.
- **Objective 4:** Prioritize transportation solutions that help to advance multiple goal areas.
- **Objective 5:** Strive to reduce total vehicle miles traveled (VMT) in Fairview and the region.

Policy 1: The city shall apply Level of Service (LOS) D (as defined by the Highway Capacity Manual) as the minimum performance standard for roadway intersection traffic operations on roadways under city jurisdiction. Exceptions to these standards may be applied under

Vision

specific circumstances where approved by the Public Works Director. At intersections with multiple roadway jurisdictions the city shall defer to the mobility standards of the partner agency.

Policy 2: The city shall identify parking standards that encourage travel by active transportation modes (e.g., bicycle, pedestrian, transit) in the development code.

Policy 3: The city shall consider proportional, sustainable, and equitable funding sources to maintain and improve the transportation system.

Policy 4: The city shall prioritize transportation investments where multiple goals and objectives can be met (e.g., supporting active transportation connections, improving safety, enhancing neighborhood livability).

Policy 5: The city shall consider opportunities and strategies aimed at reducing vehicle miles traveled (VMT).

Goal 5 - Accessibility

Develop transportation facilities that are accessible to all members of the community and minimize out of direction travel.

- **Objective 1:** Design and construct transportation facilities to provide equitable access and barrier-free transportation choices for all people.
- **Objective 2:** Develop neighborhood and local connections to provide adequate circulation in and out of the neighborhoods.
- **Objective 3:** Coordinate with Multnomah County, Metro, and ODOT to develop an efficient arterial grid system that provides access within and through the city.
- **Objective 4:** Reduce total housing and transportation costs for residents of Fairview.
- **Objective 5:** Strive for equity in the distribution of benefits from potential transportation improvements and work towards fair transportation access for all users.

Policy 1: In planning for, approving, and funding improvements to the transportation system the city shall consider the needs of all people, including low income, children, elderly, and those with disabilities.

Policy 2: In planning for, approving, and funding improvements to the transportation system the city shall consider the distribution of benefits and impacts for all people, including (but not limited to) low income, children, elderly, and those with disabilities.

Policy 3: All newly constructed (or reconstructed) transportation facilities in Fairview shall meet the requirements of the Americans with Disabilities Act.

Policy 4: The city shall encourage transportation system investments that allow housing diversity and mixed land uses and help reduce the total housing and transportation costs for residents of Fairview.

Policy 5: The city shall support reducing transportation costs in the community through development of pedestrian and bicycle access to transit services.

Goal 6 - Efficiency

Provide for efficient movement of goods and services.

- **Objective 1:** Reduce travel times and improve travel time reliability for all modes including freight and transit.
- **Objective 2:** Require safe routing of hazardous materials consistent with federal and state guidelines.
- **Objective 3:** Work with Multnomah County, Metro and ODOT to develop, operate and maintain intelligent transportation systems and technological solutions that reduce travel delay and improve system efficiency, including coordination of traffic signals and improved traveler information.

Policy 1: The city shall support travel strategies identified in the Metro Regional Mobility Corridors, East Metro Connections Plan, and other plans and programs that support efficient goods movement.

Policy 2: The city shall coordinate with federal agencies, the Public Utility Commission, the Oregon Department of Energy and Oregon Department of Transportation as needed to assure consistent laws and regulations for the transport of hazardous materials.

Vision

Policy 3: The city shall support technological strategies and tools such as active management (TSMO) techniques and Intelligent Transportation Systems (ITS) solutions where appropriate to improve travel efficiency.

Goal 7 - Coordination

Implement the Transportation System Plan (TSP) in a coordinated manner.

- **Objective 1:** Coordinate and cooperate with adjacent communities and partner agencies (including Multnomah County, Wood Village, Troutdale, Gresham, Metro and ODOT) when necessary to develop transportation projects which benefit the region as a whole in addition to the City of Fairview.
- **Object 2:** Consider overall transportation system costs and benefits when identifying project solutions and prioritizing public investments.

Policy 1: The city shall maintain plan and policy conformance to the Oregon Transportation Plan, Regional Transportation Plan and Transportation Planning Rule (OAR 660-012).

Policy 2: The city shall seek opportunities to collaborate with neighboring communities and partner agencies on identifying and funding transportation projects.

Policy 3: The city will consider impacts to the overall transportation system when evaluating transportation improvements within Fairview.

Goal 8 - Health

Develop the transportation system to support healthy and active living choices for community members.

- **Objective 1:** Provide an environment in which people are encouraged to walk, bike, or use other active modes of transportation.
- **Objective 2:** Provide comfortable active transportation facilities for all ages and ability-levels.
- **Objective 3:** Minimize negative impacts to the natural environment.
- **Objective 4:** Reduce vehicle emissions in the community.

Vision

Policy 1: The city shall seek opportunities to remove barriers to travel that create indirect, difficult, or uncomfortable travel for active transportation modes.

Policy 2: The city shall support and encourage the provision of active transportation amenities such as bicycle parking and transit stop shelters.

Policy 3: The city shall support development of active transportation facilities for all ages and ability levels.

Policy 4: The city shall support less able travelers choosing to walk or bike in Fairview by developing a well-linked network of comfortable walking and biking routes through applications such as low-speed streets, separated facilities (e.g., pathways), and high-visibility crossings.

Policy 5: The city shall strive to avoid adverse impacts to the scenic, natural, and cultural resources in Fairview.

Policy 6: The city shall support strategies that aim to reduce greenhouse gas emissions and improve air and water quality.



Welcome To Fairview Sign

Needs

Fairview has many opportunities to improve the connectivity, safety, and performance of the transportation network. Smart investments will preserve, protect, and better connect the infrastructure in place.

Constraints and Challenges

Although Fairview is part of a larger metropolitan area, many destinations in the city are within reasonable walking or biking range. However, people may become discouraged from walking or biking when there are barriers to convenient connections to desired destinations. Examples of barriers in Fairview that limit direct and comfortable connections include:

- Limited crossing opportunities (e.g., I-84, railroads)
- Natural features (e.g., lakes, ponds)
- Infrastructure gaps (e.g., lack of sidewalks, inconsistent bike lanes)
- Uncomfortable travel conditions (e.g., along high speed or narrow roadways)
- Roadway network connectivity (e.g., cul-de-sacs, long blocks)

The north part of Fairview (north of NE Sandy Boulevard) has limited north-south street network connectivity due to barriers including I-84, Fairview and Blue Lakes, railroads, and established land uses. NE 223rd Avenue is the only roadway connection between NE Marine Drive and NE Glisan Street within Fairview. In consideration of established land uses in the area and given the regional importance of the nearby transportation facilities and natural resources, no new roadways will be considered in the TSP that would provide a major street alternative for north-south connections (between NE Halsey Street and NE Marine Drive).

Existing & Future Conditions Evaluation in TSP Volume II (Section E) includes information about traveler characteristics and a detailed description of the transportation system in Fairview.

NE 223rd Avenue is the primary north-south roadway connection within Fairview.

Safety

Traveler safety depends on transportation facility design and use. Proper design of transportation facilities includes consideration of multiple user types, access to facilities, operations, and maintenance. These factors can significantly affect transportation safety. The TSP uses historical crash data to identify locations where traveler safety issues were most critical.

Crash History

The updated safety analysis identified NE Sandy Boulevard and NE Halsey Street as roadway segments that have a high collision rate (greater than the statewide average for similar facilities). ODOT collision data from 2009 to 2013 and traffic volume data are used to calculate the collision rates. For more details about crash history analysis, refer to Vol. II, Section F.

The Safety Priority Index System (SPIS) is another source for identifying safety needs. SPIS is a tool developed by ODOT to identify locations with safety concerns, based on a combination of collision frequency, rate, and severity. I-84 at the Fairview Parkway interchange, NE 223rd Avenue near NE Halsey Street and NE 223rd Avenue near NE Glisan Street are among the top fifteen percent SPIS locations.

Further safety consideration is also appropriate near the intersection of NE Arata Road and Wood Village Boulevard, where a fatal collision occurred in 2012.

Roadway Access

Access management is a broad set of techniques that balance the need to provide for efficient and safe travel with the ability to allow access to individual destinations. Appropriate access management standards and techniques can reduce congestion and accident rates, and may lessen pressures to construct additional roadway capacity.

The amount of driveways along NE Sandy Boulevard and NE Halsey Street exceed the recommended number of approaches based on Multnomah County standards. While the high number of driveways improves access, it also reduces mobility and introduces potential conflicts that compromise safety for all users. In Fairview, the two roadway segments that do not meet access spacing standards

NE Sandy Boulevard and NE Halsey Street do not meet access (driveway) spacing standards and have high crash rates (compared to similar facilities).

Needs

correspond to the two roadway segments with high collision rates. For more details about access management and applicable standards, refer to Vol. II, Section F.

As redevelopment occurs and the city considers connectivity improvements, the city may pursue access management strategies to reduce driveway conflicts along NE Sandy Boulevard and E Halsey Street, as well as other roadways throughout the city.

Roadway Design

The TSP identifies design standards to support the intended function of transportation facilities consistent with the community vision. The TSP defines roadway design standards for roadways under city jurisdiction later in the TSP. Multnomah County and ODOT identify design standards for roadways under their jurisdiction.

Roadway improvements are needed to address the following list of design issues for major streets in the roadway network:

- NE 223rd Avenue south of I-84 (to NE Arata Road) does not meet Multnomah County standards and would benefit from multi-modal improvements that improve access, connectivity and safety.
- NE 223rd Avenue north of I-84 (to NE Marine Drive) narrows at the railroad bridge (located approximately 2,000 feet north of I-84) and does not currently provide consistent standard travel lanes, sidewalks, or bike lanes.



Railroad Bridge Crossing on NE 223rd Avenue

Many of the major streets in Fairview do not meet current roadway design standards.

- NE Arata Road (between NE 223rd Avenue and NE 238th Avenue) does not meet Multnomah County standards and would benefit from frontage improvements including sidewalk construction, lighting and landscaping.
- NE Sandy Boulevard does not meet Multnomah County standards or the standards defined in the Sandy Boulevard Corridor Refinement Plan. NE Sandy Boulevard west of NE 223rd Avenue should have a street design that supports neighborhood activities and safe bicycle and pedestrian travel. East of NE 223rd Avenue, NE Sandy Boulevard should support industrial and commercial uses.
- NE Glisan Street (between NE 201st Avenue and Fairview Parkway) does not meet Multnomah County standards. The East Metro Connections Plan identifies a need for bike lanes, sidewalks, on-street parking and four vehicle lanes.
- NE Halsey Street does not meet the downtown visions for Fairview, Wood Village, Troutdale or Multnomah County. The Halsey Street Conceptual Design Project and East Metro Connections Plan identify a need for a two-lane road with a median and/or turn lanes, full bike lanes, sidewalks, and pedestrian crossings).

This TSP updates design standards for city roadways and the city should implement these standards as part of the Development Code. This consistency provides clarity to support potential development opportunities and help to ensure consistency in roadway design throughout the city.

Infrastructure Maintenance

The condition of pavement, curbs, and other transportation infrastructure affects the comfort of all travelers but can also impact safety. Collision risk may be heightened when roadway markings are unclear or when loose or uneven pavement exacerbates slippery conditions. People walking or using bikes may be particularly sensitive to uneven pavement or poor striping.

The TSP does not prescribe maintenance strategies or priorities. Each of the agencies that have jurisdiction of roadways in the city: ODOT, Multnomah County, and the City of Fairview monitor the condition of pavement in Fairview.

Needs

Motor Vehicle

Safe and efficient motor vehicle transportation is critical for maintaining the economic vitality of Fairview. Many employers in the area depend on convenient roadway access, especially to connect to customers via I-84. Other employers need vehicle mobility to be maintained to meet business needs. Many residents of Fairview also rely on convenient travel to reach employment opportunities in and around the Portland Metro region.

Traffic Mobility

The TSP reviewed traffic operations under existing and future conditions at eight study intersections. The project team compared conditions during the PM peak hour to applicable mobility standards to identify deficiencies. Based on this analysis, the project team expects that three study intersections would fail to meet Multnomah County operational standards during the PM peak hour in the year 2035. These intersections are:

- NE 223rd Avenue at NE Glisan Street,
- NE 223rd Avenue at NE Marine Drive (westbound ramps), and
- NE 223rd Avenue at NE Fairview Lake Way.

The East Metro Connections Plan³ analyzed future traffic patterns between I-84 and US 26 for the year 2035. The Plan found that in 2035, more automobiles will travel between US 26 and I-84 via NE 238th Avenue and NE 242nd Avenue than via Fairview Parkway. However, due to the 40-foot truck length restrictions on 238th Avenue and NE 242nd Avenue between NE Halsey Street and NE Glisan Street, trucks are likely to use Fairview Parkway south of I-84 as an alternative to NE 238th Avenue and NE 242nd Avenue. Additionally, the plan anticipates a major bottleneck at the intersection of NE 223rd Avenue and NE Stark Street south of Fairview city limits. This bottleneck may influence drivers in Fairview to take alternate routes to get into or out of the city.

Ramp meter operations may affect future traffic performance on NE Fairview Parkway near the I-84 interchange. ODOT installed ramp meters on the westbound I-84 on-ramp but they are currently not in

³ East Metro Connections Plan, All vehicle and truck-only travel patterns between I-84 and US 26 (2010 and 2035), Page 11, June 2012.

Motor vehicle needs identified in the TSP build on previous findings from the East Metro Connections Plan and Metro RTP.

Refer to Vol. II, Section F for details about:

- Motor Vehicle Operations
- Applicable Mobility Standards
- Inventory of Roadway Facilities Inventory

Needs

use. If the ramp meters are turned on (during the morning peak) at some point in the future, traffic operations on NE Fairview Parkway will need to be monitored.

The TSP will identify solutions to address identified traffic congestion and mobility deficiencies:

- Traffic operations on Fairview Parkway between NE Sandy Boulevard and NE Glisan Street.
- Traffic operations on NE Glisan Street between Fairview Parkway and NE 223rd Avenue.
- North-south capacity that connects between NE Stark Street and NE Glisan Street between NE 201st Avenue and Fairview Parkway to accommodate forecasted future traffic volumes (per the East Metro Connections Plan).
- The NE 223rd Avenue and NE Glisan Street intersection is expected to fail to meet the signalized intersection operating standard in the year 2035 PM peak hour.
- Two stop-controlled intersections on NE 223rd Avenue are also expected to fail to meet the Multnomah County intersection operating standard during the 2035 PM peak hour when trying to make turns onto NE 223rd Avenue from NE Marine Drive (westbound ramps) and from NE Fairview Lake Way.



Fairview Parkway near I-84 Interchange

Needs

Roadway Connectivity

The ability to travel between different parts of the city conveniently and efficiently is an important part of transportation system planning. Poorly connected street networks can create out-of-direction travel, reduce access to services, increase emergency response time, discourage active transportation, and funnel traffic to one location, creating congestion. Well-connected local streets can also reduce demand for costly projects to widen arterial or collector roadways and construct traffic signals and turn lanes.

