

Ballard Link Extension

Denny Station status report

Board of Directors

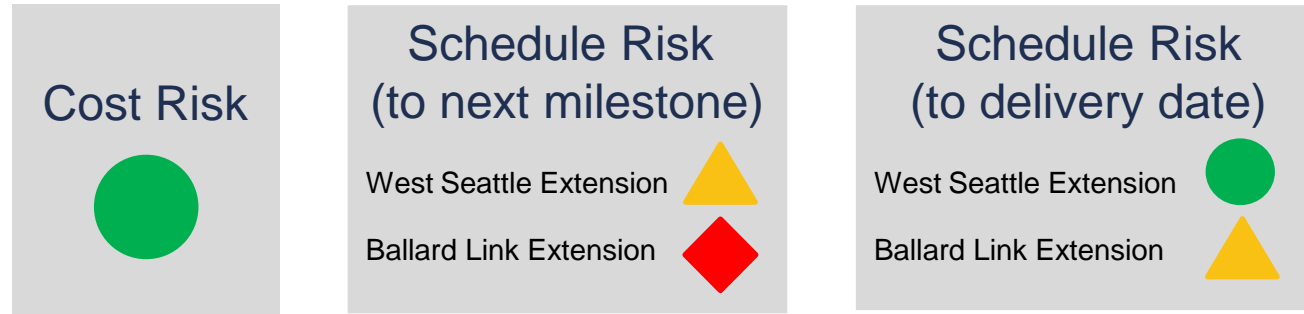
7/27/23



Why we're here today

- Brief recap of May status report to Board on Denny Station
- Overview of assessment of ridership, access, equity and large events
- Overview of community feedback
- Potential board action to modify preferred alternative in Denny station area

Cost and schedule risks



Cost Risks

- Additional cost elements of preferred alternative dependent on third party funding.
- Potential for additional costs associated with permitting requirements.
- Potential impacts from higher real estate and construction costs.
- Potential that design or construction challenges could emerge as work progresses.

Schedule Risks

- Potential additional environmental process delays.
- Potential permitting challenges and other necessary coordination/approvals associated with water crossing.
- Potential schedule risks associated with real estate acquisition process.
- Potential risk in processing reviews/approvals with permitting authorities in a timely manner.

Environmental process next steps

- West Seattle and Ballard Link Extensions Draft EIS was published in January 2022
- Both extensions were initially on the same environmental review timeline
- Additional environmental review needed for project refinements for Ballard Link Extension resulting from Board action in March 2023
- Environmental review for the two extensions will now proceed on different timelines
 - West Seattle Link Extension will proceed to a Final EIS
 - Ballard Link Extension will require a SEPA Supplemental Draft EIS/NEPA Draft EIS
(incorporating all work to date including previous comments, public outreach and environmental analysis)

