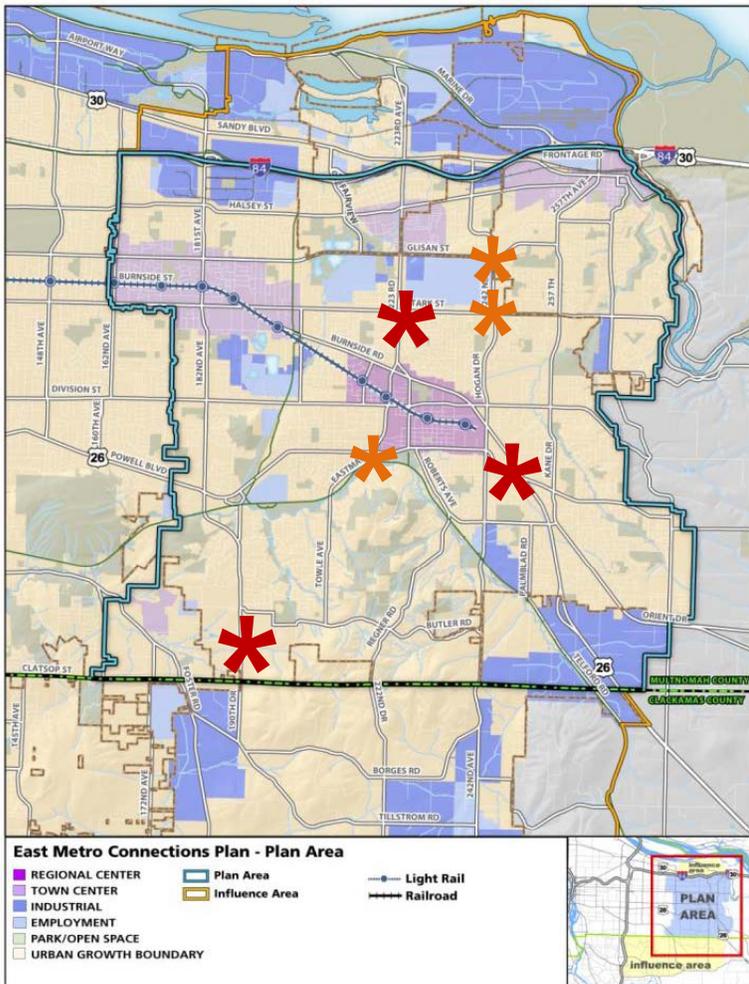


Findings and solutions



A new or dramatically widened connection between I-84 and US 26 is not needed based on traffic volumes projected through 2035



In the future, some areas will experience congestion greater than today and may require new lanes or intersections changes

Areas with future congestion

- 223rd & Stark - Severe
- 242nd & Burnside, Powell - Severe
- 242nd & Glisan, Stark - Moderate
- Powell & 174th , Eastman - Moderate
- Highland/190th Corridor - Severe



Lower cost solutions to congestion, such as signal timing, can be applied in many areas

- 181st corridor
- Kane corridor
- 207th/Glisan/223rd corridor
- Burnside corridor
- Hogan corridor
- Powell corridor

