



South King County HCT Corridor Study

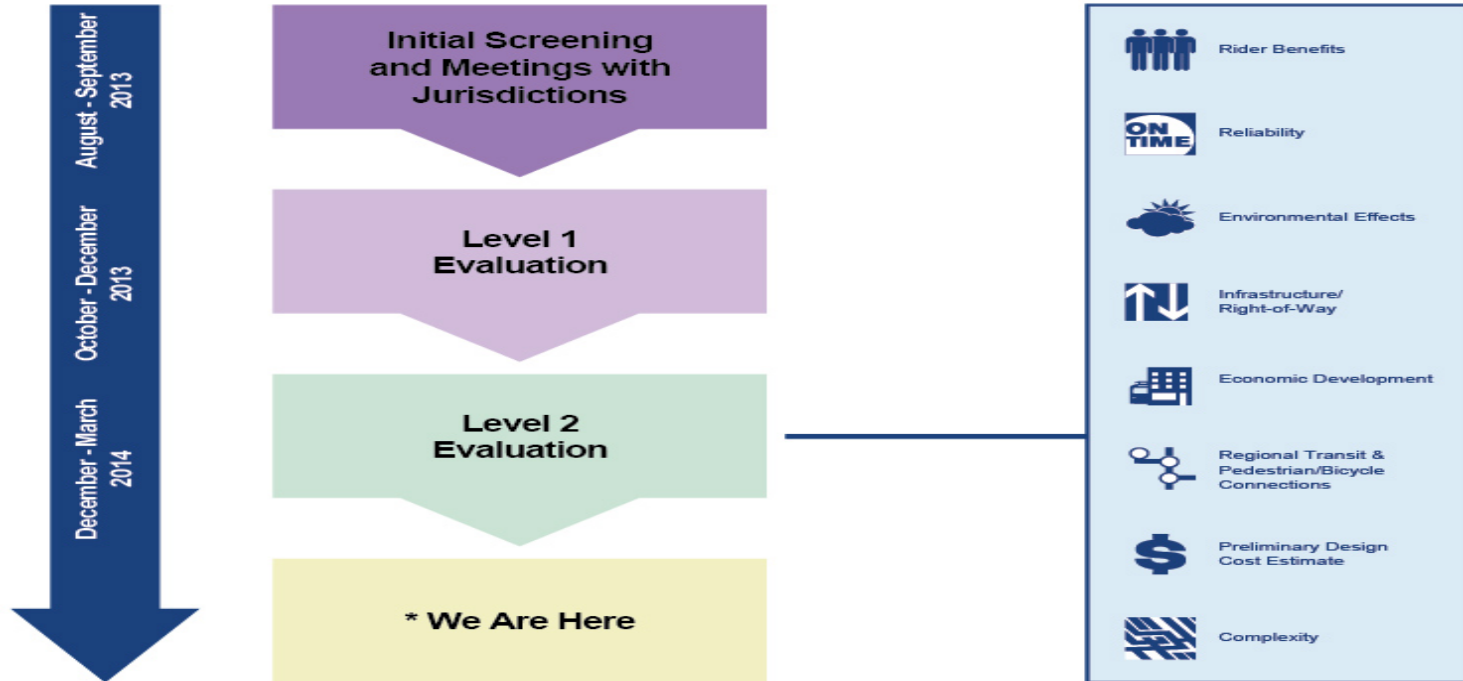
Executive Committee: Level 2 Evaluation Briefing

