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Metro | *Agenda*

Meeting: East Metro Connections Plan Steering Committee meeting
Date: Wednesday, December 14, 2011
Time: 2:30 to 4:30 p.m. (4:30 to 5:30 p.m. work session)
Place: Fairview Community Center, 300 Harrison St, Fairview

Welcome

- Meeting purpose and outcomes
- Chair Craddick's opening remarks

Overview of needs and opportunities in 2035

When the committee last met they heard about the needs East Metro has today. Working together they refined and confirmed a working problem statement. This presentation highlights needs that the area is predicted to face in 2035, which sets the stage for discussing potential solutions.

- Presentation
- Discussion and questions

What is most important for East Metro at the end of this process?

The outcome of this process can result in on-the-ground projects, such as improved pedestrian crossings or changes to roadways, as well as overall cumulative effects that make East Metro communities, for example, safer and more prosperous.

- Evaluation framework
  - Presentation
  - Discussion and questions
  - Steering committee feedback and confirmation
- What solutions should we consider as candidates?
  - Overview by corridor: steering committee feedback
  - Options at 238th/242nd between Halsey and Glisan: steering committee guidance

Next steps

- Finalizing list of candidate solutions - Process, timeline for feedback and steering committee confirmation
- Looking forward to conclusion and implementation

Public comment

Adjourn

Optional project work session

East Metro Connections Plan goals

Support north/south connectivity between I-84 and US 26, as well as east/west connectivity and capacity in the East Metro plan area.

Make the best use of the existing transportation system.

Develop multiple solutions that encompass all transportation modes.

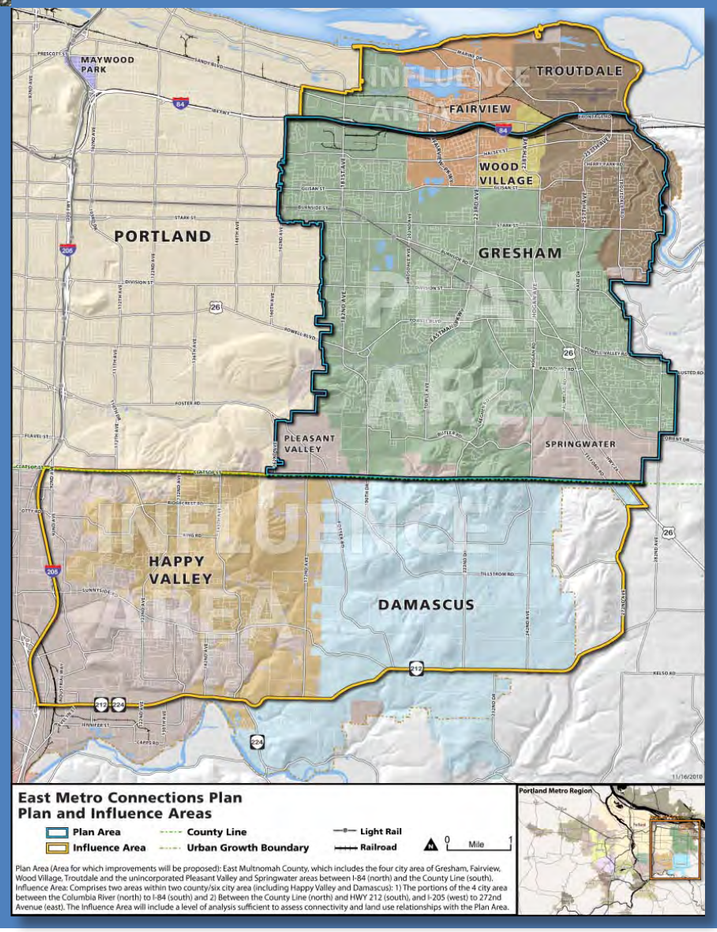
Foster economic vitality.

Distribute both benefits and burdens of growth.

Enhance the livability and safety of East Metro communities. Ensure that East Metro is a place where people want to live, work and play.

Support the local land use vision of each community.

Enhance the natural environment.



Overview

Looking forward to 2035, population and employment growth present new challenges and opportunities related to transportation. This packet builds on what the steering committee covered on July 27, 2011 by presenting a summary of these future conditions and setting up a discussion of on-the-ground projects that will eventually constitute the substance of the East Metro Connections Plan.

Next steps

The steering committee and general public is invited to provide feedback on the candidate projects in this packet through December 31, 2011. The technical advisory committee will participate in evaluating the candidate projects and reviewing initial results. The steering committee will reconvene in February 2012 to review results and provide direction on preferred strategies, and there will be opportunities for the public to be involved and provide input.

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East Metro Connections Plan: Problem Statement

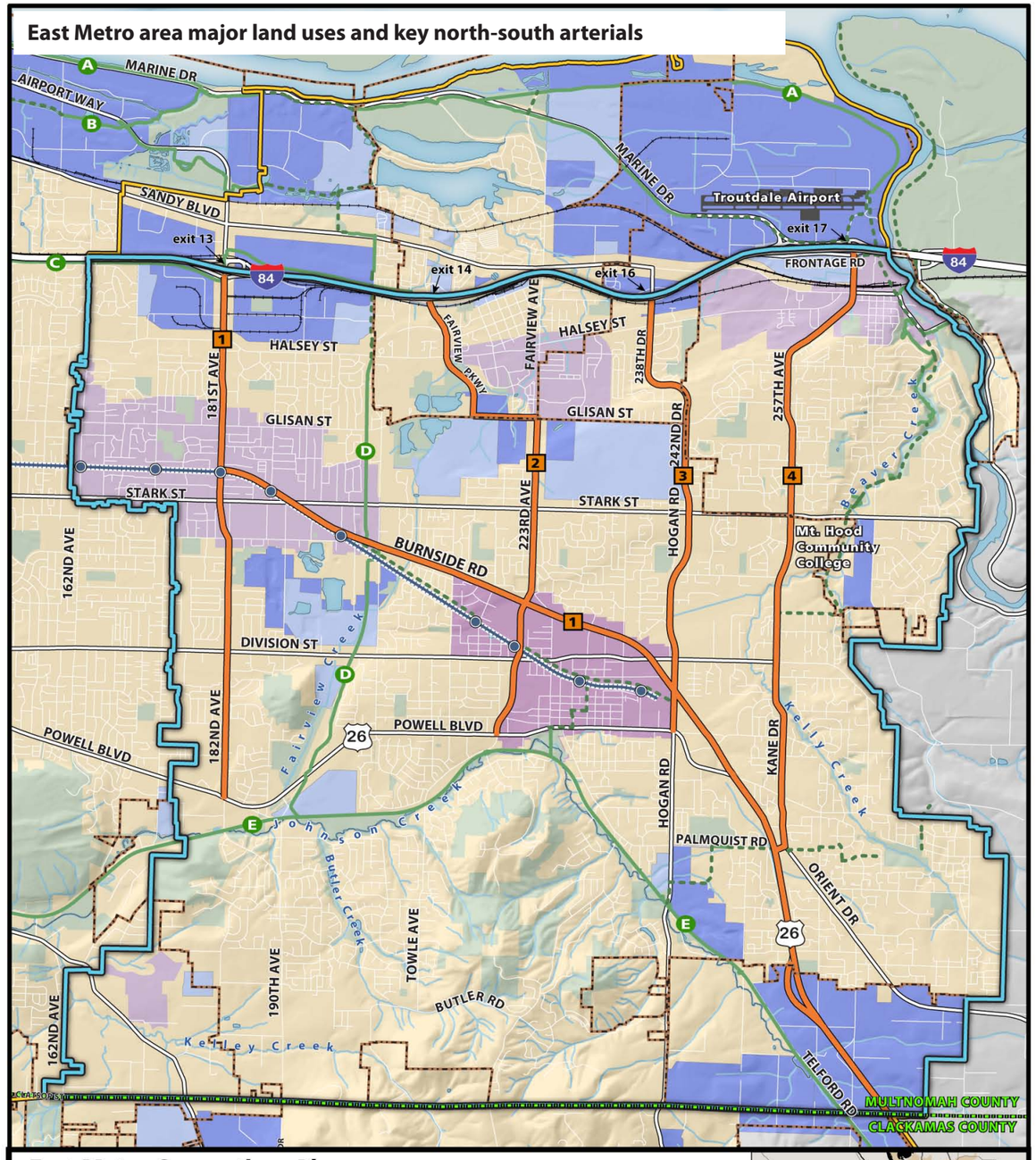
as revised by steering committee (summer 2011)

Economic and community development should be supported by the transportation system, but the system has conflicts with these goals. The current road system has safety conflicts with surrounding uses and there are gaps in the transit, bicycle and pedestrian network. Additionally, freight drivers who need a through route(s) between I-84 and US 26 are not choosing the designated National Highway System freight route. Economic vitality and opportunity are hampered by infrastructure gaps (transportation and otherwise) and market conditions. Near and long-term gains can be realized through regionally coordinated, targeted investments, local policies and incentives, and strategies that balance development aims with safety, community health, livability and equity goals. A range of actions that resolve conflicts and benefit existing and future uses should all be evaluated as part of an overall solution, including: managing traffic better; creating some new capacity for future growth; improving transit, bicycle and pedestrian options and access to them; and reconsidering freight routes and the NHS freight designation.

East Metro Connections Plan schedule

April 2011	**Goals** Honors the 2007 MOU and reflects new mobility corridor approach - community investment strategy.
July 27 2011	**Problem statement** Reflects existing and anticipated future conditions related to transportation, economic and community development and natural resources. Identifies existing and future needs, opportunities and constraints.
December 2011	**Initial strategies** Ties anticipated future conditions to potential solutions and local aspirations and identifies framework for evaluating trade offs.
January-February 2012	**Preferred strategies** Narrows solutions based on future conditions, local aspirations and the tradeoffs between different courses of action. Begins to prioritize investments.
February 2012	**Initial implementation plan** Identifies phased investments in the plan area.
March 2012	**Final implementation plan** Confirms phased investments in the plan area and identifies local implementation actions. Reflects input from local elected councils. This recommendation will then be taken to elected councils for endorsement and agreement on local actions.

East Metro area major land uses and key north-south arterials



East Metro Connections Plan

Plan Area

- REGIONAL CENTER
- TOWN CENTER
- INDUSTRIAL
- EMPLOYMENT
- PARK/OPEN SPACE
- URBAN GROWTH BOUNDARY

- Plan Area
- Influence Area
- Light Rail
- Railroad

KEY NORTH-SOUTH ARTERIALS

1. 181st/Burnside*
2. Fairview Pkwy (207th)/223rd/Eastman
3. 238th/242nd/Hogan Road
4. 257th/Kane Drive

* The Burnside/ 181st Corridor is part of the National Highway System.

KEY TRAILS

- A Marine Drive/40 Mile Loop
- B Columbia Slough
- C I-84 Trail
- D Gresham-Fairview
- E Springwater Corridor

Summary of needs and opportunities

Existing transportation needs and opportunities (review from July 27 meeting)

•The area has a rich network of east/west and north/south arterials.
•Current traffic congestion is not severe, although some areas and intersections are near capacity.
•Truck drivers traveling through the plan area do not choose the current designated freight route between I-84 and US 26.
•There are numerous safety issues and conflicts with surrounding land uses.
•The system is lacking good north/south transit and key bike and pedestrian connections.
•There are opportunities for system management solutions to manage vehicle capacity and freight movement, and improve transit mobility.

Future transportation needs and opportunities

Based on projected population and employment growth through 2035, the East Metro area will need to address some key transportation challenges and opportunities.

Vehicles and freight (pages 7-9)

•Forecasted growth will result in increased demand for better north/south connections.
•Future job growth in Springwater may require additional roads that provide access to industrial and employment lands, a new interchange, and better connections between US 26 and Hogan.
•If the road system remains as it is today, there will be congestion greater than current levels in the following areas:
-In the Pleasant Valley area along 174th, 190th and Powell
-Along Hogan Road at its intersections with Burnside and Powell
-At the intersection of Stark/223rd, as the area lacks a supporting collector road system to provide secondary routes to the arterial road network
-Other areas, such as 181st/Stark and along Eastman Parkway at Division and Powell, (but to a lesser degree than the areas listed above) presents an opportunity to use system management strategies
•Truck volumes are expected to grow faster than other vehicles, but trucks will continue to represent a small portion of all traffic.

Transit (page 11)

•There are opportunities to improve future transit service through the following potential changes to the existing system:
-Introducing bus rapid transit along the Division/Powell corridor
-Increasing the number of bus routes with frequent service and installing transit signal priority technology on frequent bus routes
-Providing additional frequent service on east/west and north/south bus routes, including the 181st/182nd corridor
-Creating better transit connections to Mt. Hood Community College
-Introducing route changes that better connect people to their jobs, including along Arata Road and the Hogan/242nd corridor
-Creating future transit connections south to Clackamas County

Active transportation: walking, biking, access to transit (pages 12-13)

•There are opportunities to improve the future pedestrian network through the following potential changes:
-Improving pedestrian infrastructure in areas of Rockwood, Downtown Gresham and along 238th, 257th and the length of Division
-Providing sidewalks where there are none along portions of Halsey, Arata, 223rd, Stark and Division, and along collector streets south of Powell
•There are opportunities to improve the future bicycle network through the following potential changes:
-Improving bicycle infrastructure in areas of Rockwood, Downtown Gresham and along 238th, 257th and the length of Division
-Providing bicycle facilities where there are none along portions of Arata, 223rd, 238th, Stark and Division between the Gresham-Fairview Trail and Wallula Street, and along collector streets south of Powell
• The pedestrian and bicycle network can be improved by expanding the area's excellent trail system, including completion of the Gresham-Fairview Trail north of Halsey, the MAX trail between Rockwood and Downtown Gresham, the Reynolds Trail/40-Mile Loop connection to downtown Troutdale, and the 40-Mile Loop connection from Troutdale to the Springwater Corridor Trail.

System utilization (Page 14)

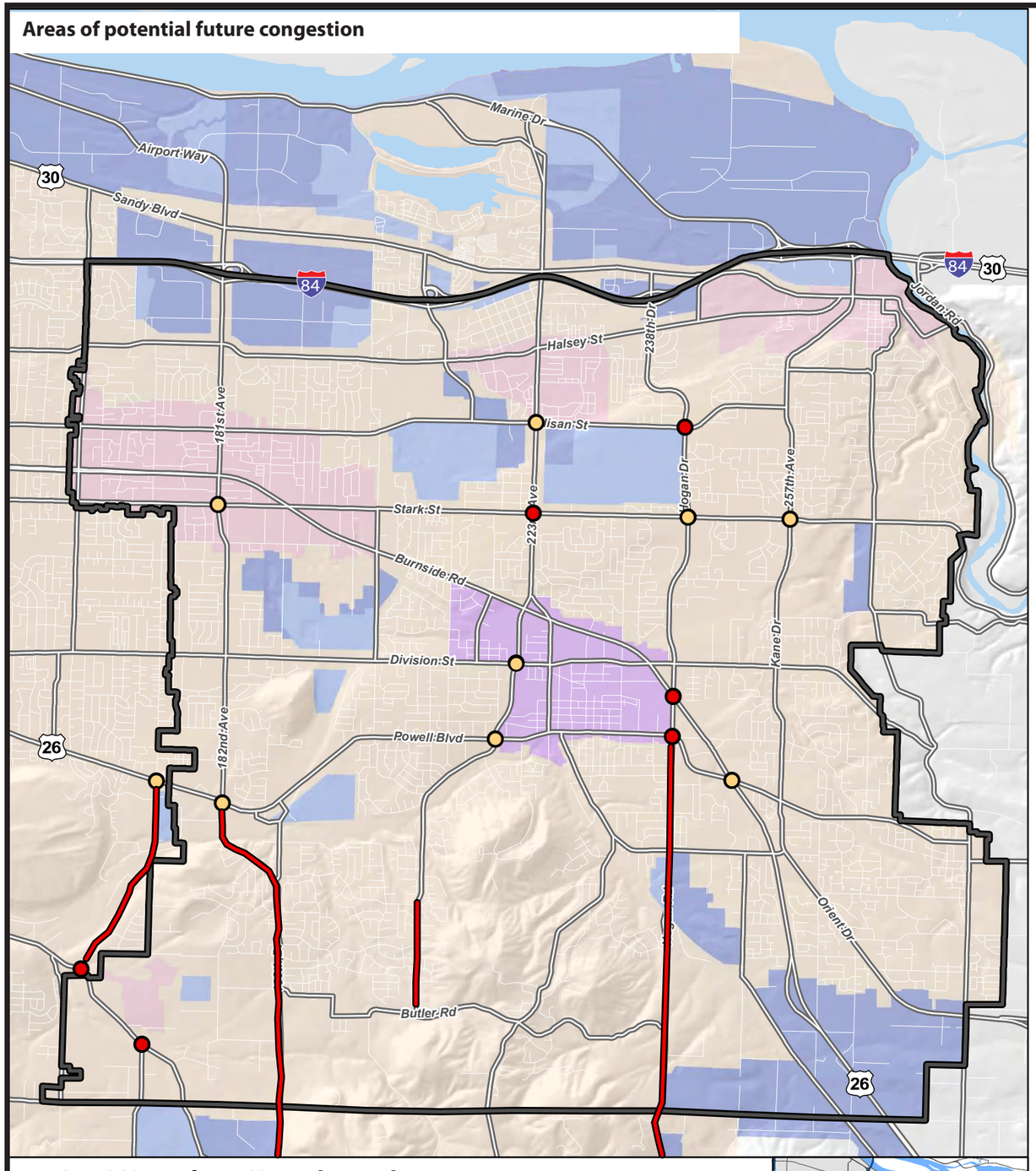
• There are opportunities to improve transit service by increasing the number of routes with frequent transit service and installing transit signal priority technology on frequent bus routes.

• There is the opportunity to employ adaptive signal systems at 223rd, 242nd, 257th, Powell and others. Adaptive signals self-adjust according to traffic demand, which increases intersection capacity by ten percent.

Safety (page 15)

• There are opportunities to implement safety strategies in areas with high crash frequencies, including:
-Division from 182nd to 257th/Kane
-181st in Rockwood from Stark to I-84
-Burnside/Hogan/Powell triangle
-US 26 between Powell and Palmquist
-238th/Hogan from Division to Powell
-Portions of 257th, particularly near Mt. Hood Community College and Reynolds High School

Areas of potential future congestion

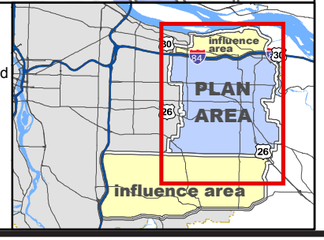


EMCP - 2035 Volume/Capacity Ratio

- Intersection demand greater than 120%
- Intersection demand betwen 100% and 119%
- Road Segment demand greater than 100%
- Regional center
- Town center
- Plan Area
- Employment Land
- Industrial Land

11/29/11

N 0 1 Mile



Future vehicular needs and opportunities

Key findings

To understand how the road network performs today and in the future, intersections and roads were analyzed during the busiest part of the day. Although traffic today is not greater than what the road network was designed to handle, expected demand in 2035 does exceed the capacity of the existing system at several locations.

If the road network remains as it is today, people will experience more congestion in the future than they do today. There will be significant congestion at some intersections and along some roads.

-Intersections shown in red on the map will likely be significantly congested without changing them to increase their designed capacity.

-Intersections shown in yellow will likely be more congested than they are today, but may be solved through system utilization strategies (pages 14, 26).

-Roadways shown in red will likely be more congested unless they are widened or new roads are added.

The plan area is expected to experience an increase in traffic similar to what is projected for the rest of the Portland area. During the busiest part of the day:

-North/south traffic is expected to increase approximately 41% by 2035.

-East/west traffic is expected to increase approximately 43% by 2035.

Identified needs and opportunities

•Forecasted growth will result in increased demand for better north/south connections.

•Future job growth in Springwater may require additional roads that provide access to industrial and employment lands, a new interchange, and better connections between US 26 and Hogan Road.

