

# Vision Zero and Enhanced Transit Corridors

*City Council*

*July 13, 2017*

WE KEEP PORTLAND MOVING.



# Purpose of the Vision Zero and Transit Joint Hearing

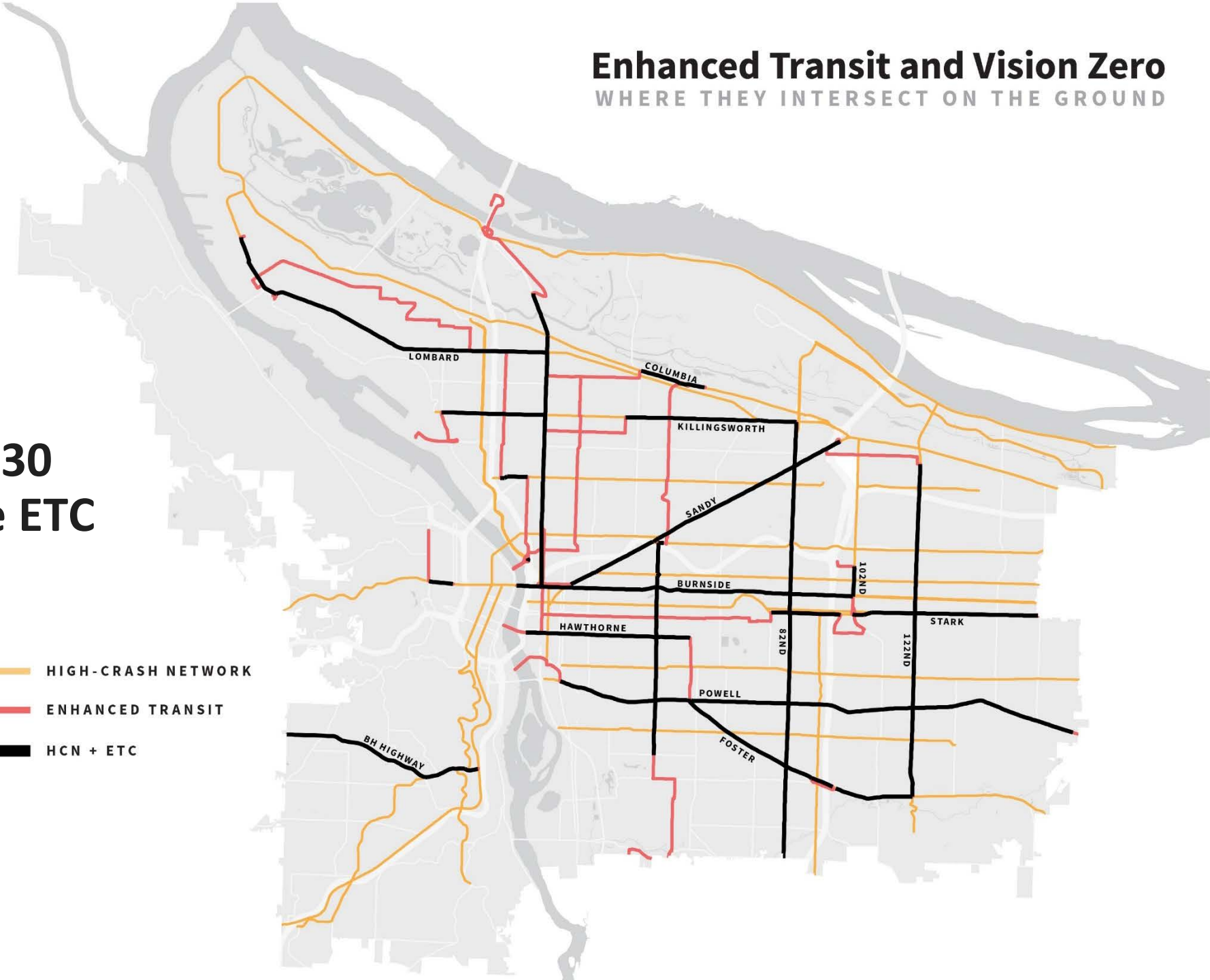
- Coordinating safety and transit improvements and recommendations.
- Seek Council adoption of a Vision Zero Project List.
- Provide mid-point briefing on the Regional Transit Vision and initial findings for the Enhanced Transit Corridors Plan.
- Seek Council endorsement of a candidate list projects to consider for the Regional Transportation Plan update.

# Enhanced Transit and Vision Zero

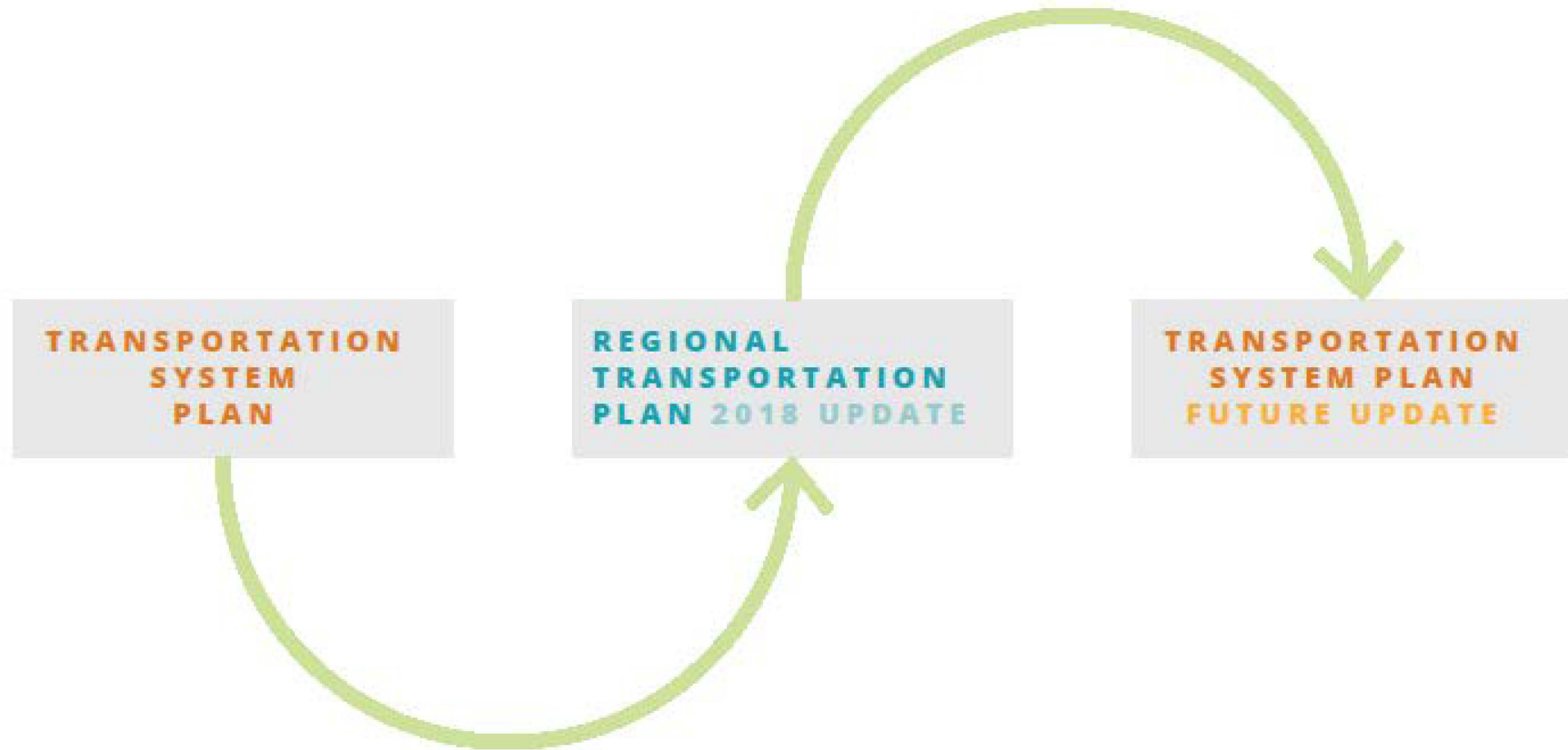
WHERE THEY INTERSECT ON THE GROUND

14 of 30  
HCC are ETC

- HIGH-CRASH NETWORK
- ENHANCED TRANSIT
- HCN + ETC

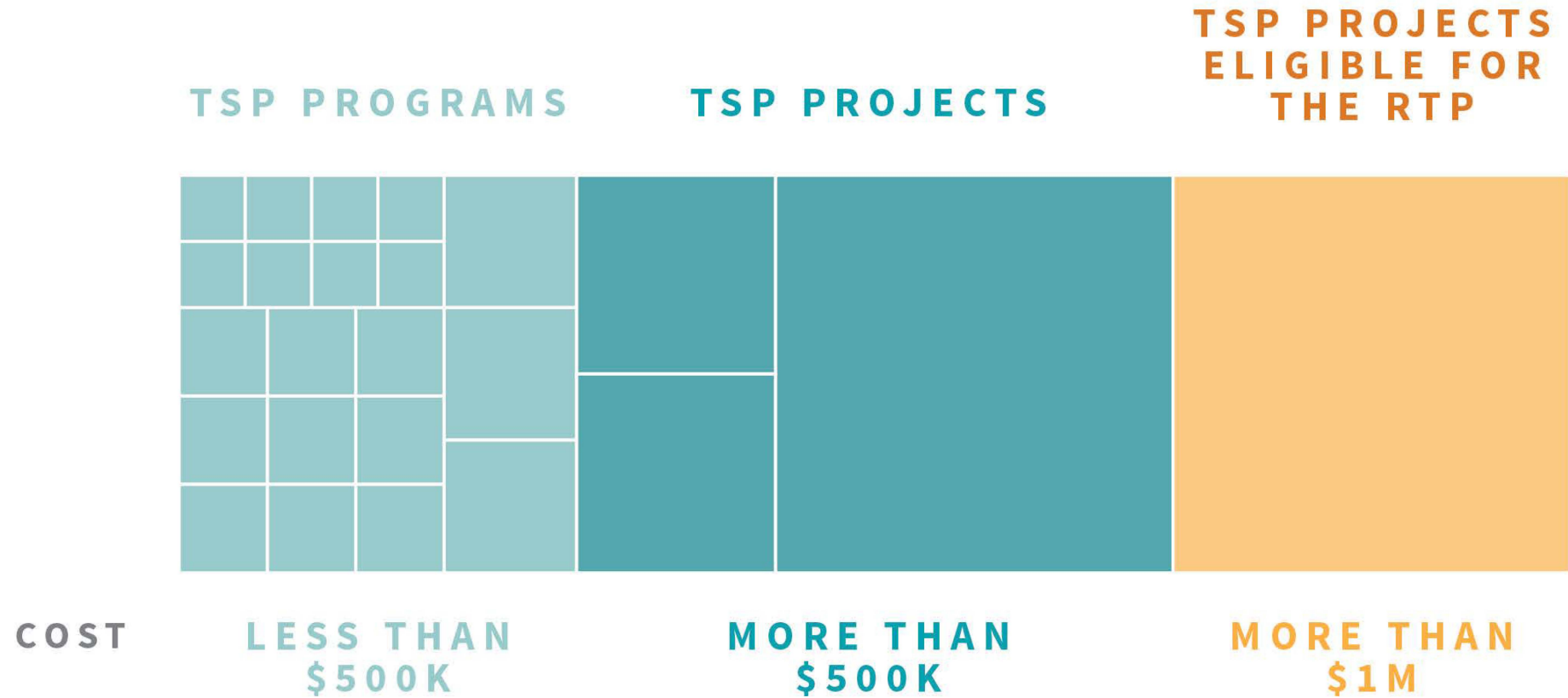


# THE SYMBIOTIC RELATIONSHIP BETWEEN THE TSP AND RTP





# TSP Projects



# **Vision Zero Action Plan Project List**

# COUNCIL ACTION TODAY: Resolution #1



Amend Portland's Vision Zero Action Plan to incorporate the Vision Zero Project List

- **Direct integration of select projects into the Portland Transportation System Plan (TSP)**
- **Endorse select projects for integration into the Regional Transportation Plan (RTP)**

# VISION STATEMENT

Working together, we will take **equitable** and **data-driven** actions that will **eliminate deaths and serious injuries** for all who share Portland streets by 2025.



# City Council Vision Zero Actions

**June 2015**, passed a resolution committing Portland to Vision Zero

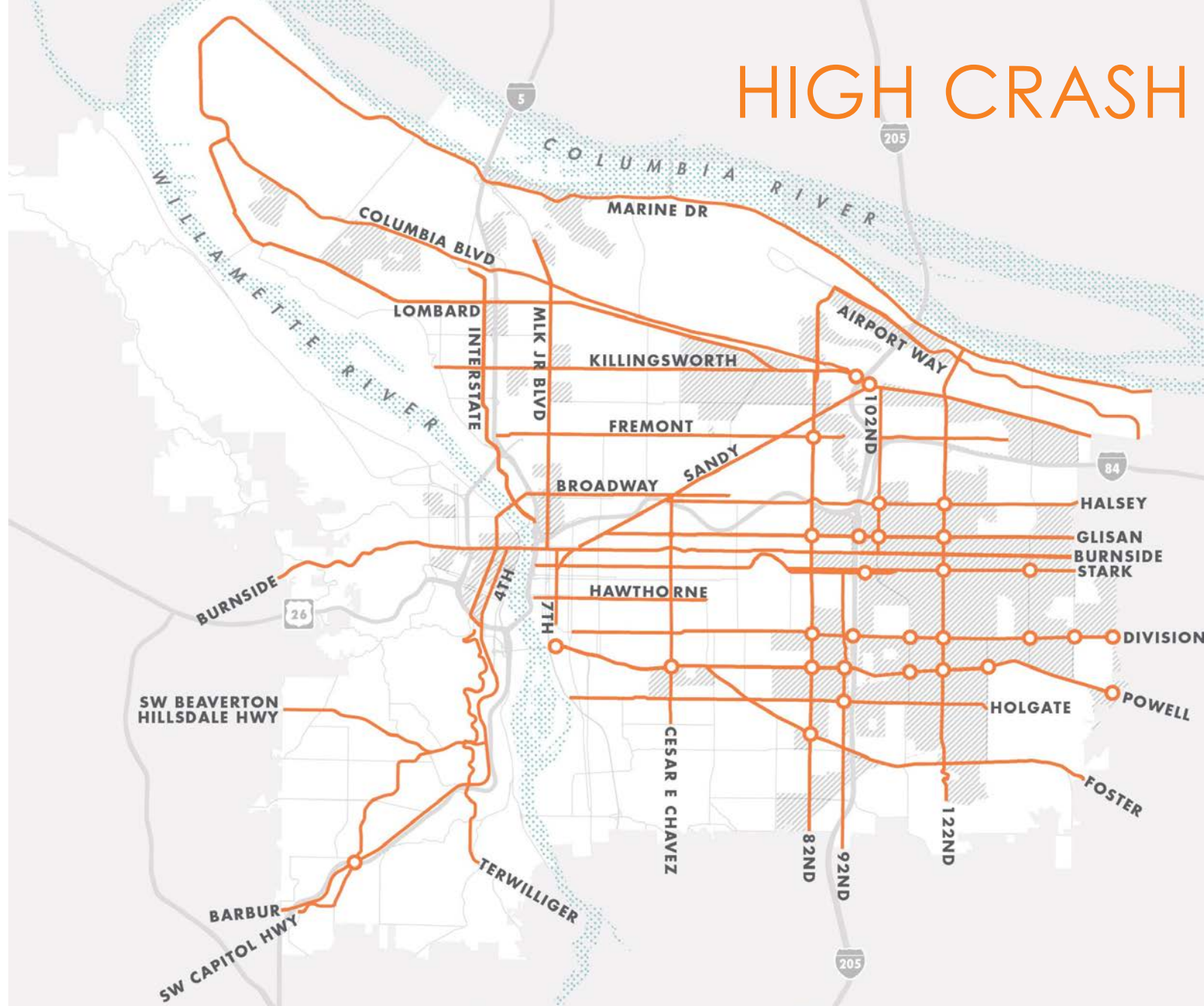
**December 2016**, adopted the Vision Zero Action Plan and goal to eliminate traffic deaths and serious injuries by 2025

**December 2016**, allocated \$300,000 in support of immediate safety investments on outer SE Division Street

**March 2017**, enacted emergency ordinance for immediate posted speed reduction on outer SE Division Street

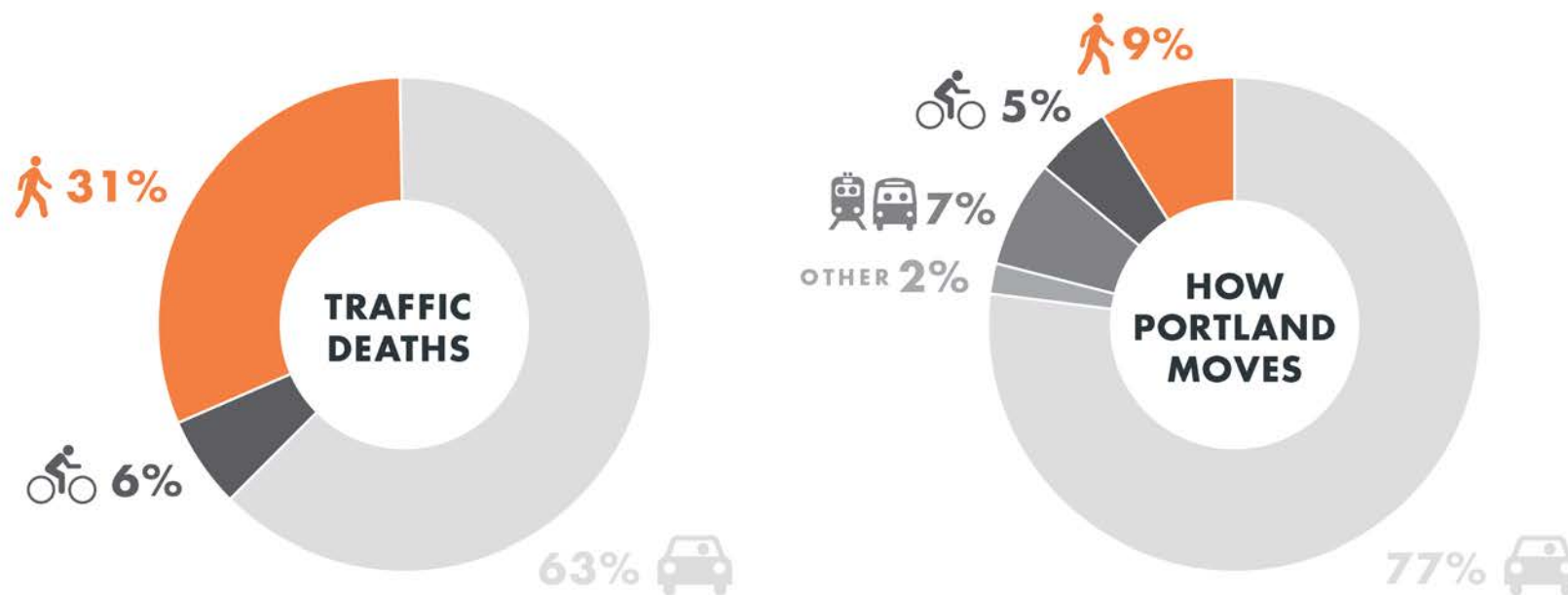
**May 2017**, adopted City budget allocating \$1.46M in ongoing Vision Zero funding and \$125,000 in one-time funding

