Bonita to Bridgeport Timeline

**PROCESS FOR REFINING ROUTE**
between Bonita and Bridgeport

**2011-2016**
- Planning
- Design
- Environmental Review
- Draft conceptual design report
  - November 2019
- Final conceptual design
  - March 2020

**2017**
- Federal Funding
  - Potential regional funding vote
    - November 2020
  - Federal funding
    - September 2022

**2018**
- Mailing to potentially affected property owners
- Conversations with individual property owners
- Public meeting (Open House)
- CAC meeting
- Steering Committee meeting

**2019**
- January
- February
- March
- April
- May
  - recommendations
  - decision

**2020 - 2027**
- Construction
- Testing and training
- Service begins
  - September 2027
**STAFF FINDINGS** on LPA AT-GRADE, REFINED ROUTE are based on the following:

1. Fewer business impacts
2. Lower costs with fewer risks to project schedule
3. Station at Upper Boones Ferry Road serves employment center
4. Multiple potential designs for Bridgeport Station, including option with no business displacements

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**FOLLOW-UP** on LPA AT-GRADE, REFINED ROUTE

Detailed traffic study in late summer 2019 will help partners collaborate on at-grade crossing design:

- Safety – follow industry best practices
- Transit reliability and travel time – make transit fast and easy
- Traffic issue – motor vehicle queuing, level of service, delay – meet 2035 “no-build” conditions (2045 at I-5 ramps)
<table>
<thead>
<tr>
<th>Traffic</th>
<th>LPA 2018 IRP in DEIS</th>
<th>LPA Elevated</th>
<th>LPA At-grade Refined</th>
<th>74th Ave Refined</th>
<th>East of WES</th>
<th>74th Ave Refined</th>
</tr>
</thead>
<tbody>
<tr>
<td>At-grade crossings</td>
<td>72nd Ave, Upper Boones, with queuing concern</td>
<td>—</td>
<td>72nd Ave, Upper Boones, with queuing concern</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Bridgeport Park &amp; Ride Location</td>
<td>South of Lower Boones</td>
<td>South of Lower Boones</td>
<td>South of Lower Boones</td>
<td>North of Lower Boones</td>
<td>North of Lower Boones</td>
<td>North of Lower Boones</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Light Rail Performance</th>
<th>N/A</th>
<th>30 seconds faster</th>
<th>30 seconds slower</th>
<th>60 seconds faster</th>
<th>60 seconds faster</th>
<th>60 seconds faster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel time difference from LPA</td>
<td>—</td>
<td>Risk of delay</td>
<td>—</td>
<td>Risk of delay</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>On-time performance</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

| Property Acquisitions | Full or partial parcel acquisitions | 31 | 28 | 33 | 32 | 34 | 24 |

<table>
<thead>
<tr>
<th>Relocations</th>
<th>Businesses</th>
<th>12</th>
<th>11</th>
<th>8</th>
<th>63</th>
<th>10</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>320</td>
<td>270</td>
<td>130</td>
<td>480</td>
<td>190</td>
<td>250</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Impacts</th>
<th>Acres of floodplain</th>
<th>0.00</th>
<th>0.00</th>
<th>0.00</th>
<th>0.80</th>
<th>0.00</th>
<th>0.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres of wetland</td>
<td>0.01</td>
<td>0.01</td>
<td>0.60</td>
<td>0.56</td>
<td>0.14</td>
<td>0.26</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Land Use, Trails</th>
<th>Differences in land uses served by an Upper Boones station</th>
<th>More commercial, industrial</th>
<th>More commercial, industrial</th>
<th>More commercial, industrial</th>
<th>More residential</th>
<th>More residential</th>
<th>More residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional trail opportunity</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>On-street</td>
<td>On-street</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risks</th>
<th>Railroad interface</th>
<th>Union Pacific no existing agreement</th>
<th>Union Pacific no existing agreement</th>
<th>Union Pacific no existing agreement</th>
<th>Outside railroad right-of-way</th>
<th>Portland &amp; Western (WES), shared use agreement</th>
<th>Portland &amp; Western (WES), shared use agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities</td>
<td>—</td>
<td>High risk</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

| Cost | Difference from most recent full-project cost estimate | (−$55m) | — | (−$53m) | (−$31m)* | (−$77m)* | $12.5m* |

*Note: Additional environmental study required.
Assumptions for Relocation vs. Partial Impacts

- **Potential Full Parcel Impact (Relocation)**: Building and more than 50% parcel impacted.
- **Potential Building Impact (Relocation)**: Building, not entire parcel.
- **Potential Partial Parcel Impact**: Landscaping, parking, drive aisle.
Adjacent freight and light rail tracks will require regrading of Upper Boones Ferry Road, traffic operation and project footprint to be studied.