•If the road system remains as it is today, there will be congestion greater than current levels in the following areas:

-In the Pleasant Valley area along 174th, 190th and Powell, due to forecasted growth in Pleasant Valley and Damascus

-Along Hogan Road at its intersections with Burnside and Powell

-At the intersection of Stark/223rd, as the area lacks a supporting collector road system to provide secondary routes to the arterial road network

-Other areas, such as 181st/Stark and along Eastman Parkway at Division and Powell, (but to a lesser degree than the areas listed above) presents an opportunity to use system management strategies

Future freight and goods needs and opportunities

Key findings

Findings about the way trucks currently move in and through the plan area were shared at the July 27 meeting. Key points included:

- Trucks represent a small portion of total traffic in the plan area – less than 3% of all trips throughout the day.
- Traffic counts in 2011 at afternoon rush hour show trucks are fairly evenly distributed in the plan area across the four north/south arterials (181st, 223rd/Fairview, 242nd/Hogan and 257th/Kane).
- Traffic counts in 2010 and 2011 (on 181st, 242nd and 257th) show more trucks during the morning rush hour (4 to 5%) than the afternoon rush hour.
- Truck drivers traveling through the plan area do not prefer 181st and Burnside, which is designated in the regional freight plan as the main roadway route for freight, as much as the other three north/south routes. Truckers report safety, conflicts with the light rail on Burnside and travel time as the reasons they do not prefer that route.
- Truck traffic has grown on 257th/Kane following its recent changes, and residents report concerns about the amount of trucks, particularly in the early morning hours.
- 223rd and 257th/Kane are carrying freight through the plan area but are not designated as freight routes.

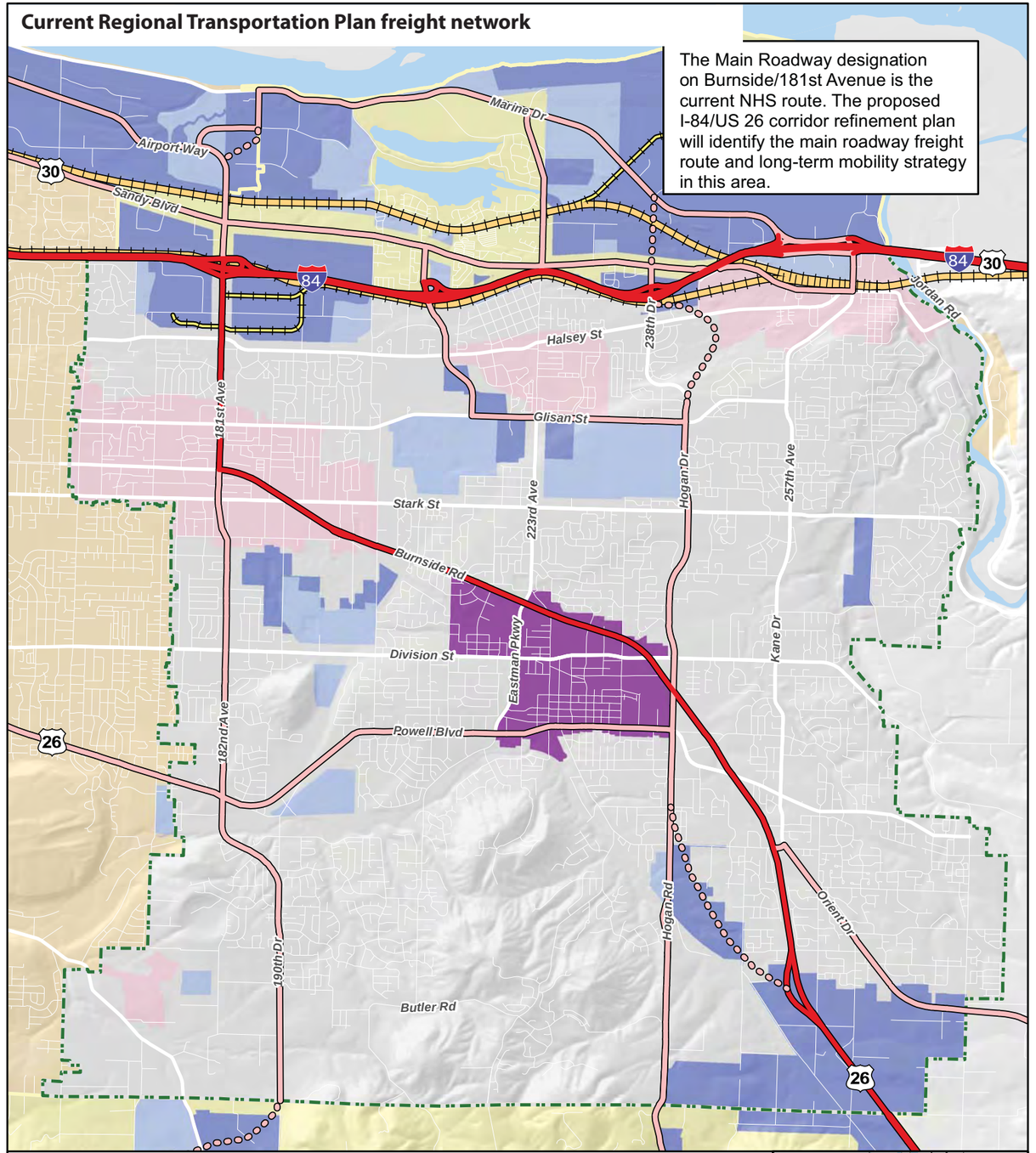
Findings about the way trucks will move in and through the plan area in the future include:

- Truck volumes are projected to grow at a faster rate than other vehicles, but will continue to represent a relatively small portion of all traffic.
  - On north/south routes in the plan area, truck volumes are projected to represent less than 2% of all vehicles (measured on all routes combined during afternoon rush hour).
  - On east/west routes in the plan area, truck volumes are projected to represent less than 4.5% of all vehicles (measured on all routes combined during afternoon rush hour).
- The proportion of trucks moving through the plan area on 181st is projected to grow slightly and approach the proportion of through trucks on other north/south arterials during afternoon rush hour.

Identified needs and opportunities

- Current and future freight volumes and flows do not warrant a main roadway route through the study area.
- Current and future truck usage does not match freight designations in the Regional Transportation Plan. Conflicts on the 181st and Burnside freight route limit its use as a through route between I-84 and US 26.
- The plan area needs to maintain multiple routes for freight; improvements for safe and efficient freight connections are needed to accomodate future growth.
- A variety of current and projected safety and land use conflicts with trucks throughout the plan area need to be addressed.
- Future employment growth in Damascus, Springwater and Pleasant Valley will result in increased demand for better north/south connections to Clackamas County and better connections between US 26 and Hogan.

Current Regional Transportation Plan freight network



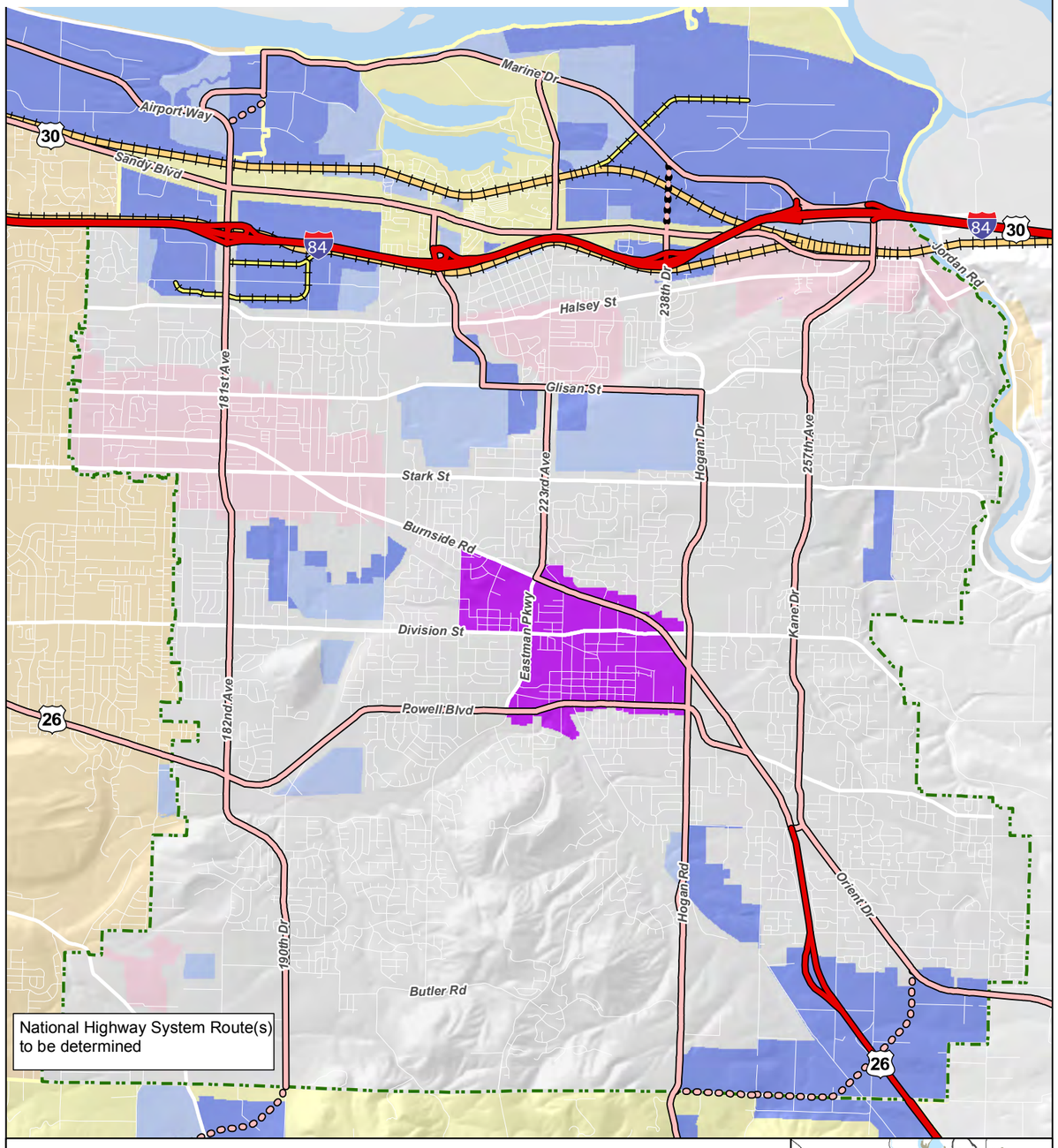
East Metro Connections Plan - Current 2035 RTP Freight Network

- Main roadway routes
- Main roadway routes (proposed)
- Road connectors
- Road connectors (proposed)
- Main railroad lines
- Branch railroad lines and spur tracks
- Regional Centers
- Town Centers
- Employment Land
- Industrial Land
- Plan Area
- Influence Areas

November 1, 2011

N 0 1 Mile

Preliminary proposed changes to the Regional Transportation freight network



EMCP - Proposed changes to the regional freight network

- Main roadway routes
- Main roadway routes (proposed)
- Road connectors
- Road connectors (proposed)
- Main railroad lines
- Branch railroad lines and spur tracks
- Regional Centers
- Town Centers
- Employment Land
- Industrial Land
- Plan Area
- Influence Areas

Date: 12/7/2011

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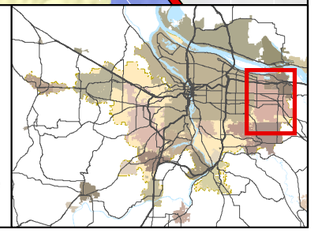


Preliminary proposed changes to the regional freight network

What is the regional freight network?

The Regional Transportation Plan (RTP) designates two types of roads for freight traffic:
- Main roadway routes are the "trunk" of the freight system - higher volume, major connectors with other regions. In the plan area - 181st and Burnside
- Road connectors have lesser volumes, provide connectivity to industrial/employment land and connect those more significant main roadway routes. In the plan area - 181st/190th (south of Powell) and Hogan/242nd/Glisan/Fairview Parkway, Powell and Orient

What is the National Highway System?

The National Highway System (NHS) is an interconnected system of major routes for all kinds of vehicular travel. While it serves freight trips, it is not limited to or even primarily intended for freight. According to ODOT, there must continue to be an NHS designated route connecting US 26 to an interstate, however the designation does not currently carry either benefits, in terms of funding, or burdens, in terms of design. Currently in the plan area, 181st and Burnside is designated as both the RTP main roadway route for freight and the NHS route.

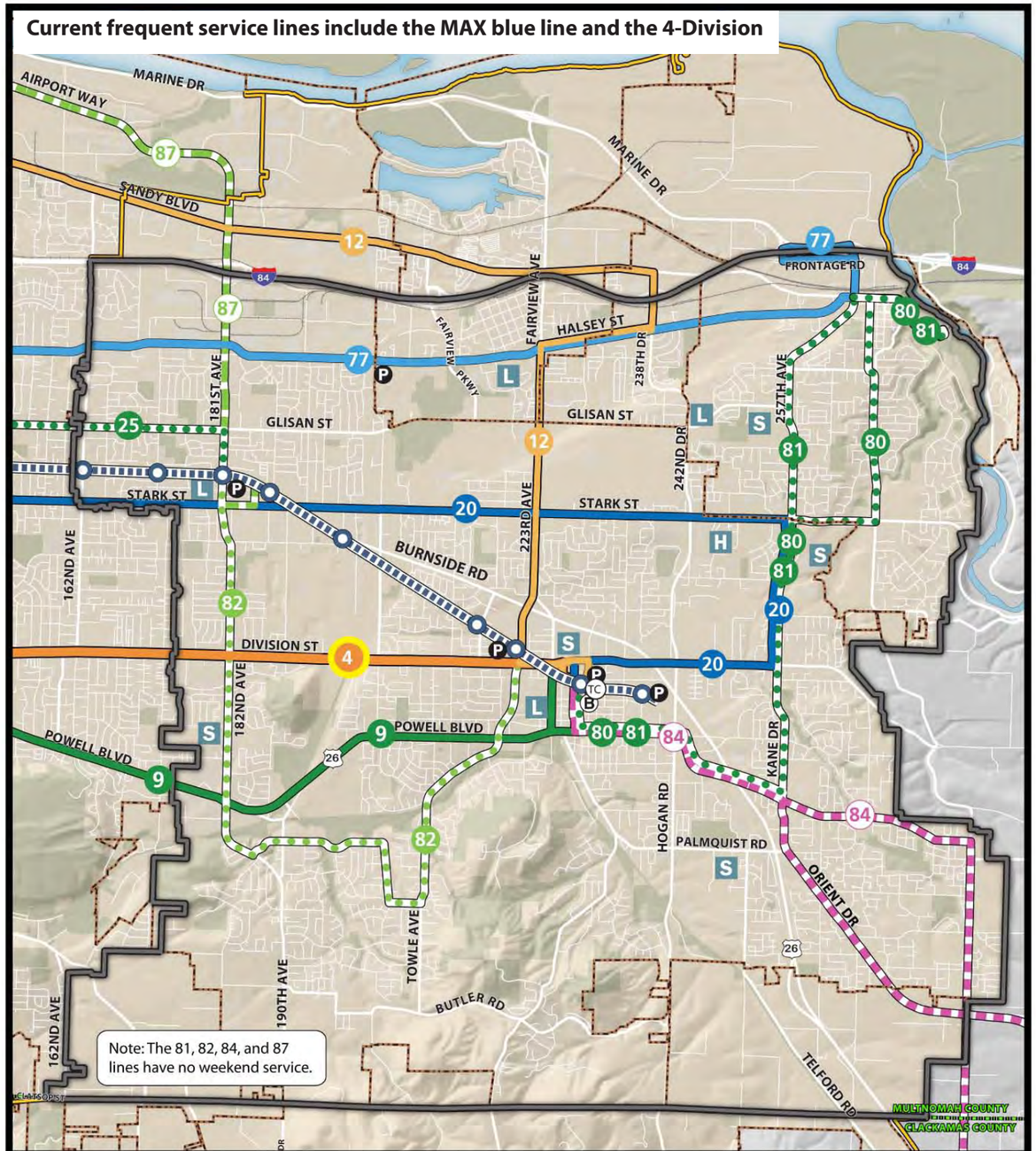
What changes are proposed?

- Remove, from the RTP freight network, Burnside between 181st and 223rd to reflect its actual usage and resolve safety issues.
- Broaden the RTP freight network to include the following routes as road connectors:
  - -223rd between Glisan and Burnside
  - -257th/Kane from I-84 to US 26 (Note: projects would not include major improvements that connect Kane to US 26 which might attract more through trips)
- EMCP is not proposing changes to the NHS or other modal networks at this time. However, a more detailed review of these networks is being conducted to ensure consistency with plans and policies and any refinements will be proposed later in the study.

Why propose changes to the freight network?

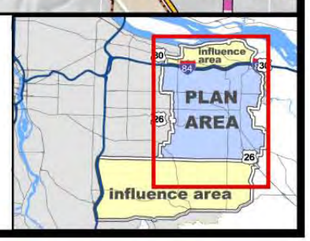
Proposed changes to the RTP freight network would bring the use and function of plan area roads more in line and resolve land use conflicts. While there are no design requirements for RTP road connectors for freight, there are implications for the types of projects that would be developed.
- Proposed freight network roads could see projects that increase their mobility (reducing stops/starts and travel time), that increase safety of other users and projects that accommodate large trucks.
- Roads not on the proposed freight network could see projects that encourage walking, biking and transit, access to surrounding uses via these other modes and would be in keeping with a main street type of land use.

Current frequent service lines include the MAX blue line and the 4-Division



East Metro Connections Plan - Existing Transit

Plan Area
Influence Area
Light Rail
Railroad
County Line
City Line
Frequent Service
Standard Service
Infrequent Service
Rush-Hour Only Service
Transit Center
Bike Parking Facility
Park & Ride
High School or College
Hospital
Library



Transit needs and opportunities

Key findings

The existing transit network provides relatively good access to transit service in the center of the plan area, especially in Downtown Gresham and Rockwood areas, but there is less access to transit in the northern and southern parts of the plan area.

Addressing transit system problems and improving the experience for bus or MAX riders can increase transit ridership and relieve some future demand on the roadway network. General issues in the existing system include:

- Needing more frequent and longer-hours of service for north-south transit connections to high employment areas
- Improving last-mile access to employments areas
- Providing better access to Mt. Hood Community College
- Improving pedestrian and bicycle facilities at key transit stops

Identified needs and opportunities

There are opportunities to improve future transit service through the following potential changes to the existing system:

- Increasing the number of bus routes with more frequent service and transit signal priority technology on frequent bus routes
- Providing additional service on east/west and north/south bus routes, including the181st/182nd corridor
- Introducing bus rapid transit along the Division/Powell corridor
- Creating better transit connections to Mt. Hood Community College
- Introducing route changes to better connect people to their jobs, including along Arata Road and the Hogan/242nd corridor
- Creating future transit connections south to Clackamas County

Walking, biking, access to transit

Key findings

The existing system of arterial and collector streets in the plan area offers varying experiences for people walking and biking. The more favorable the experience is for people who walk and bike, the more likely it is that they will choose to get to where they want to go on foot or on bike, when feasible, rather than drive. Some factors are challenging to control, such as the volume and speed of traffic. However other factors are controllable and create a positive experience.

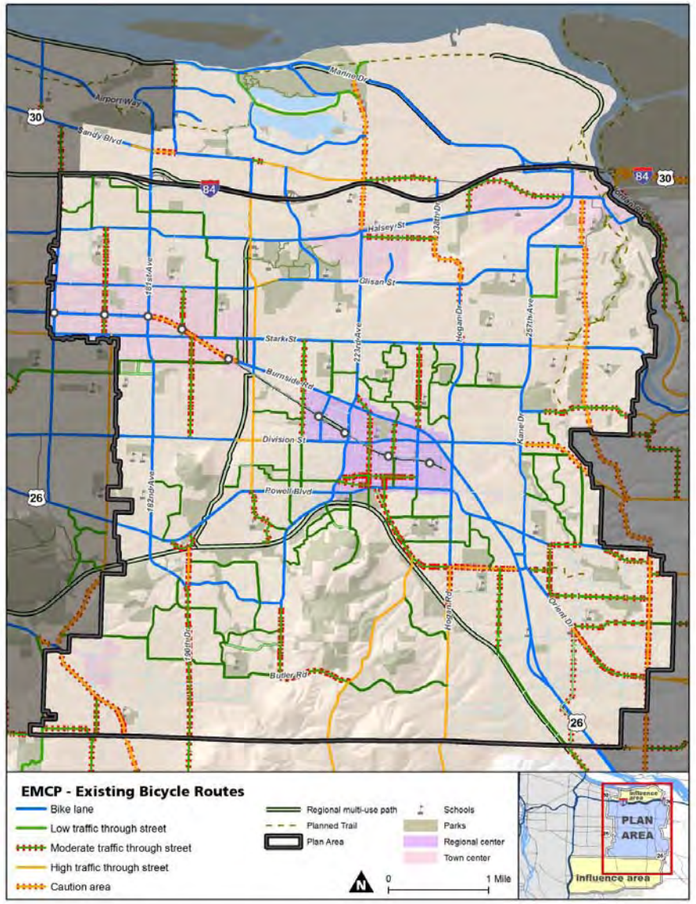
A multi modal level of service analysis of the pedestrian and bicycle network reveals the deficiencies in the existing system as well as opportunities. The multi modal level of service analysis measures the perceived quality of service on a given road. It takes into account several factors, including sidewalk and bikelane widths, vehicle speeds and volumes, and creates a rating for each road. These maps are shown on page 13.

