



SOUTHWEST CORRIDOR LIGHT RAIL PROJECT

Steering Committee

June 10, 2019



SOUTHWEST CORRIDOR LIGHT RAIL PROJECT

Steering Committee Minimum Operable Segment

SWC Cost Elements

Note: Assume 3.5% escalation

Project Scope Target (YOE) 2.375B

2018 Estimate (YOE) 2.733B

Total Cost/Scope Gap:

To Reach Bridgeport: 2.733B / (-.358M)

- Solve Viaducts Funding: **D**
- Reduce High Value ROW Costs: **E**
- Reduce O&M Facility: **G**
- Reduce Bonita to Bridgeport Costs: **H** or **I**
- Continue to Balance Cost Pressures: **A** thru **C**



	Expected Scorecard
A Downtown Tie-in + \$10-40M	[+\$20M]
B Marquam Hill Connector + \$12-60M	_____
C Consolidate Station(s) - \$3.4-7.5M	_____
D Viaducts - \$100-200M	_____
E High Value ROW *	[-\$30M]
F B2 - Short Span - \$0-7.5M	[-\$10M]
G O&M Facility - \$15-50M	[-\$25M]
H 74th Alignment Options - \$0-75M	[N/A]
I Upper Boones At-Grade - \$55M	[-\$53M]

Total: [-\$98M]



Process

Summer Next Full Project Estimate

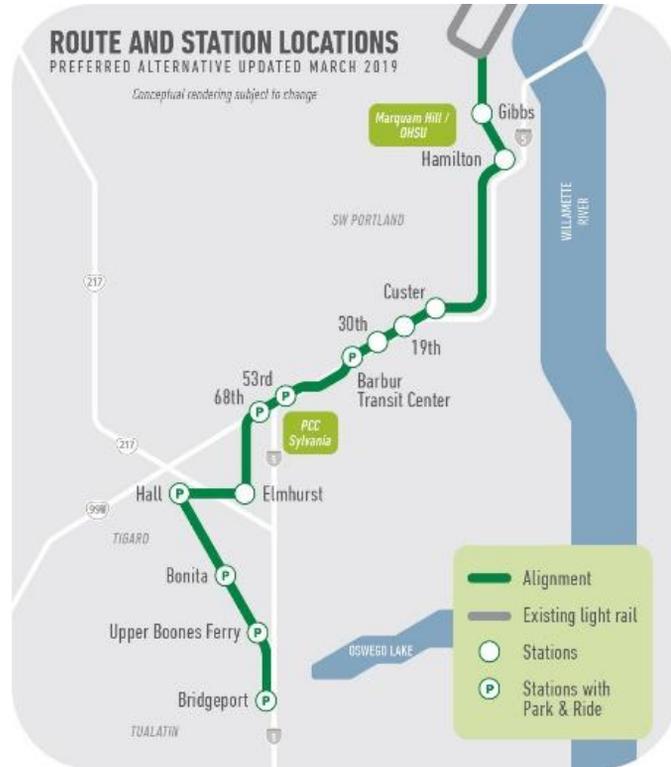
September Project *Definition* for
Funding that aligns
with *budget*

Ongoing Refine estimates as
design progresses

MOS - Definition

Minimum Operable Segment

- Required by FTA
- A segment of the LPA that is most cost effective with greatest benefit
- Able to function as a stand-alone project

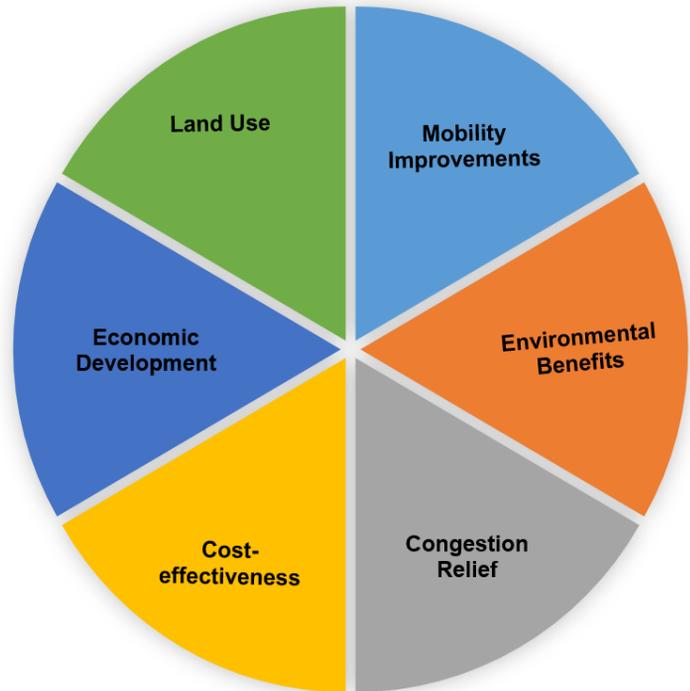


MOS - Guidelines

- Fit within \$2.375B target
- Be competitive for FTA funding
 - New Starts Capital Investment Grant
 - Discretionary funding – cities across the county compete

FTA funding criteria

- Local commitment
- Project justification



MOS - Considerations

Potential Evaluation Considerations

Ridership

Cost Effectiveness

Access to Jobs

Bus Connections

Access to Affordable Homes

Extendability

Economic Development

Park and Ride

Others?