The short distances between the existing signalized intersections (Sequoia and 72nd) and possible pedestrian crossing locations makes signal coordination challenging and may cause delays for all modes.
Future Planned Projects
Figure 3.3-2
Light Rail Project Rider Distribution
*Project riders on alignment*
MARCH AND APRIL COMMENT CARDS
GATHERED FROM PUBLIC OPEN HOUSES AND ONLINE

PREFERRED OPTIONS

<table>
<thead>
<tr>
<th>Option</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPA Elevated (Option 2)</td>
<td>103</td>
</tr>
<tr>
<td>74th Ave Refined (Option 5)</td>
<td>57</td>
</tr>
<tr>
<td>LPA Refined (Option 3)</td>
<td>57</td>
</tr>
<tr>
<td>LPA 2018 (Option 1)</td>
<td>57</td>
</tr>
<tr>
<td>East of WES (Option 6)</td>
<td>29</td>
</tr>
<tr>
<td>74th Ave (Option 4)</td>
<td>4</td>
</tr>
</tbody>
</table>

Respondents could choose multiple options.

TOP OPEN-ENDED COMMENTS

- Concern about business impacts (117)
- Circuit Bouldering Gym (54)
- Concern about traffic impacts (52)
- Cost Considerations (26)
- Prefer lower cost option (17)
- Prefer higher cost for lower impacts (9)
April 25<sup>th</sup> Open House

- About 30 people; 10 comment cards
- Many supported LPA elevated (for traffic and avoiding business impacts)
- A few supported 74th Ave, refined (for station at 74th & Upper Boones)
- A few supported LPA at-grade, refined
- Many advocated for bike and pedestrian access to stations
Discussion & Recommendations
Community Advisory Committee
Marquam Hill Connector
May 2, 2019
Marquam Hill Connector
## Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Rough Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge + Elevator</td>
<td>$15 – 25 million</td>
</tr>
<tr>
<td>Inclined Elevator (Funicular)</td>
<td>$35 – 45 million</td>
</tr>
<tr>
<td>Aerial Tram</td>
<td>$50 – 85 million</td>
</tr>
<tr>
<td>Tunnel + Elevator</td>
<td>$55 – 125 million</td>
</tr>
</tbody>
</table>
Timeline

MHC Concept Development

- January: Existing conditions & draft criteria
- February: Finalize criteria & review types
- March: Refine options
- April: Select preferred option
- May: Online Engagement
- June: Open House

MHC Design Phase

- Project Development (2019-2020)
- Final Engineering (2021-2022)

- Steering Committee selects MHC type

SWC Construction

- Local Permit
- SWC opens (2023-2027)

Public Involvement

- WG + GRC meetings
- City Council Work session
- On-going SWC open houses & CAC meetings

Great Places SW Corridor
Outreach

- Open house: April 10
- Online open house: April 15 - 29
- Citizens for Accessible Transit: April 11
- Portland Design Commission briefing: April 18
- Citizens Advisory Committee: May 2

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- Green Ribbon Committee meetings: May 8 + June 5
- Portland City Council work session: June 4
- Citizens Advisory Committee: June 6
- Steering Committee Decision: June 10
Bridge + Elevator

Pros:

• Simple and cost-effective
• Limited impacts on landscape
• Canopy walk and views
Bridge + Elevator

Cons:

• Long walking distance
• Limited access to hill destinations
• Safety and exposure to elements
Inclined Elevator

Pros:

• Cool, unique, iconic!
• Limited walking required
• Safe and weather-protected
Inclined Elevator

Cons:

• Expensive
• Unfamiliar technology
• Possible impacts to wildlife and forest
Aerial Tram

Pros:

• Access to upper campus
• Maintains context of Terwilliger Parkway
• Good views and fun experience
Aerial Tram

Cons:

• Expensive: capital, operations, maintenance
• Limited capacity with potential long wait times
• Possible tower and cable view obstructions
Tunnel + Elevator

Pros:

• Maintains context of Terwilliger Parkway
• Sheltered from the elements
Tunnel + Elevator

**Cons:**

- Expensive: capital, operations, maintenance
- Long walking distance
- Does not feel safe and comfortable
Preferred Options

- Bridge + Elevator
- Inclined Elevator
In-Person Open House

How well does the option meet the project goals?

- **Inclined Elevator**
  - Not very well: 18%
  - Not at all: 6%
  - Somewhat: 35%
  - Well: 12%
  - Very well: 29%

- **Bridge & Elevators**
  - Not very well: 6%
  - Not at all: 6%
  - Somewhat: 33%
  - Well: 28%
  - Very well: 28%

- **Aerial Tram**
  - N/A

- **Tunnel & Elevators**
  - Not very well: 25%
  - Not at all: 13%
  - Somewhat: 38%
  - Well: 19%
  - Very well: 6%

Total Responses: 17
Online Open House

How well does the option meet the project goals?