# HIGH CRASH NETWORK





# MULTI-MODAL FOCUS



**PEOPLE WALKING ARE  
ESPECIALLY VULNERABLE**  
TRAFFIC-RELATED DEATHS VS. TRAVEL MODE

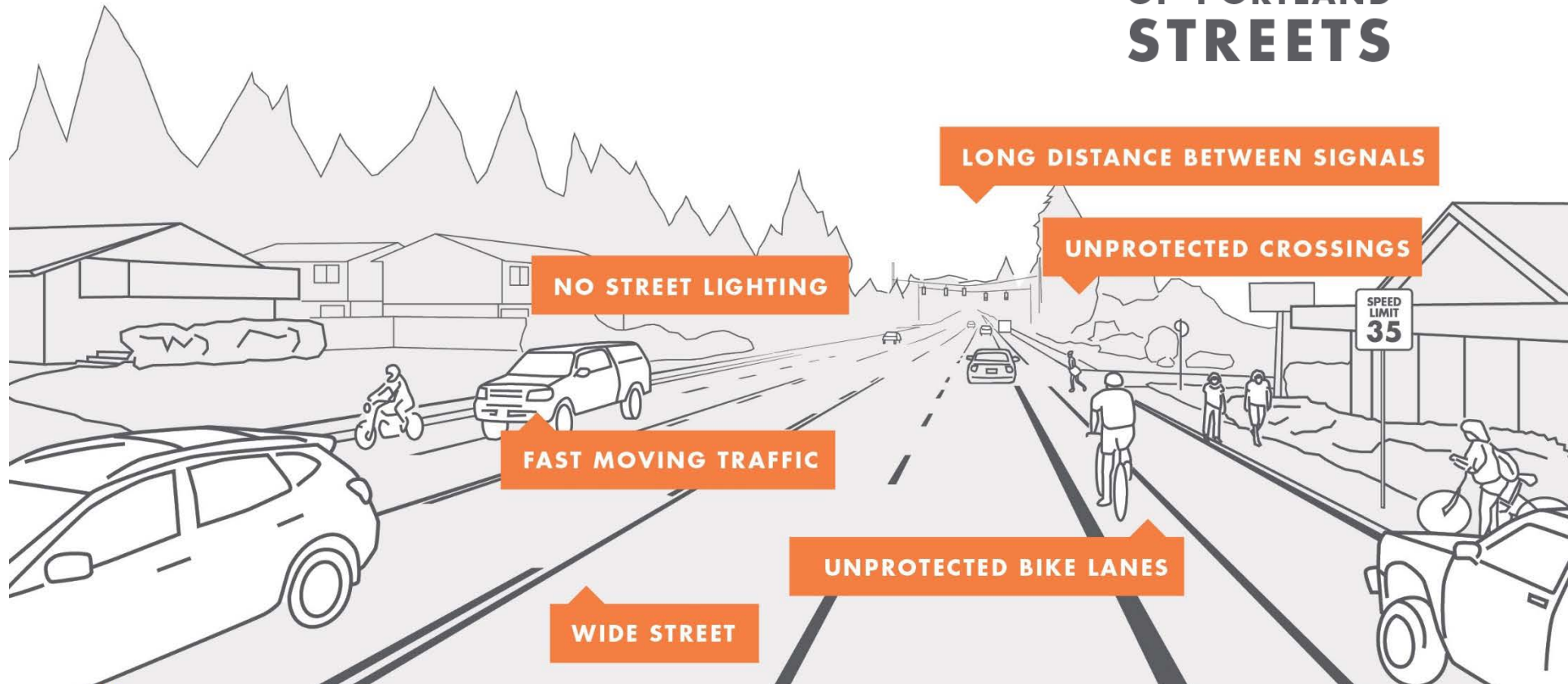
# STREET DESIGN

**57%**

**OF DEADLY  
CRASHES ARE ON**

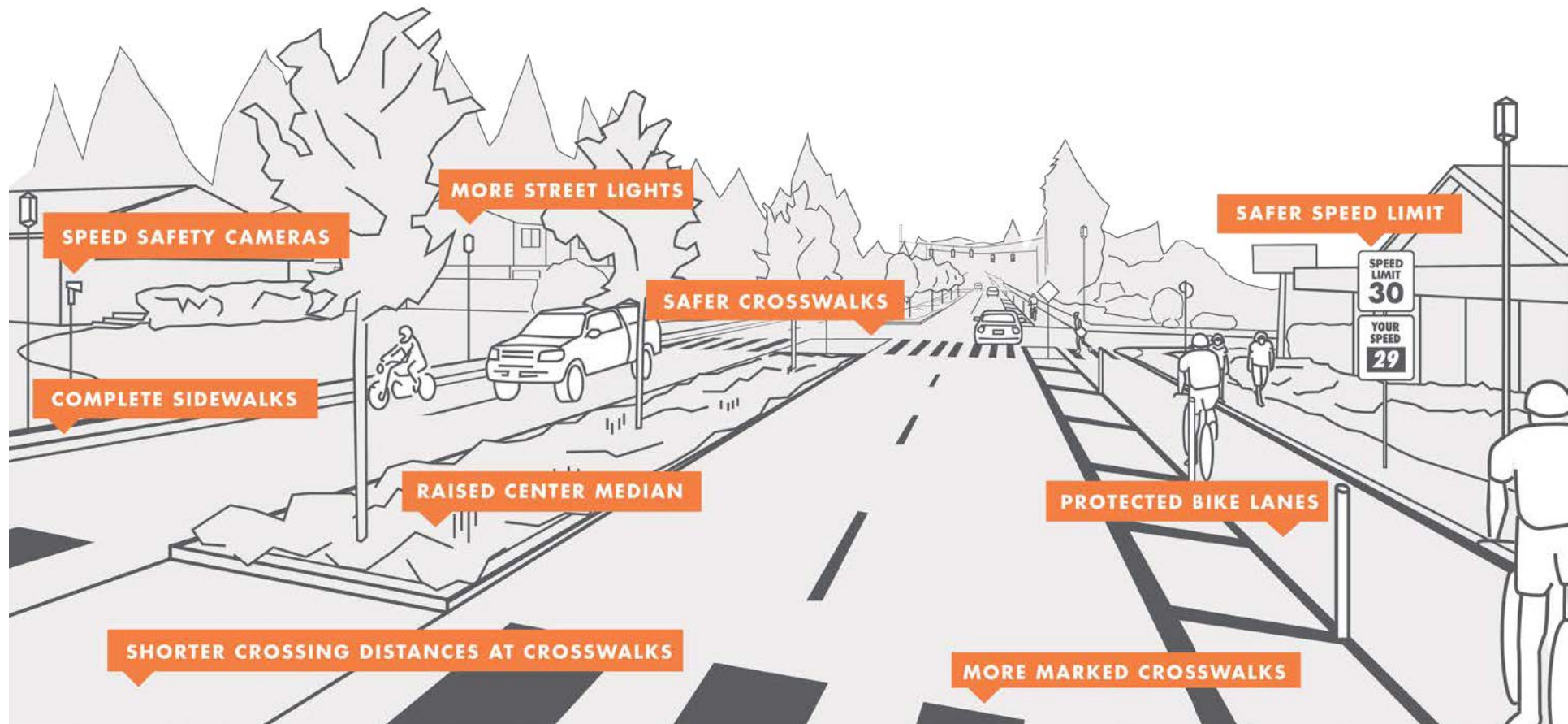
**8%**

**OF PORTLAND  
STREETS**

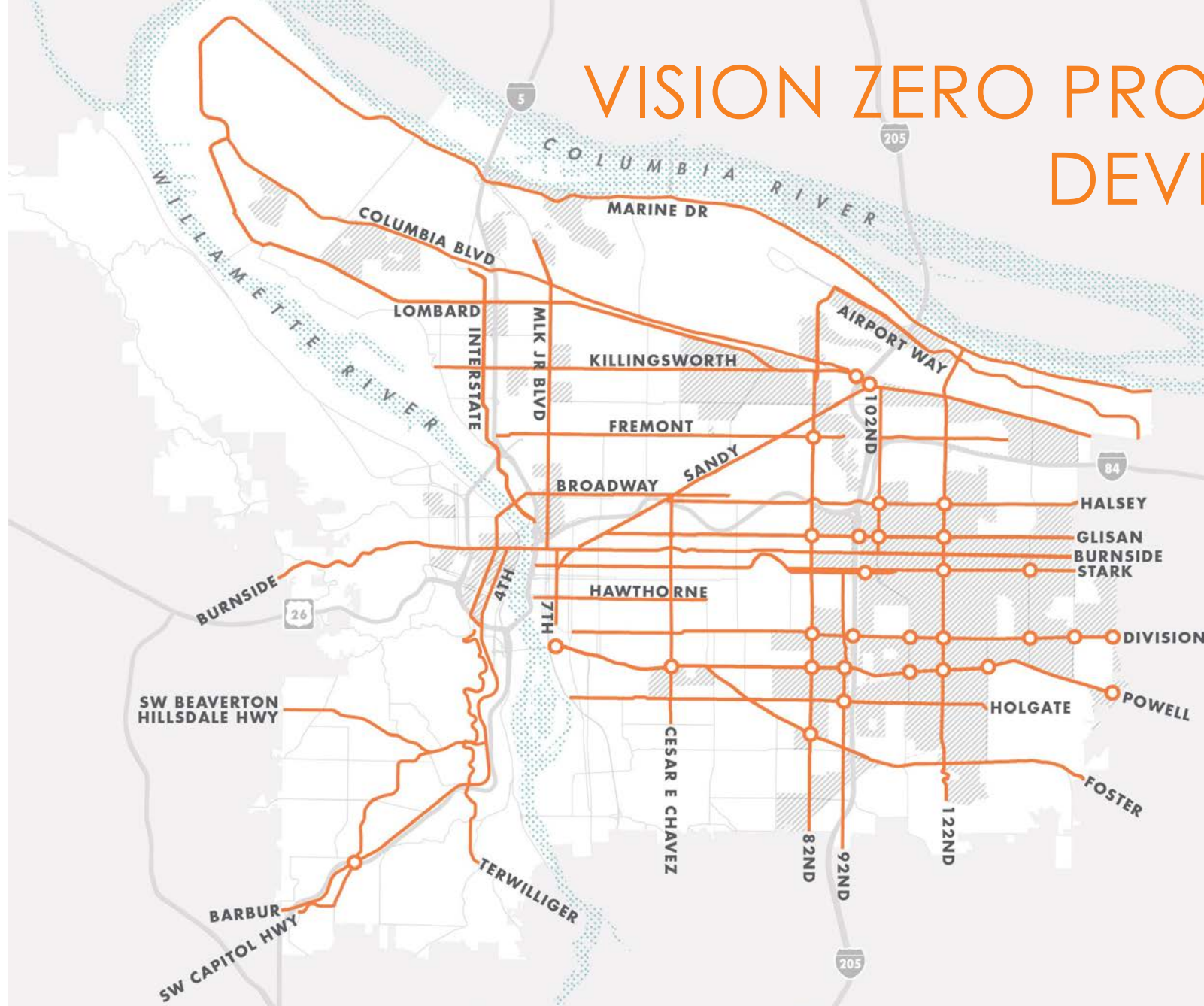


# STREET DESIGN

Fund & build capital safety improvements on the High Crash Network (SD.1)