Major Street Network Connectivity

The Metro Regional Transportation Functional Plan⁴ (RTFP) identifies requirements for street network connectivity. The RTFP⁵ requires cities to incorporate “a network of major arterial streets at one-mile spacing and minor arterial streets or collector streets at half-mile spacing”.

In the north-south direction, the Fairview area has good arterial and collector connectivity with four north-south arterials or collectors across approximately two miles: NE 201st Avenue, Fairview Parkway, NE 223rd Avenue, and NE 238th Avenue. However, three of these four roadways do not extend north of NE Sandy Boulevard. As a result, NE NE 223rd Avenue is the only major roadway within the city that connects the north and south parts of Fairview, creating a bottleneck for drivers desiring to connect between the north and south parts of Fairview. The north part of Fairview (north of NE Sandy Boulevard) does not meet the RTFP street network connectivity standards. Options for roadway alignments are limited due to Fairview Lake and Blue Lake and difficulties in constructing new at-grade railroad crossings.

In the east-west direction, Fairview has good arterial and collector connectivity throughout the city with four arterials or collectors across approximately two miles: NE Glisan Street, NE Halsey Street, NE Sandy Boulevard, and NE Marine Drive, in addition to I-84. The distance between NE Sandy Boulevard and NE Marine Drive exceeds one mile in some locations because Fairview Lake and Blue Lake limit roadway connections in the area. Each of the four major streets provides continuous east-west travel routes across Fairview.

⁴ Regional Transportation Functional Plan, Metro, 2012.

⁵ Section 3.08.110

Local Street Network Connectivity

Some parts of the local street network in Fairview are well-connected in a grid network while in other locations, cul-de-sacs and dead-end roads limit connectivity. Many of these areas lacking connectivity are limited by physical barriers (e.g. interstate freeway, railroad tracks, lakes) that limit the potential for connectivity improvements.

The Metro RTP defines maximum local street spacing of 530 feet, with bicycle and pedestrian pathways no more than 330 feet apart for residential or mixed-use developments of more than five acres. While the city does not expect to have extensive residential development, the Metro network guidelines are useful in identifying areas that would benefit from future connections as redevelopment occurs. The TSP includes a conceptual Local Street Connectivity Plan for Fairview.



Local Street

Needs

Transit

TriMet provides transit service in Fairview, and throughout the Portland-Metropolitan area. TriMet provides fixed route bus service as well as an advance-reservation paratransit service called LIFT, for transit users with disabilities.

Figure 3 shows transit routes and stop locations along with ridership levels. There are 37 TriMet bus stops along two fixed routes (Routes 21 and 77) in Fairview. Not all of the bus stops offer benches and shelters, and some lack sidewalk connections to the surrounding neighborhoods and businesses. Park and ride facilities for transit users are at the Reynolds School District Offices off NE Halsey Street.

Most transit users in the city are less than a half mile from a bus stop. While biking can increase access to transit for people living or working in locations that are further from bus stops, gaps in the existing bicycle network limit the potential for biking to transit stops in Fairview.

The availability of safe and direct roadway crossing opportunities is another factor that could limit access to transit. Bus stops throughout the city could benefit from enhanced crossings that would increase the general pedestrian friendliness of the roadway and trail network.

TriMet gathered ideas for improving service in the communities of East Portland, Fairview, Gresham, Troutdale, and Wood Village in developing the Eastside Service Enhancement Plan.⁶ The process identified the need for new north-south lines, new frequent service lines, and more frequency and hours of service on existing lines.

Significant needs related to improving transit usage in Fairview include:

- Gaps in the sidewalk system and limited crossing opportunities on roadways that have transit service (i.e., NE Sandy Boulevard and NE 223rd Avenue) impede pedestrian connectivity to transit.
- Improvements outlined in the TriMet Eastside Service Enhancement Plan would expand transit coverage and increase service frequency.

⁶ TriMet Eastside Service Enhancement Plan: Draft Vision for Future Service: <http://future.trimet.org/east/refined-draft-vision-for-the-eastside-service-enhancement-plan>

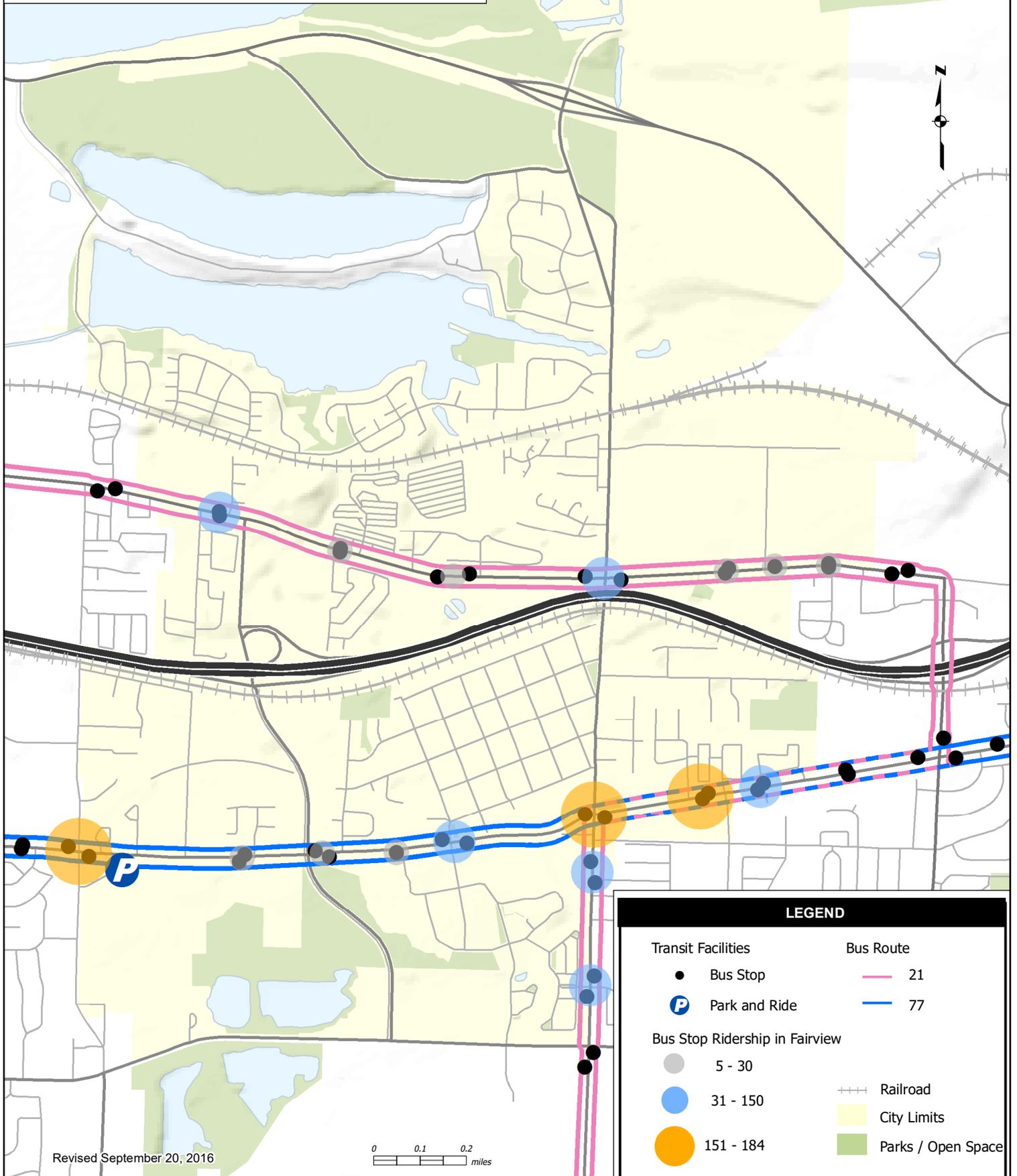
The TriMet Eastside Service Enhancement Plan will guide transit improvements in Fairview.

FIGURE

3

City of Fairview
TRANSPORTATION SYSTEM PLAN

Transit Facilities



Revised September 20, 2016

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Needs

Pedestrian

Planning for pedestrians helps the city provide a complete, multi-modal transportation system and supports healthy lifestyles while addressing social equity issues. Pedestrian facilities allow young people, elderly people, and those not financially able to afford motorized transport to have access to goods, services, employment, and education.

Figure 4 illustrates the current pedestrian system. Pathways (trails) highlight some of the natural resources and attractions that the community has to offer and provide comfortable connections that enhance the sidewalk system. However, significant gaps exist in the network, particularly along NE Sandy Boulevard and NE 223rd Avenue. Arterial and collector roadways can act as barriers to pedestrian movement if there are not safe and consistent facilities. A major need exists in Fairview for providing consistent sidewalks on these roadways and improving connectivity to key activity centers in the city.

The city can support pedestrian travel by developing direct and safe connections between activity generators (e.g., schools, parks, employers, stores and residences) and residences. Continuous sidewalk connections on arterial and collector roadways with conveniently located crossing opportunities allow for safe non-motorized travel options. In addition to transportation facilities, pedestrian travel can be supported with mixed-use developments and buildings with front doors that are oriented directly toward the public right-of-way.

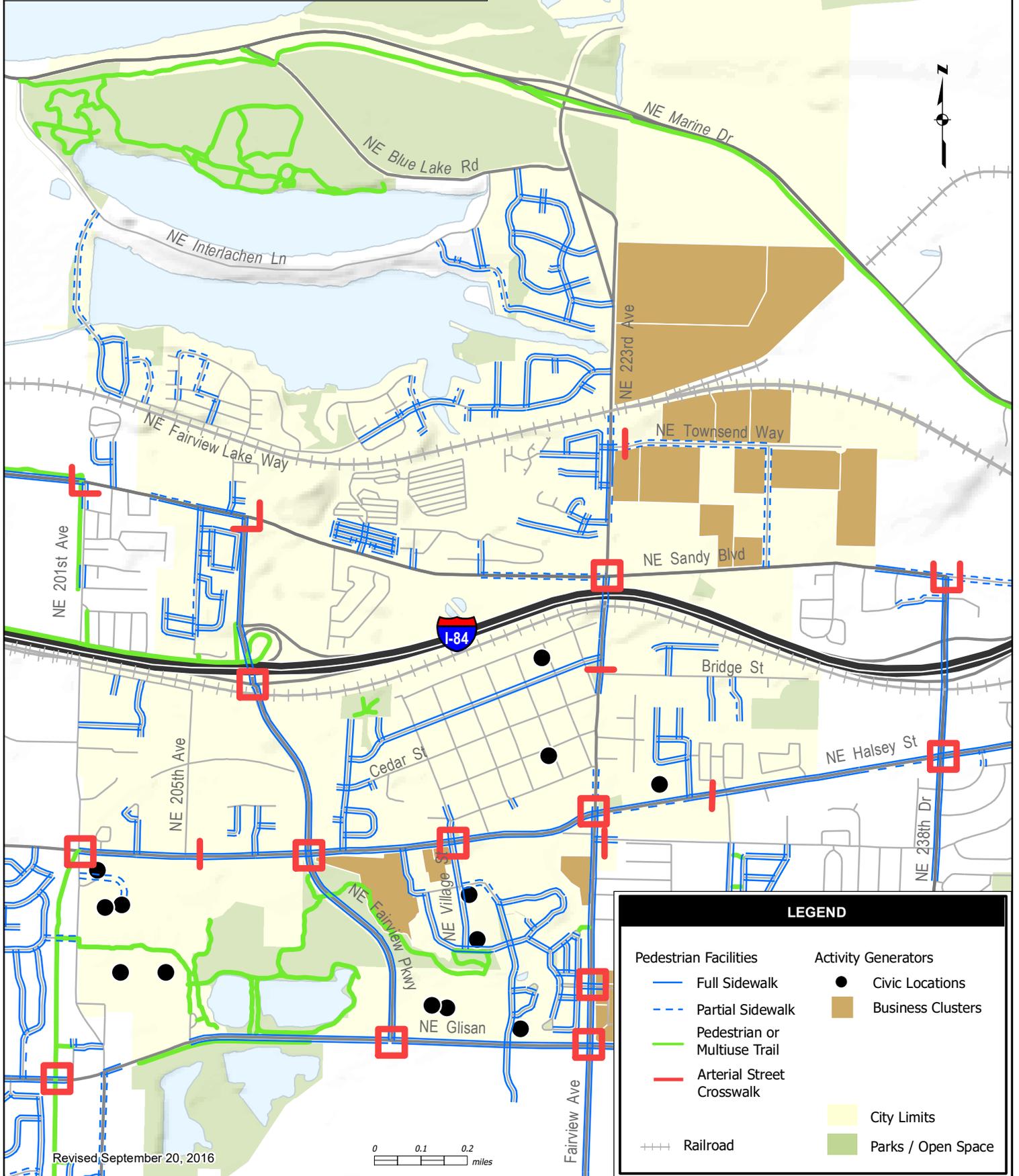
Key issues identified in the pedestrian network:

- Significant sidewalk gaps and limited crossing opportunities along NE Sandy Boulevard and NE 223rd Avenue.
- The railroad bridge over NE 223rd Avenue provides space for a two-lane roadway only. Pedestrians and bicycles currently pass under the bridge on the roadway, climb around on the steep dirt shoulder, or climb up to the bridge and illegally cross the railroad tracks.
- Several residential neighborhoods lack sidewalks along all streets (e.g. Old Town Fairview near Fairview Elementary School).
- Limited pedestrian connectivity between NE Arata Road and NE Halsey Street east of NE 223rd Avenue.

NE Sandy Boulevard and NE 223rd Avenue have significant sidewalk gaps and limited crossing opportunities.

City of Fairview
TRANSPORTATION SYSTEM PLAN

Pedestrian Facilities



Needs

Bicycle

High quality bicycle facilities that are safe, comfortable, and well connected encourage residents and visitors in Fairview to make healthy and active transportation choices. Bicycle trips typically cover distances that are longer than pedestrian trips and can reduce roadway congestion. Fairview’s bicycling network, shown in Figure 5, consists of shared roadways, shoulder bikeways, bike lanes, and shared-use pathways.

Bicycle trips can generally fall into three groups: commuters, activity-based, and recreational. Commuter trips are typically roundtrip between home and work (sometimes linking to transit) via direct, major connecting roadways and/or local streets. Bicycle lanes provide good accommodations for these trips. Activity based trips can be home-to-school, home-to-park, home-to-neighborhood commercial or home-to-home. Many of these trips are on local streets with some connections to the major functional classification streets. Recreational trips share many of the needs of both the commuter and activity-based trips, but may have greater needs for off-street routes or connections to rural routes.

