PORTLAND • TIGARD • TUALATIN
SW Corridor
Light Rail Project

Attachment G
to the Scoping Booklet

Marquam Hill Connection Options

October 13, 2016

Overview

The Southwest Corridor Light Rail Project is a proposed 12-mile Metropolitan Area Express (MAX) light rail line connecting Southwest Portland, Tigard and Tualatin. After several years of early planning and refinement, project partners have compiled a package of investments proposed for federal environmental review, known as the "proposed range of alternatives." The proposed range of alternatives includes options for the light rail line itself, as well as complementary investments such as sidewalks or bikeways that would improve access to the line. Public and agency input on the proposed range of alternatives were solicited during the "scoping" period in September 2016. To learn more about the outcomes of the scoping process, visit the project website at www.swcorridorplan.org.

The purpose of this document is to provide additional information on the refinement of concepts that were developed in 2014 for a mechanized pedestrian and bicycle connection between a proposed light rail station on either SW Barbur Boulevard or SW Naito Parkway near SW Gibbs Street and the Marquam Hill medical campuses, including Oregon Health & Science University (OHSU), the Veterans Affairs Portland Health Care System (VA) and the Shriners Hospital for Children. These connection concepts were originally discussed in the September 1, 2016 version of Attachment G. This updated document reflects further refinements to the options, reflecting input received from stakeholders, neighborhood associations, and project partners during the scoping process.

Background and context

A direct light rail tunnel connection to Marquam Hill was removed from further study by the Southwest Corridor Steering Committee in July 2015 because of the adverse construction impacts and high costs relative to the projected ridership gains. As a result, the connection between the light rail alignment and the major employment, health and educational center of Marquam Hill will be provided by an accessible pedestrian and bicycle connection. Because of the elevation difference between Marquam Hill and the proposed light rail station, this connection will be mechanized.

The Marquam Hill connection will be linked to a proposed light rail station in the Lair Hill neighborhood on either Barbur Boulevard or Naito Parkway. Because the Lair Hill neighborhood is separated from Marquam Hill and South Waterfront by both geography and past transportation projects, the connection between the proposed light rail station and these destinations must overcome access barriers. Recent completion of the Darlene Hooley Pedestrian Bridge at Gibbs

Street has created a direct connection between Lair Hill and the South Waterfront. As a result, the Lair Hill station is proposed for the vicinity of Gibbs Street to provide the best connection to the South Waterfront, and the proposed Marquam Hill connection concepts focus on the intersection of Gibbs Street and Barbur Boulevard. In addition to the Marquam Hill connection, the light rail project would provide bicycle and pedestrian improvements to connect Barbur Boulevard and Naito Parkway along Gibbs Street.

Based on several discussions with OHSU, the desired connection point will likely be either the third or seventh floor level at or near the OHSU Kohler Pavilion, allowing access via publicly accessible streets. The OHSU Kohler Pavilion has been identified as a reasonable connection because it has a bank of three elevators that connect to the ninth floor, thus allowing for public access to the greater portion of the north campus and the desired connection point to the common ninth floor circulation level that allows access to most buildings on the OHSU, VA and Shriners campuses. The site of the former School of Dentistry was previously identified as a possible connection point but is currently considered a back-up option due to the uncertainty around future construction timetables on the site.

Concept development and additional designs

In the fall of 2014, two design teams developed a variety of Marquam Hill connection concepts with input from project partners and interested stakeholders, including OHSU, the VA, City of Portland staff, the South Portland Neighborhood Association, the Homestead Neighborhood Association, Friends of Terwilliger and the Southwest Corridor Steering Committee. The five concepts used a variety of tunnels, escalators, elevators and walkways to provide a connection between Barbur Boulevard, SW Terwilliger Parkway and the ninth floor circulation of the medical campuses on Marquam Hill. The concepts aspired to be "financially and structurally feasible" while meeting requirements of the Americans with Disabilities Act (ADA) for access. Those concepts can be found in the September 1, 2016 version of Attachment G to the Scoping Booklet. The updated designs for a robust connection to Marquam Hill from a light rail station on Barbur or Naito are described in more detail in this document. Utilizing topographic information and more input about preferred routing options from stakeholders, these more detailed plan drawings will allow for a better discussion of construction impacts during the DEIS portion of the study. Additionally, during this phase of the design review, it became apparent that there were two discrete connections within the larger connection concept. First, the connection from Barbur or Naito to Terwilliger presents one segment. The second segment runs from Terwilliger Parkway to a location near the Kohler Pavilion on the OHSU campus.