# VISION ZERO PROJECT MAP DEVELOPMENT

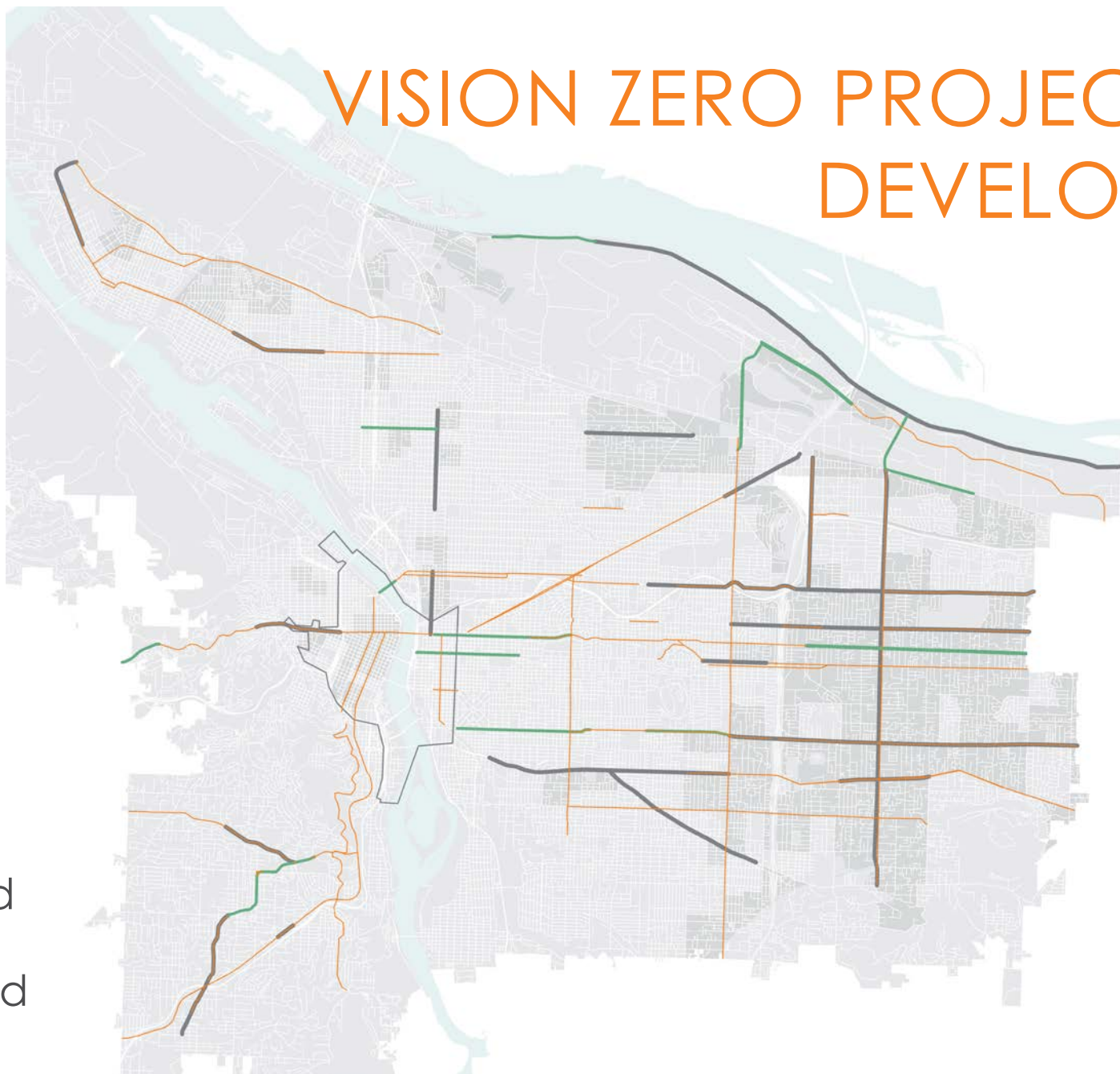




# VISION ZERO PROJECT MAP DEVELOPMENT

1. On the HCN, where are there existing and planned projects?

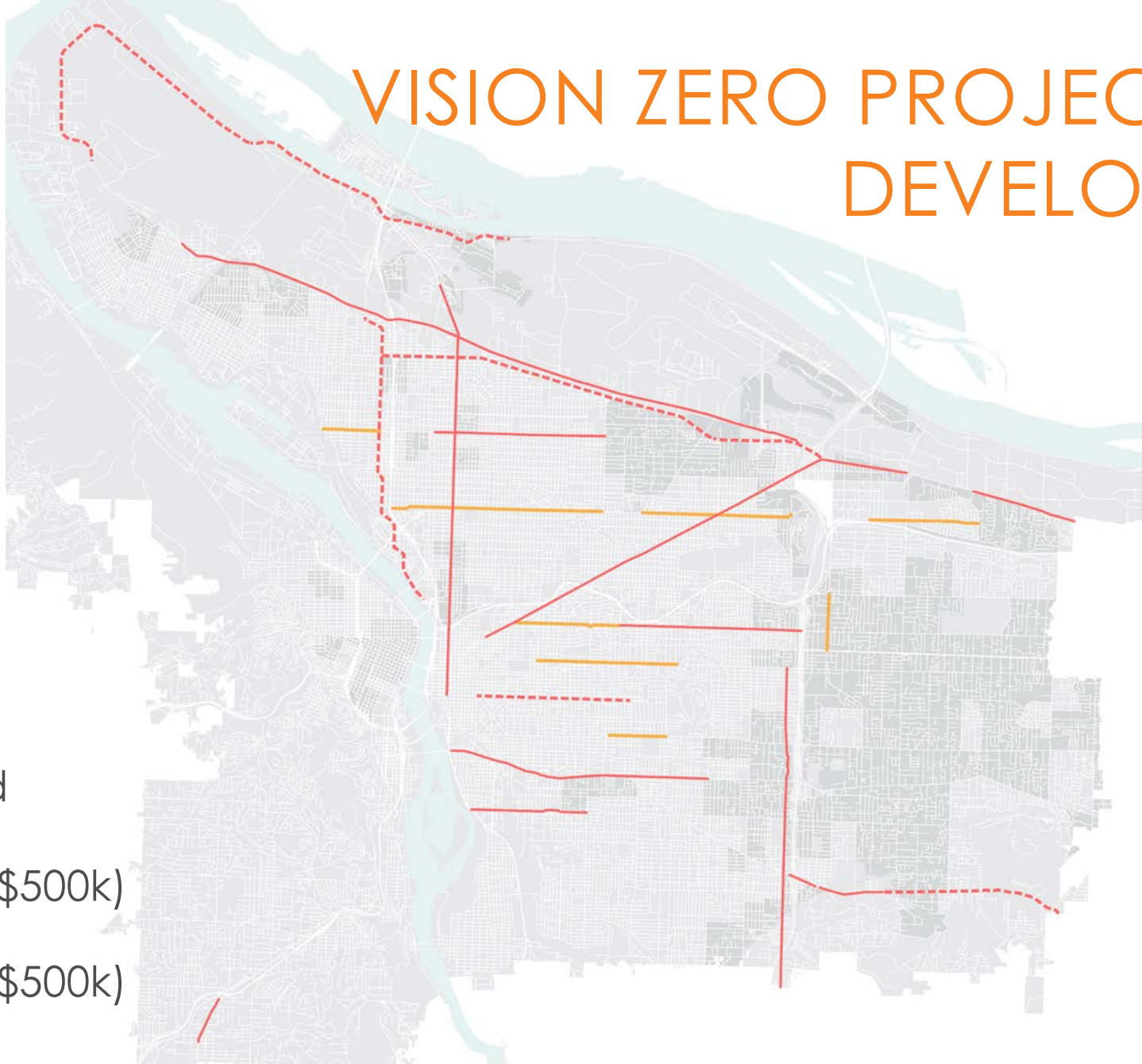
-  Built
-  Funded
-  Planned



# VISION ZERO PROJECT MAP DEVELOPMENT

2. On the HCN, where should new projects be added or existing projects be revised?

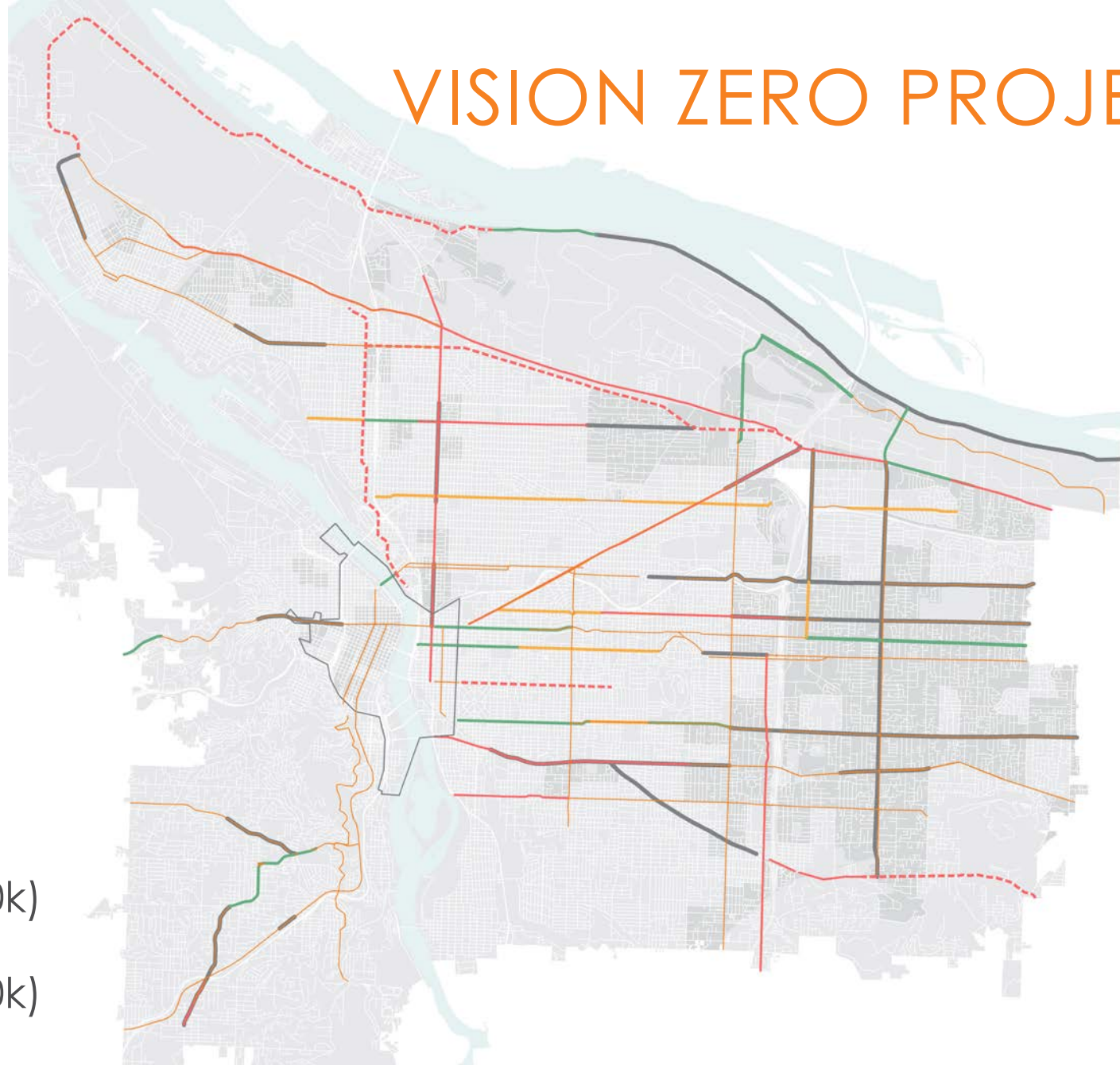
- Revised
- New (>\$500k)
- New (<\$500k)





# VISION ZERO PROJECT MAP

- Built
- Funded
- Planned
- Revised
- New (>\$500k)
- New (<\$500k)



# VISION ZERO PROJECT LIST

High Crash Network street	Project name	Description + extents	Estimated cost range
Proposed new or revised projects			
Columbia	Columbia Blvd Pedestrian Improvements	Construct sidewalks and crossing improvements from Burr to Interstate 205. Project design will consider freight movement needs, consistent with policies, street classification(s) and uses.	\$2-5M
92nd	SE 92nd Ave Bikeway <i>Proposed new name: SE 92nd Ave Safety Improvements</i>	Design and implement bicycle facilities between Holgate and Woodstock. Fill 1500' of sidewalk gaps between Stark and Clatsop. Upgrade or add crosswalks consisting of ADA ramps and curb extensions or islands in the 2- and 3-lanes sections.	\$2-5M
Capitol	Outer Capitol Hwy Corridor Improvements	Make safety improvements from Huber to Stephenson that include a road reorganization, curb extensions, medians, improved crossings, enhanced bike lanes, left turn pockets and improved signal timing.	\$2-5M
Foster	Lents Town Center Improvements, Phase 2	Enhance bike facilities and implement Lents Town Center Business District Transportation Plan with new traffic signals, pedestrian amenities, wider sidewalks, pedestrian crossings, and street lighting from 94th to 101st.	\$5-10M
Foster	Outer Foster Rd Pedestrian Improvements	Enhance bike facilities and construct sidewalks and crossing improvements to improve safety and access to transit from 102nd to Foster Place.	\$500K-2M
Hawthorne	Hawthorne Multimodal Safety	Safety project to reduce sideswipe auto crashes and left turning auto crashes from 12th to 50th. Include safety improvements to reduce bike crashes and pedestrian crashes.	\$2-5M
Holgate	Inner Holgate Bikeway <i>Proposed new name: Inner Holgate Bikeway &amp; Pedestrian Improvements</i>	Design and implement bicycle facilities and apply crosswalk spacing and lighting standards and design treatments for 20-25 mph MV speed from McCloughlin to Chavez. Project design will consider freight movement needs, consistent with policies, street classification(s) and uses.	\$500K-2M
Killingsworth	Outer Killingsworth Multimodal Safety	Safety project to reduce rear end crashes and pedestrian crashes from Cully to Columbia (east leg). Upgrades to pedestrian crossings, including transit amenities, and bike facilities.	\$2-5M
Killingsworth	NE Killingsworth Safety Improvements	Construct streetscape and multimodal safety improvements to increase opportunities to walk and enhance the main street character of this corridor from Martin Luther King Jr. Blvd. to 42nd Ave.	\$500K-2M
Lombard	Lombard Multimodal Safety	Safety project to reduce rear end and lane departure crashes from Interstate to Cully. Includes rebuild of Lombard/11th rail crossing to address crash history.	\$500K-2M

# COUNCIL ACTION TODAY: Resolution #1



Amend Portland's Vision Zero Action Plan to incorporate the Vision Zero Project List

- **Direct integration of select projects into the Portland Transportation System Plan (TSP)**
- **Endorse select projects for integration into the Regional Transportation Plan (RTP)**

# A Proposed New Transit Vision

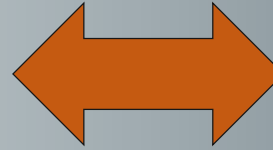
1. Growing Transit corridors to “Frequent Service”
2. Enhancing Transit Corridors beyond “Frequent Service.” Buses and streetcar lines
3. New High Capacity Transit (MAX system, Bus Rapid Transit) and addressing key bottlenecks in the system

# Calibrating the strategy to our needs

## Spectrum of Transit

**Local &  
regional bus**

**Express bus,  
frequent bus**



**Enhanced transit,  
buses & streetcar**

**Bus rapid transit,  
light rail**

Less frequent

Less capacity

Operates in mixed traffic

Streetscape doubles as stop or station

Supports linear development

Connects home, work, school and play

Locally funded

More frequent

More capacity

All or majority of operation in exclusive guideway

High investment in station access

Supports nodal development

Connects regional and town centers

Federally funded



[www.trimet.org/future](http://www.trimet.org/future)



## Service Enhancement Plans

Creating a shared vision for making transit better





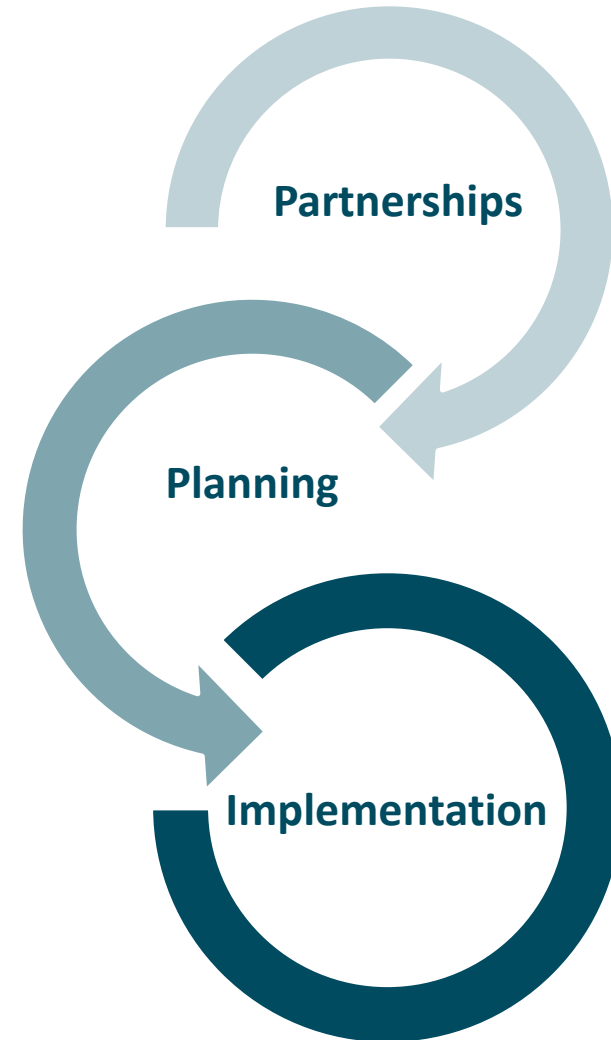
# Eastside Service Enhancement Plan

- More coverage (e.g., north-south service)
- Service more often, earlier, and later
- Connect with employment areas
- Enhance access to education, healthy food and services
- Partnerships to improve access to bus and light rail stops

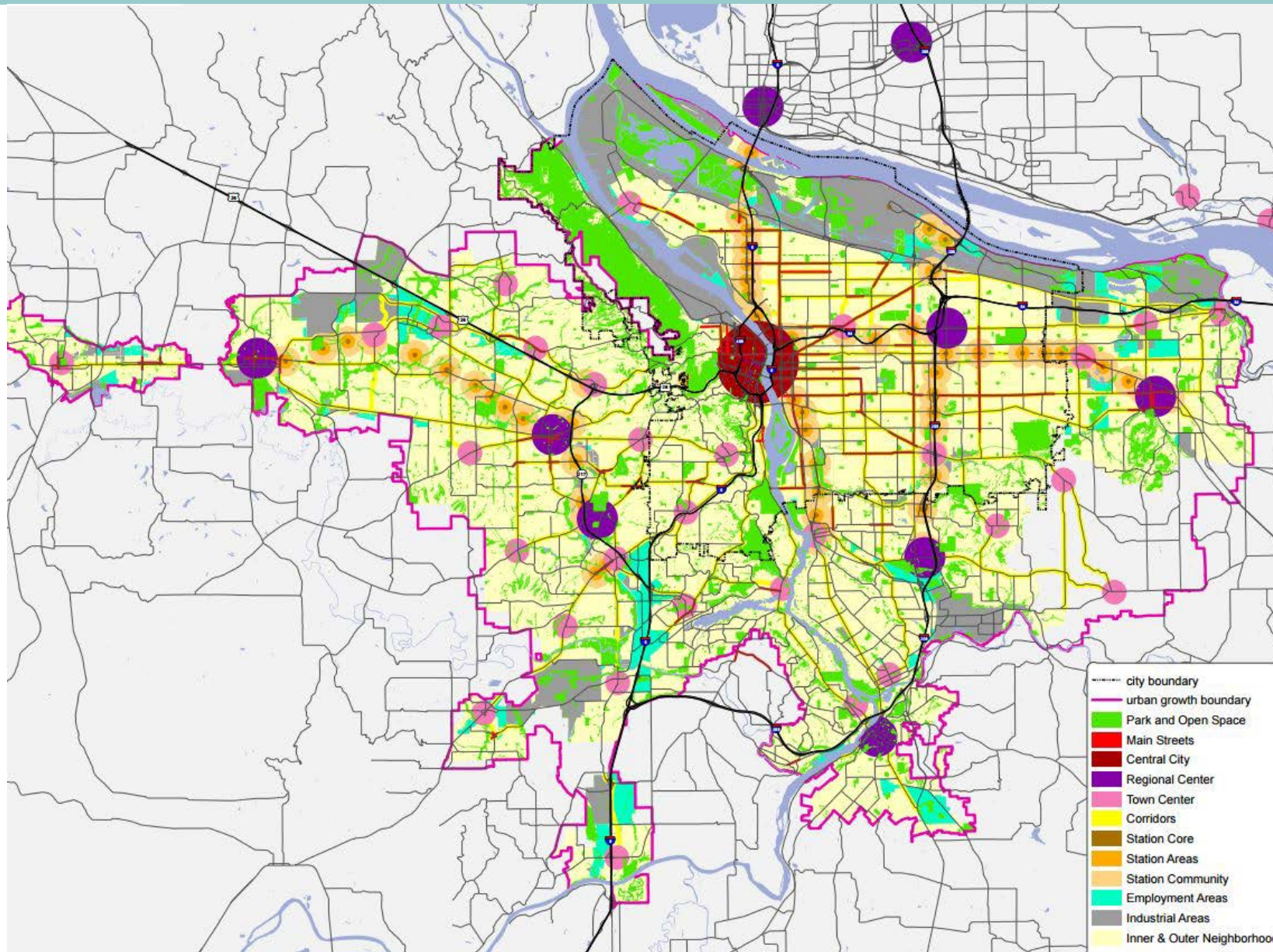


# Regional Transit Vision

To make transit more  
frequent, convenient,  
accessible and  
affordable for everyone

