GREAT PLACES

SW Corridor

Portland • Sherwood • Tigard • Tualatin
Beaverton • Durham • King City • Lake Oswego
Multnomah County • Washington County
ODOT • TriMet • Metro

Transit Evaluation

SW Corridor Steering Committee

May 13, 2013

Timeline for HCT decisions

July 2013	Refinement/DEIS
•Destination •Which modes to carry forward for more study •Policy direction on "level" of BRT for further study •Direction on Southwest (Transit) Service Enhancement Plan	•Alignments ♦Direct connection to PCC? ♦Naito or Barbur? ♦Hall or 72nd? •Surface or tunnel? •Station locations •Add a lane or convert a lane? •Transit system connections?

GREAT PLACES SW Corridor

BRT considerations

Eligible for federal New Starts funding at 50% dedicated right of way

Mixed traffic

- Slower
- Lower ridership
- Less reliable
- Lower capital costs

Exclusive transitway

- Faster
- Higher ridership
- More reliable
- More expensive capital costs

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Connecting great places: High capacity transit decision points

Potential decision horizons
- July
- Refinement
- DEIS

Mode

Bus rapid transit

Alignment options

From downtown Portland: Naito or Barbur

Connecting PCC: Direct via Capitol or Indirect via Barbur

Transit-way or Existing bus route

Portland → Tigard → Tualatin → Sherwood

Tigard: Hall or 72nd

Tualatin: Tualatin-Sherwood Road or Tualatin Industrial Area

Lane configuration / operations

Policy direction
- More effective BRT (higher cost) or Less effective BRT (lower cost)

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Destination

Spokes transfer to high capacity transit or Spokes travel on bus rapid transit capital improvements

Station locations

Light rail

Alignment options

From downtown Portland: Naito or Barbur

Surface or Tunnel

Portland → Tigard → Tualatin

Tigard: Hall or 72nd

Direction: Where to add transit lane and Where to convert a lane

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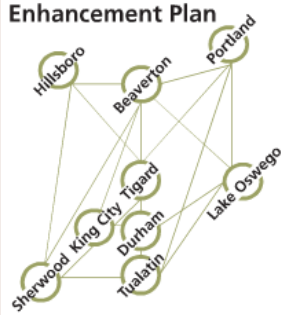
Lane configuration / operations

Considerations:
- Ridership
  - Project boardings
  - System transit ridership
- Travel time
- Operating cost and efficiency
  - Annual operating costs
  - Cost per boarding
- Capital costs
- Funding
- ROW/property impacts
- Roadway impacts
- Interaction with autos
- Land use vision/development potential
- Economic vibrancy

Southwest Service Enhancement Plan

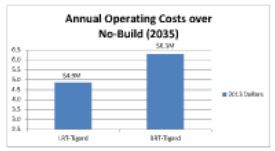


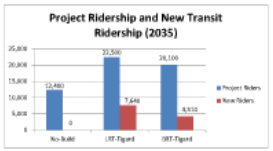
Support access to high capacity transit and connect communities in the corridor.

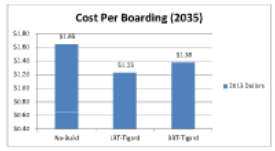
Mode

Comparing:

- No-Build Lines 12 and 94
- LRT to Tigard
  60% convert lane, 40% add lane
  Exclusive ROW
- BRT to Tigard
  Add lane, Exclusive ROW
  (Gold Standard BRT)







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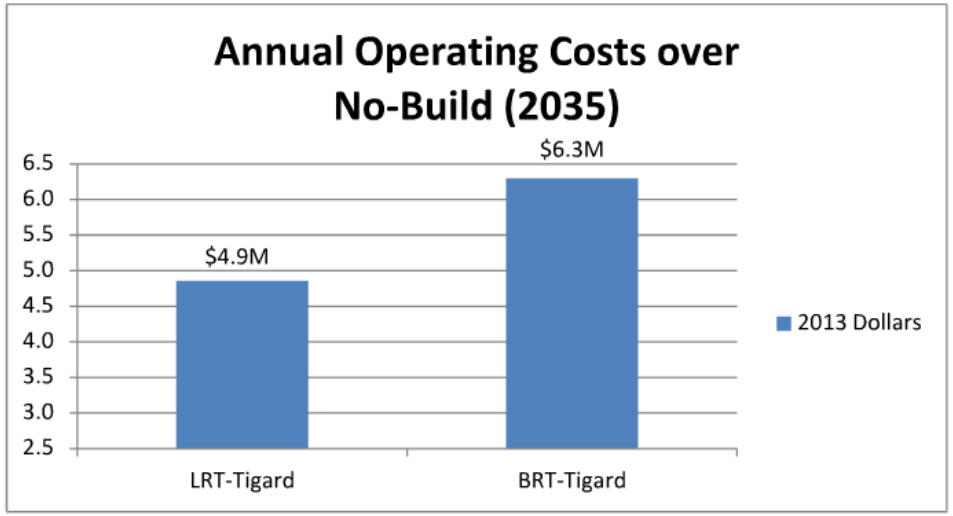
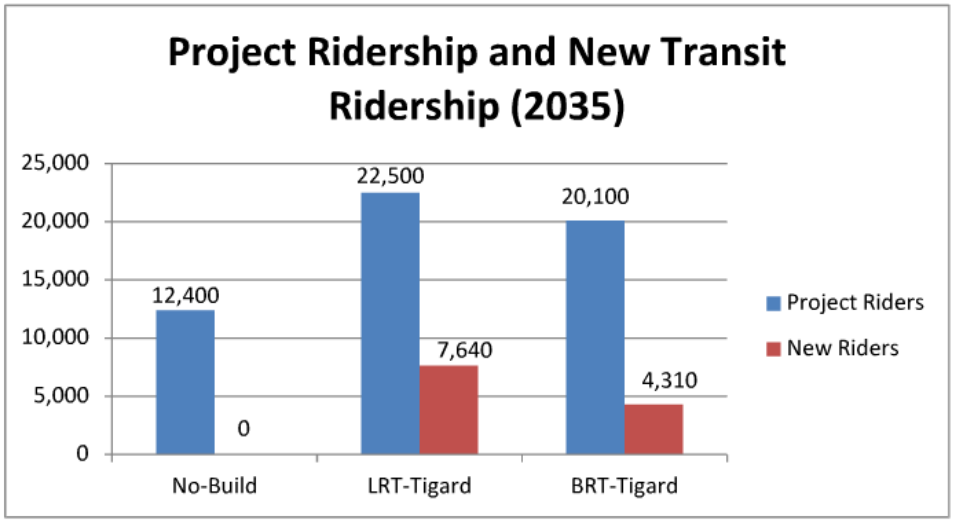
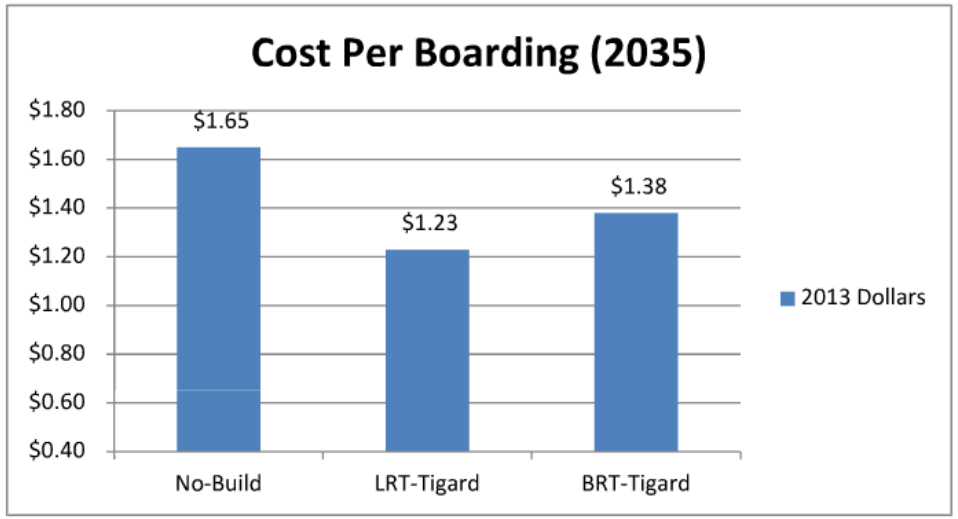
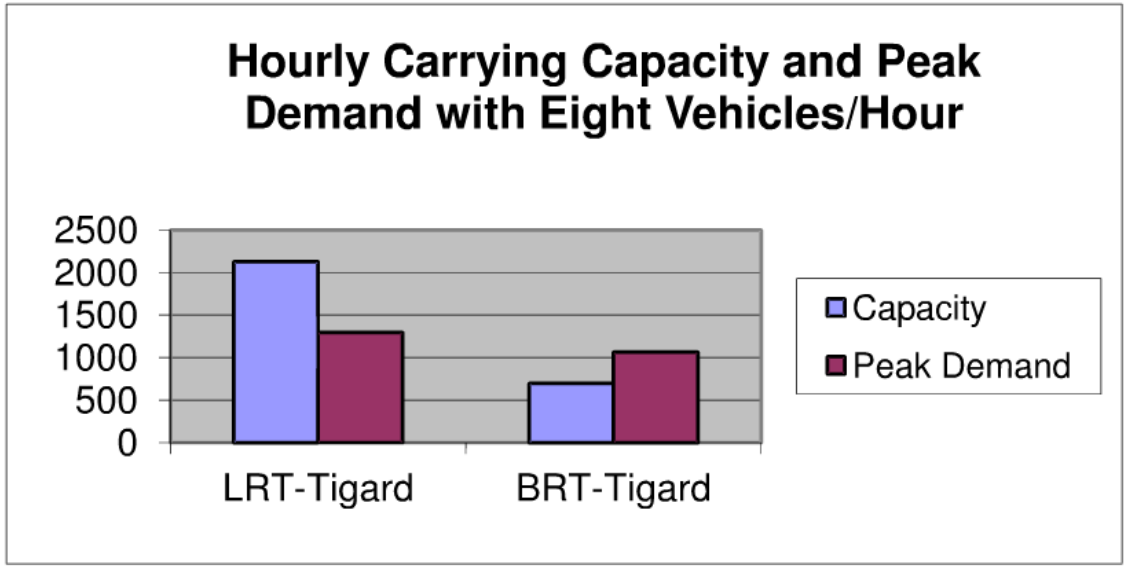
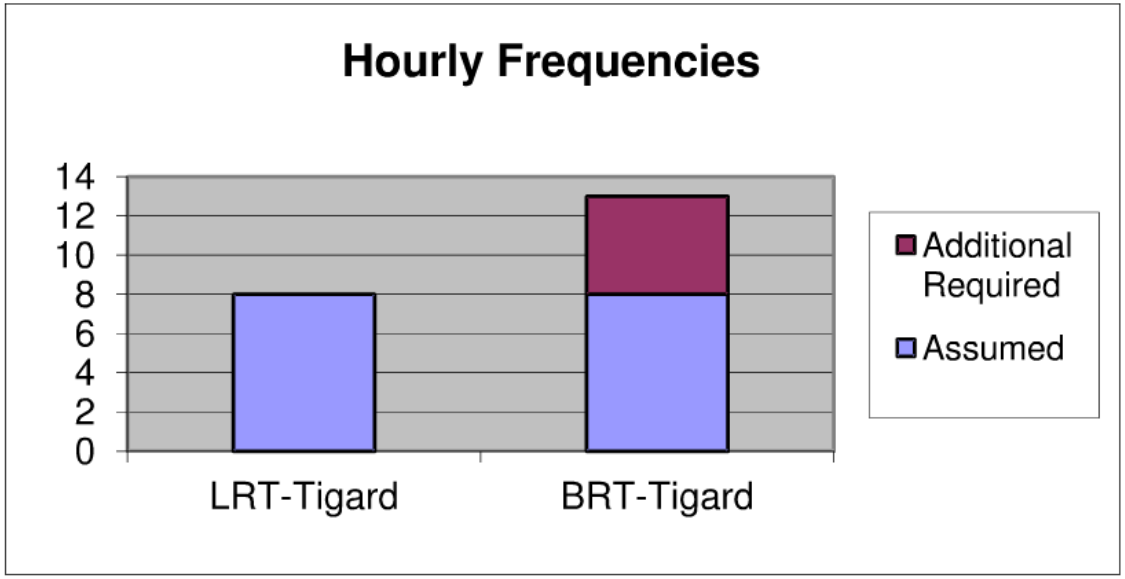


