SOUTHWEST CORRIDOR
LIGHT RAIL PROJECT

Community Advisory Committee

June 6, 2019

GREAT PLACES SW Corridor

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Minimum Operable Segment

June 6, 2019

GREAT PLACES SW Corridor

SWC Cost Elements

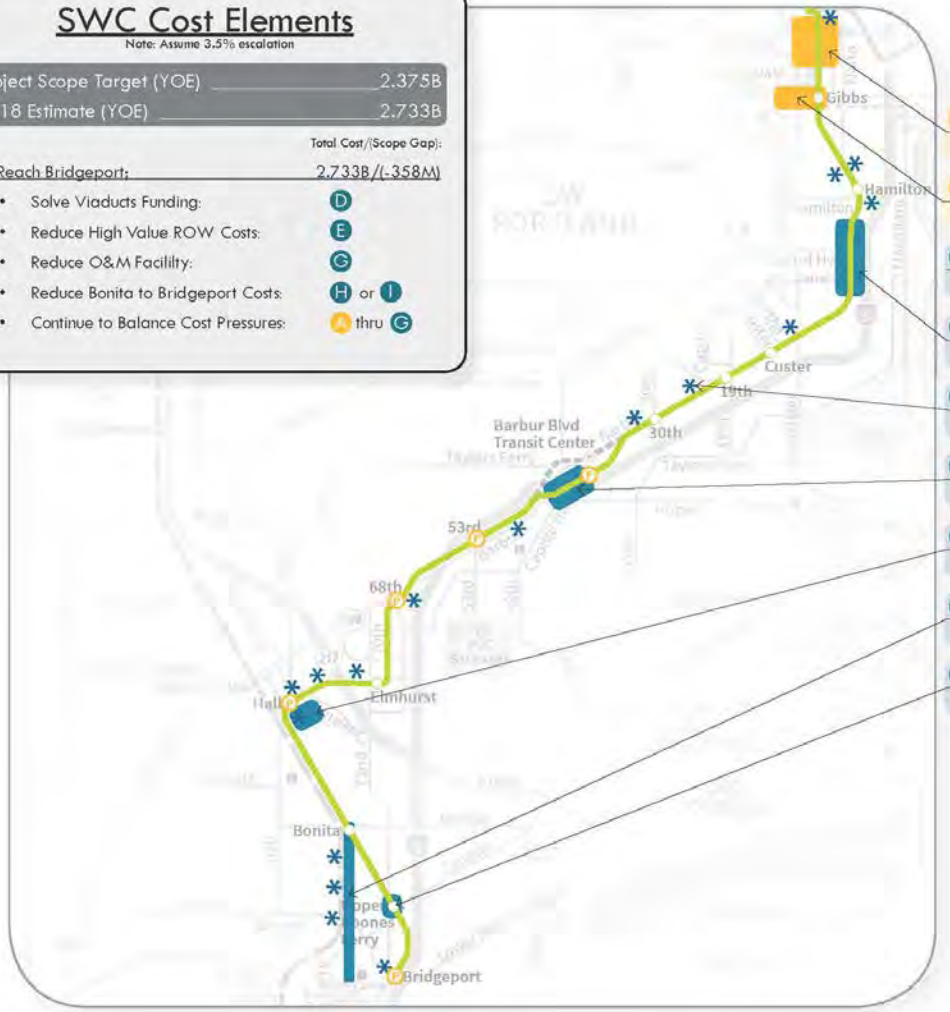
Note: Assume 3.5% escalation

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 G



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 * - $15-50M	[-$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]

Updated: 05.28.2019

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

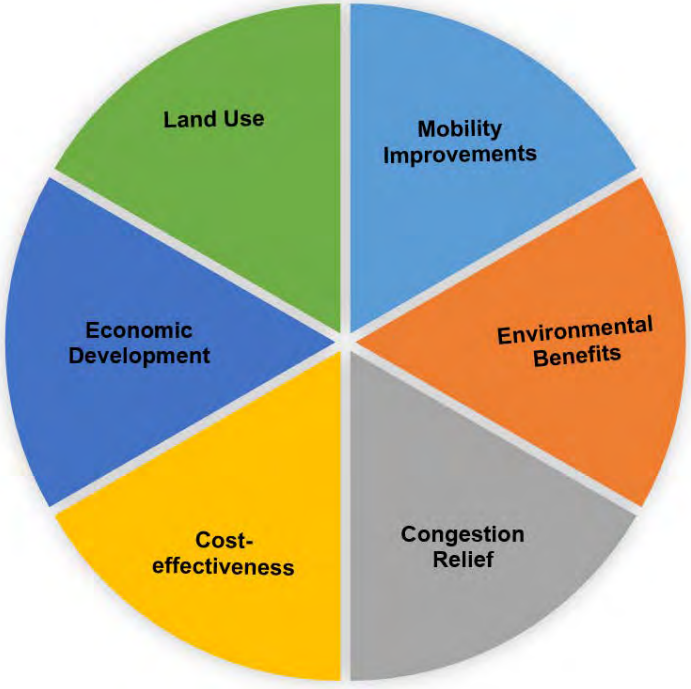
- Required by FTA
- A segment of the LPA that is most cost effective with greatest benefit
- Able to function as a stand-alone project