6/11/2014



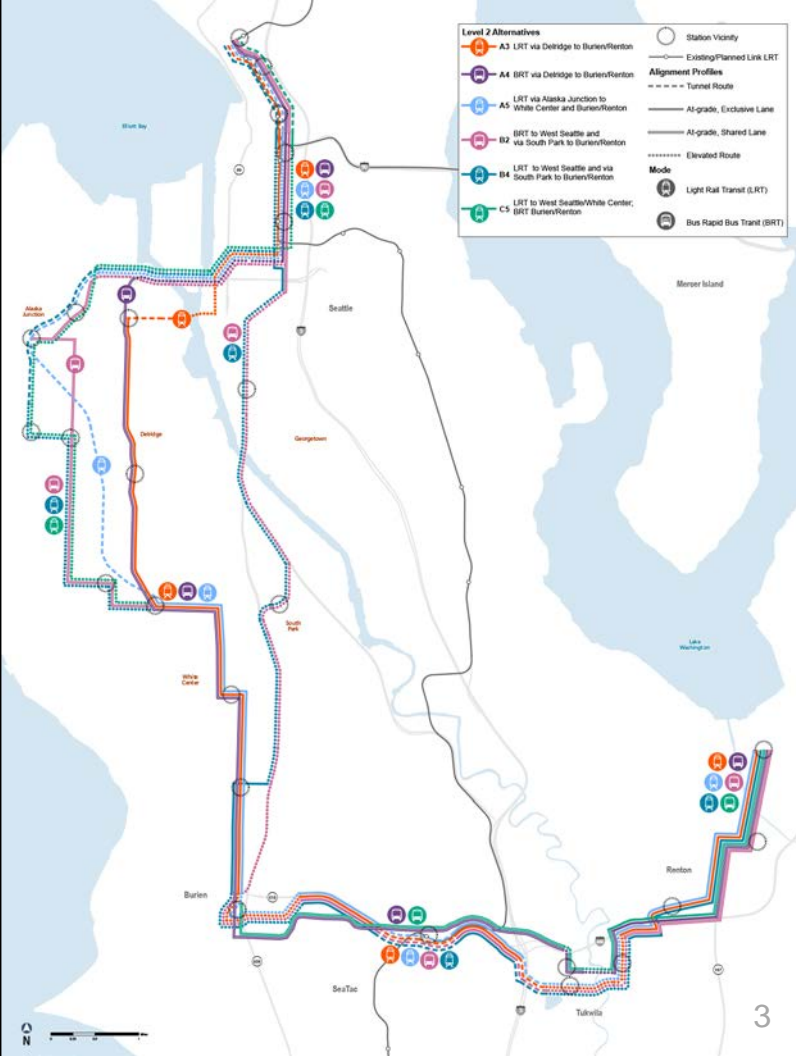
South King County HCT Corridor Study

SCREENING PROCESS AND CRITERIA



South King County HCT Corridor Alternatives

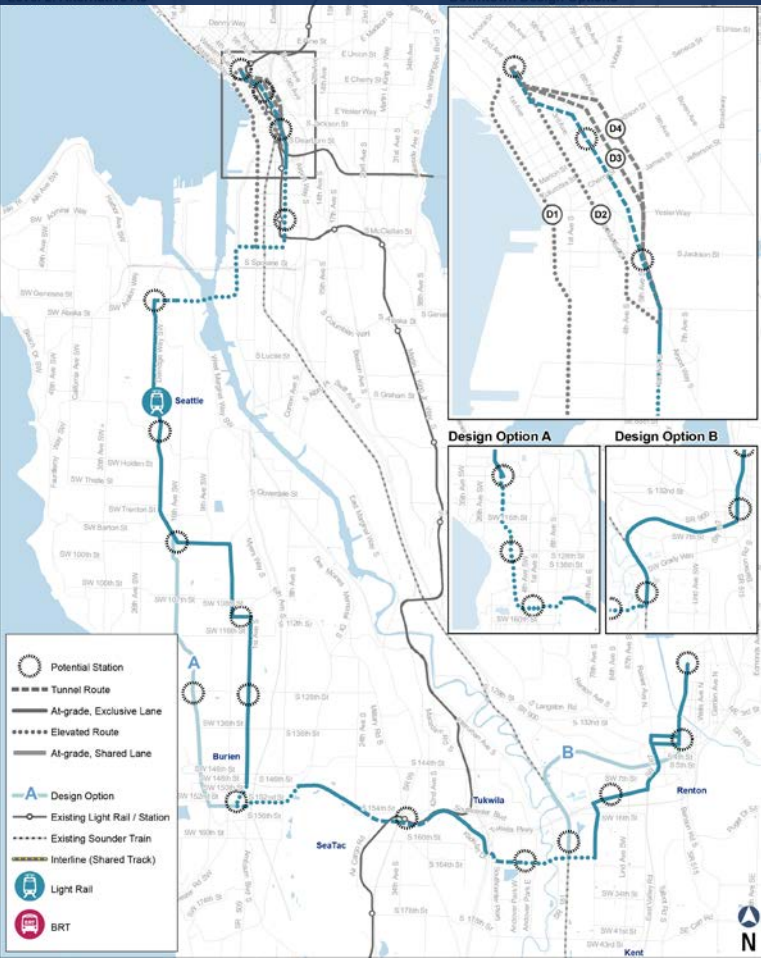
- A3 LRT via Delridge to Burien/Renton
- A4 BRT via Delridge to Burien/Renton
- A5 LRT via Alaska Junction to White Center and Burien/Renton
- B2 BRT to West Seattle and via South Park to Burien/Renton
- B4 LRT to West Seattle and via South Park to Burien/Renton
- C5 LRT to West Seattle/White Center, BRT between Burien and Renton