Recap of May status report



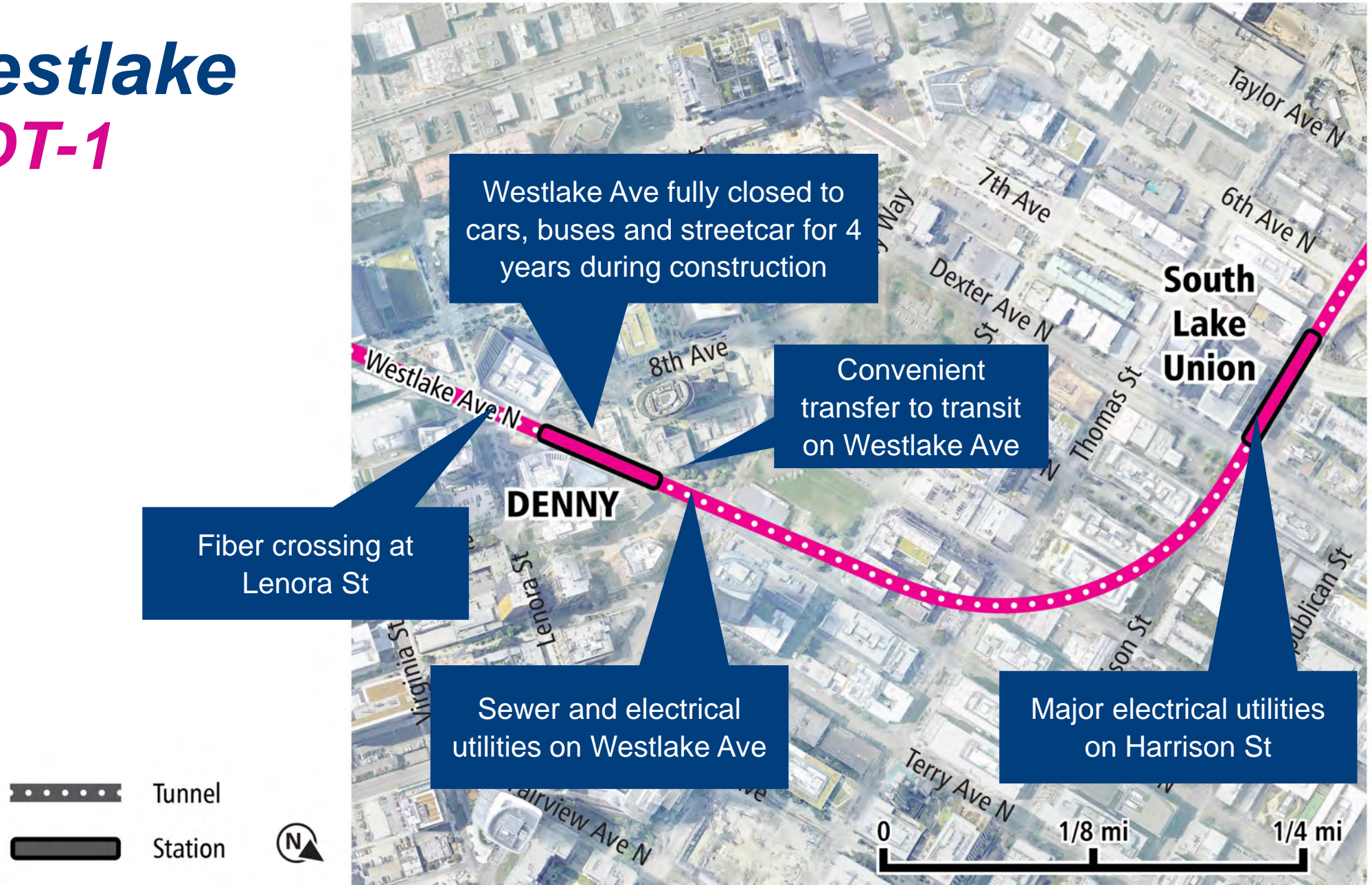
March Board action

Motion No. M2023-18

While the previously-identified preferred alternative is not modified at this time, staff is directed to **carry forward both the Denny Station on Westlake** (DT1) Draft EIS Station alternative **and Denny Station on Terry** (i.e. South Lake Union Mix and Match) alternative as part of ongoing environmental review. Staff is directed to continue collaboration with City of Seattle and community partners to **further clarify the technical, financial, schedule and risk implications of both alternatives** and return to the Board with a **status report by May 25, 2023.**

Denny Westlake

Draft EIS DT-1



Denny Terry SLU Mix-Match

\$340m additional cost

Uncertainty of fiber relocation
could delay overall schedule

Substantial disruption and
litigation risk if inadvertently
cut fiber lines

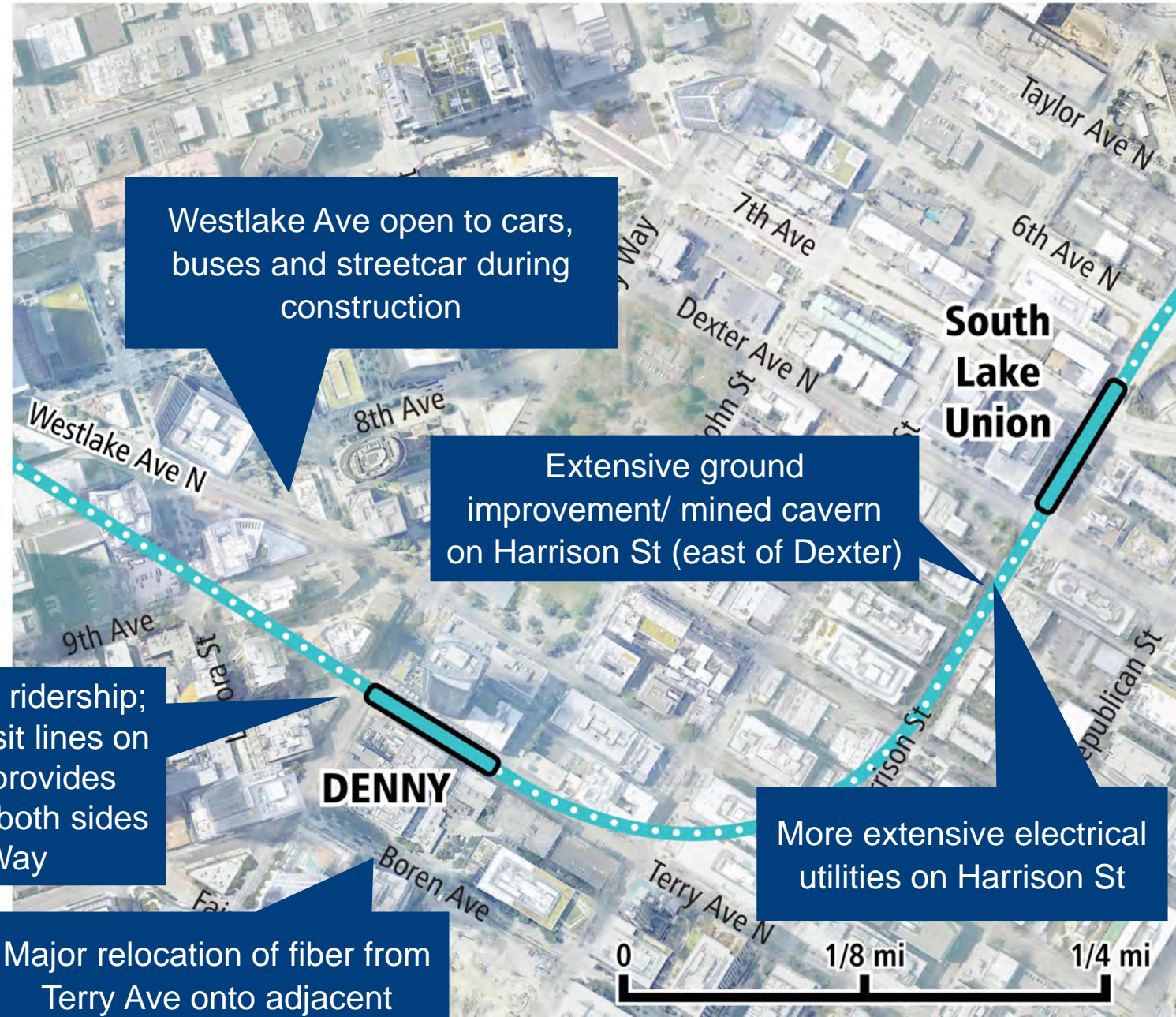
Minimal impact to ridership;
short walk to transit lines on
Westlake Ave; provides
station access to both sides
of Denny Way