Next steps

Project partner staff will review public input on the updated Marquam Hill connection options and offer a recommendation to the SW Corridor Steering Committee on which options to study further in the Draft EIS. Construction footprints for individual elements of the connection will be utilized during the study to determine impacts associated with the transit project.

Connection concepts

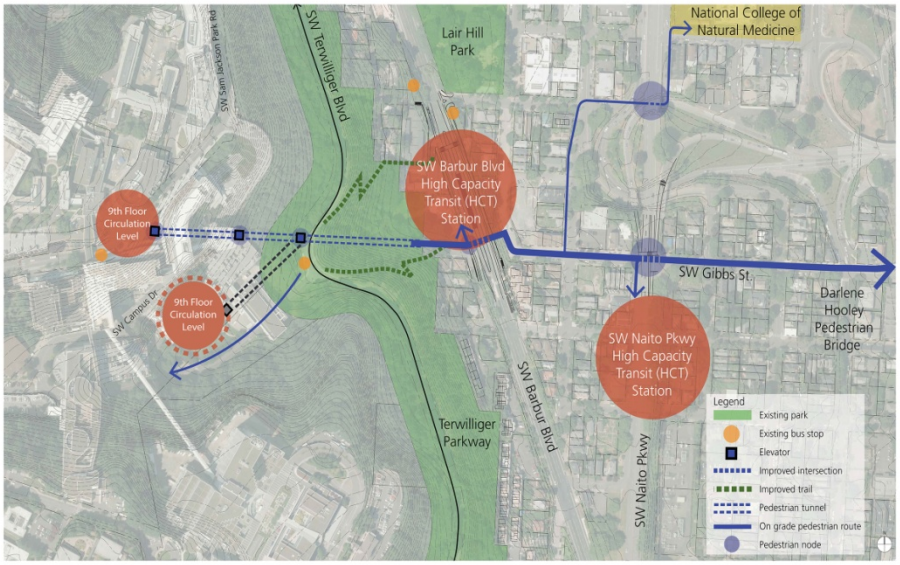
Four different design concepts evolved from the original five concepts in 2014, with each one representing a mixed approach, utilizing different technologies and construction methods to address the unique connections along the route. Each concept is explained in more detail with the associated visuals on the following pages.

1. Pedestrian tunnel with elevators
2. Escalator, stair, and inclined elevator
3. Elevator and bridge with covered walkway
4. Multiple elevator and bridge

1. Pedestrian tunnel with elevators

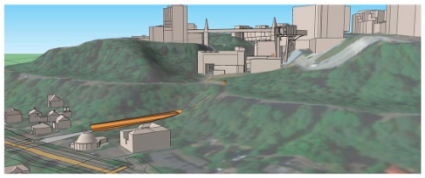
This design concept is the least changed from the initial connection concept work. As before, the campus would be served by pedestrian tunnel starting near Gibbs Street to the west of Barbur Boulevard and extending under Terwilliger Parkway and Marquam Hill. The tunnel would make a slight turn in this design, to accommodate the need to take users to a connection point near Kohler Pavilion. At least two elevator cores would connect to the tunnel, with one serving Terwilliger Parkway and a second serving SW Campus Drive near the east side of the Kohler Pavilion. Additional analysis of existing geotechnical conditions will be required, should this option progress to the DEIS.. Based on future needs, additional elevator locations could be studied.