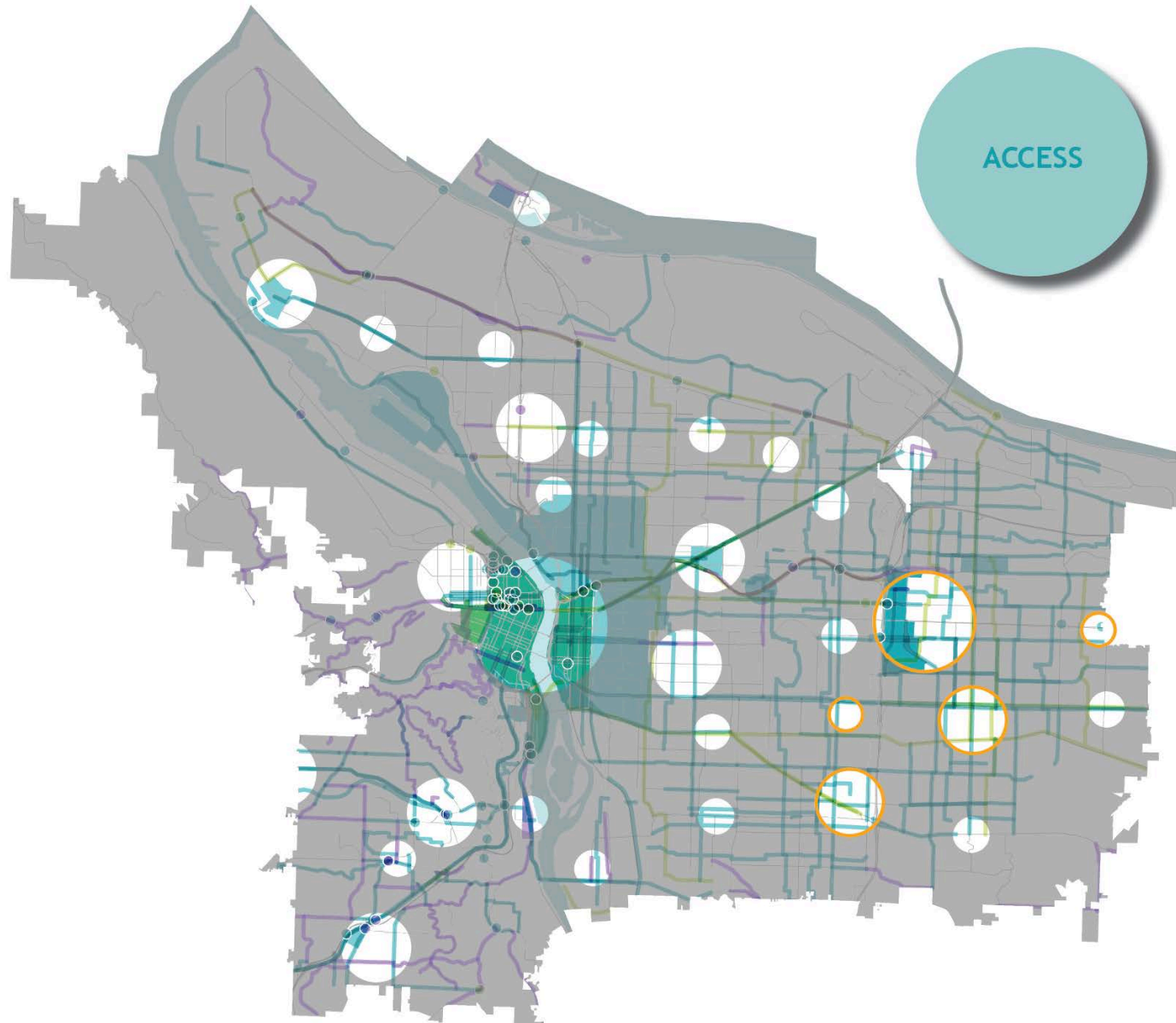


# Metro 2040 Growth Concept





# 2035 Portland Comprehensive Plan

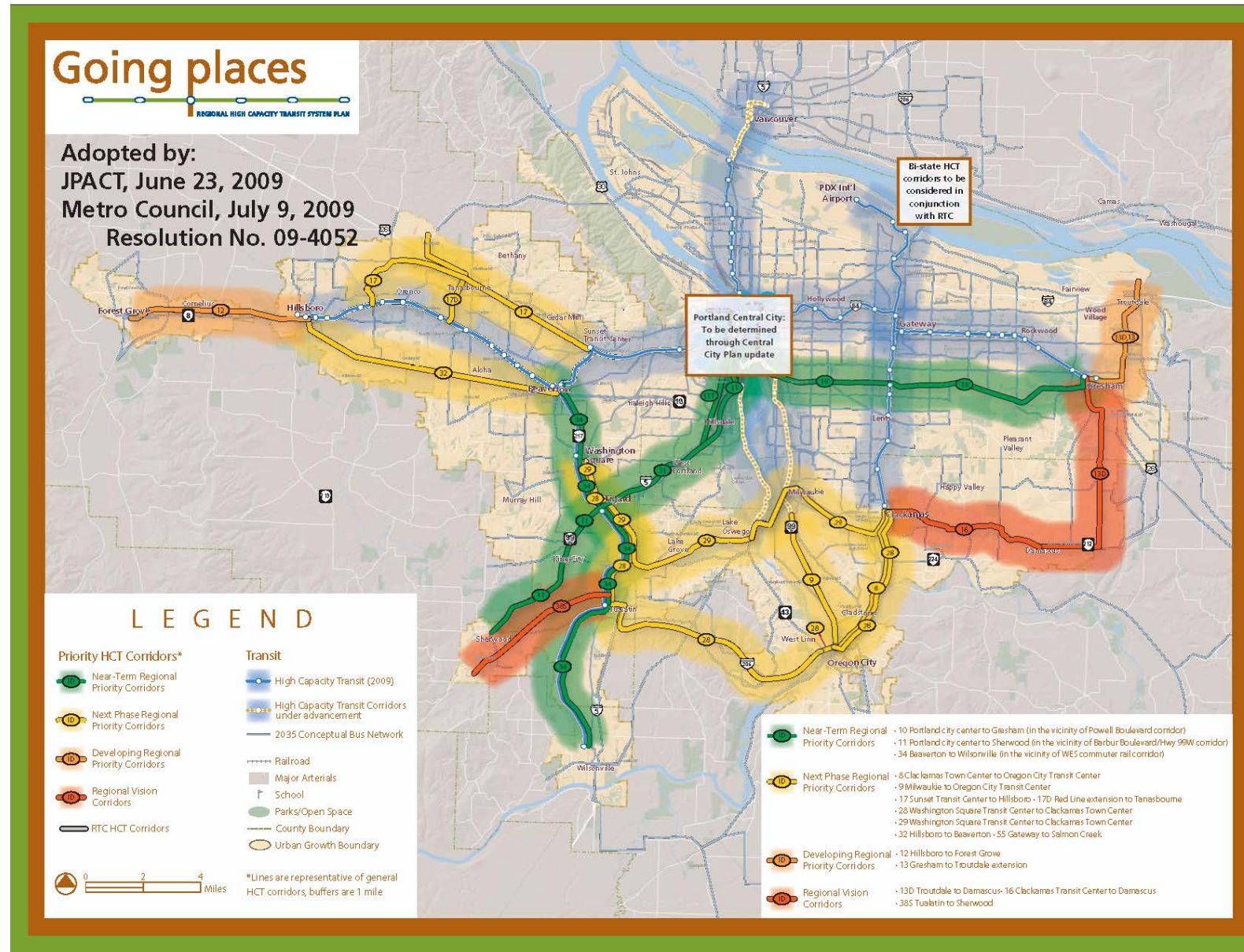


# Regional Transportation Plan (RTP) & High Capacity Transit Plan

This map will be updated as part of the 2018 RTP Update and Regional Transit Strategy.

We are moving beyond just High Capacity Transit.

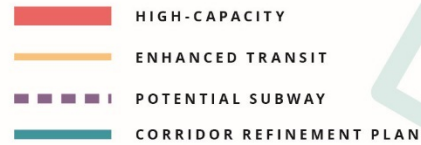
New transit strategies and projects, including “Enhanced Transit.”





# Proposed New Vision for Transit

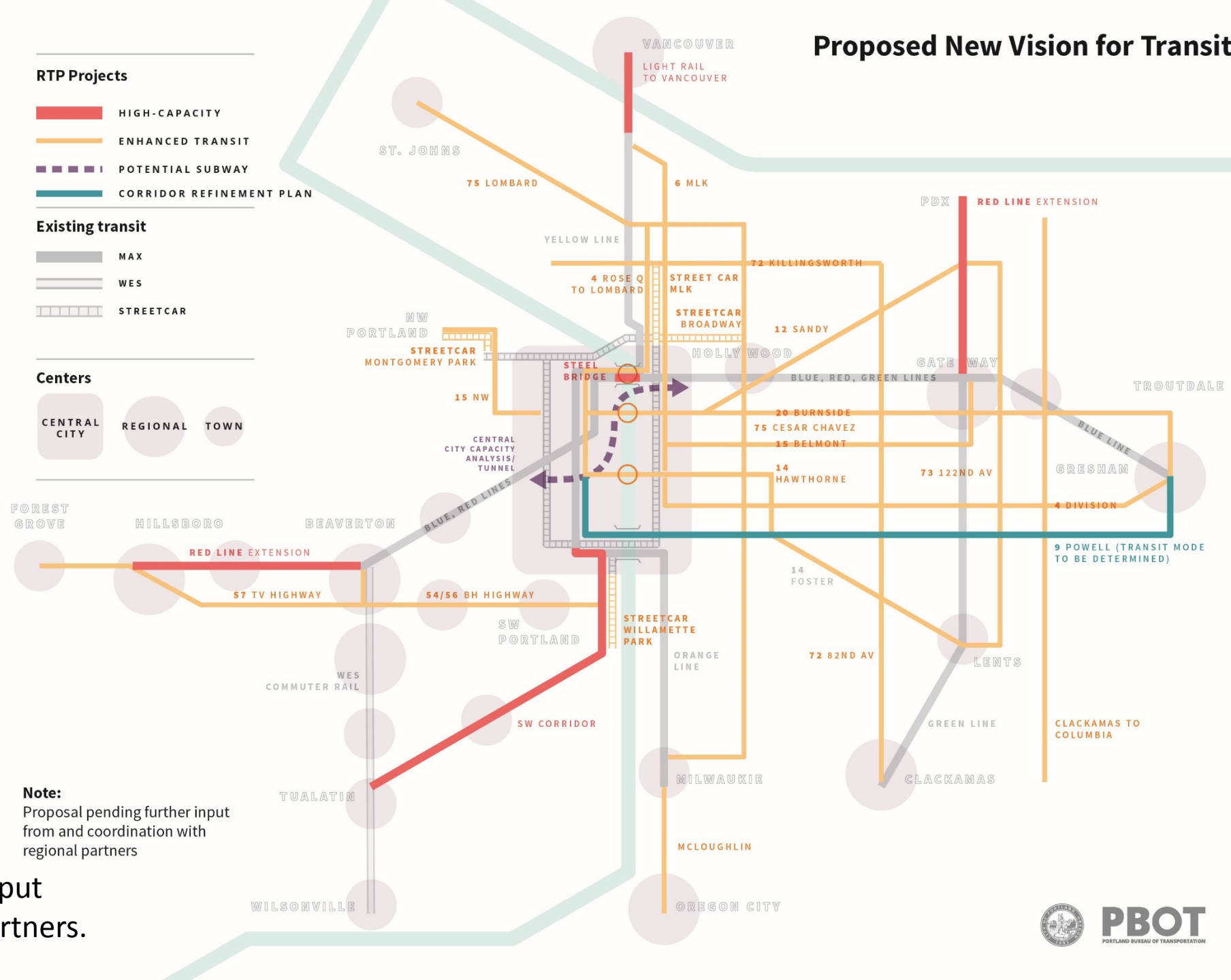
## RTP Projects



## Existing transit



## Centers



## Note:

Proposal pending further input from and coordination with regional partners

Note: Proposal pending further input and coordination with regional partners.



# RTP Project List

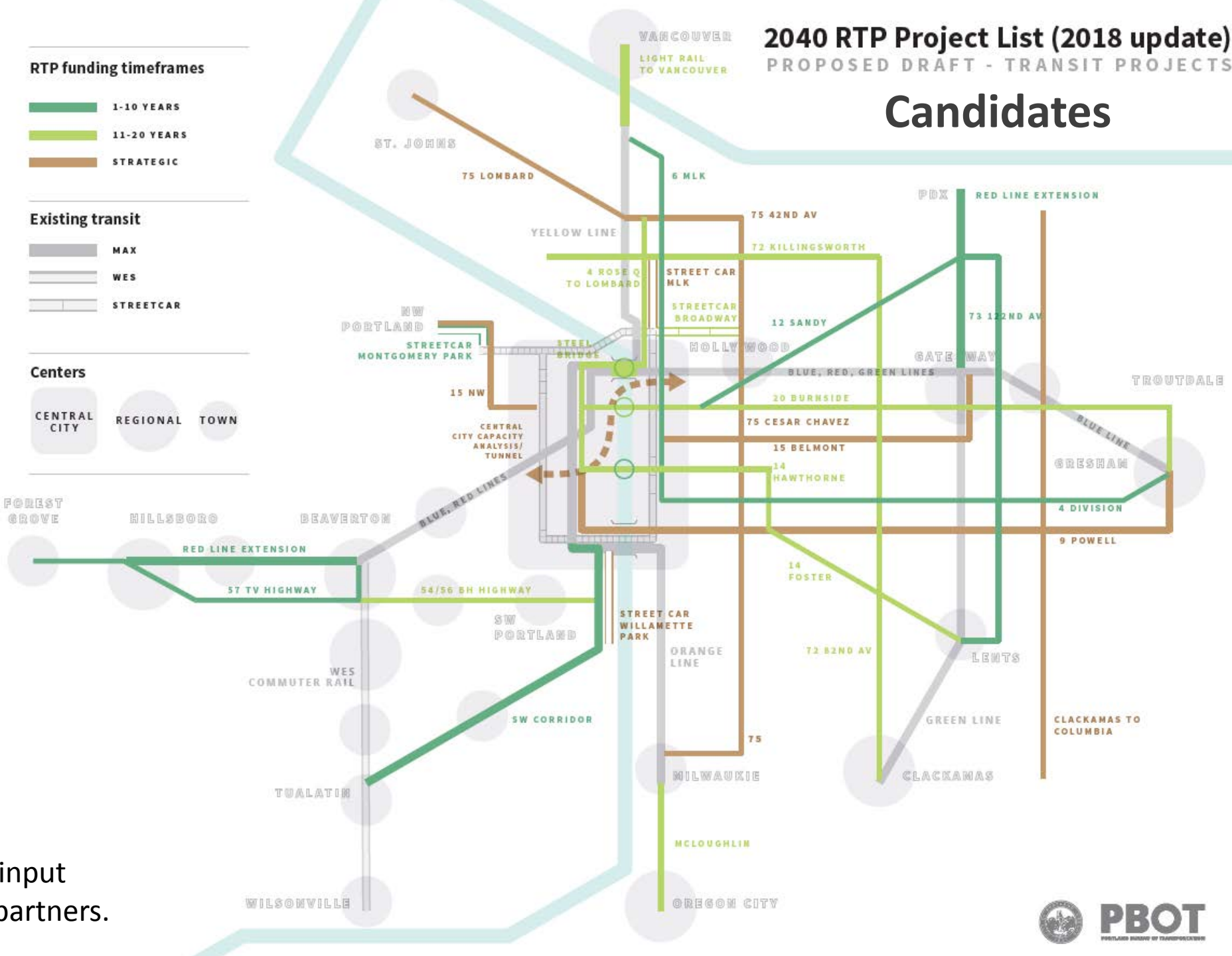
## Timeframes:

1-10 Year Constrained

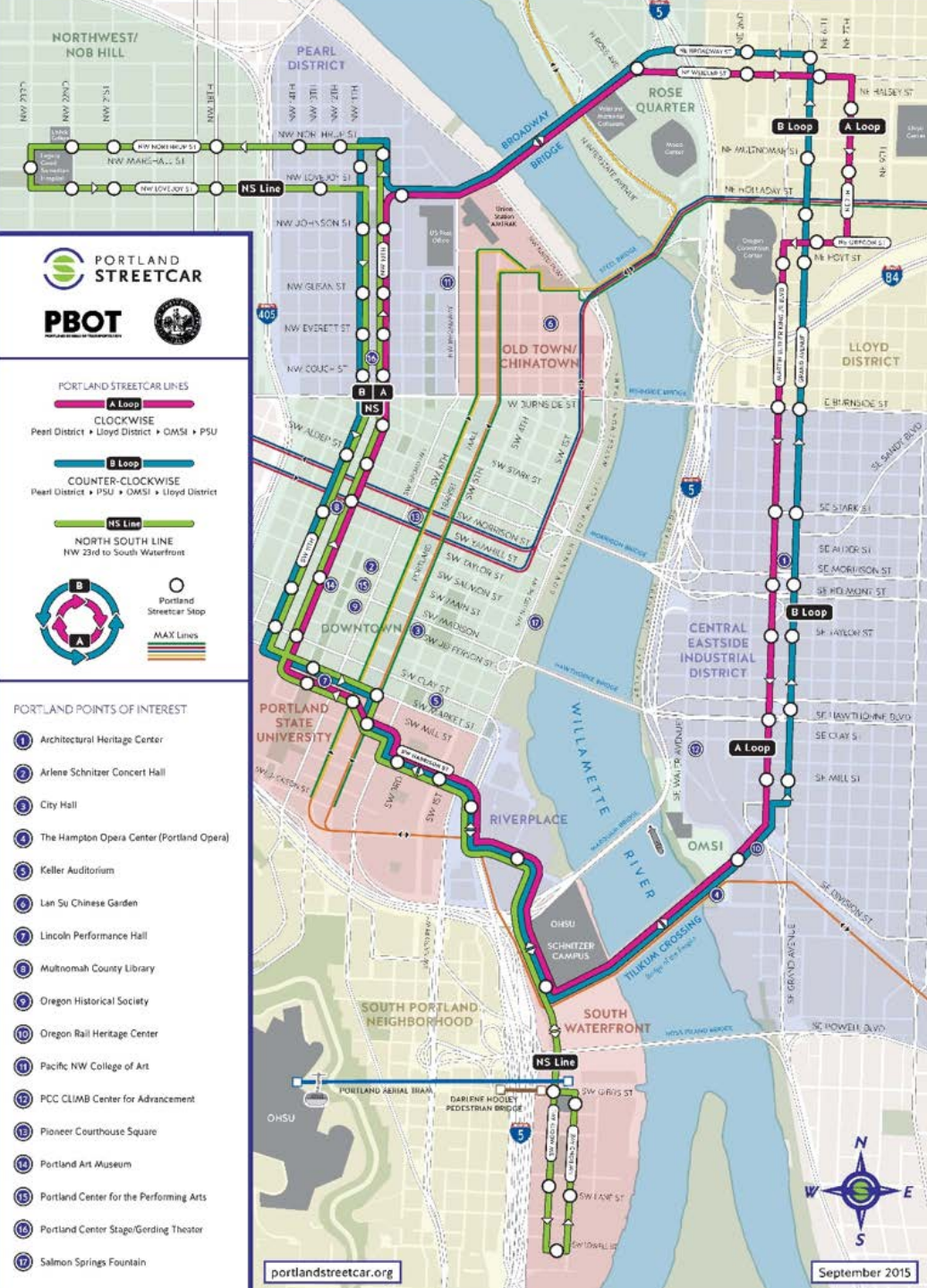
11-20 Year Constrained

Strategic

Note: Proposal pending further input and coordination with regional partners.