Inconsistent facilities and barriers to travel can inhibit the attractiveness of potential bicycle trips. Bicycle improvements could address key community issues for traveling by bicycle in Fairview:

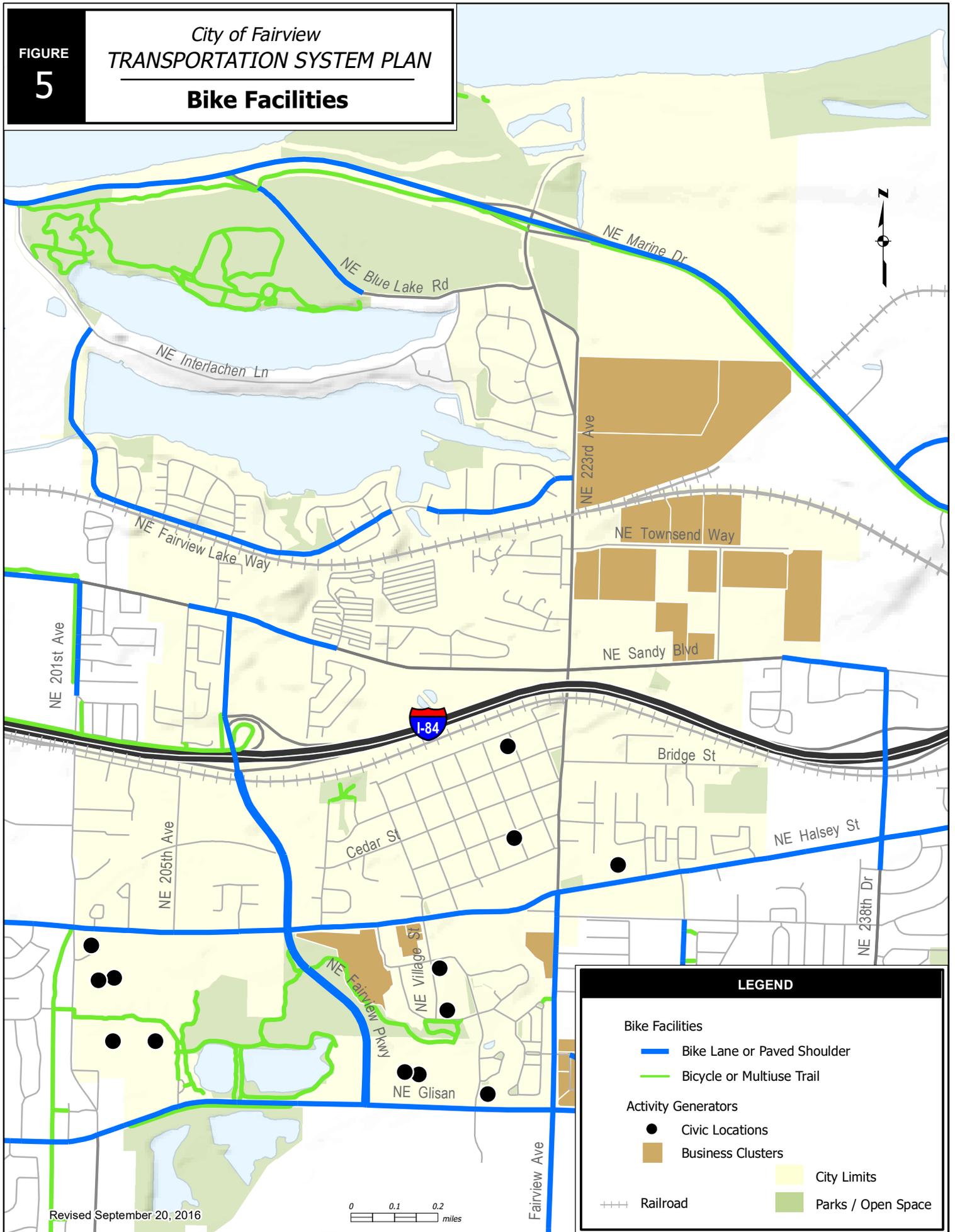
- The railroad bridge over NE 223rd Avenue provides space for a two-lane roadway only. Pedestrians and bicycles currently pass under the bridge on the roadway, climb around on the steep dirt shoulder, or climb up to the bridge and illegally cross the railroad tracks.
- Significant gaps in the bicycle network on NE Sandy Boulevard and NE 223rd Avenue.
- Lack of bicycle facilities on NE Blue Lake Road east of the entrance to Blue Lake Park.

NE Sandy Boulevard and NE 223rd Avenue have significant gaps in the bicycle facilities network.

FIGURE

5

City of Fairview
TRANSPORTATION SYSTEM PLAN
Bike Facilities



Revised September 20, 2016

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 miles

LEGEND

- Bike Facilities**
 - Blue line: Bike Lane or Paved Shoulder
 - Green line: Bicycle or Multiuse Trail
- Activity Generators**
 - Black dot: Civic Locations
 - Brown rectangle: Business Clusters
- Yellow area: City Limits
- Green area: Parks / Open Space
- Grey line with cross-ticks: Railroad

Needs

Mode Share Target

Metro sets regional targets for the amount of trips that are made by means other than someone driving alone or a “single occupant vehicle” (SOV). These regional targets are set for the portion of non-SOV travel (trips made by pedestrian, bike, transit, carpool, etc.) based on the assumed land use density (the 2040 Growth Concept design type). Metro structured the targets so that more dense areas have a higher targeted share of non-SOV trips as follows:

- Portland Central City (60-70%)
- Regional Centers, Town Centers, Main Streets, Station Communities, Corridors, Passenger Intermodal Facilities (45-55%)
- Industrial Areas, Freight Intermodal Facilities, Employment Areas, Inner Neighborhoods, Outer Neighborhoods (40-45%)

The regional travel demand model provides estimates of the various modes of travel in areas defined as transportation analysis zones (TAZs). Based on the 2040 model data (summarized in Table 2), the targets are expected to be typically achieved throughout Fairview. However, industrial areas north of I-84 and east of NE 223rd Avenue are identified as not meeting regional mode share targets in 2040 and may benefit from strategies to enhance pedestrian and bicycle opportunities in the area. Refer to Vol. II, Section F for detailed mode share estimates.

Table 2: Trip Mode Share (for person-trips to or from Fairview Transportation Analysis Zones)

Mode	Share Estimate for 2040
Drive Alone	50%
Shared Ride or Passenger	34%
Transit	7%
Walk	6%
Bike	3%

Source: Metro Regional Travel Demand Forecast Model

The city is expected to meet Metro mode share targets in most parts of 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.

Freight

Efficient truck movement plays a vital role in the economical movement of raw materials and finished products.

Efficient truck movement plays a vital role in maintaining and developing Fairview's economic base. Well-planned truck routes can provide for the economical movement of raw materials and finished products. The city should plan the transportation system to accommodate this goods movement need. Establishing truck routes for vehicles traveling through the city provides for efficient movement while maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system.

The Regional Freight Plan identified reconstructing the railroad bridge on NE 223rd Avenue (approximately 2000 feet north of I-84) as a Medium-High Regional Priority.⁷ This improvement would consist of reconstructing the railroad bridge to accommodate wider travel lanes, sidewalks, and bike lanes.

It is also important to note that the 40-foot truck length restriction on NE 238th Avenue and NE 242nd Avenue between NE Halsey Street and NE Glisan Street (outside the City of Fairview's limits) may increase heavy vehicle demand on Fairview Parkway.

Other Modes

Although automobiles, transit, walking, biking, and freight are the primary modes of transportation in Fairview, the TSP update also looked at the needs of rail, air, waterway, and pipeline transportation modes.

The project team identified no significant needs for rail, air, waterway, and pipelines in Fairview.

⁷ Metro Project IDs of 10393 and 10394.

Investments

Fairview must make strategic investment decisions to implement a set of transportation improvements that meet identified needs through 2035.

Current Funding

The city receives approximately \$482,000 annually (in 2015 dollars) to maintain, operate, and improve the transportation system. The city relies on two primary revenue sources to fund transportation expenses:

- State Highway Fund distributions, and
- Multnomah County fuel tax distributions.

State Highway Fund

The State Highway Fund includes revenues from the state motor vehicle fuel tax, vehicle registration fees, and truck weight-mile fees, as well as Federal funds. The state allocates a portion of the State Highway Trust Fund monies to local cities on a per capita basis. By statute, Fairview may use its allocation of this money for any road-related purpose, including walking, biking, bridge, street, signal, and safety improvements. State law requires that a minimum of one percent of the State gas tax and vehicle registration funds received be set aside for construction and maintenance of walking and bicycling facilities.

County Gas Tax

Multnomah County has a gas tax of three cents per gallon. Disbursements from the gas tax revenues provide a portion of transportation revenues in the city. Non-residents such as those who stop for gas while traveling along I-84 fund a part of these revenues.

Other Revenue Sources

Other miscellaneous small revenues may supplement city transportation funds. The city may also use its General Fund to supplement operations and maintenance (e.g., equipment purchase, personnel). However, the project team does not consider this type of fund transfer a consistent revenue stream for the sake of estimating future transportation revenues.

Transportation funding is limited, so a fiscally responsible approach to enhancing and maintaining the transportation system is imperative.

Investments

Project-Specific Funding

In addition to the recurring revenues described previously, Fairview may receive project-specific funding through federal, state or regional programs and grants. One important example is the ODOT Statewide Transportation Improvement Program (STIP), which funds many of the safety, highway, and bridge improvement projects constructed in Oregon. The 2015-18 STIP (Project 18019) includes Arata Road Improvements (from NE 223rd Avenue to NE 238th Avenue). Therefore this project will be included in the TSP as a funded transportation improvement.

The city needs most of the funding received for transportation to maintain and operate existing infrastructure.

Unlike revenues from the State Highway Fund and county gas tax, the city does not receive these types of external funding annually, but often relies upon this funding to complete critical transportation improvements. Because specific funding sources have not been determined and these revenues are not a reliable or consistent source for the city, these funding sources are not included in the summary of transportation revenues.

Current Expenditures

The city spends approximately \$393,000 annually (in 2015 dollars) to maintain, operate, and improve the transportation system. The expenditures incurred include:

- Street maintenance,
- Sidewalk repair,
- Trail maintenance,
- Personnel and staff expenses,
- Capital improvements and purchases,
- Equipment and other operating costs
- Departmental and contractual services, and
- Street lighting.

Capital improvement expenditures may include projects that support maintaining the existing transportation system (e.g., repaving or purchasing maintenance equipment).

Investments

Funding Forecast

Over the last five years, transportation-related revenues (approximately \$482,000 per year) have slightly exceeded transportation-related expenditures (approximately \$393,000 per year) to maintain and operate the transportation system in Fairview. The project team used historical funding and expenditures together with assumptions about growth to estimate the available funding for transportation projects through 2035. Refer to TSP Volume II, Section E for detailed breakdowns of the expected revenue sources and estimated maintenance expenses.

Revenue Forecast

There is no index for cost inflation built into gas tax. However, the project team forecasted gas tax revenues to increase proportionally with the city's population growth. The population growth rate in Fairview is likely to be relatively small; approximately five percent increase by 2035.^{8,9} As a result, the gas tax revenues are not expected to increase substantially, and will likely not keep up with inflation.

The project team expects Fairview to receive approximately \$9.9 million in County and State gas tax distributions and other revenues through 2035. This estimate applies the expected population growth in Fairview to historical revenues.

Expenditure Forecast

City expenditures for maintenance, operations and management of the transportation system are likely to increase over time with inflation. Based on historical expenditures and expected increases in costs, expenditures will total approximately \$10.5 million through 2035.

Transportation projects that enhance or expand the current transportation system are not included in this estimate. It is also important to note that the current spending on maintenance and preservation activities may not have kept up with the desired quality for

⁸ This estimate is based on extrapolations of Metro Regional Travel Demand Forecast Model data, for households in Fairview Transportation Analysis Zones.

⁹ A five percent population increase translates to approximately 400-500 more residents in Fairview by 2035.

Investments

infrastructure. To address deferred maintenance and future needs, maintenance costs may be higher than the historical spending indicates.

The forecasted gap between revenues and expenditures will narrow over time and then become negative (expenditures exceeding revenues) by 2025. With anticipated revenues remaining relatively flat (due to small population increase in Fairview and no cost inflation index for gas taxes) and maintenance costs increasing, Fairview will need to utilize the existing street fund balance to maintain the current levels of maintenance and operations.

Estimated Project Funding

Based on the current revenue and expenditure forecasts, Fairview will spend about \$550,000 more than it will receive in transportation funds through 2035. The PMT estimated the current funding balance to be approximately \$550,000. Therefore, unless the city explores additional funding opportunities, Fairview is not likely to have significant funding to contribute to TSP solutions through 2035.

Without local funding, transportation improvements will be fully reliant on external funding sources or additional (i.e., new) revenues. As a result, Fairview may be at a disadvantage in competitive grant applications that require a local funding match.

Fairview is not likely to have significant funding to contribute to TSP solutions through 2035.

Unless the city identifies new local revenue sources, Fairview will be fully reliant on external sources (e.g., grants) to fund transportation projects.



NE Sandy Boulevard

Investments

This section of the TSP presents the transportation system improvements to address transportation needs and deficiencies identified in Fairview. These solutions improve facilities and services for all modes of transportation. The solutions come from previous planning efforts (such as the East Metro Connections Plan) or the TSP project team, advisory committees, or public.

Funding Category

The project team divided transportation improvements into two categories based on funding availability:

- **Financially Constrained** solutions are reasonably likely to be funded, based on the Metro Regional Transportation Plan and ODOT Statewide Transportation Improvement Program.
- **Illustrative** solutions address transportation system needs, but exceed available funding through 2035. The city is not likely to construct Illustrative projects before 2035 unless additional transportation funding sources become available.

The project team compared all proposed solutions using evaluation criteria to consider the ability to address TSP goals in an objective manner. The results of the evaluation criteria scoring indicated that the city could prioritize many of the Illustrative solutions ahead of Financially Constrained solutions, including a number of active transportation projects. However, the lack of local funding necessitates that the city base the Financially Constrained list on available external funding sources (as identified by the Metro RTP).

Higher than expected grant funding, development, or ODOT funding may contribute to more revenues than estimated. If the city identifies additional funding sources, the city may expand the Financially Constrained solutions list to include more projects from the Illustrative solutions list. Conversely, lower revenues or higher than expected expenses could result in fewer projects being constructed from the Financially Constrained solutions list.

Based on evaluation criteria results and guidance from the PMT, TAC, CAC, and public, the project team prioritized the Illustrative solutions to identify those that the city should focus on when pursuing funding opportunities. Volume II, Section G and I includes details about the process of selecting and prioritizing solutions.

The TSP must identify a list of TSP solutions that falls within a reasonable range of available funding.

Financially Constrained projects are reasonably likely to be funded (by 2035) based on the Metro RTP and ODOT STIP.

Transportation Strategies

Some transportation strategies can enhance transportation system performance without adding new capacity, by applying Transportation System Management (“TSM”) and Transportation Demand Management (“TDM”) improvements. These solutions are often more cost effective than physically expanding the roadway system. TSM and TDM strategies place emphasis on improving safety, reducing traffic delay, reducing drive-alone motor vehicle demand, and encourage using the existing transportation system more efficiently.