Process

July

Potential MOS options

September

Select MOS within FEIS

Ongoing

Design and environmental study for MOS *and* full-length project

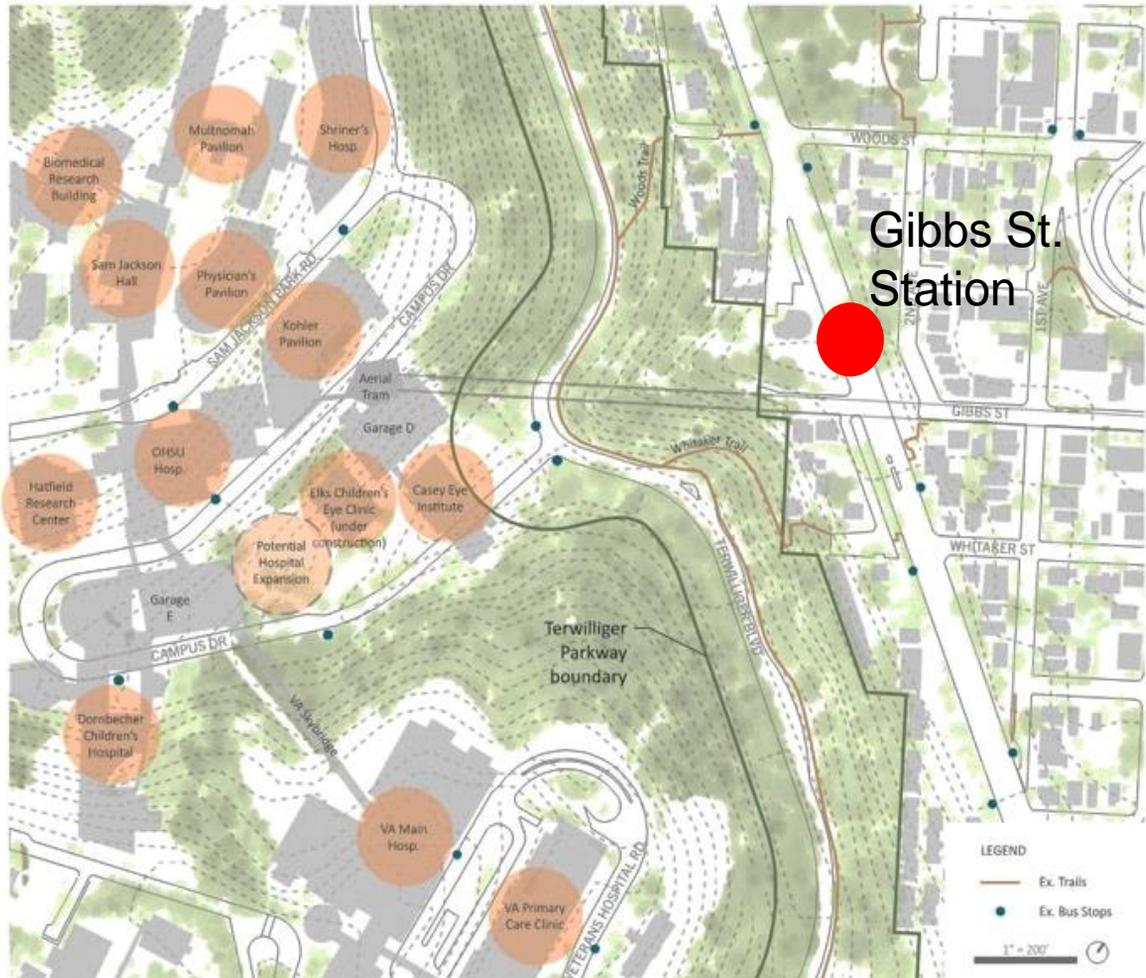


SOUTHWEST CORRIDOR LIGHT RAIL PROJECT

Steering Committee Marquam Hill Connector

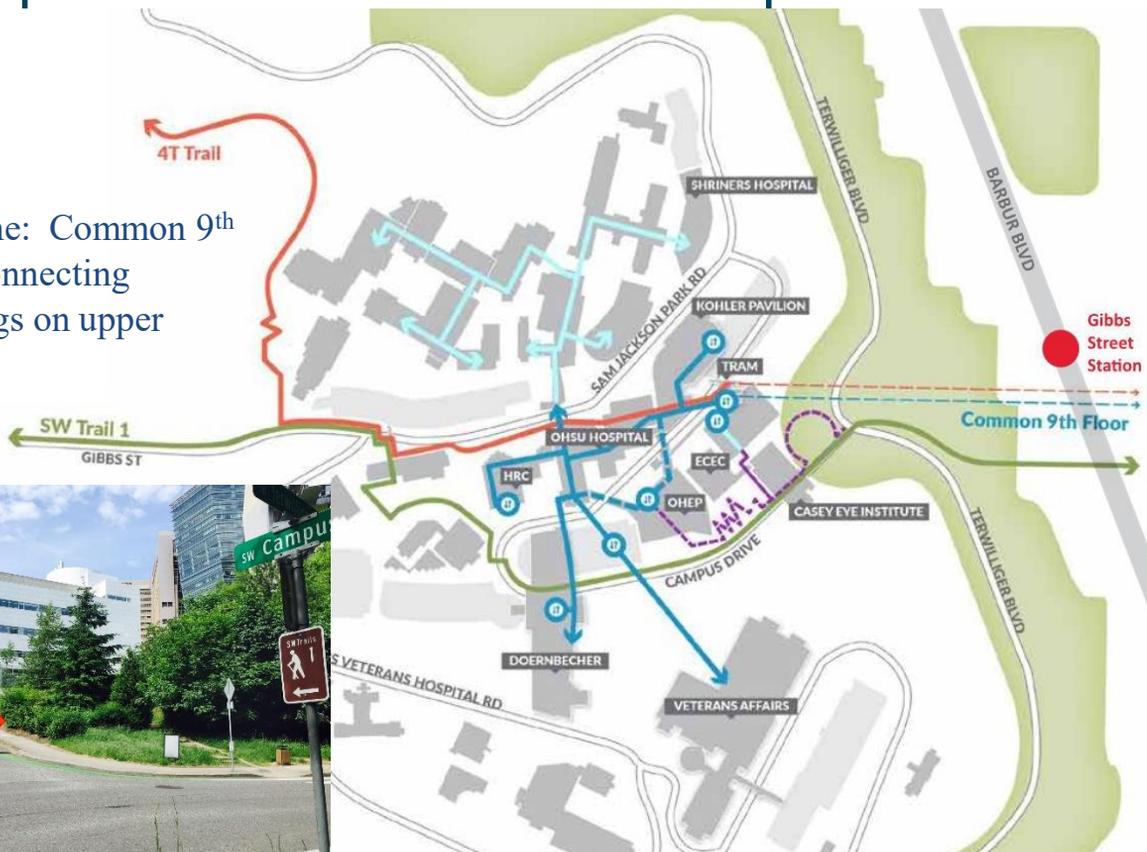
Marquam Hill Connector





Upper Routes on Marquam Hill

Blue line: Common 9th floor connecting buildings on upper campus



Goals & Objectives

- Access: Develop equitable, efficient and convenient connections for all users to a number of destinations on Marquam Hill.
- Safety: Create a safe and secure, 24/7 connection for all users.
- Context: Enhance and improve the historic, scenic and recreational resources; consider the unique character of the area in the design.
- Environmental: Protect and enhance natural resources and habitat.

Goals & Objectives

- Operational: Provide a **long-term, sustainable** connection for **current and future users**.
- Budget/Schedule: Be **cost effective** and **timely** within the SW Corridor Light Rail project.
- Experience: Create a connection that provides a **high-quality user experience** and inspires **civic pride**.