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

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Marquam Hill Connector

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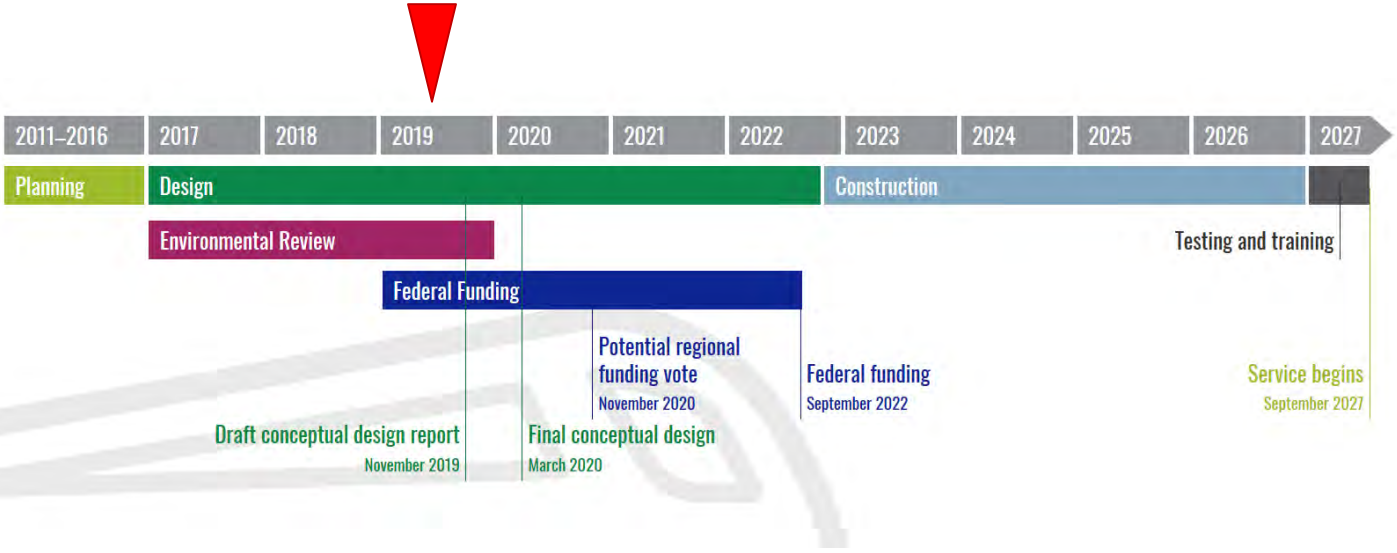
GREAT PLACES SW Corridor

Marquam Hill Connector

Timeline


2011–2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
Planning
Design
Construction
Environmental Review
Testing and training
Federal Funding
Potential regional funding vote
November 2020
Federal funding
September 2022
Service begins
September 2027
Draft conceptual design report
November 2019
Final conceptual design
March 2020

