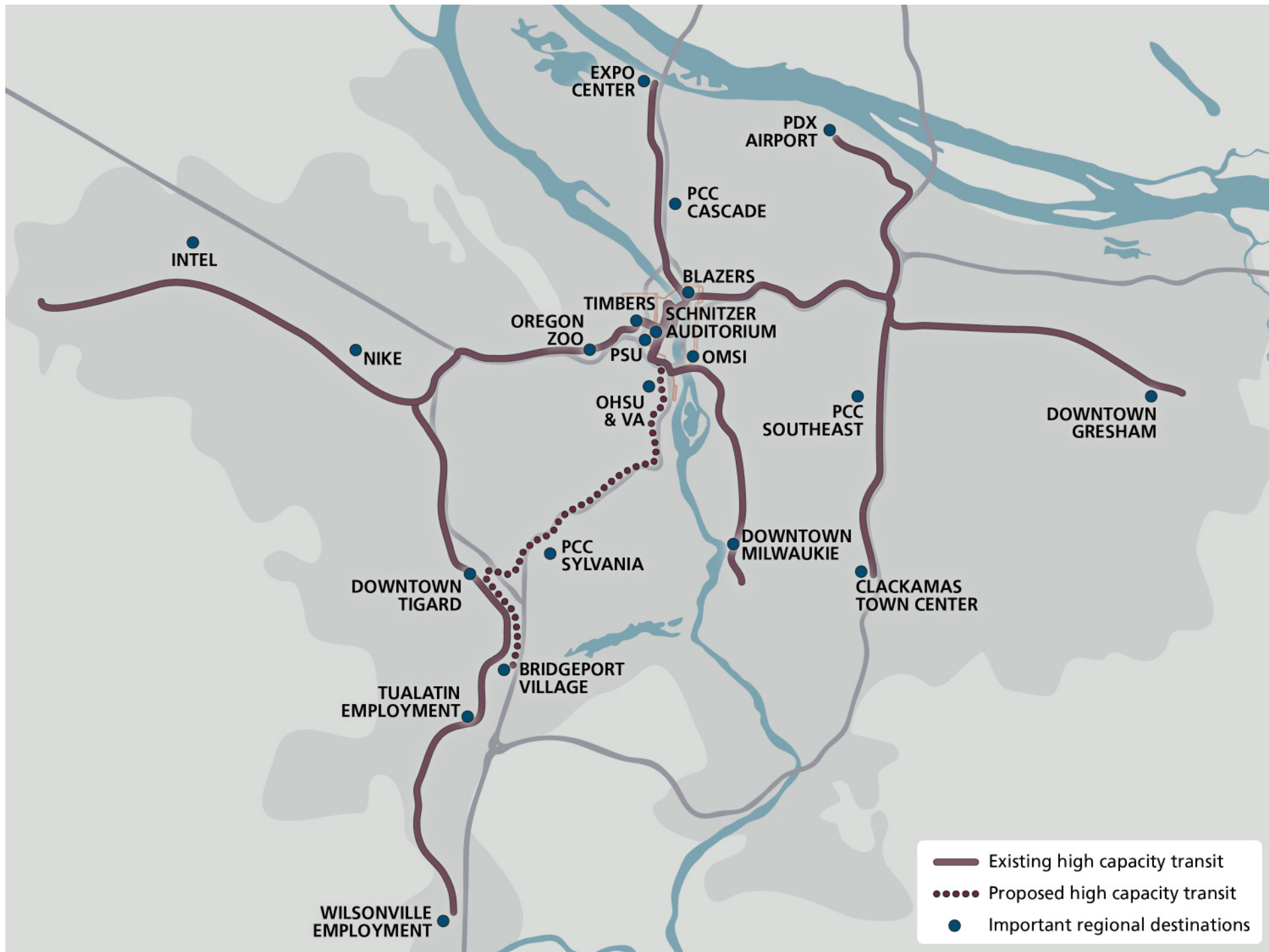




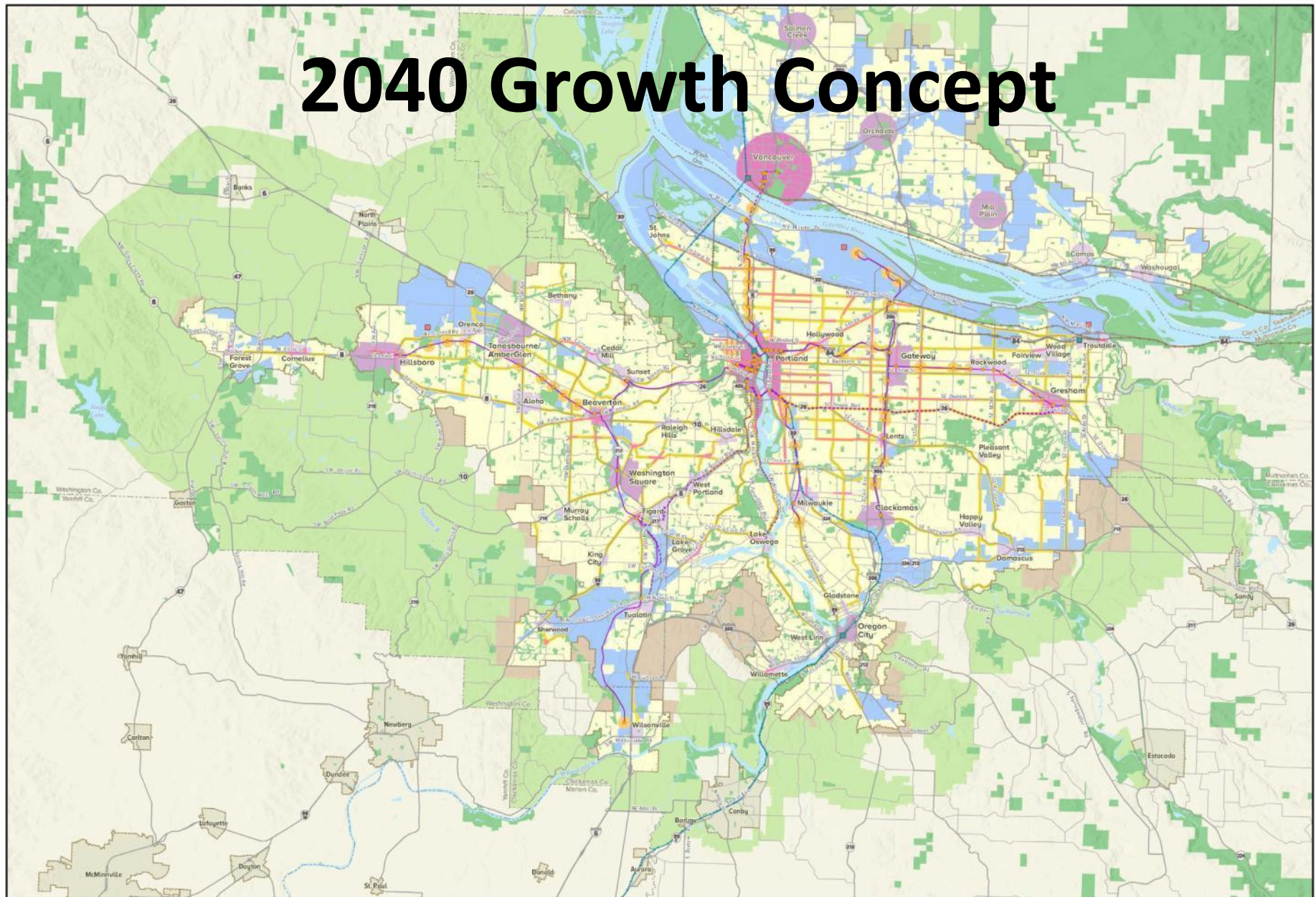
Southwest Corridor Plan Update

Portland Planning & Sustainability Commission

June 12, 2018



2040 Growth Concept



2040 Growth Concept Map

September 2014



This information on this map was derived from digital databases of Metro GIS. One use taken is the location of this map. Metro cannot accept any responsibility for errors, omissions, or outdated information. Please refer to the Metro website for the most current information available. This map is for informational purposes only and is not intended to be used for any other purpose.

The Metro 2040 Growth Concept defines the form of regional growth and development for the Portland metropolitan region. The Growth Concept was adopted in December 1995 through the Region 2040 planning and public involvement process. This concept is intended to provide long-term growth management of the region.

The map highlights elements of regional planning efforts including the 2035 Regional Transportation Plan that outlines investments in multiple modes of transportation, and a commitment to local policies and investments that will help the region better accommodate growth within its centers, corridors and employment areas.

For more information on these initiatives, visit: <http://www.growthmetro.gov/2040>

- | | | | |
|---------------------|-------------------------|---------------------------------------|-------------------------|
| Central city | Employment land | Existing high capacity transit | Neighboring cities |
| Regional center | Parks and natural areas | Planned high capacity transit | Airports |
| Town center | Neighborhood | Proposed high capacity transit tier 1 | Intercity rail terminal |
| Station communities | Rural reserve | Mainline freight | |
| Main streets | Urban reserve | High speed rail | |
| Corridors | Urban growth boundaries | County boundaries | |



There could be 340,000 residents in
the Southwest Corridor by 2035-

70,000

more than today.

swcorridorplan.org



255,000

people:

If all the people who work in the Southwest Corridor
were their own city, they'd be bigger than Eugene.