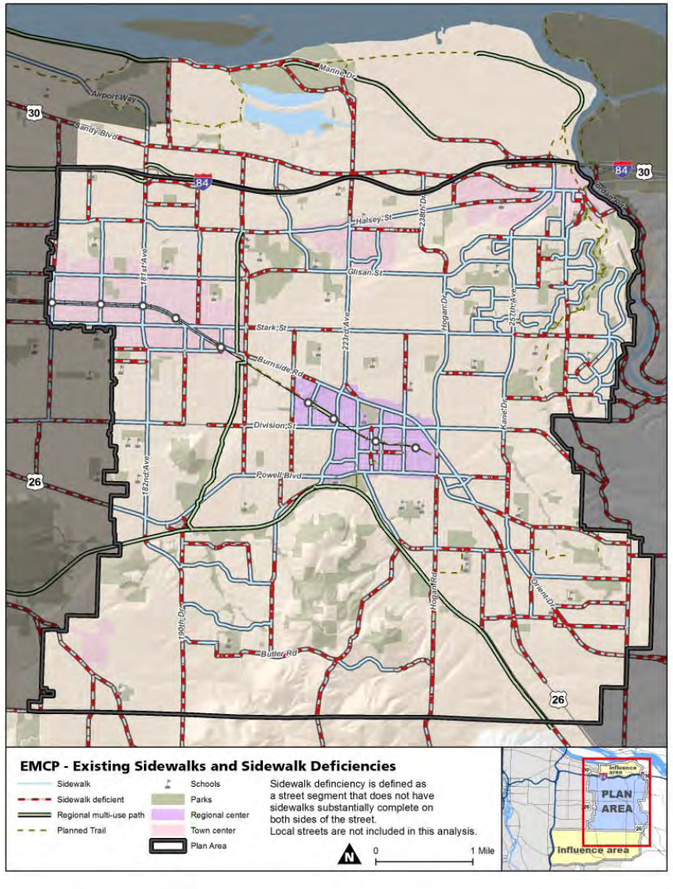
For pedestrians, intersections and along roadways shown on the map in yellow, orange and red offer a poor experience (level of service C or lower). This is typical of locations where there is no buffer between the road and sidewalk or too few pedestrian crossings. The pedestrian experience could be improved by increasing sidewalk width and buffering the road with trees. Generally, sidewalk widths of 12-15 feet including the width of the buffer, with street trees spaced every 20 to 30 feet, provided a favorable walking experience (level of service B).

For bicyclists, intersections and along roadways shown on the map in yellow, orange and red offer poor biking experience (level of service C or lower). This is typical of locations where bike lanes are the 5-foot minimum or there are too many conflicts with driveways. The bicycling experience could be improved (level of service B) by increasing bike lanes to 7 feet or wider, buffering bike lanes and limiting the number of driveways.

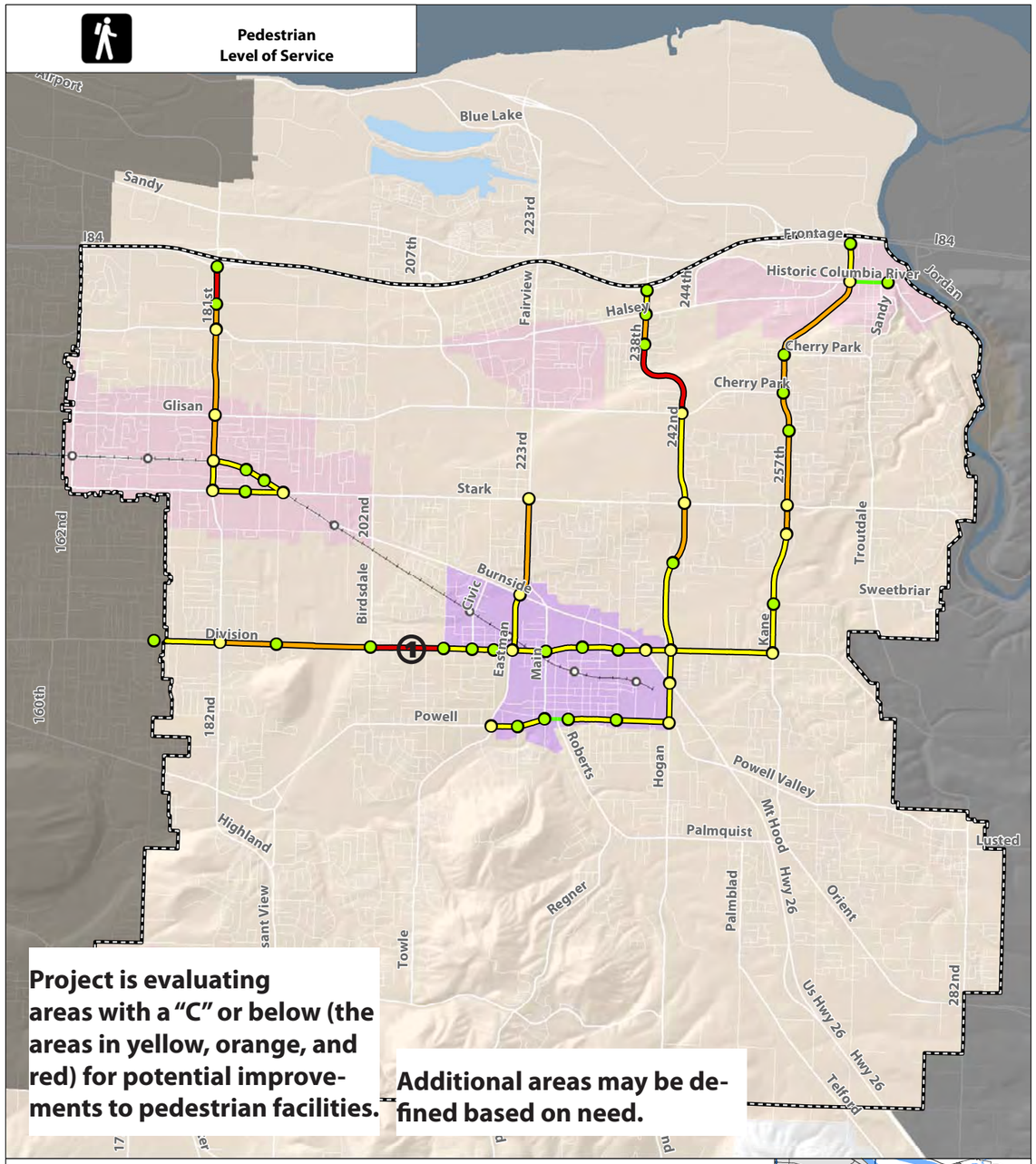
Identified needs and opportunities

- There are opportunities to improve the future pedestrian network through the following potential changes:
  - -Improving pedestrian infrastructure in areas of Rockwood, Downtown Gresham and along 238th, 257th and the length of Division
  - -Providing sidewalks at gaps along portions of Halsey, Arata, 223rd, Stark and Division, and along collector streets south of Powell
- There are opportunities to improve the future bicycle network through the following potential changes:
  - -Improving bicycle infrastructure in areas of Rockwood, Downtown Gresham and along 238th, 257th and the length of Division
  - -Providing bicycle facilities at gaps along portions of Arata, 223rd, 238th, Stark and Division between the Gresham-Fairview Trail and Wallula Street, and along collector streets south of Powell
- The pedestrian and bicycle network can be improved by expanding the area's excellent trail system, including completion of the Gresham-Fairview Trail north of Halsey, the MAX trail between Rockwood and Downtown Gresham, the Reynolds Trail/40-Mile Loop connection to downtown Troutdale, and the 40-Mile Loop connection from Troutdale to Springwater Corridor Trail.





Pedestrian Level of Service



Project is evaluating areas with a "C" or below (the areas in yellow, orange, and red) for potential improvements to pedestrian facilities.

Additional areas may be defined based on need.

Identified areas with need for pedestrian facility treatments

- A or B
- C
- D
- E or F

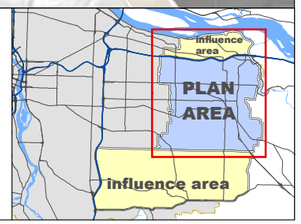
Areas with level-of-service at C or below are being evaluated for potential candiate projects.

- Light Rail Stops
- Plan Area
- Light Rail
- Regional center
- Town center

① New improvements between Gresham-Fairview Trail and Wallula are funded and will be constructed in 2012/2013.

N

0 1 Mile



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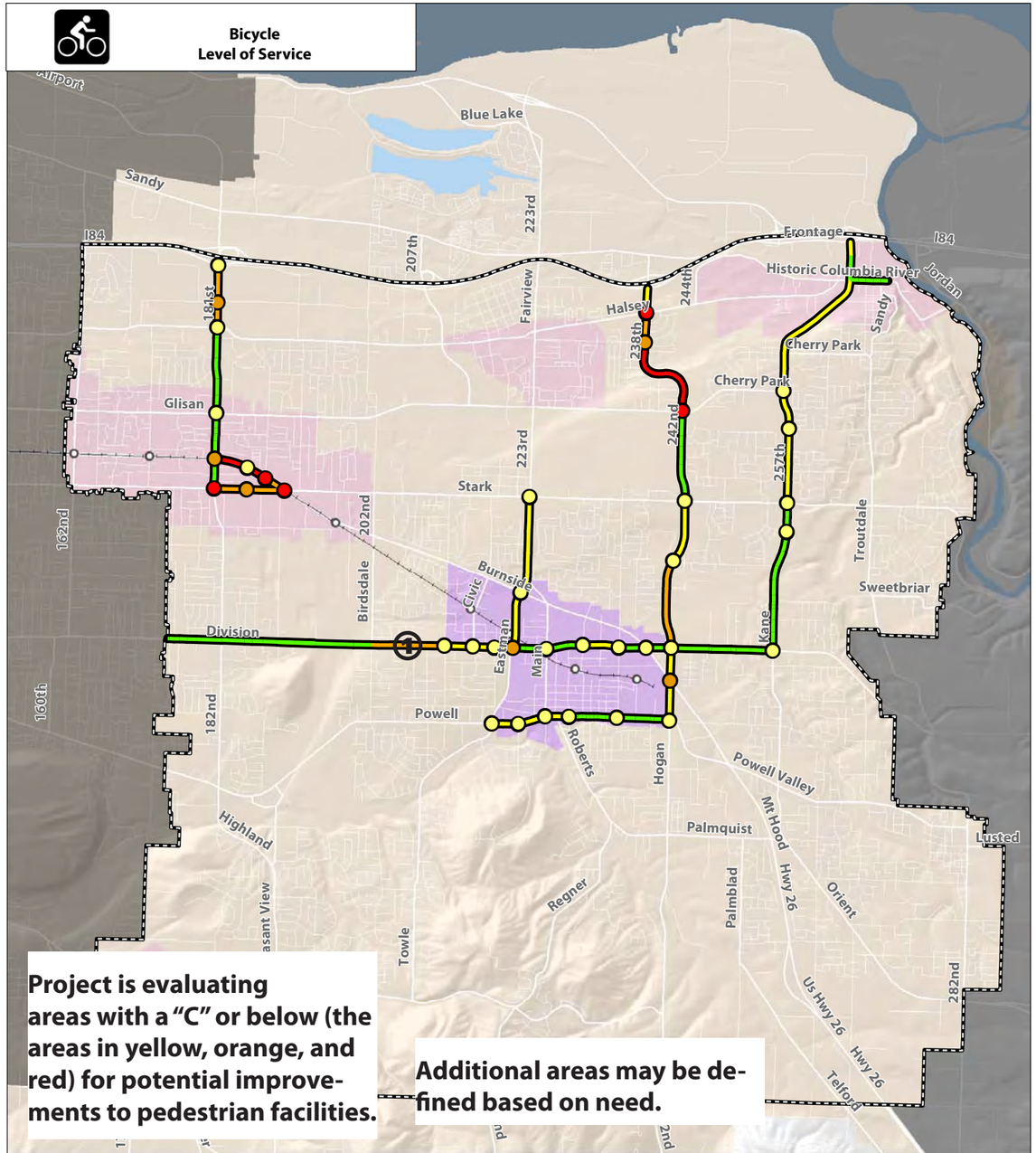
Bicycle Level of Service



Project is evaluating areas with a "C" or below (the areas in yellow, orange, and red) for potential improvements to pedestrian facilities.

Additional areas may be defined based on need.

Identified areas with need for bicycle facility treatments

- A or B
- C
- D
- E or F

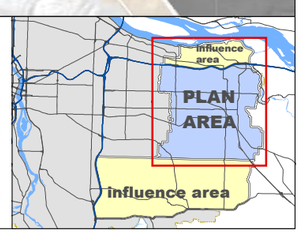
Areas with level-of-service at C or below are being evaluated for potential candiate projects.

- Light Rail Stops
- Plan Area
- Light Rail
- Regional center
- Town center

① New improvements between Gresham-Fairview Trail and Wallula are funded and will be constructed in 2012/2013.

N

0 1 Mile



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System utilization needs and opportunities

Key findings

With limited and shrinking funding for transportation projects, it is critical we use the existing system more efficiently. East Metro communities are investing in system utilization strategies that improve travel flow. Some corridors, such as 181st, have been recently upgraded with new traffic management equipment and updated signal timing. However, there are a number of obstacles to system efficiency in the plan area. These include:

• Factors that encourage people to drive, such as insufficient frequent bus service (4-Divison only) and an abundance of free parking

• Suboptimal signal timing that results in delay and congestion

• Incomplete coverage of the public/private partnerships called transportation management associations that encourage people (especially employees) to use modes other than driving

Identified needs and opportunities

• There are opportunities to improve transit service by increasing the number of routes with frequent transit service and installing transit signal priority technology on frequent bus routes.

• There is an opportunity to employ modal priority signal systems in the plan area.
-Transit signal priority adjusts the timing of signals to favor buses and shortens the time of a trip by 15%. Transit signal priority could be employed along Division.
-Freight signal priority gives truck drivers a longer green light, reducing the number of times they need to stop and the likelihood of running red lights. Freight signal priority could be employed at 223rd, 242nd, 257th and Powell.

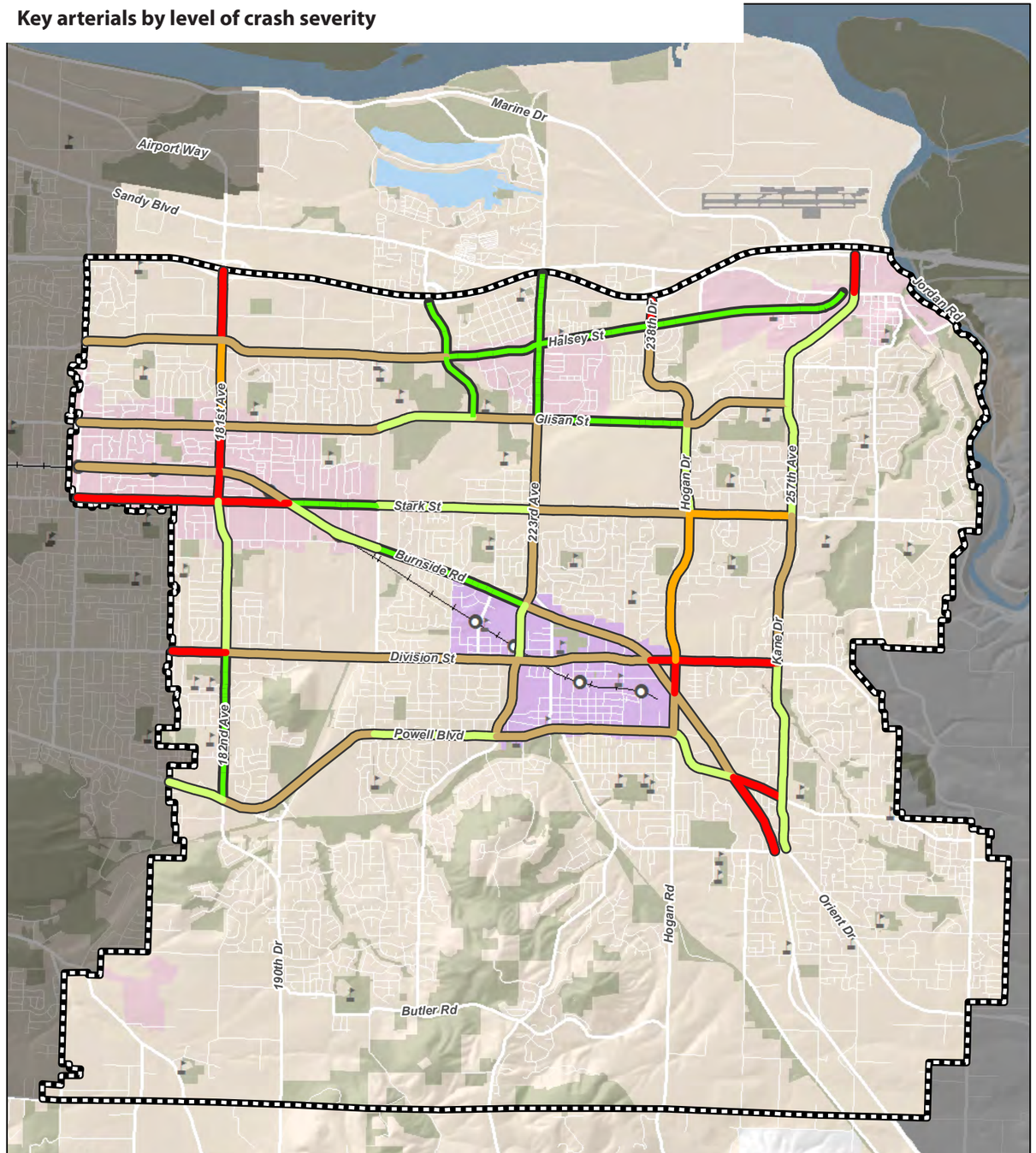
• In areas where parking demand is at 85% or more of capacity, there is opportunity to institute parking management strategies to promote alternatives to driving.

• Signal timing needs to be assessed for corridors that have not been reviewed recently. The Federal Highway Administration recommends that signal timing be reviewed every three years.

• There is the opportunity to employ adaptive signal systems at 223rd, 242nd, 257th, Powell and others. Adaptive signals self-adjust according to traffic demand, which increases intersection capacity by 10%.

•There is an opportunity to leverage the work of Gresham Transportation Management Association (Gresham TMA), which has expanded its service area beyond Downtown to include employers in its industrial districts, through the creation of other area TMAs that work with plan area employers, businesses, residents and employees.

Key arterials by level of crash severity



EMCP Safety Project Corridors to be evaluated

Highest Priority

Lower Priority

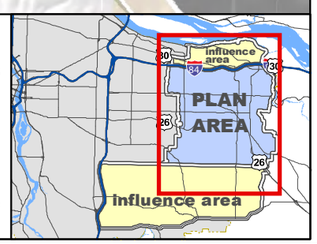
The EMCP crash analysis developed a severity index based on frequency and severity of crashes along roadway segments. These segments are ordered based on highest to lowest severity

Light Rail Stops
Light Rail
Schools
Parks and Natural Areas
Regional center
Town center
Plan Area

Date: 12/6/2011

N

0 1 Mile



Safety needs and opportunities

Key findings

Elected officials, members of the public, school representatives and truck drivers all express concern about safety within the plan area. Passenger/freight conflicts, as well as pedestrian/vehicle conflicts rank high, along with concerns for the safety of children traveling to school, or playing near homes, parks or school facilities.