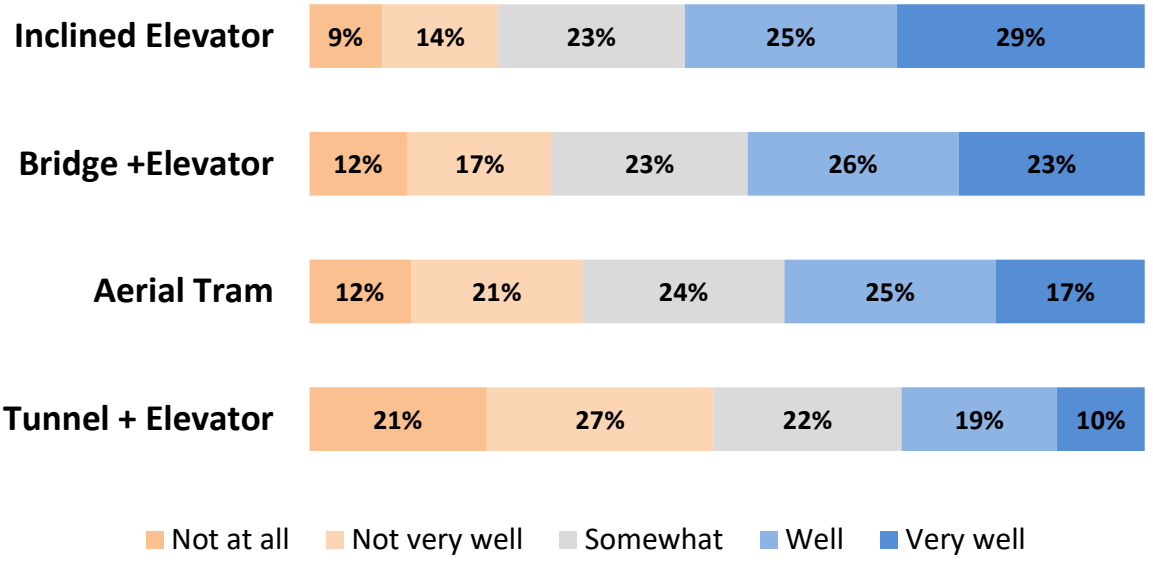
Public Process Review

- 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

TriMet Committee on Accessible Transportation (CAT)

Preferred options for use of mode, safety, connections and accessibility:

- Bridge + Elevator
- Inclined Elevator

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~~

Goals & Objectives

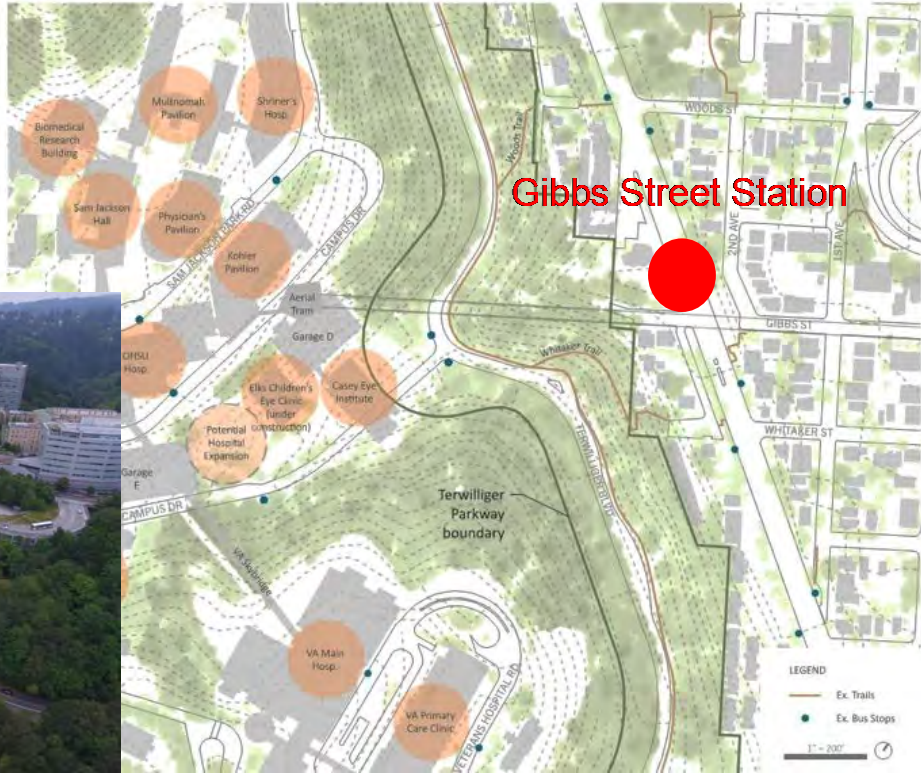
- Access: Develop equitable, efficient and convenient connections for all users to a number of destinations on Marquam Hill.
- Safety: Create a safe and secure, 24/7 connection for all users.
- Context: Enhance and improve the historic, scenic and recreational resources; consider the unique character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

