

Connector Types

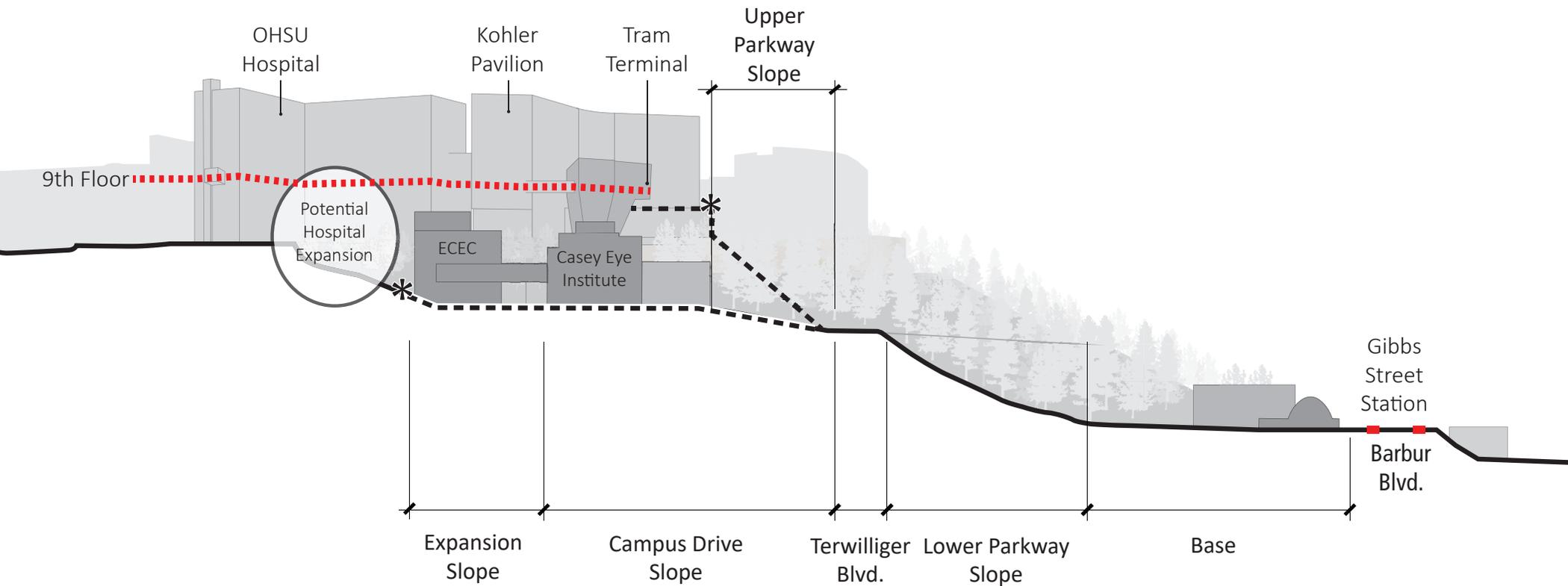
Marquam Hill Green Ribbon Committee Meeting #2

March 13, 2019

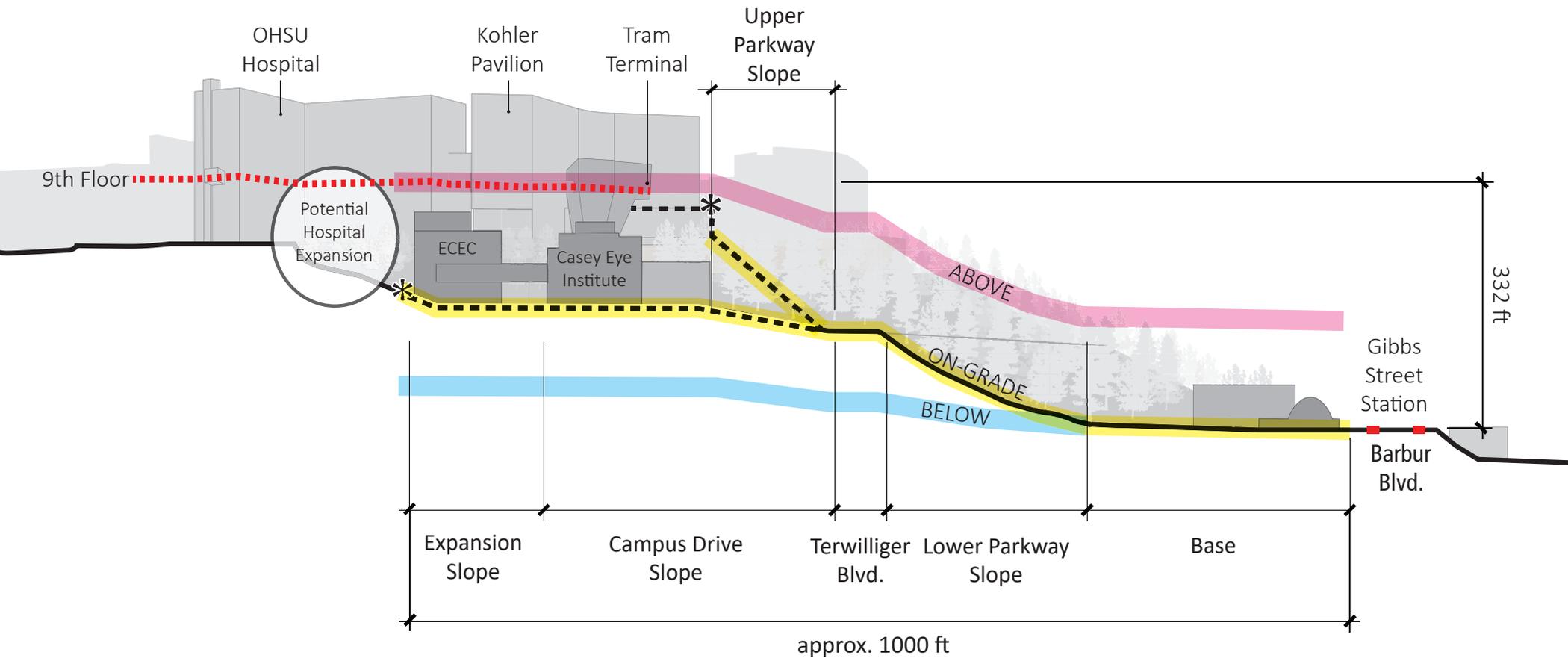
Agenda

- 4:02 – 4:20 Public Comment
- 4:20 – 4:30 Refined Goals & Criteria
- 4:30 – 5:30 Previous Studies & Preliminary Analysis of Connector Types
- 5:30 – 5:58 Connector Type Discussion

Marquam Hill Connector



Marquam Hill Connector



Connector Types

Pathway

Elevated Pathway

Bridge + Elevators

Funicular/Inclined Elevator

Tunnel + Elevators

Escalator/Moving Walkway

Aerial Tram

Gondola

Shuttle Bus

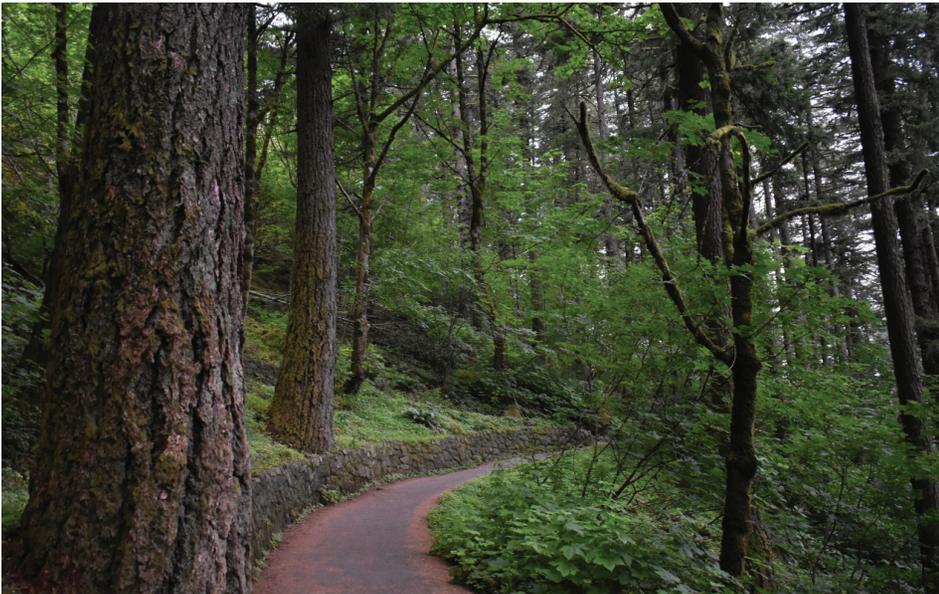
Roadway At-Grade Crossing

Roadway Undercrossing

Roadway Overcrossing

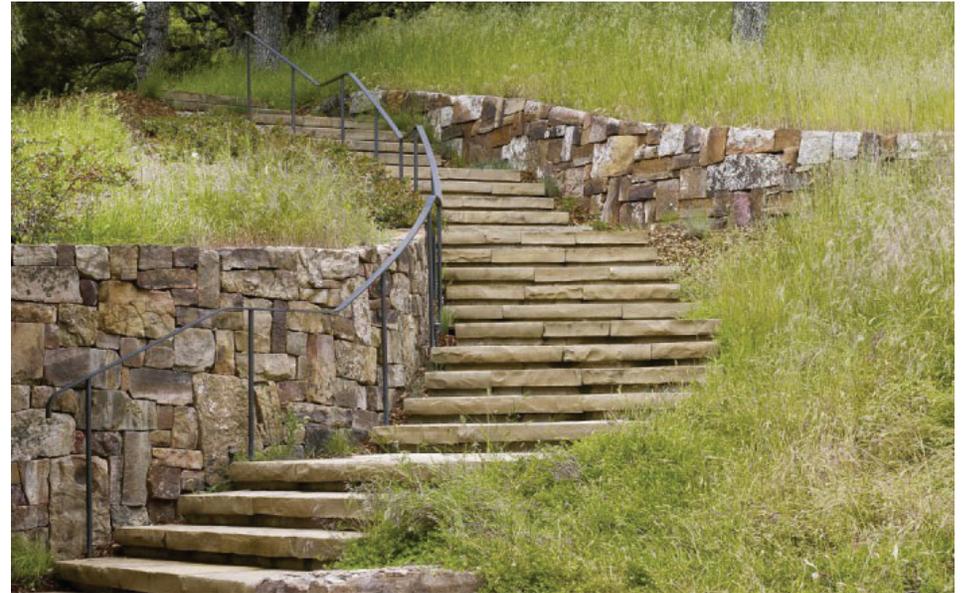
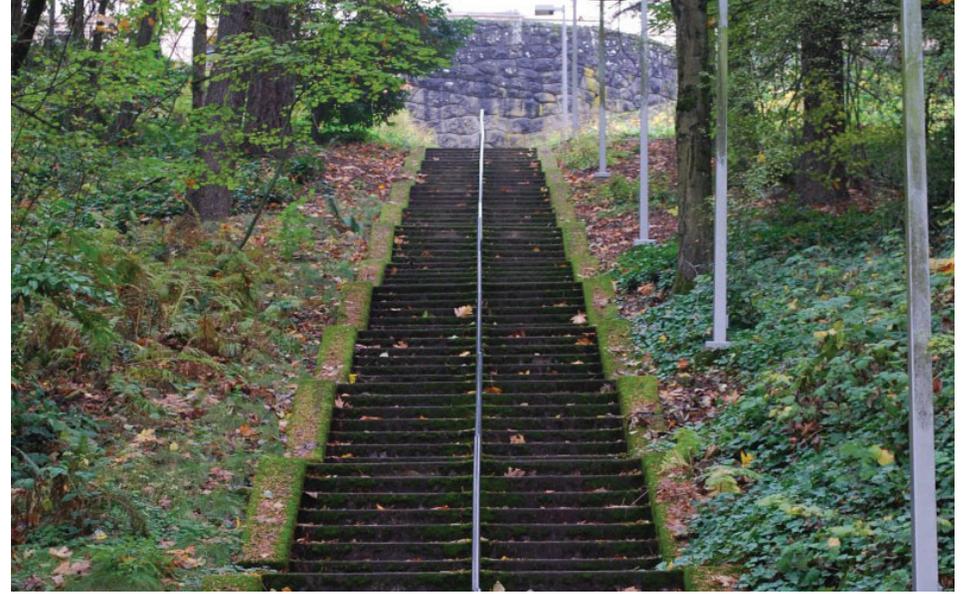
Pathway