Major relocation of fiber from
Terry Ave onto adjacent
streets (Boren, Denny)

Westlake Ave open to cars,
buses and streetcar during
construction

Extensive ground
improvement/ mined cavern
on Harrison St (east of Dexter)

More extensive electrical
utilities on Harrison St



Denny Westlake Shifted North

\$170m additional cost*

Phased in-street construction to maintain traffic adds construction complexity and extends duration of street effects (8 years vs 4 years)

Avoids fiber crossing at Lenora St

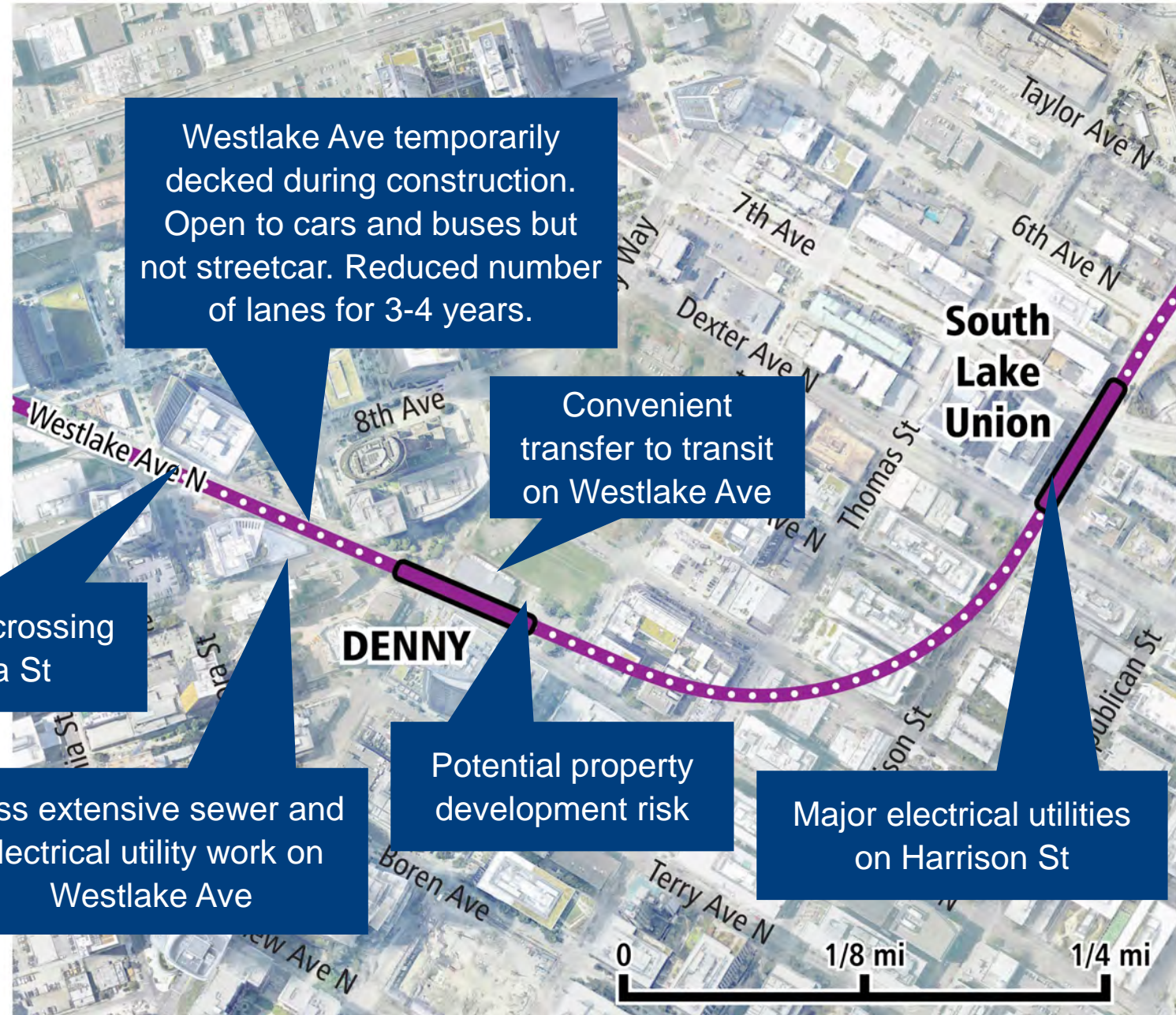
Westlake Ave temporarily decked during construction. Open to cars and buses but not streetcar. Reduced number of lanes for 3-4 years.