swcorridorplan.org



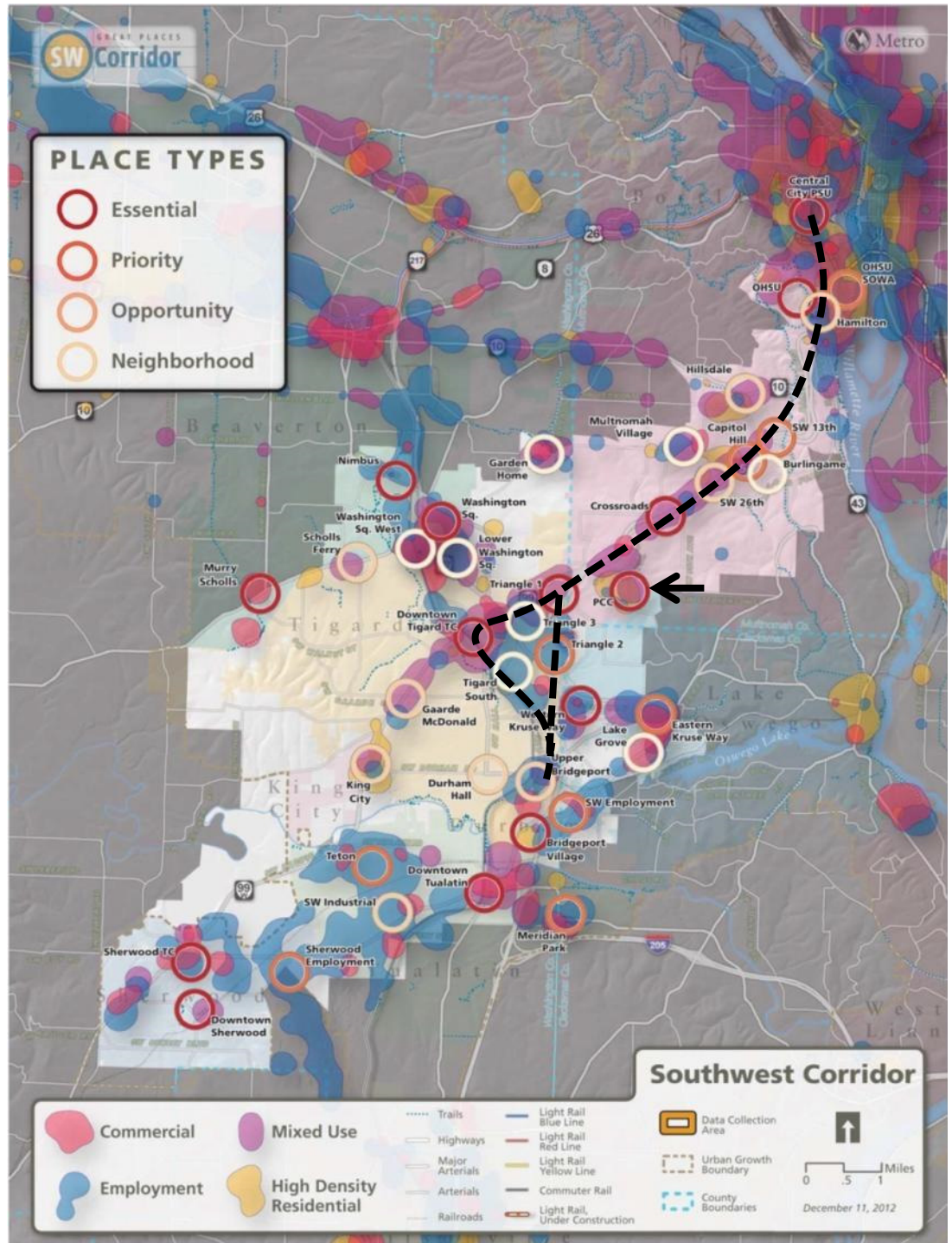
13-17

hours of congestion a day:

That's how bad traffic will be on Interstate 5
between Portland and Tigard in 2035.

swcorridorplan.org

We started
with land use
to connect to
places



More than light rail...

- new walk and bike connector between Barbur and **Marquam Hill**
- 2-mile **shared transitway** to allow buses to bypass traffic congestion
- shuttle between **PCC-Sylvania** and nearby stations
- continuous **sidewalks** and **protected bike lanes** where LRT is in Barbur

Inclusive Growth

Housing

- Portland / Tigard Equitable Housing (funded with Metro grant)
- TriMet's commitment on housing
- Metro bond: \$653M

SW Equitable Development Strategy

- Housing
- Workforce development
- Pilot programs





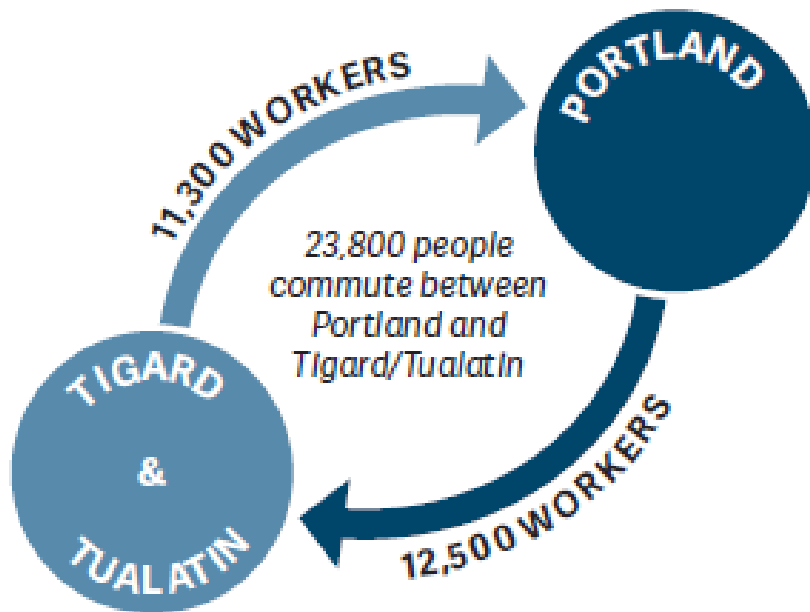
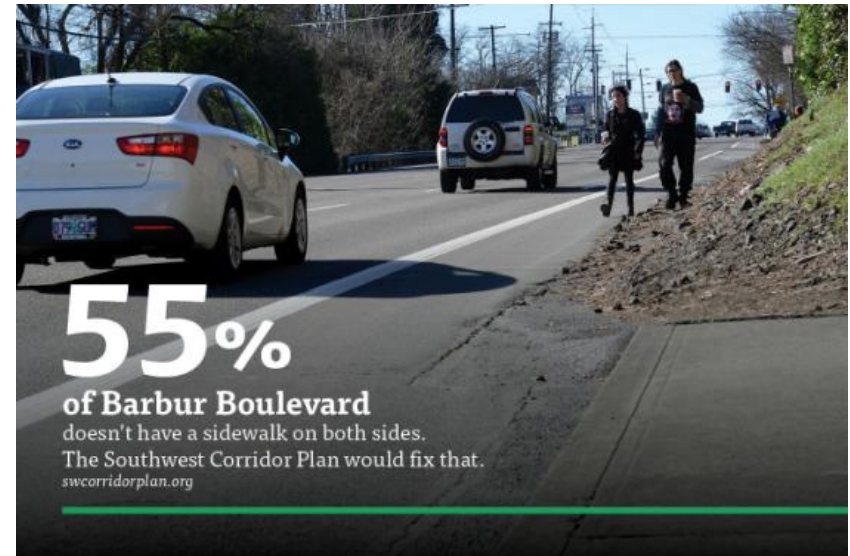
Project Benefits



43,000 riders on the line
on an average weekday in 2035

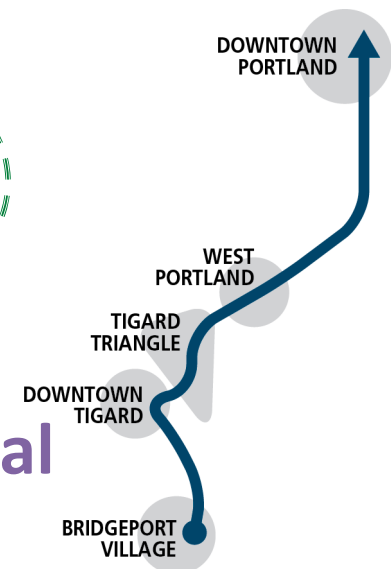


1 in 5 commuters on MAX
going southbound from downtown
during the 2035 PM rush hour