There are opportunities to improve roadway safety in the plan area, but specific strategies must be designed to respond to fully understood problems. Priority should be given to places that are most dangerous (based on high crash frequency) as well as those most simple to improve.

The map to the left shows relative crash severity based on frequency and type of crash. This information is using existing crash data from the years 2007-2009.

Identified needs and opportunities

There are a number of locations in the plan area that require strategies for safety improvements.

- Division from 182nd to 257th/Kane Drive
- 181st in Rockwood from Stark to I-84
- The Burnside/Hogan/Powell triangle and US 26 between Powell and Palmquist
- 238th/Hogan from Division to Powell
- Portions of 257th, particularly areas near Mt. Hood Community College, and opportunities adjacent to Reynolds High School

East Metro Connections Plan - Evaluation framework based on EMCP plan goals

What is an evaluation framework?

The evaluation framework shows us the information we will learn about candidate projects to be evaluated. It will reveal where projects move us closer to our goals and local aspirations and where they do not.

Technical terms appear in the glossary (in the appendix) for your reference.

How will we use the evaluation framework?

All candidate projects to be tested will be evaluated against the identified objectives. Not all objectives will be relevant to each project.

The evaluation will reveal candidate projects that meet multiple goals. If a project performs well in its primary target area (e.g., roadway system performance) but not in other areas, there is an opportunity to modify or re-think it to achieve a better outcome.

Who developed the evaluation framework?

This was developed with and vetted by the East Metro Connections Plan technical advisory committee.

Steering committee input

What other information you will want to consider when making decisions about projects?

Access and mobility

Plan goals

Support north/south connectivity between I-84 and US 26, as well as east/west connectivity and capacity in the East Metro plan area.

Make the best use of the existing transportation system.

Develop multiple solutions that encompass all transportation modes.

Evaluation objectives

- Maximizes freight operational efficiency.
- Improves mobility/travel time reliability for vehicle trips.
- Improves intersection levels of service on 181st, Fairview Parkway/223rd, 238th/242nd/Hogan Road and 257th/Kane Road.
- Improves intersection levels of service on Halsey, Glisan, Stark, Division and Powell.
- Improves mobility/travel time reliability and consistency for transit trips.
- Improves transit user experience at transit access points.
- Improves pedestrian access.
- Improves pedestrian experience.
- Improves bicycle access.
- Improves bicyclist experience.

Economic development

Plan goals

Foster economic vitality.

Evaluation objectives

- Improves access to industrial land, employment land and/or 2040 Centers.
- Protects existing employment areas.
- Builds on or leverages private investment.
- Builds on or leverages public investment.

Safety and security

Plan goals

Enhance the livability and safety of East Metro communities. Ensure that East Metro is a place where people want to live, work, and play.

Evaluation objectives

- Addresses a high crash intersection or corridor.
- Increases safe travel to nearby school, vital services or commercial area (within 1/4 mile).
- Reduces intermodal conflict.

East Metro Connections Plan - Evaluation framework based on EMCP plan goals

Healthy communities

Plan goals

Enhance the livability and safety of East Metro communities. Ensure that East Metro is a place where people want to live, work, and play.

Evaluation objectives

- Improves people's network connections to healthful food.
- Increases the number of people within 1/2 mile network walking access to recreational facilities.
- Increases number of people with connections to walking, biking and access to transit.
- Minimizes exposure to transportation related emissions and noise.

Equity

Plan goals

Enhance the livability and safety of East Metro communities. Ensure that East Metro is a place where people want to live, work, and play.

Distribute both the benefits and burdens of growth.

Evaluation objectives

- Improves network connections to vital services (healthful food, medical care and health services, social services, schools and civic institutions, jobs) in low-income, minority, non-English speaking, youth, elderly or disabled communities.
- Increases the number of people within 1/2 mile network walking access to recreation in low-income, minority, non-English speaking, youth, elderly or disabled communities.
- Increases number of people with connections to walking, biking and access to transit, in low-income, minority, non-English speaking, youth, elderly or disabled communities.
- Minimizes exposure to transportation related emissions and noise in low-income, minority, non-English speaking, youth, elderly or disabled communities.
- Improves safety in low-income, minority, non-English speaking, youth, elderly or disabled communities.

Natural environment

Plan goals

Enhance the natural environment.

Evaluation objectives

- Increases access to public natural area (e.g., Gorge, Columbia River, regional trail, Mt. Hood).
- Improves integrity of park lands and natural areas.
- Improves wetlands.
- Corrects flooding or poor stormwater flow/drainage.
- Improves water quality.
- Improves and increases native or non-invasive vegetation.
- Improves riparian, fish and wildlife habitat.
- Improves fish passage and/or wildlife crossings or corridors.
- Protects strategy species and/or habitats identified in the Oregon Conservation Strategy.

Feasibility

Plan goals

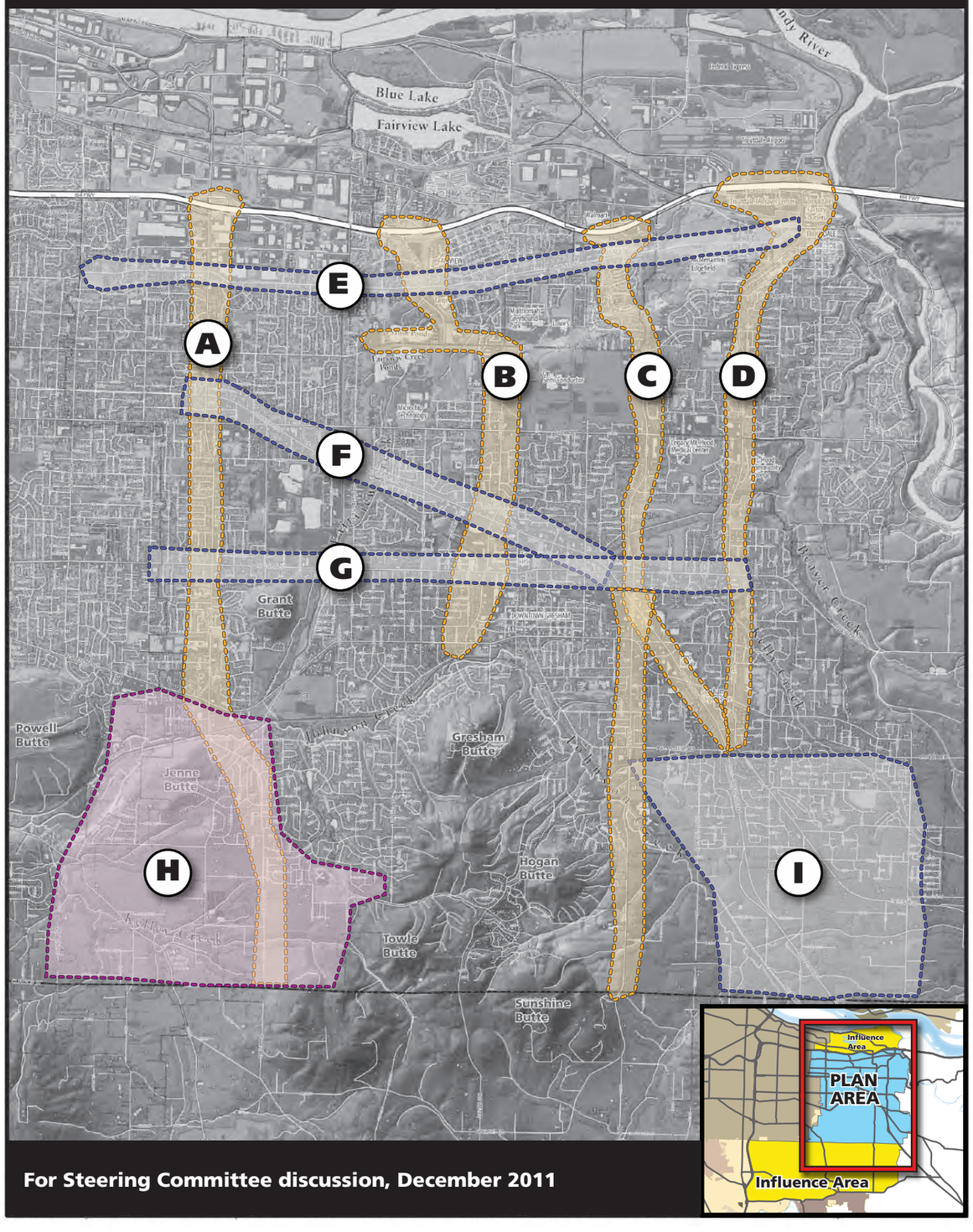
Support the local land use vision of each community.

Distribute both benefits and burdens of growth.

Evaluation objectives

- Changes, if proposed, to official route designations (e.g., RTP or 40-Mile Loop) are reasonably likely to be approved by regulatory or permitting agencies.
- Minimizes estimated right-of-way impacts.
- Project cost and complexity is commensurate with benefits.
- Consistent with local plans and aspirations.
- Consistent with regional plans.
- Consistent with natural resource agency, watershed council, and parks plans.
- Consistent with state plans.

Corridor Overview of Candidate Projects to be evaluated



For Steering Committee discussion, December 2011

Summary of Candidate Projects to be evaluated

Presented here is an **overview** of solutions proposed to address needs and reflect community priorities by geography. Projects have been developed and screened over the last several months based on existing conditions and plans and future needs. The next several pages explore these candidate projects to be evaluated in more detail. **Going forward, this list will evolve** as a result of steering committee, technical advisory committee and community feedback. A full list of proposed candidate projects to be evaluated appears on the next several pages.

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 77-Halsey
- •Consider route change for 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

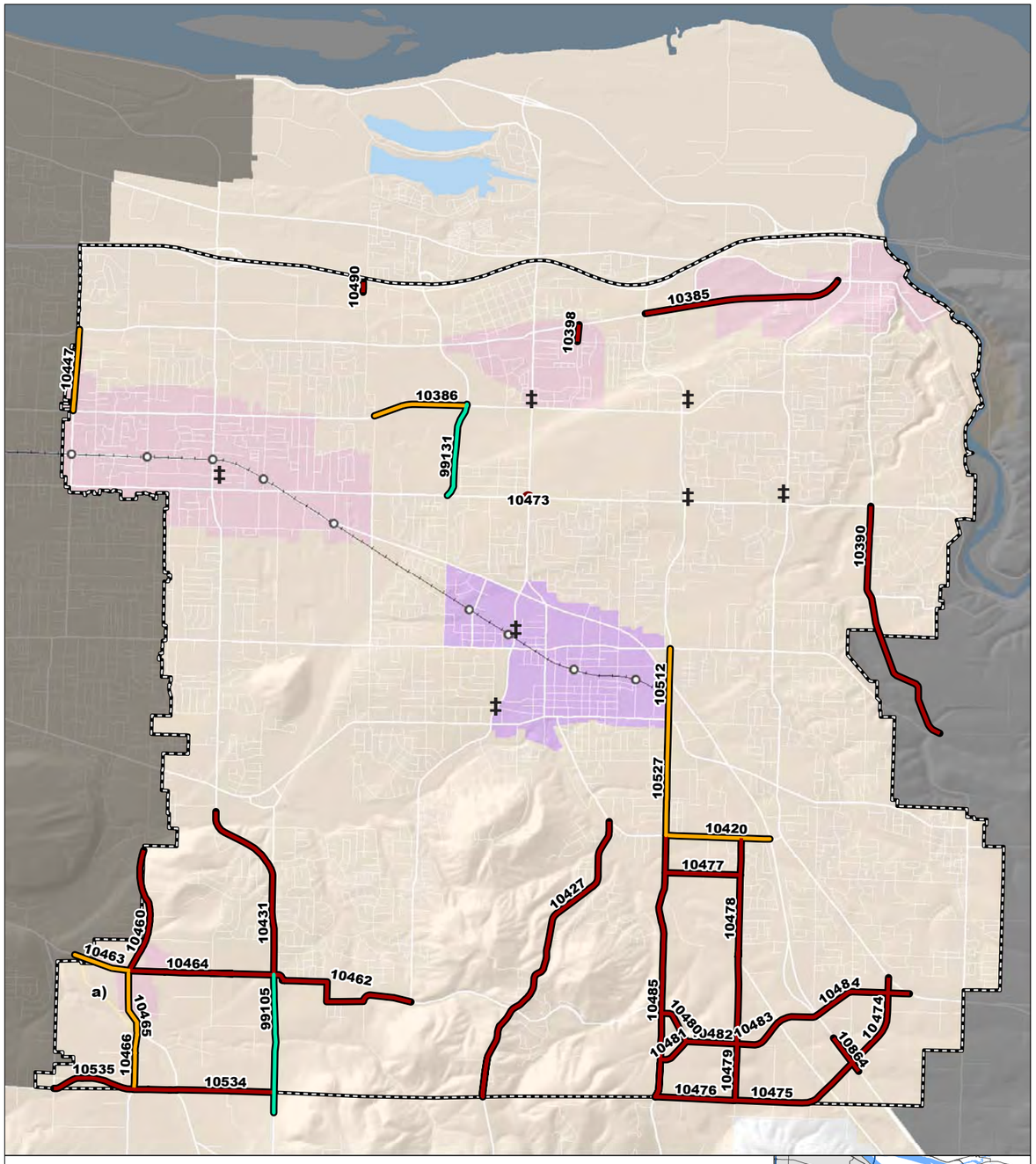
F) Burnside
- •Develop boulevard treatments that reinforce community connection between Rockwood and Gresham Regional Center
- •Provide for freight access but de-emphasize freight mobility
- •Complete sidewalks and bicycle facilities along Burnside and complete trail adjacent to MAX corridor between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

G) 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

H) 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

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

****A full list of proposed candidate projects to be evaluated appears on the next several pages**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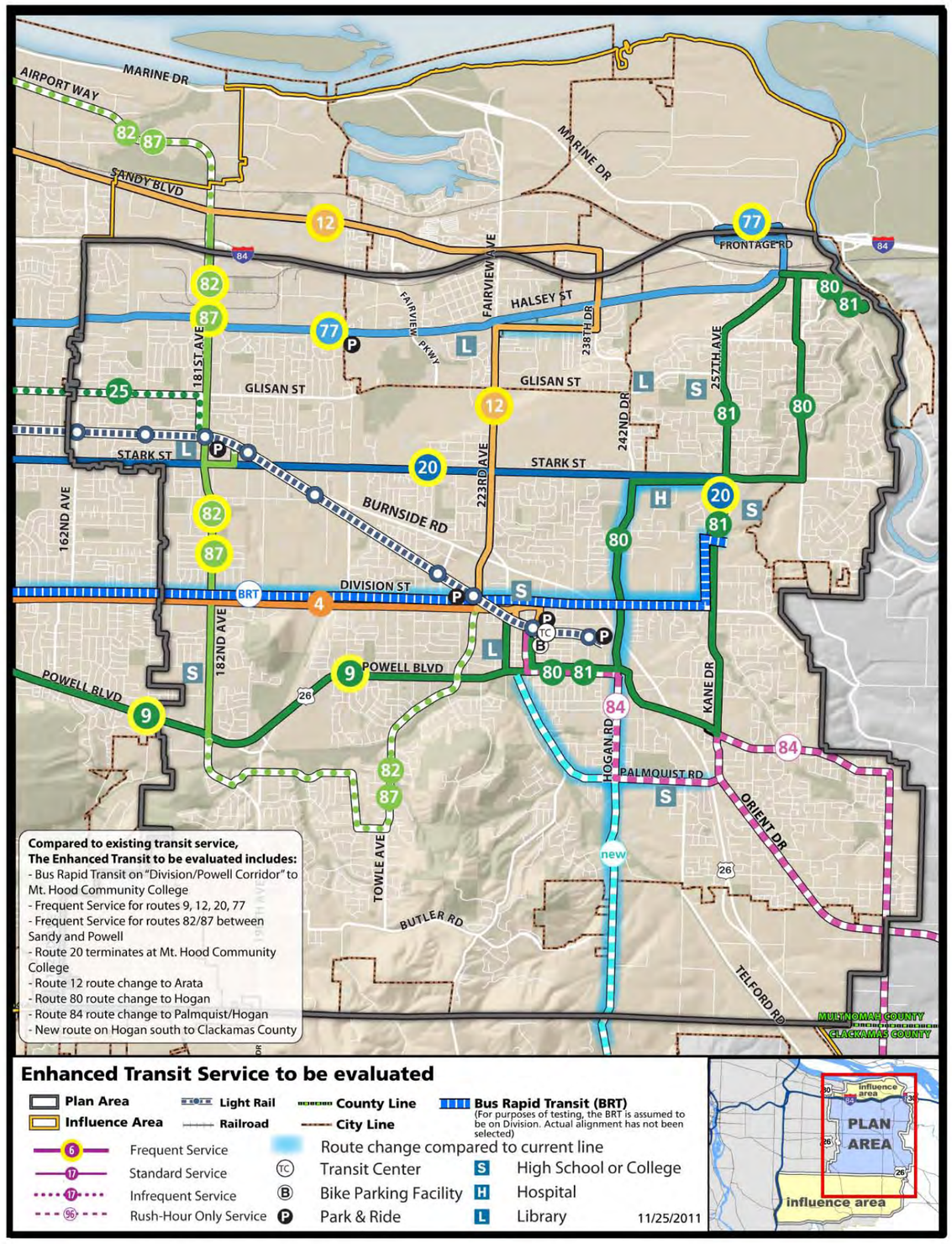
DRAFT - Roadway Projects to be evaluated
RTP Project
Modified RTP Project
New Project
Light Rail Stops
Light Rail
Regional center
Town center
Plan Area
Date: 12/7/2011
The projects on this map will be modeled in the Regional Travel Model "Model Run 2A".
a) Model run will include closure of Foster Rd. south of project 10463.
N
0
1 Mile
influence area
PLAN AREA
influence area