Precedents

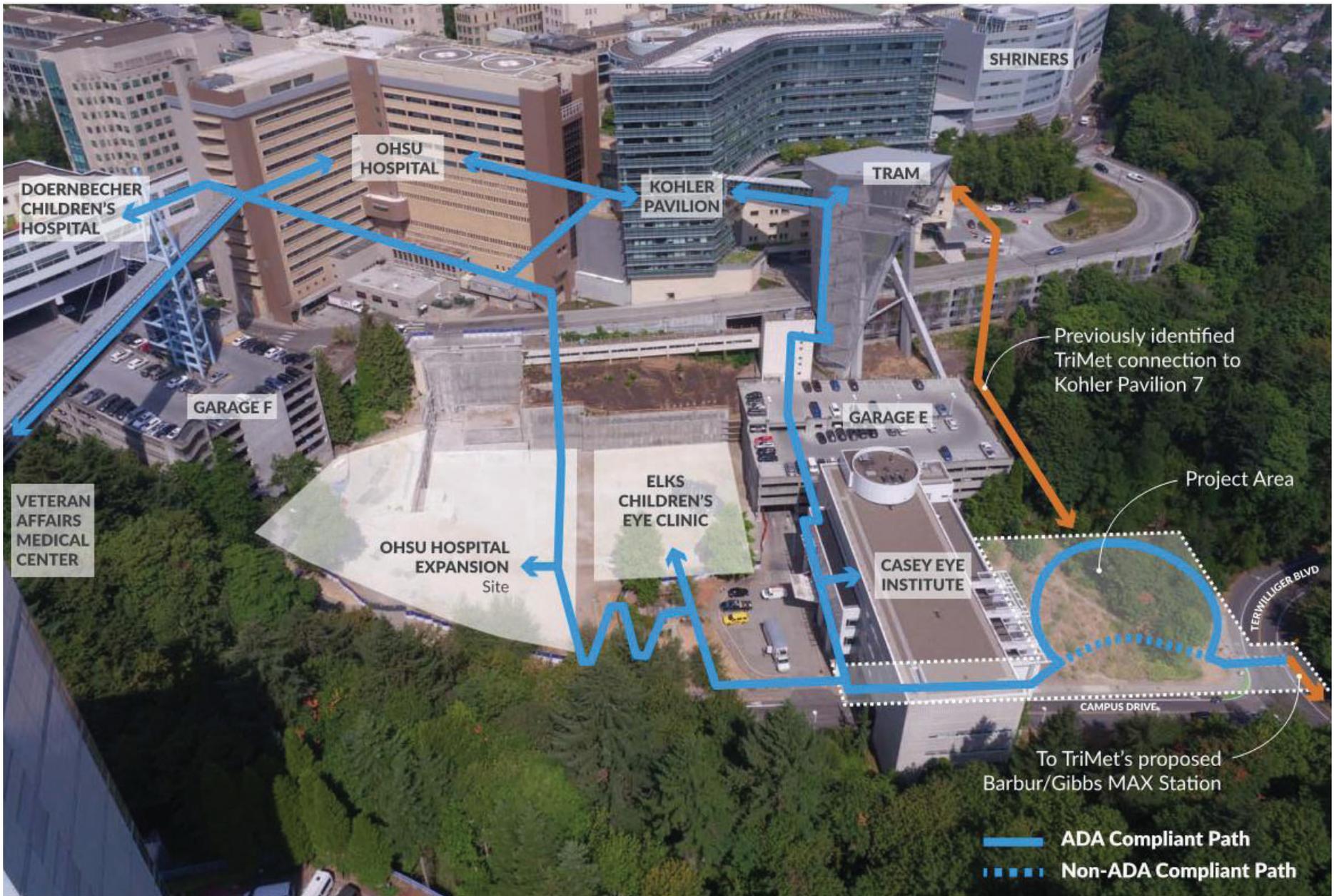


Pathway

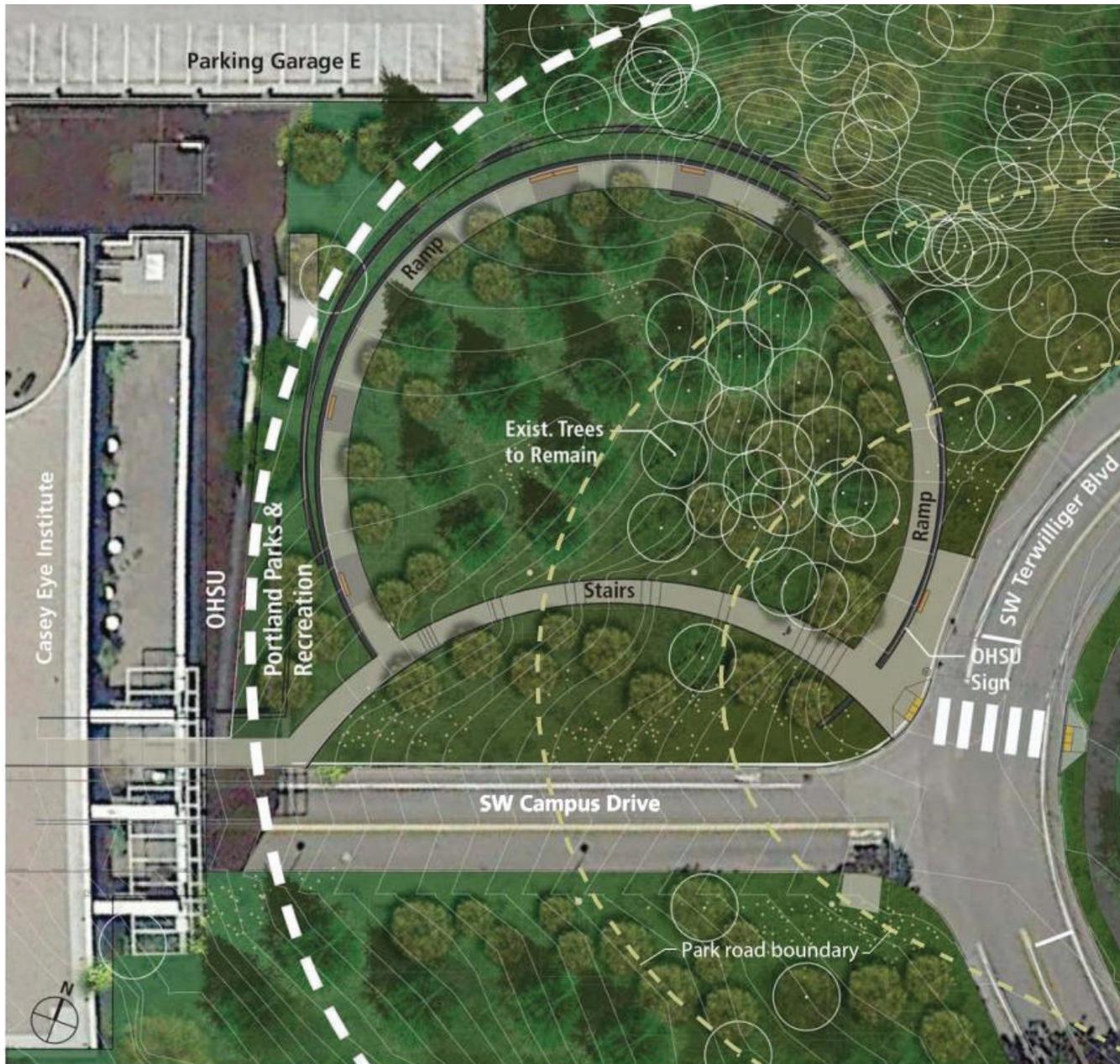
Precedents



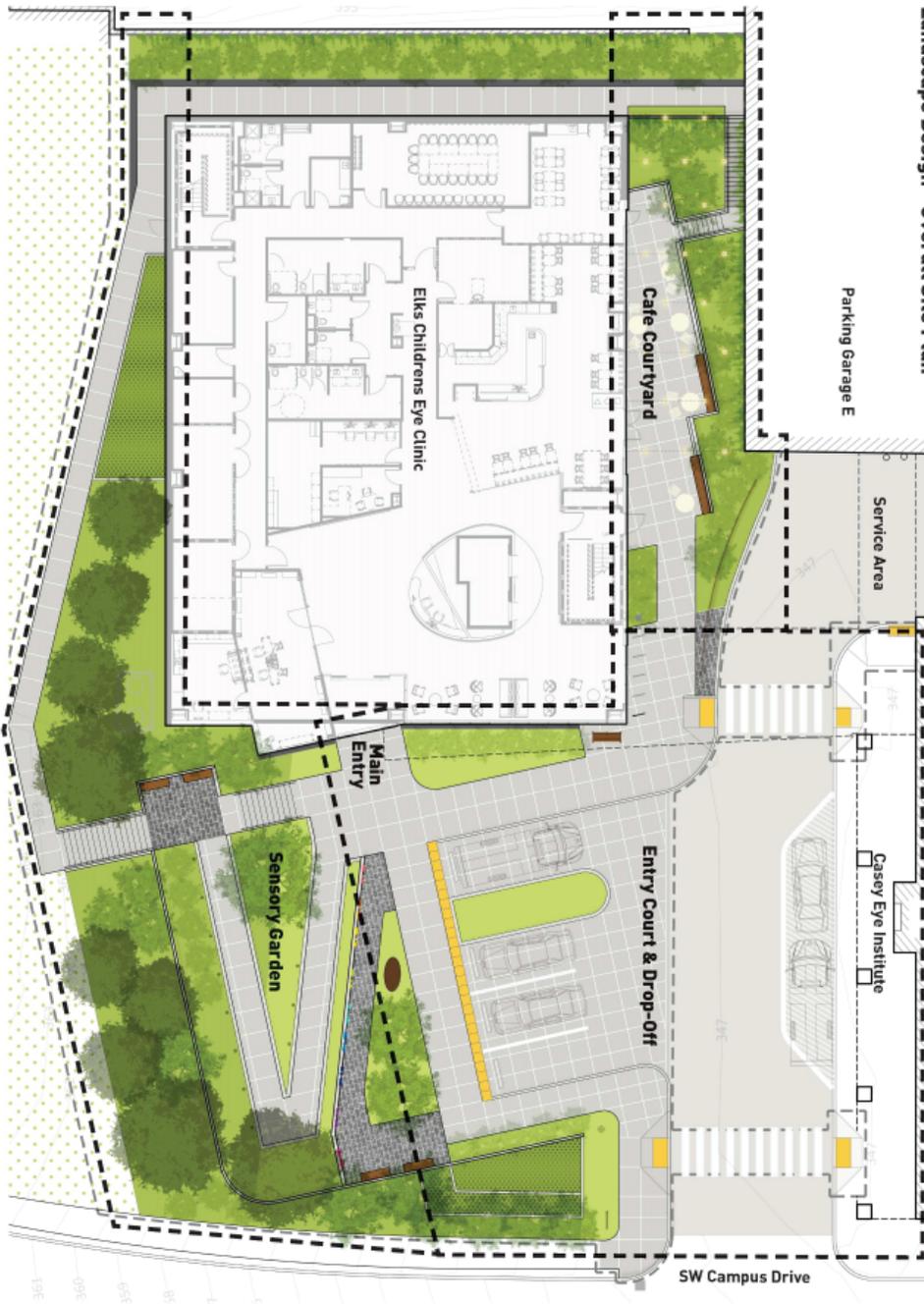
OHSU Safe and Accessible Pathway (2018)



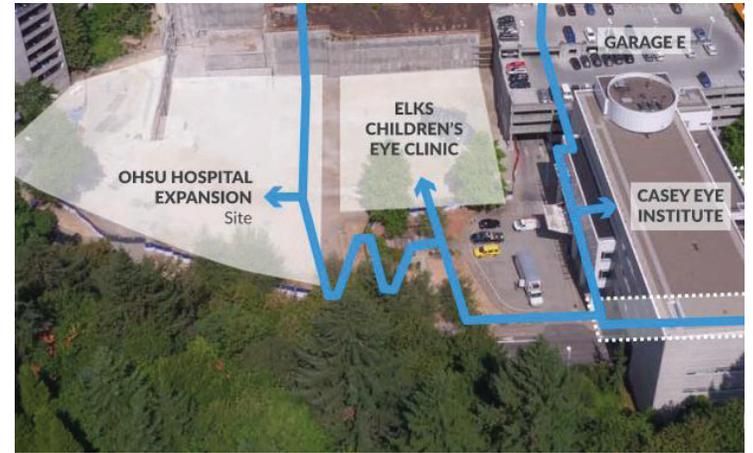
OHSU Safe and Accessible Pathway (2018)