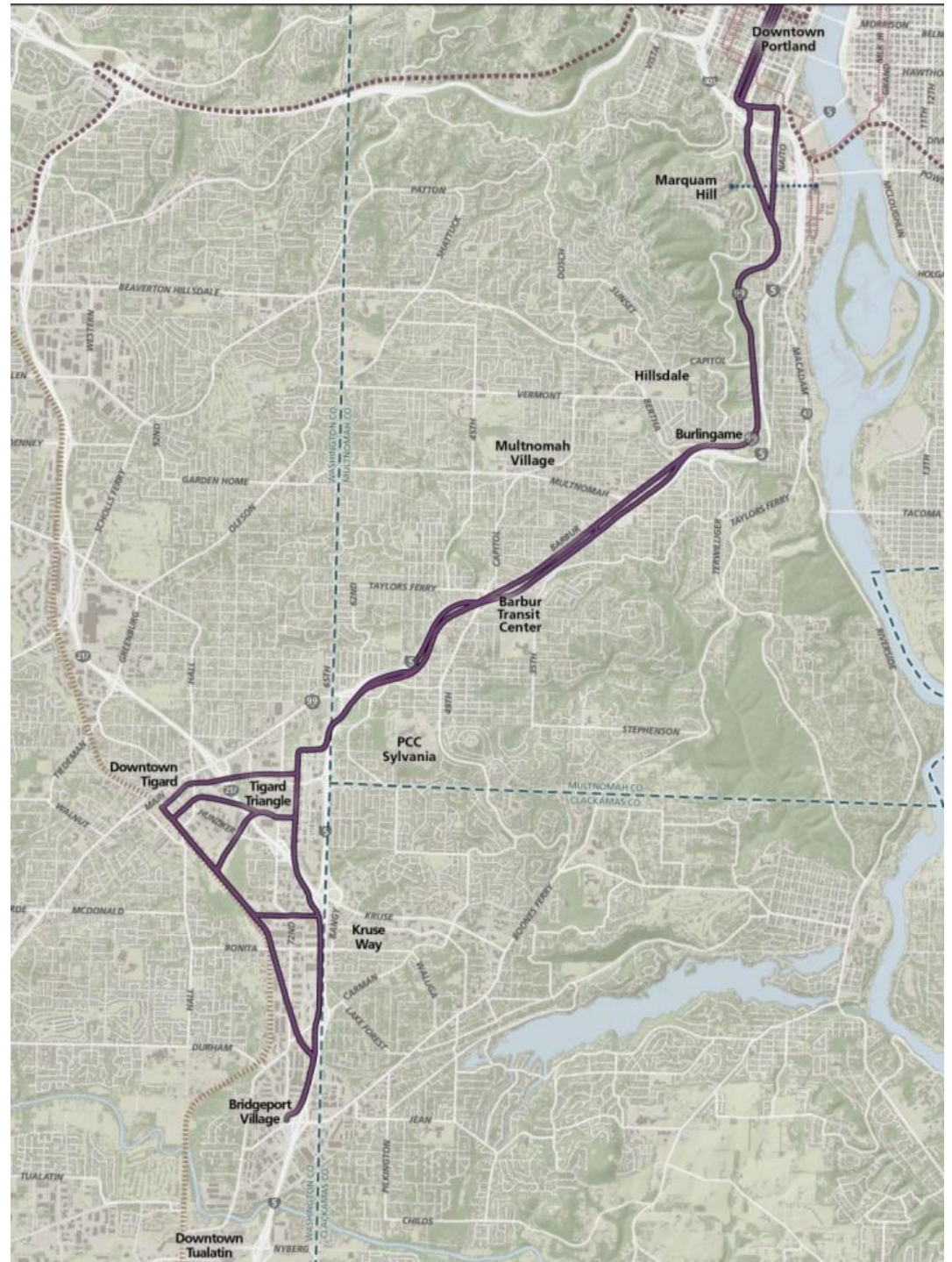


**Climate
action goals**

**Infill TOD in regional
town centers**



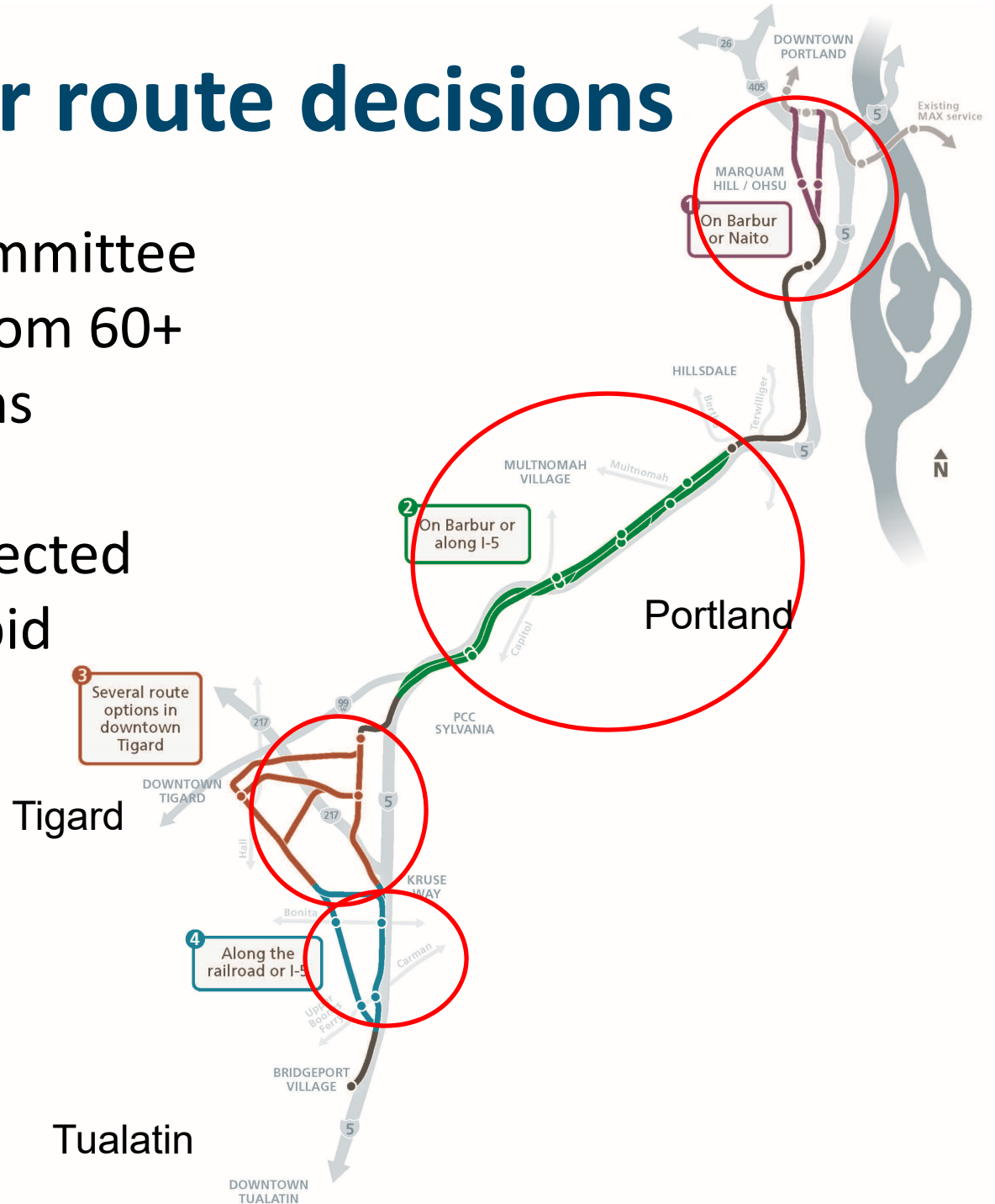
- Downtown Portland
- OHSU
- Hillsdale / Burlingame
- Barbur Transit Center
- PCC Sylvania
- Tigard Triangle + Downtown
- Bridgeport Village



Major route decisions

Steering Committee
narrowed from 60+
route options

Light rail selected
over bus rapid
transit



NEPA process



- Help decision makers understand environmental consequences
- Inform public of potential impacts
- Consult with relevant agencies
- Find ways to avoid, minimize or mitigate adverse effects
- Become eligible for federal funds



Metro



Parametrix

Draft EIS

- Disclosure document, intended to be neutral
- Compares Project to No Project
- Analysis and findings generally at “segment” level
- Identifies potentially significant impacts and ways to mitigate
- Based on frozen 5% designs
- Not a permitting document

DEIS Comment Period

- Public review period **June 15 – July 30**
- Available now
 - swcorridorplan.org
 - swcorridordeis@oregonmetro.gov
 - 11 locations around project area
- Around 300 pages + printed appendices + unprinted attachments
- Executive summary is just 25 pages

Key Findings

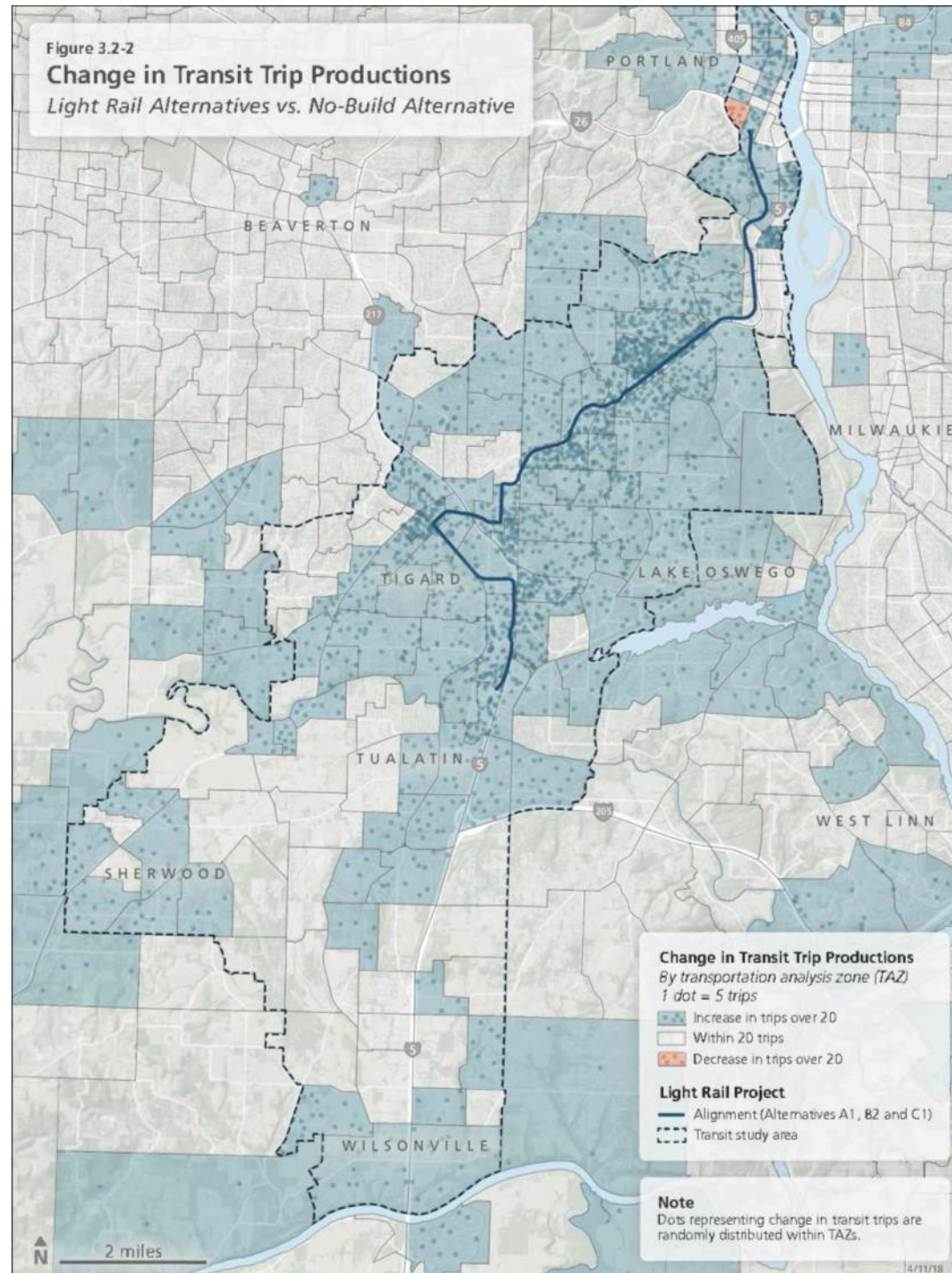
Notable variations between alternatives

- Traffic intersection operations
- Residential and commercial displacement
- Effects to parks and historic properties in Portland, especially Lair Hill area
- Noise impacts
- Wetlands and floodplains in Tigard
- Positive and adverse community effects throughout alignment