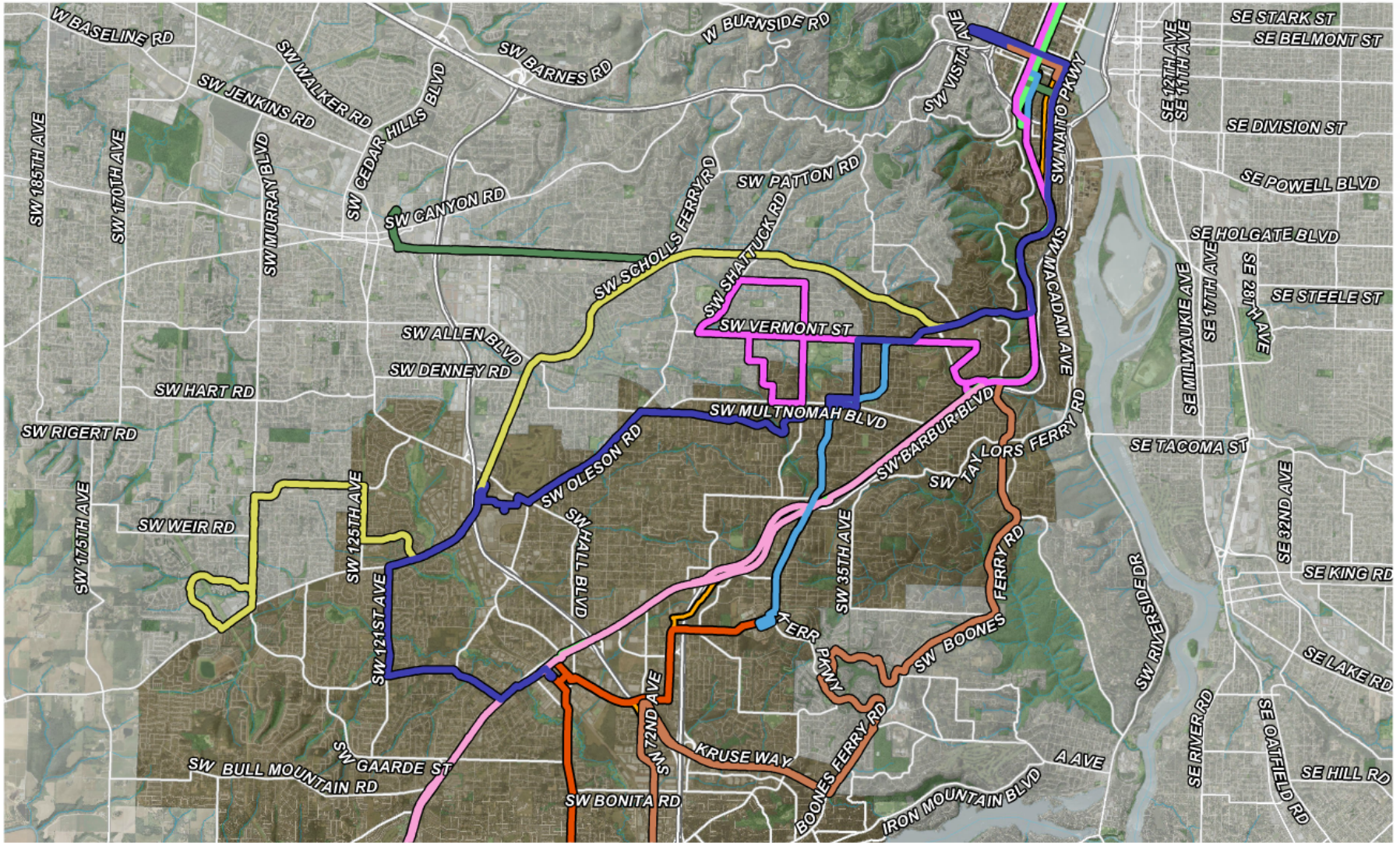








High frequencies can affect reliability as signal priority and vehicle spacing become more challenging



- Lines 12, 38, 44, 45, 54, 92, 94 - 24 buses/ hour on Barbur
- Because LRT would have remaining capacity local routes could be restructured as feeder lines, increasing LRT ridership and providing an opportunity to reallocate service hours
- Because BRT would be at (or over) capacity, there would be less opportunity to reallocate service hours without increasing BRT service hours.

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Connecting great places: High capacity transit decision points

Potential decision horizons
- July
- Refinement
- DEIS

Mode

Destination

Bus rapid transit

Alignment options
- From downtown Portland: Naito or Barbur
- Connecting PCC: Direct via Capitol or Indirect via Barbur
- Transit-way or Existing bus route
- Tigard: Hall or 72nd
- Tualatin: Tualatin-Sherwood Road or Tualatin Industrial Area

Portland → Tigard → Tualatin → Sherwood

Lane configuration / operations
- Portland: Policy direction — More effective BRT (higher cost) or Less effective BRT (lower cost)
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Spokes transfer to high capacity transit

Spokes travel on bus rapid transit capital improvements **or** **Station locations**

Light rail

Alignment options
- From downtown Portland: Naito or Barbur
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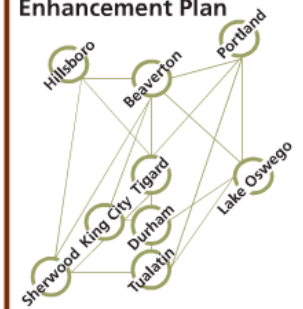
Portland → Tigard → Tualatin

Lane configuration / operations
- Portland: Direction — Where to add transit lane **and** Where to convert a lane
- Tigard: Direction — Where to add transit lane **and** Where to convert a lane