Roadway projects to be evaluated

Project ID	Project Name	Begin	End	Description
10385	Reconstruct Halsey St. with Improvements	238th Ave.	Historic Columbia River Hwy	Widen Halsey St to 3 lane minor arterial with center turn lane/median, sidewalk and bicycle lanes, consistent with Halsey Street Conceptual Design Plan
10386	Glisan St. Multi-modal Improvements	202nd Ave./Gresham-Fairview Trail	207th Ave./Salish Ponds Natural Area	Upgrade to urban standards and test as 3 lanes with center turn lane/median. Keep bike lane and sidewalk project for safety. Provide multimodal connections. Design green-street treatment for drainage
10390	Reconstruct Troutdale Rd.	Stark St.	Division Dr.	Reconstruct with 2 travel lanes; construct center turn lane/median, sidewalks, bicycle lanes between Stark and Strebin. Reconstruct Troutdale Rd/Division Dr. intersection including new fish culverts.
10398	Wood Village Blvd Extension	Arata Rd.	Halsey St.	Construct new extension of Wood Village Blvd as a major collector with 2 travel lanes, center turn lane/median, sidewalks and bicycle lanes.
10420	Palmquist Rd. Improvements	242nd Ave.	US 26	Upgrade street to urban standards with 3 lanes, sidewalks, bikelanes.
10427	Regner Rd. Reconstruction	Roberts	Southern City Limits	Brings to standards, adds pedestrian, bicycle facilities, improves Regner/Butler intersection by adding NB left-turn pocket and signalizing intersection.
10431	Highland/190th Rd. Widening	200' south of SW 11th	intersection of Pleasant View Dr./SE 190th and Butler	Reconstruct and widen street to five lanes with sidewalks and bike lanes. Widen and determine the appropriate cross-section for Highland Drive and Pleasant View Drive from Powell Boulevard to 190th Ave..
10447	162nd Ave. Imps. Plus TIF project	Glisan	Halsey	Upgrade to urban standards with 3 lanes.
10460	SE 174th N/S Improvements	Giese	174th/Jenne	Construction of new roadway that adds n/s capacity in vicinity of 174/Jenne. This facility will have two travel lanes in each direction (total 4 travel lanes), and a median/turn lane which will be primarily a median, with left turn pockets at the intersesection
10462	Butler Rd. Improvements	190th	Towle Rd.	Improve Butler Rd. in new alignment to collector standards, at intersection, add northbound and westbound turn pockets and signalize.
10463	Foster Rd. Extension (north)	Jenne	172nd	New north extension of Foster. Allows for the re-alignment of Foster Road and testing the closure of the old Foster Road south of Foster Road Extension.
10464	Giese Rd. Extension	182nd	172nd	New ext. of Giese Rd. to Foster Road.
10465	172nd Ave. Improvements	Giese Rd.	Foster Rd.	Upgrade street to urban standards with sidewalks and bikelanes. Allows for the re-alignment of Foster Road and testing the closure of the old Foster Road south of Foster Road Extension.
10466	172nd Ave. Improvements	Foster	Cheldelin Rd.	Upgrade street to urban standards with sidewalks, bikelanes. Add a roundabout or traffic signal at 172nd/Foster Road.
10473	Eastman at Stark			New turn lanes at intersection: add EB and NB RT lanes and 2nd NB and SB LT lanes.
10474	Rugg Rd. Ext.	Orient Dr.	US 26	Construction of new roadway that adds e/w capacity in vicinity Rugg Rd and connects Springwater Industrial area to Highway 26.
10475	Rugg Rd. Ext.	US 26	252nd Ave.	Construction of new roadway that adds e/w capacity in vicinity Rugg Rd and connects Springwater Industrial area to Highway 26.
10476	Rugg Rd.	252nd Ave.	242nd. Ave.	Construction of new roadway that adds e/w capacity in vicinity Rugg Rd and connects Springwater Industrial area to Highway 26.
10477	Springwater Road Section 4	242nd Ave.	252nd Ave.	Construction of new street for implementation of Springwater Plan.
10478	252nd Ave.	Palmquist Rd.		Improvements on existing street for implementation of Springwater Plan.
10479	252nd Ave.		Rugg Rd.	Construction of new street for implementation of Springwater Plan.
10480	Springwater Road Section 7	242nd Ave.		Construction of new street for implementation of Springwater Plan.
10481	Springwater Road Section 8	242nd Ave.		Construction of new street for implementation of Springwater Plan.
10482	Springwater Road Section 9		252nd Ave.	Construction of new street for implementation of Springwater Plan.
10483	Springwater Road Section 10	252nd Ave.	Telford Rd.	Construction of new street for implementation of Springwater Plan. New street has overcrossing of US 26 (without a connection to US 26).
10484	Springwater Road Section 11	Telford Rd.	Orient Dr.	Construction of new street for implementation of Springwater Plan. New street has overcrossing of US 26 (without a connection to US 26).
10485	Hogan	Palmquist Rd.	Rugg Rd.	Improvement of existing roadway to arterial 4 lane standards.
10490	201st RR Bridge at I-84	201st/I-84		Construct new RR bridge to accommodate alternative modes.
10512	Hogan: Powell to Burnside boulevard improvements plus three intersection improvements	Powell	Division	Boulevard improvements plus intersection improvements. Intersection projects are needed at Burnside and Powell per the EMCP intersection analysis. Need for duel northbound and southbound left turn lanes.
10527	Hogan, Powell Blvd to Palmquist	Powell	Palmquist	Improve to arterial standards. Widen to 4 lanes with center turn lane/median.
10534	Cheldelin: 172nd to 190th	172nd	190th	Improve existing road to minor arterial standards, signalize Cheldelin at 172nd, 182nd, and Foster. Includes new roadway from 172nd to Foster Road.
10535	Clatsop: New extension	162nd	172nd	Extend Clatsop into Pleasant Valley, and construct bridge.
10864	New interchange on US 26 to serve industrial area.	Callister Road	267th Ave.	New grade-separated interchange on US 26 to serve industrial area. Located at the Rugg Road Extension (in Springwater Plan).
99105	190th Ave / Pleasant View widening	Butler Rd	190th extension	Reconstruct and widen street to four lanes with sidewalks and bike lanes. Potential designs for intersections at Butler, Regner, and Cheldelin include signalization and roundabouts. Design should be compatible with 172nd Corridor Plan recommendations.
99131	207th new collector extension	Glisan	Stark	New 2-3 lane collector in the vicinity of 202nd and 223rd to be tested as part of the 223rd/Stark intersection

‡ *These areas on the map are identified as areas of potential future congestion. Analysis is showing that these areas can be solved with system utilization strategies.*

Future transit scenario to be evaluated



Project list

This list is made up of improvements to existing transit service that are planned for in the Regional Transportation Plan as well as additional improvements recommended as part of EMCP.

• Add bus rapid transit (BRT) from Portland Central City to Gresham Town Center (Transit Center), with an extension to Mt. Hood Community College.* BRT is being evaluated on Powell west of I-205 and on Division east of I-205.

• Reduce 4-Division local service to hourly service in plan area where its route is duplicated by BRT.

• Terminate bus line 20-Stark at Mt Hood Community College instead of at Gresham Transit Center, as its route between Mt. Hood Community college and Gresham Transit Center is duplicated by BRT.

• Combine bus lines 82-182nd and 87-181st to allow continuous north and south travel on 181st182nd.

• Upgrade the following bus lines to frequent service:
- 87/82-181st between Sandy and Powell
- 20-Stark
- 77-Halsey
- 9-Powell
- 12-Sandy on Sandy/Halsey/ 223rd between Parkrose and Gresham Transit Center

• Change routing of bus line 12-Sandy from Halsey to Arata between 223rd and 238th to improve transit coverage

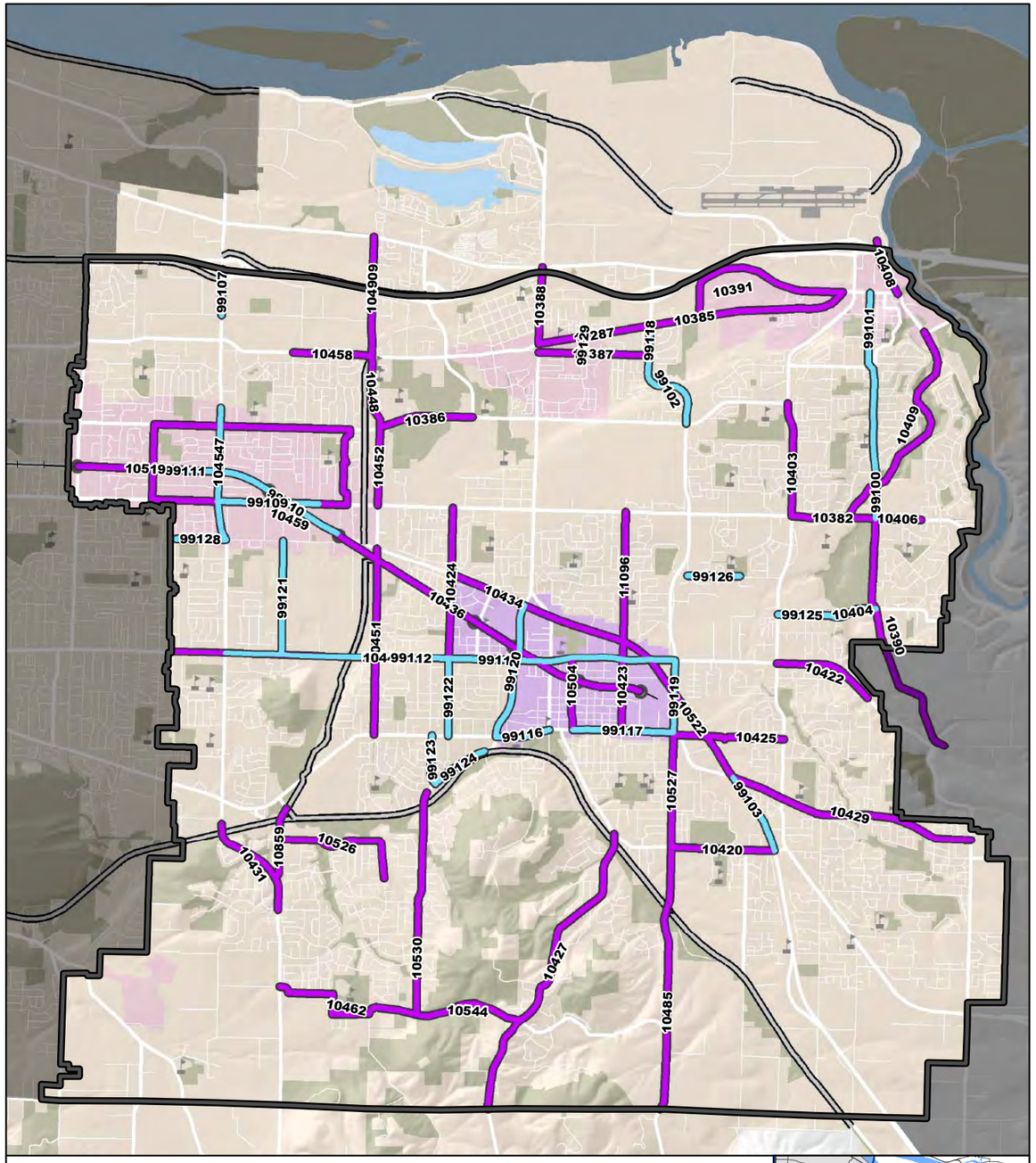
• Upgrade bus lines 80-Kane/Troutdale and 81-Kane/257th from hourly service to twice-hourly service

• Shift portions of bus line 80-Kane onto 242nd between Powell and Stark to provide new service to 242nd

• Shift portions of bus line 84-Kelso/Boring off Powell and onto Hogan and Palmquist to provide new service to unserved areas

• Add new hourly service between Gresham Transit Center and Damascus, traveling on Roberts and Hogan in the plan area

* This high capacity transit corridor is designated as a "near term regional priority corridor" in Metro's High Capacity Transit System Plan and in the High Capacity Transit System Expansion Policy; the extension to Mt. Hood Community College is not part of the identified corridor and requires further discussion before inclusion in the RTP priority corridor



DRAFT - Identified Bicycle and Pedestrian projects to be evaluated

RTP identified projects

Project identified post RTP

Light Rail Stops

Light Rail

Regional multi-use path

Schools

Parks and Natural Areas

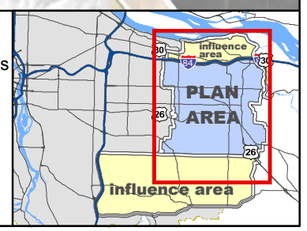
Regional center

Town center

Plan Area

0 1 Mile

Date: 11/15/2011



Active Transportation projects to be evaluated

Project ID	Project Name	Begin	End	Description
10382	Reconstruct Stark St. to arterial standards	257th Ave.	Troutdale Rd.	Reconstruct Stark St. to minor arterial standards by widening the existing 2 lanes to provide for 4 traffic lanes, a continuous left-turn lane, bike lanes, sidewalks, and intersection improvements.
10385	Reconstruct Halsey St. with Improvements	238th Ave.	Historic Columbia River Hwy	Widen Halsey St to 3 lane minor arterial with center turn lane/median, sidewalk and bicycle lanes, consistent with Halsey Street Conceptual Design Plan
10386	Glisan St. Multi-modal Improvements	202nd Ave./Gresham-Fairview Trail	207th Ave./Salish Ponds Natural Area	Upgrade to urban standards and test as 3 lanes with center turn lane/median. Keep bike lane and sidewalk project for safety. Provide multimodal connections. Design green-street treatment for drainage
10387	Reconstruct Arata Rd.	223rd Ave.	238th Ave.	Construct to 3 lane collector standards with center turn lane/median, sidewalks, bicycle lanes.
10390	Reconstruct Troutdale Rd.	Stark St.	Division Dr.	Reconstruct with 2 travel lanes; construct center turn lane/median, sidewalks, bicycle lanes between Stark and Strebin. Reconstruct Troutdale Rd/Division Dr. intersection including new fish culverts.
10391	Reconstruct Historic Columbia River Hwy.	244th Ave.	Halsey St.	Reconstruct Historic Columbia River Hwy and NE 244th Ave to minor arterial standards with 2 travel lanes, center turn lane/median, bicycle lanes and sidewalk. Reconstruction of railroad bridge on HCRH is not included in this project.
10403	257th Ave. Pedestrian improvements at intersections and mid-block crossings	Stark St.	Cherry Park Rd. north	Improve sidewalks, crossings, lighting and bus stops.
10404	Beaver Creek Culvert Replacement	Troutdale Rd.	Cochran Rd.	Opportunity to provide bicycle and pedestrian facilities on Cochran Rd and replace culverts with fish friendly structures
10406	Reconstruct Stark St. to arterial standards	Troutdale Rd.	Hampton Rd.	Reconstruct road to arterial standards with 1 travel lanes in each direction, center turn lane/median, sidewalks and bicycle lanes.
10408	40 Mile Loop Trail	Gresham/Fairview Trail	Graham Rd	Complete gaps in 40-Mile Loop Trail within CCRD, and construct trailhead.
10409	Beaver Creek Trail	Mt. Hood Comm. Coll.	Historic Columbia River Hwy	Constructs new trail adjacent to Beaver Creek.
10420	Palmquist Rd. Improvements	242nd Ave.	US 26	Upgrade street to urban standards with 3 lanes, sidewalks, bikelanes.
10422	Division St. Improvements	257th Ave.	268th Ave.	Improve to community street standards, including bikelanes.
10423	Cleveland St. Reconstruction.	Powell	Burnside	Reconstructs street from Burnside to Powell.
10424	Wallula St. Reconstruction, + intersections	Division	Stark	Widen road, add curb/gutter, sidewalks. At Burnside, add northbound, southbound, left turn lanes. Signalize Stark.
10425	Bull Run Rd.. Reconstruction	242nd Ave.	257th Ave.	Brings to standards, adds pedestrian, bicycle facilities.
10427	Regner Rd. Reconstruction	Roberts	Southern City Limits	Brings to standards, adds pedestrian, bicycle facilities, improves Regner/Butler intersection by adding NB left-turn pocket and signalizing intersection.
10429	Powell Valley Imps.	Burnside	282nd. Ave.	Improve Powell Valley w. ped and bike facilities.
10431	Highland/190th Rd. Widening	200' south of SW 11th	intersection of Pleasant View Dr./SE 190th and Butler	Reconstruct and widen street to five lanes with sidewalks and bike lanes. Widen and determine the appropriate cross-section for Highland Drive and Pleasant View Drive from Powell Boulevard to 190th Ave..

Project ID	Project Name	Begin	End	Description
10434	Burnside St. Improvements	NE Wallula St.	Hogan	Complete boulevard design improvements Wallula to Hogan (2004 RTP 2048), also improve intersection of Burnside at Division (2002 TSP #15) by adding eastbound RT and signal, and also improve the intersection of Burnside and Hogan (2004 RTP #2032).
10436	Max Trail	Cleveland	Ruby Junction	Construct new shared use path.
10437	Gresham/Fairview Trail	Halsey	Marine Dr.	Complete gap in Gresham/Fairview Trail, including under RR Bridge south of I84
10440	Division St. Multimodal Improvements	Wallula	west city limits	Retrofit street to add bicylce facilities, sidewalks, and explore other multimodal facilities and connections.
10448	201st: Glisan to Halsey	Glisan	Halsey	Improve to collector standards.
10449	201st: Halsey to Sandy	Halsey	Sandy	Improve to collector standards, signalize 201st/Sandy Blvd.
10451	202nd: Burnside to Powell	Burnside	Powell	Upgrade to collector standards.
10452	202nd Projects: Stark to Glisan	Stark	Glisan	Improve to collector standards.
10454	181st Ave. Improvements	Glisan	Yamhill	Complete boulevard design improvements.
10458	Halsey St. Improvements	190th	201st	Widen to 4 lanes w. sidewalks and bikelanes.
10459	Burnside SC Pedestrian Imps.	172nd, 197th, Glisan, Stark & intersecting streets		Improve sidewalks, lighting, crossings, bus shelters, benches.
10461	Towle Ave. Improvements	Butler	Eastman Parkway	Construct sidewalks, bike lanes and intersection improvements.
10462	Butler Rd. Improvements	190th	Towle Rd.	Improve Butler Rd. in new alignment to collector standards, at intersection, add northbound and westbound turn pockets and signalize.
10485	Hogan	Palmquist Rd.	Rugg Rd.	Improvement of existing roadway to arterial 4 lane standards.
10490	201st RR Bridge at I-84	201st/I-84	"	Construct new RR bridge to accommodate alternative modes.
10504	Ped to Max: Hood St.	Powell	Division	Improve ped access/multi-modal on Hood St.
10519	Pedestrian enhancements	162nd/Bside, and	181st Burnside	Pedestrian enhancements.
10522	Burnside, Hogan to Powell	Hogan	Powell	Safety improvements and reconstruction.
10526	Heiney St./14th, Pl View Dr. to 18th Court	Pl View/Binford	18th Court	Widen road and construct improvements.
10527	Hogan, Powell Blvd to Palmquist	Powell	Palmquist	Improve to arterial standards. Widen to 4 lanes with center turn lane/median.
10530	Towle Ave. Butler Rd. to Binford Lake	Butler Rd.	Binford Lake Parkway	Improve to collector standards. Add roundabout at Towle/Binford.
10544	Butler Rd. Bike and Ped Improvements	Towle	Regner	Construct bikelanes and sidewalks.
10859	Pleasant View Dr., Powell Loop to Highland Drive	Powell Loop	Highland Drive	Widen roadway and construct curb and gutter, sidewalks, bike lanes and storm drainage.
11096	Cleveland St. Reconstruction.	Burnside	Stark	Reconstructs street from Stark to Burnside.
11287	Halsey St Improvements	223rd Ave	238th Ave.	Improve Halsey St to 3 lane minor arterial with center turn lane/median, sidewalk and bicycle lanes, consistent with Halsey Street Conceptual Design Plan
99100	Troutdale Road improvements	21st	Stark Street	Add pedestrian facilities/sidewalks
99101	Troutdale Road improvements	Columbia River Highway	Stark St.	Complete bicycle facilities
99102	238th/242nd sidewalk improvements	Glisan	Arata	Complete multimodal facilities
99103	US 26 multimodal improvements	Palmquist	Powell Valley Rd.	Complete sidewalk gaps
99107	Complete sidewalk connections	I84	San Rafael	Add sidewalks to 181st
99109	Widen and buffer sidewalks and improve crossings	181st	194th	Widen and buffer sidewalks and improve crossings
99110	Widen and buffer sidewalks; add bicycle facilities	181st	197th	Widen and buffer sidewalks; add bicycle facilities
99111	Widen and buffer sidewalks; add bicycle facilities	172nd	181st	Widen and buffer sidewalks; add bicycle facilities
99112	Complete bicycle faciilities	202nd	212th	Complete bicycle facilities
99115	Division pedestrian improvements - widen sidewalks and improve crossings	212th	242nd	Widen and buffer sidewalks and improve crossings 212th-242nd
99116	Powell pedestrian improvements - widen sidewalks and improve crossings	Eastman	Main	Widen and buffer sidewalks and improve crossings Eastmand - Main
99117	Powell pedestrian improvements - widen sidewalks and improve crossings	Hood	Hogan	Widen and buffer sidewalks and improve crossings Hood Hogan
99118	238th bike facilities	Arata	Halsey	Add bike facilities
99119	Hogan pedestrian improvements	Division	Powell	Widen and buffer sidewalks, improve corssings, reopen closed crosswalk at Burnside
99120	Eastman pedestrian improvements	Burnside	Powell	Widen and buffer sidewalks and improve crossings
99121	190th improvements	Yamhill	Division	Complete sidewalk gaps and add vbicycle facilities
99122	Wallula Ave improvements	Powell	Division	Address sidewalk gaps and bicycle facilities
99123	Towle Ave improvements	Powell	Eastman	Address sidewalk gaps
99124	Eastman pedestrian improvements	Powell	Towle	Complete sidewalk gaps
99125	17th Ave pedestrian improvements	Kane	Troutdale Rd	Complete sidewalk gaps
99126	23rd pedestrian imrprovements	Hogan	22nd	Complete sidewalk gaps
99128	Yamhill pedestrian improvements	182nd	175th	Complete sidewalk gaps
99129	Wood Village extension - multi use path	Arata Rd.	Halsey	Complete multiuse gap
99130	Fairview Ave multi-modal improvements	Halsey	I84	New project to complete gaps in bicycle and pedestrian facilities. ROW is constrained. Includes improvements to RR bridge south of I84

How are these projects being identified?

