West Seattle and Ballard Link Extensions

Initial assessment results

System Expansion Committee | 09/12/2019
Why we are here

• Review initial assessment of potential additional alternatives suggested during the EIS scoping period.

• Inform a future decision on whether the alternatives should be studied further in the Draft EIS.
May 23rd Board Action

Identified Draft EIS alternatives:

- Preferred Alternatives
- Preferred Alternatives with Third Party Funding
- Other Draft EIS alternatives

Board also requested initial assessment of potential additional alternatives suggested during EIS scoping period.
**Initial assessment alternatives**

- Yancy/Andover Elevated
- Pigeon Point Tunnel
- SODO Elevated
- 20th Ave Tunnel Ballard
### Initial assessment timeline

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<th>Sound Transit Board</th>
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Initial assessment results
Evaluated using criteria from Level 3

- Reliable service
- Travel times
- Regional connectivity
- Transit capacity
- Projected transit demand
- Regional centers served
- ST Long-Range Plan consistency
- ST3 consistency
- Technical feasibility

- Financial sustainability
- Historically underserved populations
- Station area land use plan consistency
- Modal integration
- Station area development opportunities
- Environmental effects
- Traffic operations
- Economic effects
Initial assessment alternatives

- Yancy/Andover Elevated
- SODO Elevated
- Pigeon Point Tunnel
- 20th Ave Tunnel Ballard
Initial assessment alternatives

Descriptions

Key considerations

Funding-related consideration
Initial assessment alternative

Yancy/Andover Elevated
Description: Yancy/Andover Elevated

- Elevated along Andover Street and Avalon Way
- Connects to south Duwamish crossing
- Connects to elevated Avalon Station
- Delridge Station north of Andover
Key considerations: Yancy/Andover Elevated

- Increases potential business and freight effects
- Less accessible Delridge station location
- Additional curves on high guideway with steep grades
- Lessens potential residential effects overall, but increases along Avalon Way
- Avoids Golf Course

Similar comparative estimate as ST3 Representative Project
Initial assessment alternative
Description: Pigeon Point Tunnel

- Connects to tunnel alternative to West Seattle Junction
- Crosses Duwamish south of existing West Seattle Bridge
- Further south Delridge station location
- Tunnel through Pigeon Point
**Key considerations: Pigeon Point Tunnel**

- More accessible station due to south location and lower height
- Avoids proximity to West Seattle Bridge and BNSF railroad bridge
- More direct route and avoids steep grades
- Less area affected in Duwamish Greenbelt, but bisects habitat area; closer to known archaeological site
- Requires 3rd Party funding (+ $900 M*)
  - Includes two tunnels: West Seattle Junction Tunnel (+ $700 M*) and Pigeon Point Tunnel (+ $200 M*)
- Fewer potential business and freight effects
- Tunnel lessens visual effects
- Similar potential residential effects, but at different locations

* Compared to ST3 Representative Project
Initial assessment alternatives

Level 3 Alternatives - ST3 Representative Project

Level 3 Alternatives - At-Grade

not carried forward

Double Elevated

Partial Elevated (refinement)
Description: SODO Double Elevated

Elevates new and existing SODO Station and light rail lines

Maintains Lander and Holgate at-grade
Key considerations: SODO Double Elevated

- Maintains existing Lander Street at-grade
- Facilitates transit integration with E3 busway maintained and platform closer to Lander
- Requires lowering of Holgate Street for guideway clearance
- Requires two shutdowns of Central Link during construction; could disproportionately affect minority and low-income populations
- Constructs two elevated guideways in poor soils; increased potential business effects
- Requires 3rd Party funding (+ $300 M*)

* Compared to ST3 Representative Project. Estimate is + $500 M compared to Preferred Alternative (SODO At-Grade).
Description: SODO Partial Elevated (refinement)

Elevates new light rail line and SODO Station; maintain existing light rail at-grade

Maintains Lander at-grade; includes Holgate roadway overcrossing
Key considerations: SODO Partial Elevated (refinement)

- Facilitates transit integration with E3 busway maintained and platform closer to Lander
- Maintains at-grade Lander Street and gated at-grade crossing of existing light rail line
- Constructs elevated guideway in poor soils; increased potential business effects
- Similar comparative estimate as ST3 Representative Project*
- Holgate roadway overcrossing eliminates light rail/traffic conflicts

* Comparative estimate is + $200 M compared to Preferred Alternative (SODO At-Grade).
Initial assessment alternative

20th Ave Tunnel
Ballard
Initial assessment alternatives

20th Ave Tunnel
Ballard – BNSF Portal

20th Ave Tunnel
Ballard – Thorndyke Portal (refinement)
**Description:** 20th Ave Tunnel Ballard — BNSF Portal

- Elevated over BNSF tracks
- Tunnel portal in BNSF property
- Tunnel station at 20th
- Longer tail tracks
- Elevated Interbay station at Dravus
- Tunnel under Salmon Bay
Key considerations: 20th Ave Tunnel Ballard – BNSF Portal

- Requires relocation of very large underground utilities adding potential constructability challenges
- May require relocation of some BNSF operations
- Station at 20th closer to core of Ballard Hub Urban Village
- Greater potential residential effects
- Requires long span over BNSF tracks
- Shorter tunnel under Salmon Bay
- Greater potential construction effects, property constraints/effects, and constructability challenges in Ballard core
- Requires 3rd Party funding (+ $750 M*)

* Compared to ST3 Representative Project
Description: 20th Ave Tunnel Ballard – Thorndyke Portal (refinement)
**Key considerations:** 20\textsuperscript{th} Ave Tunnel Ballard – Thorndyke Portal (refinement)

- Requires relocation of large underground utilities adding potential constructability challenges
- Station at 20\textsuperscript{th} closer to core of Ballard Hub Urban Village
- Longer tunnel under Salmon Bay
- Potential retrofit or reconstruction of Dravus and Emerson bridges, adds engineering complexity and risk
- Greater potential construction effects, property constraints/effects, and constructability challenges in Ballard core
- Requires 3\textsuperscript{rd} Party funding (+ $450 M*)

*Compared to ST3 Representative Project*
Comparative estimates and schedule

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<th>Comparative Estimate (2018$)</th>
<th>Schedule</th>
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<td>Schedule risk</td>
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* Pigeon Point Tunnel Alternative connects to West Seattle Junction Tunnel stations only. Comparative estimate includes +$200 M for Pigeon Point Tunnel and +$700 M for West Seattle Junction Tunnel.
Schedule and next steps
# Initial assessment timeline

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Environmental Review

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- EIS kickoff
- Conceptual Engineering
- Develop DEIS
- Station planning activities
- Publish DEIS and public comment period

ST Board confirms or modifies Preferred Alternative

Schedule risk if alternatives added
Thank you.