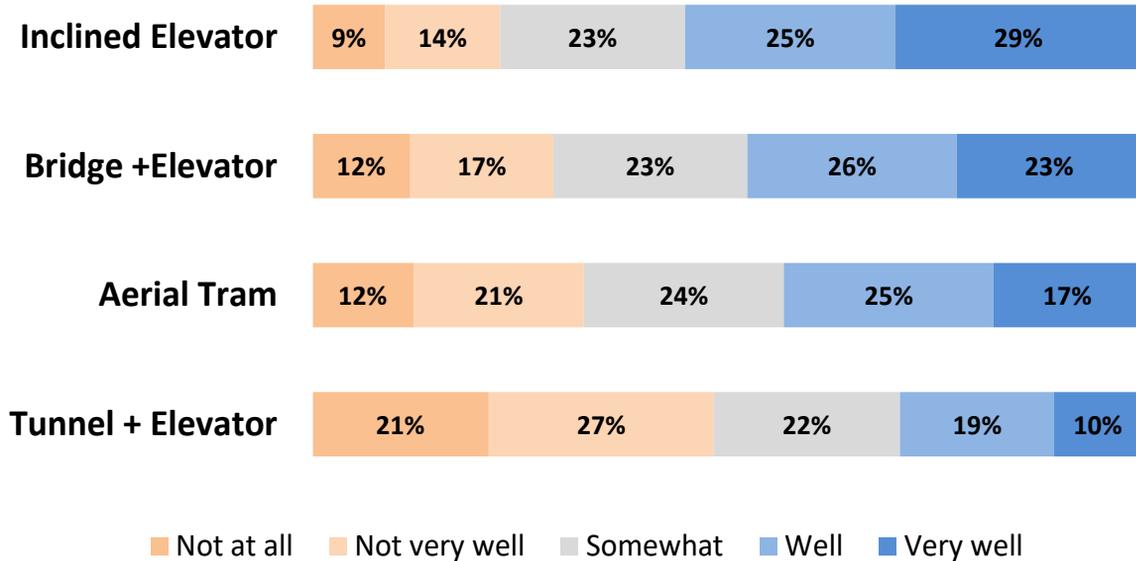
Public Process Review

- Open house April 10
- Online open house April 15 - 29
- Committee on Accessible Transportation April 11
- Portland Design Commission briefing April 18
- Portland City Council work session June 4

- Green Ribbon Committee
 - February 23, March 13, April 10, May 8, June 5
- Community Advisory Committee
 - May 2, June 6
- **Steering Committee Decision** June 10

Open House Feedback

How well does the option meet the project goals?