# Portland Streetcar



# Portland Streetcar Today

- Avg. Weekday Ridership ~ 16,200
- North/South Line (6 streetcars); A/B Loops (4 streetcars each)
- 3 spare streetcars
- 56 operators and 10 mechanics
- All Lines on 15-Minute Frequencies
- 80% of all TriMet Trips Intersect with the A/B Loops
- Stations < ½ mile

# Who uses the System?



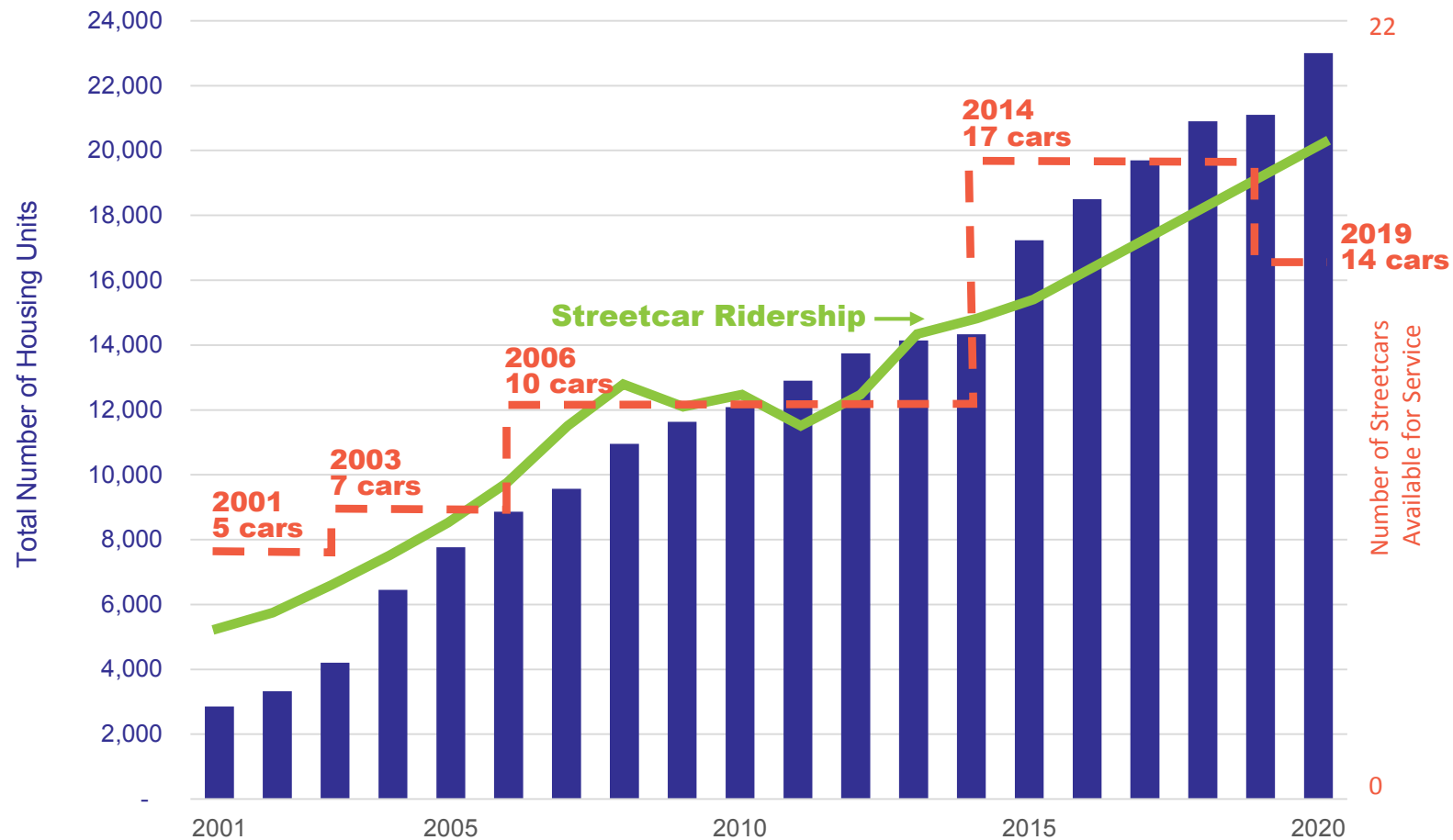
**66%**  
of streetcar  
trips are to or  
from home



**1/3** of affordable units  
are on streetcar lines

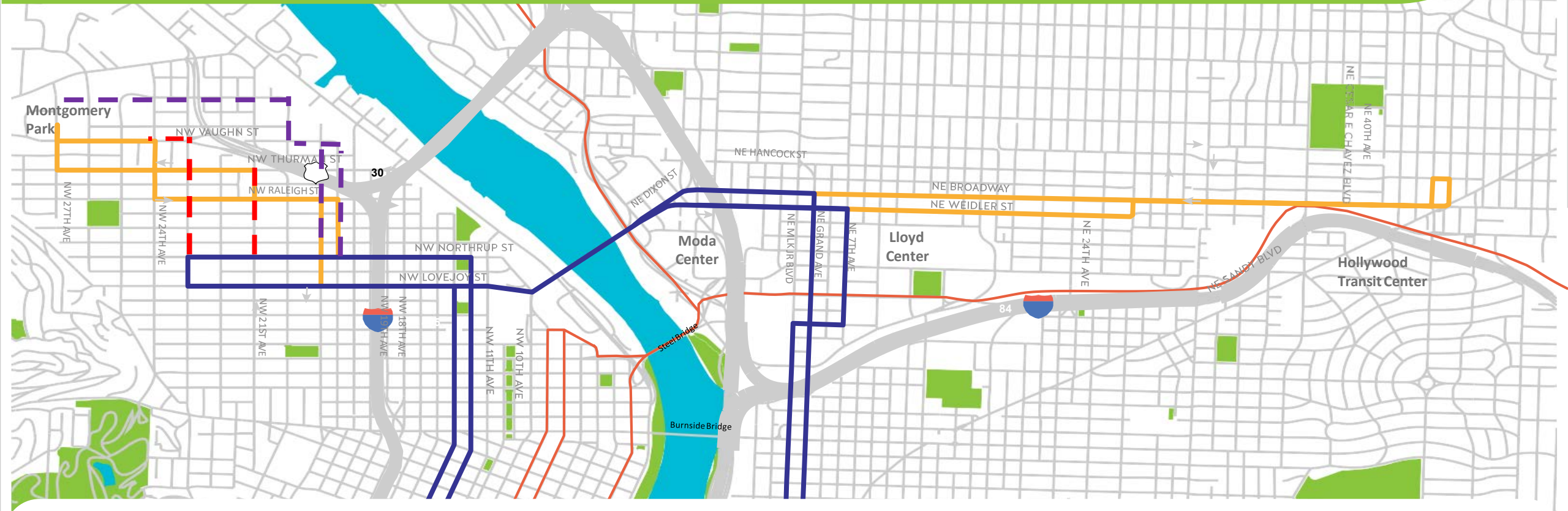


# Investment Needed to Match Growth





## System Expansion to Serve Growth



## Hollywood Town Center to Montgomery Park

- **Prioritized** by Portland Streetcar, Inc. Board of Directors &
  - City of Portland Streetcar CAC &
  - Hollywood Boosters, Broadway/Weidler Alliance, NWDA, and Montgomery Park

A red starburst graphic with multiple points, containing the word "New!" in white text.

**New!**

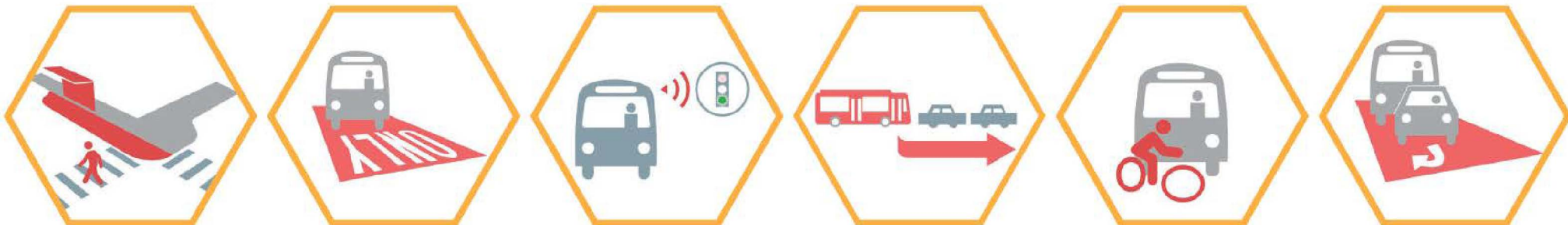
**What are Enhanced Transit Corridors?**

# Characteristics of Enhanced Transit

- Increased capacity, reliability and transit travel speed
- Moderate capital and operational investments
- Flexible and context sensitive
- Can be deployed relatively quickly
- Could be a hot spot, corridor or full line
- Can include bus or streetcar

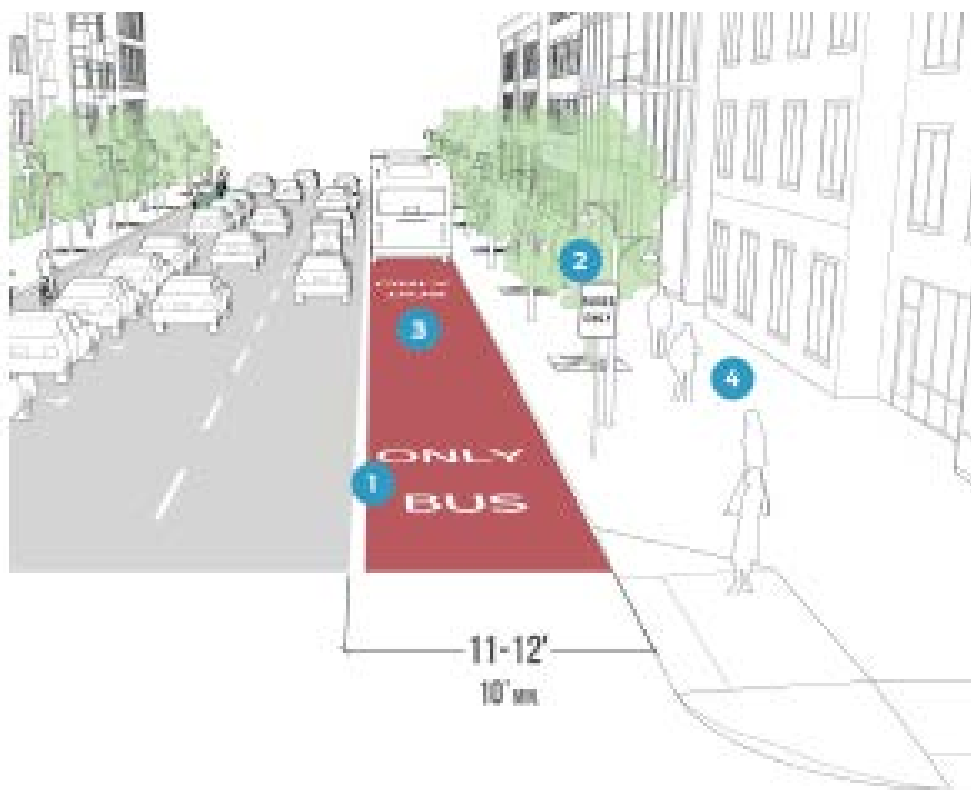


The Vine recently opened in Vancouver, WA



# Laneways and Intersection Treatments

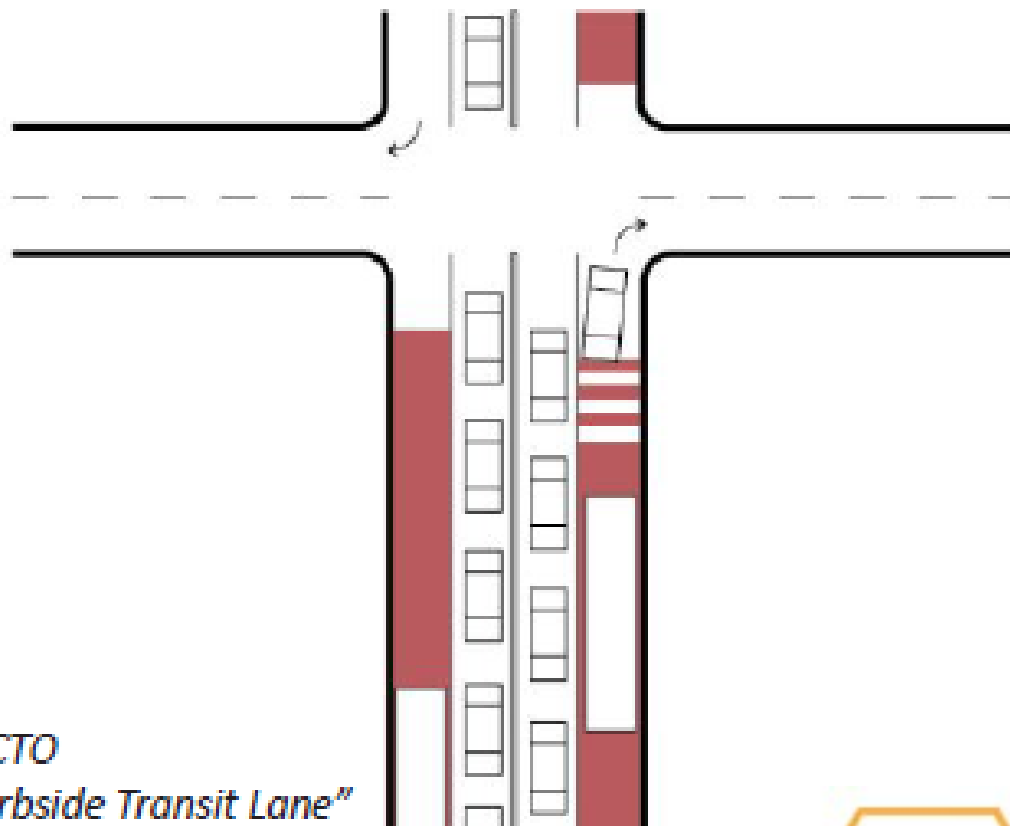
## Dedicated Bus Lane



*NACTO "Curbside Transit Lane"*



## Business Access and Transit (BAT) Lane



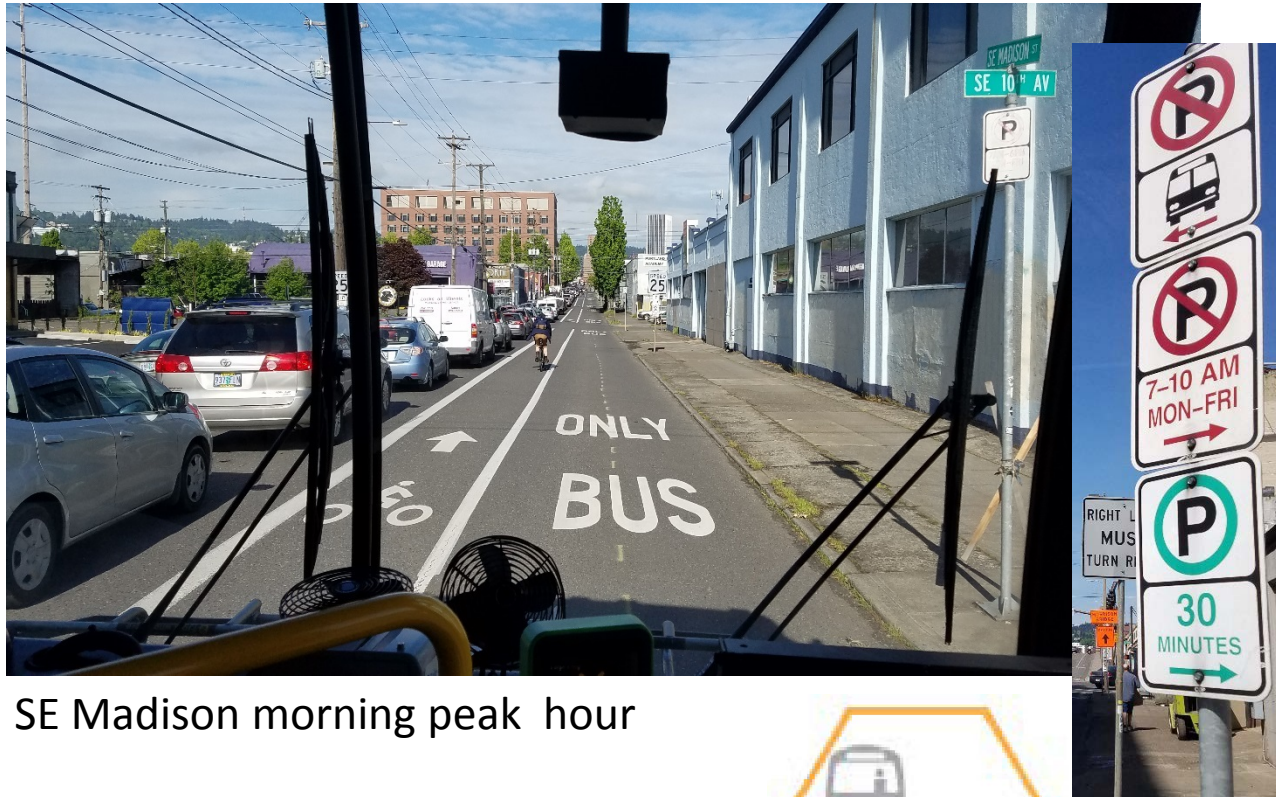
*NACTO  
"Curbside Transit Lane"*





# Laneways and Intersection Treatments

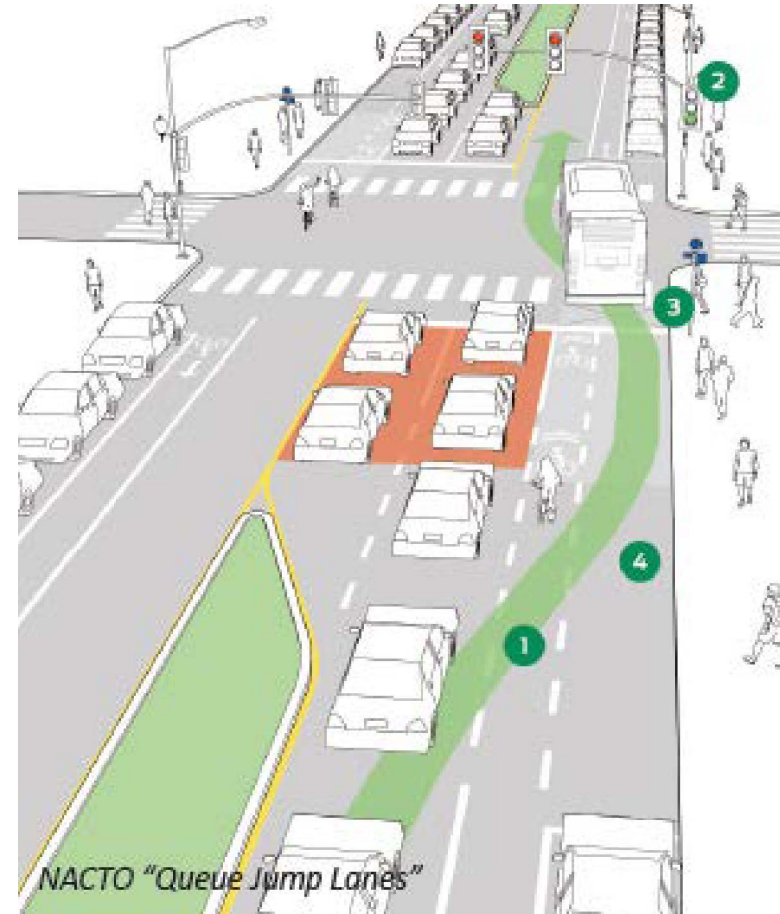
## Pro-Time (Peak Period Only) Transit Lane



SE Madison morning peak hour



## Intersection Queue Jump/Right Turn Except Bus Lane



NACTO "Queue Jump Lanes"