Active transportation projects to be evaluated are addressing walking, biking, and access to transit needs and opportunities. Many of these projects are roadway projects that contain bicycle and pedestrian improvements. Others include key trail connections. These projects were identified to 1) address an existing gap in the system, such as missing sidewalks; 2) address access to important commercial areas or services, particularly in areas with difficult connections; 3) address deficiencies in the system where improvements to bicycle or pedestrian facilities would significantly increase quality or safety, particularly based on the multi-modal level of service analysis.

System utilization candidate projects and corridors to be evaluated

Candidate projects

The Regional Transportation Plan and the Regional Transportation System Management and Operations Plan have identified system utilization strategies for all the arterials in the plan area. In addition, the most promosing corridors for signal timing, including adaptive signal timing include:

- 223rd/Eastman
- 238th/242nd/Hogan
- 257th/Kane
- Powell

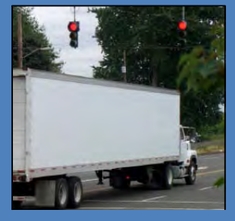
Transit signal timing and priority treatments are proposed for evaluation at the 181st/182nd corridor and the Division corridor to Mt. Hood Community College.

Smaller and less expensive improvements such as flashing yellow arrows can be implemented throughout the plan area.

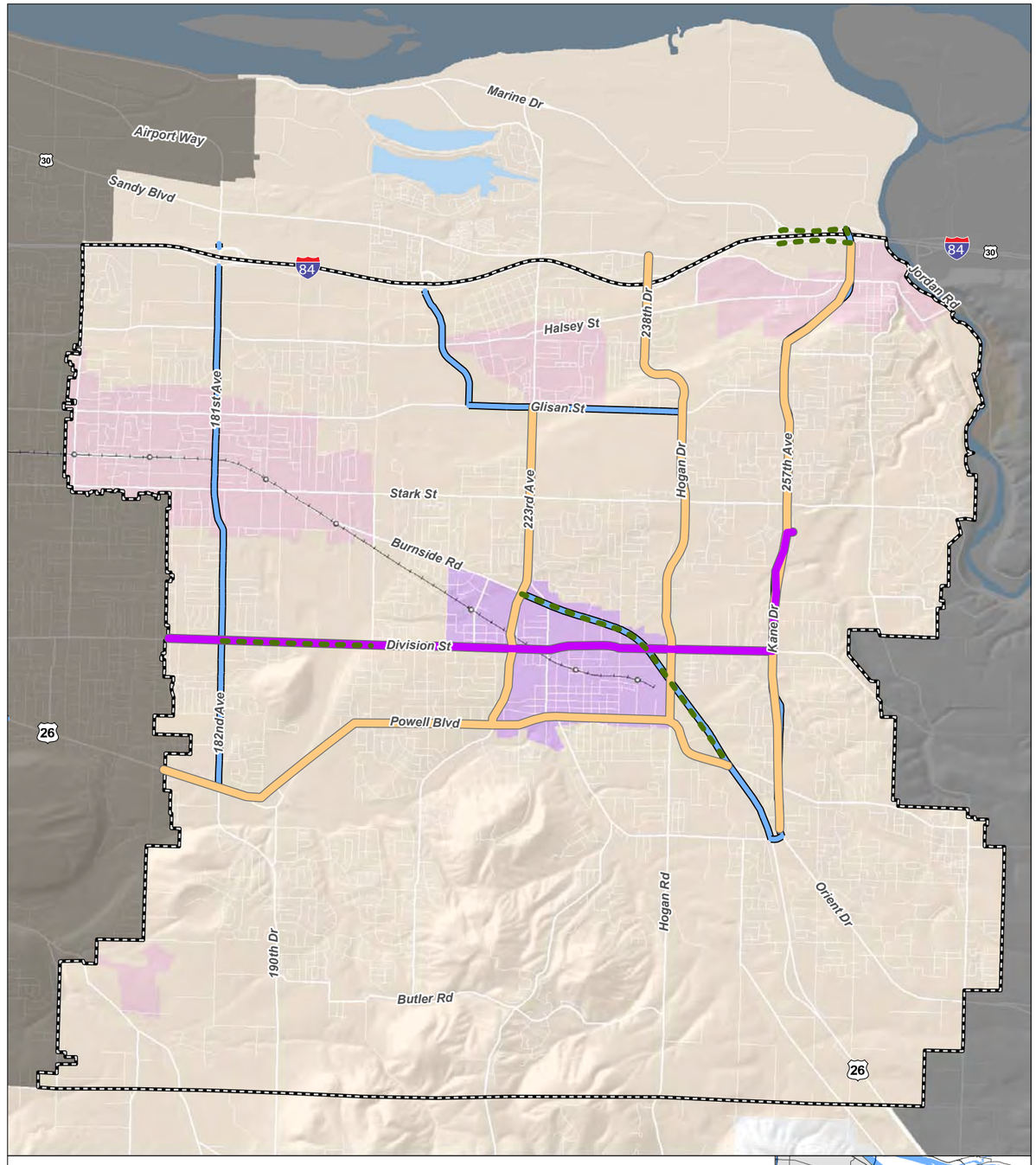
What types of system utilization techniques are being evaluated?

Signal timing, including adaptive signal timing
- Signals can self-adjust to demand. Evidence indicates a 10% capacity boost in coordinated corridors.
- Signals timing can increase corridor and intersection capacity, and eliminate need for higher cost.

Modal priority signal systems
- Can prioritize, not pre-empt signals for specific modes such as freight and transit
- For freight, signals can extend green light for approaching trucks to reduce stopping and red-light running
- For transit, signals can be adjusted to allow for bus prioirity. It can provide up to 15% of travel time savings.



Flashing yellow arrows
- Reduces delay

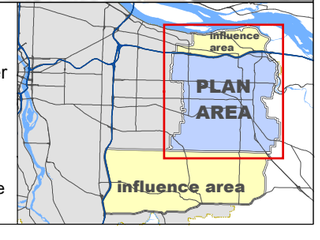


DRAFT - System Management Projects to be evaluated

- Arterial Corridor Management & safety signalization
- Transit Priority Treatment & Signal Timing
- Adaptive signal systems
- Traveler Information

- Light Rail Stops
- Light Rail
- Regional center
- Town center
- Plan Area

N 0 1 Mile



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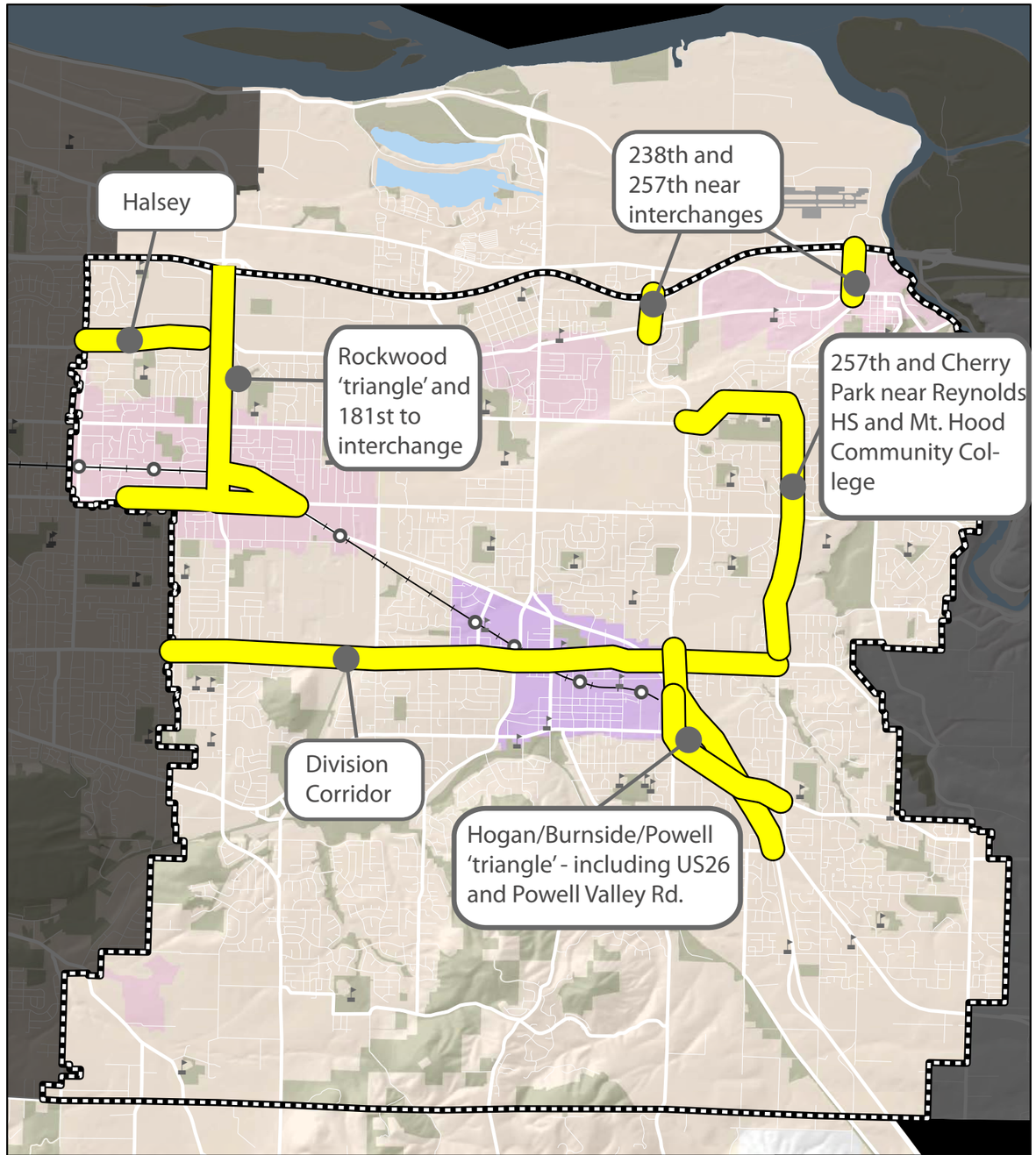
Safety candidate projects and corridors to be evaluated



Candidate projects

Projects are defined through analysis of existing crash data, and best practice safety treatments from the Highway Safety Manual.

Crash severity index

This analysis uses crash data from 2007-2009 to develop an index of high priority corridors based on frequency and severity of crashes. All arterials in the area were scored according to crash severity (see page 14). The roads scoring as high priority corridors from the crash severity index are identified for safety treatments. As shown on the map on this page, in the Plan Area these include:

- 181st Corridor between I-84 and the Rockwood triangle
- Division between 182nd and 157th
- Hogan/Burnside/Powell triangle, including US 26 and Powell Valley Road
- 257th and Cherry Park near Reynolds HS and Mt. Hood Community College
- Opportunity for safety treatments at 162nd and Halsey

Design treatments

Best practices from the Highway Safety Manual will be used to evaluate design treatments and quantify safety improvements.

What types of safety treatments are being evaluated?

Access management: Where possible, adding medians and/or consolodating driveways both increases corridor roadway capacity, and evidence shows can reduces crashes by 40-50%.

Speed management: Techniques to manage and slow speeds, particularly in areas like downtowns, improve overall safety. Design treatments may include medians, crosswalks, textured crosswalks or intersections, video enforcement, and gateway treatments.

Roundabouts: Roundabouts are the safest known intersection form. Evidence shows they reduce injuries by up to 70% and reduce crashes. They can also serve as a gateway feature.

Wide and buffered sidewalks: Improved quality of sidewalks makes walking safer and more comfortable.

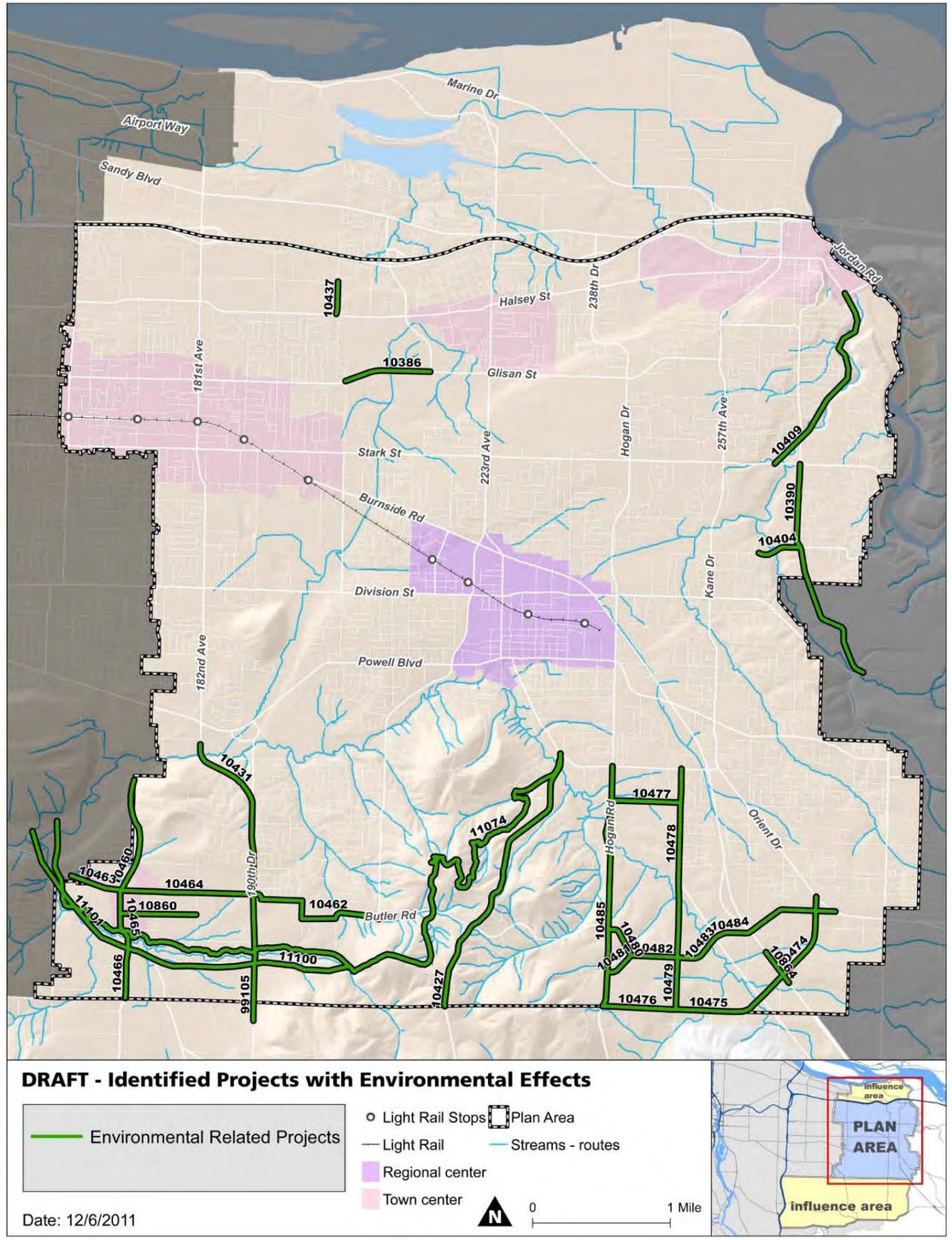
Pedestrian crossings at and between intersections: Highly visible crossings with medians and refuges makes pedestrian areas safer for cars and people. Treatments such as pedestrian signals that count down, or crosswalk flashing signals, improve the experience and safety for pedestrians.

How are these projects being identified?

The EMCP project completed an initial scan of environmental resource opportunities and constraints based on the EMCP Environmental Reconnaissance Report. Based on consultation with natural resources specialists and feedback from the technical advisory committee, this initial list of project investments identifies on environmental opportunities and sensitivities.

1) Opportunities are where there is potential to provide environmental benefits. These opportunities can include improved culverts for fish passage, better wildlife crossings, access to parks, improved storm water, vegetation, or habitat.
2) Sensitivities are the projects that have been identified in environmentally sensitive areas or that may negatively impact natural resources. What is provided here is an initial scan based on roadway projects.

All projects to be developed for EMCP recommendation will be evaluated for positive and negative environmental effects.