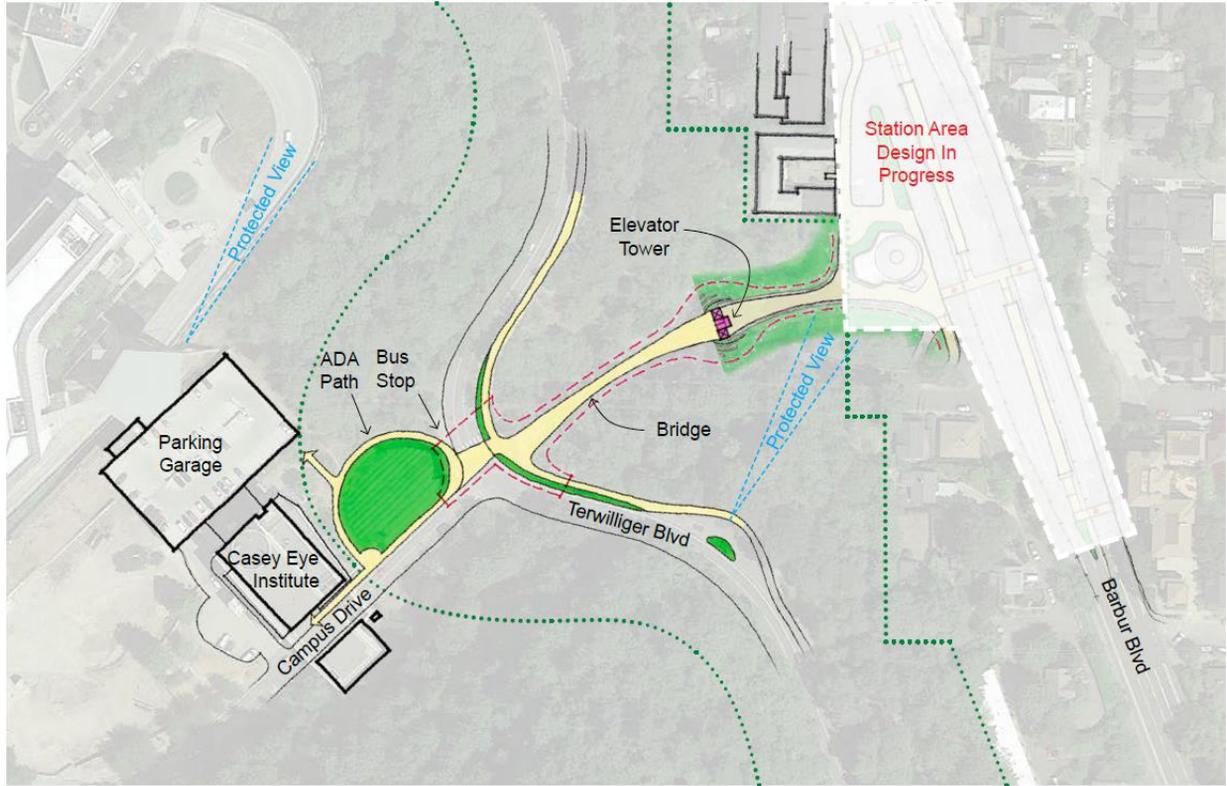


Total Responses: 308

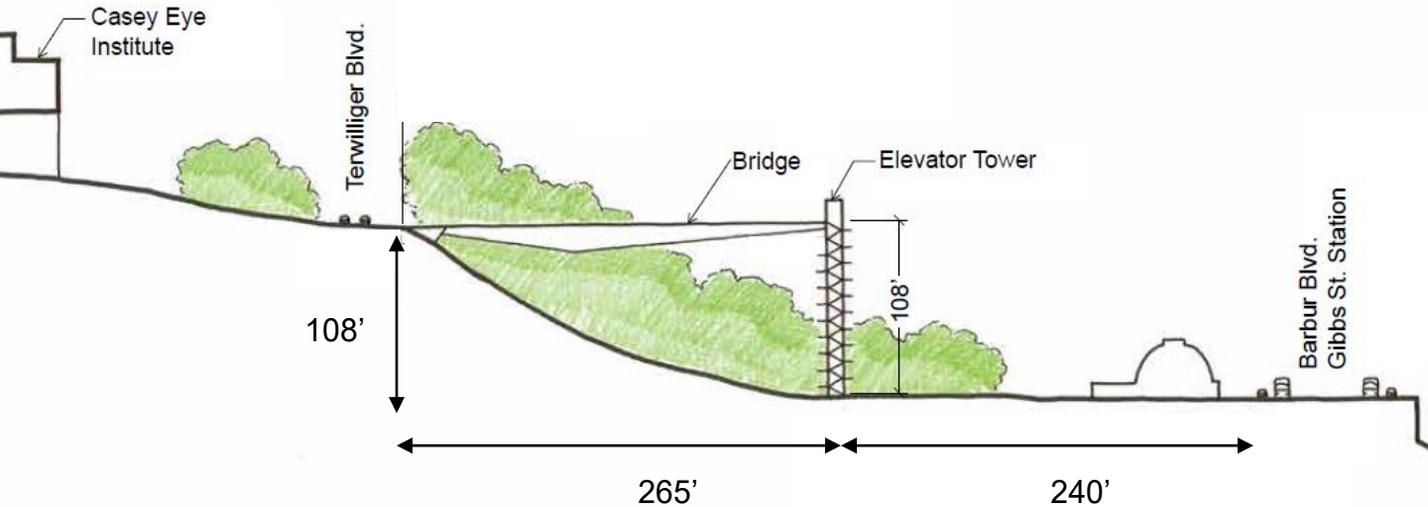
Options

Option	Rough Cost Estimate
Bridge + Elevator	\$15 – 25 million
Inclined Elevator (Funicular)	\$35 – 45 million
Aerial Tram	\$50 – 85 million
Tunnel + Elevator	\$55 – 125 million