Transportation System Management

TSM focuses on low cost strategies to enhance operational performance of the transportation system. TSM strategies include traffic control improvements, traffic signal coordination, traffic calming, access management, local street connectivity, and intelligent transportation systems (ITS).

Intelligent Transportation Systems

ITS applies advanced technologies and proven management techniques to relieve congestion, enhance safety, provide services to travelers, and assist transportation system operators in implementing suitable management strategies for motor vehicle traffic. ITS achieves system efficiency by providing additional information to travelers, system operators, and the infrastructure itself.

Transportation Demand Management

TDM describes actions that remove single occupant motor vehicle trips from the roadway network during peak travel demand periods. Providing attractive alternatives to driving alone will help change travel behavior to better accommodate the expected growth in travel demand identified for Fairview.

Opportunities to expand TDM and other measures in Fairview include:

- Support individualized marketing programs or other outreach efforts designed to encourage using travel options
- Support alternative vehicle types by identifying potential electric vehicle plug-in stations and implementing code provisions

Investments

- Encourage and support TriMet service enhancements
- Improve street connectivity
- Invest in pedestrian and bicycle facilities
- Improve amenities and access for transit stops. Actions could include; instituting site design requirements allowing redevelopment of parking areas for transit amenities, requiring safe and direct pedestrian connections to transit, and permitting transit-supportive uses outright in commercial and institutional zones.
- Establish site development standards that require pedestrian and bicycle access through sites and connections to adjacent sties and transportation facilities
- Develop requirements for secure long-term bicycle parking for significant places of employment, park and ride facilities and other major transit stops, and multi-family residential uses

TSM and ITS projects in the Illustrative solutions list include arterial corridor management projects on NE 207th Avenue and NE Glisan Street. These projects would upgrade traffic signal controllers, establish communications to the central traffic signal system, provide arterial detection (including bicycle detection where appropriate) and routinely update signal timings. These improvements could also provide real-time and forecasted information to motor vehicle travelers.

A TDM project identified in the Illustrative solutions list is the Metro Travel Options Program. The individualized marketing program would implement and/or support intensive outreach to targeted neighborhoods to deliver travel options information and services.



Wayfinding on Gresham-Fairview Trail

Financially Constrained Solutions

The Financially Constrained Solutions list includes transportation improvements that are reasonably likely to be funded and constructed by the year 2035. The project team determined that Fairview is not likely to have significant funding to contribute to TSP solutions through 2035 unless additional (i.e., new) funding sources are identified. Transportation improvements will be reliant on external funding sources or additional revenues.

The Financially Constrained Solutions list in Tables 3 includes committed projects, solutions identified in the Metro Regional Transportation Plan¹⁰ financially constrained project list, access management strategies, and two local programs to support sidewalk infill projects. The RTP projects are all on Multnomah County roadways. The project team used cost estimates from the Metro RTP estimates unless otherwise noted.

The project team based the distinction between short-term and medium-term prioritization on project timing identified in the Metro RTP. Short-term projects have an estimated completion date within the next 10 years. Medium-term projects have an estimated completion date between 2026 and 2035.

All roadway projects identified in the Financially Constrained Solutions list apply to roadways under Multnomah County jurisdiction. All project design elements on Multnomah County facilities are subject to County approval. The actual design elements for any facility are subject to change, and will ultimately be determined through a preliminary and final design process.

This TSP, including the solutions lists, does not have any legal or regulatory effect on land or transportation facilities that the city does not own. Although the TSP includes evaluation and proposed improvements of non-city facilities, the TSP does not obligate its governmental partners to take any action or construct any projects. Without additional action by the governmental entity that owns the subject facility or land (e.g., Multnomah County, ODOT) any project that involves a non-city facility is merely a recommendation.

Financially Constrained projects are considered reasonably likely to be funded by 2035.

The solutions lists do not reflect any commitment of funding by ODOT, Metro, Multnomah County, or the City of Fairview.

¹⁰ <http://www.oregonmetro.gov/regional-transportation-plan>

Solutions

Table 3: Financially Constrained Solutions for Multnomah County Facilities

Project ID	Name	Description	Estimated Cost to Public (\$ 2016 Dollars)
Short-term (2016-2025)			
R1*	NE 223 rd Ave. Reconstruction (Fairview Creek to NE Halsey St.)	Reconstruct NE 223 rd Ave. to major collector standards with 2 travel lanes, center turn lane and/or median, sidewalks and bicycle lanes. Context sensitive design through Old Town Fairview.	\$12,000,000**
R2*	NE 223 rd Ave. Improvements (Fairview Creek to 40-mile loop/NE Marine Dr.)	Improve NE 223 rd Ave. to major collector standards including 2 travel lanes, center turn lane and/or median, sidewalks, bicycle lanes; Replacement of RR bridge not included in this proposal (Metro ID 10394).	\$8,000,000**
R5*	NE Arata Rd. Reconstruction (NE 223 rd Ave. to NE 238 th Ave.)	Widen to 3-lane with center turn lane, sidewalk, and bike lane enhancements.	\$5,100,000
R7*	NE Sandy Blvd. Reconstruction (NE 201 st Ave. to NE 230 th Ave.)	Reconstruct to minor arterial standards with bike lanes, sidewalks and drainage improvements utilizing recommendations from TGM grant.	\$8,400,000
R8*	NE Sandy Blvd. Improvements (NE 230 th Ave. to NE 238 th Ave.)	Improvements to correct substandard conditions.	\$800,000
R10*	NE Glisan St. Improvements (NE 201 st /202 nd Ave. - Fairview Pkwy.)	Add bike lanes, sidewalks, on-street parking, four motor vehicle travel lanes and green street drainage.	\$17,000,000
R17*	Reconstruct railroad crossing on NE 201 st Ave. at I-84	Reconstruct railroad bridge to accommodate active transportation modes.	\$2,400,000
Medium-term (2026-2035)			
R3*	Reconstruct railroad crossing on NE 223 rd Ave. (north of I-84)	Reconstruct railroad bridge to accommodate wider travel lanes, sidewalks, and bike lanes	\$10,400,000
R9	<i>NE Sandy Blvd. Access Management</i>	<i>Implement an access management program to improve safety and access along NE Sandy Blvd. in Fairview</i>	<i>\$200,000</i>
R12	<i>NE Halsey St. Access Management</i>	<i>Implement an access management program to improve safety and access along NE Halsey St. in Fairview</i>	<i>\$100,000</i>
R14*	NE Marine Dr. Reconstruction (Interlochen to Troutdale frontage roads)	Reconstruct to standards.	\$29,000,000
R16*	NE 201 st Avenue (NE Halsey St. to NE Sandy Blvd.)	Improve to collector standards	\$17,000,000

*Metro RTP Project. Timeline (short-term or medium-term) based on Metro RTP.

**Updated TSP cost estimate differs from Metro RTP

Projects noted with italics may be led by the City of Fairview.

Solutions

Table 4: Financially Constrained Solutions for City of Fairview Facilities

Project ID	Name	Description	Estimated Cost to Public (\$ 2016 Dollars)
Short-term (2016-2025)			
A2	Residential Sidewalk Infill Program	Develop city program to fund completion of the sidewalk system for residential areas in Fairview.	_*
A3	Old Town Fairview Sidewalk Infill Program	Develop city program to fund completion of the sidewalk system for Old Town Fairview.	_*

*No cost assumed beyond city and agency staff time to establish program.



Pedestrian Crossing on NE 223rd Avenue

Solutions

Illustrative Solutions

This section details the Illustrative Solutions list of transportation improvement that the project team identified through the needs analysis and public involvement process. The community supports these projects and strategies but they are not included in the list of Financially Constrained Solutions as funding is not likely available through the 2035 planning horizon without enhanced or new transportation funding streams. The project team presents the Illustrative solutions categorized by primary mode and/or purpose.

Prioritization

The TSP identifies prioritization for Illustrative Solutions in the event that additional funds become available. The TSP categorizes solutions into high, medium, and low priority. The project team prioritized Illustrative Solutions based on the evaluation results, community input, and prioritization strategies identified in the Metro Regional Active Transportation Plan¹¹ and RTFP¹². TSP Volume II, Section I identifies project evaluation results and planning level cost estimates for each project.

Roadway Improvements

Solutions identified for roadways in Fairview include multi-modal corridor improvements (Table 5), motor vehicle mobility improvements (Table 6), and safety strategies (Tables 7). Figure 6 shows roadway improvements on both the Financially Constrained and Illustrative Solutions lists.

The TSP anticipates that corridor improvements (i.e., building roadways to standards including bicycle and pedestrian facilities, as appropriate) and access management strategies will address safety issues. However, the TSP recognizes that issues may persist after implementing improvements on some roadway segments. Therefore, the TSP also identifies safety studies for roadway segments with existing safety issues to ensure that the responsible agency addresses safety issues after corridor improvements and access management modifications.

Illustrative Solutions are not likely to be funded before 2035.

The TSP prioritizes Illustrative Solutions in the event that additional funding becomes available.

The TSP did not identify any major motor vehicle or safety needs for roadways under city jurisdiction.

¹¹ 2014 Regional Active Transportation Plan, Metro, 2014

¹² Section 3.08.220.

Solutions

Table 5: Illustrative Solutions – Multi-Modal Corridor Improvements for Multnomah County Facilities

Project ID	Name	Description	Estimated Cost to Public (\$ 2016 Dollars)
High Priority			
R15*	NE 201 st Avenue (NE Glisan St to NE Halsey St.)	Improve to collector standards.	\$50,000,000
Medium Priority			
R18**	Fairview Pkwy. Extension	New 2-3 lane collector between NE Glisan St. and NE Stark St. (in Gresham.)	\$14,000,000
R20	<i>Old Blue Lake Rd. Access Improvements</i>	<i>Improve access in conjunction with right-of-way vacation.</i>	<i>\$100,000</i>
Low Priority			
R13*	NE Marine Dr. at NE 223 rd Ave. Interchange Improvements	Widen to accommodate freight traffic and provide bicycle and pedestrian facilities.	\$28,000,000

*Metro RTP Project - not included in Financially Constrained list

**Identified in East Metro Connections Plan

Projects noted with italics may be led by the City of Fairview.

Table 6: Illustrative Solutions – Motor Vehicle Mobility for Multnomah County Facilities

Project ID	Name	Description	Estimated Cost to Public (\$ 2016 Dollars)
Medium Priority			
M1*	NE 207 th Ave. Arterial Corridor Management (NE Glisan St. to NE Sandy Blvd.)	Install upgraded traffic signal controllers, establish communications to the central traffic signal system, provide arterial detection (including bicycle detection where appropriate) and routinely update signal timings. Provide realtime and forecasted traveler information.	\$7,200,000
M2*	NE Glisan St. Arterial Corridor Management (NE 162 nd Ave. to NE 242 nd Ave.)	Install upgraded traffic signal controllers, establish communications to the central traffic signal system, provide arterial detection (including bicycle detection where appropriate) and routinely update signal timings. Provide realtime and forecasted traveler information.	\$8,000,000
Low Priority			
M3	<i>NE 223rd Ave./NE Marine Dr. (WB) Intersection Improvement</i>	<i>Convert this intersection to all-way stop controlled or construct a roundabout.</i>	<i>\$720,000</i>
M4	<i>NE 223rd Ave./NE Glisan Street Intersection Improvement</i>	<i>Add turn lane at this signal-controlled intersection.</i>	<i>\$970,000</i>

*Metro RTP Project - not included in Financially Constrained list

Projects noted with italics may be led by the City of Fairview.

Solutions

Table 7: Illustrative Solutions – Safety

Project ID	Name	Description	Estimated Cost to Public (\$ 2016 Dollars)
High Priority			
S5	NE 223 rd Ave. Guardrail	Construct approximately 500 feet of guardrail on the east side of 223 rd Ave. north of NE Sandy Blvd.	\$25,000
Low Priority			
S1	NE Sandy Blvd. Safety Study	If safety issues remain after implementing corridor improvements (R7, R8, R9, and A1), conduct a study to further analyze issues on NE Sandy Blvd. and identify improvements.	\$50,000
S2	NE Halsey St. Safety Study	If safety issues remain after implementing corridor improvements (R12), conduct a study to further analyze issues on NE Halsey St. and identify improvements.	\$50,000
S3	NE 223 rd Ave. Safety Study	If safety issues remain after implementing corridor improvements (R1, R2 and R3), conduct a study to further analyze the issues on NE 223 rd Ave. south of I-84 and identify improvements.	\$50,000
S4	I-84 Safety Study	If safety issues remain, conduct a study to further analyze the issues on I-84 near the Fairview interchange ramps and identify improvements.	\$50,000
S6	Street Light Improvement Program	Identify areas needing additional lighting.	Unknown/ Unavailable

Note: The City of Fairview may lead safety projects.



Lane Markings

Solutions

Figure 6: Roadway Solutions Map

Solutions

Active Transportation Solutions

Table 8 (Multnomah County facilities) and Table 9 (city facilities) include Illustrative Solutions for pedestrian, bicycle and transit travel. The TSP separates projects listed in these tables from other improvements included as part of multi-modal roadway improvements (Table 4) because of their focus on active transportation modes.

The city will support transit services through developing pedestrian and bicycle facilities that provide access to transit and supporting the TriMet Service Enhancement Plan. TriMet will implement any transit project or program in cooperation with other relevant agencies.

Figures 7 and 8 show all recommended pedestrian and bicycle solutions on the Illustrative and Financially Constrained, respectively.