Identified projects with environmental effects

Project ID	PROJECT NAME	START	END	Project Description	Environmental Description
10386	Glisan St. Multi-modal Improvements	202nd Ave./Gresham-Fairview Trail	207th Ave./Salish Ponds Natural Area	Reconstruct Glisan Street to provide multimodal connection between Gresham-Fairview Trail and Salish Ponds Natural Area. Include bike lanes, sidewalks, two travel lanes in each direction, and on-street parking. Design green-street treatment for drainage	Improve habitat and hydraulic connection and fish and wildlife passage. Improved stormwater. Evaluate culverts for fish/wildlife passage and hydraulic connection between ponds. Important amphibian corridor in the area. Salish Ponds Trails to Gresham-Fairview trail connection. New parking area for Salish Ponds is being considered per the current Salish Ponds improvements.
10390	Reconstruct Troutdale Rd.	Stark St.	Division Dr.	Reconstruct with 2 travel lanes; construct center turn lane/median, sidewalks, bicycle lanes between Stark and Strebin. Reconstruct Troutdale Rd/Division Dr. intersection including new fish culverts.	Improve culverts at Beaver Creek - Troutdale Rd and Cochran Rd. Habitat adjacent to Beaver Creek. Potential improved trail connection. Improve culverts at Troutdale Road / Beaver Creek and Cochran Road / Beaver Creek for fish passage. Construct off-street multi-use path between Stark and Cochran. Conserve habitat along Beaver Creek. Explore options for 40-Mile Loop Trail designation on Buxton and Troutdale roads from Historic Columbia River Hwy (Buxton Rd.) to ? and a Springwater Trail connection location.
10404	Beaver Creek Culvert Replacement	Troutdale Rd.	Cochran Rd.	Replace culverts with fish friendly structures allowing for passage to federally endangered species	Replace culverts with fish friendly structures allowing for passage to federally endangered species. Culverts located at: Beaver Creek @ Troutdale, Stark and Cochran
10407	Fish Passage Culvert Replacement	Fairview and Arata Creeks	Fish Passage	Replace 5 culverts with fish friendly structures	Locations: 5 culverts: Fairview Cr. @223rd Ave, @ Halsey and @Sandy Blvd.; Arata Cr. @Halsey and @ 244th.
10409	Beaver Creek Trail	Mt. Hood Comm. Coll.	Historic Columbia River Hwy	Constructs new trail adjacent to Beaver Creek.	Conserve habitat along Beaver Creek. Provide wildlife crossing where culverts are installed. Limit width of trail to reduce habitat fragmentation.
10427	Regner Rd. Reconstruction	Roberts	Southern City Limits	Brings to standards, adds pedestrian, bicycle facilities, improves Regner/Butler intersection by adding NB left-turn pocket and signalizing intersection.	Provide wildlife connectivity, improve connections to Hogan Butte per Hogan Butte Master Plan Improve wildlife passage at the corridor points; retain vegetation cover
10437	Gresham/Fairview Trail	Halsey	Marine Dr.	Springwater trail connect. incl. Trailhead @ Marine Dr.	Complete trail gap in Gresham/Fairview Trail
10431	Highland/190th Rd. Widening	200' south of SW 11th	Ending at the intersection of Pleasant View Dr./SE 190th and Butler	Reconstruct and widen street to five lanes with sidewalks and bike lanes. Widen and determine the appropriate cross-section for Highland Drive and Pleasant View Drive from Powell Boulevard to 190th Ave..	Capacity Project - Potentially Sensitive Area Crosses Johnson Creek, a Johnson Creek tributary and Class I riparian habitat and Class A upland habitat. Identified fish barriers on the Johnson Creek tributary. Opportunity to improve fish and wildlife passage especially on the N. 1/3 of Highland Drive over Johnson Cr and wooded area.
10460	SE 174th N/S Improvements	Giese	174th/Jenne	Construction of new roadway that adds n/s capacity in vicinity of 174/Jenne. This facility will have two travel lanes in each direction (total 4 travel lanes), and a median/turn lane which will be primarily a median, with left turn pockets at the intersection	Capacity Project - Potentially Sensitive Area Crosses Jenne Butte and Class A upland habitat, Kelley Creek Jenne Creek and Class I riparian habitat. Jenne Creek is known red-legged frog area. Protect habitat. Opportunity for wildlife passage.
10462	Butler Rd. Improvements	190th	Towle Rd.	Improve Butler Rd. in new alignment to collector standards, at intersection, add northbound and westbound turn pockets and signalize.	Capacity Project - Sensitive Area. Red-legged frogs along Butler Creek riparian area. Butler and Towle Buttes area known landslide risk areas
10463	Foster Rd. Extension (north)	Jenne	172nd	New north extension of Foster.	Capacity Project - Potentially Sensitive Area
10464	Giese Rd. Extension	182nd	172nd	New ext. of Giese Rd. to Foster Road.	Capacity Project - Potentially Sensitive Area Protect habitat. Opportunity for wildlife passage. See Pleasant Valley Plan
10465	172nd Ave. Improvements	Giese Rd.	Foster Rd.	Upgrade street to urban standards w. sidewalks, bikelanes.	Capacity Project - Potentially Sensitive Area
10466	172nd Ave. Improvements	Butler Rd.	Cheldelin Rd.	Upgrade street to urban standards w. sidewalks, bikelanes, and add roundabout or traffic signal at 172nd/Foster.	Capacity Project - Potentially Sensitive Area S. of Richey Road opportunities to improve fish and wildlife passage along Kelley Cr. Very high groundwater table;
10474	Rugg Rd. Ext.	Orient Dr.	US 26	Construction of new roadway that adds e/w capacity in vicinity Rugg Rd and connects Springwater Industrial area to Highway 26.	Capacity Project - Potentially Sensitive Area
10475	Rugg Rd. Ext.	US 26	252nd Ave.	Construction of new roadway that adds e/w capacity in vicinity Rugg Rd and connects Springwater Industrial area to Highway 26.	257th and Rugg- Culvert @ Sunshine Creek damaged Consider access to Springwater Corridor
10476	Rugg Rd.	252nd Ave.	242nd. Ave.	Construction of new roadway that adds e/w capacity in vicinity Rugg Rd and connects Springwater Industrial area to Highway 26.	Capacity Project - Potentially Sensitive Area
10477	Springwater Road Section 4	242nd Ave.	252nd Ave.	Construction of new street for implementation of Springwater Plan.	Proposed alignment is between two wetlands mitigation sites on Gresham Barlow School property. Consider access to Springwater Corridor;
10478	252nd Ave.	Palmquist Rd.	10	Construction of new street for implementation of Springwater Plan.	Sensitive Area- Crosses Johnson Creek, Class A upland and Class I riparian habitat. Consider access to Springwater Corridor
10480	Springwater Road Section 7	242nd Ave.	9	Construction of new street for implementation of Springwater Plan.	Sensitive Area- Crosses Johnson Creek, Class A upland and Class I riparian habitat. Capacity Project - Potentially Sensitive Area
10481	Springwater Road Section 8	242nd Ave.	9	Construction of new street for implementation of Springwater Plan.	Capacity Project - Sensitive Area along Johnson Cr. tributary and Class 1 riparian area
10482	Springwater Road Section 9	7	252nd Ave.	Construction of new street for implementation of Springwater Plan.	Capacity Project - Sensitive Area crosses Johnson Cr. and Class 1 riparian area
10483	Springwater Road Section 10	252nd Ave.	Telford Rd.	Construction of new street for implementation of Springwater Plan.	Sensitive Area – crosses Johnson Creek critical habitat near documented coho spawning. Consider access to Springwater Corridor;
10484	Springwater Road Section 11	Telford Rd.	Orient Dr.	Construction of new street for implementation of Springwater Plan.	Potential for wildlife crossings Consider access to Springwater Corridor;
10485	Hogan	Palmquist Rd.	Rugg Rd.	Improvement of existing roadway to arterial 4 lane standards.	Crosses Johnson Creek, Johnson Creek tributaries and Class I riparian habitat and Class A upland habitat. Possible fish and wildlife crossing improvement opportunities Consider access to Springwater Corridor;
10864	New interchange on US 26 to serve industrial area.	Callister Road	267th Ave.	New interchange on US 26 to serve industrial area.	Capacity Project - Potentially Sensitive Area
11044	Regional Trail Master Plan for East Buttes	East Buttes		Plan for future trail corridors	Several future trail connections in East Buttes; existing plans could be updated / consolidated.
11074	East Buttes Loop Trail: From Springwater Trail to Rodlun Road	Springwater Trail	Rodlun Road	Construct new shared use trail (12' wide pervious asphalt)	May involve sensitive habitat; consider wildlife crossings and habitat fragmentation; rescope to consolidate three planned trail to one
11100	East Buttes Loop Trail: From Rodlun Road to 190th	Rodlun	190th	Construct new shared use trail (12' wide pervious asphalt)	May involve sensitive habitat; consider wildlife crossings and habitat fragmentation; rescope to consolidate three planned trail to one
11101	East Buttes Loop Trail: 190th west to Springwater Trail	190th	Springwater Trail	Construct new shared use trail (12' wide pervious asphalt)	May involve sensitive habitat; consider wildlife crossings and habitat fragmentation; rescope to consolidate three planned trail to one
99105	190 Ave/Pleasant View Dr. widening				Capacity Project – Sensitive Area crosses Kelley Creek and is adjacent to high value habitat area; limit impacts to east and provide fish passage and wildlife crossing.

How are projects being developed?

ROADWAY - **Projects are defined with input from the Regional Transportation Model and forecasting, more localized analysis such as "Synchro", existing vehicle counts, previously identified projects from the RTP, and input from the Technical Advisory Committee and stakeholders.**

Model Run 1A
"True FC" is a list
Of projects from the
Financially Constrained
Regional Transportation Plan

Model Run 1B
Local Committed
Projects from the
Financially Constrained
Regional Transportation Plan

Model Run 2A
List of Projects that appear needed for future capacity. This model run will test for future capacity needs.

"What If" Model Run 2A
List of projects that will include new roads not previously tested.

Synchro 2035
Local Committed
Provides a more detailed level of analysis at the intersection level to test for future capacity needs

Synchro 2035
Refinement
A reduced set of intersections to test any network changes from the regional model

Project Concept Designs
Consultant team is preparing for specific focus areas

Roadway candidate projects

SAFETY - **Projects are defined through analysis of existing crash data, and best practice safety treatments from the Highway Safety Manual.**

Crash Severity Index
This analysis uses crash data from 2007-2009 to develop an index of high priority corridors based on frequency and severity of crashes

Priority Corridors
The top road segments are identified for safety treatments.

Other areas are identified based on opportunity or ease of implementation.

Design Treatments
Design treatments and quantification of safety improvements from the Highway Safety Manual

Candidate safety priority corridors

SYSTEM MANAGEMENT - **Projects are defined through previously identified projects from the RTP, best practice management techniques, and input from Technical Advisory Committee and stakeholders.**

Base Conditions
Identification of existing system mangement techniqes, such as the existing adaptive signal timing on 181st.

Identified future system management
There are system management improvements identified in the Regional Transportation Plan and the Regional Transportation System Management Plan.

Priority Corridors
Top corridors based on capapcity need and opportunity are identified for system management treatments. These can include roadway, transit, and multimodal management.

Candidate system management priority corridors

TRANSIT - **Future transit service changes or routes are defined with input from the Regional Transportation Model and forecasting, previously identified projects from the RTP and TriMet TIP, and input from TriMet, the Technical Advisory Committee and stakeholders.**

Base Conditions
Identification of existing transit network.

Transit Model Run 3A
This run test changes in transit frequency and some transit routes based on consultation with TriMet and the Technical Advisory Committee.

Future transit system service and routes

WALKING, BIKING, ACCESS TO TRANSIT - **Projects are defined based on existing gap survey, an assessment of facility quality via Multimodal Level of Service analysis, and an assessment of accessibility based on which improvements will service the most residents.**

Identified gaps and need
Are defined based on survey of existing pedestrian and bicycle infastructure. Where are there sidewalk gaps? Where are there bicycle deficiencies?

Multimodal Level of Service
An analysis that considers several factors to rate bicycle and pedestrian facilities by quality of the facility.

Accessibility INDEX
An analysis that prioritizes improfements based on residential route directness - which improvements will connect the greatest number of people to key shopping and services?

Active Transportation candidate projects

NATURAL RESOURCES

Existing conditions
Identifies major natural features, watersheds, and policies to understand areas with natural resource significance

Natural Resource and Parkland sensitivities
Identifies EMCP road projects or other capital improvements that need to consider environmental effects.

Natural Resource and Parkland prioirities.
Identifies opportunities based on consultation with scientists and specialsists for capital improvements to natural resources with implications to the transportation system, such as culverts and wildlife crossings.

Natural Resources candidate projects and environmental considerations

ECONOMIC DEVELOPMENT

Existing conditions
Identifies areas for focused economic development, including enterprise zones, urban renewal areas, and regional employment and industrial lands.

Economic Development considerations

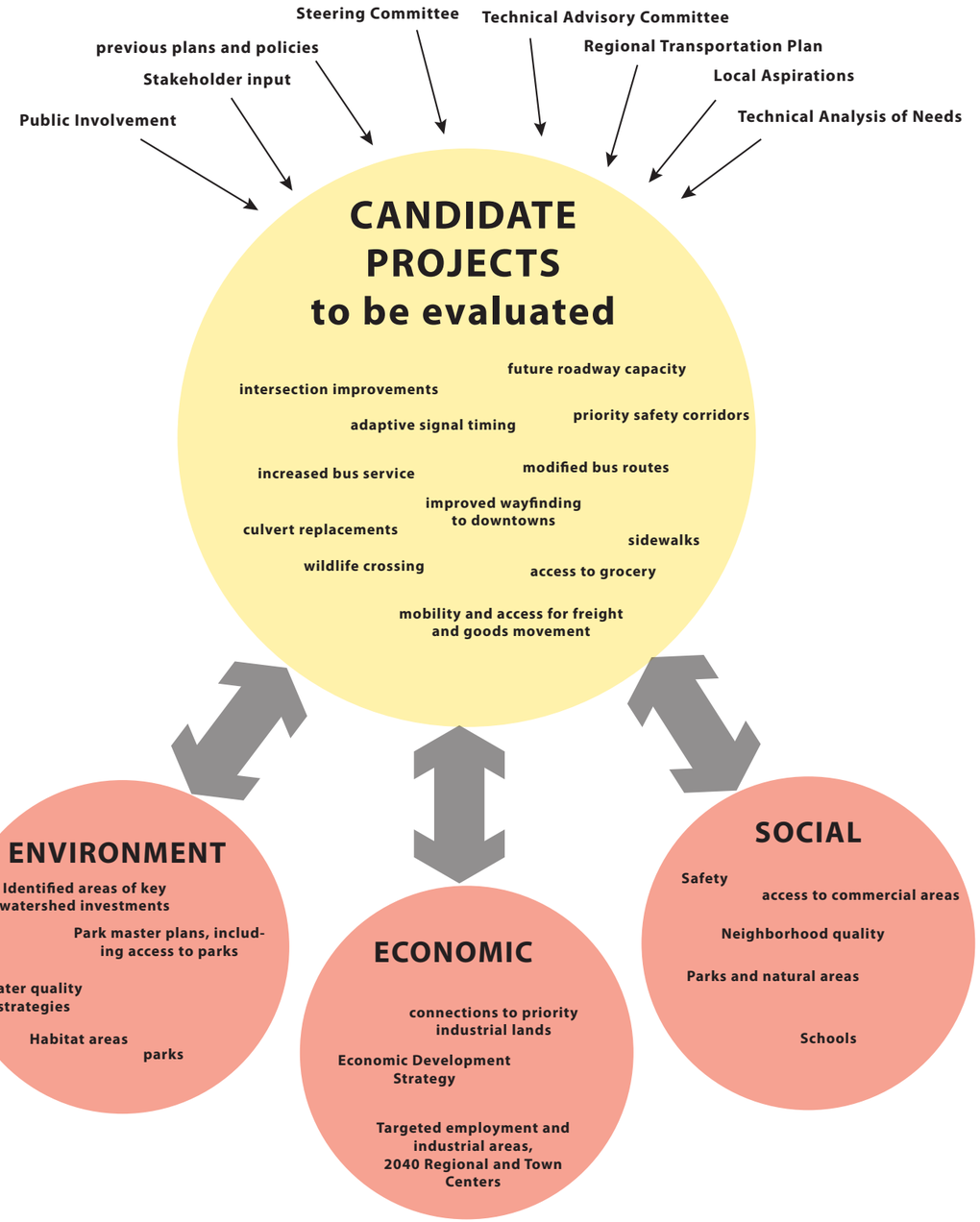
LIVABILITY AND SOCIAL INFASTUCTURE

Existing Populations
Identifies geographies and demographic profiles of communities within the plan area.

Context Mapping
Identifies significant land uses and land use types and relates the adjacent roadway network to these areas, particularly residences, commercial areas, schools and industrial areas.

Social Infastructure considerations

How has EMCP been defining candidate projects?



Complete proposed evaluation framework (1 of 4)

A	C	D	E	F	G	H	I	J	K	
	Factor	Related EMCP goals	Objectives	Measures	Measurement tools (examples)	Project examples	Ranking score			Qual or Quant?
							-1	0	1	2	Quant?
1	**Access and mobility**	Support north/south connectivity between I-84 and US 26, as well as east/west connectivity and capacity in the East Metro plan area.	Maximize freight operational efficiency.	Does the project minimize truck stops and starts on major truck routes?	Number of intersections, signal timing and phasing	Coordinated /adaptive signal system or variable message signs/ other traveler info.	Worsens conditions compared to True FC	No	Yes, marginally (i.e., less than half the corridor)	Yes, along more than half the corridor	Quant
2		Make the best use of the existing transportation system.	Improve mobility/ travel time reliability for vehicle trips.	Does the project improve mobility/ travel time reliability for vehicles traveling along arterials in the Plan Area?	Corridor-level travel time and link-level congestion based on model runs.	A range of projects from system management to new capacity.	Worsens conditions compared to True FC	No	Yes, marginally	Yes, measurably	Quant
3		Develop multiple solution that encompass all transportation modes.	Improves intersection level of service on 181st, Fairview Parkway/223rd, 238th/242nd/Hogan Road, and 257th/Kane Road.	Does the project improve intersection level of service on the four primary north/south arterial corridors?	Intersection LOS	Coordinated /adaptive signal system or variable message signs/ other traveler info.	Worsens conditions compared to True FC	No	Yes - at least 1 intersection	Yes, multiple intersections along the corridor	Quant
4			Improves intersection level of service on Halsey, Glisan, Stark, Division, and Powell.	Does the project improve level of service on the five primary east/west arterial corridors?	Intersection LOS	Coordinated /adaptive signal system or variable message signs/ other traveler info.	Worsens conditions compared to True FC	No	Yes - at least 1 intersection	Yes, multiple intersections along the corridor	Quant
5			Improve mobility/ travel time reliability and consistency for transit trips.	Does the project improve mobility/ travel time reliability for transit riders traveling in the East Metro plan area?	In-vehicle and out-of-vehicle travel time, as measured between selected locations for each transit line	More transit frequency, more "complete" transit routes that minimize number of transfers needed, signal priority, dedicated lanes	Worsens conditions compared to True FC	No	Yes, marginally	Yes, measurably	Quant
6			Improves transit user experience at transit access points.	How much transit infrastructure would be constructed?	Provides new transit facilities	Pullouts, shelters, benches	Worsens conditions compared to True FC	None, or only a small component of the project	Provides moderate improve- ments	Project focus is on improving transit accommodations	Quant
7			Improve pedestrian access.	Does the project improve the pedestrian system in the East Metro plan area?	Measures of system completeness	Fills major gaps or deficiencies; New or upgraded pedestrian sidewalks or pathways; multi-use paths	Worsens conditions compared to True FC	No	Yes, marginally	Yes, measurably	Quant
8			Improves pedestrian experience.	How much does the project improve the pedestrian level of service?	System performance as measured by multi-modal level of service analysis	Bulb outs, pedestrian refuges	Worsens conditions compared to True FC	None, or only a small component of the project	Some, provides a complete street and/or fills a missing gap	Project includes enhanced pedestrian treatments/ on longer or critical segments	Quant
9			Improve bicycle access.	Does the project improve the bicycle system in the East Metro Plan Area?	Measures of system completeness	Fills major gaps or deficiences; New or upgraded bike lanes, new multiuse paths	Worsens conditions compared to True FC	No	Yes, marginally	Yes, measurably	Quant
10			Improves bicyclist experience.	How much does the project improve the pedestrian level of service?	System performance as measured by multi-modal level of service analysis	Separated bike facility, bike lane	Worsens conditions compared to True FC	None, or only a small component of the project	Some, provides a complete street and/or fills a missing gap	Project includes enhanced bicycle treatments/on longer or critical segments	Quant
					Subtotal						
					Average Score						
11	**Economic development**	Foster economic vitality	Improves access to industrial land, employment land and/or 2040 Centers	Does the project provide an important improved system connection to industrial land, employment land and/or 2040 Centers?	2040 Map	New or enhanced vehicular or non-vehicular facility, new or enhanced entry point	Worsens conditions compared to True FC	No	The connection provides localized benefits for one mode	The connection provides benefit for multiple modes or to several areas.	Quant
12			Protects existing employment areas	Does the project directly support job retention or new investment by providing a needed transportation solution?	Local knowledge about direct threats to existing and potential jobs.	Congestion relief project, or access to currently constrained jobs concentration.	Worsens conditions compared to True FC	No	Yes, minimally	Yes, significantly	Qual
13			Builds on or leverages private investment	Is the project reasonably expected to directly leverage private investment?	Private sector committed to invest.	Major access or connectivity for industrial/business parks and centers.	Worsens conditions compared to True FC	No	Yes, minimally	Yes, significantly	Qual
14			Builds on or leverages public investment	Does the project build on existing or leverage programmed public investment?	Adopted investment plans.	Access to public park, center, for which public investment is planned.	Worsens conditions compared to True FC	No	Yes, minimally	Yes, significantly	Qual
					Subtotal						
					Average Score						
15	**Safety and security**	Enhance the livability and safety of East Metro communities. Ensure that East Metro is a place where people want to live, work, and play.	Addresses a high crash intersection or corridor	Decrease the number of fatalities and injuries for all travel modes by including elements that HSM predicts will result in reduced crashes at high crash locations	Fatality and injury counts/ HSM methodology to analyze crash reductions	Realignment of intersection, new ped/bike flashing beacons	Worsens conditions compared to True FC	No	Yes, top 25% of EMCP segment crash severity index	Yes, top 10% of EMCP segment crash severity index	Quant
16			Increases safe travel to nearby school, vital services or commercial area (within 1/4 miles)	Does the project reduce multi-modal conflicts or improve ped/bike safety within 1/4 miles of a school?	Analysis of Highway Safety Manual design treatments within a network distance from schools	New refuge island, new signal; New sidewalk, new separated bike facility, new lighting at transit stop	Worsens conditions compared to True FC	No	Yes - minimally	Yes - significantly	Quant
17			Reduces intermodal conflict	Does the project reduce intermodal conflict by providing new signalized ped/bike crossings, grade separation, or new route designation?	Number of warranted traffic signals, new ped/bike flashers	New traffic signal, grade separated facility, etc.	Worsens conditions compared to True FC	No	Yes - at least one new signalized crossing	Yes - grade separation, multiple new signalized crossings, or route re-designation	Quant
					Subtotal						
					Average Score						

Complete proposed evaluation framework (2 of 4)