Elks Children's Eye Clinic



Landscape Design - Overall Site Plan



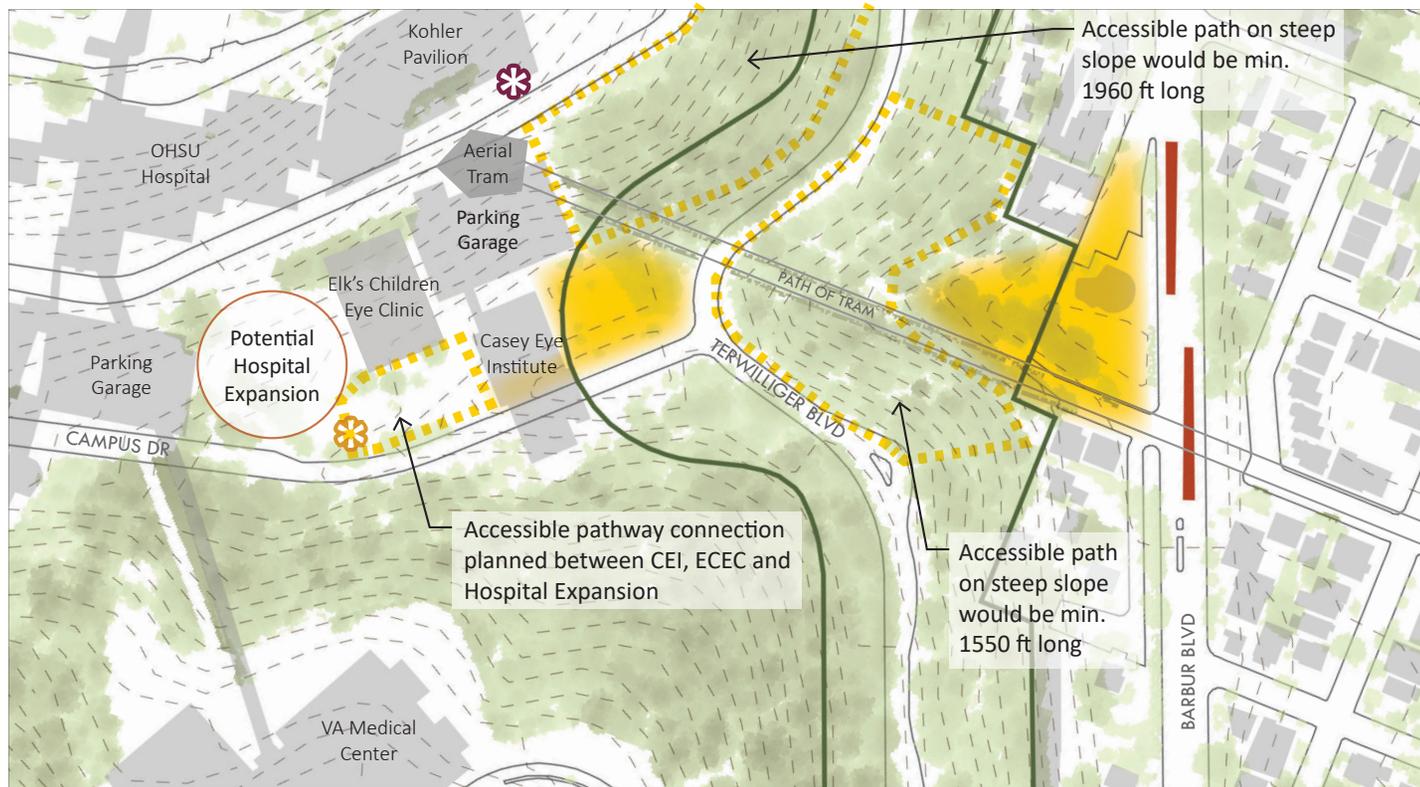
Elevated Pathway

Precedents

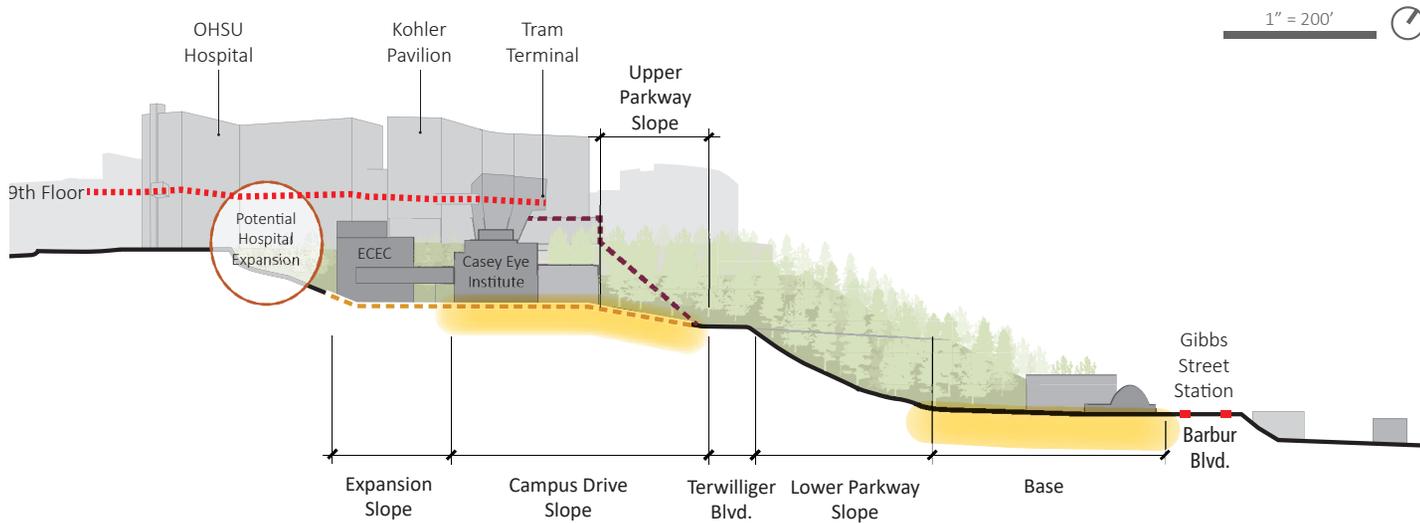


Pathway + Elevated Pathway

Plan



Section



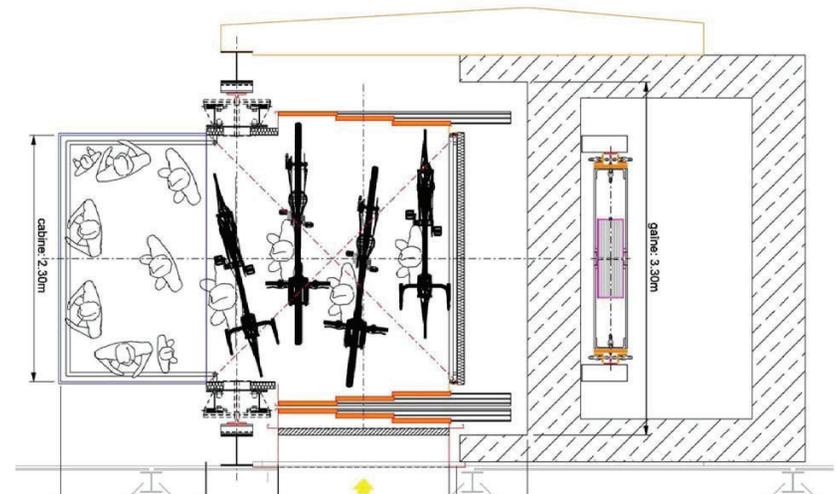
Bridge + Elevators

Precedents



Bridge + Elevators

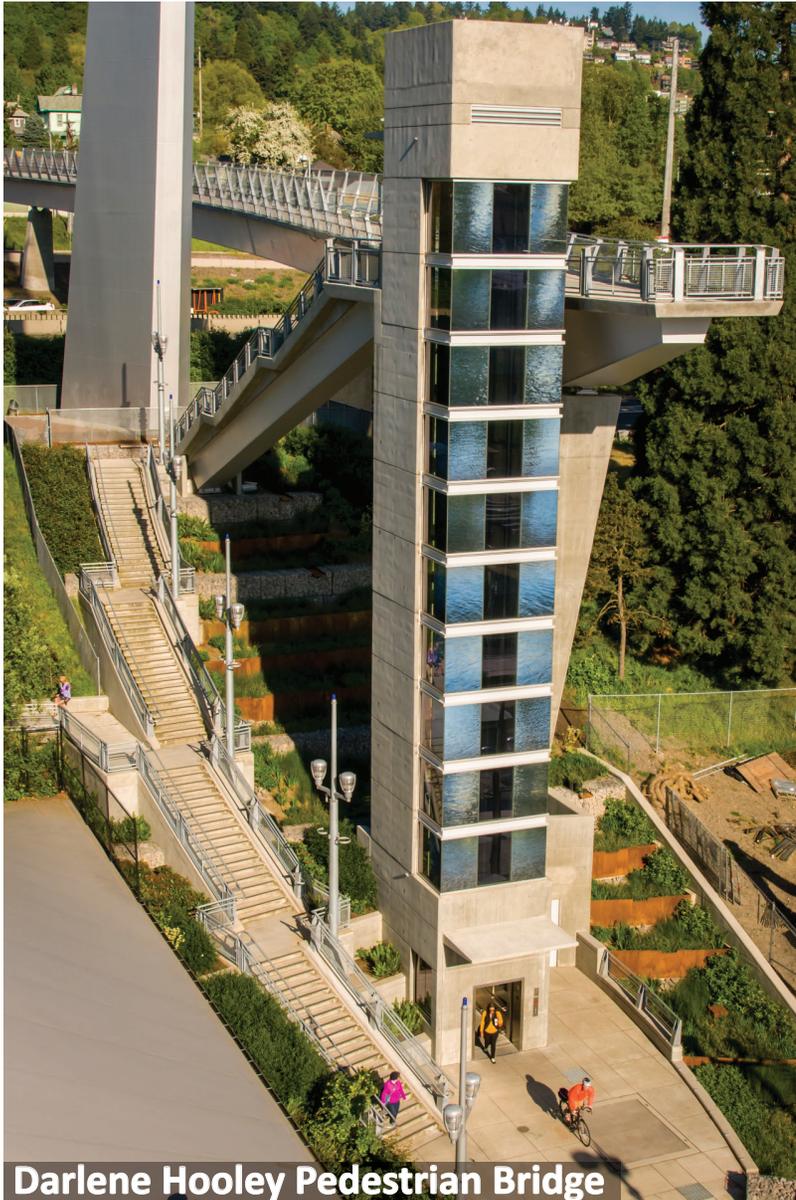
Precedents



Pescatore Park, Luxembourg

Bridge + Elevators

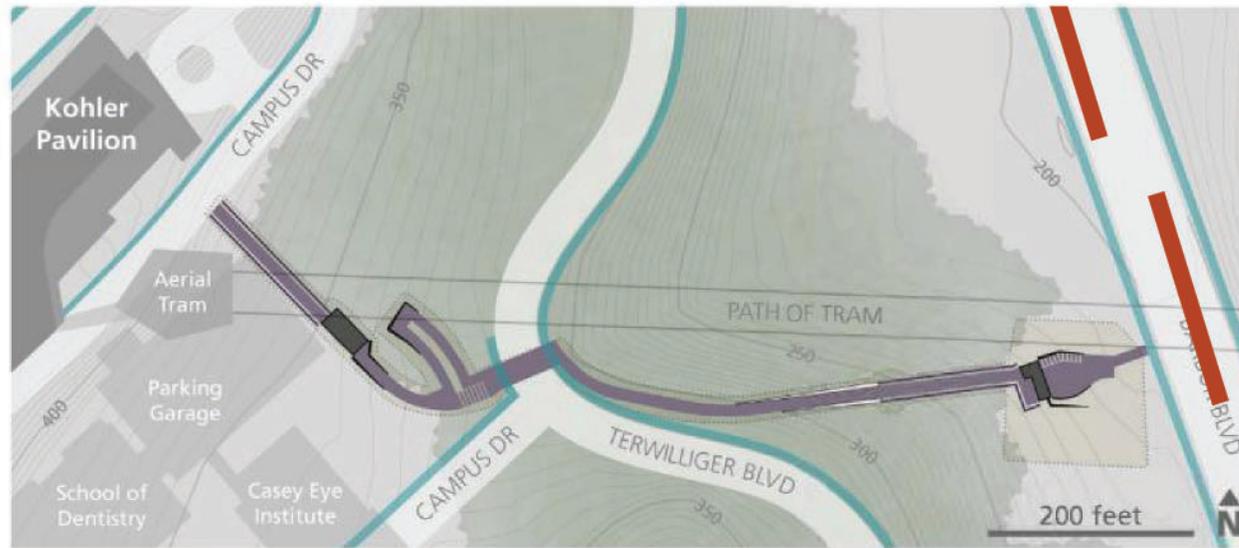
Precedents



Darlene Hooley Pedestrian Bridge

DEIS - Option 1A (2016-18)

Figure A-24
Marquam Hill Connection 1A: Elevator/Bridge and Path



Plan View

Connection Elements

- Path, ramp or plaza
 - Stairs
 - Bridge
 - Tower with elevator and stairs
 - Below-ground wall
 - Above-ground wall
 - Estimated construction footprint
- Higher than 5 ft tall
Thicker line = taller*

Existing Conditions

- Sidewalk or path
- Tree cover

LRT Elements

- Gibbs Platform



Profile View

Connection Elements

- Path, ramp, plaza or stairs
- Bridge
- Wall (above or below ground)
- Tower with elevator and stairs