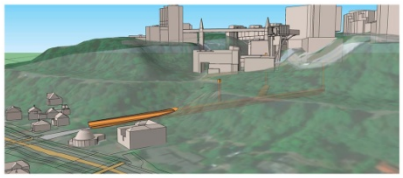
Concept A - Tunnel with elevators provide direct access



SW Corridor Connector Objectives

1. Provide 24 hour pedestrian access to OHSU & Terwilliger Parkway from Naito & Barbur.
2. Provide universal accessibility & reliable facilities.
3. Provide safety & security in all connection and modes.
4. Preserve & protect Terwilliger Parkway & views.
5. Select a type of connection that can grow with future ridership.
6. Offer alternative routes.
7. Design beautiful, human-scale connections.
8. Provide a connection to the 'heart' of OHSU.
9. Minimize vehicular & pedestrian conflict.

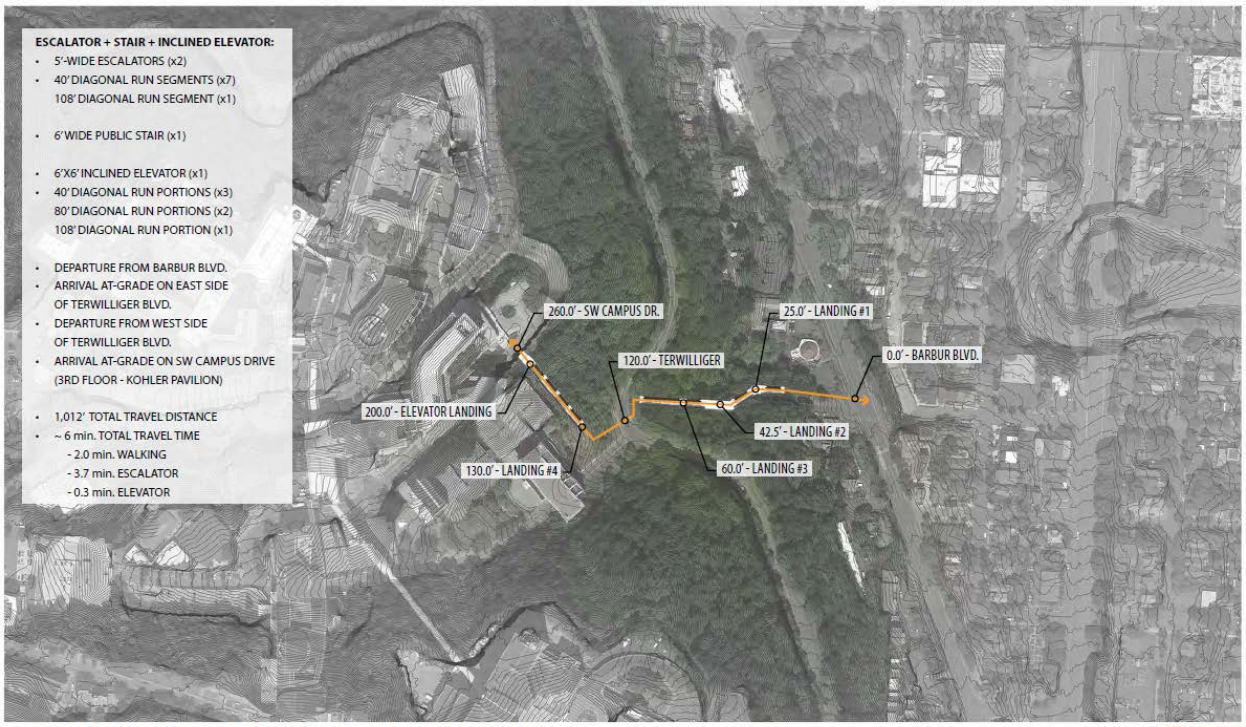




Mayer/Reed **SW Corridor Connector** | Concept Phase | November 10, 2014 | 1

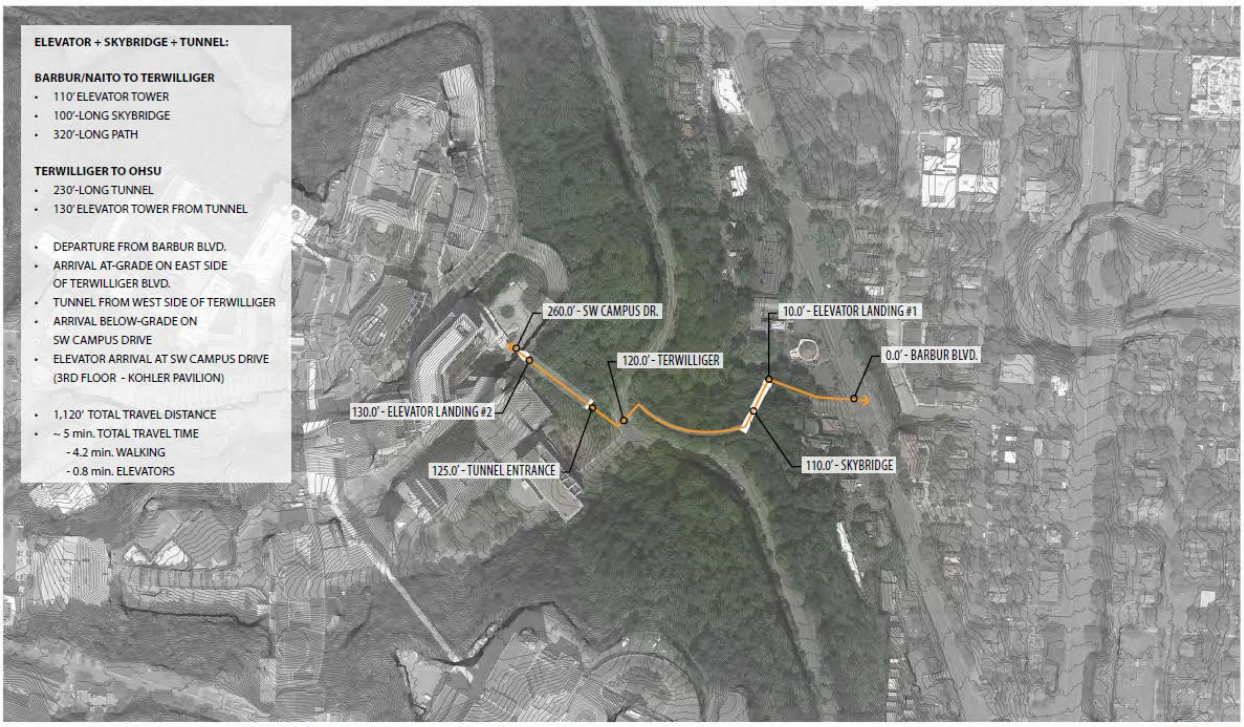
2. Escalator, stair, and inclined elevator

This design concept is a combination of the previous two escalator concepts discussed in 2014, along with an inclined elevator to meet ADA requirements. The covered escalator combined with the inclined elevator would be built on structure, directly along the Gibbs alignment through Terwilliger Park. Based on existing grades along the hillside within Terwilliger Park, multiple escalator runs would be necessary to make the full connection. This would require multiple landings to transfer passengers between the escalators, along with multiple stops for the inclined elevator. The estimated cross-section including the escalators, inclined elevator and stairs is 24 ft. This cross-section would run the entire length of the connection. The concept would include an at-grade crossing of Terwilliger Parkway and a second escalator/inclined elevator running from a landing just west of Terwilliger Parkway to a location at grade along SW Campus Drive, near the the 3rd Floor of the OHSU Kohler Pavilion.