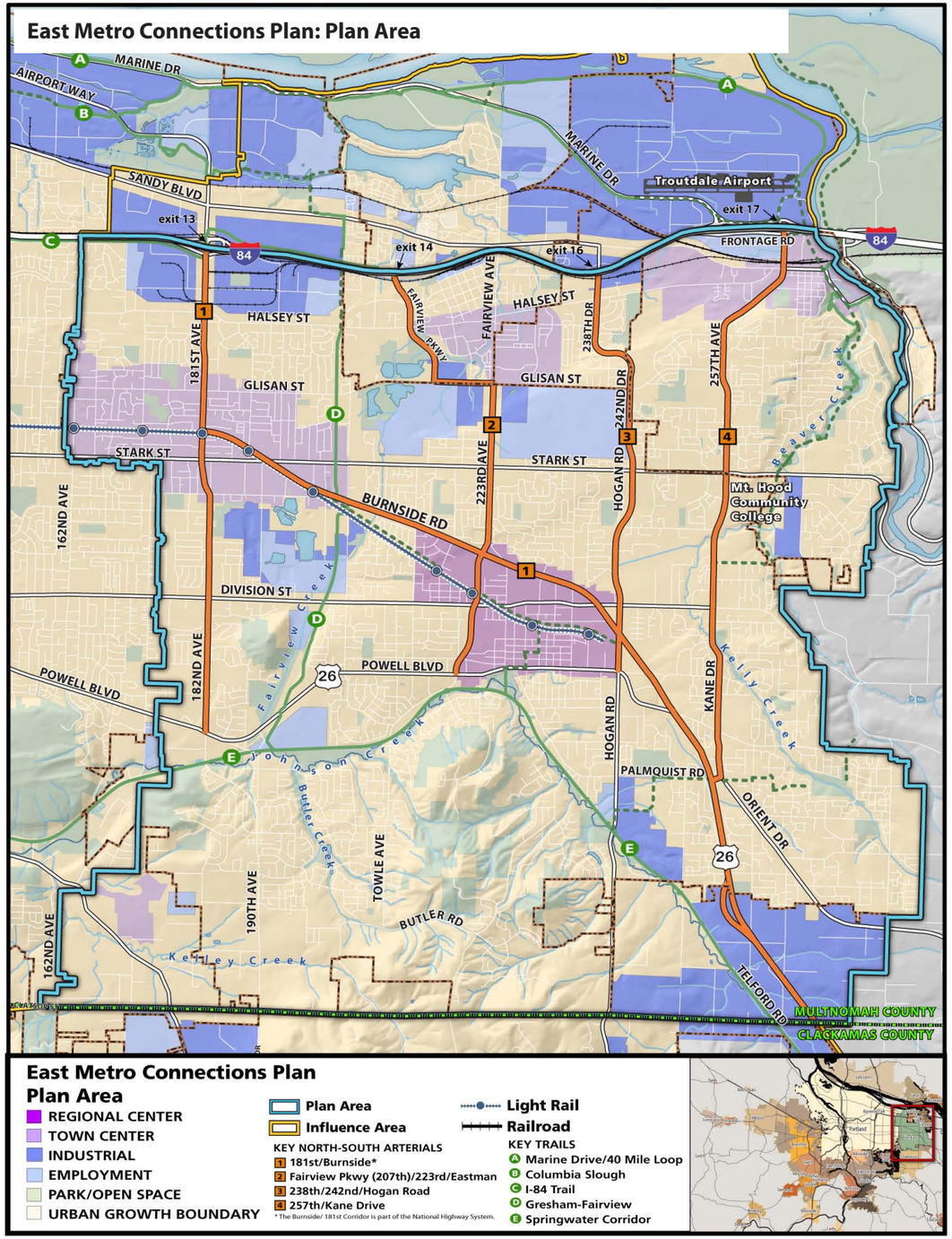
A	C	D	E	F	G	H	I	J	K	
	Factor	Related EMCP goals	Objectives	Measures	Measurement tools (examples)	Project examples	Ranking score			Qual or Quant?
							-1	0	1	2	Quant?
18	**Healthy communities**	Enhance the livability and safety of East Metro communities. Ensure that East Metro is a place where people want to live, work, and play.	Improves people's network connections to healthful food	Does the project improve people's network connections to healthy food (grocery stores)	Reduction in travel time (via modeling)	New sidewalk, bikeway, road access	Worsens conditions compared to True FC	No	Yes - minimally	Yes - significantly	Quant
19			Increases number of people with connections to walking, biking, access to transit	Does the project increase the number of people with connections to walking, biking, access to transit?	Density of residential units near sidewalks, bike paths, transit stops/ stations OR mode share projections	New path/ sidewalk from a trail to a neighborhood	Worsens conditions compared to True FC	No	Yes - minimally	Yes - significantly	Quant
20			Increases the number of people within ½ mile network walking access to recreational facilities	Would more people have 1/2 mile access to quality recreational facilities?	GIS Network Analyst - measure density of residential units and sidewalk network near recreational facilities	New sidewalk connection within 1/2 mile walking radii ofrecreational facilities	Worsens conditions compared to True FC	No	Yes - minimal increase	Yes - significant increase	Quant
21			Minimizes exposure to transportation related emmisions and noise	Does the project reduce exposure to transportation related emmisions and noise ?	criteria pollutants (surrogate might be VMTand trip flow)	[this might be system- level measure; staff is investigating]	Worsens conditions compared to True FC	No	Yes - minimally	Yes - significantly	Quant
					Subtotal						
					Average Score						
22	**Equity**	Distribute both the benefits and burdens of growth	Improves network connections to vital services (healthful food, medical care and health services, social services, schools and civic institutions, jobs) in low-income, minority, non-English speaking, youth, elderly or disabled communities	Does the project improve people's network connections (i.e., reduce actual travel time) to vital services in areas with concentrations of low-income, minority, non-English speaking, youth, elderly or disabled communities?	Census data to define location of these populations, model travel time	New sidewalk, path, roadway connection	Worsens conditions compared to True FC	No	Yes - minimally	Yes - significantly	Quant
23			Increases the number of people within ½ mile network walking access to recreation in low-income, minority, non-English speaking, youth, elderly or disabled communities	Would more people in areas with concentrations of low-income, minority, non-English speaking, youth, elderly or disabled communities have 1/2 mile access to recreation?	Census data to define location of these populations, map of recreational facilities locations	New sidewalk, path	Worsens conditions compared to True FC	No	Yes - minimal increase	Yes - significant increase	Quant
24			Increases number of people with connections to walking, biking, access to transit, in low-income, minority, non-English speaking, youth, elderly or disabled communities	Does the project increase the number of people with connections to walking, biking, access to transit in areas with concentrations of environmental justice, non-English speaking, youth, elderly or disabled communities?	Network route distance to/from identified census block concentrations	New sidewalk or bicycle connections	Worsens conditions compared to True FC	No	Yes - minimally	Yes - significantly	Quant
25			Minimizes exposure to transportation related emmisions and noise in low-income, minority, non-English speaking, youth, elderly or disabled communities	Does the project reduce exposure to transportation related emmisions and noise in areas with concentrations of low-income, minority, non-English speaking, youth, elderly or disabled communities?	TBD. Emissions measures, noise decible level maps	(any ideas on minimizing emissions?), Noise wall	Worsens conditions compared to True FC	No	Yes - minimally	Yes - significantly	Quant
26			Improves safety in low-income, minority, non-English speaking, youth, elderly or disabled communities	Does the project improve safety in areas with concentrations of low-income, minority, non-English speaking, youth, elderly or disabled communities?	Census data to define location of these populations	New lighting, new sidwalk or bike facility	Worsens conditions compared to True FC	No	Yes - provides lighting and/or ped/bike facilities that do not exist currently	Yes - includes significant streetscape enhancements	Quant
					Subtotal						
					Average Score						

Complete proposed evaluation framework (3 of 4)

A	C	D	E	F	G	H	I	J	K	
	Factor	Related EMCP goals	Objectives	Measures	Measurement tools (examples)	Project examples	Ranking score			Qual or Quant?
							-1	0	1	2	Quant?
27	**Natural environment**	Enhance the natural environment	Increases access to public natural area (e.g., Gorge, Columbia River, regional trails, Mt. Hood)	Does it measurably increase access for a wide variety of users?	Network analysis		Worsens conditions compared to True FC	No	Yes - minimally	Yes - substantially	Qual.
28			Improves integrity of parklands and natural areas.	Will the project improve the spatial or perceived continuity of parklands and / or natural areas?	Spatial analysis		Worsens conditions compared to True FC	No	Yes - minimally	Yes - substantially	Qual.
29			Improves wetlands	Does the project improve the functions and values of wetlands?	Area of wetland impact; Qualitative assessment of wetland function and value impacts	Avoids wetlands in the project area. Improves adjacent wetland area. Fill in wetland.	Worsens conditions compared to True FC; wetland impacts that must be mitigated.	No wetlands present in the project area	Yes - avoids wetland impacts in project area	Yes - improves wetlands	Qual. and Quant.
30			Improves flooding or poor storm water flow/drainage	Does project improve storm water drainage? Does the project improve floodplain capacity, e.g. by retaining or increasing flood storage capacity?	Area with properly managed stormwater. Quantity of cut / fill in floodplain.	New facilities built to standard or redeveloped existing facilities improved to standard. Project within floodplain.	Increases flooding potential	Neutral regarding managed surfaces, floodplain fill and drainage.	Yes, marginal improvement in area with adequate drainage	Yes, in area with poor drainage or that has a history of contributing to flooding	Qual. and Quant.
31			Improves water quality	Does the project improve water quality, e.g. by advancing local jurisdictions' efforts to comply with TMDLs (Total Maximum Daily Loads), reducing impervious surface area, or increasing stormwater runoff treated?	Increase in impervious surface area. Quantity of existing impervious surface areas below standard brought up to standards. Advances jurisdictions TMDL requirements. Project location within a shade target area.	New roadway or impervious surface; in shade target area; stormmwater treatment for previously untreated areas. Riparian tree planting to increase shade and infiltration.	Decreases water quality; e.g. increases impervious surface or decreases shade in a shade target area.	No improvement to water quality	Yes - minimally	Yes - substantially	Qual. and Quant.
32			Improve and increase native or non-invasive vegetation	Does the project improve the quality and/or quantity of native or non-invasive vegetation?	Amount of and quality of native or non-invasive vegetation improved or destroyed	Vegetation removal for construction	Decreases desirable vegetation	No	Yes - minimally	Yes - substantially	Quant
33			Improves riparian, fish and wildlife habitat	Does the project improve / riparian, fish and wildlife habitat?	Amount of riparian, fish and wildlife habitat improved or destroyed	Construction in Habitat conservation areas.	Worsens conditions in Habitat Conservation areas	No	Yes - minimally	Yes - substantially improves Habitat Conservation Areas	Quant.
34			Improves fish passage and/or wildlife crossings or corridors	Does the project improve fish passage and/or wildlife crossings or corridors?	Amount of newly accessible high quality Improves an identified high priority culvert or wildlife crossing area.	Replacing a culvert with a bridge; installing a bridge or wildlife undercrossing; exchanging a fish barrier for a fish friendly culvert or bridge.	Project fragments previously contiguous habitat or reduces habitat permeability	Neutral regarding fish and wildlife passage, crossings.	Project improves conditions (permeability) for either fish/aquatics OR wildlife	Project improves habitat permeability for fish and wildlife.	Quant.
35			Protects strategy species and/or habitats identified in the Oregon Conservation Strategy	Does the project protect strategy species?	Amount of strategy species habitat improved or destroyed	Road alignment that would require removal of Oregon white oak trees; new road separating red-legged frog breeding ponds from adult habitat.	Worsens conditions for strategy species and/or habitats.	Neutral regarding strategy species/habitats (e.g., none in area).	Project avoids damage to strategy species/habitats.	Project improves conditions for strategy specie/habitats in area.	Quant.
					Subtotal						
					Average Score						

Complete proposed evaluation framework (4 of 4)

A	C	D	E	F	G	H	I	J	K	
	Factor	Related EMCP goals	Objectives	Measures	Measurement tools (examples)	Project examples	Ranking score			Qual or Quant?
							-1	0	1	2	Quant?
36	**Feasibility**	Support the local land use vision of each community	Changes, if proposed, to official route designations (e.g., RTP, or 40-Mile Loop) are reasonably likely to be approved by regulatory or permitting agencies.	Are changes, if proposed, reasonably likely to be approved by agency with regulatory authority to prevent project?	Metro discussion with affected stakeholder	Change designated freight routes in Regional Transportation Plan	Contradicts plans	No	Yes, with difficulty or opposition	Yes	Qual
37		Distribute both benefits and burdens of growth.	Minimizes estimated right-of-way impacts	Relative to the size of the project, what is the overall impact of any estimated right-of-way acquisitions that are necessary?	ROW needed relative to project size	New left turn lanes at intersection	Requires substantial right-of-way	Little or no impact	Moderate impact	Substantial impact	Quant
38			Project cost and complexity is commensurate with benefits	Is project cost (including capital and life-cycle operating/maintenance costs) and complexity commensurate with benefits(concept-plan level of analysis for roads, bike/ped; transit service efficiency as measured by boardings per service hour)?	Cost/ benefit methodology - very rough order of magnitude	All	Cost and complexity is extremely high compared to benefits	No - the cost is high compared to the benefits	Yes - the benefits and costs seem appropriate	Yes - the benefits are significant for minimal cost	Qual
39			Consistent with local plans and aspirations	Is the project consistent with local plans and aspirations?	Project is listed in TSP/ CIP, or supports local vision	Roadway project	Contradicts plans	No	Yes, generally	Yes, goes beyond	Qual
40			Consistent with regional plans	Is the project consistent with regional plans?	Project is listed in RTP, supports regional vision	complete streets treatment on deficient roadway segment	Contradicts plans	No	Yes, generally	Yes, goes beyond	Qual
41			Consistent with natural resource agency, watershed council, and parks plans	Is the project consistent with natural resource agency, watershed council, and parks plans?	Project is listed in relative plan documents		Contradicts plans	No	Yes, generally	Yes, goes beyond	Qual
42			Consistent with state plans	Is the project consistent with state plans?	Project is consistent with state transportation, highway, freight or other plans		Contradicts plans	No	Yes, generally	Yes, goes beyond	Qual
					Subtotal						
					Average Score						



Future growth projections

Households and Employment	Year 2010 existing baseline	Year 2035 future forecast	Percent change
Households in the plan area	46,846	60,153	28.40%
Households region wide	808,418	1,200,117	48.50%
Jobs in the plan area	31,511	62,326	97.80%
Jobs region wide	916,704	1,441,124	57.20%

Future growth projections are developed using Metroscope and the regional forecasting model. These projections were reviewed by local jurisdictions in the summer of 2011.

Glossary

2040 centers: The 2040 Growth Concept, a long-range plan adopted by Metro, designates centers across the region as the focus for redevelopment, multi-modal transportation and concentrations of households and employment. The 2040 Growth Concept provides a guide to actively manage the growth of the region by encouraging development in centers.
(www.oregonmetro.gov/2040)

Accessibility: The ability to reach desired goods, services, activities and destinations with relative ease, within a reasonable time, at a reasonable cost and with reasonable choices. Many factors affect accessibility, including mobility, the quality, cost and affordability of transportation options, land use patterns, connectivity of the transportation system and the degree of integration between modes. The accessibility of a particular location can be evaluated based on distances and travel options, and how well that location serves various modes. Locations that can be accessed by many people using a variety of modes of transportation generally have a high degree of accessibility.
(2035 Regional Transportation Plan, Metro, 2010)

Arterials: A class of street. Arterial streets interconnect and support the throughway system. Arterials are intended to provide general mobility for travel within the region. Correctly sized arterials at appropriate intervals allow through trips to remain on the arterial system thereby discouraging use of local streets for cut-through travel. Arterial streets link major commercial, residential, industrial and institutional areas. Major arterials serve longer distance through trips and serve more of a regional traffic function. Minor arterials serve shorter, more localized travel within a community. As a result, major arterials usually carry more traffic than minor arterials. Arterial streets are usually spaced about one mile apart and are designed to accommodate bicycle, pedestrian, truck and transit travel.
(2035 Regional Transportation Plan, Metro, 2010)

Boulevards: Facilities designated in mixed-use areas (e.g., 2040 centers, station communities and main streets) that are designed to integrate motor vehicles, freight, transit, bicycle and pedestrian modes of travel, with an emphasis on pedestrian, bicycle and transit travel.
(2035 Regional Transportation Plan, Metro, 2010)

Collectors: A class of street. Collector streets provide both access and circulation between residential, commercial, industrial and agricultural community areas and the arterial system. As such, collectors tend to carry fewer motor vehicles than arterial streets, with reduced travel speeds. Collector streets are usually spaced at half-mile intervals, midway between arterial streets. Collectors may serve as bike, pedestrian and freight access routes, providing local connections to the arterial street network and transit system. While the focus for collectors has been on motor vehicle traffic, they are developed as multimodal facilities that accommodate bicycles, pedestrians and transit.
(2035 Regional Transportation Plan, Metro, 2010)

Frequent service:TriMet's Frequent Service bus lines run about every 15 minutes during the morning and afternoon rush hours on weekdays. MAX runs every 15 minutes or better most of the day, every day. (Service is less frequent in the early morning, mid-day and evening.).Frequent Service lines connect the regional hubs where many riders live and work.
(http://trimet.org/schedules/frequentservice.htm)

Highway Safety Manual (HSM): The Highway Safety Manual (HSM) provides information and tools to consider safety when making decisions related to design and operation of roadways. The HSM assists practitioners in selecting counter measures and prioritizing projects, comparing alternatives, and quantifying and predicting the safety performance of roadway elements considered in planning, design, construction, maintenance, and operation. Prior to the HSM, there was no widely accepted tool available to quantitatively assess the impact of infrastructure decisions on safety.
(www.highwaysafetymanual.org)

Intermodal: More than one mode of transportation, for example truck and pedestrian or train.

Level of service: 1) A qualitative assessment of a road's operating conditions. For local government comprehensive planning purposes, level of service means an indicator of the extent or degree of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of service indicates the capacity per unit of demand for each public facility. 2) This term refers to a standard measurement used by transportation officials which reflects the relative ease of traffic flow on a scale of A to F, with free-flow being rated LOS-A and congested conditions rated as LOS-F.
(www.fhwa.dot.gov/planning/glossary)

Mobility: Mobility is the ability to move between destinations. Destinations are the opportunities defined under access above.
(The Geography of Urban Transport, 3rd Edition, Susan Hanson and Genevieve Giuliano, 2004)

Multimodal: The movement of people or goods by more than one mode.
(2035 Regional Transportation Plan, Metro, 2010)

Multimodal level of service: A standard measurement used by transportation officials which reflects the "quality of service" of a service or facility on a scale of A to F that considers more than one mode, including bicycle and pedestrian.
(http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_616.pdf)

Reliability: The consistency or dependability in travel times, as measured from day to day and/or across different times of day. Variability in travel times means travelers must plan extra time for a trip.
(2035 Regional Transportation Plan, Metro, 2010)

Strategy species: Species identified by the Oregon Department of Fish and Wildlife that have small or declining populations or are otherwise at risk. Strategy species are identified as a part of the Oregon Conservation Strategy, a blueprint for conservation of the state's native fish and wildlife and their habitats.
(Oregon Department of Fish and Wildlife. 2006. Oregon Conservation Strategy. Oregon Department of Fish and Wildlife)

Total Maximum Daily Loads: A regulatory term in the U.S. Clean Water Act, describing a value of the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. Alternatively, TMDL is an allocation of that water pollutant deemed acceptable to the subject receiving waters.
(en.wikipedia.org/wiki/Total_maximum_daily_load)

Transportation System Management & Operations: Transportation system management and operations strategies provide money saving multimodal solutions that relieve congestion, optimize infrastructure investments, promote travel options, and reduce greenhouse gas emissions.
(http://www.oregonmetro.gov/index.cfm/go/by.web/id=21962)

Transportation Management Association (TMA): Formally designated non-profit coalitions of local businesses and/or public agencies dedicated to reducing traffic congestion and pollution and improving commuting options for employees.
(2035 Regional Transportation Plan, Metro, 2010)

Volume-to-capacity (v/c) ratio: A measure of potential roadway capacity. A ratio expressing the relationship between the existing or anticipated volume of traffic on a roadway and the designed capacity of the facility. V/C standards set ratios as a minimum operating standard. One of the important characteristics of the v/c ratio is that it does not bias solutions. Deficiencies can be addressed by lowering traffic volumes through demand management, transit, etc. or by increasing capacity through access management, signal timing, adding lanes, etc., or a combination of methods.
(2035 Regional Transportation Plan, Metro, 2010)