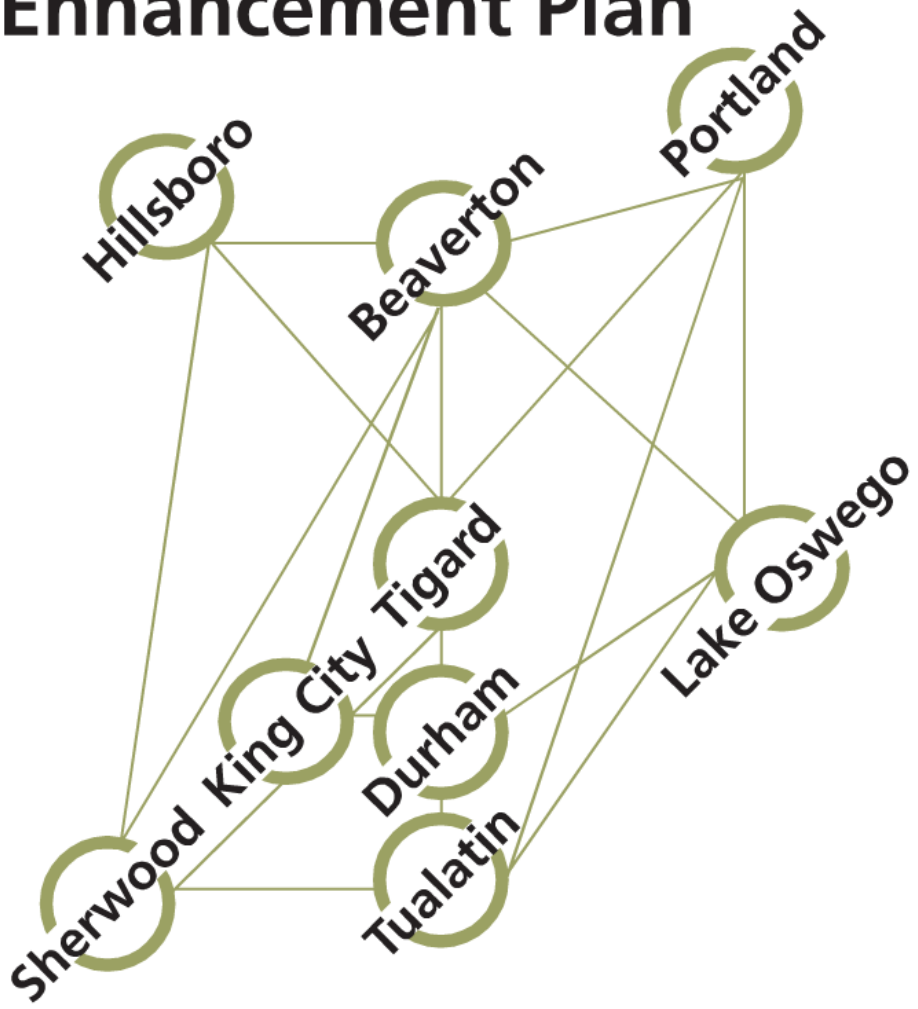
Considerations:
- Ridership
  - Project boardings
  - System transit ridership
- Travel time
- Operating cost and efficiency
  - Annual operating costs
  - Cost per boarding
- Capital costs
- Funding
- ROW/property impacts
- Roadway impacts
- Interaction with autos
- Land use vision/development potential
- Economic vibrancy

Southwest Service Enhancement Plan



Support access to high capacity transit and connect communities in the corridor.

Southwest Service Enhancement Plan



Support access to high capacity transit and connect communities in the corridor.

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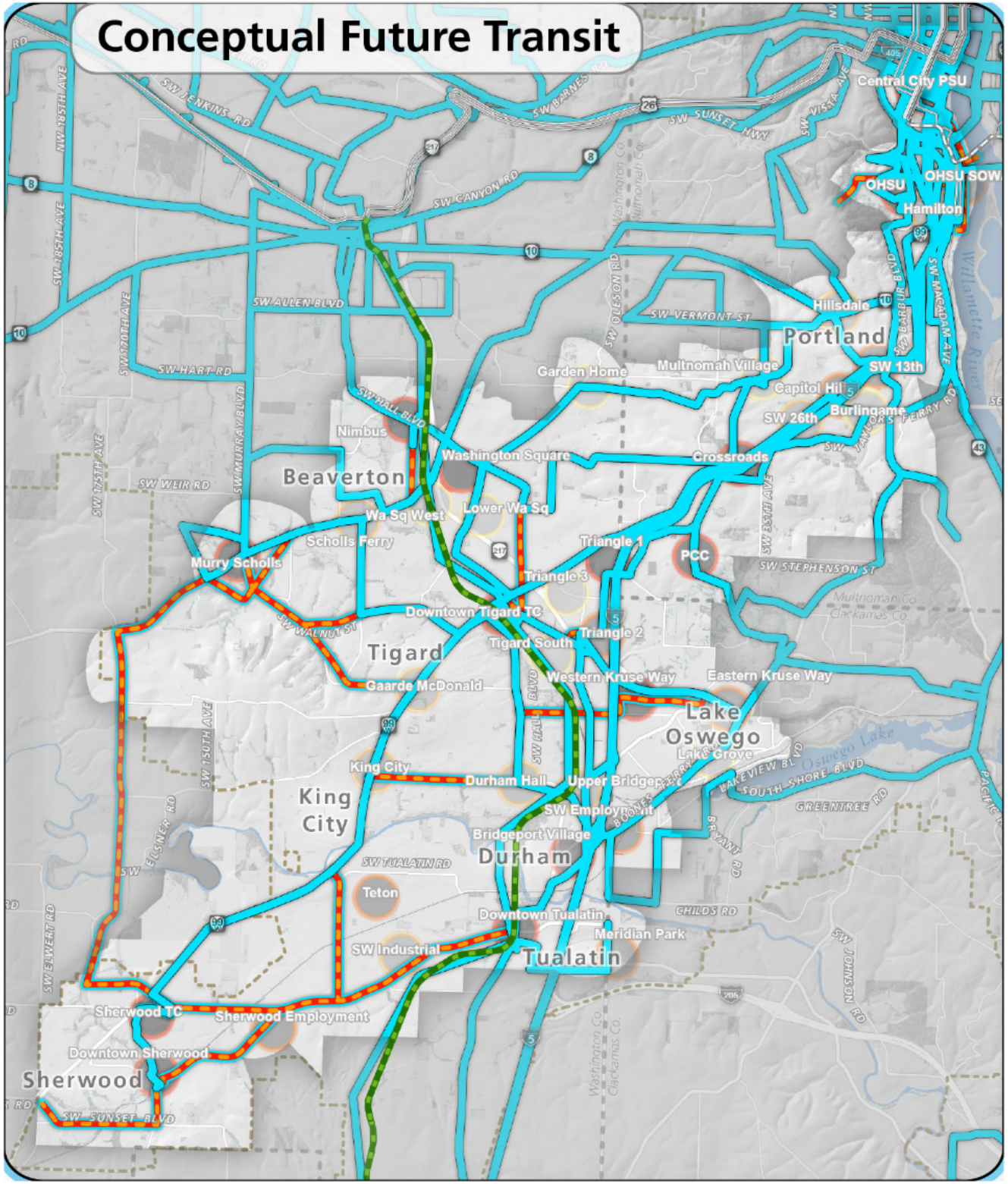
Conceptual Future Transit
Central City PSU
OHSU
OHSU SOW
Hamilton
Hillsdale
Portland
Multnomah Village
SW 13th
Capitol Hil
Burlingame
SW 26th
Garden Home
Crossroads
Nimbus
Washington Square
Beaverton
Wa Sq West
Lower Wa Sq
Scholls Ferry
Murry Scholls
Triangle 1
PCC
Triangle 3
Downtown Tigard TC
Triangle 2
Tigard South
Tigard
Gaarde McDonald
Western Kruse Way
Eastern Kruse Way
Lake Oswego
Lake Grove
King City
Durham Hall
Upper Bridgep
SW Employm
King City
Bridgeport Village
Durham
Teton
Downtown Tualatin
Meridian Park
SW Industrial
Tualatin
Sherwood TC
Sherwood Employment
Downtown Sherwood
Sherwood
SW ALLEN BLVD
SW HART RD
SW WEIR RD
SW CANYON RD
SW SUNSET HWY
SW VERMONT ST
SW HALL BLVD
SW WALNUT ST
SW TUALATIN RD
SW SUNSET BLVD
SW 185TH AVE
SW 170TH AVE
SW 175TH AVE
SW 150TH AVE
SW MURRAY BLVD
SW ELSNER RD
SW ENVERT RD
SW QUEEN RD
SW 65TH AVE
SW STEPHENSON ST
SW MACADAM AVE
SW BARBUR BLVD
SW JOHNSON RD
CHILDS RD
GREENTREE RD
SOUTH SHORE BLVD
LAKEVIEW BLVD
Willamette River
Oswego Lake

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Connecting great places: High capacity transit decision points

Potential decision horizons
- July
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- DEIS

Mode

Destination

Bus rapid transit

Alignment options
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Portland → Tigard → Tualatin → Sherwood

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Spokes transfer to high capacity transit

Spokes travel on bus rapid transit capital improvements **or** **Station locations**

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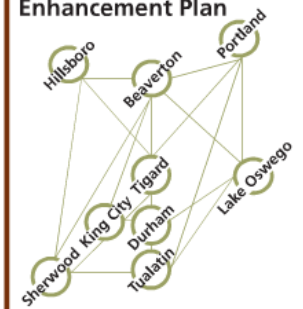

Support access to high capacity transit and connect communities in the corridor.