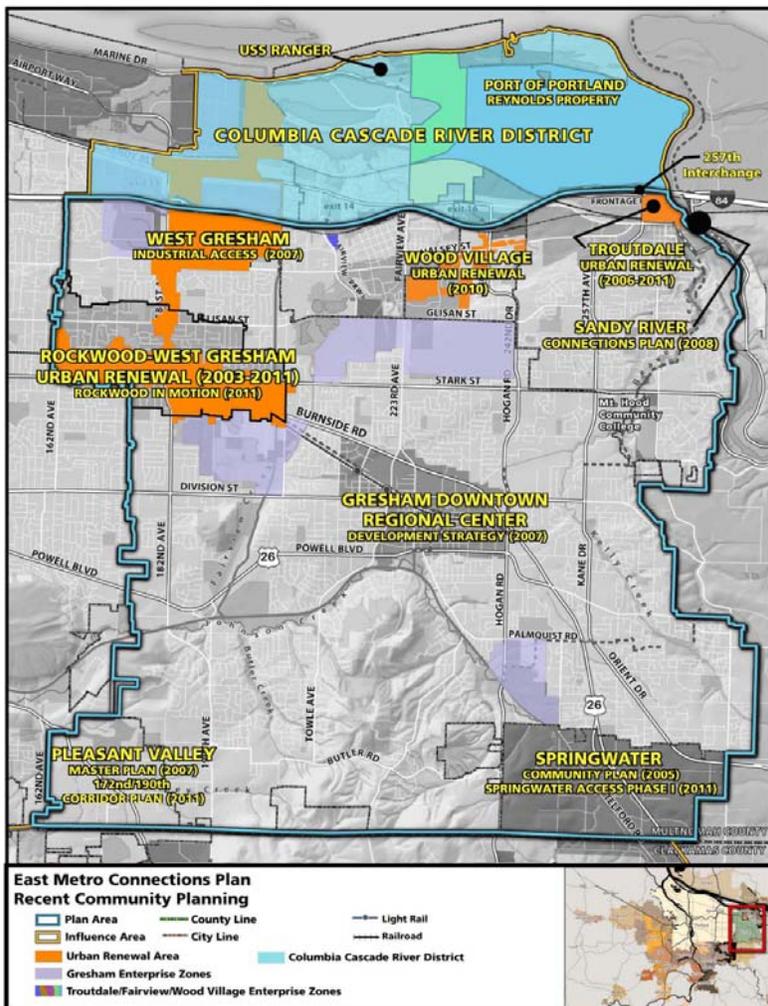
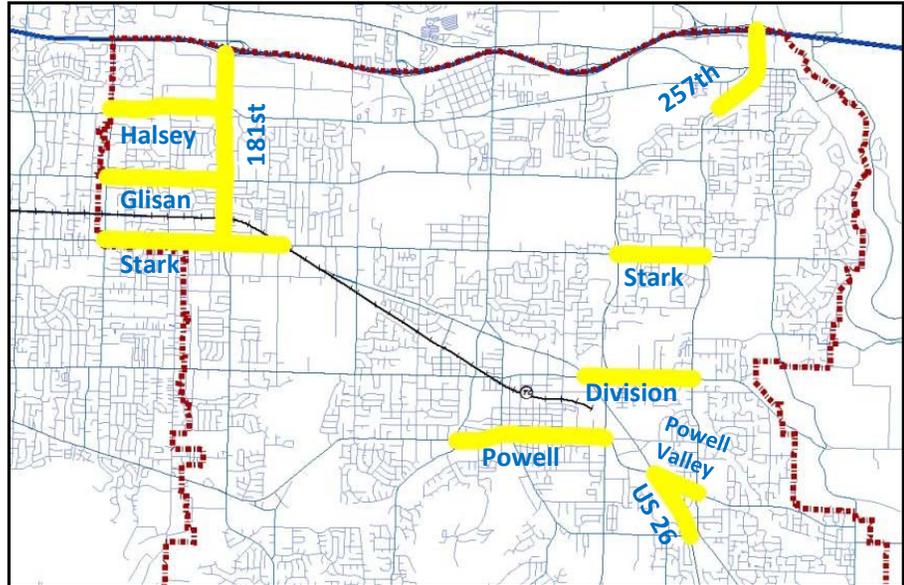
Findings and solutions



Frequent transit service, especially north/south bus service, is lacking

Higher rate of crash-related injuries and fatalities prompts safety strategies at locations including

- Division between 175th and 257th
- 181st/Stark to I-84 and Rockwood
- Halsey and Glisan between 162nd and 192nd
- Cherry Park and 257th
- Hogan/Burnside/Powell



Transportation investments that encourage new employment and development of employment lands could provide local jobs and revenue for things such as schools and parks

Potential project solutions

Better signalization: Adaptive signals

Signals self-adjust to demand
Evidence indicates 10% capacity boost

Increases corridor and intersection capacity
May eliminate need for higher-cost fix



Better signalization: Signal priority

Adjusts timing to favor buses
15% bus travel time savings

Plan area has adaptive signal timing in some places such as portions of 181st, portions of Burnside. There are opportunities for additional signal timing changes throughout the area.