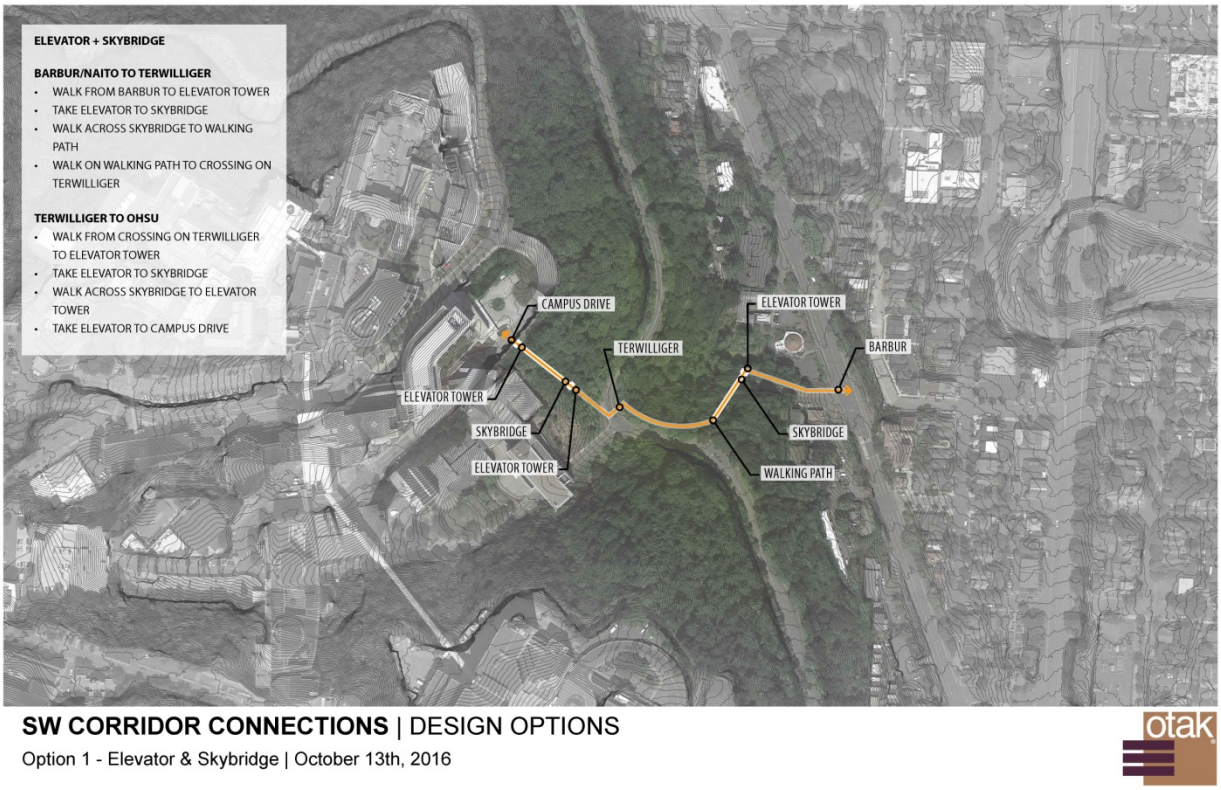
3. Elevator with bridge and covered walkway

This design concept is a mix of previous connection options that were explored in 2014. In this scenario, a pathway would extend west of Barbur at Gibbs Street to diagonally follow the grade, and then arrive at a landing near the base of the slope. Riders would ascend the elevators at this location, to a skybridge built below the view of Terwilliger Parkway. This short bridge would land just below Terwilliger, connecting to a pedestrian walkway along the parkway leading to an at-grade or below grade landing near SW Campus Drive and the Casey Eye Institute. After crossing Terwilliger, users would enter a covered walkway (cut-and-cover tunnel) that would ascend to a bank of elevators just below SW Campus Drive. The elevators could be taken to either the 3rd floor or 7th floor of the Kohler Pavilion. This would allow for access to the northern portion of campus along Sam Jackson Road, or to the elevators in the Kohler Pavilion and the 9th floor for general circulation within the OHSU/VA campus.



4. Multiple Elevator and Bridge

This concept is similar to the previous Elevator and Bridge concept from Barbur to Terwilliger, with some modifications. A pathway would extend west of Barbur at Gibbs Street to diagonally follow the grade, and then arrive at a landing near the base of the slope. From there, a simple elevator tower would travel up to a pedestrian bridge. The bridge would be built below the grade of Terwilliger Parkway and slowly ascend among the trees to a below grade or at grade landing on the east side of the road. Upon crossing Terwilliger, users would walk to another bank of elevators that would provide access to an additional bridge that would eventually land on the 3rd or 7th floors near the Kohler Pavilion. The tower and bridge elements on the OHSU campus would be designed and constructed as close to the existing buildings as possible, to showcase the new connection as a piece of the campus itself and not a visually separate structure, thus limiting impacts to the views along the parkway.



SW CORRIDOR CONNECTIONS | DESIGN OPTIONS

Option 1 - Elevator & Skybridge | October 13th, 2016