Convenient transfer to transit on Westlake Ave

Less extensive sewer and electrical utility work on Westlake Ave

Potential property development risk

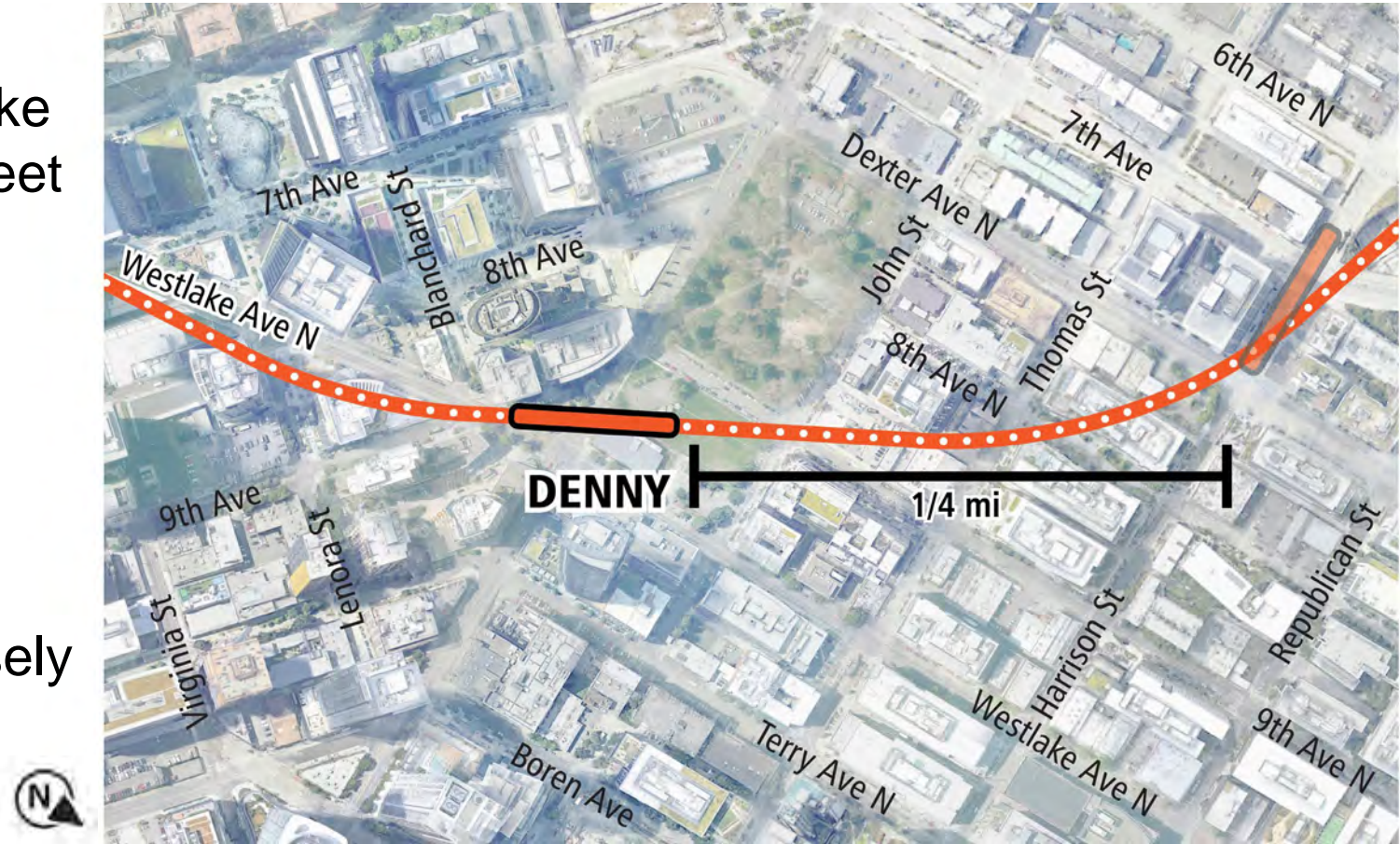
Major electrical utilities on Harrison St