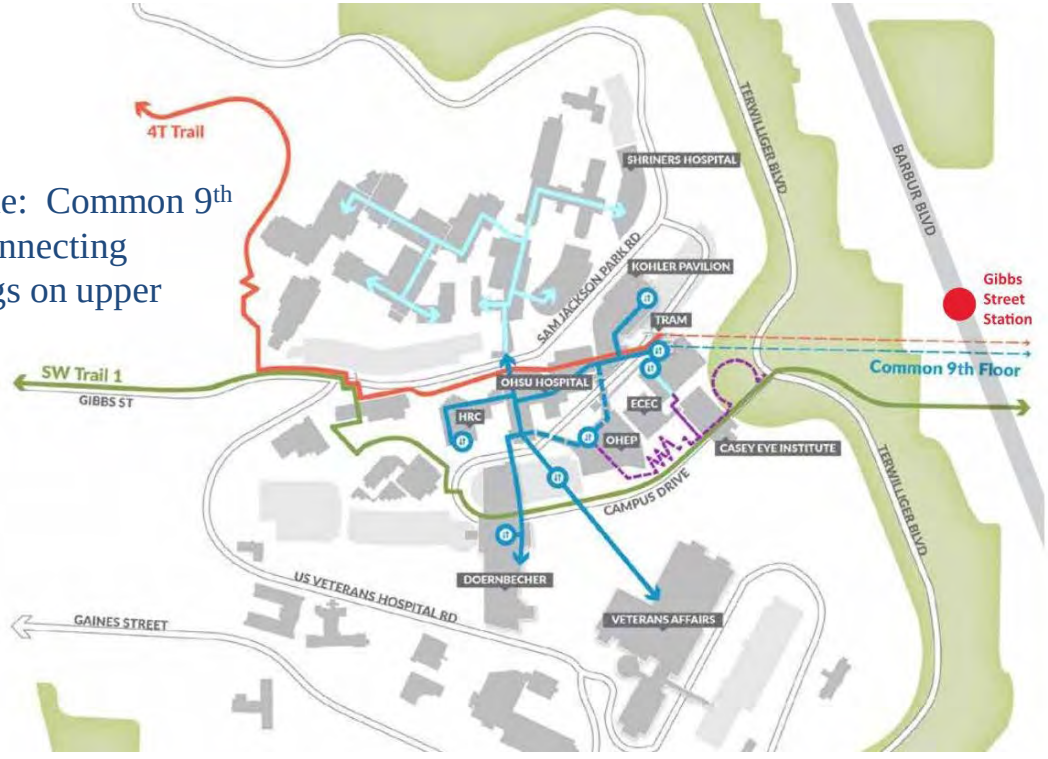
Destinations on Marquam Hill

21 different institutions on Marquam Hill

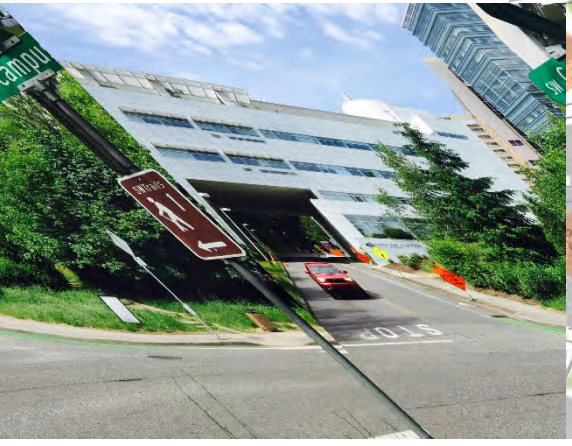


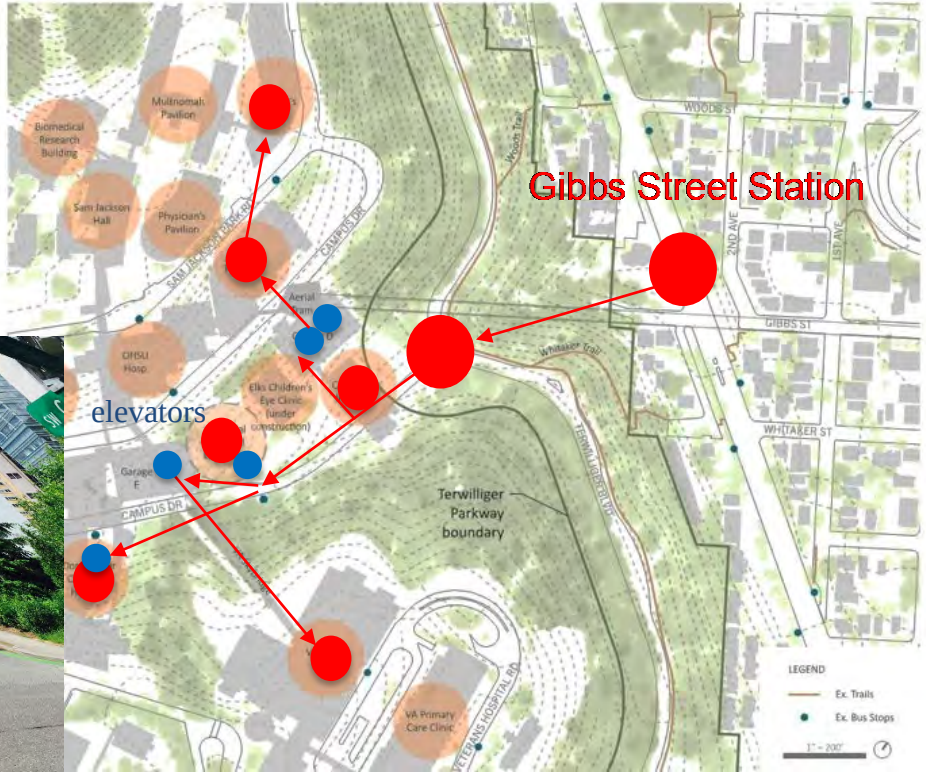
Upper Routes on Marquam Hill

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



Vertical Access Choices on Campus





Capacity comparison

	Inclined Elevator to Casey Eye	Inclined Elevator to Terwilliger	Bridge + Elevator to Terwilliger	Aerial Tram to Campus/Sam Jackson	Tunnel to Campus/Sam Jackson
Capacity Assumption	2 40-person cabins			2 80-person cabins	2 40-person cabins
Total cabin round trip time (minutes)	3.5	2.3	1.5	6	2.9
People/hour	1360	2080	3200	1600	1600
Max load: Number of cycles	4 elevator cycles			2 tram cycles	4 elevator cycles
Max load: Max wait time (minutes)	3.5 - 5.5	2.3 - 3.5	1.5 - 2.3	3	2.9 - 4.3

Green Ribbon Committee

- Do not pursue aerial tram & tunnel

- Preference for inclined elevator
  - Current technology seems workable.
  - Poses least visual & environmental impact.