Destination

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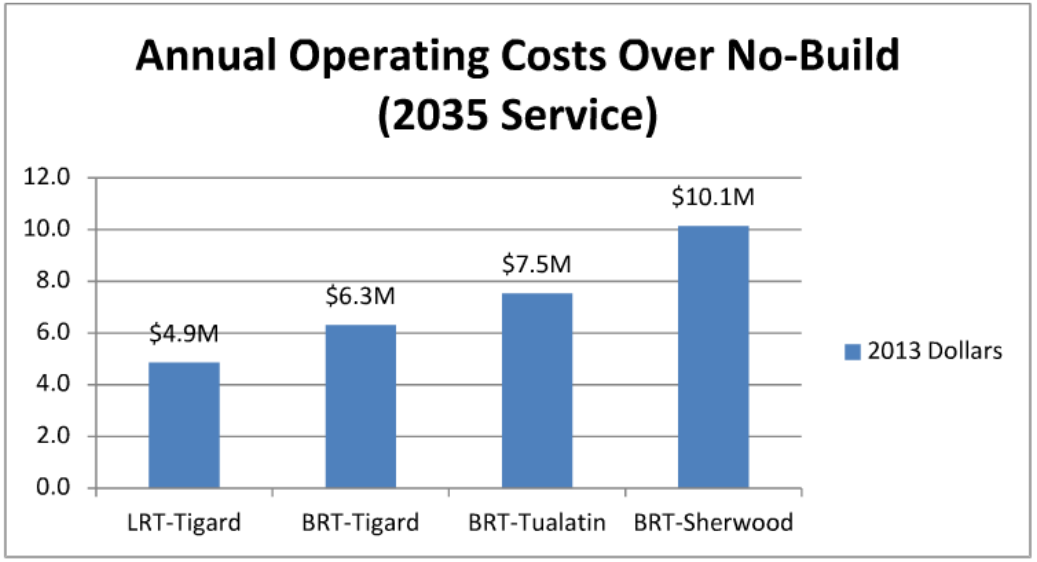
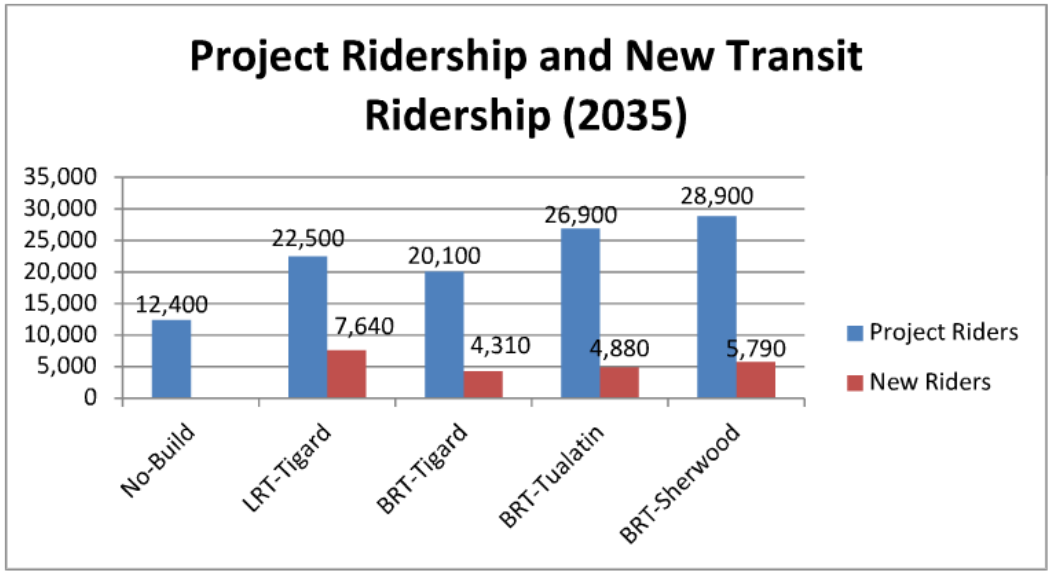
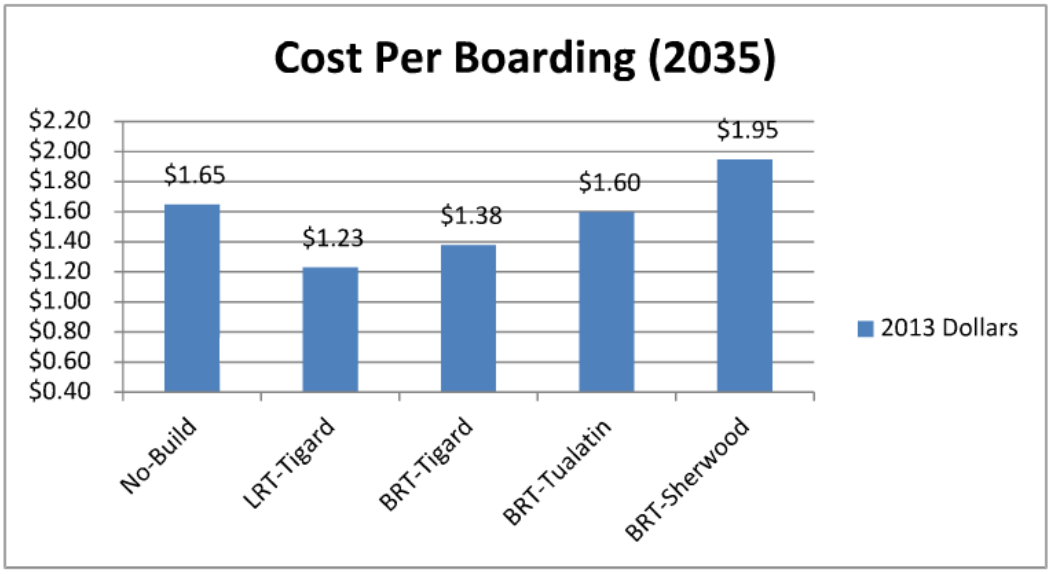
On to Tualatin? Sherwood?

Comparing:

- No-Build lines 12 and 94
- LRT to Tigard (Exclusive ROW)
- BRT to Tigard (Exclusive ROW)
- BRT to Tualatin (BAT lanes)
- BRT to Sherwood (mixed traffic)







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Lane configuration / operations

Policy direction
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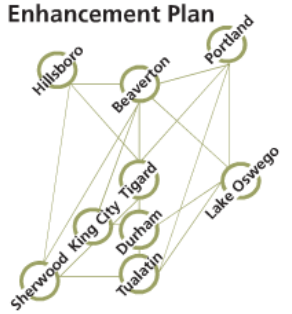

Support access to high capacity transit and connect communities in the corridor.

Policy direction

More effective BRT (higher cost)

or

Less effective BRT (lower cost)

Policy direction

More effective BRT (higher cost)

or

Less effective BRT (lower cost)

Add lane

or

Convert lane

Exclusive transitway

or

Business access and transit lane

Tradeoffs: Add Lane vs Convert Lane

Add lane (BRT to Tigard)

- Comparable ridership*
- Comparable travel time*
- Comparable operating efficiency*
- Lower roadway impacts
- Higher property impacts
- Higher capital costs

Convert lane (LRT to Tigard)

- Comparable ridership*
- Comparable travel time*
- Comparable operating efficiency*
- Higher roadway impacts
- Lower property impacts
- Lower capital costs

* Assumes identical use for lane (i.e.. exclusive transit or shared lane)

Policy direction

More effective BRT (higher cost)

or

Less effective BRT (lower cost)

Add lane

or

Convert lane

Exclusive transitway

or

Business access and transit lane

Tradeoffs: Exclusive Transit vs BAT Lanes vs Mixed Traffic

Exclusive Transit

- Highest ridership
- Fastest travel times
- Highest operating efficiency
- Least interaction with autos
- Highest capital cost or roadway impacts

BAT Lanes

- Lower ridership
- Slower travel times
- Lower operating efficiency
- More interaction with autos

Mixed Traffic

- Lowest ridership
- Slowest travel times
- Lower operating efficiency
- Most interaction with autos
- Lowest capital cost

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Tigard: Hall or 72nd

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Destination

Spokes transfer to high capacity transit or Spokes travel on bus rapid transit capital improvements

Station locations

From downtown Portland: Naito or Barbur

Light rail

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- Surface or Tunnel
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Lane configuration / operations

Portland → Tigard → Tualatin

Direction
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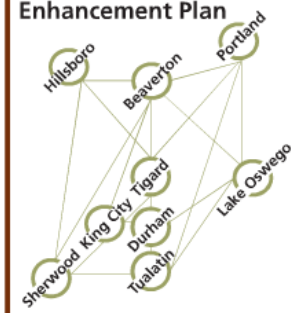
Southwest Service Enhancement Plan



Support access to high capacity transit and connect communities in the corridor.