Street connectivity

Spacing arterials about 1-mile apart, collector streets 1/2-mile apart, with supporting local streets.

Network completion reduces need to widen, provides route choices, and supports walking, biking, transit use.



New intersection turn lanes

Dual left turn lanes, or dual right turn lanes can add capacity to an intersection.



223rd & Glisan has double left turns

Road widening to 4-5 lanes

Adds capacity to roadway
Reduces motorist delay
Higher rate of crashes, injuries
Larger intersections reduce efficiency



Areas for potential road widening include 190th and Hogan/242nd

Flashing yellow arrows

Flashing yellow arrows reduce delay. They are not appropriate everywhere.



Speed management

Techniques to manage traffic speeds on arterial roadways can provide for more reliable mobility

Raised or textured intersections
Gateway treatments
Medians and crosswalks
Video enforcement



Areas to consider include the arterials in Rockwood, 257th in Troutdale, Powell, Division and Eastman in Downtown Troutdale, Halsey in Fairview and Wood Village

Roundabouts

Reduce crashes; reduce injuries 70-80%
The safest known intersection form
Reduce delay for all users
Can eliminate need for road widening
Can serve as gateway feature



Areas could include new roads in Pleasant Valley. These would be consistent with the Clackamas County 172nd/190th Corridor Plan.

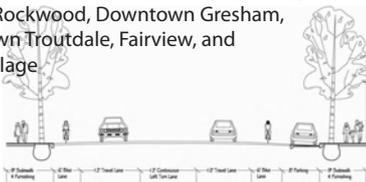
Improved crossings

Turn a dangerous crossing into a safe and comfortable crossing
Medians or refuge islands can lead to as much as 40% crash reduction



Improved sidewalks

Widened sidewalks that provide buffer from the street with trees or parking makes walking safer and more comfortable. Areas with high walking include Rockwood, Downtown Gresham, Downtown Troutdale, Fairview, and Wood Village



Summary of candidate projects evaluated

Presented here is an overview of solutions proposed that address needs and reflect community priorities. Projects were developed, screened and evaluated.

A) 181st/182nd

- Allow for future roadway access south to Clackamas County
- Consider upgrading transit service to frequent service between Sandy and Powell
- Improve safety features between Sandy and Stark
- Improve bicycle and pedestrian facilities between Rockwood and I-84 interchange, including the Rockwood triangle

B) Fairview Parkway/Glisan/223rd/Eastman

- Improve 2-lane section of Glisan to allow for mobility, safety and bus movement
- Address the need for additional roadway capacity in the future at 223rd/Stark through intersection improvements or an improved collector street network
- Provide multimodal and safety improvements on Eastman Parkway in Gresham Regional Center

C) 238th/242nd/Hogan

- Provide for freight capacity and mobility along this corridor
- Accommodate future access to Springwater and southern connections to Clackamas County
- Address the need for additional roadway capacity in the future on Hogan between Division and Palmquist
- Consider gateway and way-finding design treatments

D) 257th/Kane

- Balance vehicle capacity needs with community livability and safety along 257th
- Enhance safety features, particularly between Cherry Park and Mt. Hood Community College
- Improve bicycle and pedestrian facilities between Stark and I-84 interchange

E) Halsey

- Develop projects consistent with the Halsey Street Conceptual Design Project
- Improve roadway access on Halsey between downtown Troutdale and 238th
- Consider additional frequent transit service for line 77-Halsey
- Consider route change for line 12-Sandy to Arata to serve adjacent residents and commercial areas
- Consider opportunities for safety improvements, including at 162nd and Halsey
- Complete gaps to the bicycle and pedestrian networks

F) Stark

- Improve sidewalk and crossings in Rockwood
- Improve Stark to arterial standards adjacent to Mt. Hood Community College, including completing sidewalks

G) Burnside

- Develop boulevard treatments that reinforce community connection between Rockwood and Gresham Regional Center
- Provide for freight access but de-emphasize freight mobility
- Complete sidewalks and bicycle facilities along Burnside and complete trail adjacent to MAX corridor between Rockwood and Downtown Gresham