Multi-use Pathway on NE 201st Avenue

Solutions

Table 8: Illustrative Solutions – Bicycle, Pedestrian, & Transit on Multnomah County Facilities

Project ID	Name	Description	Estimated Cost to Public (\$ 2016 Dollars)
High Priority			
A1	NE Sandy Blvd. Pedestrian Crossing Treatments	Provide pedestrian crossings at locations recommended in the plan including at: NE 205 th Ave., the bus stop between Fairview Pkwy. and NE Blossom Hill Rd. (mid-block crossing), NE Arbor Crest Dr., NE 230 th Ave., and Eldeberry St. (in Wood Village).	\$500,000
A6	TriMet Service Enhancement Plan	Proposed transit service enhancements in East Portland Metro.	Unknown/Unavailable
A15	NE Blue Lake Rd. Bike Lanes	Widen roadway to construct bike lanes east of Blue Lake Park entrance.	\$1,100,000
A17	NE Halsey St at NE 201 st Ave. Pedestrian Improvements	Add pedestrian push buttons and improve curb ramps at intersections	\$20,000
Medium Priority			
A11	NE Blue Lake Rd. Sidewalks	Construct sidewalks between NE Marine Dr. and NE Fairview Ave. (NE 223 rd Ave.)	\$390,000
A16	NE Halsey Street Pedestrian Crossing	Provide pedestrian crossing between NE Village St. and NE 223 rd Ave.	\$100,000
A25	NE 223 rd Ave. Bike Path	Construct off-street multi-use/bike pathways along NE 223 rd Ave to connect between NE Sandy Blvd. and NE Marine Dr.	\$2,100,000
A27	NE 223 rd Ave. Pedestrian Crossing	Provide pedestrian crossing between NE Halsey St. and NE Glisan St.	\$100,000

*Metro RTP Project - not included in Financially Constrained list

Table 9: Illustrative Solutions – Bicycle, Pedestrian, & Transit on City of Fairview Facilities

Project ID	Name	Description	Estimated Cost to Public (\$ 2016 Dollars)
High Priority			
A4*	Travel Options: Individualized Marketing Program	Implement and/or support intensive outreach to targeted neighborhoods that encourages delivery of local travel options information and services to interested residents.	\$1,300,000
A5	Multi-use Connection between NE Arata Rd. and NE Halsey St.)	Complete multiuse gap to connect NE Arata Road and NE Halsey St between NE Fairview Ave. (NE 223 rd Ave.) and Wood Village Blvd.	\$45,000
A12	Bridge St. Sidewalks	Construct sidewalks between NE Fairview Ave. (NE 223 rd Ave.) and east end of roadway.	\$220,000

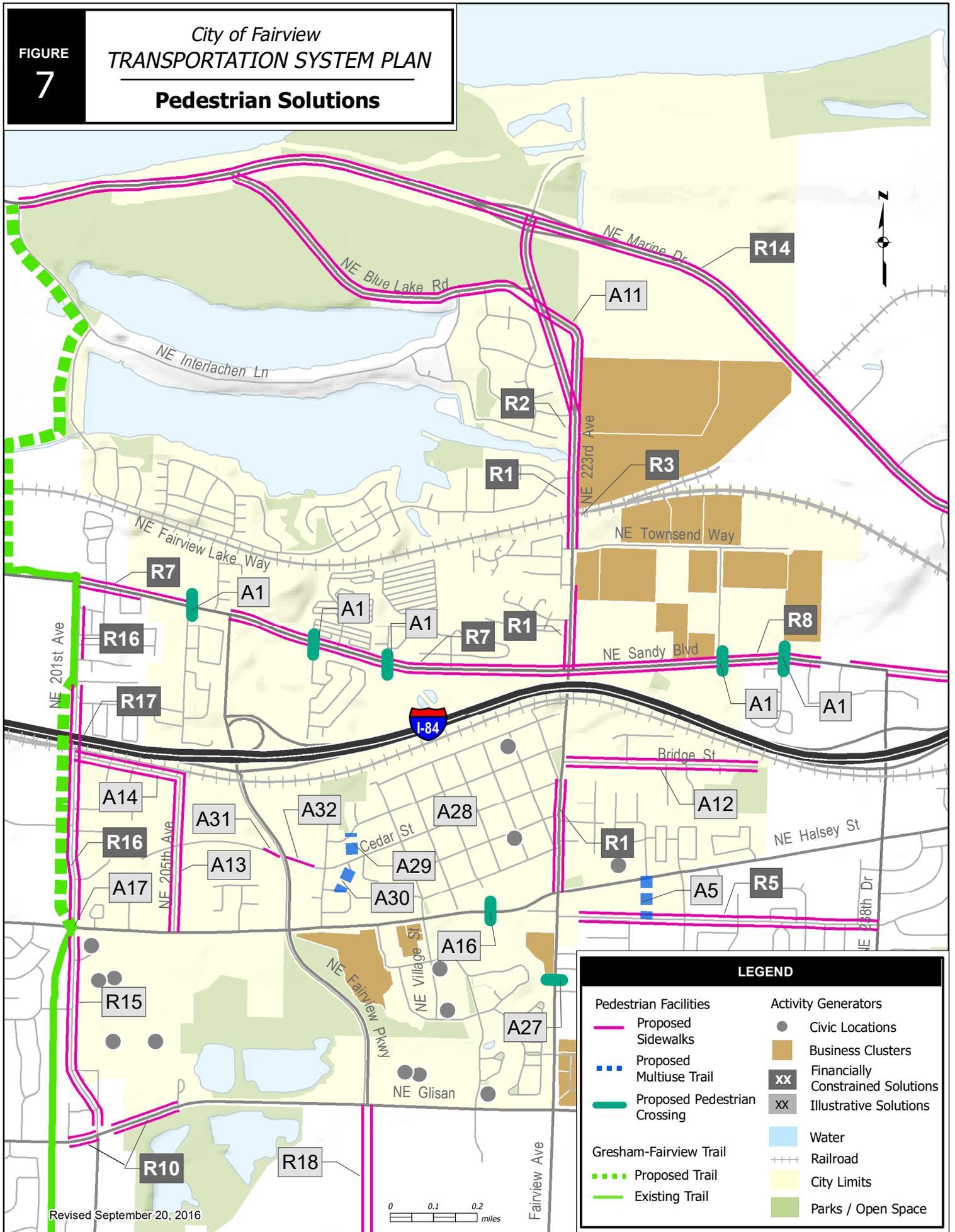
Solutions

Table 9 (Continued): Illustrative Solutions – Bicycle, Pedestrian, & Transit on City of Fairview Facilities

Project ID	Name	Description	Estimated Cost to Public (\$ 2016 Dollars)
High Priority			
A19	NE Fairview Parkway Bike Path	Construct multi-use/bike pathway located parallel to NE Fairview Pkwy. to connect between Salish Ponds City Park and Park Cleone City Park	\$900,000
A28	Old Town Fairview Sidewalk Infill - Construction	Construct the sidewalk system for Old Town Fairview.	\$5,500,000
Medium Priority			
A13	NE 205 th Ave. Sidewalks	Construct sidewalks between NE Halsey St. and NE Thompson St.	\$170,000
A14	NE Thompson St. Sidewalks	Construct sidewalks between NE 201 st Ave. and NE 205 th Ave.	\$130,000
A18	Salish Ponds Bike Path	Construct multi-use/bike pathway to connect between Reynolds Middle School and NE Fairview Pkwy. through Salish Ponds City Park.	\$750,000
A20	South Railroad Bike Path	Construct multi-use/bike pathway located parallel to I-84 along the railroad to connect between Park Cleone City Park and NE 223 rd Ave.	\$1,000,000
A21	I-84 Bike Path	Construct multi-use/bike pathway located parallel to I-84 connecting Fairview Pkwy. to NE 223 rd Ave.	\$1,400,000
A22	South Sandy Connector Bike Path	Construct multi-use/bike pathway connecting proposed I-84 Bike Pathways to NE Sandy Blvd.	\$350,000
A23	North Sandy Connector Bike Path	Construct multi-use/bike pathway connecting proposed North Railroad Bike Pathways to NE Sandy Blvd. (Includes railroad crossing.)	\$35,000
A24	North Railroad Bike Path	Construct multi-use/bike pathway along railroad right-of-way to connect between NE Fairview Lake Way and NE Marine Dr.	\$3,100,000
A26	Chinook Landing Bike Path	Construct multi-use/bike pathway connecting NE 223 rd Ave. and NE Marine Dr.	\$700,000
A29	NE Hancock St.- NE San Raphael St. Path	Reconstruct connection to paved multi-use/pedestrian path.	\$30,000
A30	NE Hancock St. - NE Weidler Cr. Path	Reconstruct connection to paved multi-use/pedestrian path.	\$30,000
A31	NE Wistful Vista Dr. Access - West	Construct local street extension from NE Wistful Vista Dr. to Fairview Pkwy. for bicycle, pedestrian, and emergency vehicle access.	\$100,000
A32	NE Wistful Vista Dr. Access - East	Construct local street extension from NE Hancock St. to Fairview Pkwy. for bicycle, pedestrian, and emergency vehicle access (including emergency vehicle turn-around south of NE Hancock St.)	\$100,000
A33	Sidewalk Curb Ramp Improvement Program	Evaluate all City sidewalk ramps for ADA compliance and construct as needed to comply.	Unknown/Unavailable

*Metro RTP Project - not included in Financially Constrained list

City of Fairview
TRANSPORTATION SYSTEM PLAN
Pedestrian Solutions



Revised September 20, 2016

LEGEND

Pedestrian Facilities

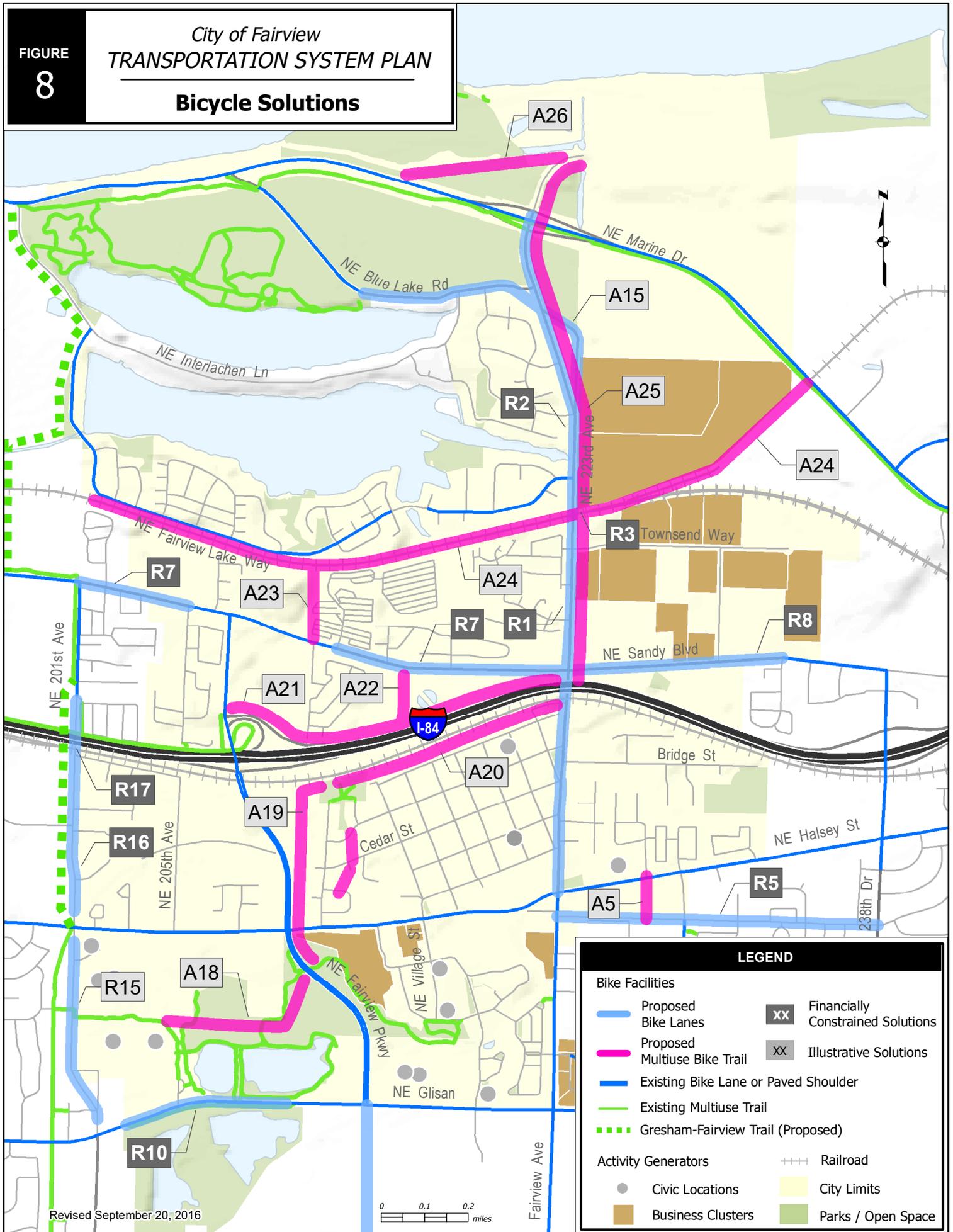
- Proposed Sidewalks
- Proposed Multiuse Trail
- Proposed Pedestrian Crossing
- Gresham-Fairview Trail Proposed Trail
- Existing Trail

Activity Generators

- Civic Locations
- Business Clusters
- Financially Constrained Solutions
- Illustrative Solutions
- Water
- Railroad
- City Limits
- Parks / Open Space

City of Fairview
TRANSPORTATION SYSTEM PLAN

Bicycle Solutions



Local Street Connectivity

Providing a well-connected roadway network can enhance accessibility for various travel modes, improve emergency response times, and balance traffic levels on existing roadways by better dispersing traffic.

There are a number of locations in Fairview where roadways do not connect, especially where limited by barriers such as wetlands, railroad tracks, or incomplete development. Topography, environmental conditions, and other barriers (e.g. interstate freeway, railroad tracks) limit the level of potential connectivity in several areas of Fairview.

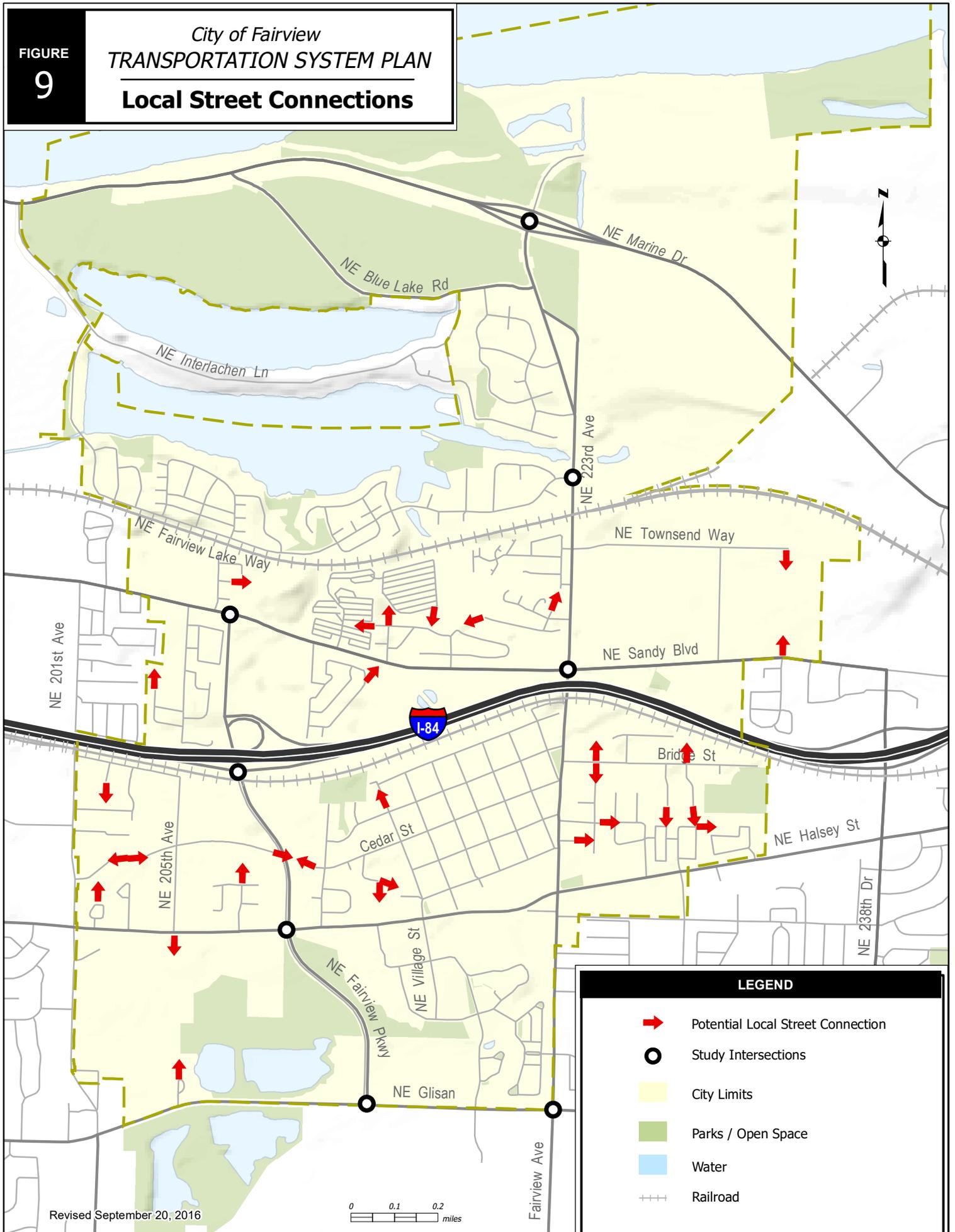
Figure 9 shows the conceptual Local Street Connectivity Plan for Fairview. The TSP proposes connections that are intended to improve connectivity for all transportation modes and reduce potential neighborhood traffic impacts by better balancing traffic flows on existing streets. The arrows in the figure represent conceptual connections that illustrate the general direction for the placement of future connections. The identified alignments are not specific and will be determined upon development review, as appropriate.