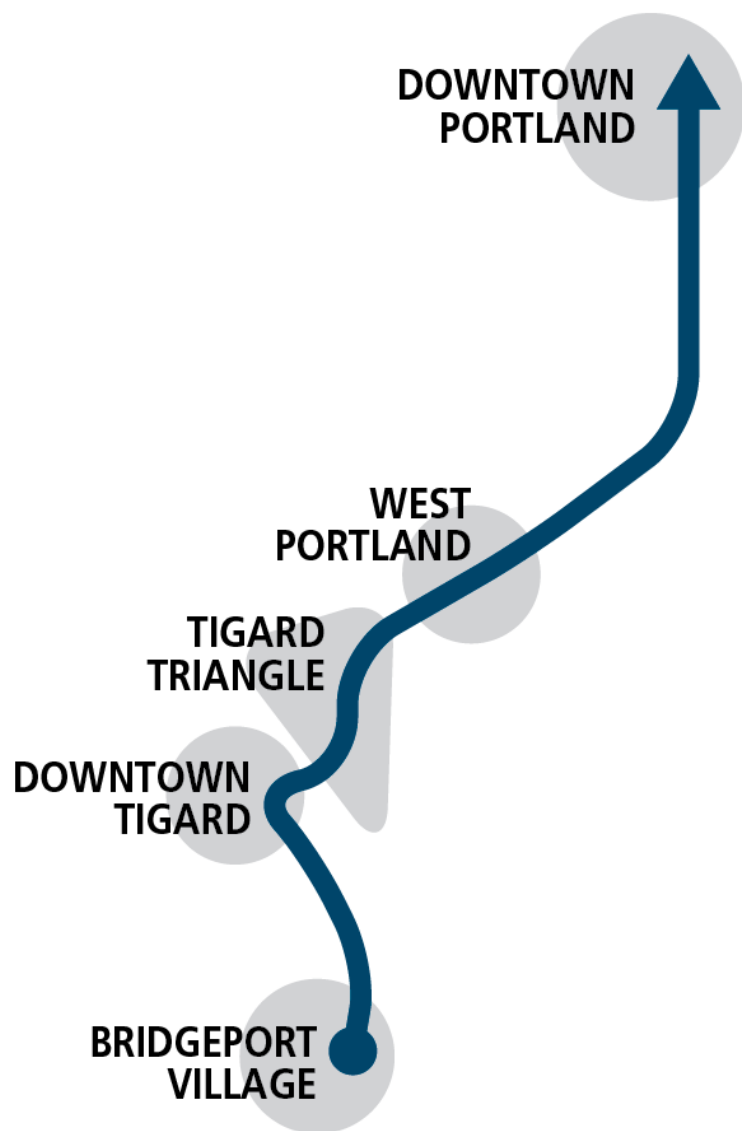
Transportation Findings

- Substantial increase in corridor mobility
- 43,000 Average Daily riders in 2025
 - Faster and more frequent service
 - New connections
 - Park/ride, bike/walk and connecting buses
 - Plus 8,000 bus riders on shared transitway
- Interlines with Green line
- Highest ridership at Marquam Hill, downtown Tigard and Bridgeport Village

Figure 3.2-2
Change in Transit Trip Productions
Light Rail Alternatives vs. No-Build Alternative



Initial route proposal



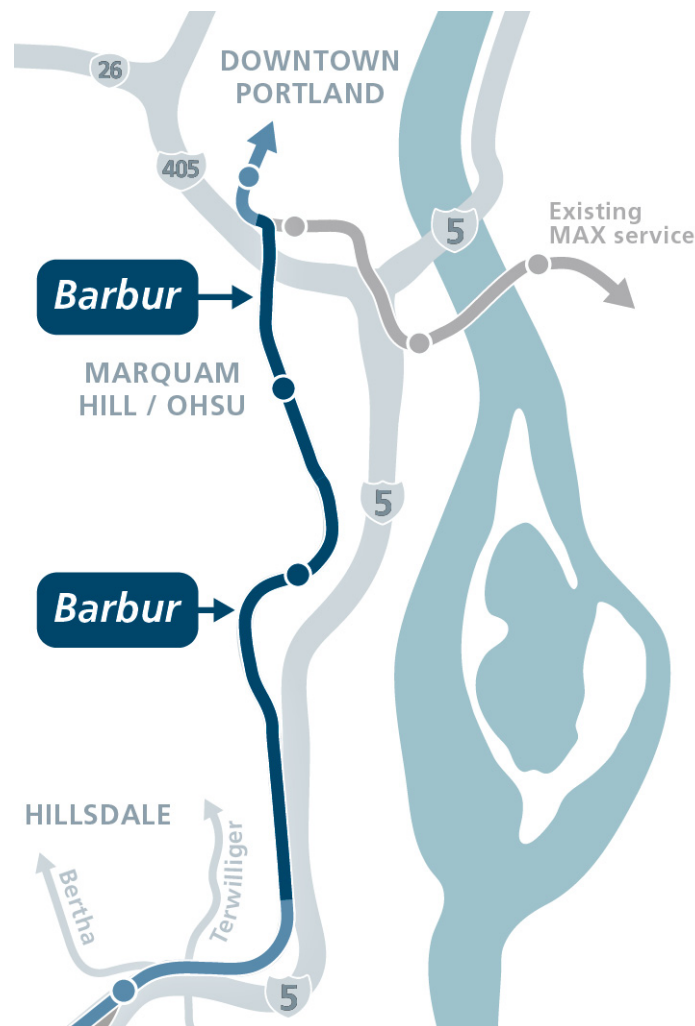
Through route

- Better connectivity between Tigard and Tualatin
- Better transit service for Downtown Tigard
- Lower operating cost
- More cost-effective and reliable operations

Initial route proposal

Barbur

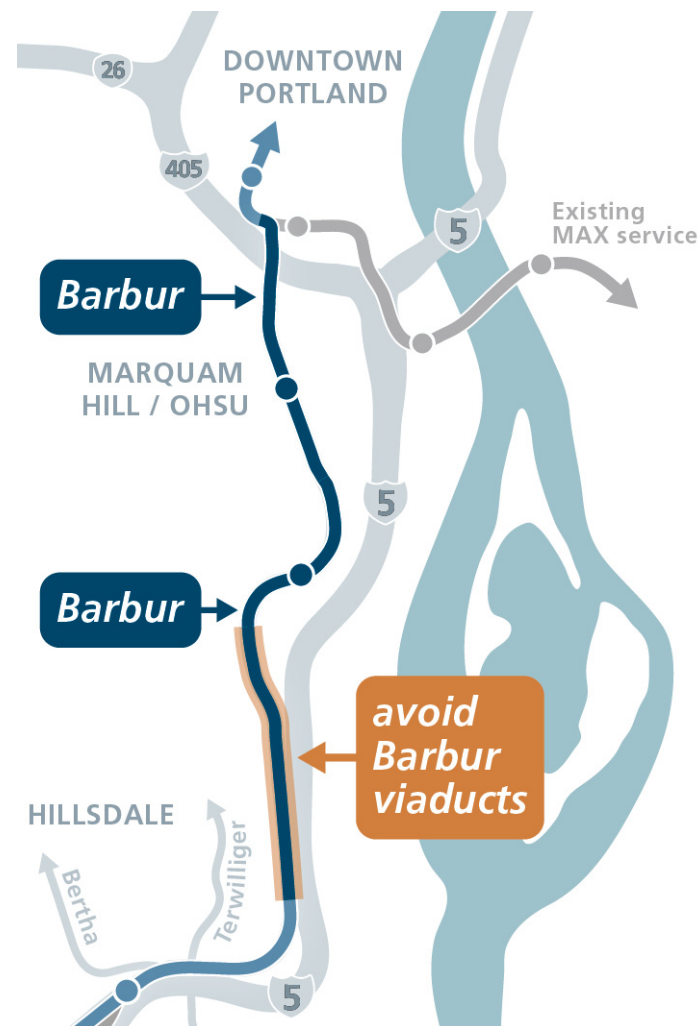
- Shorter connection to Marquam Hill
- Faster travel time
- Fewer property impacts (historic, residential, business)
- Ross Island Bridgehead improvements necessary