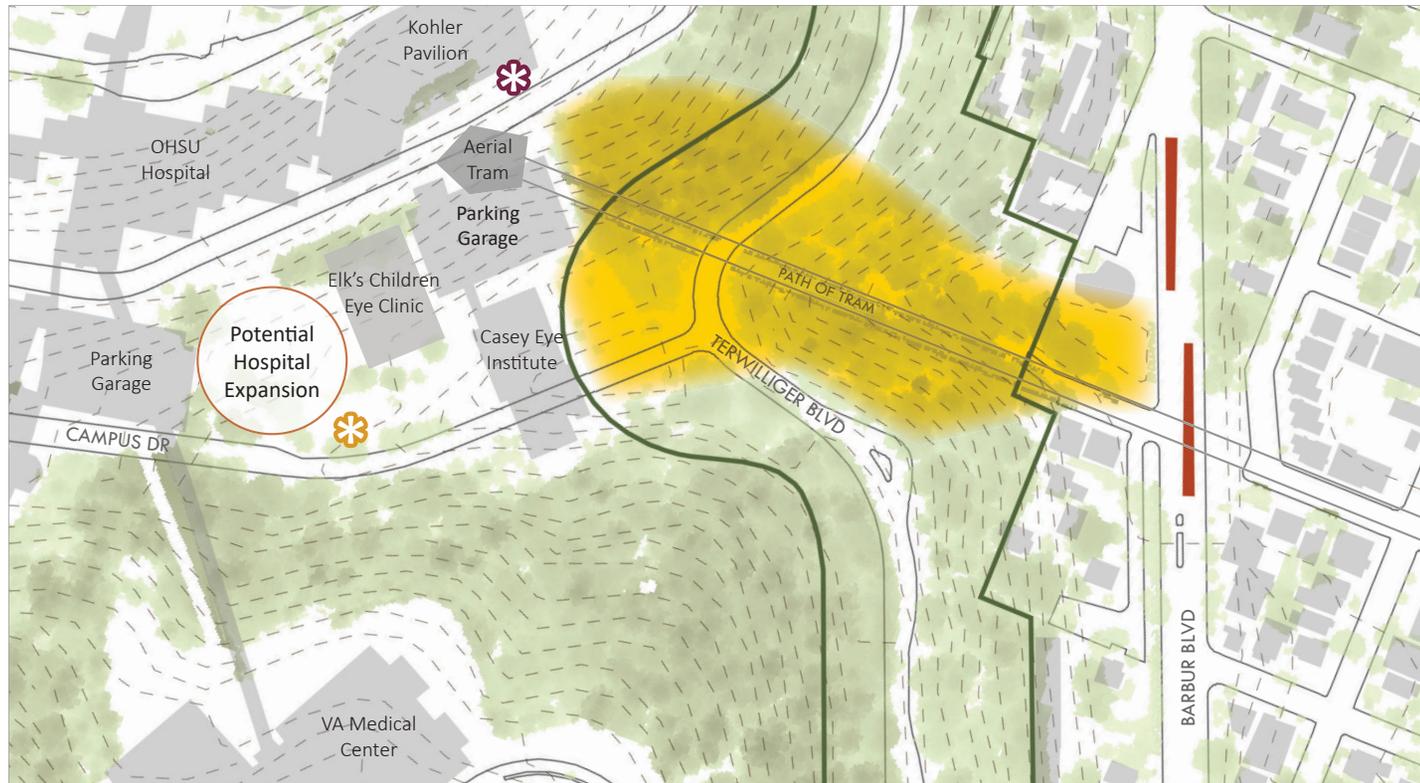
Existing Conditions

- Ground level
- Sidewalk or path
- Tree cover

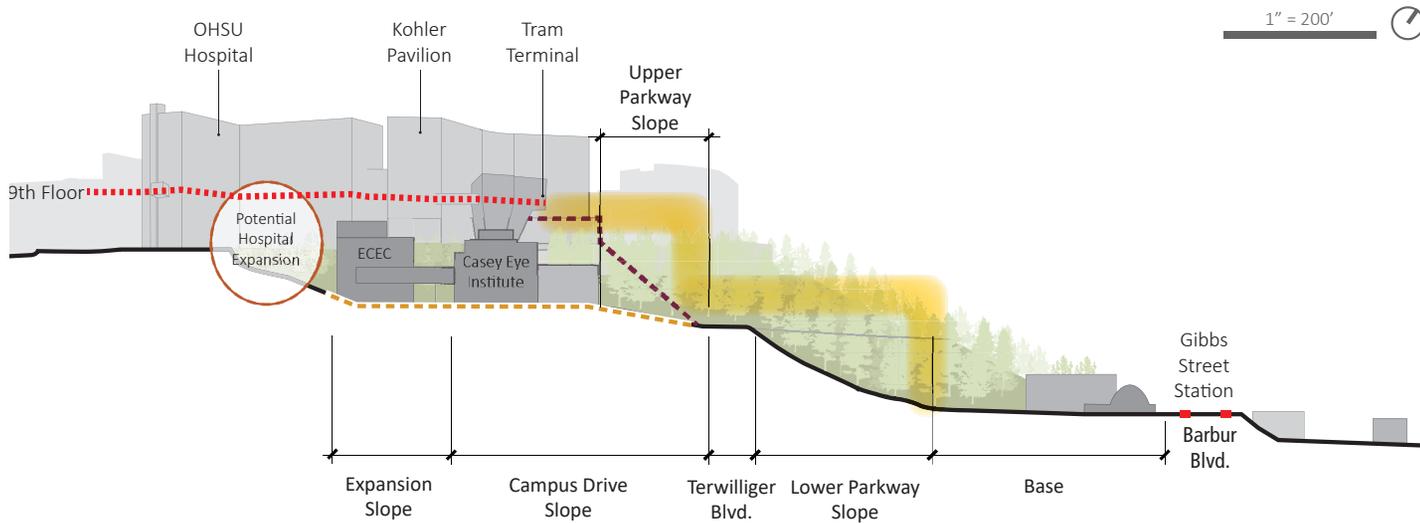
5/19/18

Bridge + Elevators

Plan

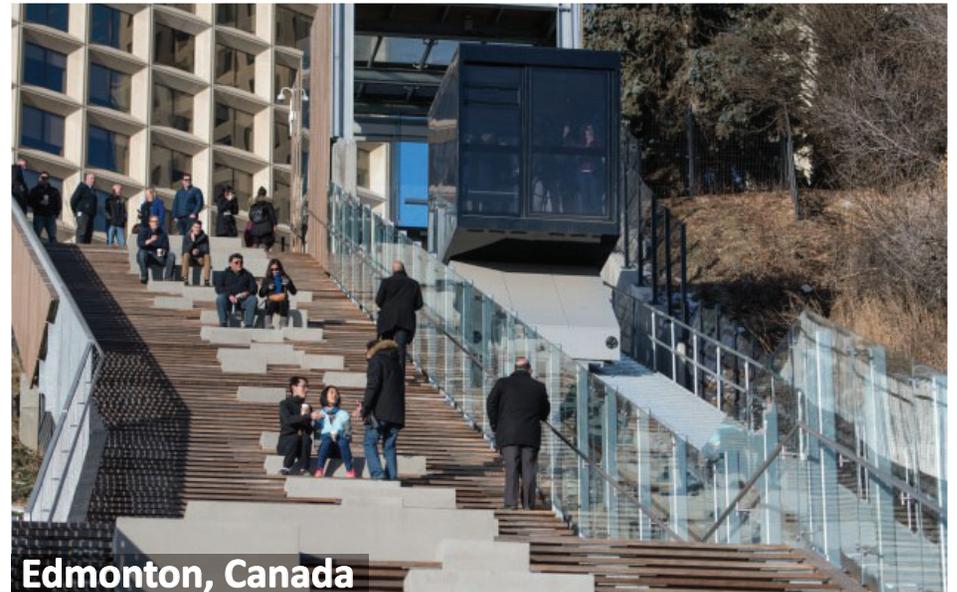


Section



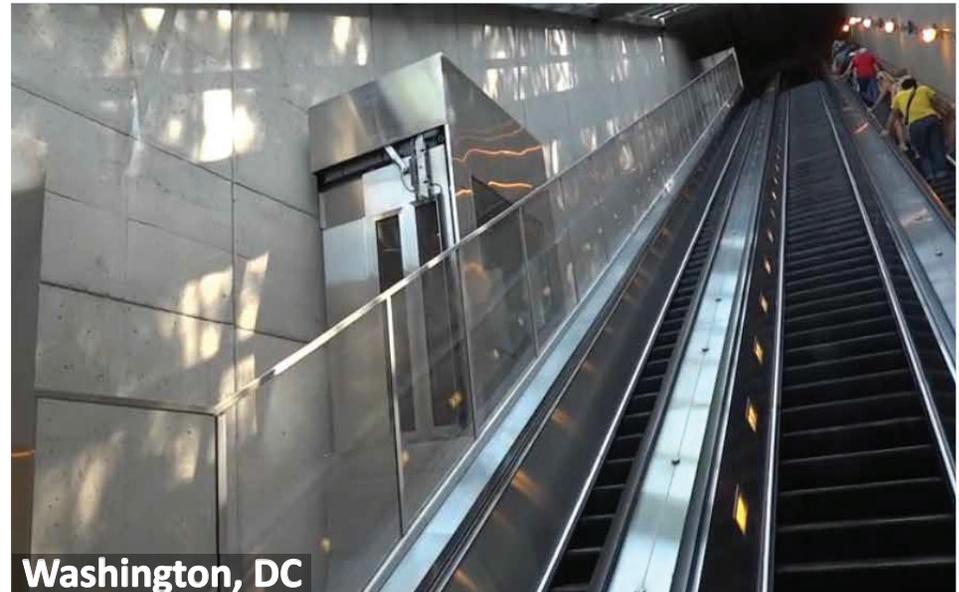
Funicular/Inclined Elevator

Precedents



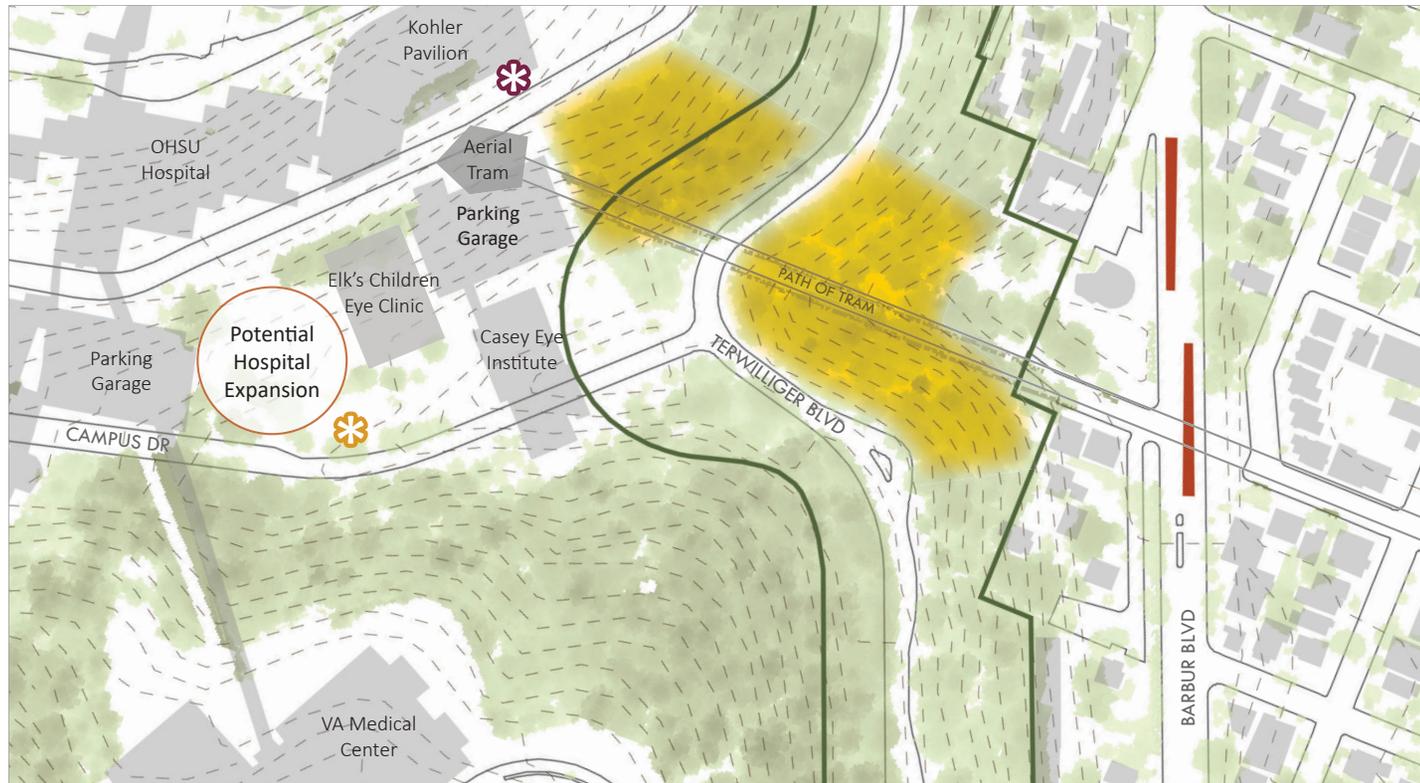
Funicular/Inclined Elevator

Precedents

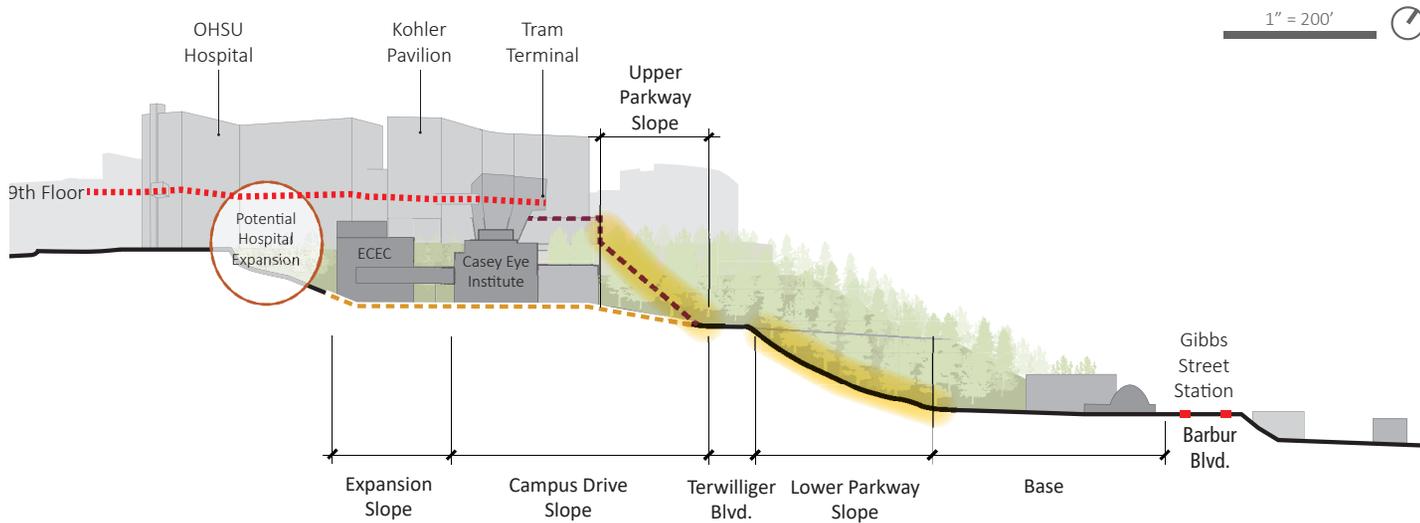


Funicular/Inclined Elevator

Plan



Section



Tunnel + Elevators

Precedents



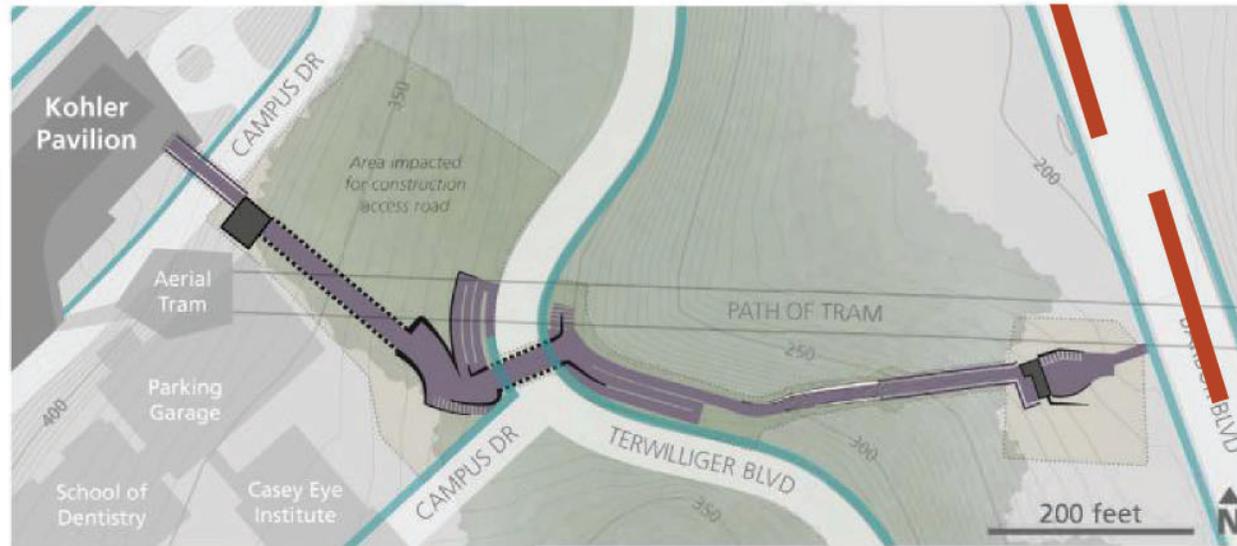
Tunnel + Elevators

Precedents



DEIS - Option 1C (2016-18)