The TSP also identifies the extension of 7th Street (between Depot Street and Main Street) as a local street improvement project (R19) in Old Town Fairview.



Pedestrians on Main Street

City of Fairview
TRANSPORTATION SYSTEM PLAN
Local Street Connections



LEGEND

-  Potential Local Street Connection
-  Study Intersections
-  City Limits
-  Parks / Open Space
-  Water
-  Railroad

The TSP sets standards and regulations to ensure future property development or redevelopment is consistent with the city's transportation vision and goals.

Multi-Modal Street System

A multi-modal street system is a hierarchy of streets organized by functional classification and jurisdiction. These classifications define a scale and design appropriate to the transportation function provided and adjacent properties and land uses. Each street classification balances the needs of all travel modes, including pedestrians, bicyclists, transit riders, and motorists. The multi-modal street classification system allows design element variation in a manner that is sensitive to the context and character and constraints of the surrounding property.

Jurisdiction

Roadways in Fairview are under the jurisdiction of the city, Multnomah County or ODOT. Each responsible jurisdiction sets various standards for the roadways to maintain the appropriate level of performance, provide access, and accommodate a variety of users. Figure 10 shows the jurisdiction of all roadways in Fairview.

All arterial and major collector streets in Fairview are under Multnomah County jurisdiction.



Fairview Parkway

City of Fairview
TRANSPORTATION SYSTEM PLAN
Road Jurisdiction



LEGEND

Roadway Jurisdiction

- City of Fairview
- Multnomah County
- Oregon Department of Transportation

○ Study Intersections
 City Limits

Railroad
 Parks / Open Space

Functional Classification

Agencies typically classify roadways based on the level of usage and type of vehicular travel they are intended to serve. The Fairview functional classification system (Figure 11) is consistent with the federal functional classifications and the previous TSP. Any street not designated as either an interstate, arterial, or collector is considered a local street.

- **Interstate Highways** are limited access state roadways that serve high volumes of motor vehicle traffic and are primarily utilized for longer distance regional or statewide trips.
- **Major Arterials** are roadways intended to move traffic through Fairview and support the highway system. These roadways generally experience higher traffic volumes and often connect to locations outside of the city or act as corridors connecting many parts of the city and region.
- **Minor Arterials** are roadways intended to serve through traffic and local traffic traveling to and from major arterials or the interstate highway. These roadways link major commercial, residential, industrial and institutional uses. Arterials and major collector facilities are required by state law to provide bicycle facilities.¹³
- **Major Collectors** provide both access and circulation for residential, commercial and/or industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function, do not require as extensive access control, and penetrate residential neighborhoods, distributing trips from the neighborhood and local street system.
- **Neighborhood Collectors** are usually long relative to local streets and provide connectivity to major collectors or arterials. Because neighborhood routes have greater connectivity, they generally have more traffic than local streets and are used by residents in the area to get into and out of the neighborhood, but do not serve citywide/large area circulation. They are typically about a quarter-mile to a half-mile in total length. Traffic from cul-de-sacs and other local streets may use neighborhood collectors to gain access to major collectors or arterials.

All arterial and major collector streets in Fairview are required to provide bicycle facilities.

¹³ Transportation Planning Rule, OAR 660-012-0045 (3)(b)(B).

Standards

- **Local Streets** provide direct access to immediately adjacent land. These roadways are often lined with residences and are designed to serve lower volumes of traffic traveling at low speeds (generally 20 to 25 miles per hour).

The function of roadways also depends on speed limits and traffic controls. Figure 12 shows speed limits on Fairview roadways and traffic controls at study intersections.

Freight Routes & Restrictions

In Fairview, ODOT classifies I-84 (Columbia River Highway No. 2) as an Interstate Highway, National Highway System (NHS), National Network, Freight Route, and Reduction Review Route. It provides mobility, safe and efficient high-speed continuous-flow operation, and connections to major cities, regions within and outside of the state, and regional trips within the metropolitan area. The State Highway Freight System classifies I-84 as a Federal Truck Route and an Oregon Freight Route.

The Regional Freight Plan¹⁴ identifies I-84 as a “Main Roadway Route” and the following roadways as “Road Connectors” in the regional freight system in Fairview: NE Marine Drive, NE Sandy Boulevard, NE 223rd Avenue north of I-84, Fairview Parkway, and NE Glisan Street (east of Fairview Parkway). It is also important to note that there is a 40-foot truck length restriction on NE 238th Avenue and NE 242nd Avenue between NE Halsey Street and NE Glisan Street (outside the City of Fairview’s limits) that may increase heavy vehicle demand on Fairview Parkway.

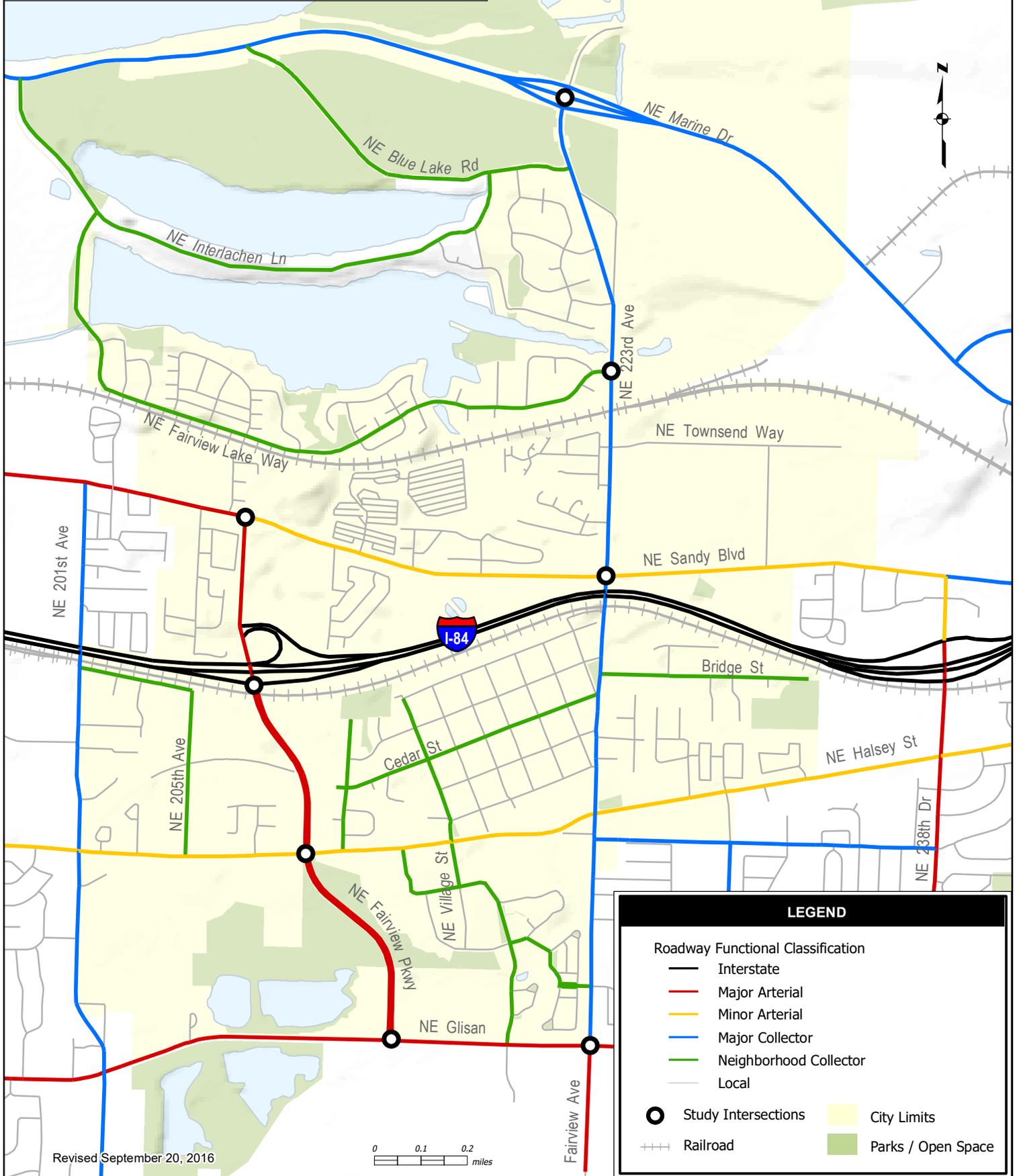


Sign at I-84 Interchange

¹⁴ *Regional Freight Plan*, Metro, June 2010.

City of Fairview
TRANSPORTATION SYSTEM PLAN

Functional Classification



LEGEND

Roadway Functional Classification

- Interstate
- Major Arterial
- Minor Arterial
- Major Collector
- Neighborhood Collector
- Local

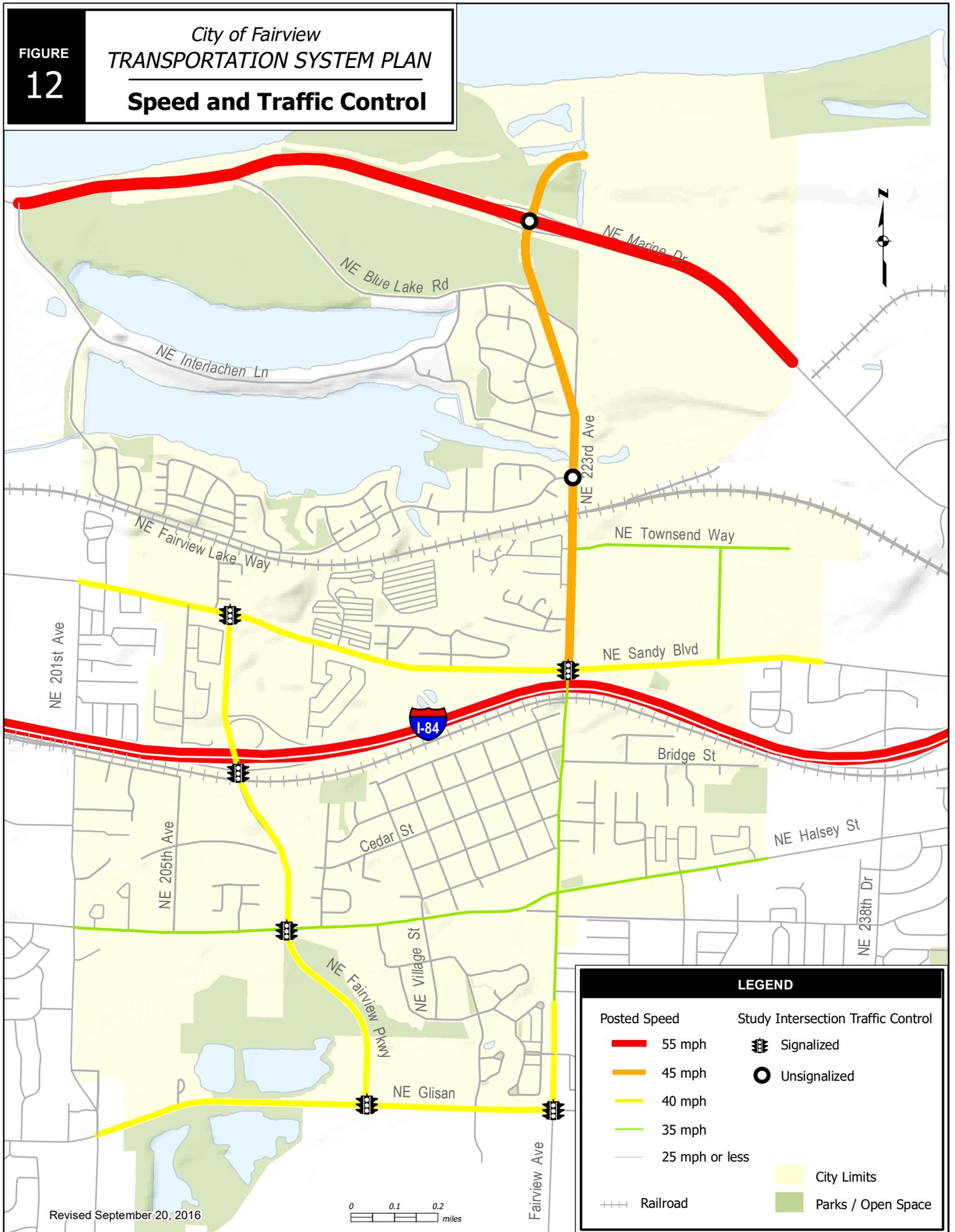
○ Study Intersections

+++ Railroad

City Limits

Parks / Open Space

City of Fairview
TRANSPORTATION SYSTEM PLAN
Speed and Traffic Control



Street Design Standards

The characteristics of existing city streets in Fairview were developed to meet the function and demand for each facility over time. Roadway design can vary from segment to segment depending on adjacent land uses, demand, and when the roadway was constructed. Street design standards will provide clear guidance for future development while also allowing for a degree of flexibility to fit with surrounding land uses and practical constraints.

The proposed design standards define a system that provides consistency in roadway characteristics and supports the intended uses outlined in the roadway functional classification system. The city and county should implement roadway design standards as redevelopment occurs and with other transportation improvements. The Public Works Director may approve exceptions to roadway standards to provide for safe transitions between roadway types or to fit within the character of existing neighborhoods (e.g., Fairview Lake Road, Fairview Village).