Suggested modification

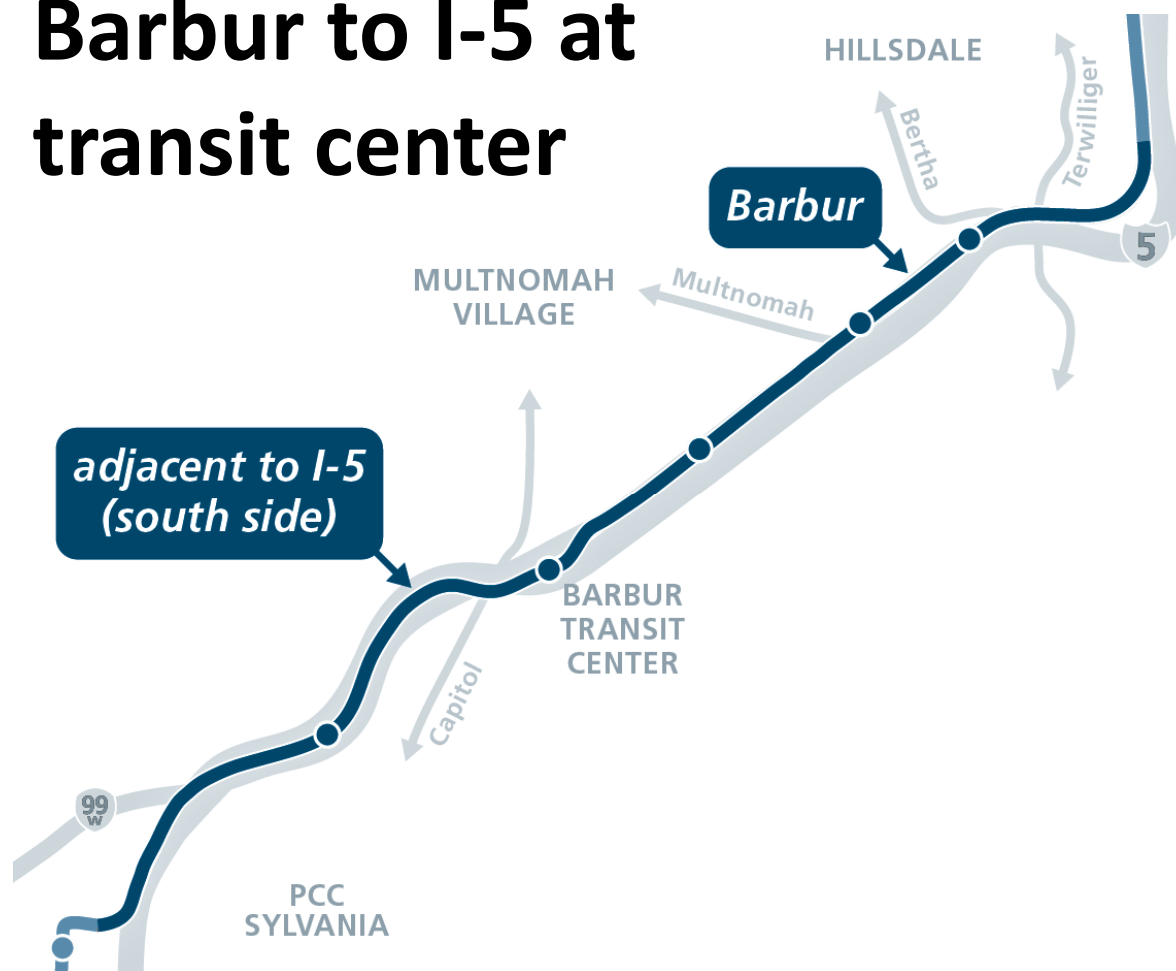
Avoid Barbur viaducts

- Reduce construction impacts
- Avoid historic and park impacts
- Reduce cost



Initial route proposal

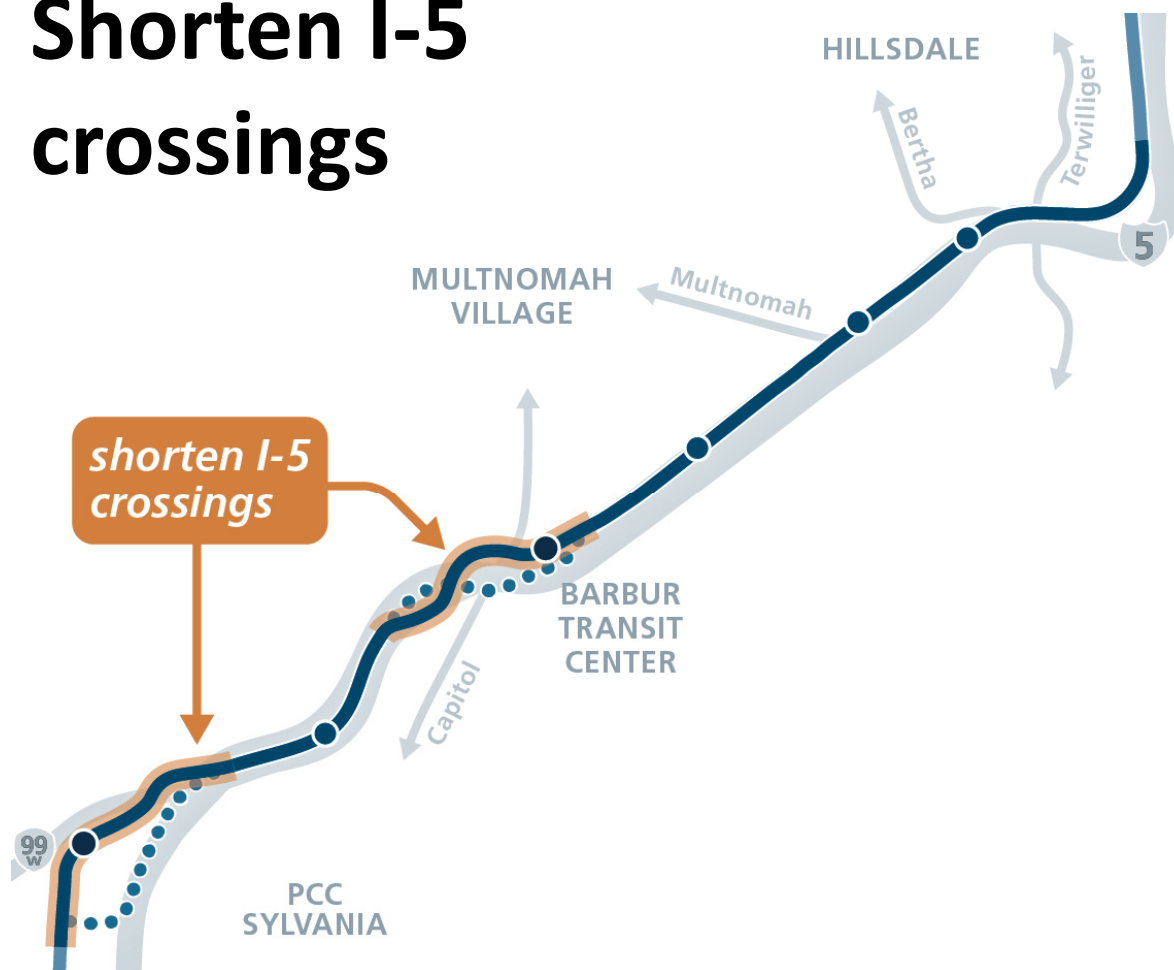
Barbur to I-5 at transit center



- More accessible & visible stations
- More safety improvements on Barbur
- Fewer residential displacements
- Avoids complex I-5 bridge reconstruction

Suggested modifications

Shorten I-5 crossings



- Reduce visual impacts
- Reduce construction impacts
- Reduce cost
- Allows for a station on 68th near 99W

What is the Preferred Alternative?

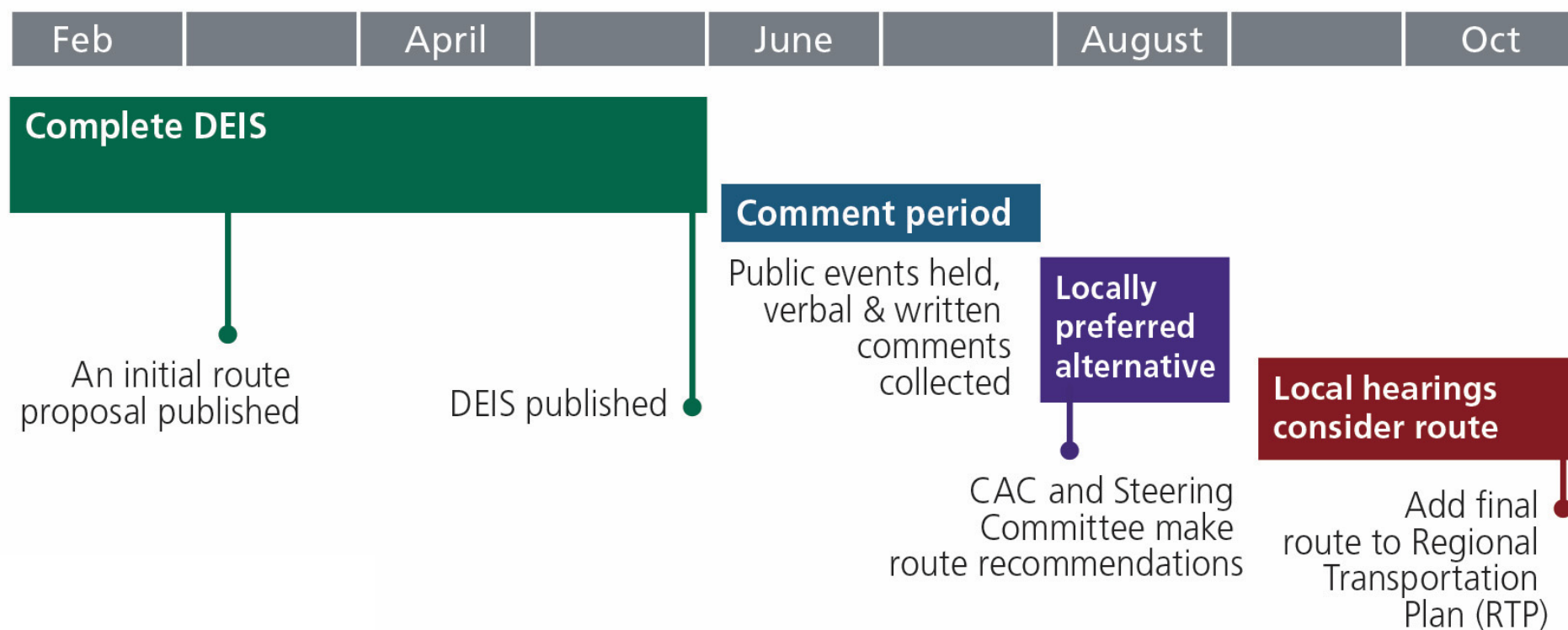
- Single light rail route for further design, study, funding
- Included (option to be defined)
 - ♦ Marquam Hill connection
 - ♦ PCC Sylvania shuttle
 - ♦ Operations & Maintenance facility
- Work to do:
 - ♦ Stations and Park and rides
 - ♦ Design refinements
 - ♦ Station access improvements

Implications

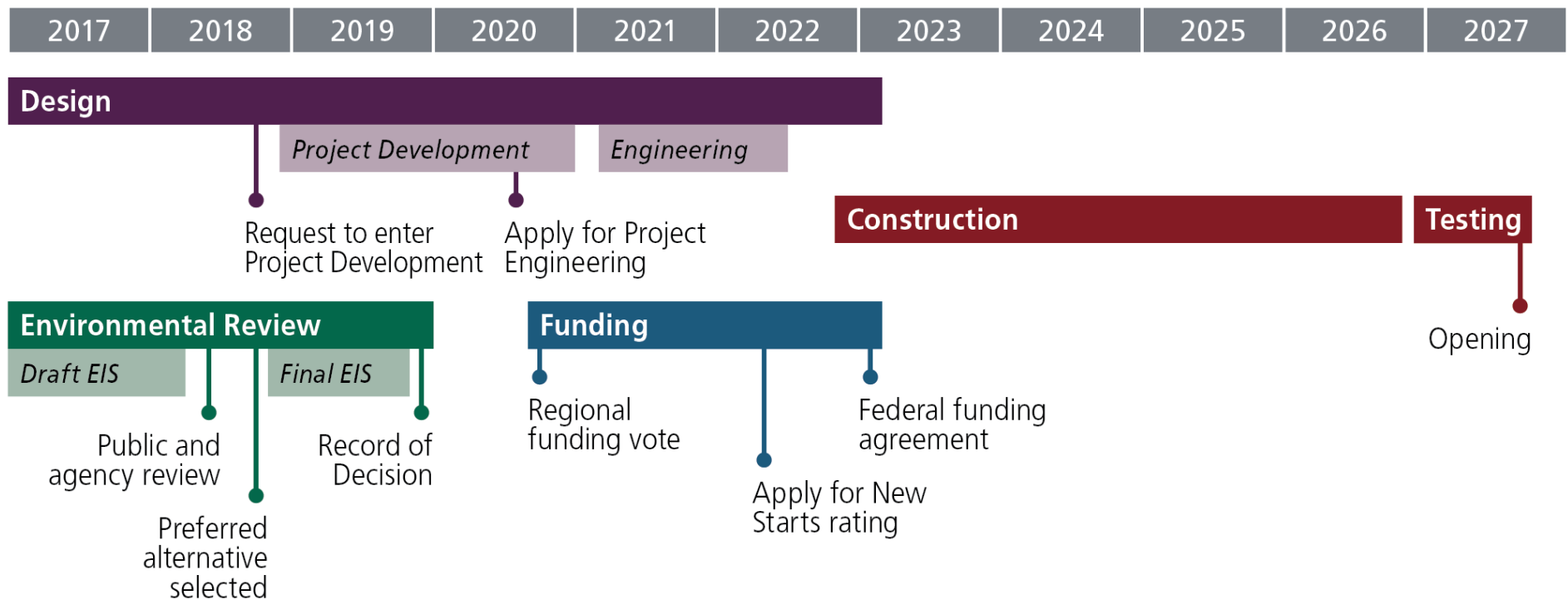
- All other alignments dropped
 - ♦ Clarifies adverse effects
- TriMet will begin advanced designs
 - ♦ Avoid or minimize impacts
 - ♦ Develop detailed cost estimates
- Environmental review
 - ♦ Final EIS to evaluate updated designs
 - ♦ Commit to mitigations
 - ♦ Address DEIS comments

Upcoming decisions

2018 Southwest Corridor light rail project schedule



Long-term timeline





Questions?