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Spokes transfer to high capacity transit

or

Spokes travel on bus rapid transit capital improvements

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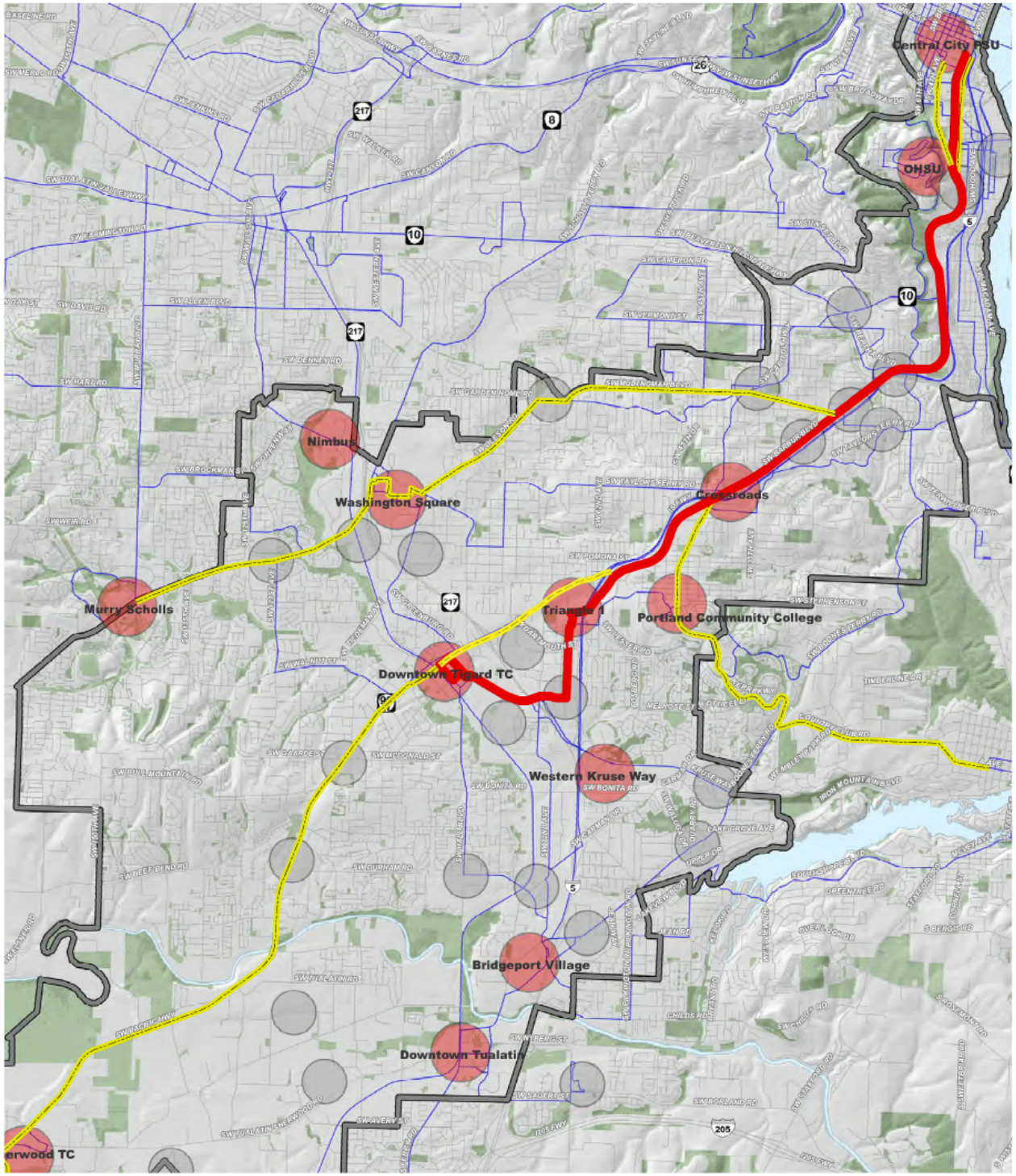
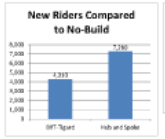


Comparing:

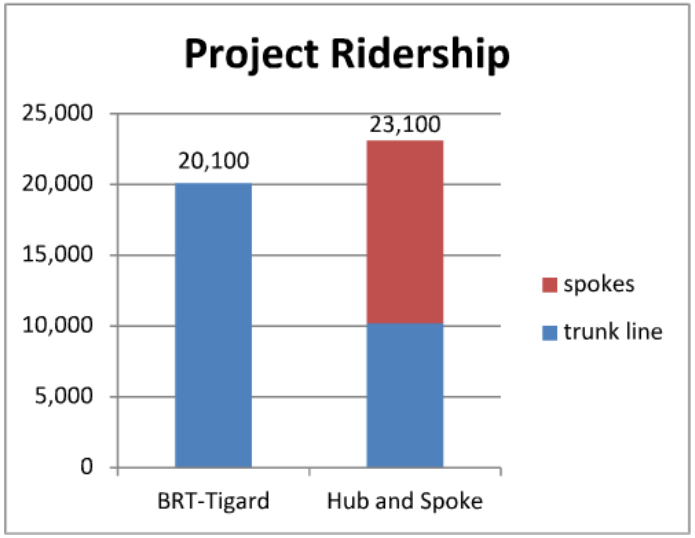
- BRT to Tigard
- BRT - Hub and Spoke

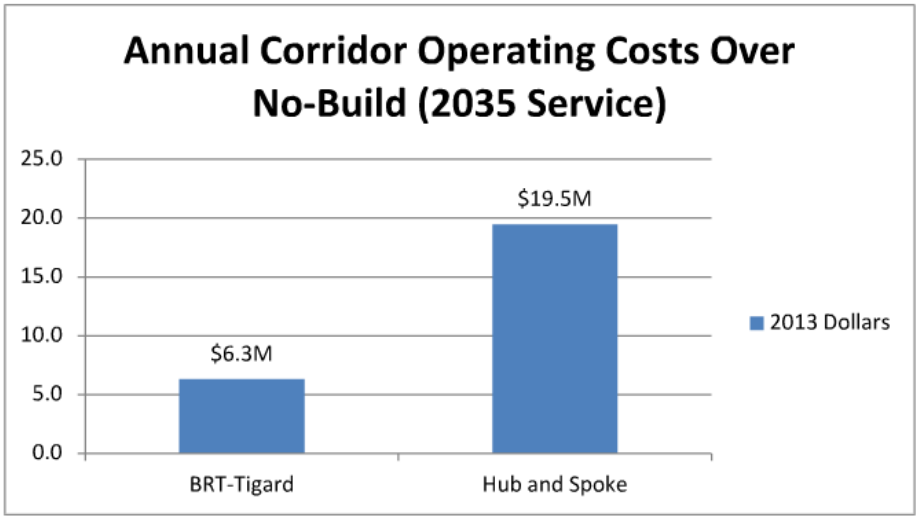


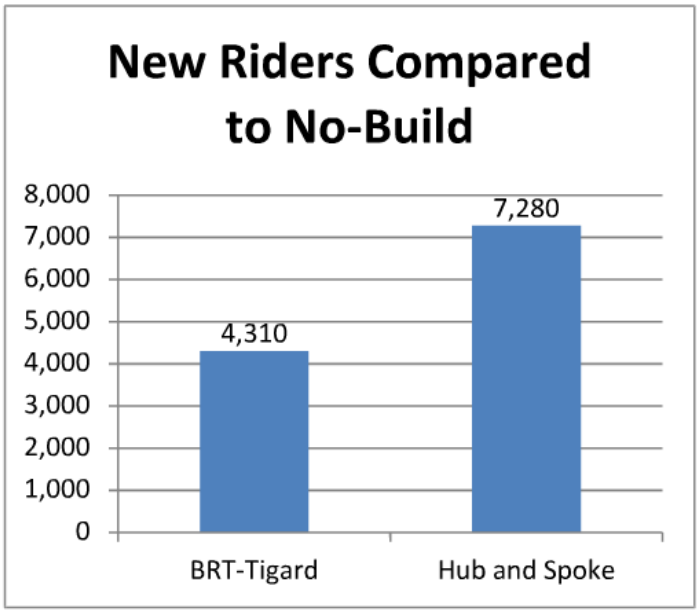
insert ridership, operating costs, cost per boarding charts
also physical constraints

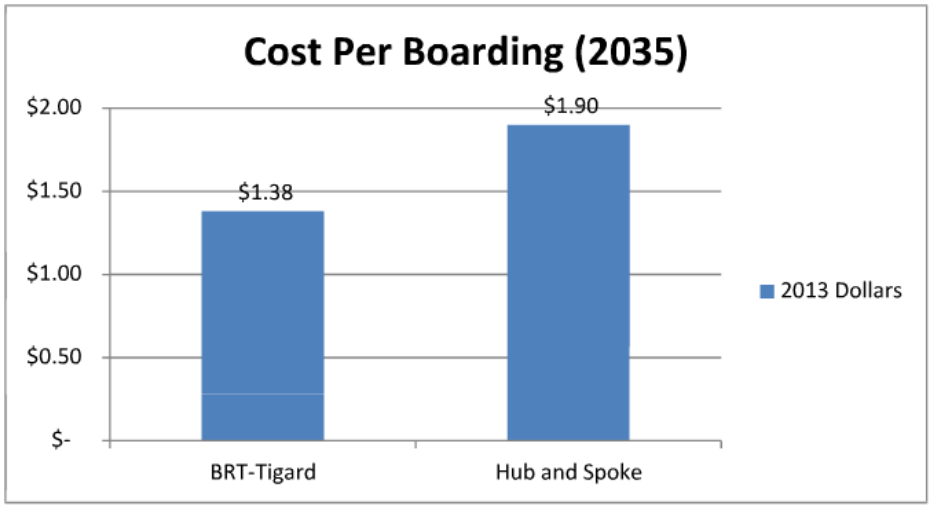
Comparing:

- BRT to Tigard
- BRT - Hub and Spoke

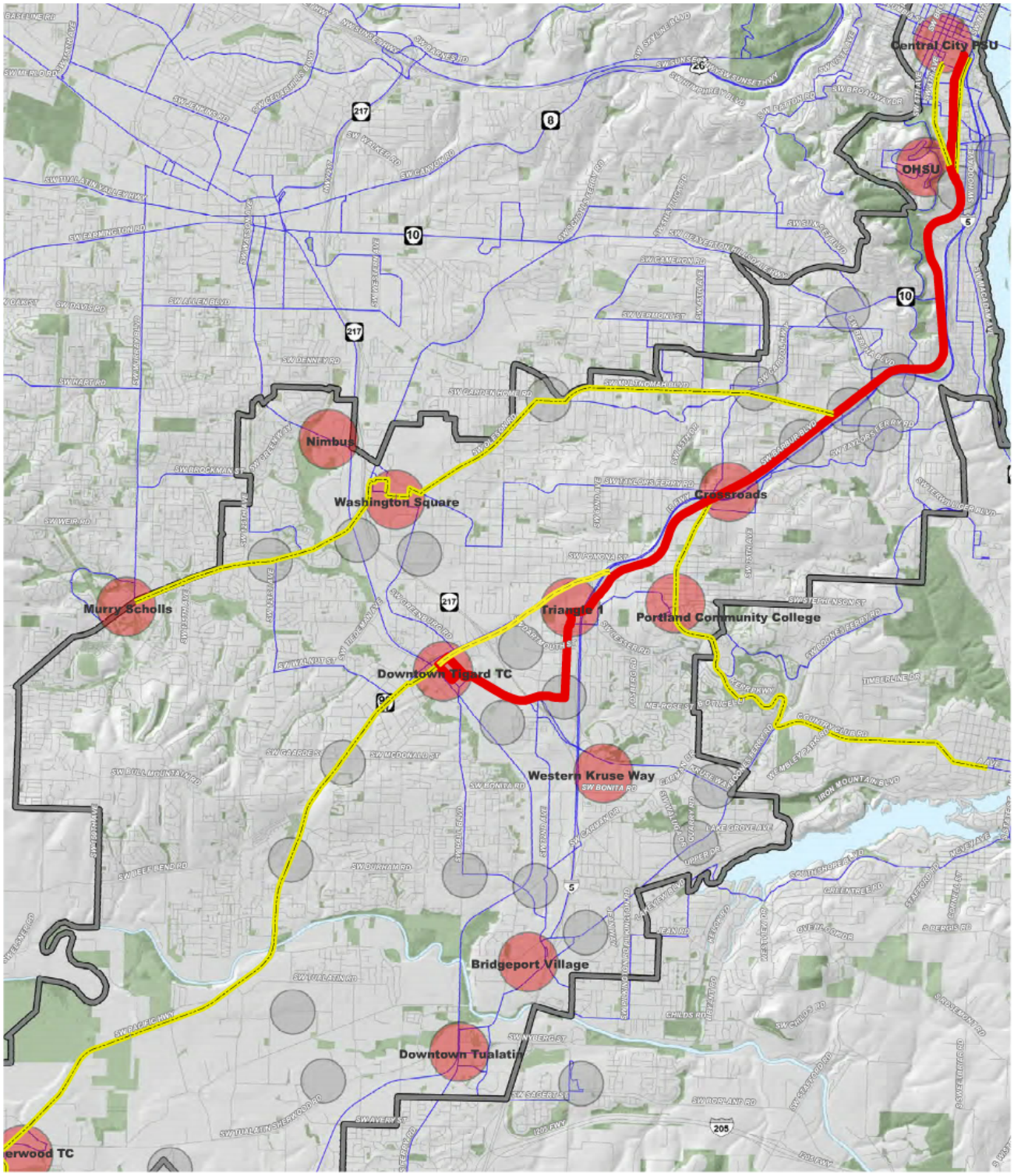






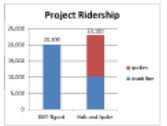


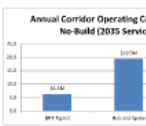
design constraint - center-running BRT lanes are precluded with use of local buses as spokes

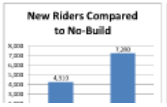


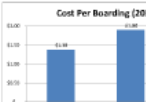
Comparing:

- BRT to Tigard
- BRT + Hub and Spoke









GREAT PLACES SW Corridor

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Connecting great places: High capacity transit decision points

Potential decision horizons
- July
- Refinement
- DEIS

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Alignment options
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Light rail

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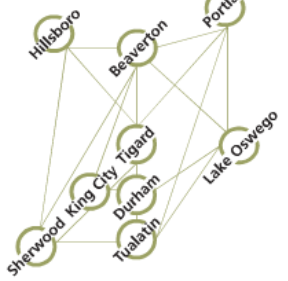
Southwest Service Enhancement Plan



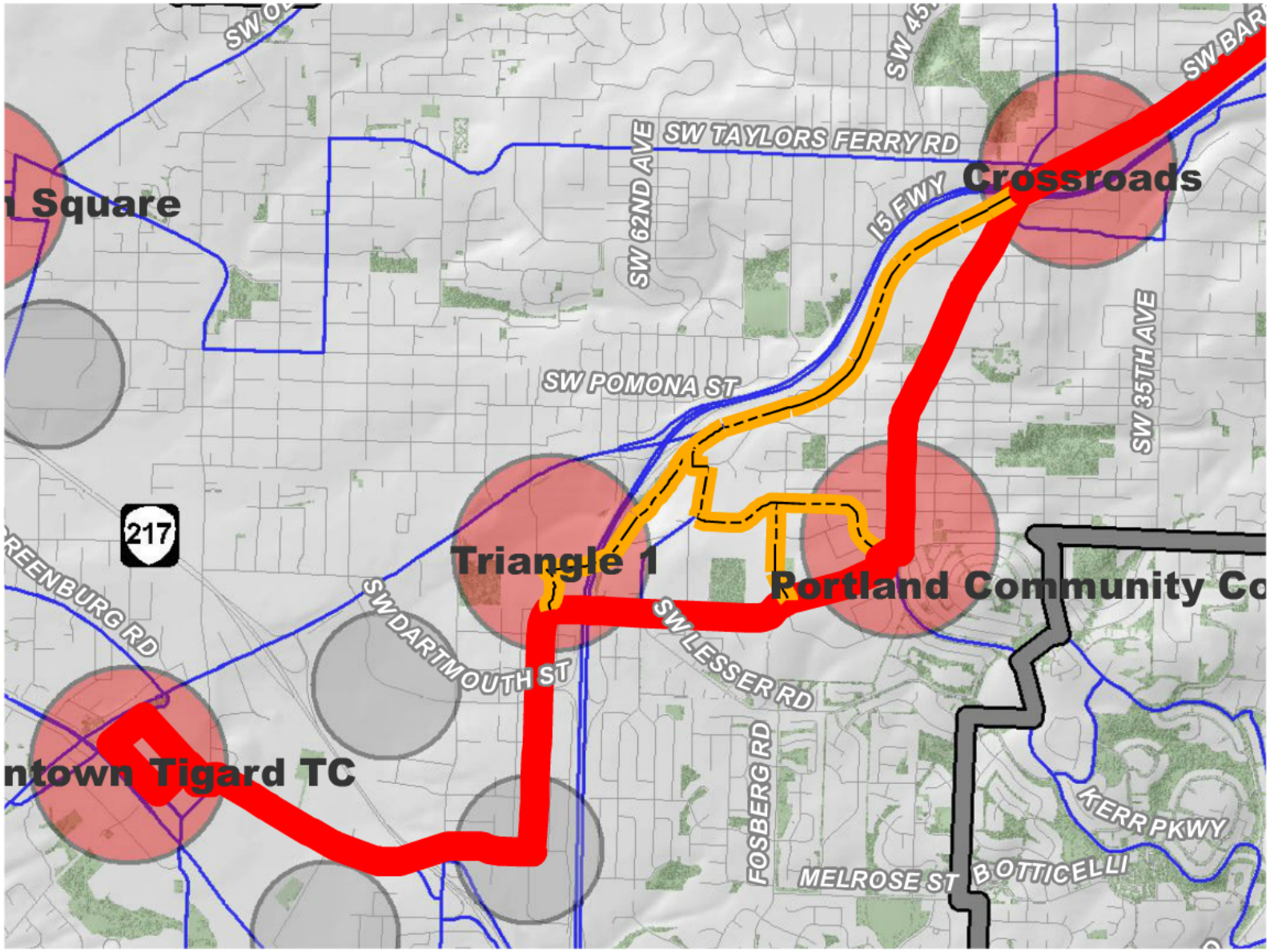
Support access to high capacity transit and connect communities in the corridor.

Connecting PCC

Direct via Capitol

or

Indirect via Barbur



Direct to PCC via Capitol Hwy & SW 49th or indirect connection via Barbur (1/2 mile walk on 53rd) with potential p&r lot?