All arterials (major and minor) and major collectors in Fairview are under Multnomah County jurisdiction and subject to Multnomah County design standards. Figures 13 through 19 illustrate the proposed cross-section standards for neighborhood collectors and local streets in Fairview as well as alleys and cul-de-sacs.

Table 8 summarizes the applicable right-of-way and paved width for each roadway type. Alternative roadway cross-section standards apply for Old Town Fairview¹⁵. Refer to TSP Volume II, Section I for additional details about street design and information about how the previous TSP updated the standards.

The city should implement roadway design standards as redevelopment occurs and with other transportation improvements.

These standards support the intended street system function.

¹⁵ City of Fairview Renaissance Plan, McKeever/Morris, Inc., July 25, 1997

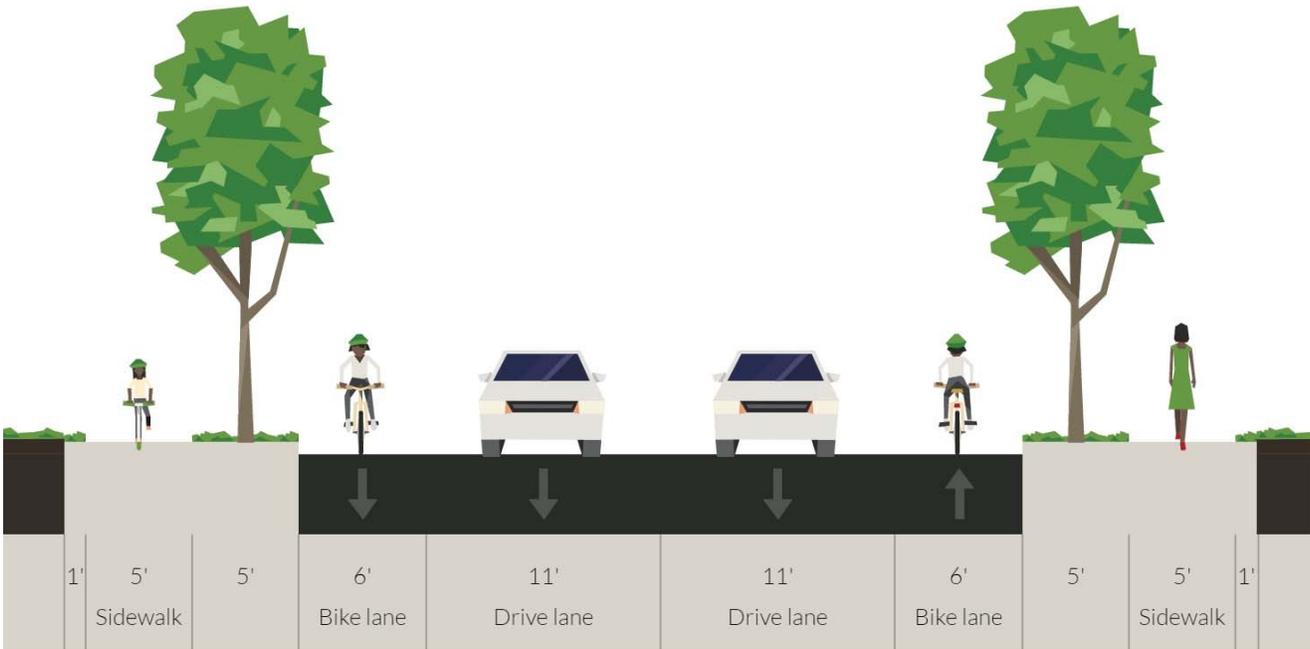
Standards

Table 10: Right-of-Way and Paved Width by City Roadway Type

Roadway Type	Paved Width (curb-to-curb)	Right-of-Way
Neighborhood Collector with bike lane	34 feet	55-56 feet*
Neighborhood Collector with parking	34 feet	55-56 feet*
Local Residential	28 feet	49-50 feet*
Local Commercial	38 feet	60 feet
Local Industrial	40 feet	60 feet
Alley	16 feet (buffer on both sides) 20 feet (buffer on one side)	24 feet
Cul-de-sac	24 feet	47 feet

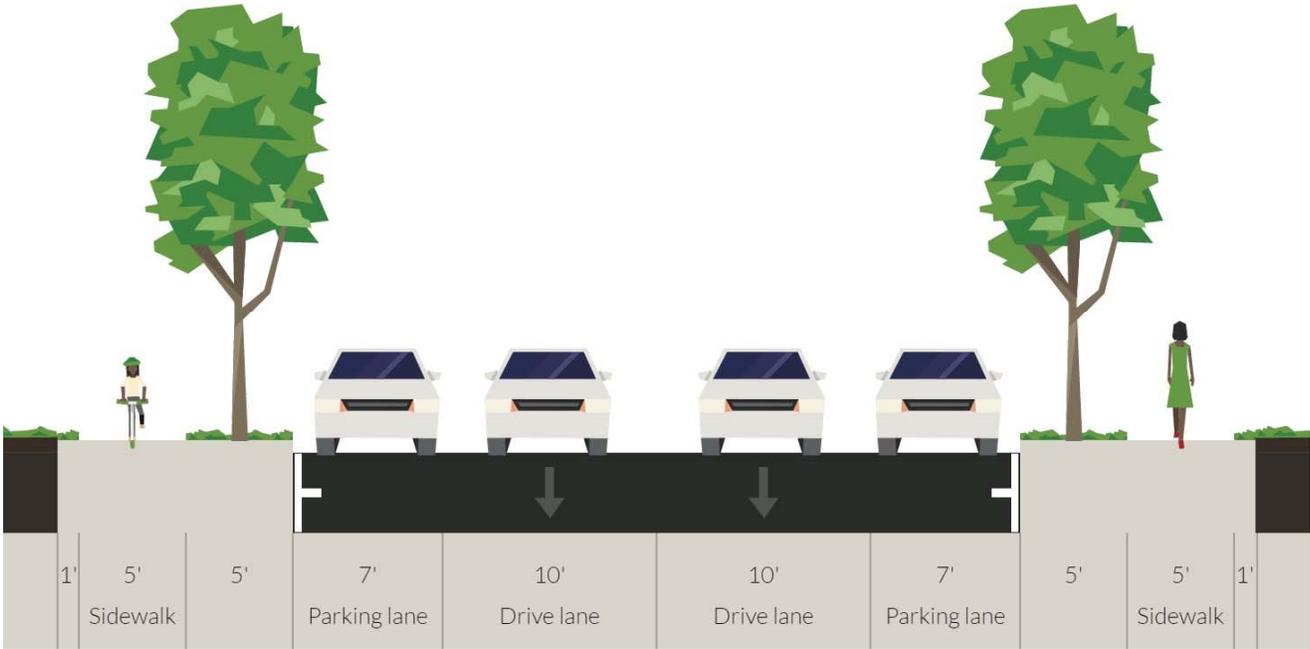
* The city may reduce sidewalk buffer width (on both sides of the street) from 1 foot to 0.5 foot in residential areas

Standards



Note: the city may reduce the sidewalk buffer width from 1 foot to 0.5 foot in residential areas

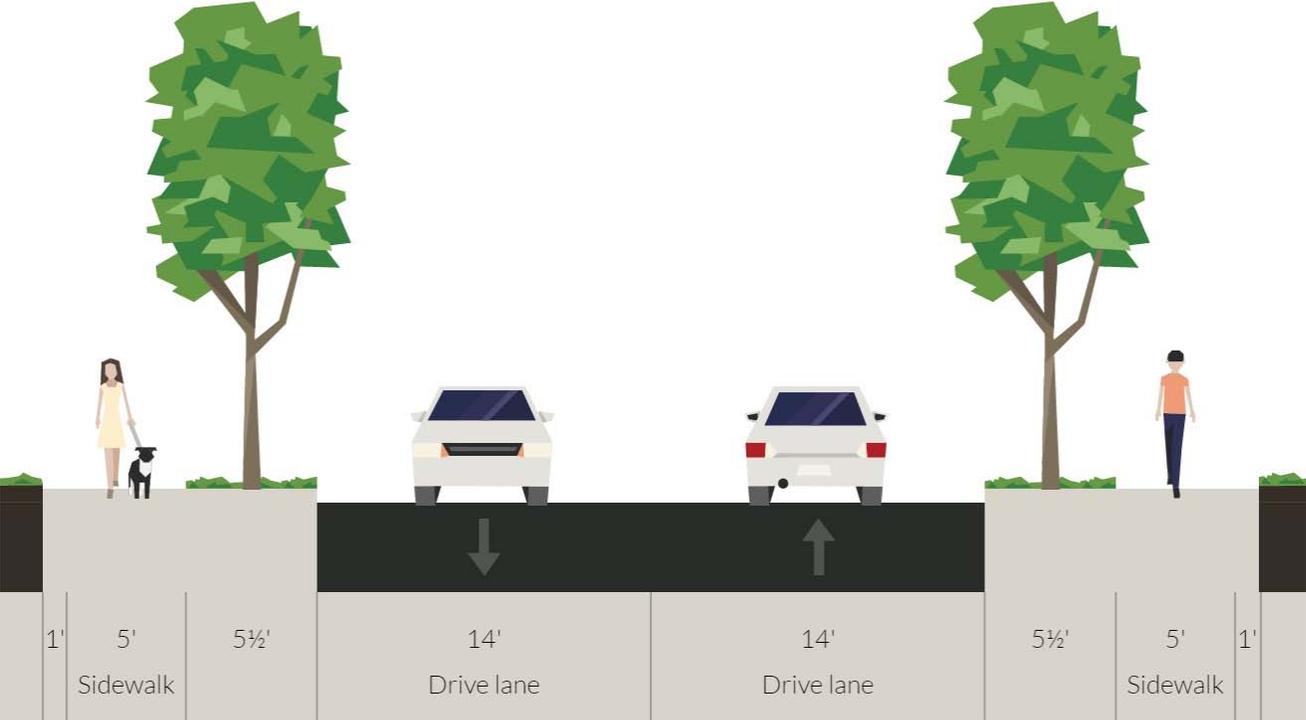
Figure 13: Cross-Section Standard for Neighborhood Collector with Bike Lane



Note: the city may reduce sidewalk buffer width from 1 foot to 0.5 foot in residential areas

Figure 14: Cross-Section Standard for Neighborhood Collector with Parking

Standards



Note: the city may reduce sidewalk buffer width from 1 foot to 0.5 foot in residential areas
 Note: parking permitted on both sides of the street