Figure A-26
Marquam Hill Connection 1C: Elevator/Bridge and Tunnel



Plan View

Connection Elements

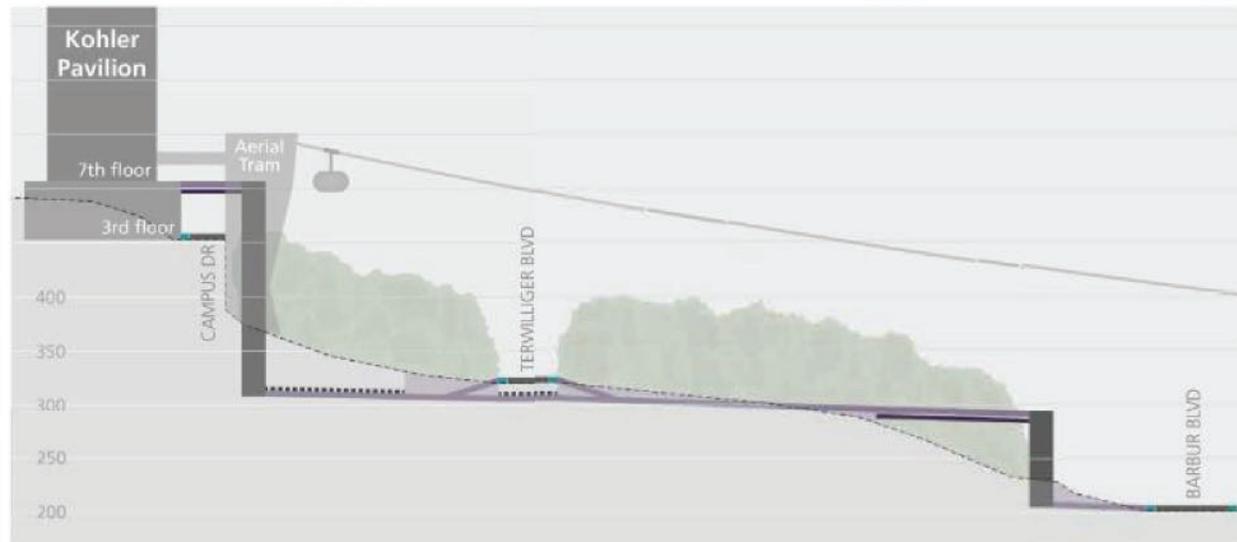
- Path, ramp or plaza
- ▨ Stairs
- ▨ Tunnel
- ▨ Bridge
- Tower with elevator and stairs
- Below-ground wall } Higher than 5 ft tall
- Above-ground wall } Thicker line = taller
- ▭ Estimated construction footprint

Existing Conditions

- Sidewalk or path
- ▭ Tree cover

LRT Elements

- Gibbs Platform



Profile View

Connection Elements

- Path, ramp, plaza or stairs
- ▨ Tunnel
- ▨ Bridge
- ▨ Wall (above or below ground)
- Tower with elevator and stairs

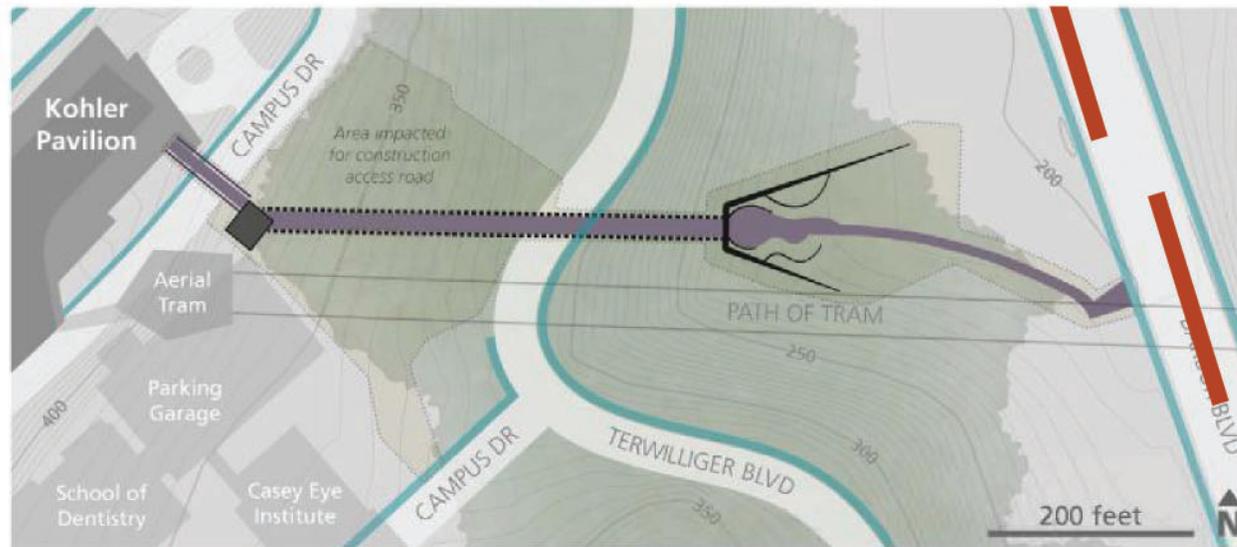
Existing Conditions

- Ground level
- Sidewalk or path
- ▭ Tree cover

5/19/18

DEIS - Option 2 (2016-18)

Figure A-27
Marquam Hill Connection 2: Full Tunnel



Plan View

Connection Elements

- Path, ramp or plaza
- Tunnel
- Bridge
- Tower with elevator and stairs
- Below-ground wall } Higher than 5 ft tall
Thicker line = taller
- Estimated construction footprint

Existing Conditions

- Sidewalk or path
- Tree cover

LRT Elements

- Gibbs Platform



Profile View

Connection Elements

- Path, ramp, plaza or stairs
- Tunnel
- Bridge
- Wall (below ground level)
- Tower with elevator and stairs