Denny Westlake

Shifted West

- To further avoid impacts to Westlake Ave, shifted station west out of street right of way onto private property
- Resulted in very close spacing to Harrison St station with geometric and technical constraints
- Hence, considered consolidated station concept instead of two closely spaced stations

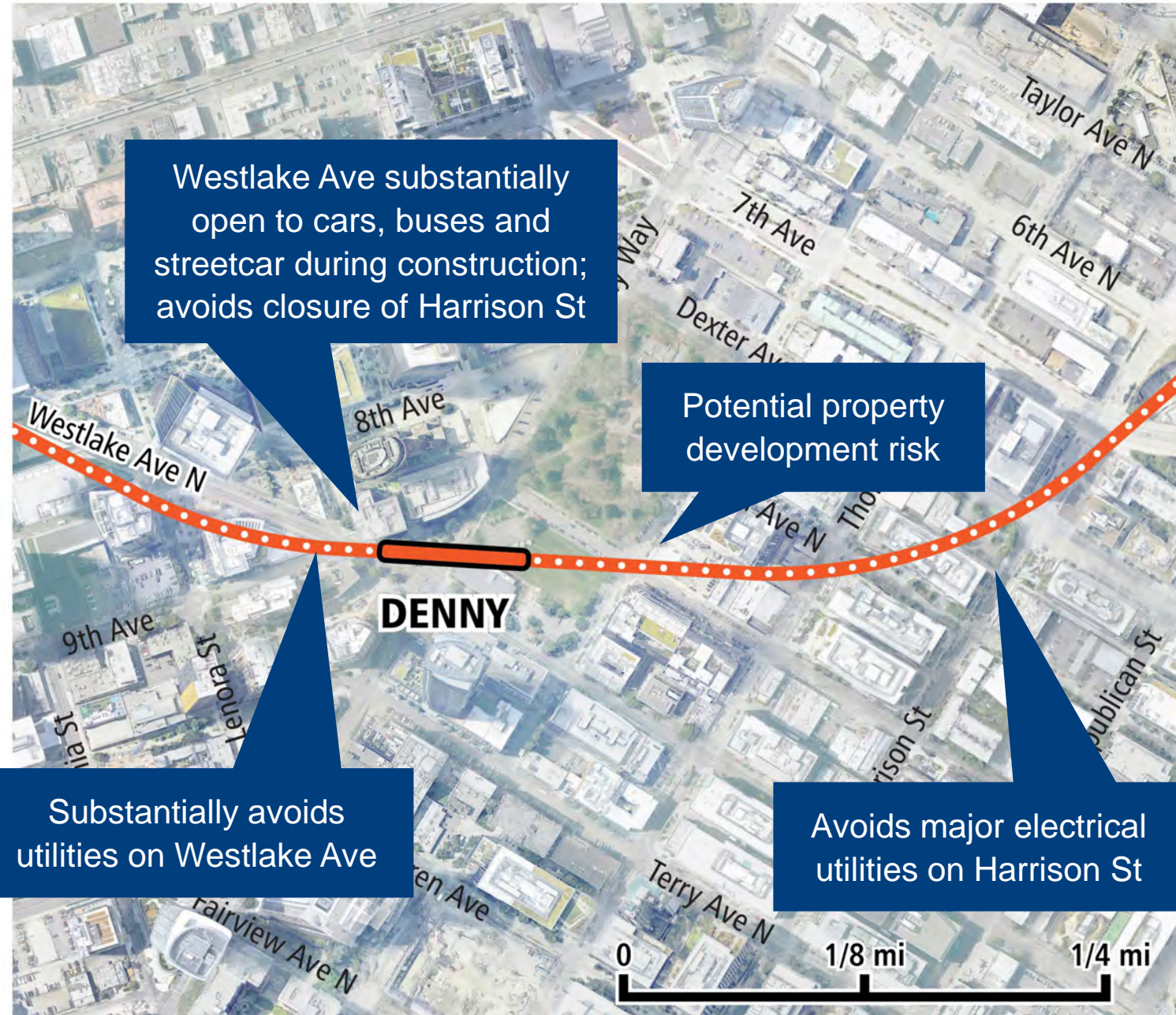


Denny Westlake Shifted West

\$440m cost savings due to consolidation of Denny and Harrison St stations*

Potentially shorter station construction duration due to improved site access and mostly off-street construction