  - Safe, reliable & convenient.
  - Best option to encourage ridership.
  - Serves riders well in all weather conditions.

Further Considerations

Inclined Elevator:

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

General

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

Marquam Hill Connector

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Station Access/ Park & Rides

June 6, 2019

GREAT PLACES SW Corridor

Overview

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

Connected Transportation Choices

Existing bus routes in & near Southwest Corridor

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

Image Source: Bruce Forster

Image Source: Bruce Forster

Image Source: Mayer/Reed

Connected Transportation Choices

Existing trails in & near the Southwest Corridor

- 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.

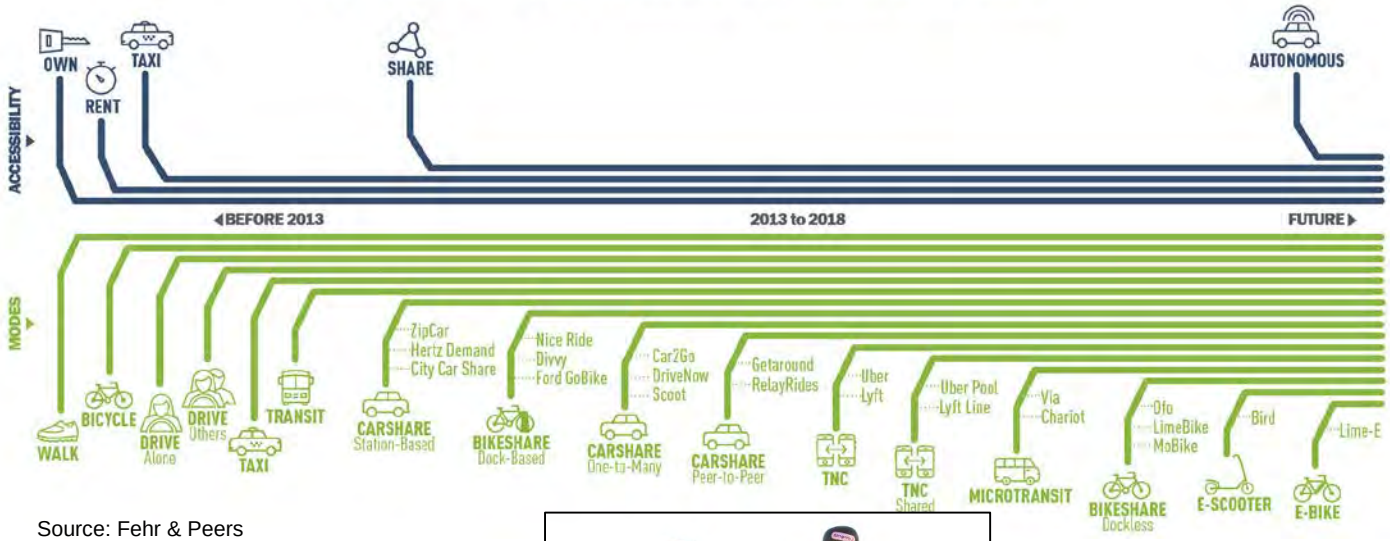
- Phone apps will make trip planning & fare payments simple & easy to use.