Bridge + Elevator

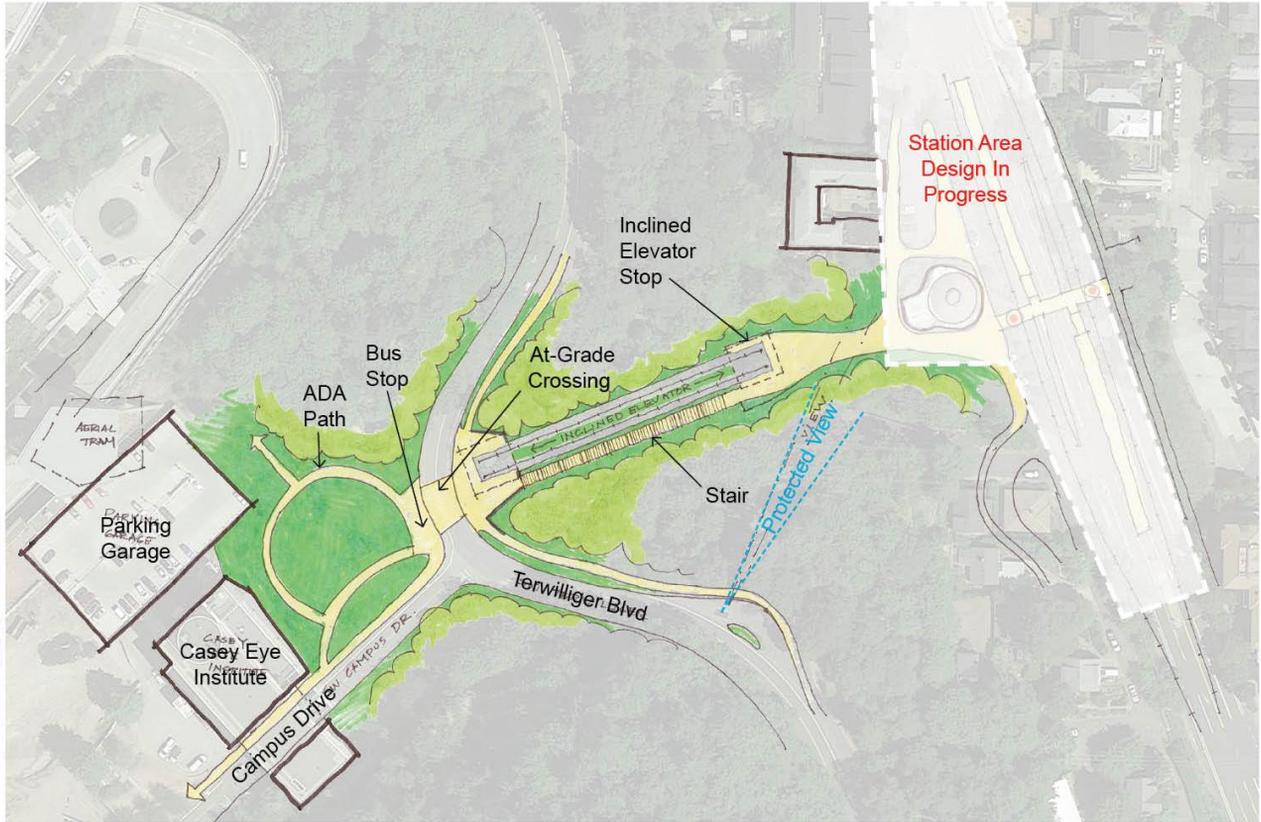


Bridge + Elevator

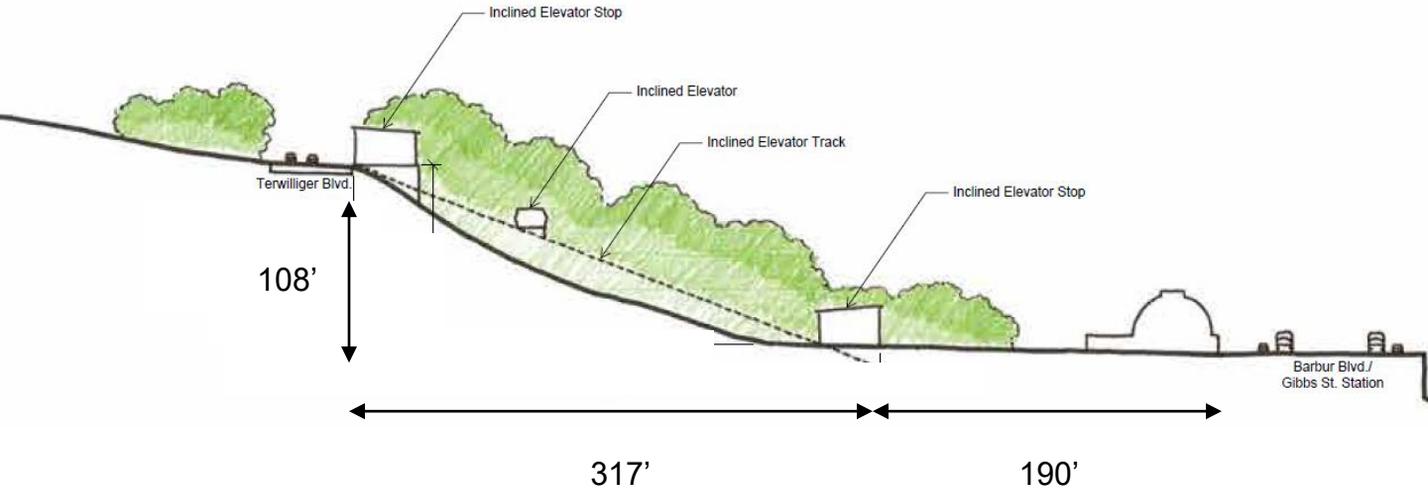


Travel Time to Terwilliger: 3-6 min

Inclined Elevator



Inclined Elevator



Travel Time to Terwilliger: 2-3 min

Estimated Capacity and Travel Time

	Inclined Elevator	Bridge + Elevator
Elevator Cycle Time (round trip, min)	2.3	1.5
Elevator Travel distance (ft)	108 vertical 317 horizontal	108 vertical
People/hour	2080	3200
Travel Time (Barbur to Terwilliger, min)	2 – 3	3 – 6

Assumes two, 40-person cabin elevators

Green Ribbon Committee

- Do not pursue aerial tram and tunnel
- Preference for inclined elevator
 - Current technology seems workable.
 - Poses least visual & environmental impact.
 - Safe, reliable, convenient, and accessible.
 - Serves riders well in all weather conditions.
 - Best option to encourage ridership.

Green Ribbon Committee

Inclined Elevator:

- Investigate landing and alignment alternatives to assess impact and costs.
- Explore public private partnership opportunities to address additional cost.

General

- Explore opportunities for placemaking.
- Integrate elements to enhance historic Parkway.

Community Advisory Committee (CAC)

Continue further study of the Inclined Elevator and
Bridge + Elevator

More detailed information:

- Cost
- Environmental and utility impacts
- Travel and wait times

Marquam Hill Connector





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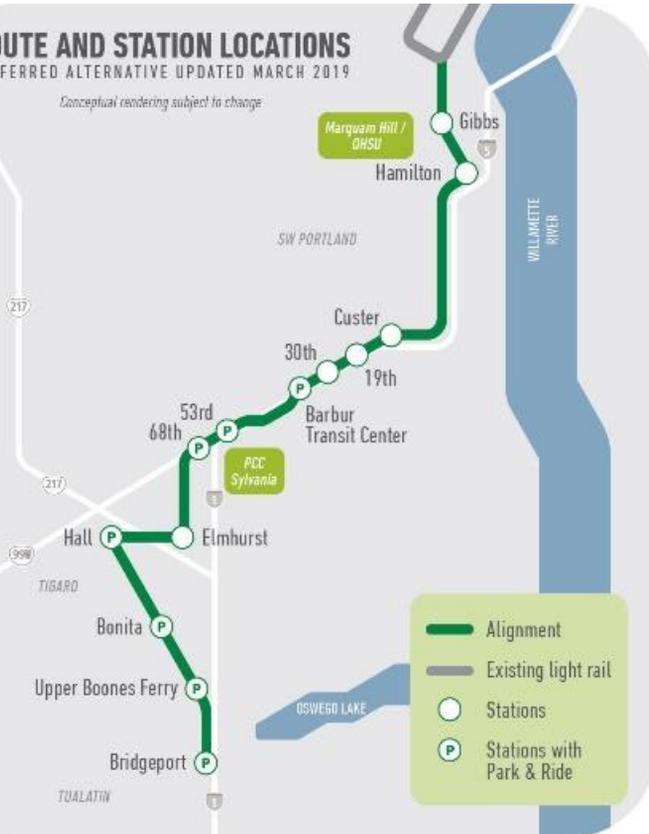
Steering Committee Station Access/ Park & Rides

Overview

ROUTE AND STATION LOCATIONS

PREFERRED ALTERNATIVE UPDATED MARCH 2019

Conceptual rendering subject to change



- **Connected Transportation**
- **Station Access**
- **Revisit Park & Rides**
- **Online Outreach**
 - **Park & Ride Scenarios**
- **Next Steps**

Connected Transportation Choices



- Light Rail
- Bus
- Westside Express Service
- Park & Ride



Image Source: Bruce Forster



Image Source: Bruce Forster



Image Source: Mayer/Reed

Connected Transportation Choices



- Multi-use Trails for Cycling & Walking
- Bike Facilities



Image Source: Bruce Forster



Image Source: Bruce Forster



Image Source: Bruce Forster

Connected Transportation Choices

- Electric bikes, scooters & shuttles are being considered for connections to stations.
- Phone apps will make trip planning & fare payments simple & easy to use.