DEIS comment period

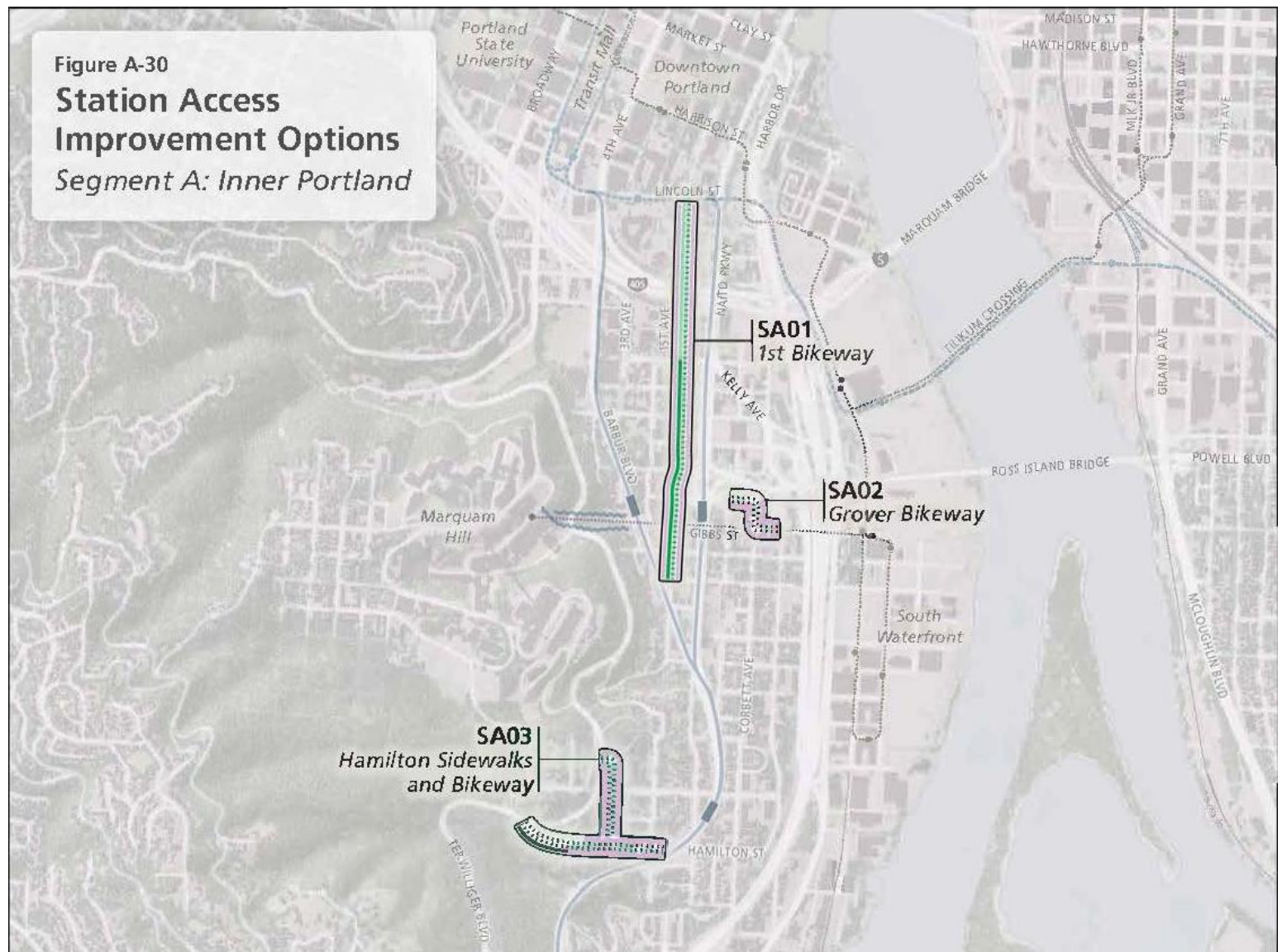
June 15 – July 30

www.swcorridorplan.org

swcorridordeis@oregonmetro.gov

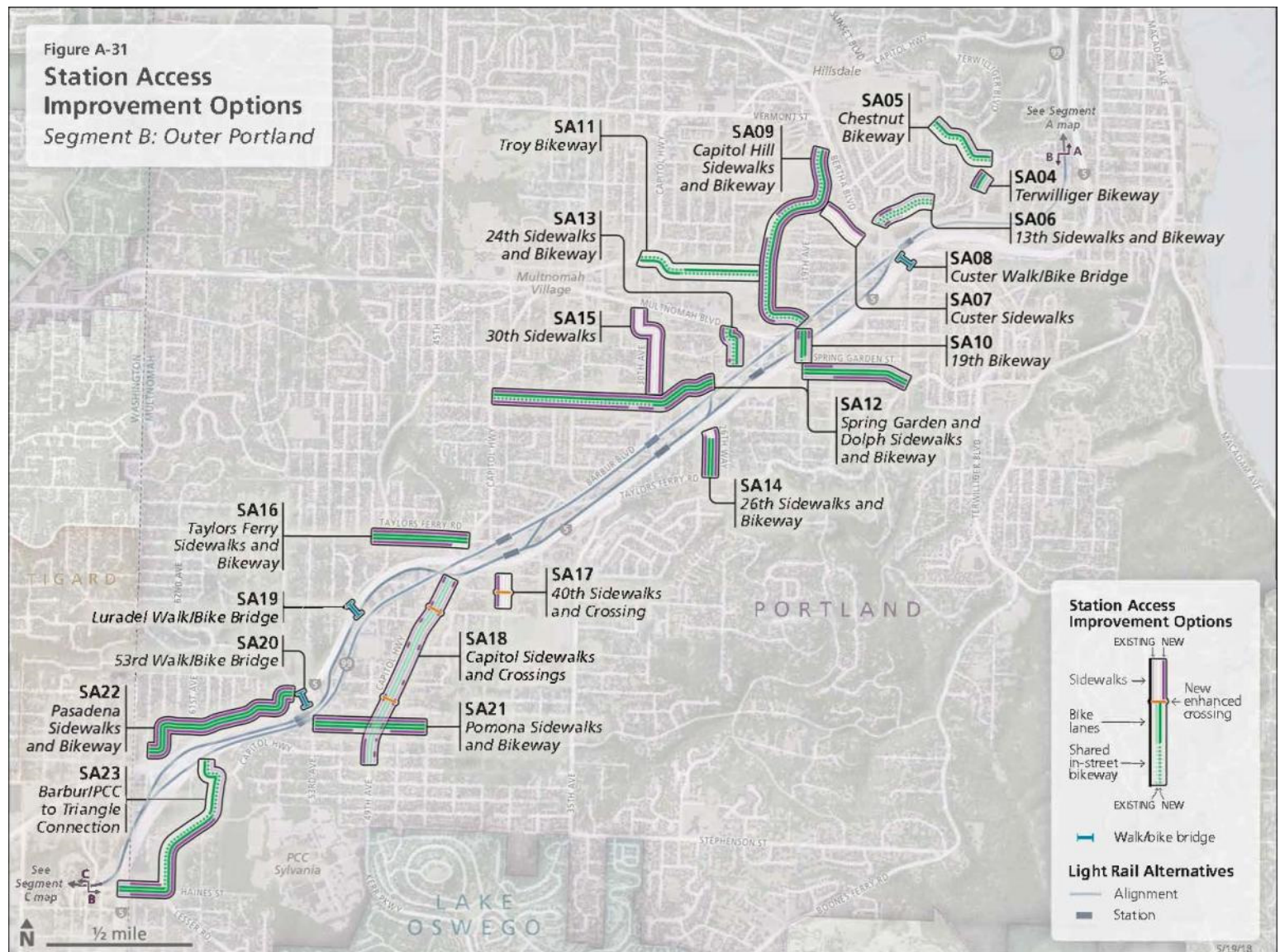
Station access improvements studied in DEIS

Segment A



Station access improvements studied in DEIS

Segment B



Project Cost

- Full route options studied would cost \$3.27 to \$3.63 billion
- Design refinements could lower cost to \$2.64 to \$2.86 billion
- Needs FTA medium-high cost effectiveness to be competitive
- Minimum operable segment
 - Required by FTA
 - Lower cost but unclear cost effectiveness
 - Not an upcoming decision

Transportation Findings

- 2035 traffic volumes cause extensive traffic congestion/delays with no project
- A mitigated project can reduce but not eliminate congestion
- A Ross Island Bridgehead project has traffic benefit
- Clinton option in Tigard will not work as currently designed (SW Hall)

Transportation Findings

- Project will improve walking and biking
 - New and widened facilities
 - Crosswalks added
- Freight
 - Generally avoids major freight routes
 - Design needs to accommodate typical trucks. Specific businesses require more. Project converts driveways and streets to right-turn access.
- Loss of on-street parking

Transportation Issues

Mitigation needed:

- Locations throughout S. Portland (mostly minor)
- At Barbur/Bertha/I-5 off-ramp (minor)
- At most park & rides (add turn lanes and/or signals)

Safety improvements proposed to address existing high crash areas

Displacements

Segment A (PSU to Terwilliger)

	Residential Units	Businesses	Employees
A1 Barbur	41	15	108
A2 Naito Brdghd	53	22	371
A2 Naito Lim Acc.	125	23	231

Segment B (Terwilliger to Tigard)

	Residential Units	Businesses	Employees
B1 Barbur	32	54	500
B2 I-5 / BTC on	32	61	469
B3 I-5 / 26 th on	35	66	565
B4 I-5 / Custer on	78	62	496