Image Source: TriMet

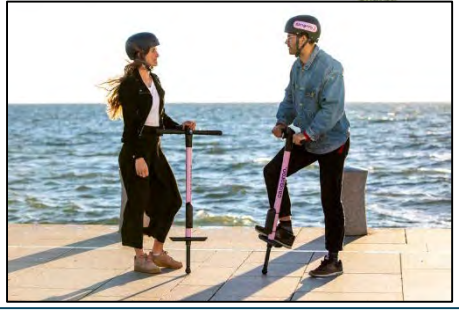
Image Source: TriMet

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

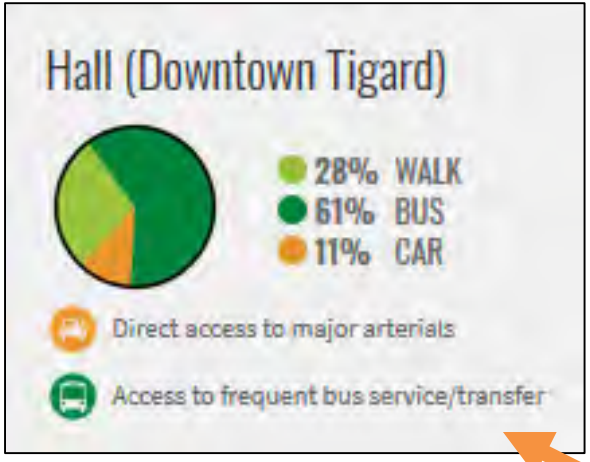
Conceptual Design Report (CDR)

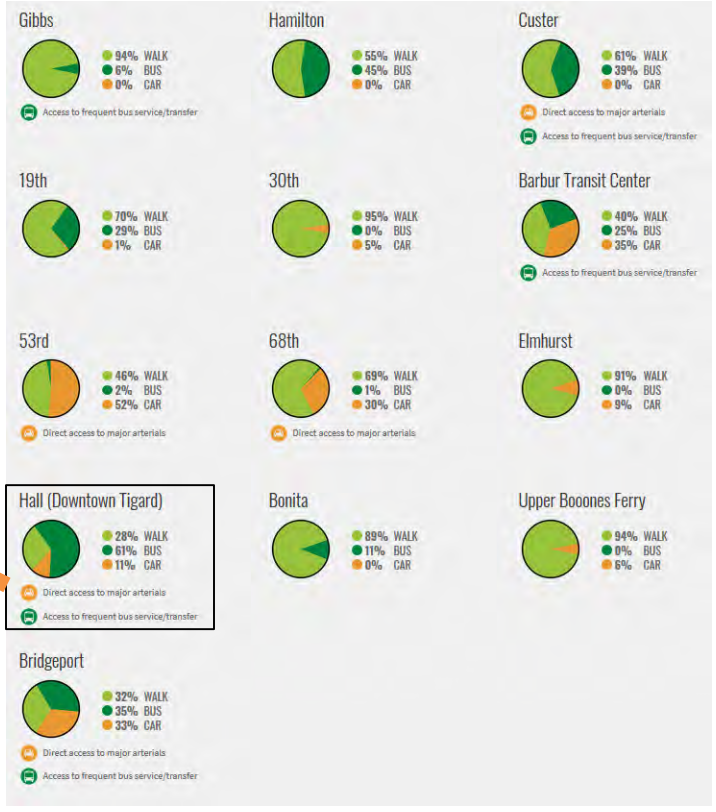
- Patron Experience
- Climate Change
- Resilience
- Environment
- Community
- Mobility