Level 2 Evaluation: Key Findings

- Strong overall ridership within the corridor
- Market characteristics vary
- BRT demand is relatively high but can be difficult to serve with realistic bus headways
- High potential right-of-way impacts for the surface & elevated segments from West Seattle to Burien & in Renton because of existing development patterns
- No major natural environmental effects; some potential visual & noise issues
- High potential for equity issues given diverse population groups

A3: LRT via Delridge to Burien/Renton



Assumptions:

- Downtown Seattle tunnel via 4th Avenue
- Low movable bridge across Duwamish
- At-grade to Burien with mixed profile to Renton
- 10 minute headways

	Total
Ridership	63 to 77 K
Travel Time: Alaska Junction to Seattle	22 - 27 min
Travel Time: Burien to Seattle	24 - 30 min
Travel Time: Renton to Seattle	37 - 46 min
Cost*(2013 \$)	\$4.6 - \$6.1 B

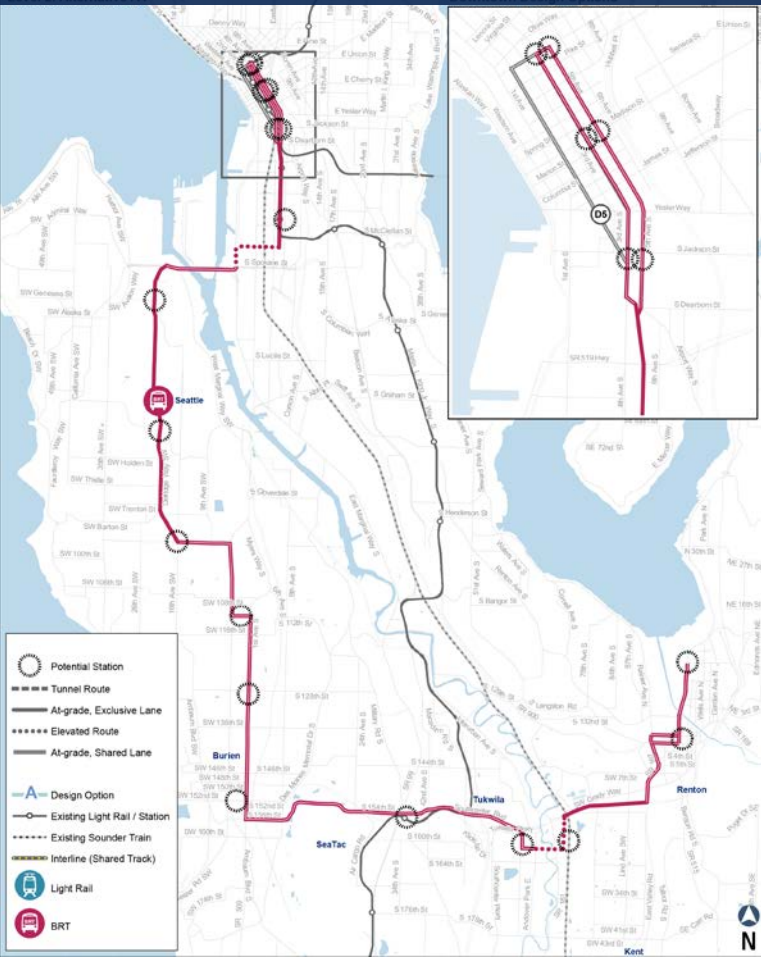
Key Findings:

- Does not connect directly to Alaska Junction or Westwood-Highland Park Urban Village
- Higher noise and visual impacts
- Complex connection between TIBS and Tukwila Commuter Rail Station
- 100% exclusive running way

Profile	24.6 miles
At-grade Exclusive	54%
At-grade Non-Exclusive	0%
Elevated	31%
Tunnel	16%

*Draft costs shown are conceptual level estimates only and are used for purposes of comparison

A4: BRT via Delridge to Burien/Renton



Assumptions:

- Downtown Seattle surface couplet (4th/5th Avenues)
- Crosses the Duwamish via the West Seattle Bridge
- Dedicated lane on Delridge to White Center
- BAT lanes or mixed traffic to Burien and Renton
- 10 minute headways

	Total
Ridership	30 to 37 K
Travel Time: Alaska Junction to Seattle	34 - 41 min
Travel Time: Burien to Seattle	45 - 55 min
Travel Time: Renton to Seattle	73 - 89 min
Cost* (2013 \$)	\$1.9- \$2.4 B

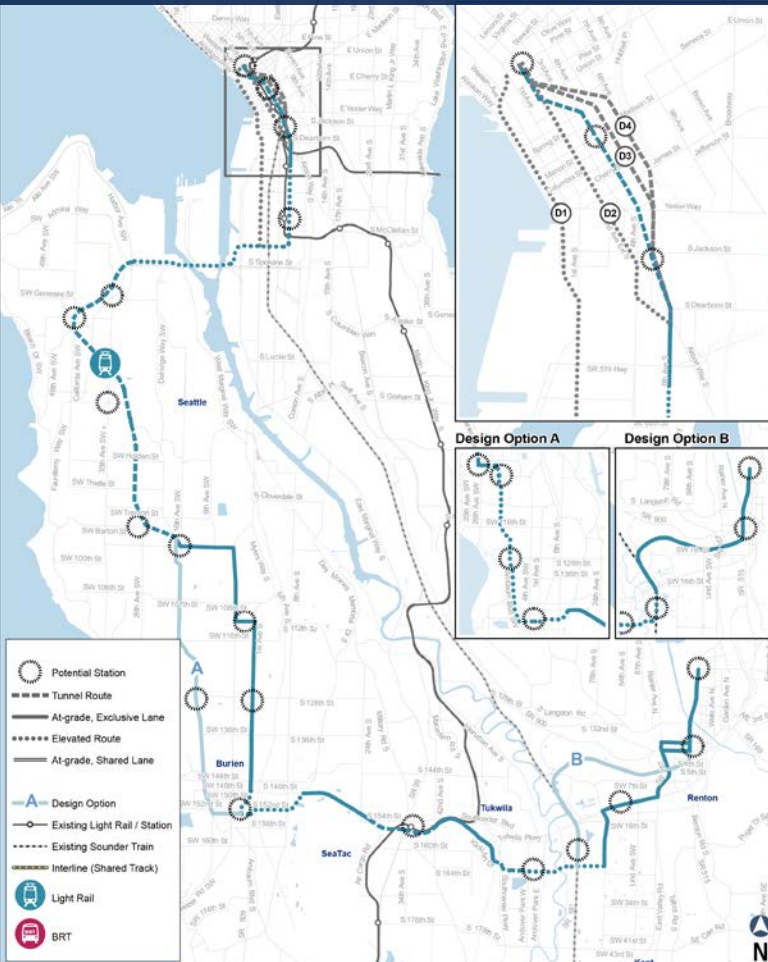
Key Findings:

- Requires large BRT fleet to meet demand
- Does not connect directly to Alaska Junction
- Does not serve Westwood-Highland Park Urban Village population density
- 26% exclusive running way

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Profile	24.4 miles
At-grade Exclusive	12%
At-grade Non-Exclusive	74%
Elevated	14%
Tunnel	0%

A5: LRT via Alaska Junction to White Center & Burien/Renton



Assumptions:

- Downtown Seattle tunnel via 4th Avenue
- High bridge across the Duwamish
- Deep bore tunnel through West Seattle
- Similar configuration to A3 for White Center to Renton
- 10 minute headways

	Total
Ridership	65 to 79 K
Travel Time: Alaska Junction to Seattle	11 - 13 min
Travel Time: Burien to Seattle	25 - 31 min
Travel Time: Renton to Seattle	38 - 47 min
Cost* (2013 \$)	\$6.2 - \$8.2 B

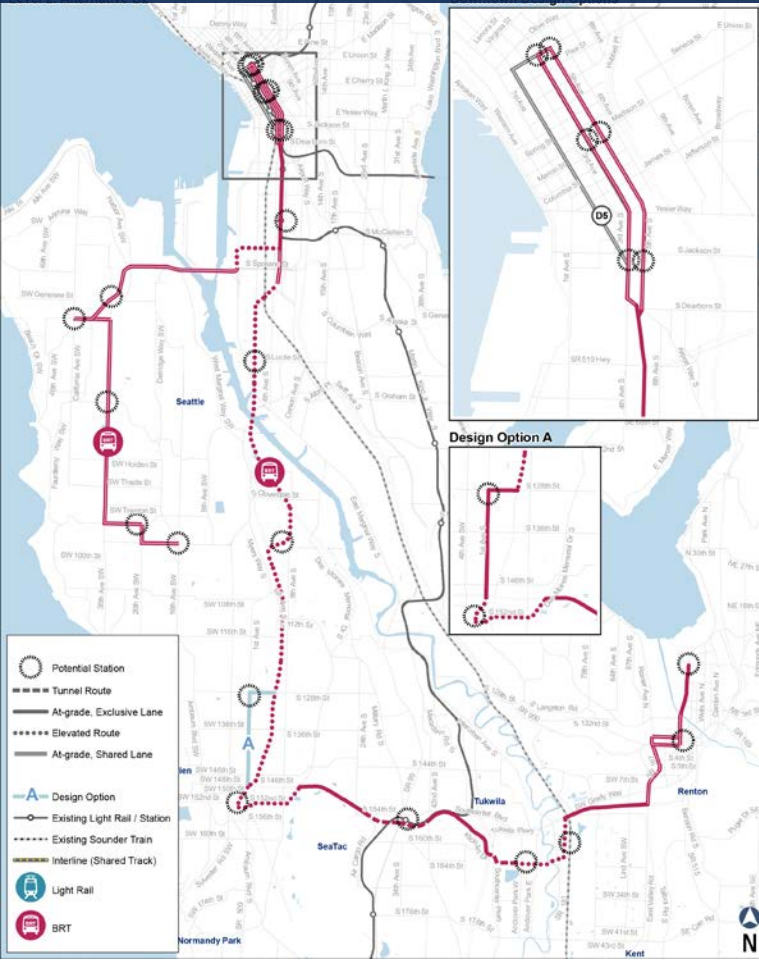
Key Findings:

- Lower right-of-way costs due to tunnel
- Higher construction complexity due to extensive tunnel sections
- Does not serve the Delridge corridor
- Complex connection between TIBS and Tukwila Commuter Rail Station
- 100% exclusive running way

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Profile	25.9 miles
At-grade Exclusive	39%
At-grade Non-Exclusive	0%
Elevated	31%
Tunnel	30%

B2: BRT to West Seattle & via South Park to Burien/Renton



Assumptions:

- Downtown Seattle surface couplet (4th/5th Avenues)
- Crosses Duwamish via West Seattle Bridge
- At-grade, shared lane BRT to White Center
- Dedicated BRT running way Burien to Renton
- 10 minute headways

	Downtown to W. Seattle/White Center	Downtown Seattle to Renton	Total
Ridership	14 to 17 K	36 to 49	50 to 66 K
Travel Time	25 - 30 min	38 – 46 min	
Cost* (2013 \$)	\$1.0 - \$1.2 B	\$2.3 – \$3.2	\$3.3 - \$4.4 B

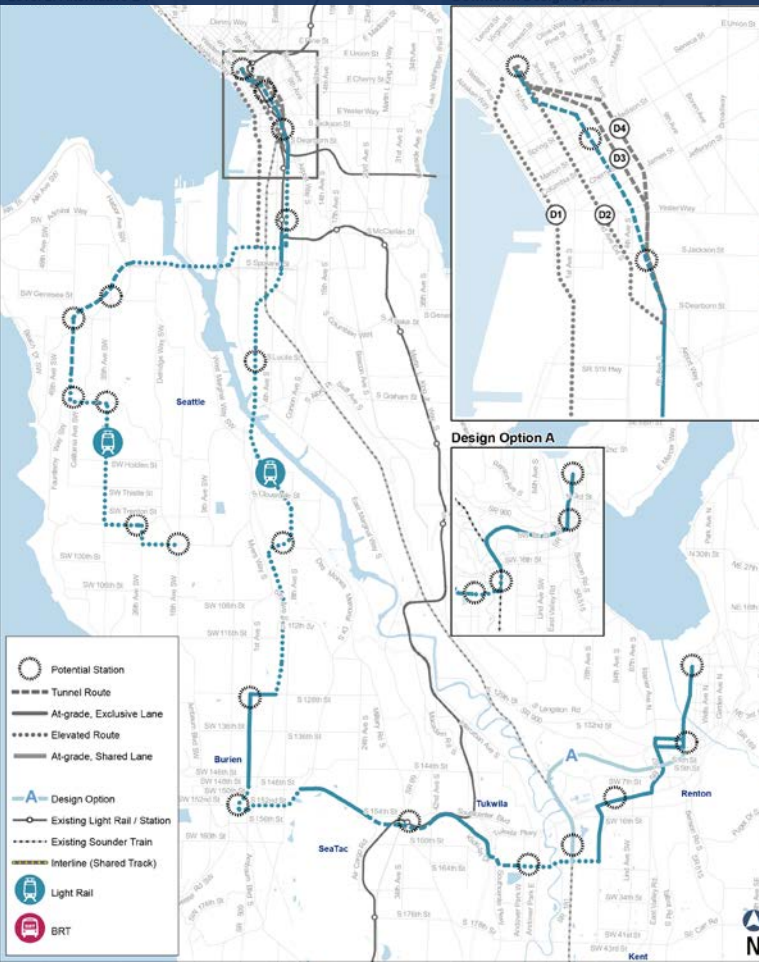
Key Findings:

- Ridership demand exceeds BRT capacity on the Seattle – Renton segment
- Via 35th Ave, does not serve Morgan Junction or Delridge corridor, but serves South Park
- Higher noise and visual impact potential
- Complex connection between TIBS and Tukwila Commuter Rail Station
- 71% exclusive running way

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Profile	29.7 miles
At-grade Exclusive	17%
At-grade Non-Exclusive	30%
Elevated	48%
Tunnel	6%

B4: LRT to West Seattle & via South Park to Burien/Renton



Assumptions:

- Downtown Seattle tunnel via 4th Avenue
- High bridge across Duwamish
- Tunnel to Alaska Junction/Morgan Junction and elevated to Roxbury and to South Park via 99/509
- 10 minute headways

	Downtown to W. Seattle/White Center	Downtown Seattle to Renton	Total
Ridership	33 – 41 K	52 – 62 K	85 to 103 K
Travel Time	11 – 13 min	33 - 41 min	
Cost* (2013 \$)	\$3.4 - \$4.6 B	\$3.3 - \$4.3 B	\$6.7 - \$8.9 B