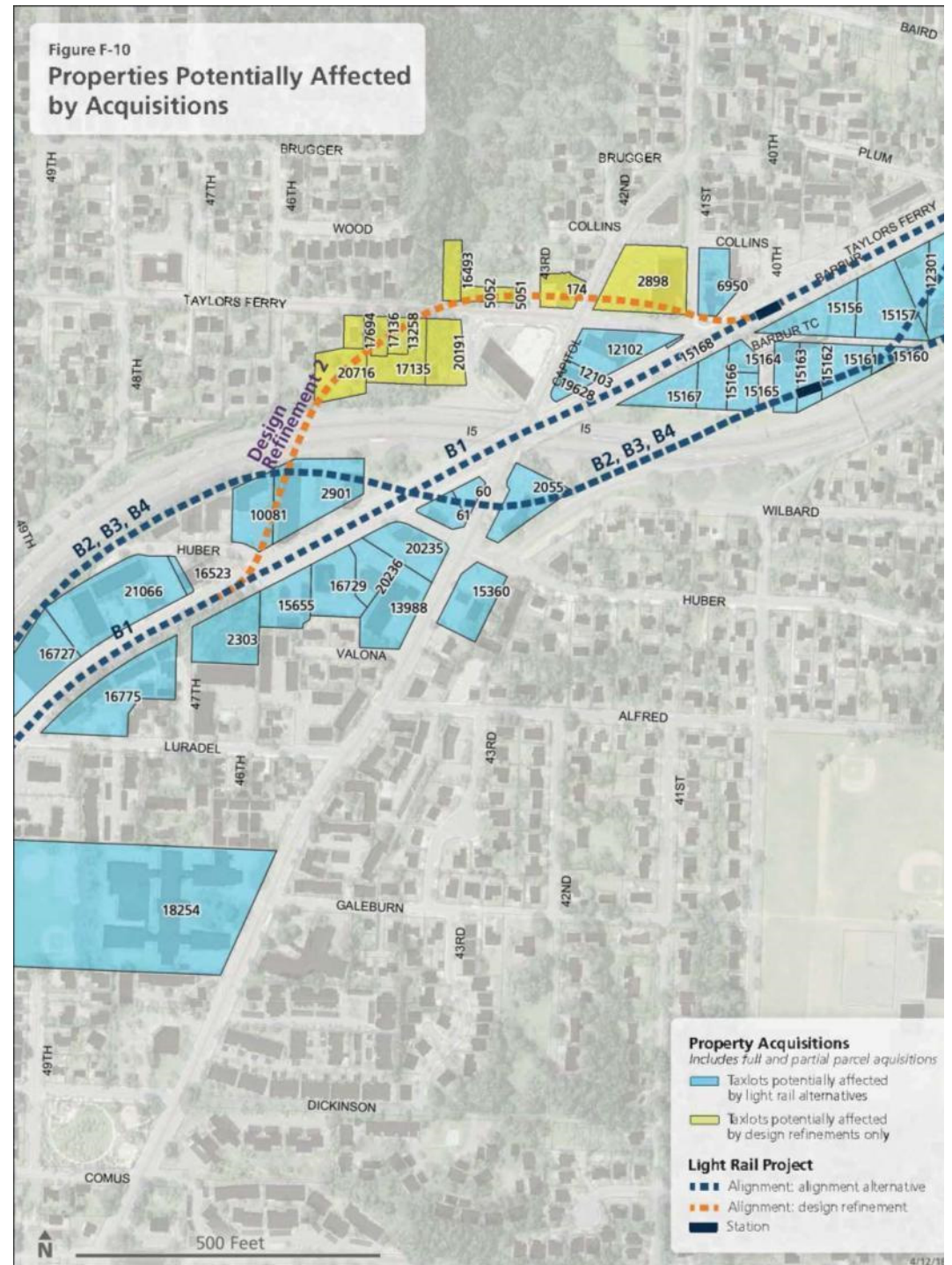
Displacements

Segment C (Tigard) **Does not include Design Mods*

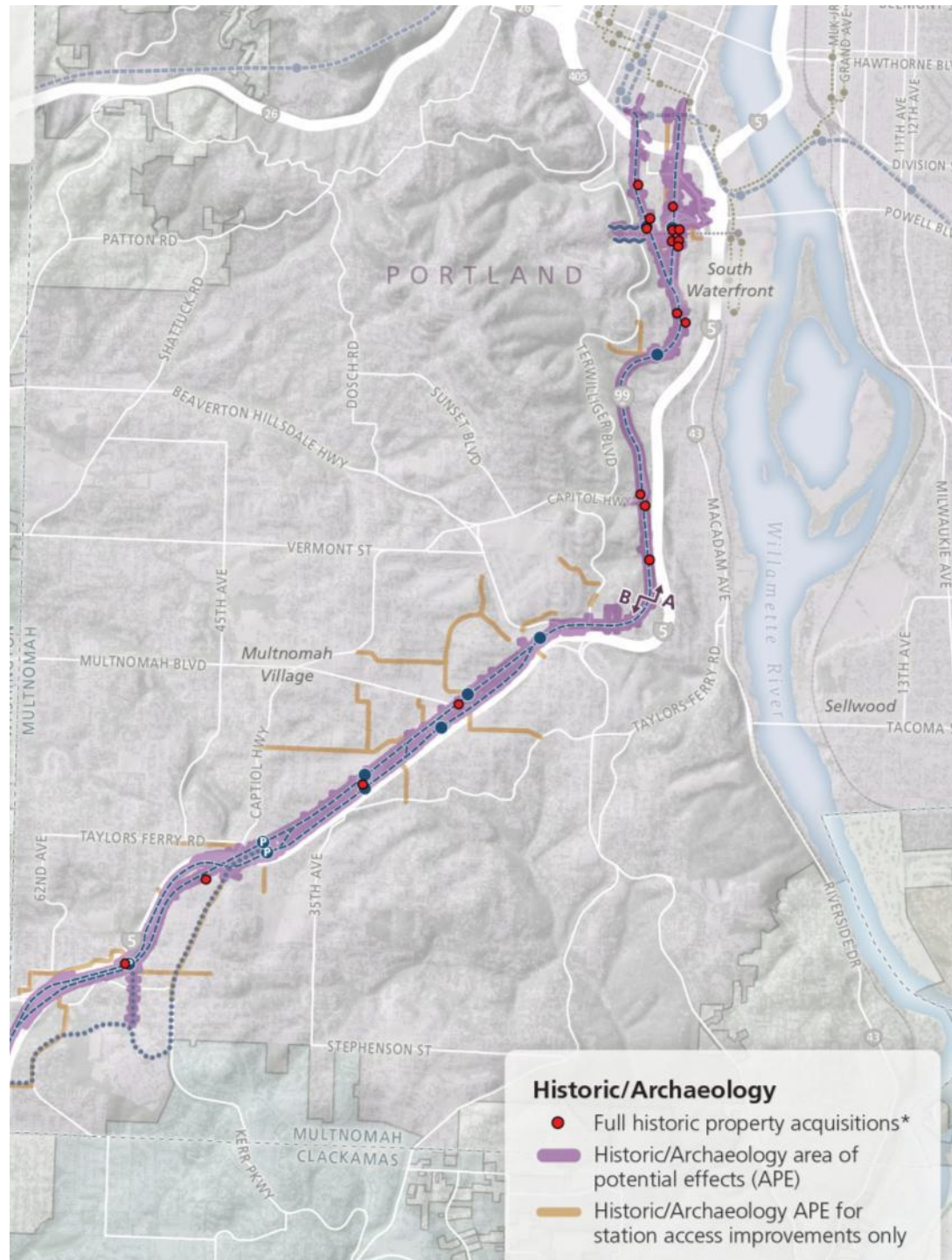
	Residential Units	Businesses	Employees
C1 Ash / I-5	85	41	734
C2 Ash / RR	85	37	323
C3 Clinton / I-5	5	35	839
C4 Clinton / RR	5	31	428
C5 Ash Branch	85	55	515
C6 Wall Branch	7	47	545

See Appendix F for lists and maps of properties potentially acquired
(Does not distinguish full vs. partial)

See Appx F for
maps of potentially
affected properties



Full acquisitions of potentially eligible historic resources



Historic Impacts

Segment A (PSU to Terwilliger)

	Full Acquisition	Partial	Easement
A1 Barbur	5	18	10
A2 Naito Bridgehead	7	20	25
A2 Naito Limited Access	15	13	8

Segment B (Terwilliger to Tigard)

	Full Acquisition	Partial	Easement
B1 Barbur	5	5	1
B2 I-5 from BTC to Tigard	4	3	1
B3 I-5 from 26 th to Tigard	3	4	0
B4 I-5 from Custer to Tigard	2	3	0

Visual Effects

Little variation in overall effect in Portland

Tigard Triangle

- Ash options create most change

Downtown Tigard

- Low effect from Wall option
- Moderate effect from Clinton options
- High effect from Ash options