Ridership, transit integration and passenger experience implications of consolidated station to be further assessed



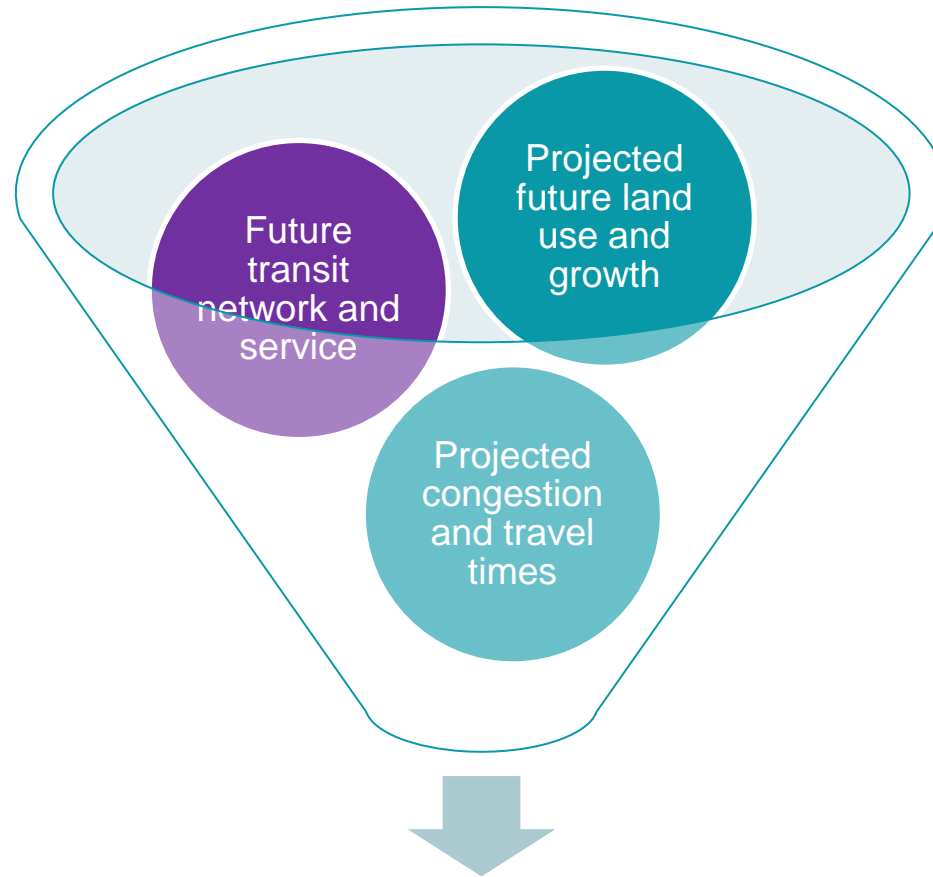


| | Denny Westlake | Denny Terry | Denny Westlake refinement options | |
|---|--|---|---|--|
| | Draft EIS (DT-1) | SLU Mix-Match | Shifted North | Shifted West |
| Technical <i>street closures</i> | Westlake Ave fully closed to cars, buses and streetcar for 4 years during construction | Westlake Ave open to cars, buses and streetcar during construction | Westlake Ave temporarily decked during construction. Open to cars and buses but not streetcar. Reduced number of lanes for 3-4 years. | Westlake Ave substantially open to cars, buses and streetcar during construction; avoids closure of Harrison St |
| <i>utilities</i> | Sewer and electrical utilities on Westlake Ave; fiber crossing at Lenora St; major electrical utilities on Harrison St | Major relocation of fiber from Terry Ave onto adjacent streets (Boren, Denny); more extensive electrical utilities on Harrison St | Less extensive sewer and electrical utility work on Westlake Ave; avoids fiber crossing at Lenora St; major electrical utilities on Harrison St | Substantially avoids utilities on Westlake Ave and completely avoids major electrical utilities on Harrison St |
| <i>constructability</i> | Base case for constructability comparison | Extensive ground improvement/mined cavern on Harrison St (east of Dexter) | Phased in-street construction to maintain traffic adds construction complexity and extends duration of street effects (8 years vs 4 years) | Potentially shorter station construction duration due to improved site access and mostly off-street construction |
| Performance <i>ridership, transit integration, passenger experience</i> | Convenient transfer to transit on Westlake Ave | Minimal impact to ridership; short walk to transit lines on Westlake Ave; provides station access to both sides of Denny Way | Convenient transfer to transit on Westlake Ave | <i>To be assessed</i> |
| Cost <i>compared to Denny Westlake Draft EIS DT-1</i> | Base case for cost comparison | \$340m additional cost | \$170m additional cost* | \$440m cost savings due to consolidation of Denny and Harrison St stations* |
| Schedule <i>overall project delay</i> | Base case for schedule comparison | Uncertainty of fiber relocation could delay overall schedule | No delay to overall schedule | No delay to overall schedule |
| Risk <i>substantial cost, schedule, or feasibility risks</i> | Base case for risk comparison | Substantial disruption and litigation risk if inadvertently cut fiber lines | Potential property development risk | Potential property development risk; avoids major electrical utilities on Harrison St |