H) Division

- Consider transit enhancements such as on-street bus rapid transit and signal prioritization for improved transit service
- Improve safety features for vehicles, pedestrians and bicyclists
- Improve bicycle and pedestrian facilities

I) Powell

- Improve sidewalk and crossings in Downtown Gresham, including crossings into Main City Park.
- Consider system management techniques, such as improved signal timing

J) Pleasant Valley

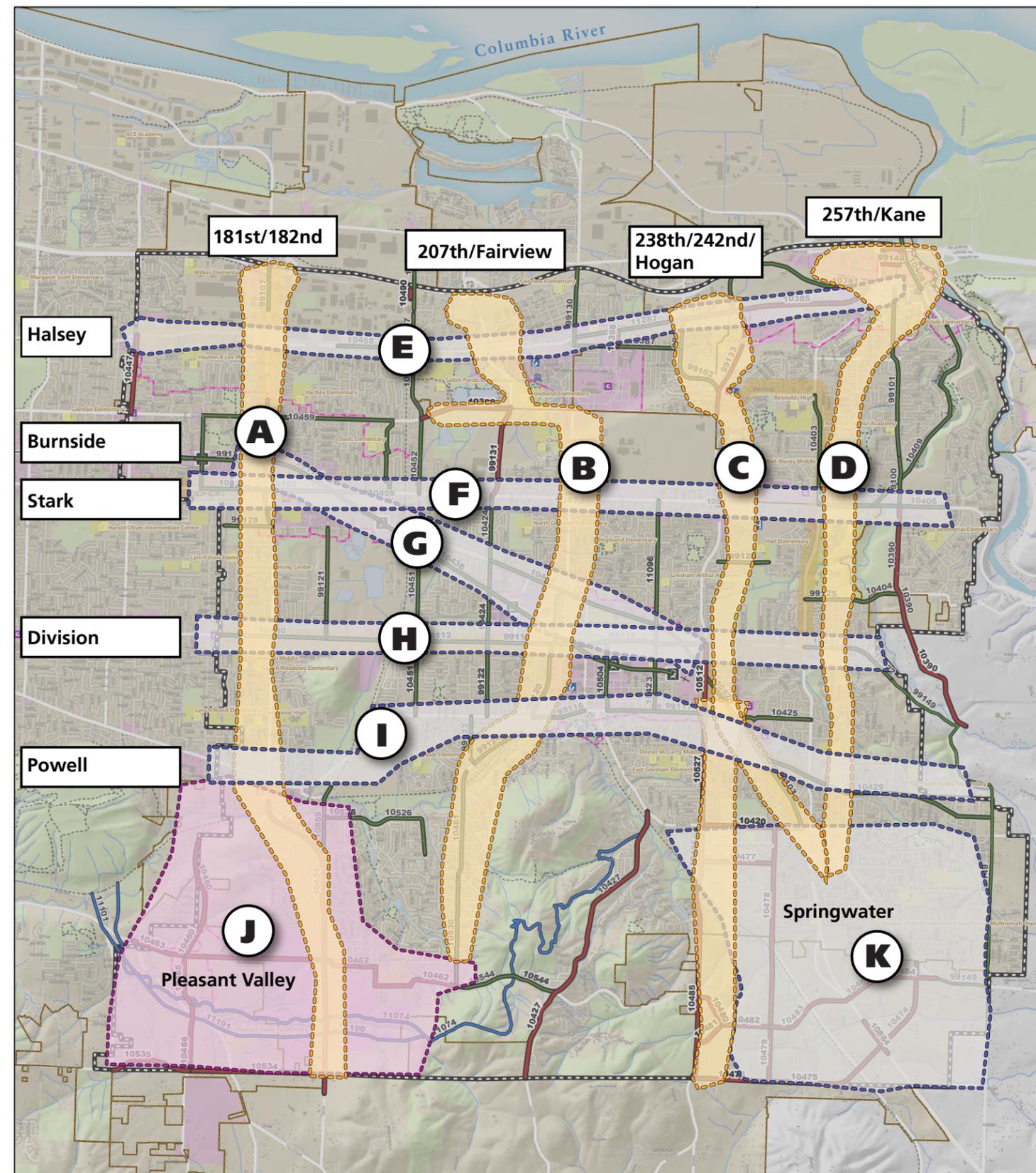
- Address the need for future roadway capacity between 172nd and 190th, including connections to Foster, Powell and Butler
- Allow for future roadway and transit connections south to Clackamas County