Image Source: TriMet

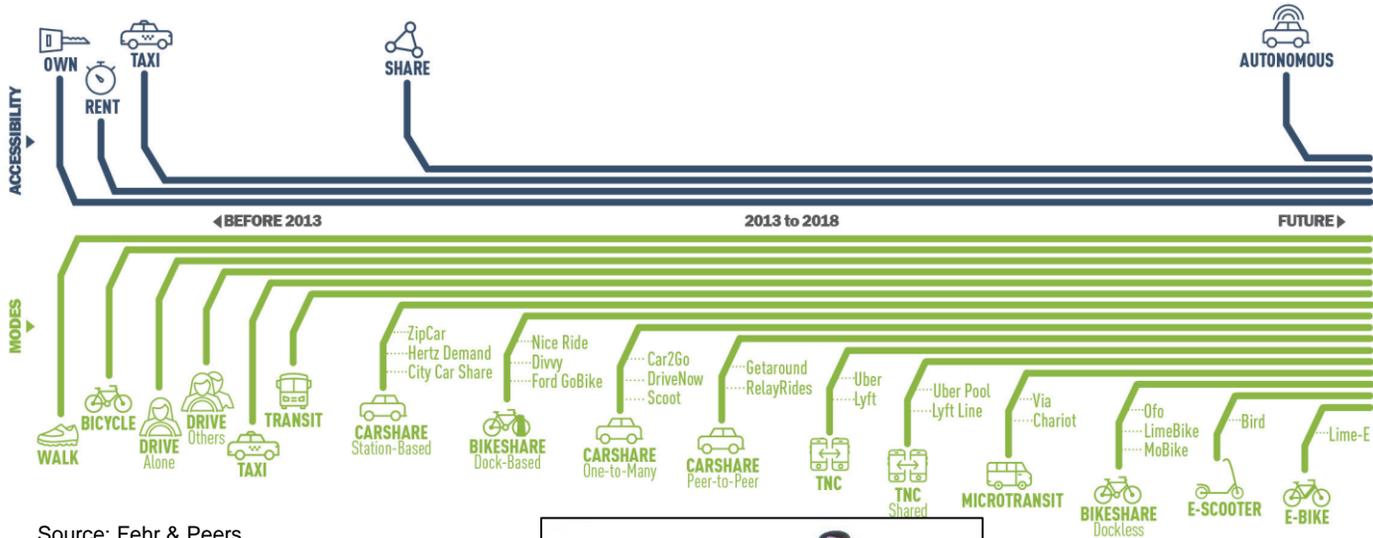


Image Source: TriMet



Image Source: TriMet

Station Access



Source: Fehr & Peers



**Pogo sticks...
What next?**

Station Access

What strategies are other cities taking?



Seattle, WA



Denver, CO



Fort Collins, CO



Los Angeles, CA

Station Access

Conceptual Design Report (CDR)



Patron Experience



Climate Change



Resilience



Environment



Community

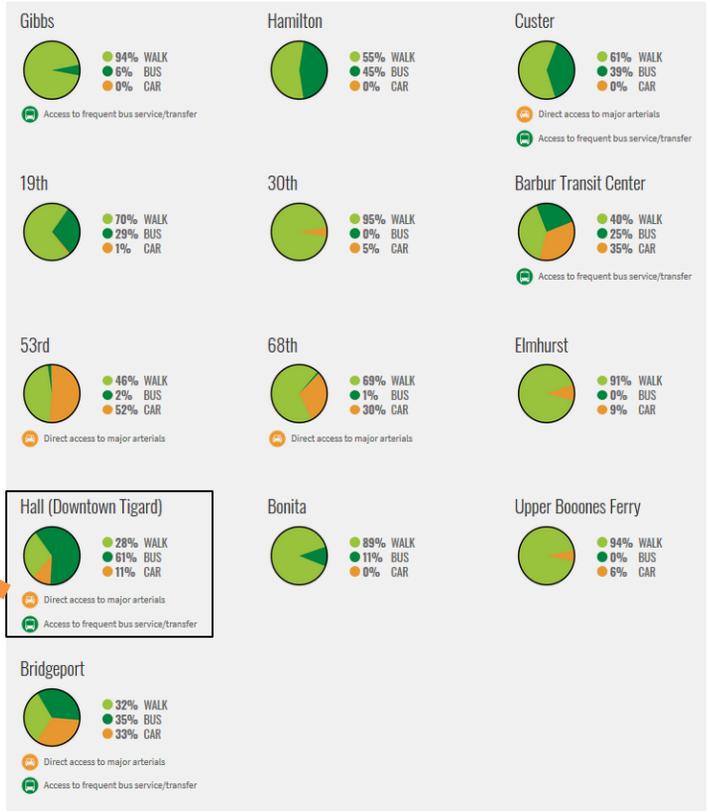
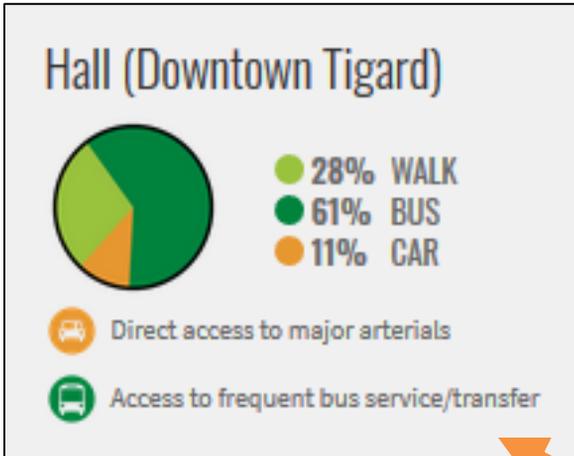