Existing Conditions

- Ground level
- Sidewalk or path
- Tree cover

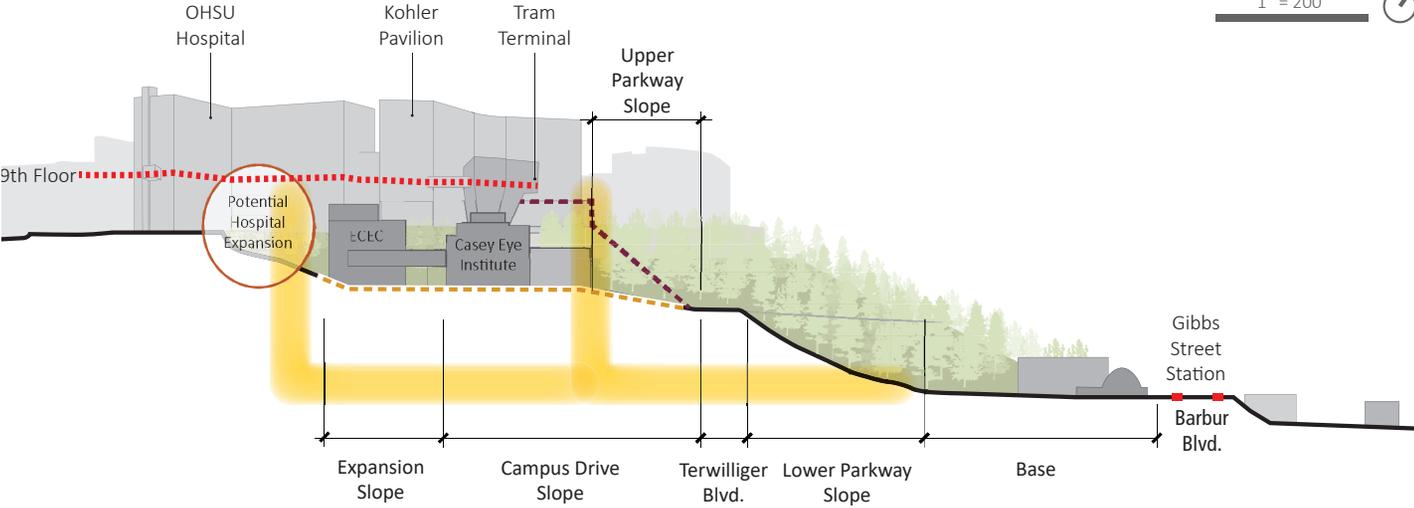
5/19/18

Tunnel + Elevators

Plan



Section



Escalator/Moving Walkway

Precedents



Escalator/Moving Walkway

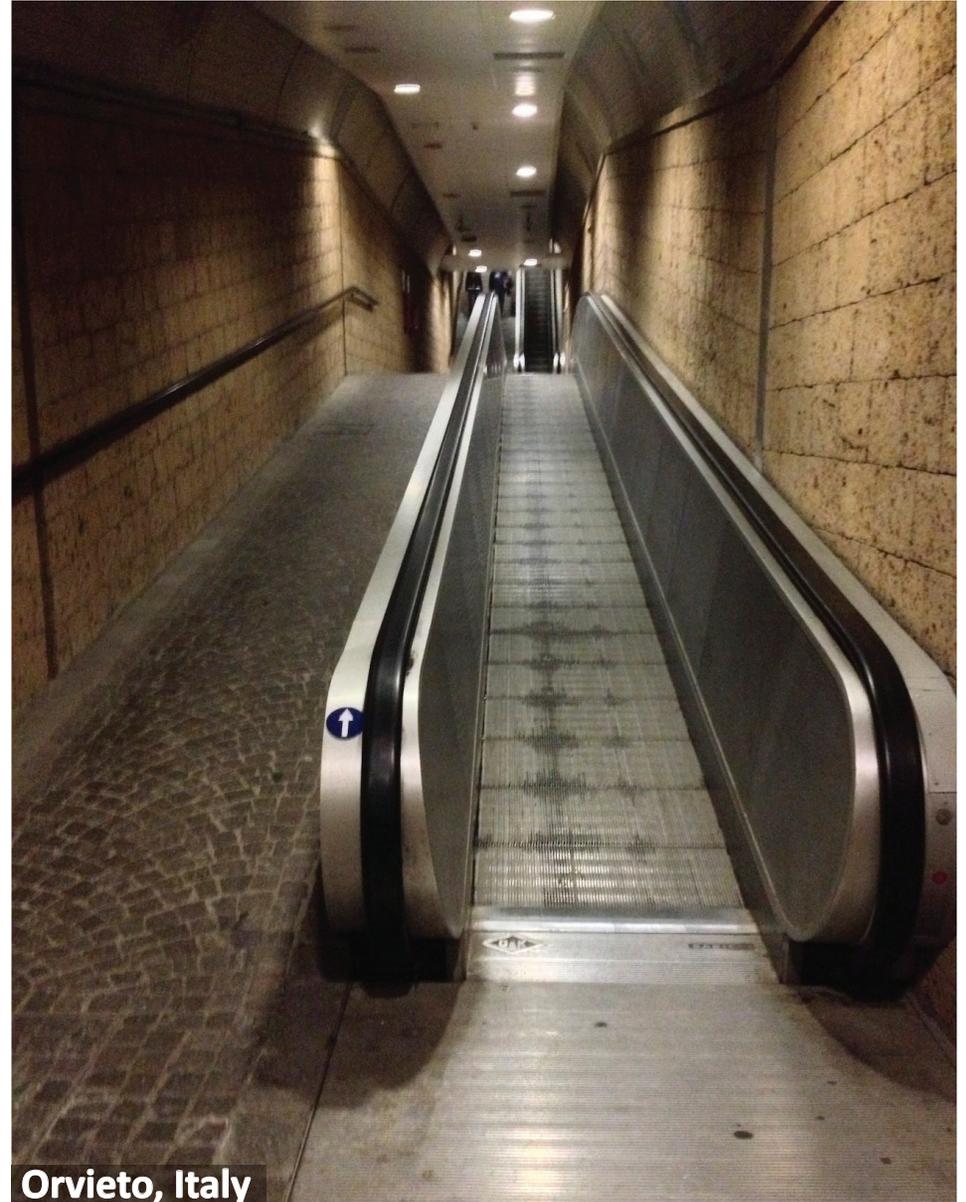
Precedents



Washington, DC



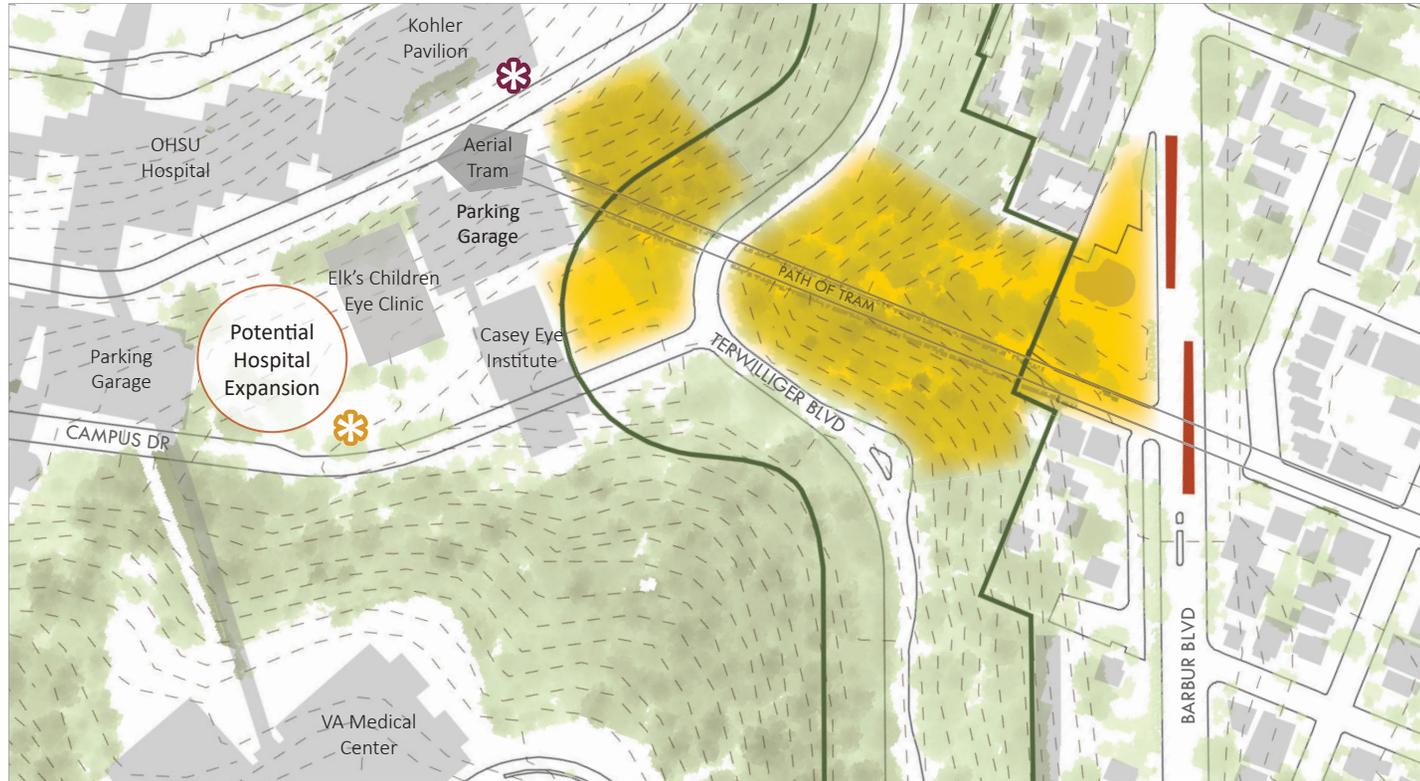
Orvieto, Italy



Orvieto, Italy

Escalator/Moving Walkway

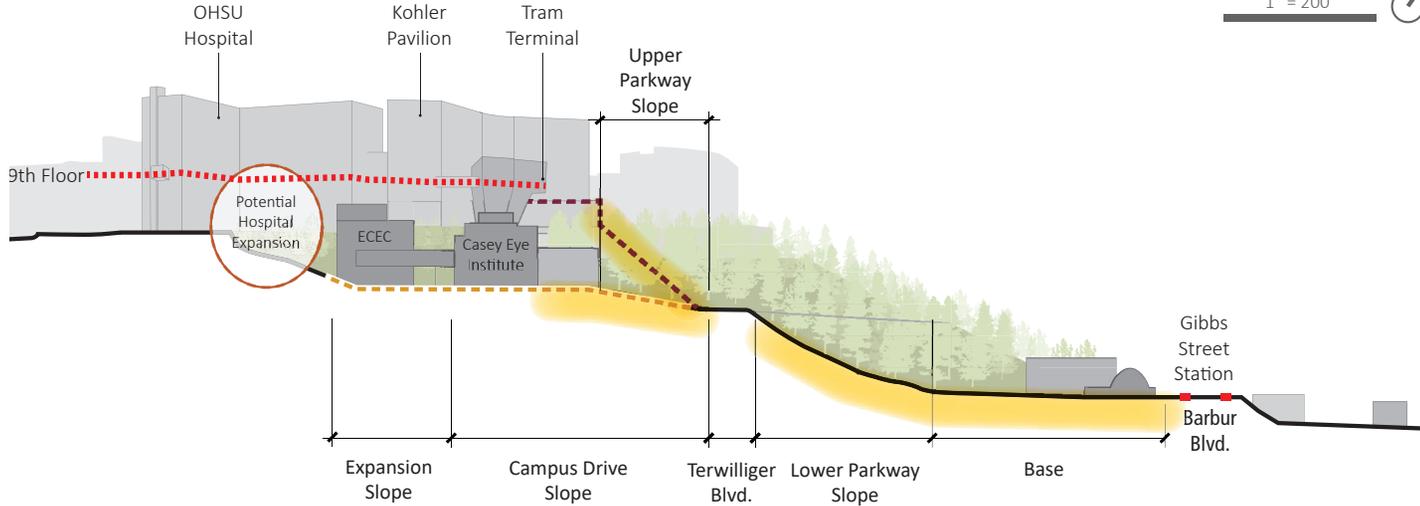
Plan



1" = 200'



Section



Aerial Tram vs. Gondola

Aerial Tram



Gondola



Aerial Tram

Precedents



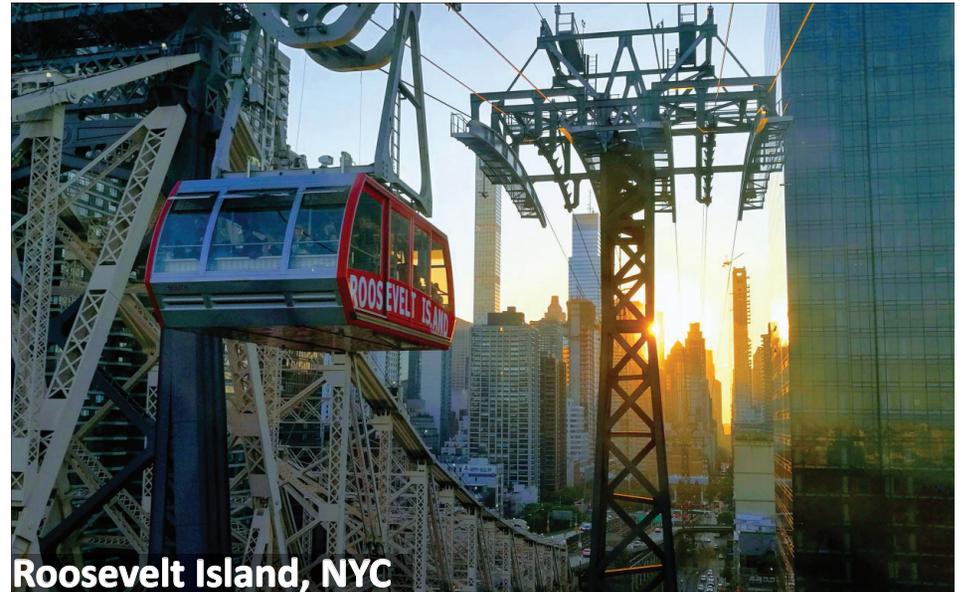
Portland Aerial Tram



Roosevelt Island, NYC



Wroclaw, Poland



Roosevelt Island, NYC

Marquam Hill-North Macadam Connector Report (2002)



Figure 3.12 Gibbs Street Tram with Monocable Tram at Barbur

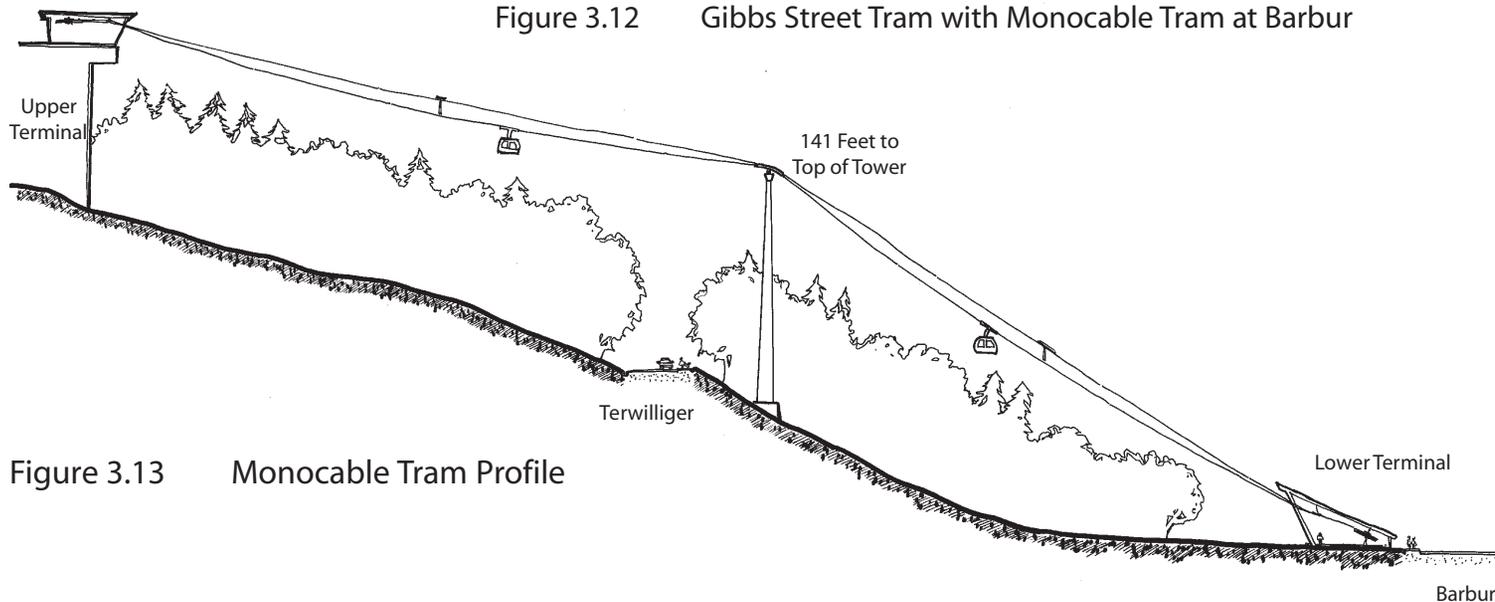


Figure 3.13 Monocable Tram Profile

Marquam Hill-North Macadam Connector Report (2002)

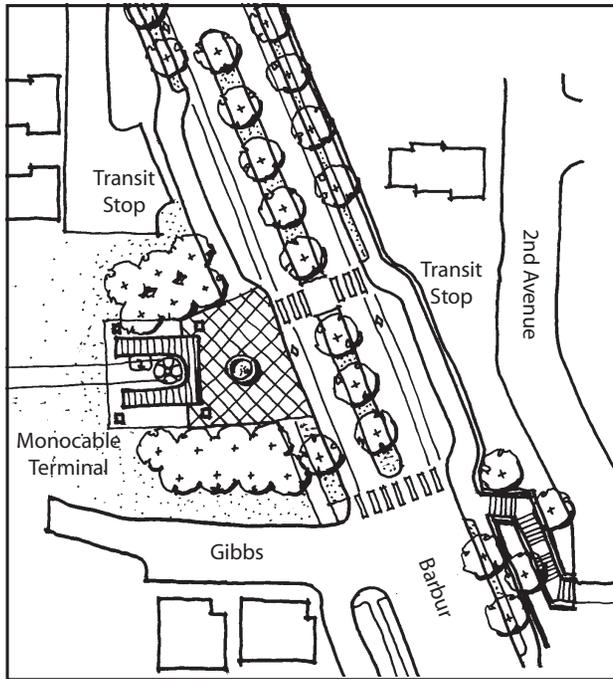
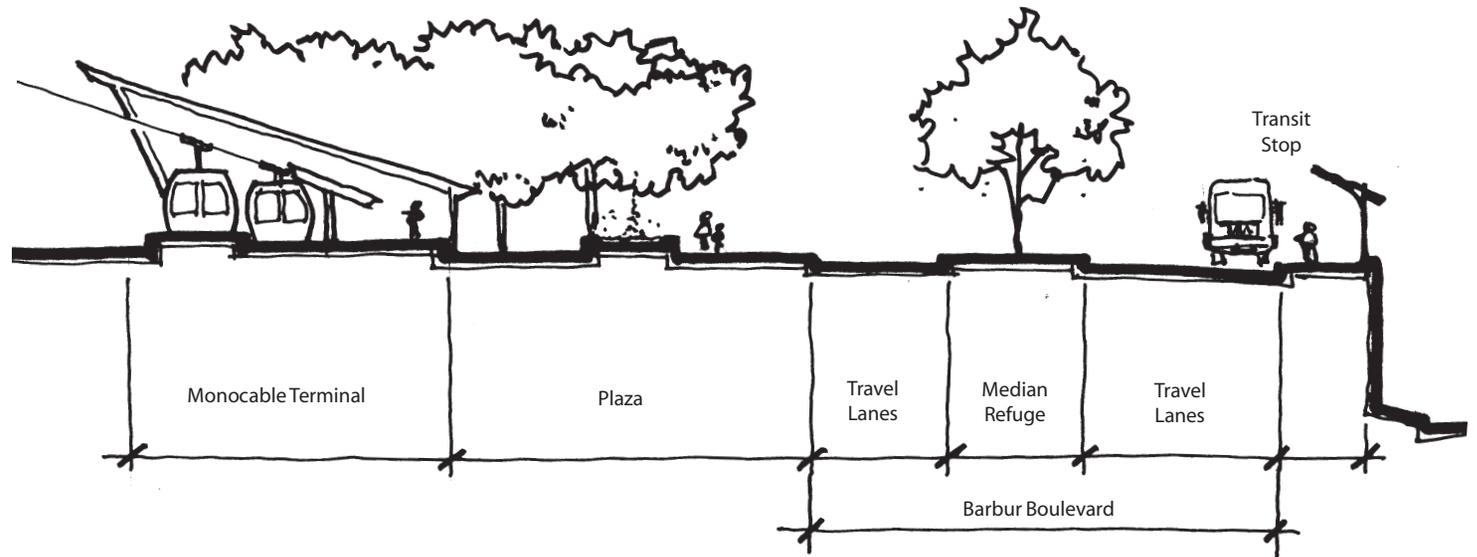