Serving PCC directly via Capitol Hwy and SW 49th Ave would gain:

- 1,770 daily riders at Capitol/Pomona
- 4,590 daily riders at PCC Campus
- for a total of 6,370 riders
- but many (>2,000) would have switched from other buses

Serving PCC indirectly via Barbur Blvd (1/2 mile to PCC) would gain:

- 4,010 daily riders at Barbur/SW 53rd
- this assumes a new P&R lot

le walk

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Connecting PCC

Transit-way

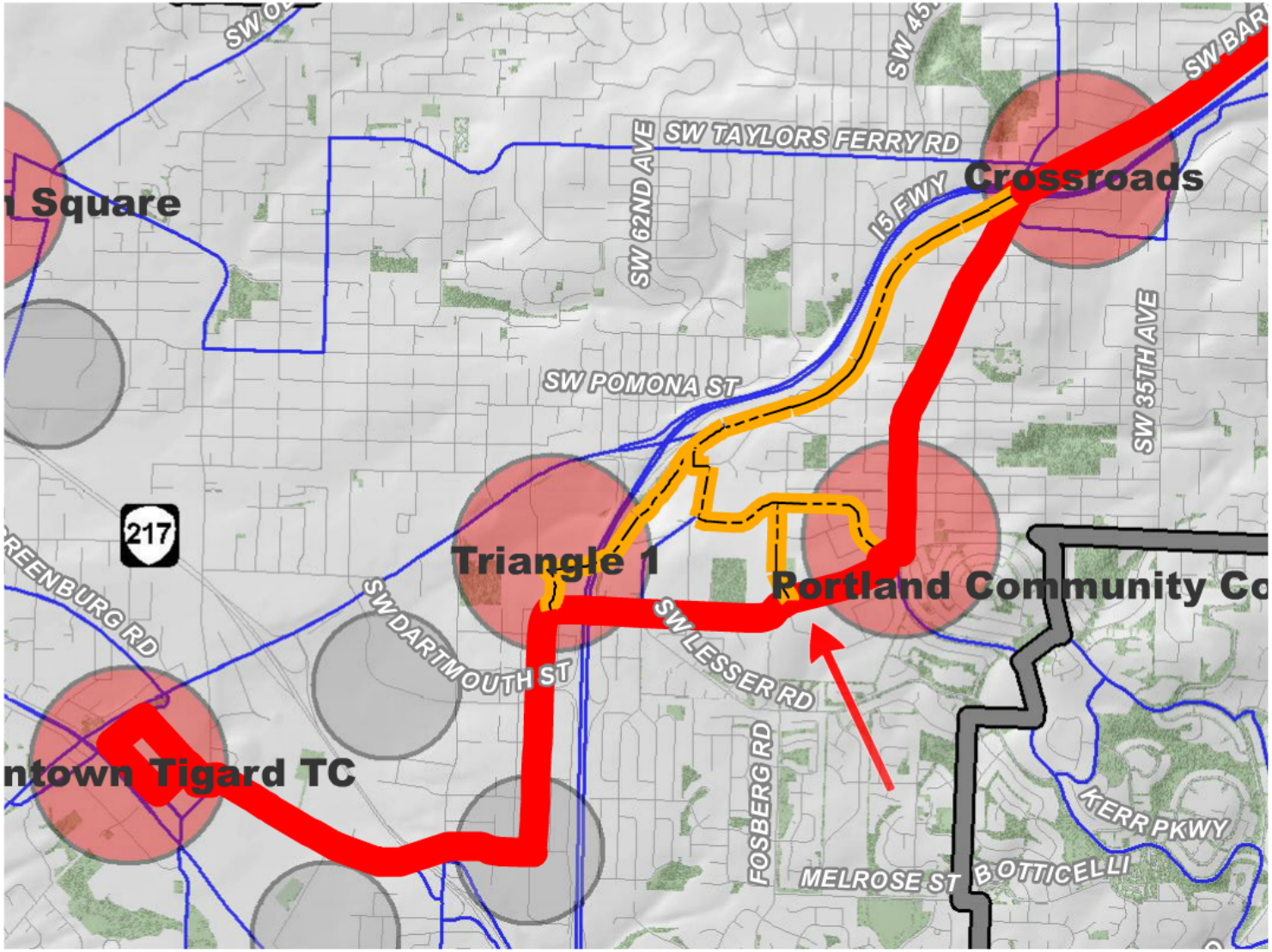
or

Existing bus route

Direct via Capitol

or

Indirect via Barbur



Exclusive BRT transitway on Haines or use existing streets?

Travel time, reliability, impacts considerations

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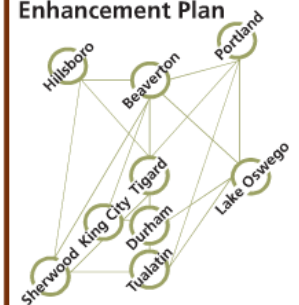
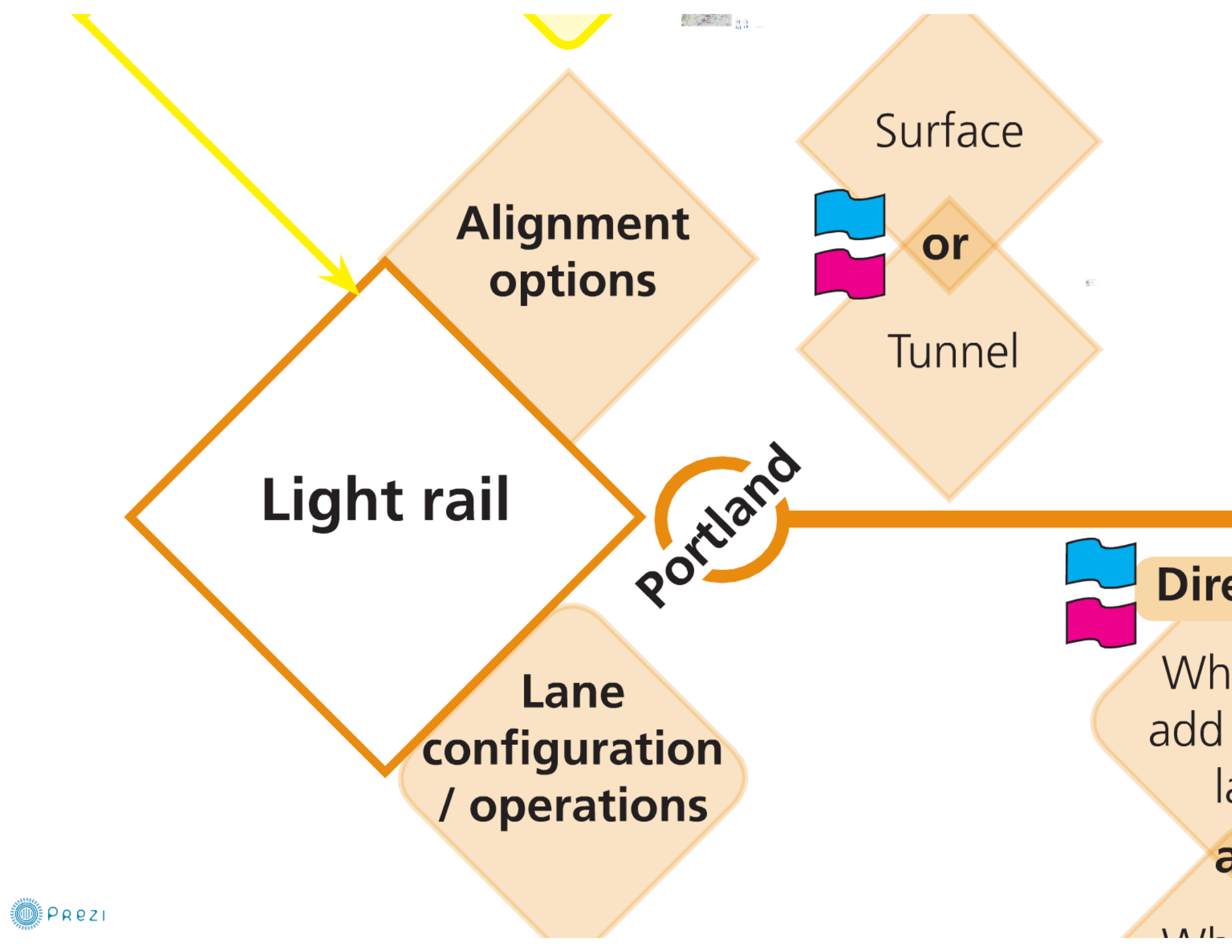
Southwest Service Enhancement Plan



Support access to high capacity transit and connect communities in the corridor.


Alignment options
Surface
or
Tunnel
Light rail
Portland
Lane configuration / operations

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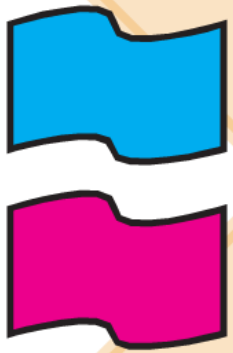
Surface



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Tunnel

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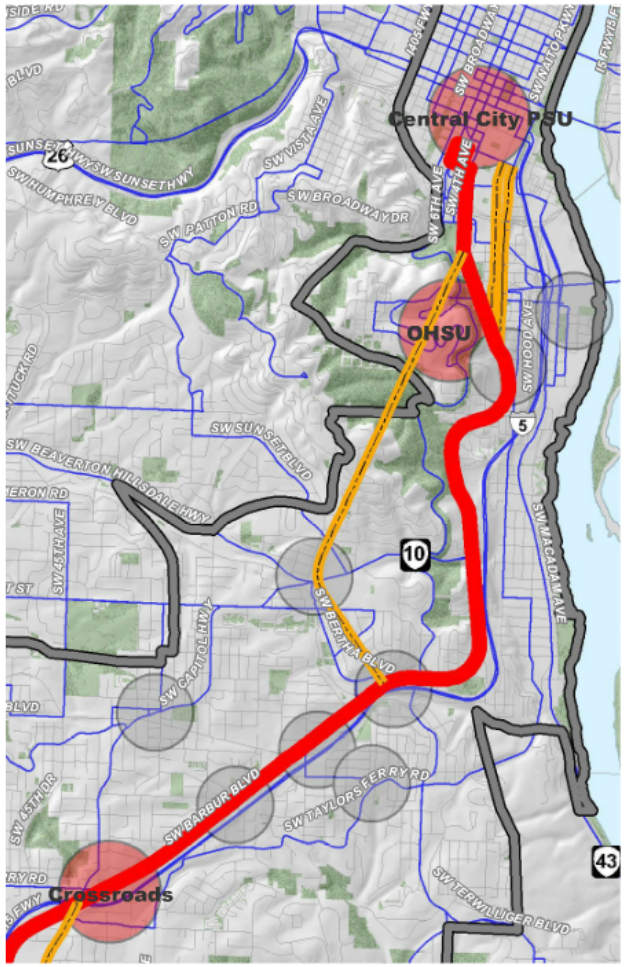
OHSU Hilltop vs South Waterfront



A subway-type tunnel under OHSU would gain 8,460 daily trips...

but would lose 6,250 daily trips:

- South Waterfront: 2,250
- Lincoln Station: 3,290
- Barbur/Hamilton: 710

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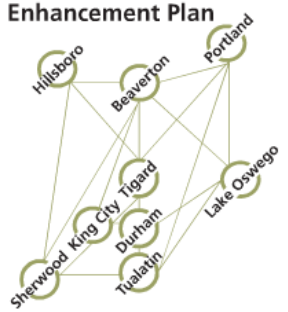

Support access to high capacity transit and connect communities in the corridor.