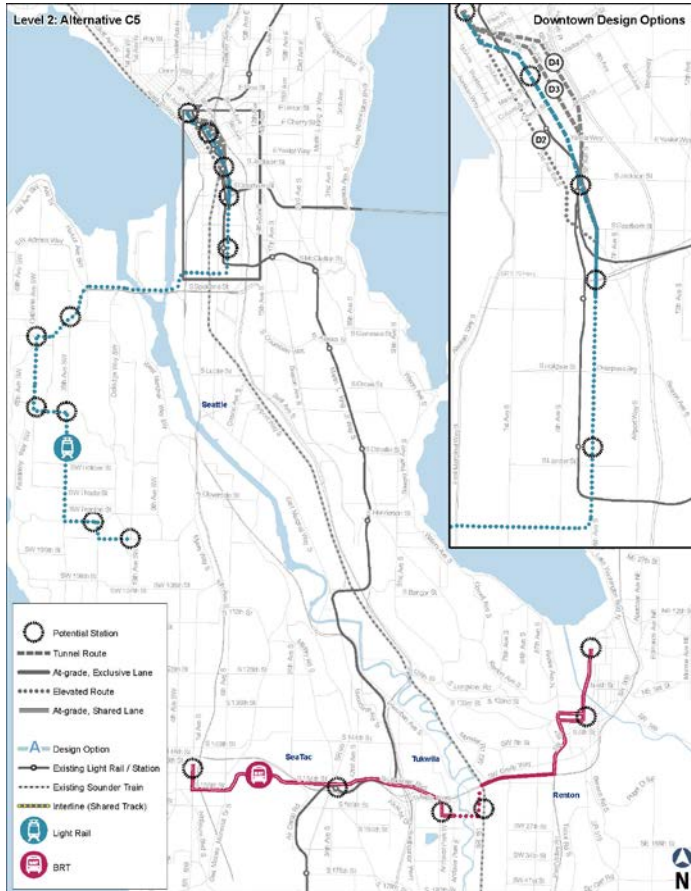
Key Findings:

- Does not serve Delridge corridor, but serves South Park
- Higher noise and visual impact potential
- Higher potential for right-of-way impacts
- 100% exclusive running way
- Complex connection between TIBS and Tukwila Commuter Rail Station

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Profile	28.6 miles
At-grade Exclusive	22%
At-grade Non-Exclusive	0%
Elevated	62%
Tunnel	16%

C5: LRT to West Seattle/White Center; BRT Burien/Renton



Assumptions:

- Downtown Seattle tunnel via 4th Avenue
- High bridge across Duwamish, and elevated in West Seattle to White Center
- Burien to Renton BRT in BAT lanes or mixed traffic
- 10 minute headways

	Downtown to West Seattle	Burien TC to Renton TC	Total
Ridership	32 – 39 K	8 – 9 K	39 to 48 K
Travel Time	11- 13 min	31- 37 min	
Cost* (2013\$)	\$3.4 – \$4.5 B	\$0.7 - \$0.9 B	\$4.1 - \$5.4 B