<table>
<thead>
<tr>
<th>Option</th>
<th>Not at all</th>
<th>Not very well</th>
<th>Somewhat</th>
<th>Well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclined Elevator</td>
<td>9%</td>
<td>14%</td>
<td>22%</td>
<td>25%</td>
<td>30%</td>
</tr>
<tr>
<td>Bridge + Elevator</td>
<td>12%</td>
<td>17%</td>
<td>23%</td>
<td>25%</td>
<td>22%</td>
</tr>
<tr>
<td>Aerial Tram</td>
<td>12%</td>
<td>21%</td>
<td>24%</td>
<td>25%</td>
<td>18%</td>
</tr>
<tr>
<td>Tunnel + Elevator</td>
<td>21%</td>
<td>27%</td>
<td>22%</td>
<td>19%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Total Responses: 291
Community Advisory Committee
Park & Rides
May 2, 2019
Overview

- Goals & Objectives
- Inventory & Usage
- Existing Park & Rides
- Lessons Learned
- Considerations
- Next Steps
Overview

What are 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

Eastside: 181st Ave Park & Ride

Blue Line: Sunset Park & Ride
Goals & Objectives

Access:
- Station access for all modes
- Equitable, efficient, convenient

Cost:
- FTA’s cost effectiveness guidelines
- Balance Park & Ride costs with other project costs
- Responsible use of public resources, land

Context:
- Potential trigger of traffic mitigation
- Existing land use, density
- Future land use, zoning, and community vision
Goals & Objectives

Other Considerations:

- Visual impact, transit service enhancement, environmental impact, etc.
- Transit oriented development
- Respond to public comments from the DEIS
- Ongoing engagement with public and partners
Background

TriMet Park & Ride Policy (2005)

- In 2040 Regional and Town centers, design facilities that minimize the use of developable urban land
- Prioritize new facilities to provide convenient access for residents of under-served transit areas
- Protect the pedestrian and neighborhood environment and opportunities for Transit-oriented Development (TOD)
- Provide location and design that protects pedestrian and bike traffic safety with a focus on eyes on the street
- Maximize efficiency through the use of partnerships within the public and private sectors
Existing Park & Rides

What criteria affects utilization?

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Westside MAX</td>
<td>3643</td>
<td>82%</td>
<td>85%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Eastside MAX</td>
<td>2967</td>
<td>55%</td>
<td>47%</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Interstate MAX</td>
<td>600</td>
<td>40%</td>
<td>51%</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Green Line MAX</td>
<td>1990</td>
<td>25%</td>
<td>30%</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Orange Line MAX</td>
<td>719</td>
<td>n/a</td>
<td>100%</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Westside Bus</td>
<td>1329</td>
<td>68%</td>
<td>62%</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>WES</td>
<td>300</td>
<td>35%</td>
<td>52%</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

*Green Line P&R usage has declined, but utilization rate has increased because of a reduction of 300 spaces at Powell P&R.
Existing Park & Rides

- Park & Ride users typically utilize their closest station
- Predominant use is home-based trips to destinations with restrictive parking policies and costs

Fall 2018 TriMet License Plate Survey Data/Trip Origins
Lessons Learned

• Utilization:
  • Varies within TriMet’s system
  • Decreases with facility age
  • Changes as adjacent land use changes
  • Is higher where other modes are limited (ex: no sidewalks, bike lanes)
  • Is higher at first and last facilities along a MAX line

• Regional modeling tools have become more sophisticated
Considerations

Capital Cost
• Parking is expensive

Cost Effectiveness
• Required metric by the Federal Transit Administration

Operating Costs / Fees
• Existing TriMet Park & Rides are currently free
• Operating costs are approx. $1 per day per space
• Coordination of neighborhood parking and park & ride management
Considerations

Environmental Impact

• Greenhouse gas emissions
• Congestion, air pollution & auto collisions
Considerations

Transit Oriented Development
• Surface can evolve into other uses
• “Future-proofing” station areas

Photo credit: Walker Macy
Considerations

**Ridership and Access**
- One parking space = Two daily trips
- Access for those with mobility needs
- Mode of access: Walk – Transfer – Drive
- Parking competes with Service Enhancement Plan

**Mobility is rapidly changing**
- Decline in automobile ownership & vehicle miles traveled (VMT)
- Shared ride services (cars, bikes, scooters)
- Autonomous vehicles
Next Steps

**May/June**
- Online engagement

**June CAC**
- More background and discussion
- Potential Park & Ride scenarios

**July CAC**
- Discussion and recommendations

**Ongoing**
- Station design
Questions and Comments

Website: www.trimet.org/swcorridor
Email: swcorridor@trimet.org
Phone: 503.962.2150