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Naito

or

Barbur

Barbur or Naito?

- Barbur slightly closer to the hill
- Naito slightly closer to South Waterfront and tram
- Opportunity to "fix" neighborhood barriers

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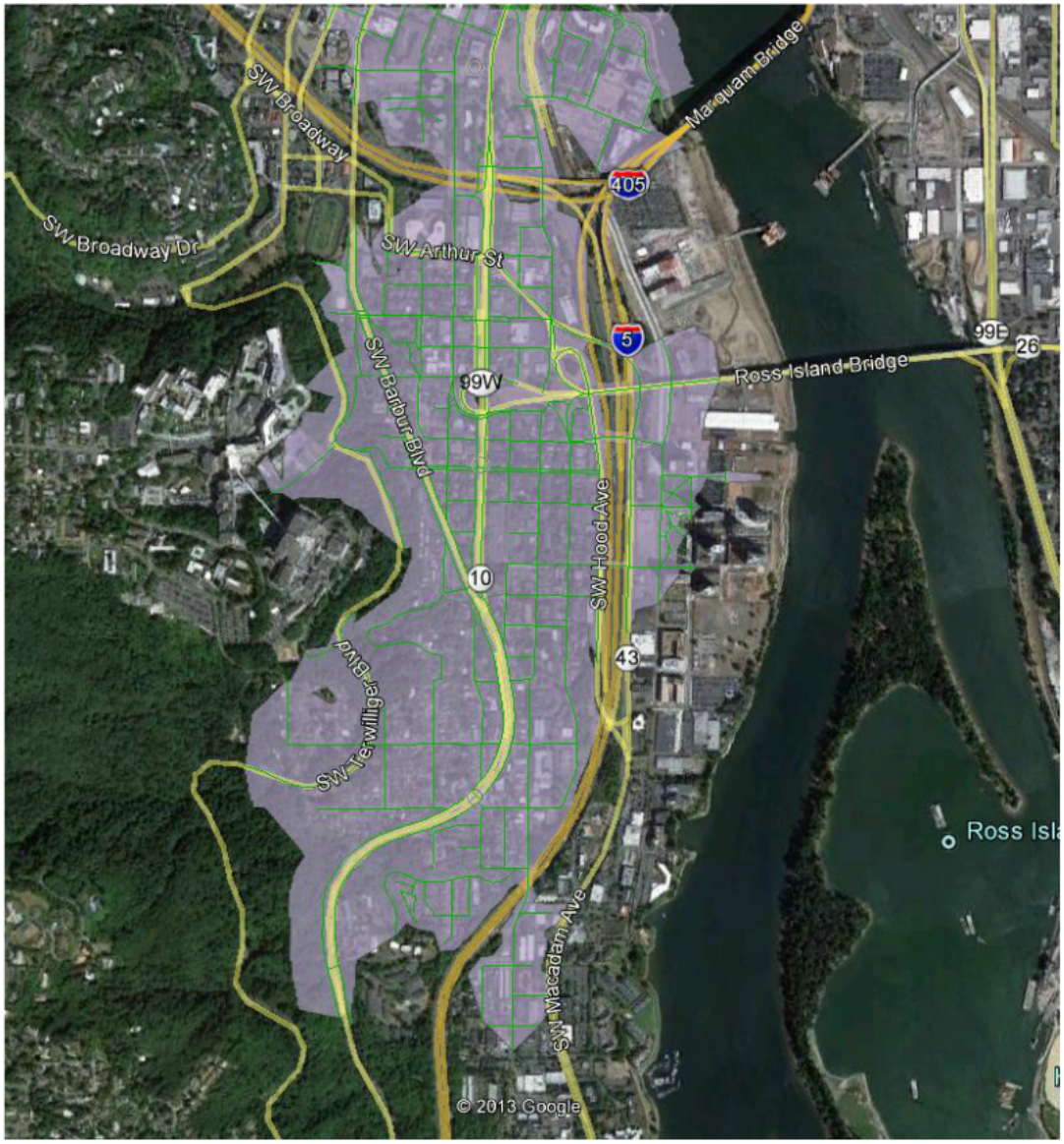

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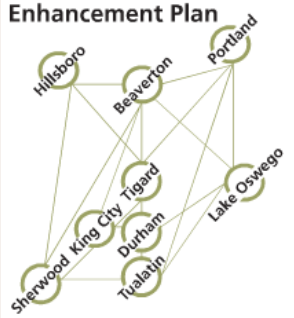
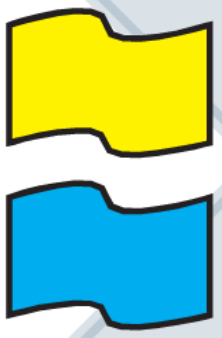


Support access to high capacity transit and connect communities in the corridor.

Hall



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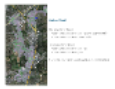
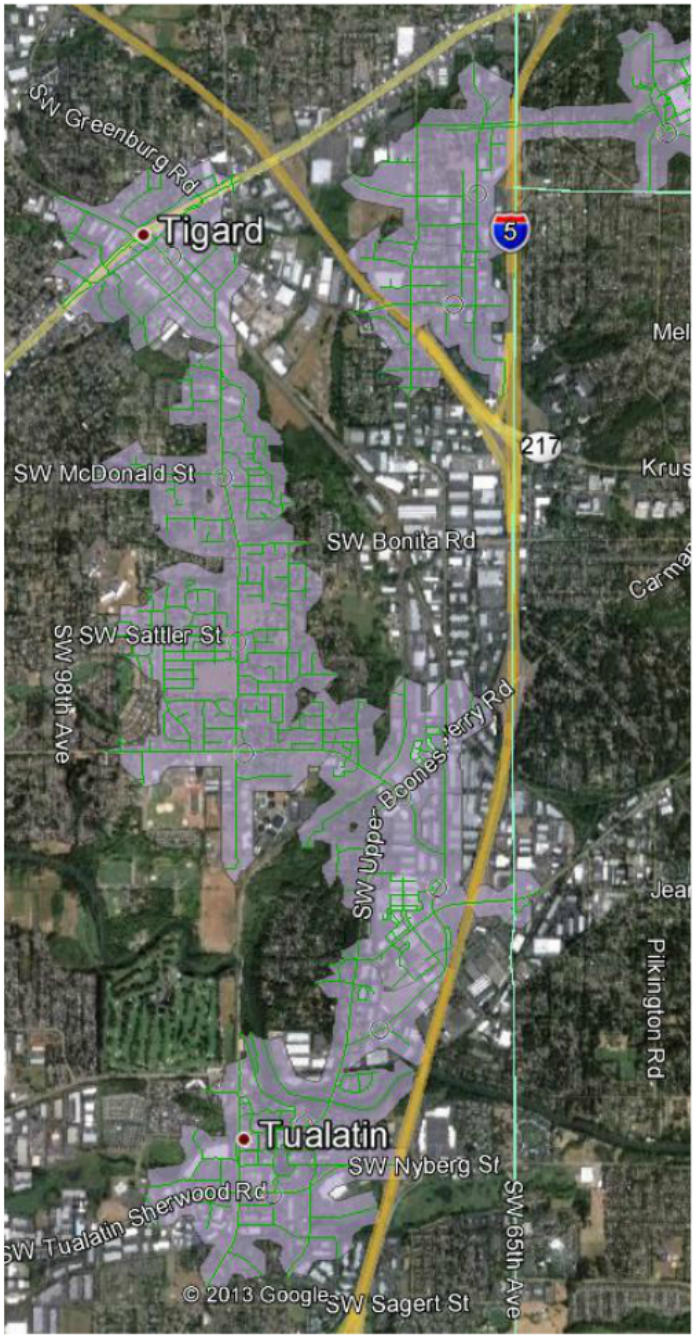


72nd



Hall or 72nd?

Hall alignment would:

- save 5 minutes over local bus (exclusive ROW)
- be accessible to more households

72nd alignment would:

- save 2 minutes over local bus
- be accessible to more jobs

The number of daily boardings would be very similar

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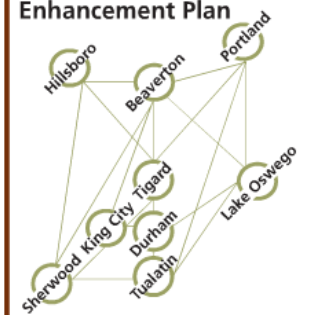

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Hall

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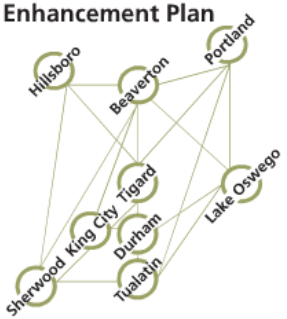

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