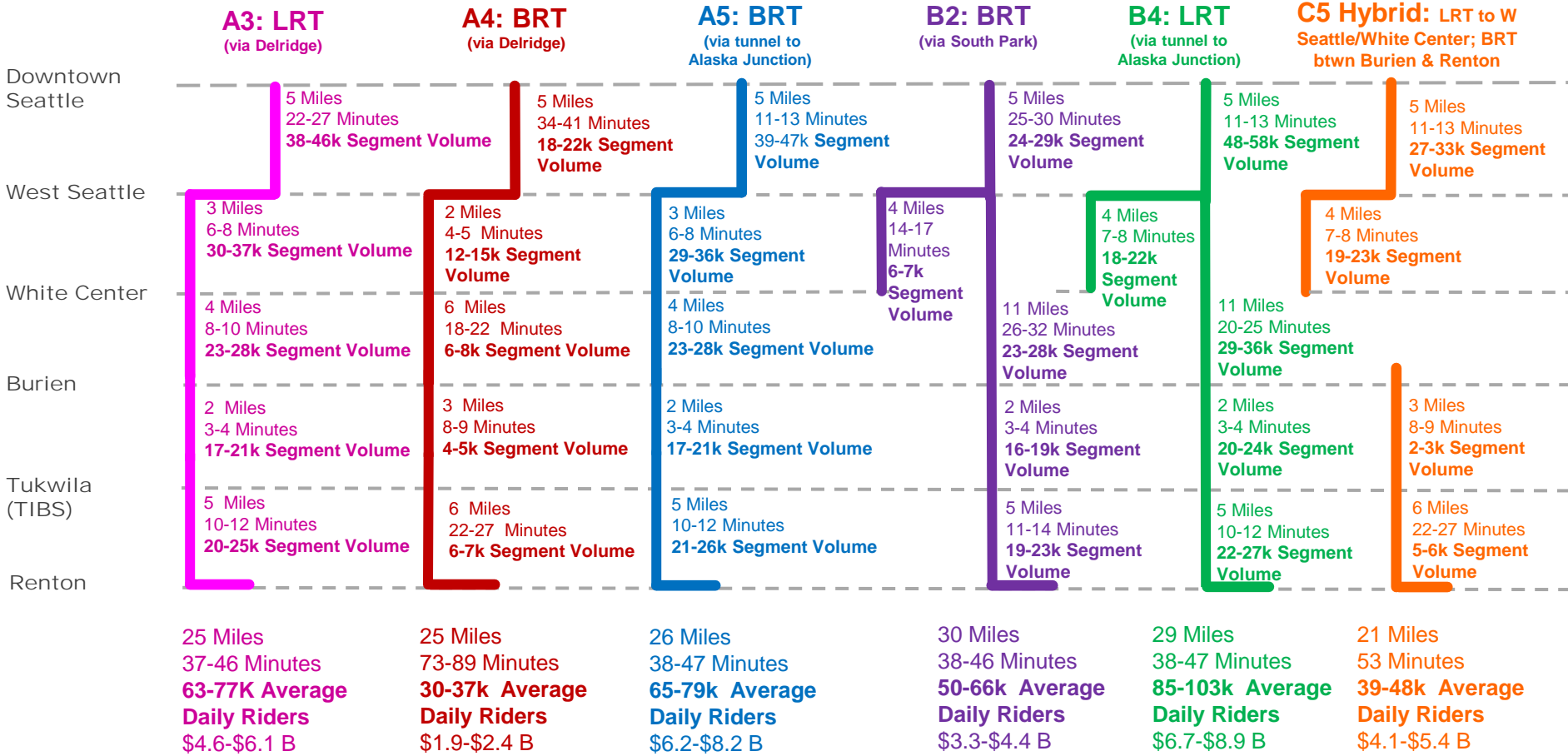
Key Findings:

- Good HCT service to West Seattle and White Center
- Strong Burien and Renton transit demand to downtown Seattle not directly served
- Much lower ridership but lower cost
- 68% exclusive running way

Profile	21.2 miles
At-grade Exclusive	13%
At-grade Non-Exclusive	32%
Elevated	46%
Tunnel	9%

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South King County HCT Study Corridor



Level 2 Evaluation Results



Goal		A3 LRT Delridge	A4 BRT Delridge	A5 LRT Tunnel White Center	B2 BRT White Center & Burien/Renton	B4 LRT Tunnel West Seattle	C5 LRT to White Center; Burien/Renton BRT
Provide a transportation system that facilitates long-term mobility	Rider Benefits						
	Reliability						
Enhance communities and protect the environment	Environmental Effects						
	Infrastructure						
Contribute to the region's economic vitality	Economic Development						
Strengthen communities' access to and use of the regional transit network	Regional Transit & Pedestrian/Bicycle Connections						
Develop a system that is financially feasible	Preliminary Design Cost Estimate						
	Cost Effectiveness						
	Complexity						