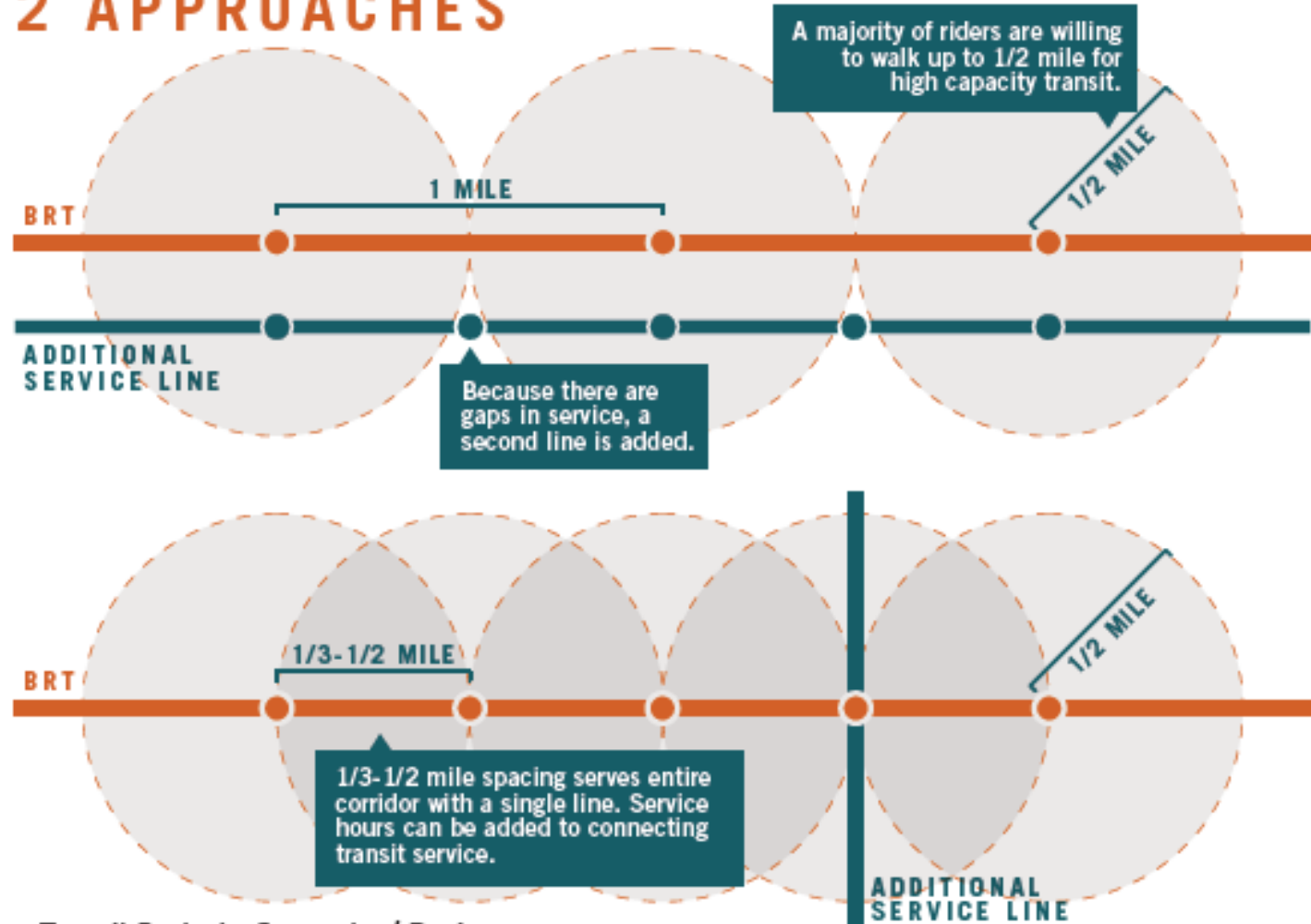


# Stops and Stations

## Bus Stop Consolidation

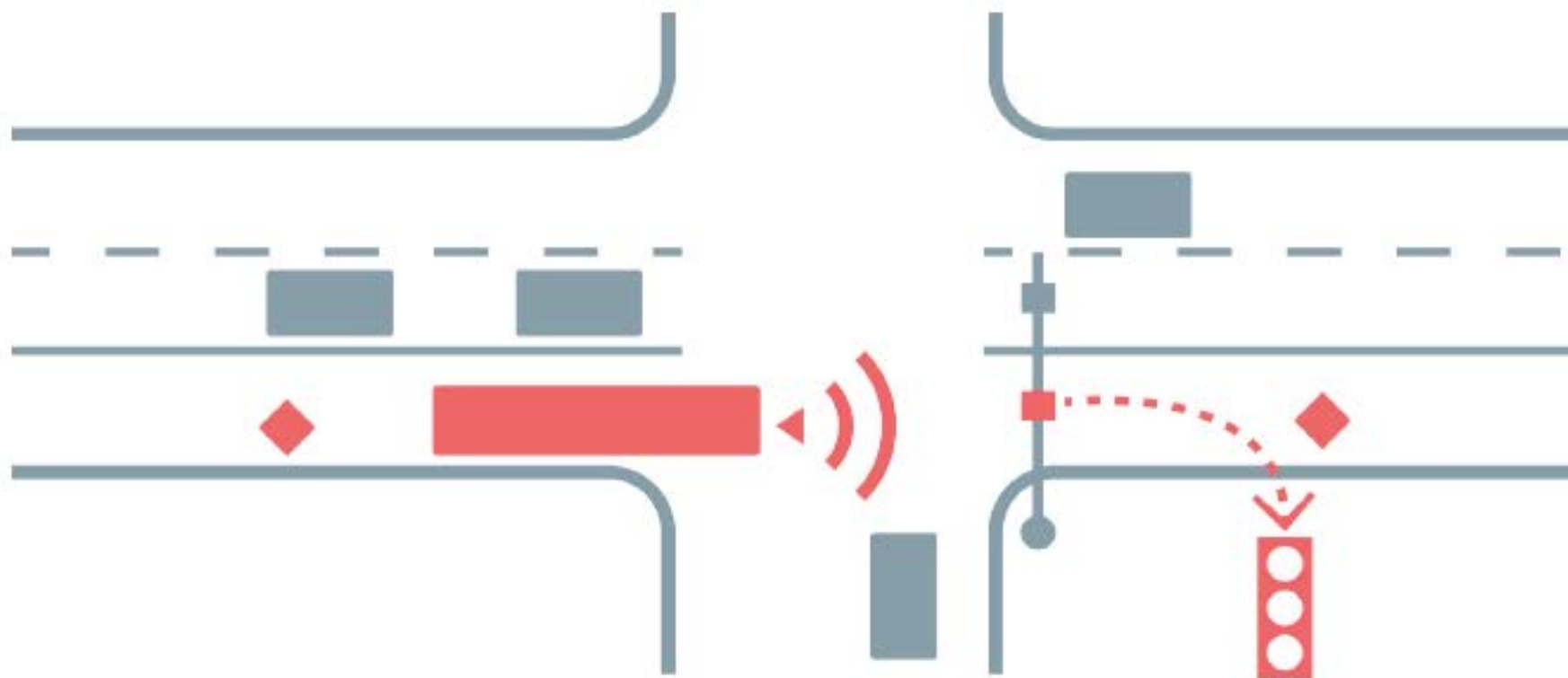


### STOP-SPACING TRADEOFFS 2 APPROACHES



# Operations/Other

## Transit Signal Priority and Signal Improvements



CH2M

# A Model: 122<sup>nd</sup> Ave TriMet Partnership



- TriMet commitment to provide Frequent Service along 122<sup>nd</sup> Ave, Bus line 73.
- City of Portland commitment to fund and build safety and access to transit improvements.
- Status: Several projects funded and in design. Construction in 2017 and 2019.

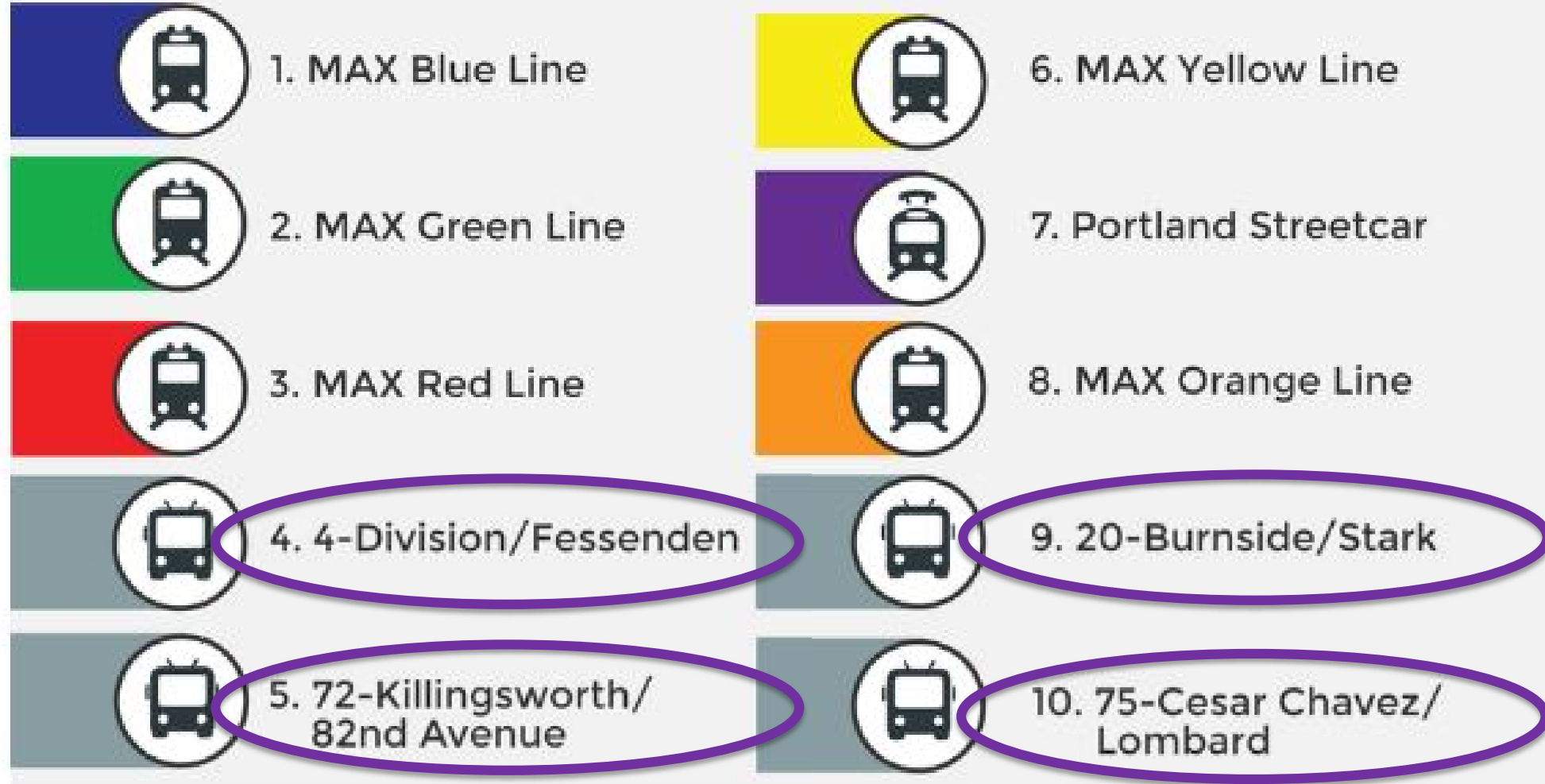
**Why Enhanced Transit Corridors?**

**Answer:**

**We need to do more to support transit in Portland**

# Buses are a “work horse” and carry significant ridership regionally, up there with MAX

## 2015 Top 10 transit lines (by ridership) Number of boarding rides

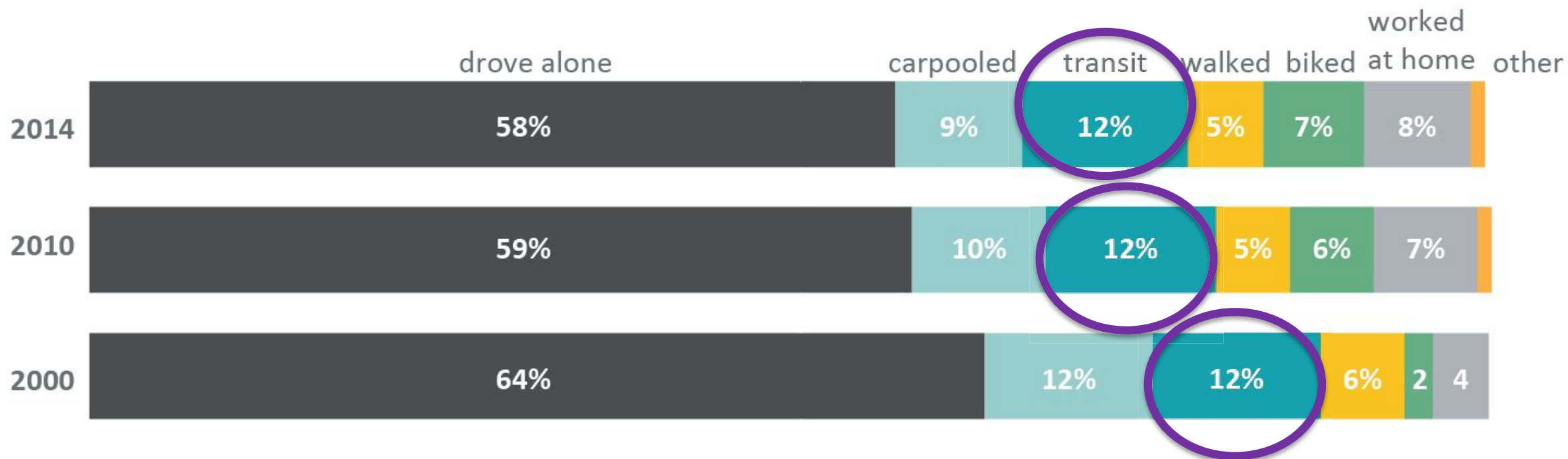




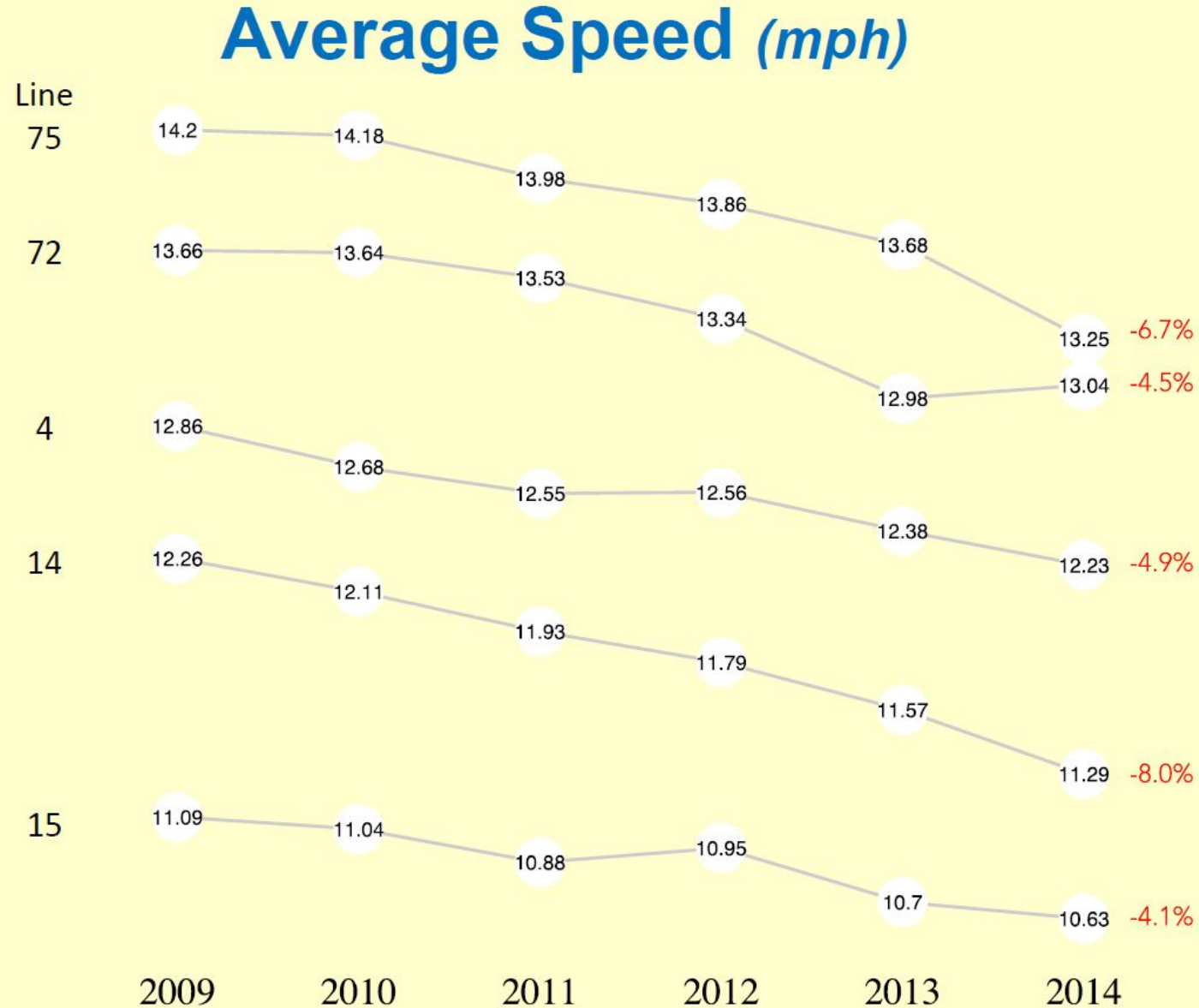
# Transit ridership is not growing adequately to support growth.