Station Area Planning

Station Access

Mode of Access





Station Access

Station Access

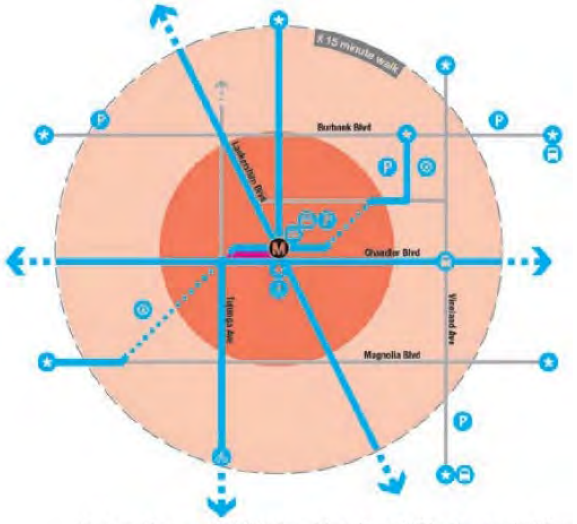
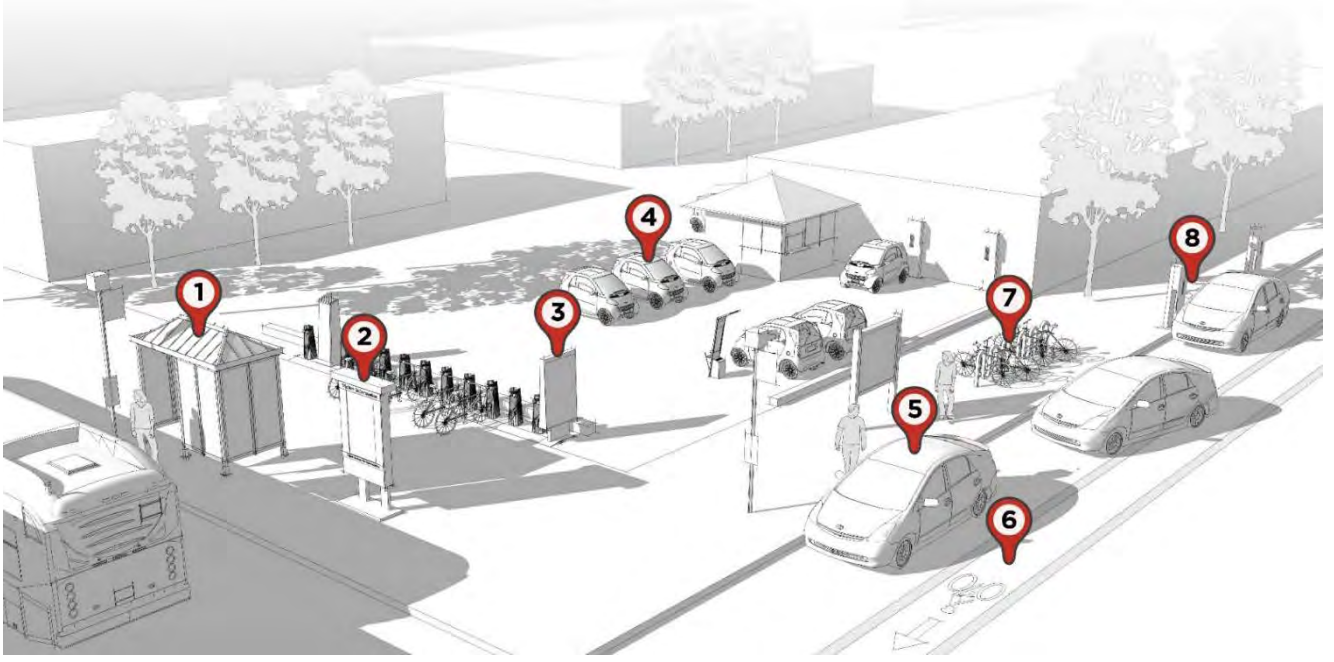


Image Source: LA Metro, First/Last Mile Strategic Plan

Station Access

What is a Shared Mobility Hub?