Figure 3.14 Barbur Monocable Station & Crossing Improvements



Gondola

Precedents



Whistler, BC



London, UK



Spokane, WA



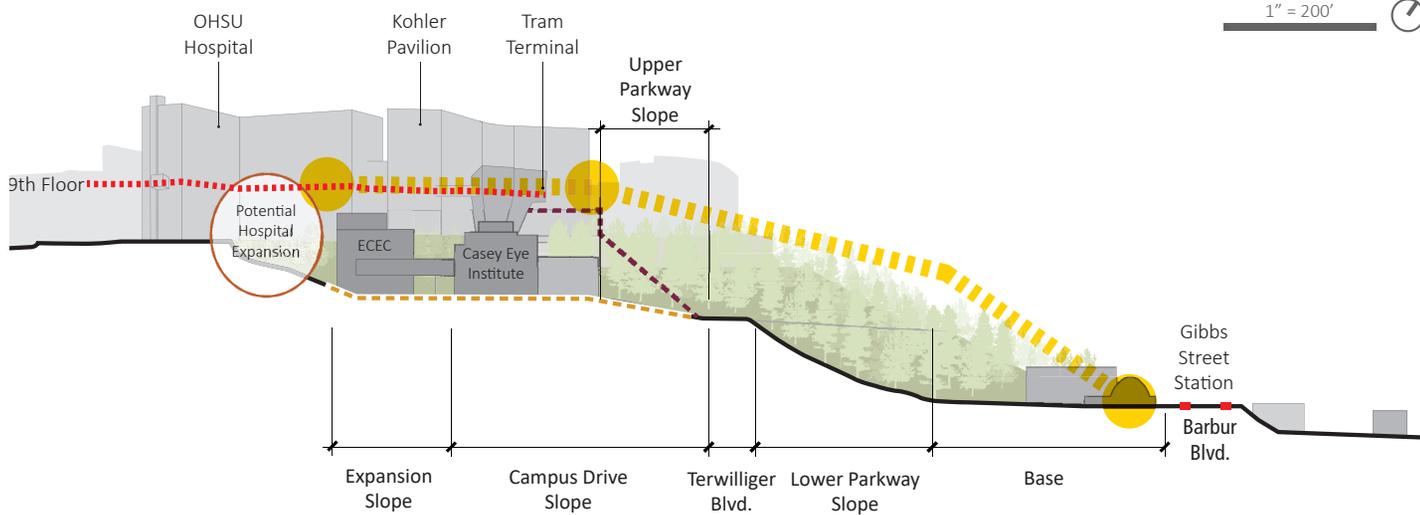
Medellin, Colombia

Aerial Tram + Gondola

Plan



Section



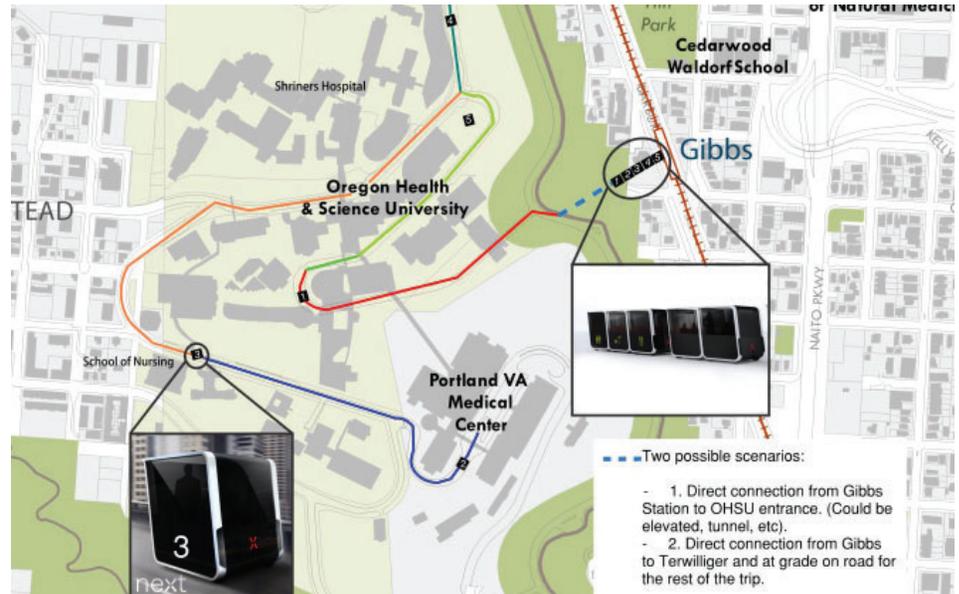
Shuttle Bus

Precedents

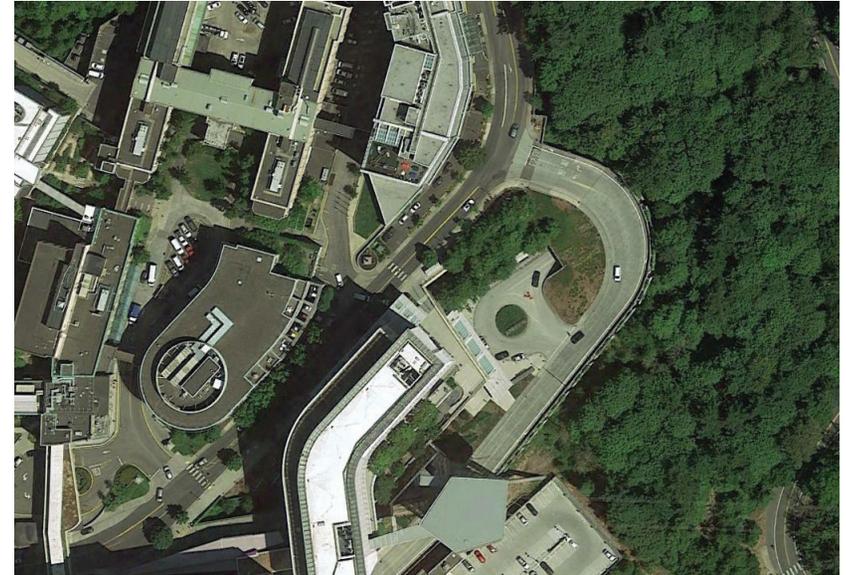
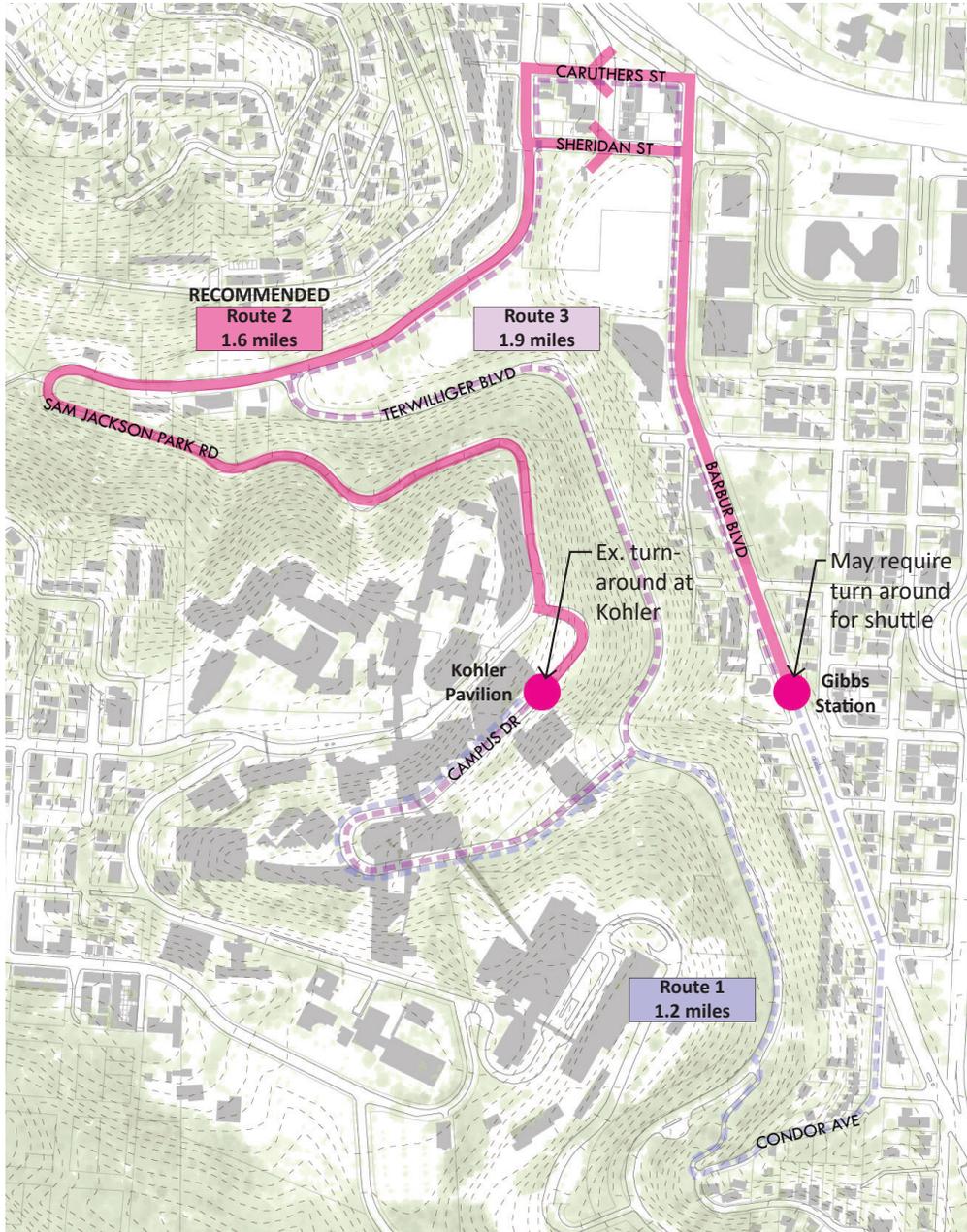


Shuttle Bus

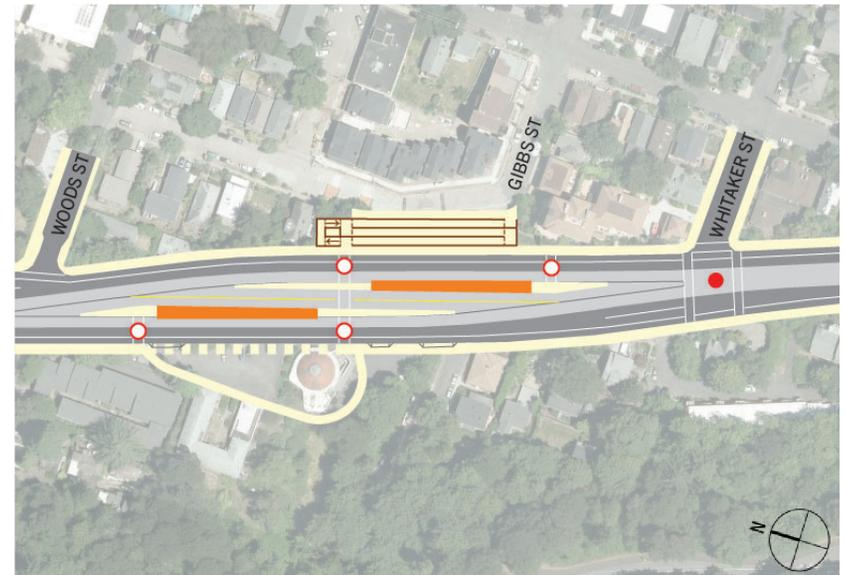
Precedents



Shuttle Bus



Kohler Pavilion Terminus



Gibbs Station Terminus

Roadway At-Grade Crossing

Precedents

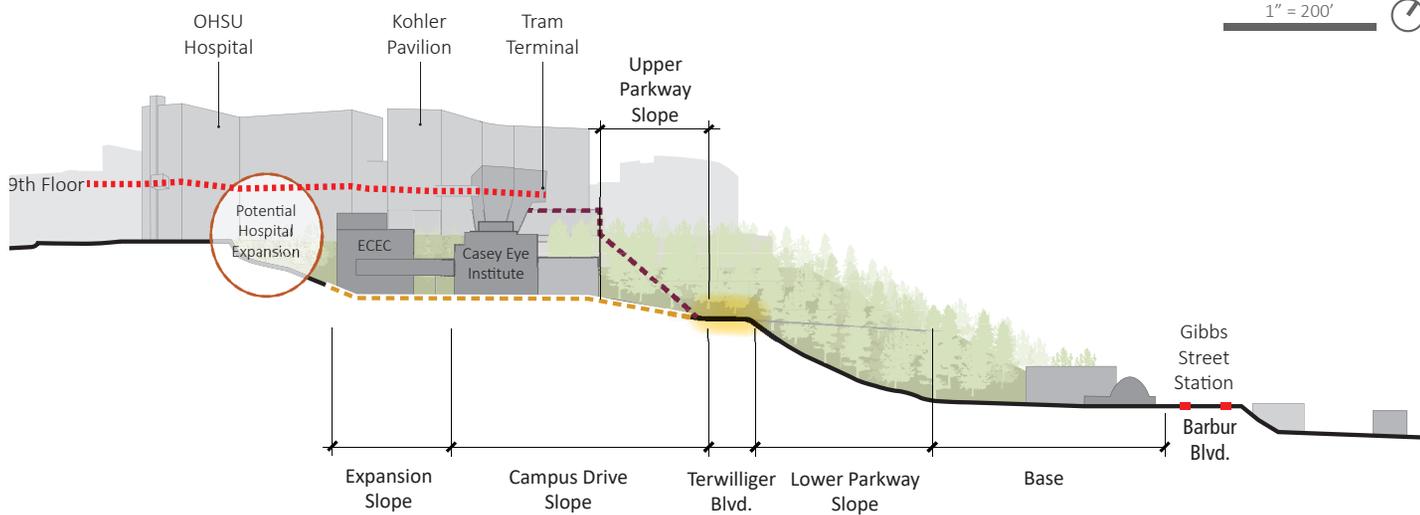


Roadway At-Grade Crossing

Plan



Section



Roadway Undercrossing

Precedents



DEIS - Option 1B (2016-18)