Description: Barbur Transit Center
Alternative: Existing



Description: Barbur Transit Center
Alternative: B1



Description: 53rd Ave Station
Alternative: Existing



Description: 53rd Ave Station
Alternative: B1



Description: Beveland
Alternative: Existing



Description: Beveland
Alternative: C1/C2/C5/C6



Description: Ash
Alternative: Existing



Description: Ash
Alternative: C1/C2/C5



Parks

All options could effect

- Terwilliger Parkway
- George Himes Park
- Fulton Park
- Sylvania Nature Park

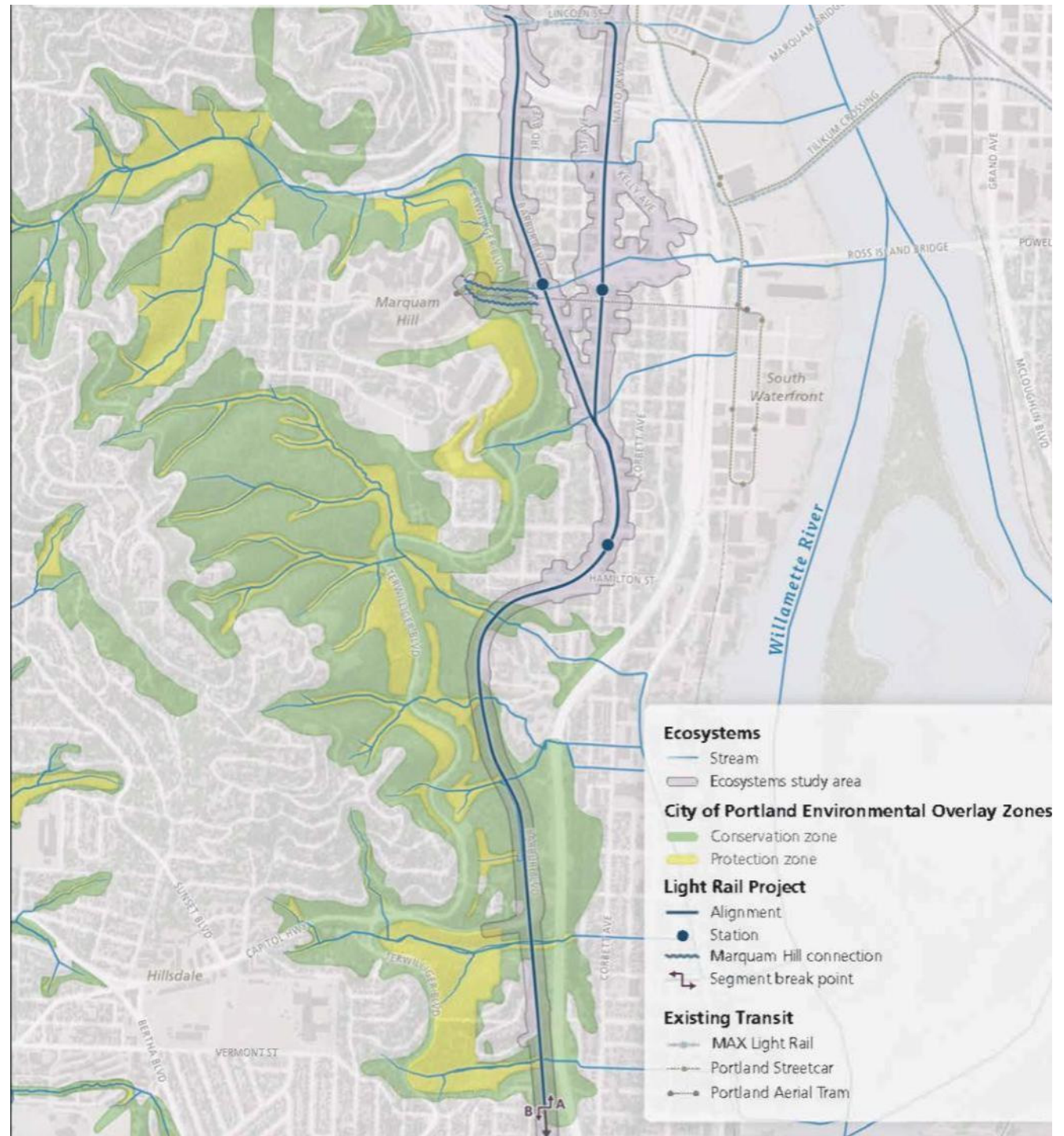
A1 affects Duniway and Lair Hill

A2 options affect two community gardens

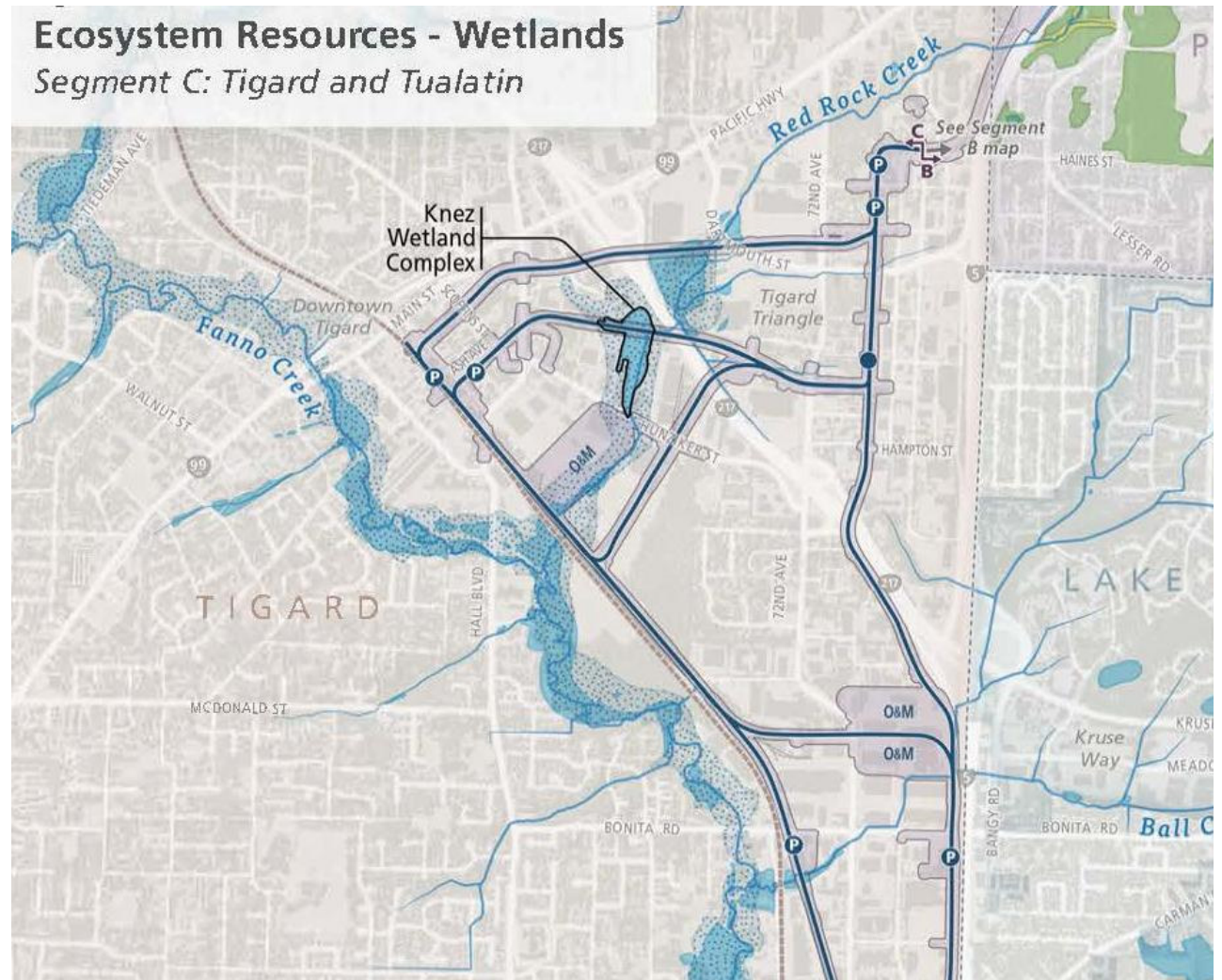
B1 effects Markham School grounds

Conservation
area impacts =
31 acres

Protection area
impacts = 2.5
acres



All Tigard
options impact
wetlands and
floodplain



Noise and Vibration

All options create many moderate noise impacts throughout the project area

- Branched route generates more impacts due to more late hours service
- Most impacts in Segment A due to density of existing development
- Few severe noise impacts
 - Most are in southern Tigard Triangle

Evaluation Table

Table 5.2-2. Comparison of Initial Route Proposal to Other Alignment Alternatives

	Initial Route Proposal ¹ <i>Alts. A1, B2, C2 with Refs. 1, 2, 4, 5, 6</i>	Base Draft EIS IRP Designs <i>Alts. A1, B2, C2 (no refinements)</i>	Change from Base Draft EIS IRP Designs to Other Alignment Alternatives									
			Segment A		Segment B			Segment C				
			Alt. A2-BH	Alt. A2-LA	Alt. B1	Alt. B3	Alt. B4	Alt. C1	Alt. C3	Alt. C4	Alt. C5	Alt. C6
Transit travel time												
PSU-Tigard TC	24 to 25 min	26min 10sec	+1m	+1m	-1m	+30s	-50s	Similar	-1m10s	-1m10s	Similar	+1m50s
PSU-Bridgeport	30 to 31 min	32min 30sec	+1m	+1m	-1m	+30s	-50s	+30s	-50s	-1m20s	-3m30s	-3m30s
Ridership												
Line riders	43,000 to 44,000	41,200	+300	+300	Similar	Similar	Similar	-600	-600	-800	+1,600	+900
New transit trips	19,000 to 20,000	17,500	-900	-900	Similar	Similar	Similar	-400	-400	-500	+800	+600
Displacements²												
Residential units	80 to 100	163	+12	+84	Similar	+3	+46	Similar	-80	-80	Similar	-78
Businesses	100 to 120	121	+5	+8	-7	+5	+1	+4	-9	-13	+18	+8
Employees	1,200 to 1,700	1,016	+160	+123	+31	+96	+27	+458	+563	+105	+192	+222
Cost³												
O&M (annual)	\$22 M	\$22 M	Similar	Similar	Similar	Similar	Similar	Similar	Similar	Similar	+\$8 M	+\$8M
Capital (YOE - 2024)	\$2,600 to \$2,800 M	\$3,300 M	+\$130 M	+\$160 M	+\$10 M	-\$30 M	-\$30 M	+\$70 M	+\$120 M	+\$60 M	+\$30 M	+\$60 M
Other												
Additional trade-offs			Longer walk to Marquam Hill Land use and transp. benefits of Bridgehead Reconfig. Better supports Barbur Concept Plan	Longer walk to Marquam Hill Naito reinforced as a barrier	Adds complex reconstruct. of Crossroads bridge Better supports Barbur Concept Plan	Less supportive of Barbur Concept Plan	Less supportive of Barbur Concept Plan		Critical traffic impact at SW Hall Blvd. near Pacific Hwy. Less supportive of Tigard Triangle Strategic Plan	Critical traffic impact at SW Hall Blvd. near Pacific Hwy. Less supportive of Tigard Triangle Strategic Plan	Less frequent service to downtown Tigard	Less frequent service to downtown Tigard No impact to wetlands

Note: BTC = Barbur Transit Center; IRP = initial route proposal; M = million; O&M = operating and maintenance; TC = Transit Center; YOE = year of expenditure.

Cells are shaded to indicate how other alignment alternatives compare to the base Draft EIS IRP designs for each factor:

Worse			Similar			Better
-------	--	--	---------	--	--	--------

¹ Numbers are approximate and subject to change because the design refinements have not been analyzed at the same level of detail as the alignment alternatives in the Draft EIS. Some of the design refinements would also be compatible with other alignment alternatives not included in the initial route proposal, but the change in impacts and benefits would differ.

² Numbers include the Hunziker O&M facility and a Marquam Hill connection. Connection 1A is assumed for the purpose of comparison (Connections 1B and 1C would result in the same displacements, and Connection 2 would result in fewer displacements).

³ Reflects costs displayed in Table 5.1-2

Corridor-Wide Analysis

Not much difference between alternatives or segments

- Air quality
 - Geology and Soils
 - Energy
-
- All other issue areas show differences between alternatives within a segment

Footprint-Based Disciplines

Based on assumed construction footprint

- Acquisitions, Displacements and Relocations
- Parks and Recreation
- Land Use
- Economics
- Historic and Archaeological
- Hazardous Materials
- Ecosystems
- Water Quality and Hydrology
- Utilities

Operation-Based Disciplines

Based on modeling of light rail operations

- Transportation
- Noise and Vibration
- Public Services



Location-Based Disciplines

Based on specific location attributes

- Visual Quality
- Safety and Security



Community Impacts

Community quality of life, community cohesion and community facilities

- Cohesion: Sense of community or social interaction
- Quality of life: Aesthetics, noise, vibration and safety and security
- Community facilities: Access to these facilities

Environmental Justice

Is there a disproportionate, high and adverse impact on low-income or minority communities?

- Impacts after mitigation and benefits
- Identify impacts from other disciplines and overlay through environmental justice lens