K) Springwater

- Provide for connections between US 26, Hogan, I-84 and Orient Drive and create road collectors to support development of Springwater

L) Other identified needs in the plan area

- Reconstruct collector streets to support a complete street system, such as Wallula, Cleveland, 190th, 201st and Troutdale Road
- Complete regional trails, including Gresham-Fairview Trail, Gresham MAX trail, Beaver Creek Trail, 40-Mile Loop connection between Sandy River and Springwater and East Buttes Trail



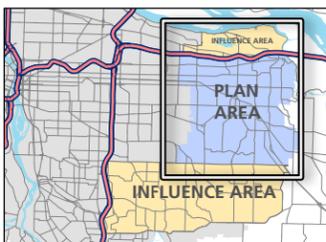
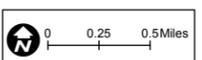
East Metro Connections Plan

February 27, 2012

- Roadway projects to be evaluated
- Bicycle and Pedestrian projects
- Environmental related projects
- Safety Corridor to be evaluated

In addition to projects identified on this map, EMCP will also be evaluating a transit system network, as well as improvements in system utilization to specific arterials. Please refer to the transit map and system management map for those projects.

- Schools
- Libraries
- Hospitals
- City halls
- Grocery stores
- Light Rail
- Light rail stops
- Trail
- 2040 Center
- School
- Park/Natural Area/Golf Course
- Mixed Use Residential
- Urban growth boundary
- Plan Area
- City boundary lines



Summary of system wide evaluation findings

ACCESS AND MOBILITY

Motor vehicle and freight

- Future congestion creates major bottlenecks at 223rd and Stark, the 242nd/Hogan-Burnside-Powell 'triangle', 242nd and Glisan, Powell and 174th, Powell and Eastman, and the Highland/190th Corridor. These major bottlenecks may need capacity improvements in the future, while other minor bottlenecks in the project area can be addressed with system management techniques such as signal timing.
- Future vehicle delay during the PM peak is mostly concentrated along 242nd/Hogan south of Powell and the Highland/190th Corridor
- Capacity improvements and new road connections within the Highland/190th and the 174th/Jenne Road/Foster Road Corridors, along 242nd south of Powell, and within the Springwater Corridor may be needed to address future growth within Pleasant Valley, Damascus and the Springwater Corridor.
- Comprehensive system management such as coordinated signal timing on all arterials will reduce the need for additional lanes or intersection changes.

Transit

- The introduction of a bus rapid transit line on Division would result in increased ridership in the plan area and in the region and would experience the highest ridership and productivity of any bus in the plan area.
- Frequency improvements to line 12-Sandy would result in over 1,300 additional boardings in the corridor, and over 3,000 additional boardings in the region.
- Frequency improvements to lines 80-Kane/Troutdale and 81-Kane/257th, along with a routing change to line 80, would result in an increase in boardings.
- Opportunity to eliminate the need to transfer for north/south trips in the plan area by interlining lines 82-Eastman/182nd and 87-Airport Way/181st along 181st/182nd. This is identified in the TriMet Transportation Improvement Program (TIP) and the recently proposed budget changes.

Active transportation

- Improvements to active transportation connections and the level of service that rated highly include improvements to Burnside and Stark in Rockwood, improvements to Division west of Wallula, improvements to Wallula between Stark and Division, improvements to Cleveland, completing Arata Road improvements and Arata connections to Halsey, and improvements to Powell Valley Road, Palmquist, and US 26 sidewalks between Powell and Palmquist.
- Regional trail priorities include completing the Gresham-Fairview trail, completing the MAX trail, extending the 40-Mile Loop trail to Downtown Troutdale, the Beaver Creek trail, and developing a future trail connection between the Sandy River and Springwater Corridor Trail.