## Mode Split: How Portland residents got to work

Sources: Census 2000, American Community Survey 2010, 2014



# Buses are getting stuck in traffic and trips take longer



# Transit Delay During Peak Congestion Time

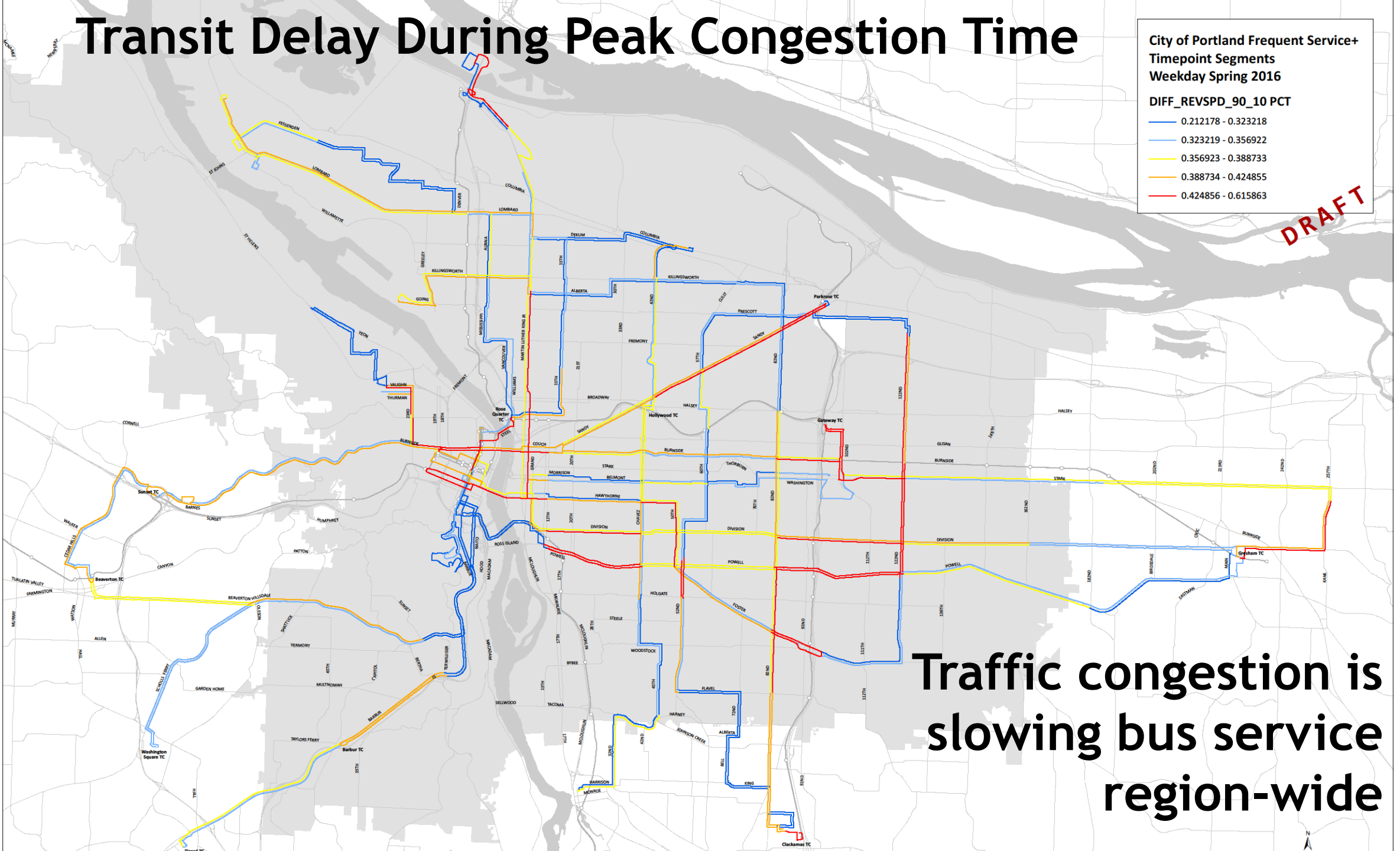
City of Portland Frequent Service+  
Timepoint Segments  
Weekday Spring 2016

DIFF\_REVSPD\_90\_10 PCT

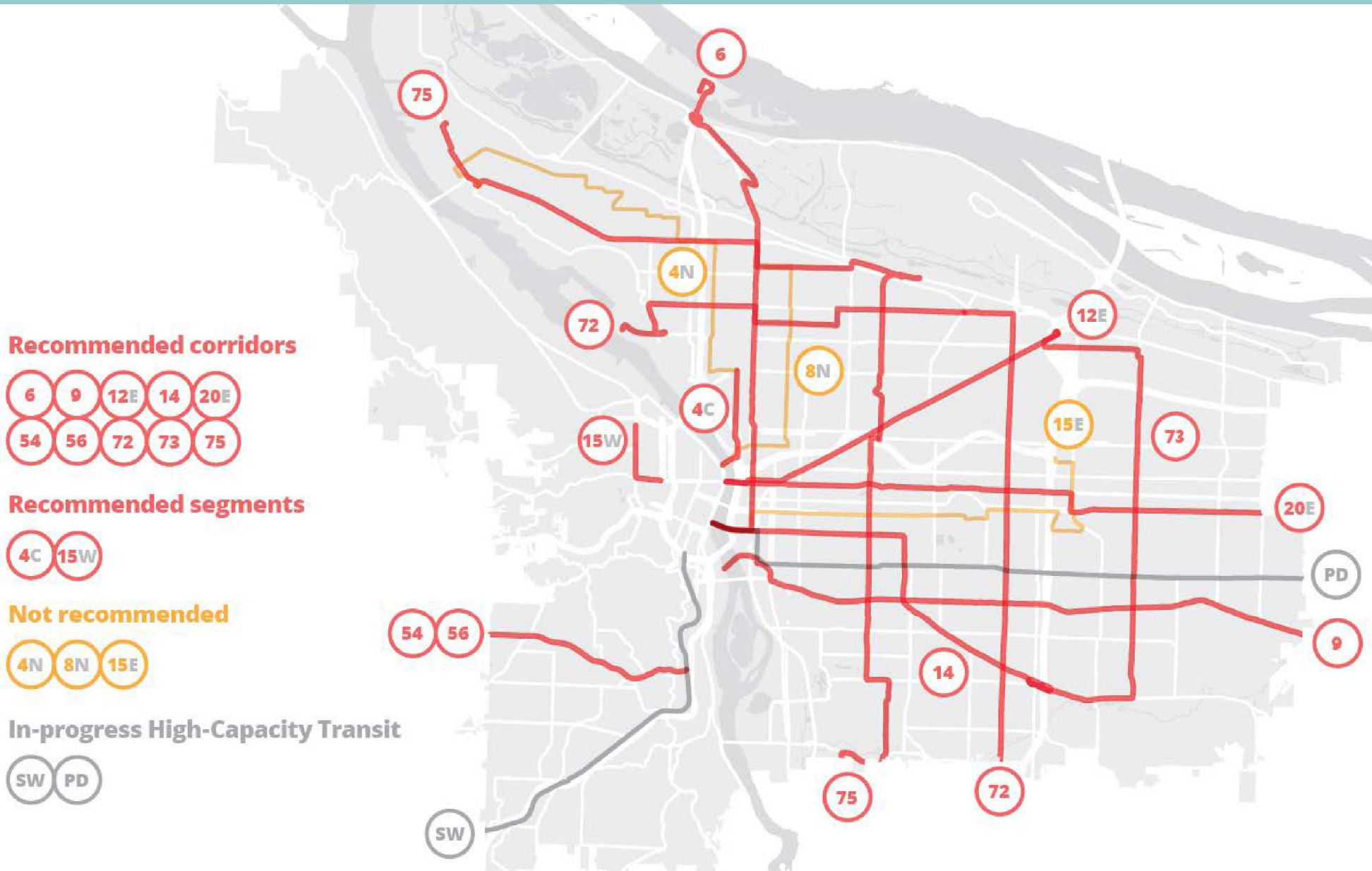
- 0.212178 - 0.323218
- 0.323219 - 0.356922
- 0.356923 - 0.388733
- 0.388734 - 0.424855
- 0.424856 - 0.615863

DRAFT

Traffic congestion is  
slowing bus service  
region-wide



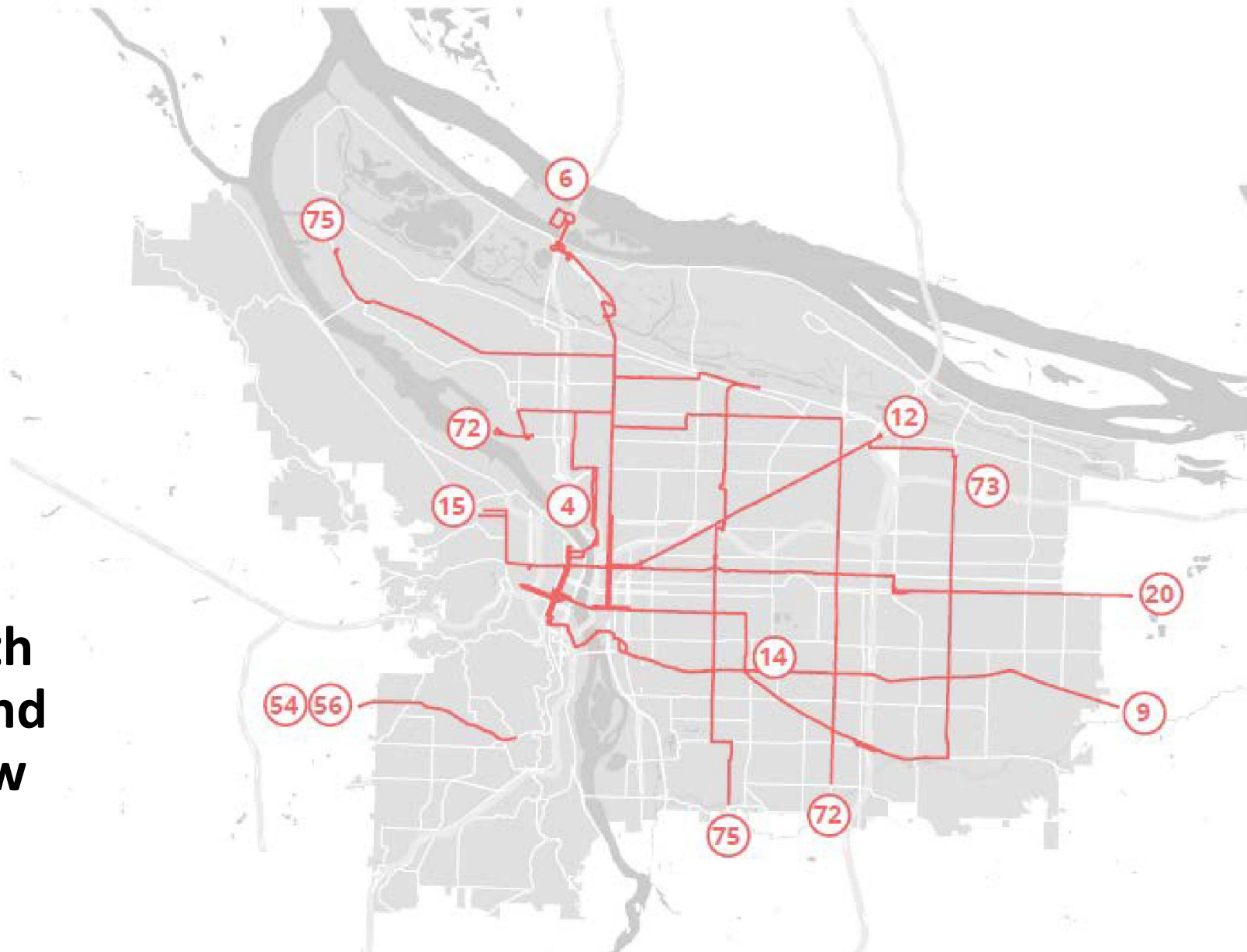
## Other Corridors In Progress or Considered





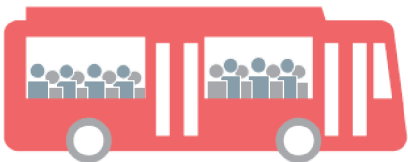
# Candidate Corridors Selected for Initial Study

**Corridors with  
most need and  
potential now**



# Initial Evaluation: Criteria and Measures

- **Ridership:** Average Existing Weekday Transit Trips
- **Reliability:** Delay due to traffic congestion
- **Transit Speed:** Where buses are slower all day
- **Dwell Time:** When the doors are open at bus stops
- **Equity:** Higher number of People of Color, Low Income, Limited English Proficiency
- **Growth:** Forecasted increase in population and jobs

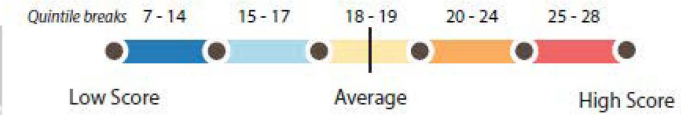




## Enhanced Transit Corridors Plan Methodology Total Score

### Legend

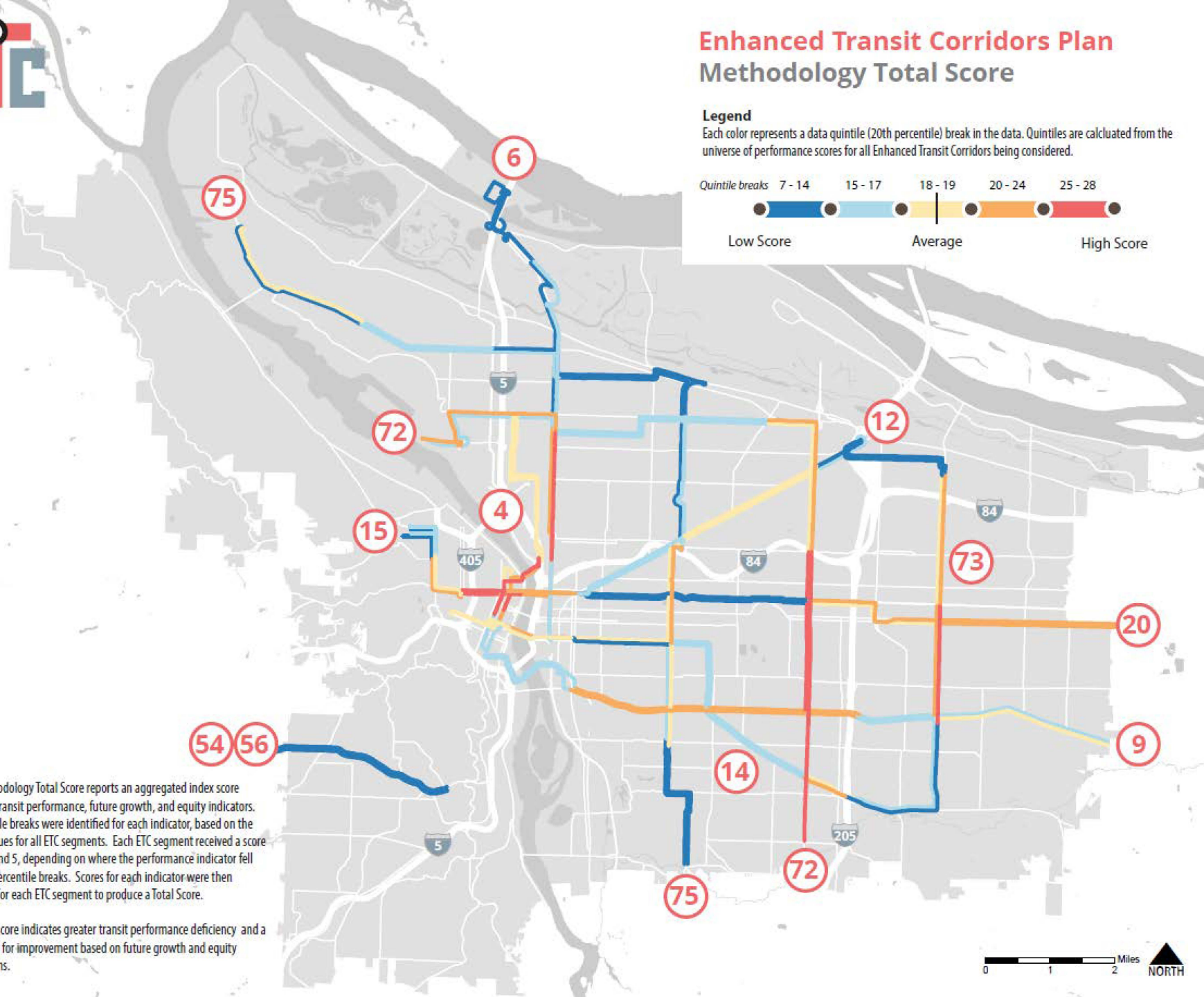
Each color represents a data quintile (20th percentile) break in the data. Quintiles are calculated from the universe of performance scores for all Enhanced Transit Corridors being considered.



### Notes

1. The Methodology Total Score reports an aggregated index score comprising transit performance, future growth, and equity indicators. Five percentile breaks were identified for each indicator, based on the indicator values for all ETC segments. Each ETC segment received a score between 1 and 5, depending on where the performance indicator fell within the percentile breaks. Scores for each indicator were then aggregated for each ETC segment to produce a Total Score.

2. A higher score indicates greater transit performance deficiency and a greater need for improvement based on future growth and equity considerations.



# ETC Plan Next Steps


- Plan Elements
  1. Test toolbox in select corridors and identify potential actions and investments
  2. Define success & acceptable levels of service
  3. Include on-going performance measures and thresholds for action
- More public outreach in fall 2017
- Return to Council with recommendations:
  1. Adopt a plan
  2. Establish a Enhanced Transit Program




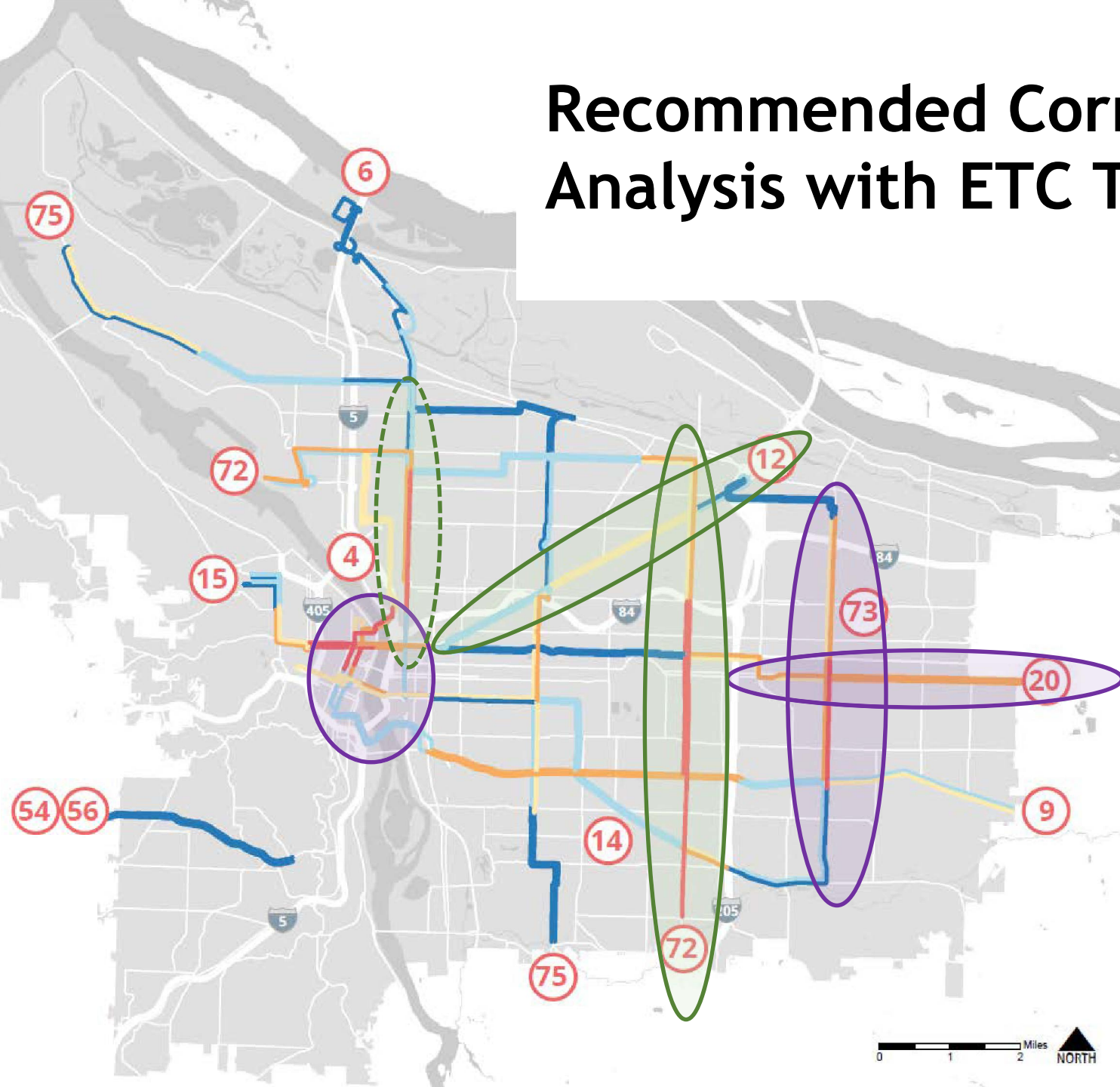




# Recommended Corridor: Analysis with ETC Toolbox

 Closer look with ETC  
Consultant Team  
(up to 3 corridors)