Figure 15: Cross-Section Standard for Local Residential Street

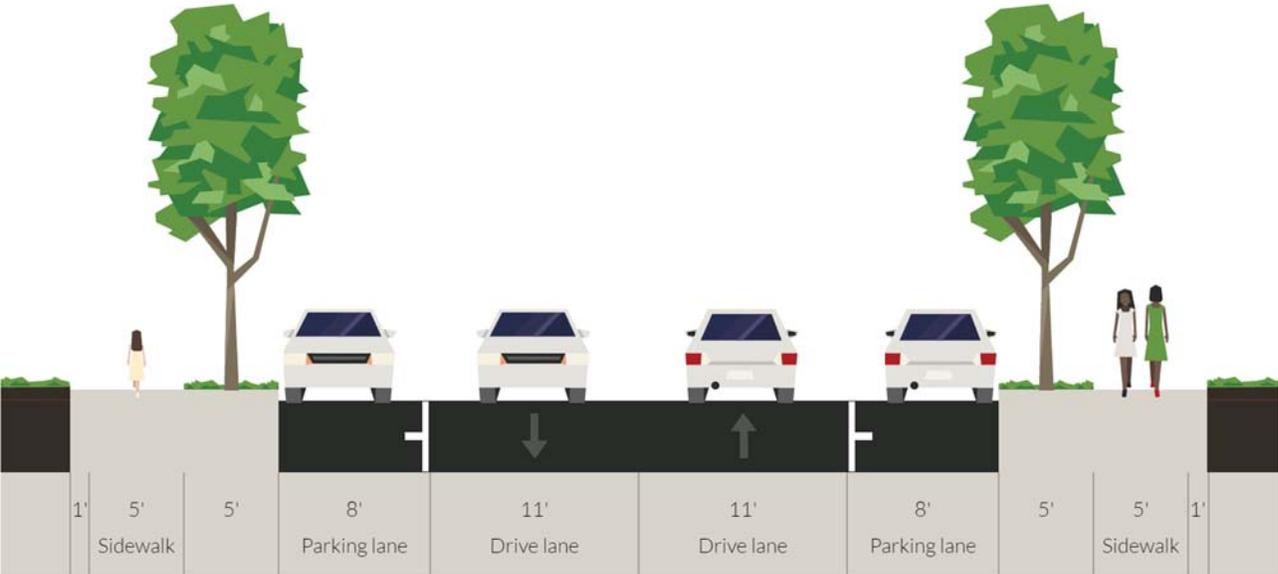


Figure 16: Cross-Section Standard for Local Commercial Streets

Standards

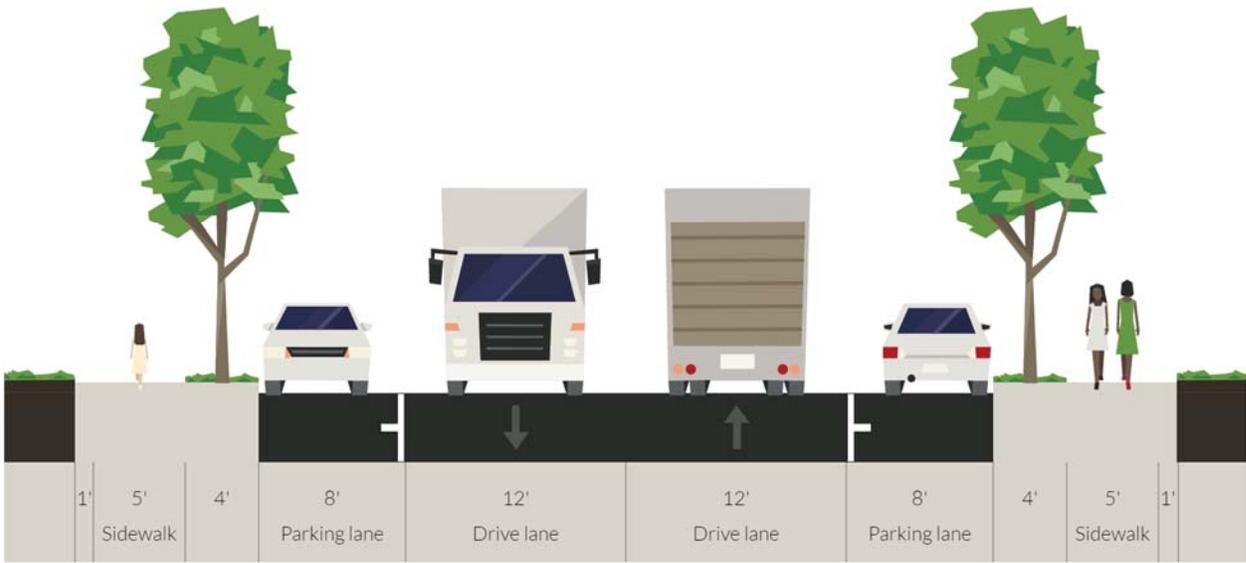


Figure 17: Cross-Section Standard for Local Industrial Streets

Option A: buffer on both sides

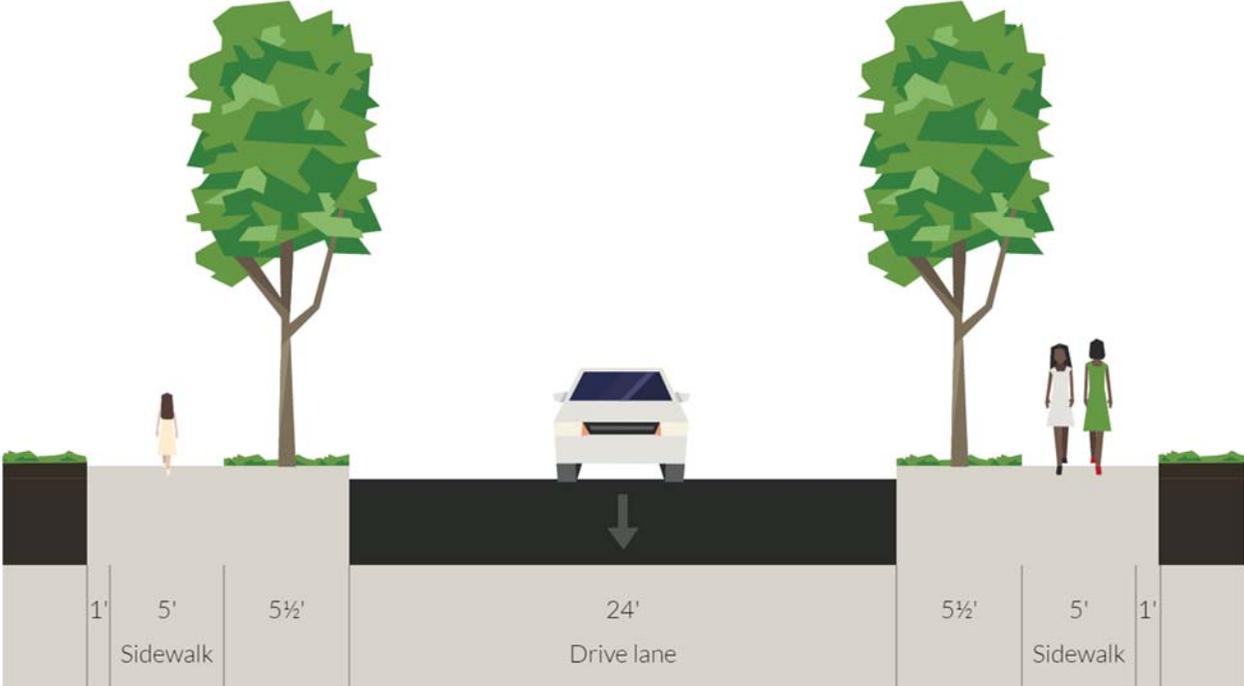
Option B: buffer on one side



Note: no parking permitted in alleys

Figure 18: Cross-Section Standard for Alleys

Standards



Note: the city may reduce sidewalk buffer width from 1 foot to 0.5 foot in residential areas

Figure 19: Cross-Section Standard for Cul-de-sacs

Spacing Standards

To promote efficient circulation throughout the city, land divisions and large site developments should support a well-connected network of transportation facilities. Spacing standards support the intended function of roadways as defined by the roadway functional classification.

Access Spacing Standards

Access Management is a broad set of techniques that control vehicular access to maintain the capacity of the facilities and preserve their functional integrity. Access management strives to balance maintaining the integrity of the facility with providing access to adjacent parcels. Properly implementing access management standards and techniques can reduce congestion and accident rates, lessen the need for roadway widening, conserve energy, and reduce air pollution.

Access spacing standards for local streets in Fairview require a minimum of 50 feet separation.¹⁶ Multnomah County access spacing standards apply on arterial or major collector streets. Table 9 shows Multnomah County's¹⁷ intersection spacing standards for arterials and collectors.

ODOT sets access spacing standards for driveways and approaches to the state highway system.¹⁸ For I-84, new interchanges must be spaced at least three miles from existing interchanges.

Properly implementing access management standards and techniques can reduce congestion and improve safety.

¹⁶ Refer to Title 19.162.020 subsection G3 for special provisions

¹⁷ Multnomah County Design and Construction Manual, p.1-6 <https://multco.us/file/16499/download>. Note – the Multnomah County Manual includes spacing standards in metric format; for consistency with the rest of the City of Fairview standards, these standards are shown rounded to the nearest 10 feet or mile.

¹⁸ 1999 Oregon Highway Plan, OHP Policy 3A, Access Management Standards (Appendix

C):<http://www.oregon.gov/ODOT/TD/TP/pages/ohp.aspx>

Standards

Table 11: Minimum Intersection Spacing Standards (Multnomah County)¹⁹

Functional Classification	Major/Principal Arterial	Minor Arterial	Major Collector	Neighborhood Collector	Local Residential Street	Local Commercial/Industrial Street
Major/Principal Arterial	1 mile	1 mile	¼ mile	980 feet	490 feet	490 feet
Minor Arterial	1 mile	½ mile	980 feet	790 feet	390 feet	390 feet
Major Collector	¼ mile	980 feet	790 feet	590 feet	300 feet	330 feet
Neighborhood Collector	980 feet	790 feet	590 feet	490 feet	200 feet	200 feet

Maximum Block Spacing

Table 10 defines the maximum block length and perimeters for Fairview. Mixed-use and residential development proposed on sites five acres or greater must submit a site plan that identifies conceptual street connections that are consistent with Table 1 and the TSP Local Street Connections (Figure 9). The City Public Works Director may modify or waive these standards due to major barriers (e.g., railways, freeways, topography, pre-existing development, or other resources).

¹⁹ Multnomah County’s standards are in metric format. The project team has converted the distances to feet to be consistent with the rest of the City’s TSP

Standards

Table 12: Maximum Block Length and Perimeter

Land Use District	Maximum Block Length	Maximum Block Perimeter
Town Center Commercial ²⁰	200 feet	1,200 feet
Corridor or Neighborhood Commercial	300 feet	1,200 feet
Residential	530 feet	1,600 feet
General Industrial ²¹	700 feet	1,700 feet

Connectivity standards support direct connections that offer legitimate travel choices for people in the community.

The city may grant exceptions to the roadway spacing standards when property owners divide blocks by one or more multi-use pathways that minimize out-of-direction travel for people who walk or bike. The city requires multi-use pathways constructed in lieu of street connections to be located at a maximum distance of 330 feet apart.

The city requires proposed pathways to provide access to existing or planned commercial services and other neighborhood facilities, such as schools, shopping areas and park and transit facilities. To the greatest extent possible, access must be reasonably direct, providing a route or routes that do not deviate unnecessarily from a straight line or that do not involve a significant amount of out-of-direction travel. Multi-use pathways must be no less than 10 feet wide and located within a 20-foot-wide right-of-way or easement that allows access for emergency vehicles.

²⁰ Exceptions defined by Fairview Municipal Code 19.65.050

²¹ Exceptions defined by Fairview Municipal Code 19.80.060

Standards

Performance

The following section identifies standards and targets established to maintain the desired performance of the transportation system.

Roadway Mobility Standards

Mobility standards for intersections in Fairview provide a quantifiable measure to evaluate the existing transportation system and assess the impacts of new development. They are an important tool to require developers to construct improvements that sustain the transportation system as growth and development occur. ODOT, Multnomah County, and the City of Fairview each define mobility standards that apply to roadways under their jurisdiction.

The City of Fairview designates Level-of-Service (LOS) “D” as the minimum performance standard for both signalized and unsignalized intersections during peak hour operation under Fairview jurisdiction. Exceptions to these standards may be applied in special circumstances to permit LOS “E” at signalized and unsignalized intersections during the peak hour, and LOS “F” on local streets intersecting with arterials or collectors, if approved by the Public Works Director.

The city standard is consistent with the Multnomah County Design and Construction Manual standards for minimum acceptable performance for signalized and unsignalized intersections.²²

Where more than one performance measure would apply at an intersection, the city will apply the measure of the partner agency. ODOT standards call for a maximum volume to capacity (v/c) ratio of 0.85 for the ramp terminals at I-84 freeway interchanges.

The city mobility standard differs from the Metro standards. Metro standards require roadways to operate at or below a volume to capacity (v/c) ratio of 1.1 during the peak first hour, and 0.99 during the peak second hour in the designated Town Center. The standard for roadway segments through the Main Street land use area require below a volume to capacity (v/c) ratio of 0.99 during the peak first and second hours for all other roadways.

Mobility standards are a tool to require improvements to sustain motor vehicle mobility as growth and development occur.

²² Multnomah County Design and Construction Manual, p.1-6
<https://multco.us/file/16499/download>

Standards

RTP Performance Targets

The Metro RTP established new performance targets (see Table 11) for safety, congestion, freight reliability, climate change, active transportation, sidewalk/trail/transit infrastructure, clean air, travel, affordability, and access to daily needs. Fairview will work toward and support achieving the regional goals reflected in the performance targets.

Table 43: RTP Performance Targets

Objective	Target by 2035
Safety	Reduce serious injuries and fatalities in all modes of travel by 50% (vs. 2007-2011 average)
Congestion*	Reduce vehicle hours of delay (VHD) by 10% per person (vs. 2010)
Freight reliability	Reduce VHD per truck trip by 10% (vs. 2010)
Climate change	Reduce transportation greenhouse gas emissions per capita below 2010 levels
Active transportation	Triple walking, biking and transit mode share (vs. 2010)
Basic infrastructure	Increase by 50% access times to sidewalks, bikeways, and trails (vs. 2010)
Basic infrastructure	Increase by 50% access times to sidewalks, bikeways, and trails (vs. 2010)
Clean air	Ensure 0% population exposure to at-risk levels of pollution
Travel	Reduce vehicle miles traveled per person by 10% (vs. 2010)
Affordability	Reduce average household combined cost of housing and transportation by 25% (vs. 2010)
Access to daily needs	Increase by 50% the number of essential destinations within 30 minutes by bike, transit for low-income, minority, disabled pop. (vs. 2005)

Standards

Transportation Impact Study Requirements

The city may require a transportation impact study prepared by a qualified professional to determine access, circulation, traffic and other transportation requirements. Any proposed development that includes more than 10 dwellings or generates at least 100 vehicle trips per day must provide an analysis of traffic, safety, and transportation impacts. Traffic impacts should be evaluated for the build-year of the proposed development as well as the future year (planning horizon), as required for compliance with the Oregon Transportation Planning Rule.

The transportation impact analysis should identify traffic operations impacts at intersections where expected traffic will generate more than 50 vehicle trips per day. Safety-related mitigations should be identified where the expected traffic will generate at least a 10% increase to existing traffic on an approach to a high crash intersection or at least a 10% increase to existing traffic on a high crash roadway segment.

Developments on properties identified as industrial lands in Title 4 of the Metro Urban Growth Management Functional Plan must include a freight network impact statement in all traffic studies. The purpose of this statement is to analyze potential adverse effects of the proposed development on the regional freight system as identified in the Regional Transportation Plan (RTP) and the Fairview TSP.

TSM and ITS Coordination

I-84 and several of the regionally significant roadways in Fairview could benefit from TSM infrastructure. Before agencies make future investments along these roadways, or interchange ramps, designs should be reviewed with city, Multnomah County, and ODOT staff to determine if communications or other ITS infrastructure should be addressed as part of the street design/construction.

Neighborhood Traffic Management Tools

Neighborhood Traffic Management (NTM), or traffic calming, refers to street design techniques used to promote safe, slow streets (primarily in residential and mixed-use areas). The intention of these tools is to mitigate the impacts of traffic on neighborhoods and business districts that need a greater balance between safety and mobility. They are not intended to create significant reductions to vehicle capacity. Physical traffic calming techniques include:

- Narrowing the street by providing curb extensions or bulb-outs, or mid-block pedestrian refuge islands
- Deflecting the vehicle pathways vertically by installing speed humps, speed tables, or raised intersections
- Deflecting the vehicle pathways horizontally with roundabouts or mini-roundabouts
- Altering vehicle routing by constructing diverters or applying turn restrictions at roadway intersections

Traffic calming measures must balance the need to manage vehicle speeds and volumes with the need to maintain mobility, circulation, and function for service providers (e.g., emergency response). Any traffic calming project should include coordination with staff from emergency response providers.



Curb Extension with Ramp

Outcomes

The Improved Transportation System

The Financially Constrained investments identified in the TSP will improve the performance of the transportation system in Fairview. The following list highlights key outcomes expected by 2035:

- **Expanded Active Transportation Network:** Make a number of multi-modal connections that will include sidewalk and bicycle lanes. Major improved corridors include NE 201st Avenue, NE 223rd Avenue, NE Sandy Boulevard, NE Glisan Street, and NE Arata Road.
- **Improved Safety:** The TSP identifies several projects to reduce travel conflicts, especially along Sandy Boulevard and NE Halsey Street where there are documented safety issues.
- **Sidewalk Infill:** The TSP identifies two city programs to develop funding strategies for sidewalks in Old Town Fairview and other residential areas throughout Fairview.

Other improvements identified in the Illustrative Solutions list of the TSP will further improve the performance of the transportation system in Fairview if additional funding sources become available.



Active Transportation Signs

Potential Additional Funding

The city may wish to consider expanding its funding sources in order to support desired improvements (i.e., Illustrative Solutions) within the TSP planning horizon. Potential sources of funding include:

- **Transportation Utility Fees:** A monthly usage fee, similar to other utilities.
- **Local Gas Tax:** Many communities in Oregon apply a one- to three-cent tax per gallon sold.
- **Transportation System Development Charge:** One-time fee charged to new developments in the city.
- **General Fund Revenues:** Diversion of funds from other city programs
- **Local Improvement Districts:** Area-specific improvements that benefit property owners within the district.
- **Debt Financing:** Borrowing to spread the burden of cost between current and future users.

Without additional or new funding sources, the city will continue to seek grant opportunities to fund transportation improvements. TSP Volume II, Section I contains more information on potential funding sources, including potential revenue generation estimates if implemented.

Technology Advancements

The impacts of technology on vehicles, facilities, and travel behavior are unknown, but the city can expect significant change to occur through 2035. Potential drivers of change include travel costs (e.g., energy/ fuel), electric vehicle charging stations, electric-assist bicycles, shared-use mobility, autonomous or “connected” vehicles, and “smart” infrastructure.

By focusing on providing safe multimodal connections that increase travel choices within the city, the Fairview TSP is flexible and adaptable to support future developments and technological innovation. The city will continue to monitor opportunities arising from innovations in transportation technology and anticipate their impact on investment priorities.