Figure A-25
Marquam Hill Connection 1B: Elevator/Bridge and Recessed Path



DEIS - Option 1C (2016-18)

Figure A-26
Marquam Hill Connection 1C: Elevator/Bridge and Tunnel

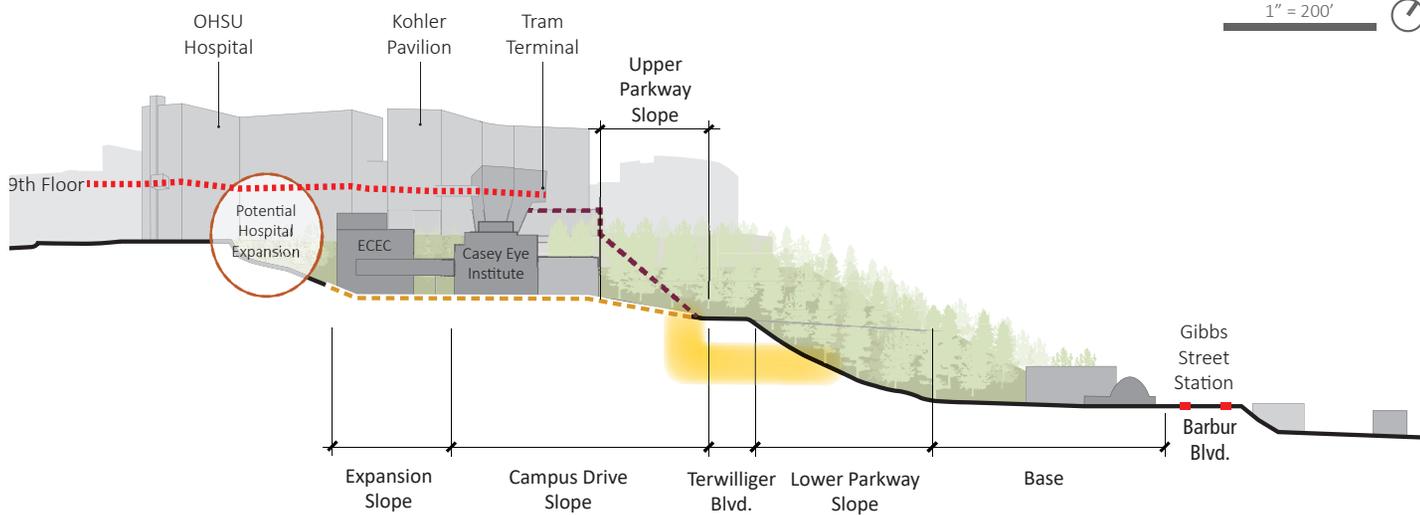


Roadway Undercrossing

Plan



Section



Roadway Overcrossing

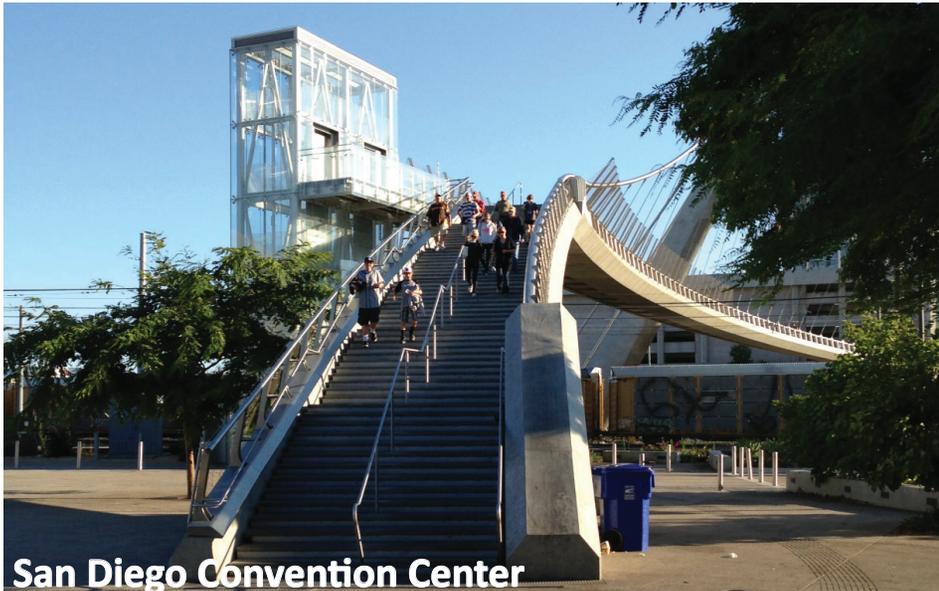
Precedents



Squibb Park, Brooklyn



Chicago Art Institute



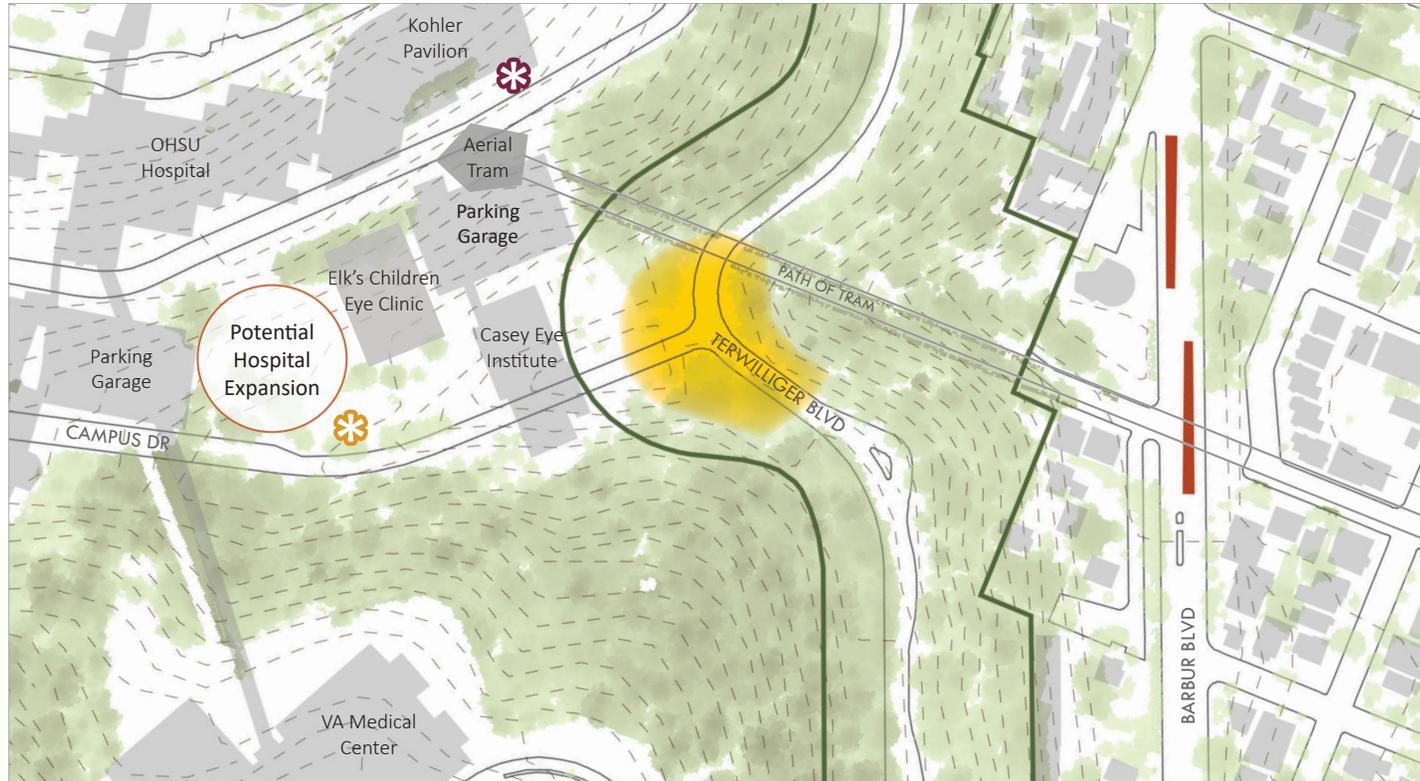
San Diego Convention Center



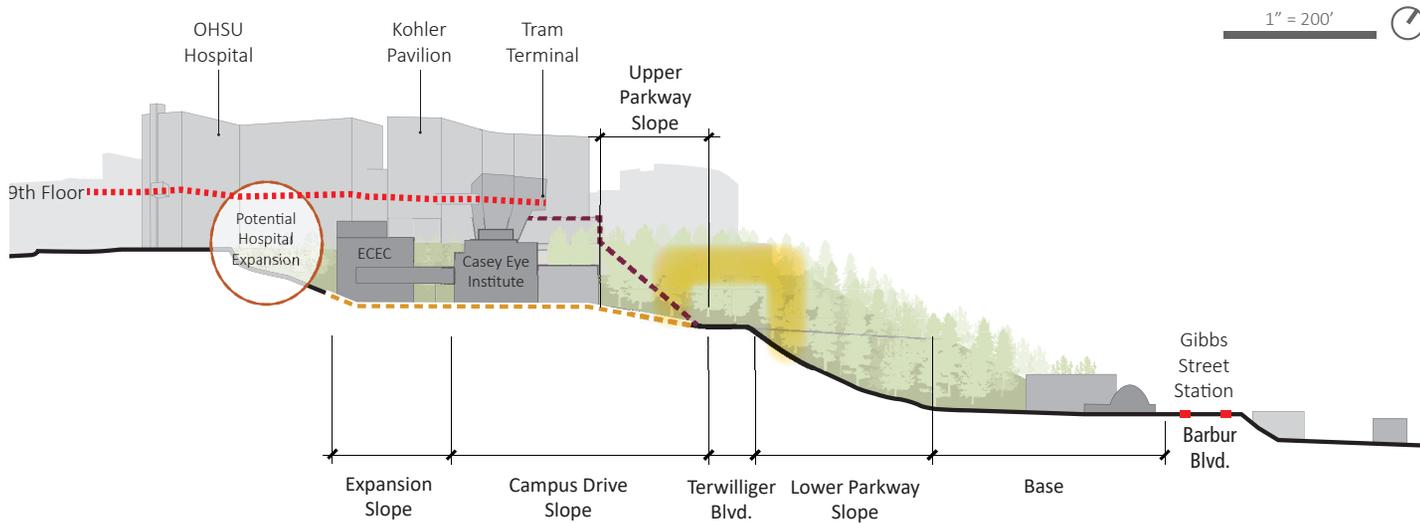
Wildwood Bride, Portland

Roadway Overcrossing

Plan



Section



Working Group Feedback

CONNECTOR TYPE	OVERALL LEVEL OF INTEREST	OPPORTUNITIES	CHALLENGES
Non-mechanical			
Pathway	High	Match SW trails & Parkway aesthetics, low complexity & cost	Steep slopes, not appropriate as primary route for entire distance
Elevated Pathway	Low	Unique relationship to surroundings	Steep slopes & cost efficiency, not appropriate as primary route for entire distance
Mechanical			
Bridge + Elevators	High	Design variety, potential for views	Visibility of structure, cost efficiency
Funicular/Inclined Elevator	High/Medium	Relatively high speed, new type of connection in Portland, potential for views	New technology for operations & maintenance, station area footprint
Tunnel + Elevators	Medium/Mixed	Weather protection, may include moving walkways, etc.	Constructibility & geotechnical conditions, cost efficiency, connection to Parkway
Escalator/Moving Walkway	Low/Mixed	High capacity, low physical effort, continuous	Accessibility, maintenance, weather protection
Aerial Tram	Low/Mixed	High capacity & speed, potentially low impact to Parkway	Fixed capacity, cost efficiency
Gondola	Low	High capacity & speed, potentially low impact to Parkway	Accessibility, cost efficiency
Shuttle Bus	Low	Uses existing roadway network, low impact to Parkway	Circuitous route & anticipated travel time. Not appropriate for primary route
Terwilliger Crossing			
Roadway At-Grade Crossing	High	Access to Parkway trails & bus stops, low complexity & cost	Intersection operations
Roadway Undercrossing	High/Medium	Continuous connection across Terwilliger	Impacts to Parkway, access to Parkway trails & bus stops
Roadway Overcrossing	Low	Continuous connection across Terwilliger	Visual impact to Parkway, access to Parkway trails & bus stops

Connector Types

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