ECONOMIC DEVELOPMENT

- A new road system in Springwater, including a new interchange, will support future employment and economic development.
- Local road connections and a trail extension from Reynolds south to Downtown Troutdale are key to leveraging development in the Troutdale urban renewal area.
- Completing the Halsey Street main street improvements will foster development in downtown Troutdale, Wood Village and Fairview.
- Safety, system management, and sidewalk and crossing upgrades in Rockwood will support ongoing public and private investment in the Center.
- Safety, system management, and sidewalk and crossing upgrades in Downtown Gresham, including along Burnside, Division, Powell and Eastman will support ongoing downtown development efforts.
- Addressing future capacity needs and safety at the intersection of Hogan, Burnside, and Powell can foster mobility throughout the plan area, and provide opportunities for clearer wayfinding into the various retail destinations within each city center.

SAFETY

- Arterials are the primary safety problem in the plan area.
- Opportunities to address high crash corridors include portions of 181st/Stark in Rockwood, Powell in Downtown Gresham, Division, Stark by Mt. Hood Community College, 257th between Reynolds high school and Mt. Hood Community College, and US 26 and Powell Valley Road between Palmquist and Powell.

HEALTHY COMMUNITIES

- Investments along US 26, Burnside, Powell, and Hogan for safety and pedestrian improvements can increase access to businesses and shopping in the Kelly Creek, Mt. Hood, and Powell Valley neighborhoods.
- Safety investments on 257th, including crosswalks and sidewalks improvements, can increase access and safety between Reynolds High School and Mt. Hood Community College.
- Transit improvements, including the 'interlining' of the bus service on 181st/182nd, improvements to service and route of the #12, and enhanced bus on Division between Mt. Hood Community College, Downtown Gresham, and Portland.
- Investments to Wallula, Eastman, Hood Street and Cleveland Street in Downtown Gresham will increase access to shopping.
- Improvements to pedestrian infrastructure along Burnside, Division, and Powell in Downtown Gresham will increase access to shopping and recreational opportunities. Safety improvements and crossings on Powell will increase access to Main City Park and the Springwater Corridor. Sidewalk improvements on Hood Street and Cleveland Street will increase access to transit stations.
- Completing the sidewalk and bicycle infrastructure on Arata Road, providing trail improvements to Halsey, and intersection improvements at 223rd and Arata will increase access to commercial areas.
- Investments in sidewalks along Stark and Troutdale Road will increase access to Mt. Hood Community College.
- Regional trail connections to complete the Gresham-Fairview Trail, the Beaver Creek Trail, and the MAX Trail will provide opportunities for recreation and access and connectivity for residents.

EQUITY

- Pedestrian and safety improvements in Rockwood on Burnside, Stark, and 181st can improve access to businesses and shopping.
- Investments along US 26, Burnside, Powell, and Hogan for safety and pedestrian improvements can increase access to businesses and shopping in the Kelly Creek, Mt. Hood, and Powell Valley neighborhoods.
- Completing the sidewalk and bicycle infrastructure on Arata Road, providing trail improvements to Halsey, and intersection improvements at 223rd and Arata will increase access to commercial areas.
- Improvements to pedestrian infrastructure along Burnside, Division, and Powell in Downtown Gresham will increase access to shopping and recreational opportunities. Safety improvements and crossings on Powell will increase access to Main City Park and the Springwater Corridor. Sidewalk improvements on Hood Street and Cleveland Street will increase access to transit stations.

NATURAL ENVIRONMENT

- Transportation improvements near Beaver Creek on Stark, Troutdale Road, and Cochran Road can improve the quality of the watershed, including the opportunity to coordinate culvert replacement with other road infrastructure.
- Sidewalk and crossing improvements on Powell Boulevard in Downtown Gresham can increase access to the Springwater Corridor and Johnson Creek.
- Sidewalk and trail improvements on 201st and the Gresham-Fairview Trail can improve access to Salish Ponds, as well as recreational opportunities north at Blue Lake Park and the Columbia River.
- Investments to Glisan near Salish Ponds can improve the culvert, stormwater, and habitat.
- Various environmental restoration and enhancement opportunities in partnership with the local jurisdictions are associated with many of the projects in the plan area. There are opportunities to improve stormwater management and culverts throughout the plan area, including at the north fork of Johnson Creek.