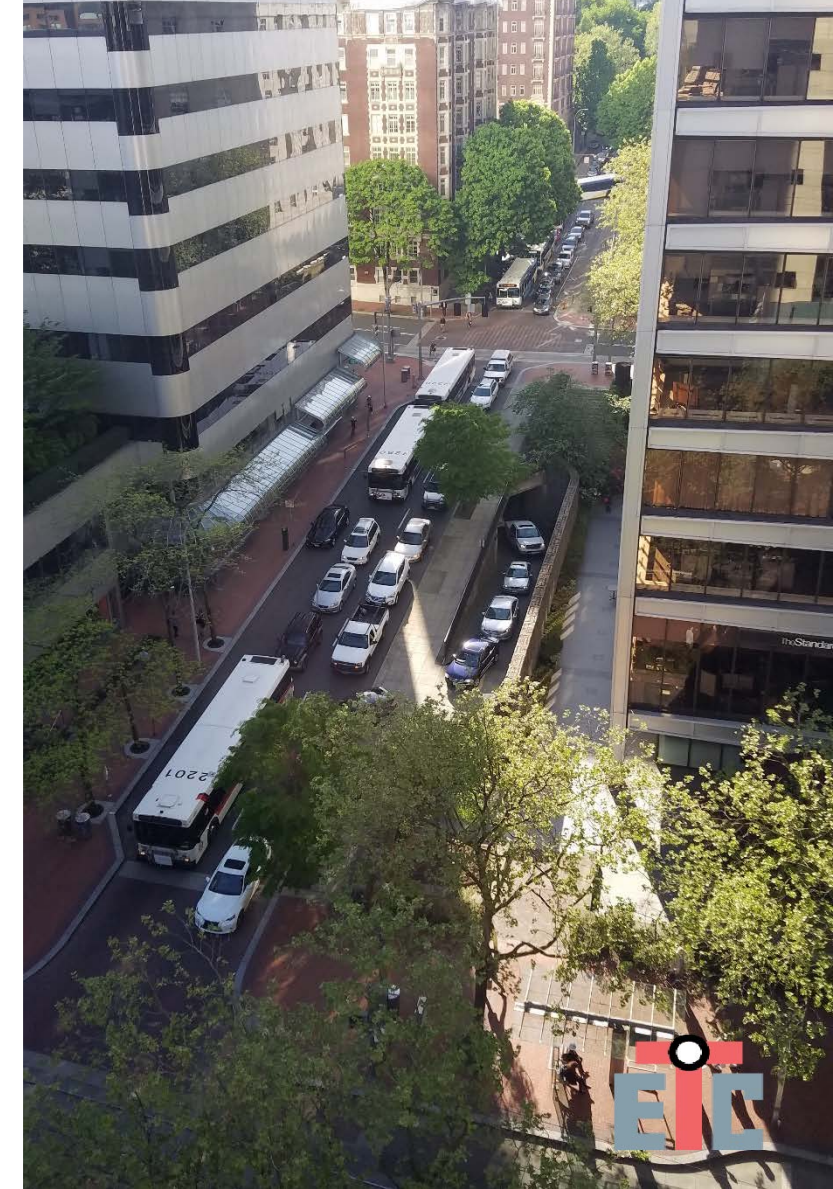
 Closer look through  
other upcoming  
plans/projects



# A Call to Action: Defining & monitoring success

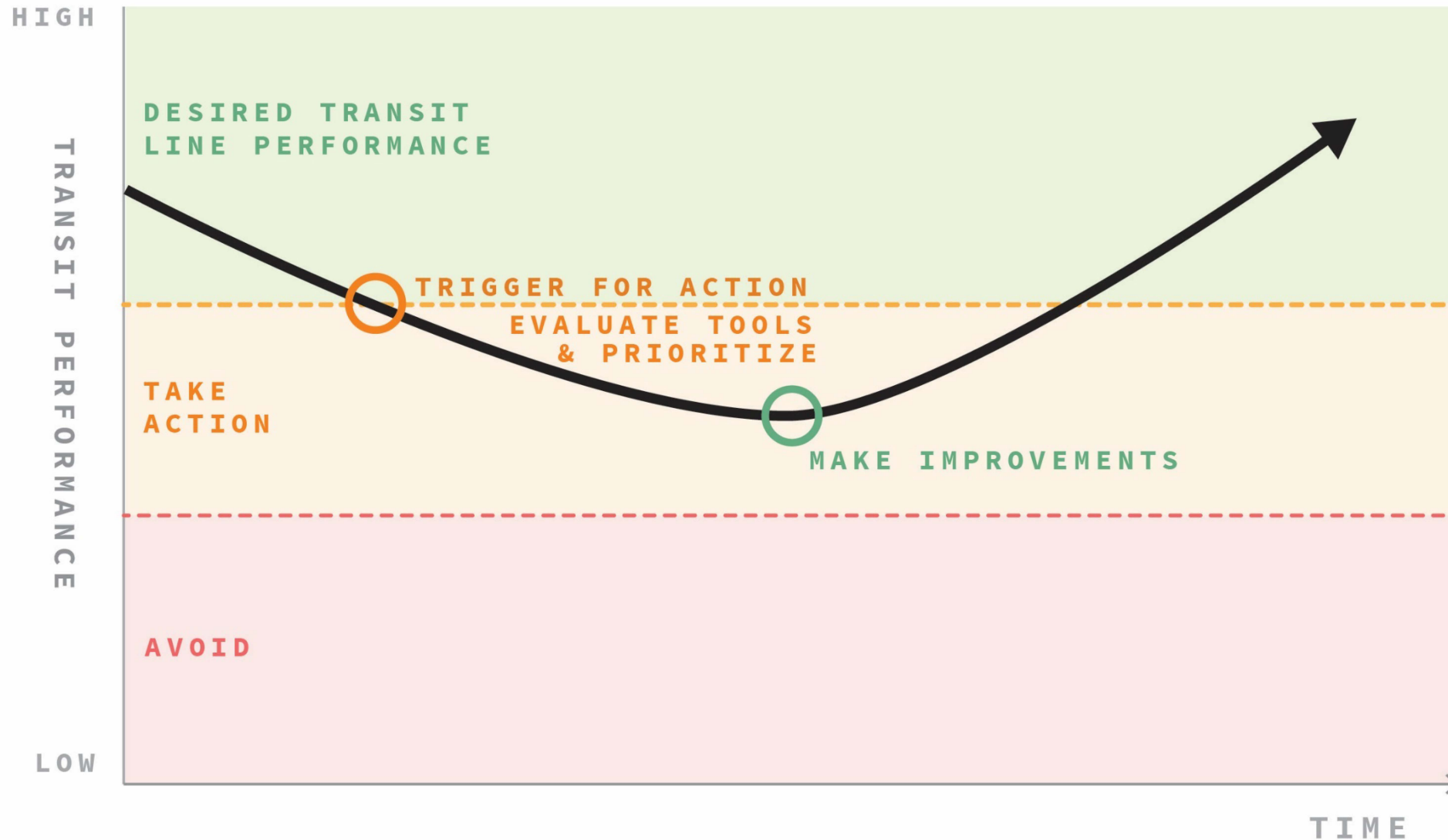
## Potential Performance Metrics:

- Customer experience
  - Delay
  - Reliability
  - Frequency
- Efficiency/cost effectiveness of service
  - Capacity
  - Speed
  - Cost to operate service over time
- Support Planned Growth
- Equity
- Transportation System Benefits



# Monitoring transit performance and making improvements

An example of the **monitor→take action** cycle for an individual transit line





# Council Action Today: Resolution #2

- Recommend that PBOT develop an Enhanced Transit Program to expand strategies to improve transit service
- Endorse a list of candidate transit projects to consider for the Regional Transportation Plan (RTP)





# Exhibit A: Candidate transit capital projects for the Regional Transportation Plan 2018 Update

## City of Portland-Led Transit Corridors

TSP ID	RTP ID	Lead Agency	Project/Program Name	Project Start Location	Project End Location	Description	Time Period	Cost Range	Constrained or Strategic?
NEW	NEW	Portland	82nd Ave Transit Enhancements	NE Killingsworth St	SE Clatsop St	Construct safety and access to transit improvements and transit priority treatments to reduce transit delay and improve transit reliability and travel times. Project will coordinate with ODOT to identify locations and design treatments.	Years 1 - 10	\$1 - 10 million	Constrained
NEW	NEW	Portland	SE Powell Blvd Transit Enhancements	SE Milwaukie Ave	SE 122nd Ave	Construct safety and access to transit improvements and transit priority treatments to reduce transit delay and improve transit reliability and travel times. Project will coordinate with ODOT to identify locations and design treatments.	Years 1 - 10	\$1 - 10 million	Constrained
NEW	NEW	Portland	122nd Ave Transit Enhancements	Lents Town Center	Parkrose / Sumner Transit Center	Construct safety and access to transit improvements and transit priority treatments to reduce transit delay and improve transit reliability and travel times.	Years 1 - 10	\$11 - \$49 million	Constrained
NEW	NEW	Portland	Central City Portals Transit Enhancement	Portland Central City	Portland Central City	Construct transit priority treatments to reduce transit delay and improve transit reliability and travel times.	Years 1 - 10	\$1 - 10 million	Constrained
NEW	NEW	Portland	N Vancouver/Williams & Mississippi/Albina Transit Enhancements	Portland Central City	N Lombard	Construct safety and access to transit improvements and transit priority treatments to reduce transit delay and improve transit reliability and travel times.	Years 11 - 20	\$1 - 10 million	Constrained
NEW	NEW	Portland	SE Hawthorne/30th Ave Transit Enhancements	Central City	SE Powell Blvd	Construct safety and access to transit improvements and transit priority treatments to reduce transit delay and improve transit reliability and travel times.	Years 11 - 20	\$1 - 10 million	Constrained
NEW	NEW	Portland	Cesar Chavez Blvd Transit Enhancements	Hollywood Town Center	SE Powell Blvd	Construct safety and access to transit improvements and transit priority treatments to reduce transit delay and improve transit reliability and travel times.	Years 11 - 20	\$1 - 10 million	Constrained
NEW	NEW	Portland	N/NE Lombard St Transit Enhancements	St Johns Town Center	NE MLK Jr Blvd	Construct safety and access to transit improvements and transit priority treatments to reduce transit delay and improve transit reliability and travel times. Project will coordinate with ODOT to identify locations and design treatments.	Years 11 - 20	\$1 - 10 million	Constrained
20125	NEW	Portland	Portland Streetcar Operational Improvements	Portland Central City	Portland Central City	Design and construct improvements along NE Grand Avenue and/or other shared Streetcar/Bus corridors to add transit capacity. Construct Lloyd District turnback(s). Capital improvements could include signal pre-emption, additional travel lanes, additional track, tail track, and Overhead Catenary System (OCS), creation of transit only lanes, and other capital improvements to reliably move public transit past motor vehicle/freeway on-ramp bottlenecks.	Years 1 - 10	\$1 - 10 million	Constrained
60033	11319	Portland	Streetcar Extension: Montgomery Park	NW Lovejoy / Northrup	Montgomery Park	Extend streetcar from NW Lovejoy/Northrup to Montgomery Park.	Years 1 - 10	\$11 - \$49 million	Constrained
40131	11102	Portland	Streetcar Extension: Broadway-Weidler to Hollywood	NE Grand Ave	Hollywood Town Center	Extend streetcar along NE Broadway/Weidler corridor to Hollywood Town Center.	Years 11 - 20	\$30 - \$100 million	Constrained
40130	11318	Portland	MLK Streetcar Extension	Broadway	Killingsworth	Public outreach, planning, design, engineering, and construction for future streetcar extension from Lloyd District to NE Portland.	N/A	TBD	Strategic
90102	11639	Portland	Johns Landing Streetcar	SW Lowell	Willamette Park	Corridor Alternatives Analysis, public outreach, planning, design, engineering, and construction for future streetcar extension from Portland to Johns Landing. Potential future construction.	N/A	TBD	Strategic

## TriMet-Led Transit Projects

TSP ID	RTP ID	Lead Agency	Project/Program Name	Project Start Location	Project End Location	Description	Time Period	Cost Range	Constrained or Strategic?
80040	11590	TriMet	Division Transit Project	Central City	Gresham	Capital construction of enhanced transit project between Portland and Gresham.	Years 1 - 10	\$175 million	Constrained
80040	11590	TriMet	SW Corridor Project	Central City	Tigard	Capital construction of High Capacity Transit project between Portland and Tualatin via Tigard.	Years 1 - 10	\$2.4 billion	Constrained
30042	NEW	TriMet	NE MLK Jr Blvd Enhanced Transit Project	Central City	Jantzen Beach	Capital construction of regional enhanced transit project.	Years 1 - 10	\$11 - \$49 million	Constrained
NEW	NEW	TriMet	NE Sandy Blvd Enhanced Transit Project	Central City	Parkrose/Sumner Transit Center	Capital construction of regional enhanced transit project.	Years 1 - 10	\$11 - \$49 million	Constrained
NEW	NEW	TriMet	82nd Ave/Killingsworth Enhanced Transit Project	Swan Island	Clackamas Town Center	Capital construction of regional enhanced transit project. Project will coordinate with ODOT to identify locations and design treatments.	Years 11 - 20	\$30 - \$100 million	Constrained
NEW	NEW	TriMet	E Burnside/SE Stark Enhanced Transit Project	Central City	Gresham Town Center	Capital construction of regional enhanced transit project.	Years 11 - 20	\$30 - \$100 million	Constrained
NEW	NEW	TriMet	SE Hawthorne/Foster Enhanced Transit Project	Central City	Lents Town Center	Capital construction of regional enhanced transit project.	Years 11 - 20	\$11 - \$49 million	Constrained
NEW	NEW	TriMet	SW Beaverton-Hillsdale Hwy Enhanced Transit Project	Central City	Washington County	Capital construction of regional enhanced transit project. Project will coordinate with ODOT to identify locations and design treatments.	Years 11 - 20	\$11 - \$49 million	Constrained
NEW	NEW	TriMet	Steel Bridge Transit Bottleneck	Central City - Old Town	Rose Quarter/Lloyd District	Address transit bottleneck at the Steel Bridge and Rose Quarter.	Years 11 - 20	\$300 million - \$1 billion	Constrained
30033	10902	TriMet	Portland to Vancouver Light Rail	Expo Center	Downtown Vancouver	Extend light rail service from Expo Center to Vancouver, WA.	Years 11 - 20	\$300 million - \$1 billion	Constrained
NEW	NEW	TriMet	SE Belmont Enhanced Transit Project	Central City	Gateway Transit Center	Capital construction of regional enhanced transit project.	N/A	\$11 - \$49 million	Strategic
NEW	NEW	TriMet	Lombard/Cesar Chavez Enhanced Transit Project	St Johns Town Center	Milwaukie Town Center	Capital construction of regional enhanced transit project. Project will coordinate with ODOT to identify locations and design treatments.	N/A	\$30 - \$100 million	Strategic
NEW	NEW	TriMet	SE Powell Blvd Transit Project	Central City	TBD	Construct multi-modal safety and transit improvements based on the outcomes of the preceding SE Powell Blvd Corridors Refinement Plan. Project will coordinate with ODOT to identify locations and design treatments.	N/A	TBD	Strategic
NEW	NEW	TriMet	Central City Capacity Analysis/Potential Tunnel (Project Development & Preliminary Engineering)	Central City	Central City	Conduct a study to analyze Central City transit capacity and identify preferred options to address transit bottlenecks, delays, layover needs and improve transit reliability, travel times and regional mobility. Include analysis of a potential tunnel option. Conduct Project Development and Preliminary Engineering based on the study outcomes.	N/A	\$30 million	Strategic

Note: This document is for planning and agency coordination purposes in preparation for recommending candidate projects for the RTP Call for Projects. The final project list and projects details may change.

Note: Other transit service enhancements identified in TriMet's Service Enhancement Plans will also be included in the RTP but are not included on this list.

# Questions



**PRESERVE**  
what we have  
built and  
**OPERATE**  
it well



Embrace  
**VISION  
ZERO**



**BUILD A  
FUTURE**  
where all can  
grow and thrive



Effectively  
**MANAGE  
CITY ASSETS**



Contribute to the  
**HEALTH AND  
VITALITY**  
of our people and  
our planet

**Learn more.**

[www.portlandoregon.gov/transportation](http://www.portlandoregon.gov/transportation)

# May/June Community Stakeholder Outreach

- June 13 Planning & Sustainability Commission Briefing
- June 21 ETC Plan Open house: We had about 50 attendees sign in.
- Open house materials are now available on the ETC Plan website.
- Other groups visited:
  1. Transportation Justice Alliance (5/24)
  2. Portland Bus Lane Project (5/25)
  3. Portland Freight Committee (6/1)
  4. Fixing Our Streets Oversight Committee (6/8)
  5. Portland Commission on Disabilities ABE subcommittee (6/9)
  6. TriMet Transit Equity Advisory Committee (6/15)
  7. Portland Pedestrian Advisory Committee (6/20)
  8. Metro Regional Transit Working Group (6/27)
  9. EPAP General Meeting (6/28)



# ETC Plan Goals (TGM grant)

- Increase transit ridership and improve experience of current riders.
- Support planned growth consistent with the 2035 Portland Comprehensive Plan.
- Define and identify “Enhanced Transit Corridors” in Portland.
- Establish a program with clear and objective operational performance measures and thresholds to define what success looks like.
- Guide prioritization of capital and operational investments to achieve success.





# ETC Capital/Operational Toolbox (20 tools that can be applied on Portland streets)