Mobility

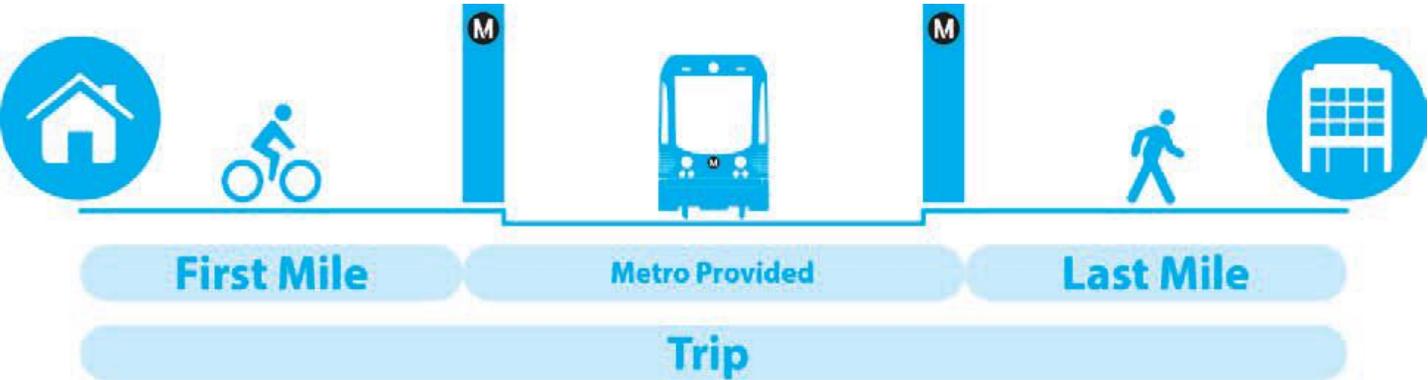


Station Access

Mode of Access



Station Access



Station Access

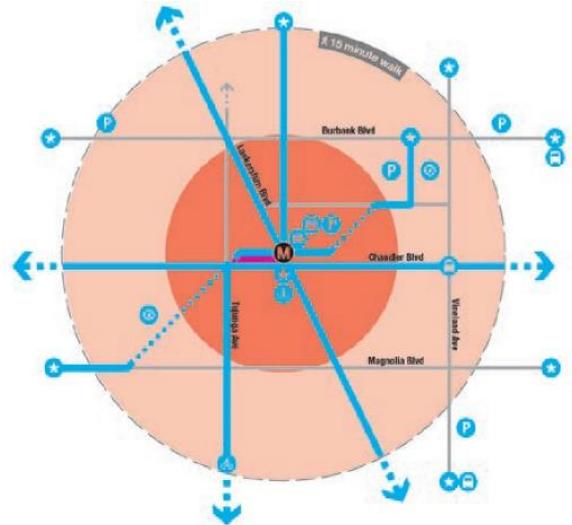
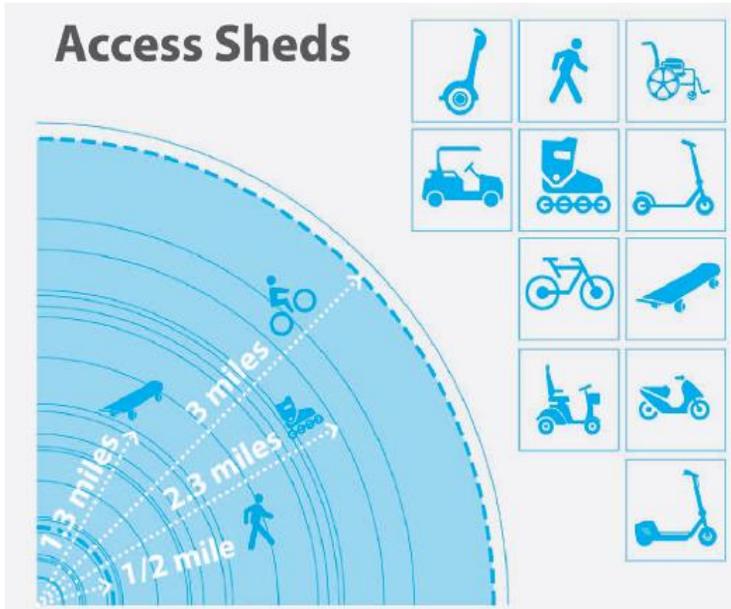
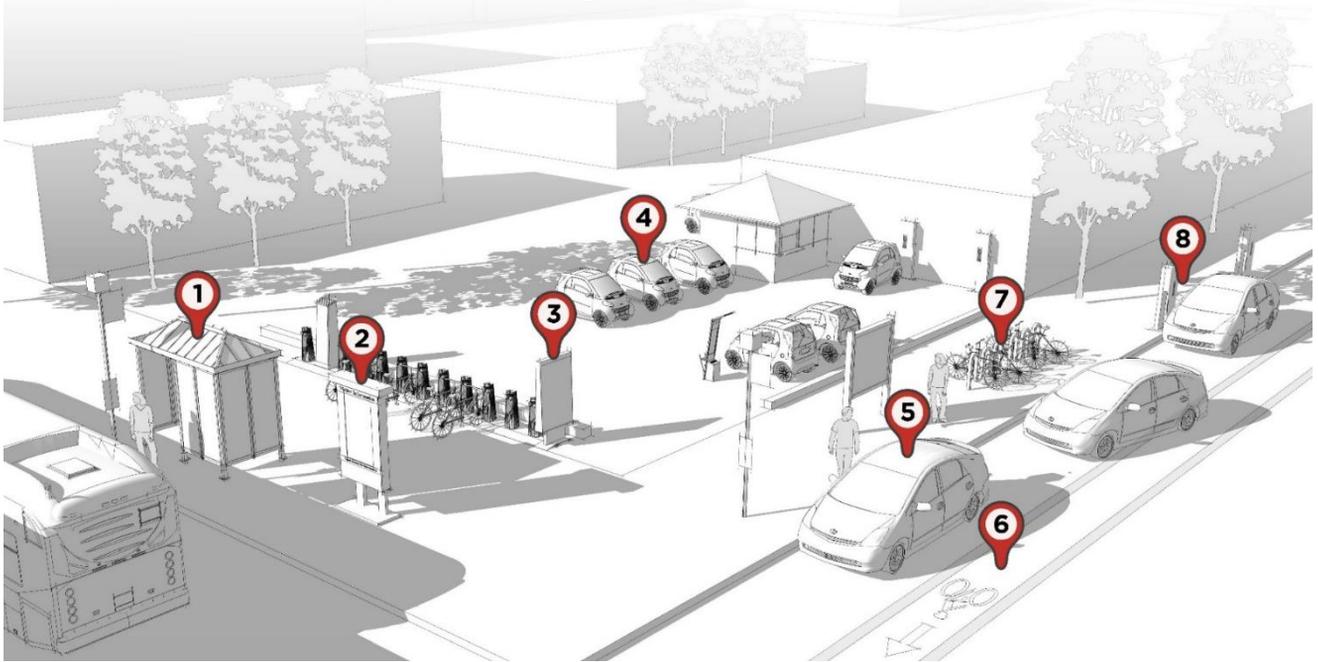


Image Source: LA Metro, First/Last Mile Strategic Plan

Station Access

What is a Shared Mobility Hub?



Park & Rides

- Station access; bring riders from low density areas with limited mode options to high capacity stations
- Typically adjacent to arterials
- Surface lot or structure