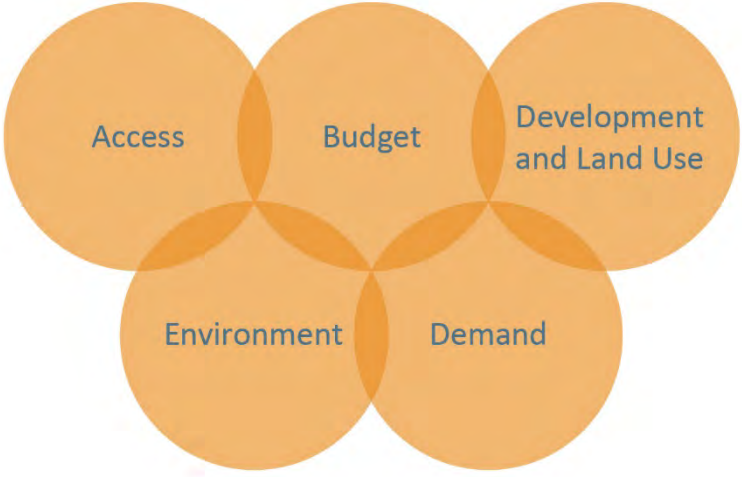


Park & Rides

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

Park & Rides

Goals & Objectives

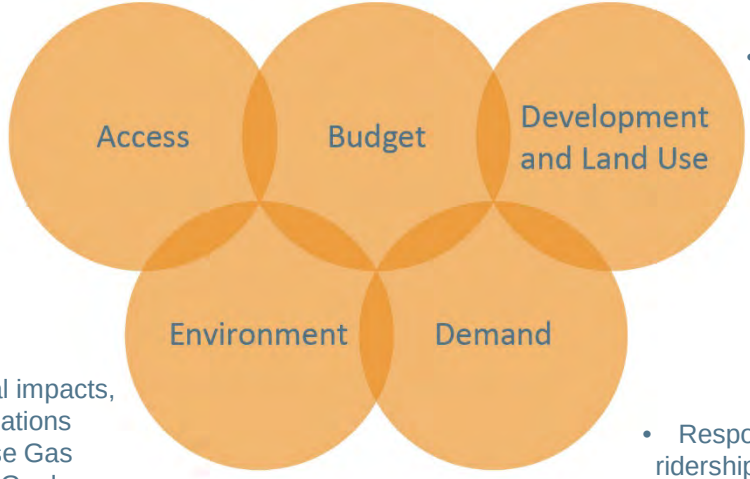


Park & Rides

Goals & Objectives

- Balance with other project cost pressures

- Equitable, Efficient, Convenient
- Complement other modes and transit (bus)



- Support Transit Oriented Development (TOD)
- Sensitive to zoning, community visions, etc.

- Minimize visual impacts, traffic mitigations
- Greenhouse Gas Reduction Goals

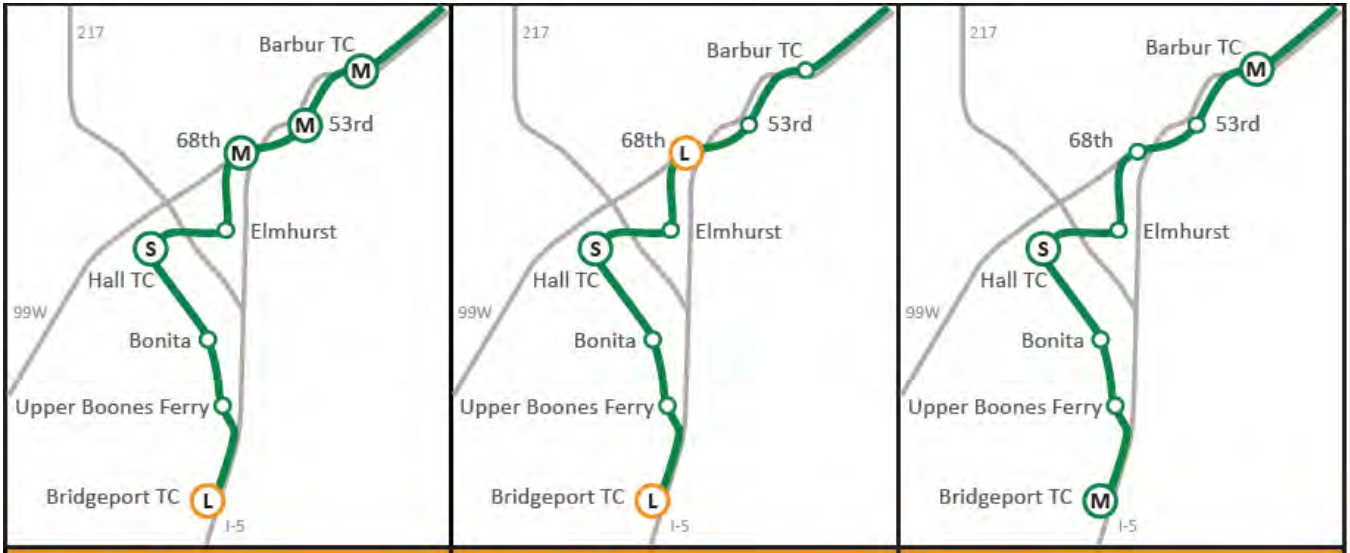
- Respond to ridership needs

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



Scenario A
Park & Rides Spread Among Stations

Scenario B
Large Regional Structures only at Major Arterials

Scenario C
Maintain Existing Park & Rides (No New Facilities)

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

Content

- **Station Access Overview**
- **Lessons Learned**
- **Project Considerations**
- **Station Considerations**
- **Park & Ride Scenarios**
- **Feedback & Comments**

June 10 - 28th

Available in English & Spanish

Help us spread the word!

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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