Orange Line: SE Tacoma Park & Ride

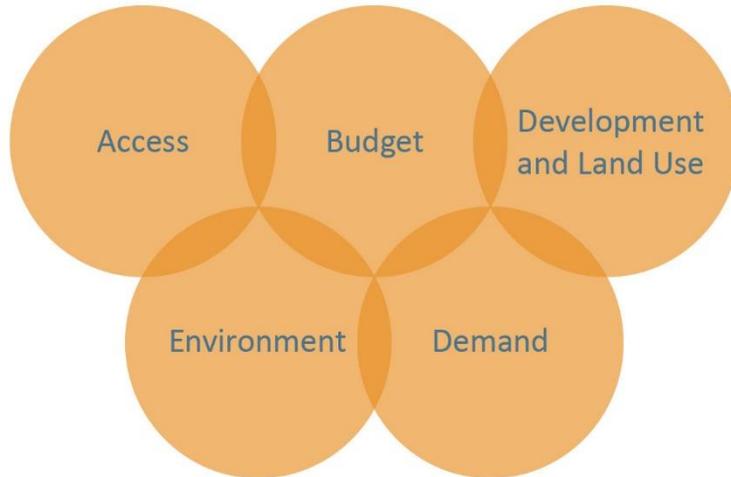


Blue Line: Sunset Park & Ride



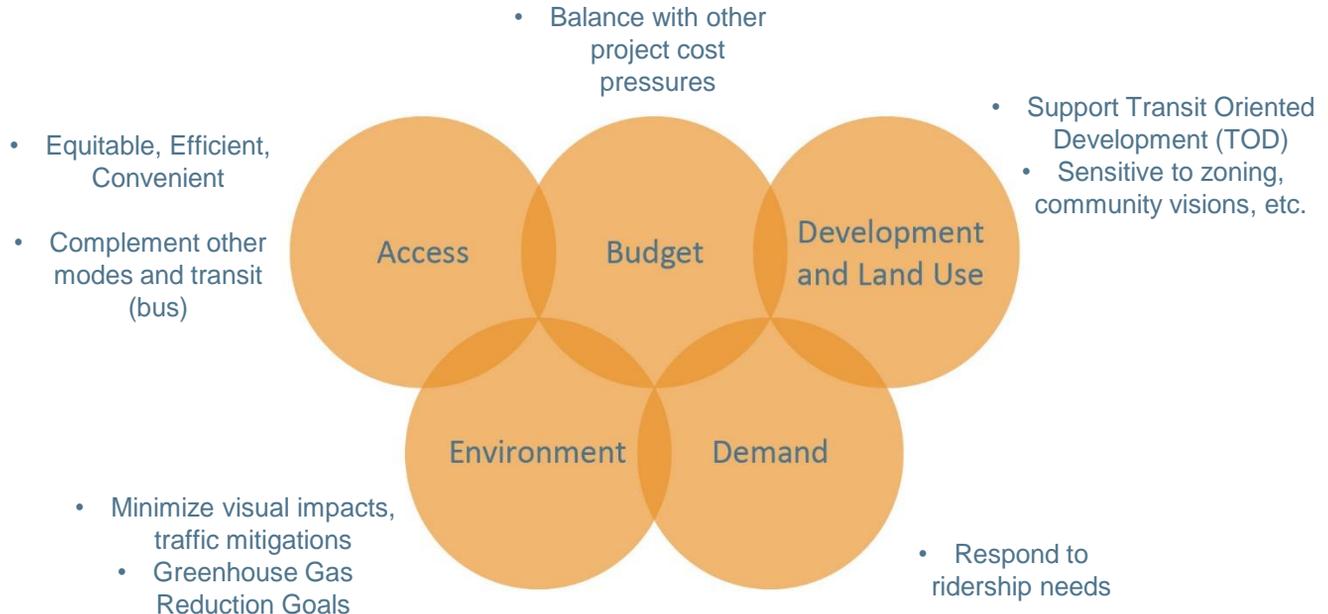
Park & Rides

Goals & Objectives



Park & Rides

Goals & Objectives

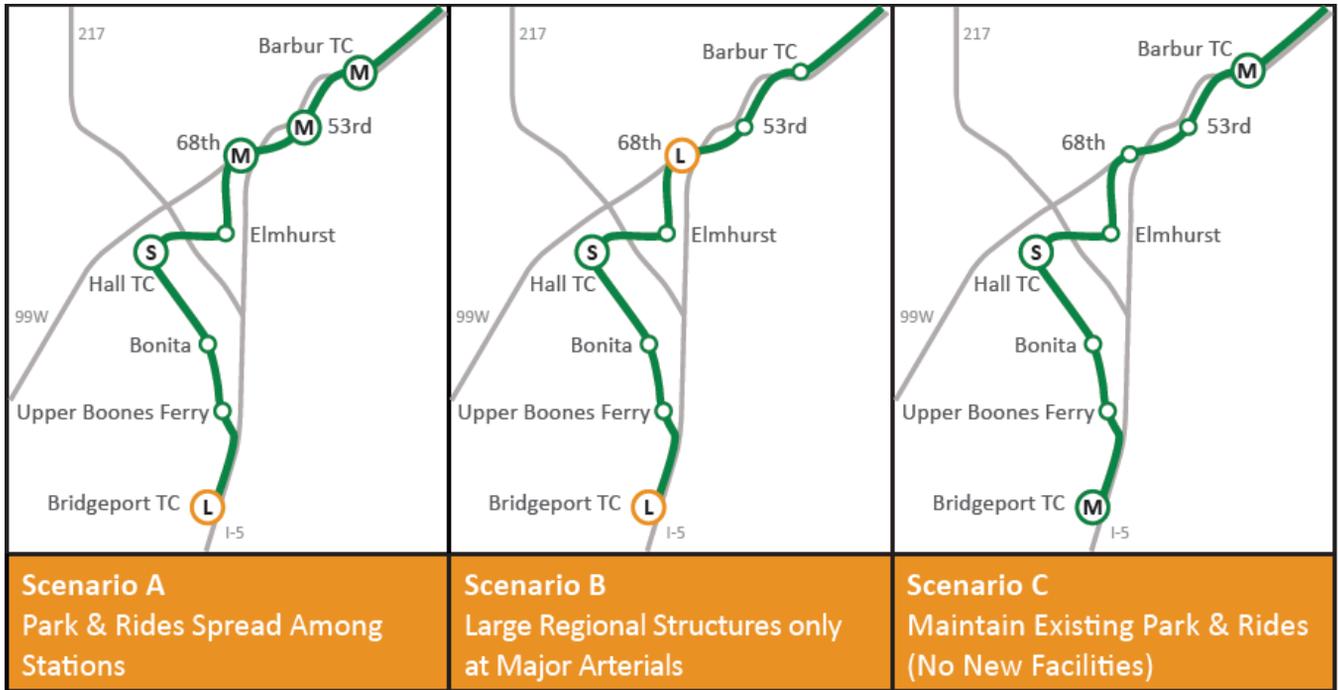


Park & Ride Criteria

Viable Park & Ride Locations

- ✓ **Outside of Central City**
- ✓ **Land Availability**
- ✓ **Direct Access to Major Arterials**
- ✓ **Lack Access to Frequent Bus Service/
Transfer Opportunities**

Park & Ride Scenarios



LEGEND	Symbol/ Name (Size)	Park & Ride Spaces (Existing & Proposed)
	○ -	0
○ S	Small	1-200
○ M	Medium	201-400
○ L	Large	401-950
○ L	Large (Structure)	401-950

Online Engagement



HOME

STATIONS AND ROUTE

GET INVOLVED

LIBRARY

STATION ACCESS AND PARK & RIDE ONLINE OPEN HOUSE

June 10 - 28th

Help us spread the word!

trimet.org/swcorridor

Next Steps

- **July**
 - Station Access/ Park & Ride (Update)
 - Conceptual Design Report (Intro)
 - MOS (Update)
- **August**
 - No Meetings
- **September**
 - Park & Ride (Recommendation/ Decision)
 - MOS (Recommendation/Decision)
- **Ongoing**
 - Conceptual Design Report / Station Access

Questions and Comments

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