***Results for ridership, access,
equity, and large events***

Ridership Modelling

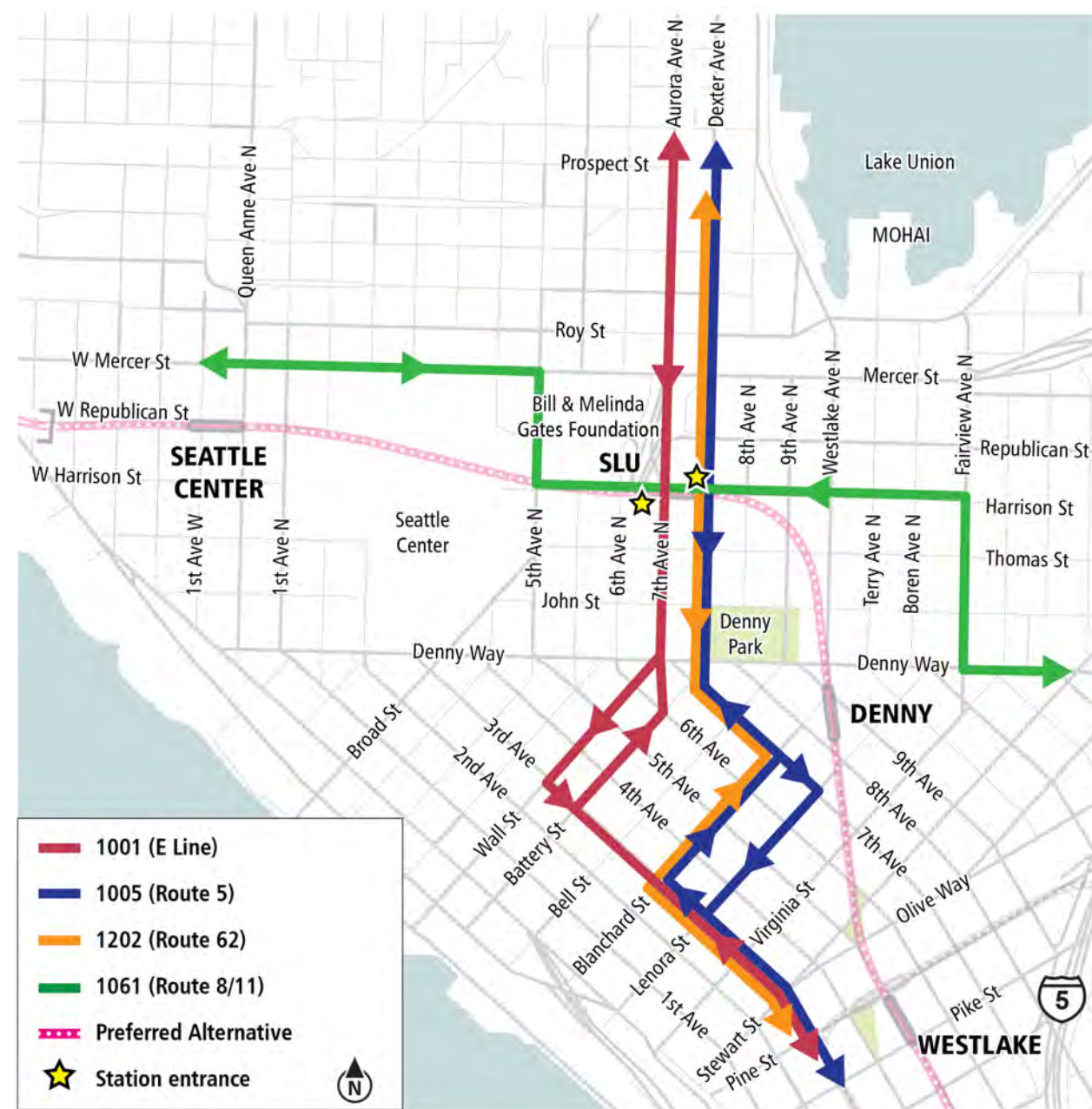
Key model inputs:



Ridership estimates

Transit Integration: Draft EIS

- 80% of all bus-rail transfers at SLU are related to four routes:
 - 1001 (E Line)
 - 1005 (similar to Route 5) Downtown-Fremont-Greenwood
 - 1202 (similar to Route 62) Downtown-Wallingford-Sand Pt
 - 1061 (similar to Route 8/11) Interbay-Capitol Hill-Madison Park
- Bus-rail transfers are about 32% of total boardings at South Lake Union Station; 12% at Denny Station

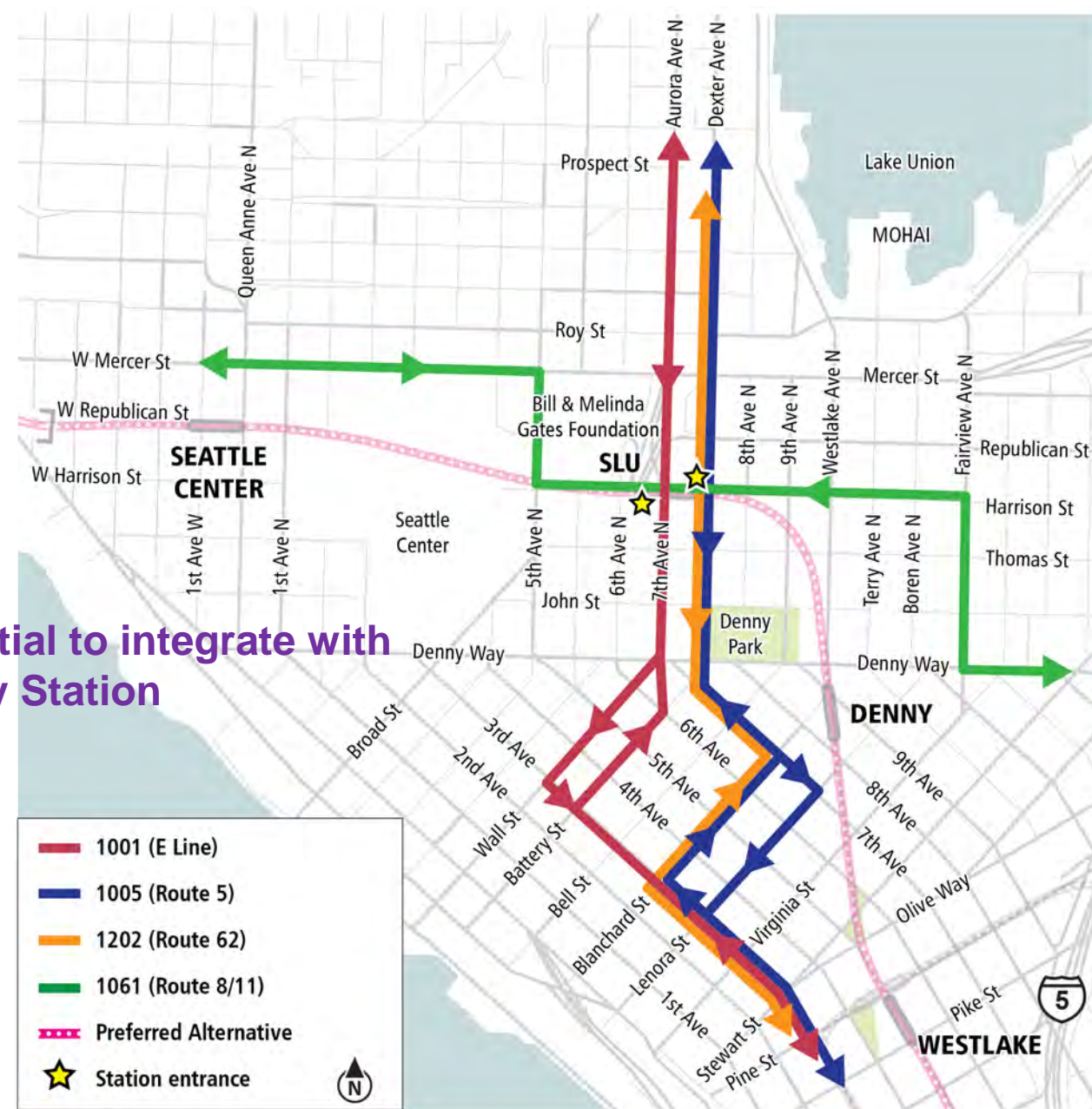


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- Bus-rail transfers are about 32% of total boardings at South Lake Union Station; 12% at Denny Station

*Would require dedicated bus lanes on Denny Way and improvements to adjacent network roads. Feasibility of dedicated bus lanes on Denny is highly uncertain at this time

Potential to integrate with
Denny Station

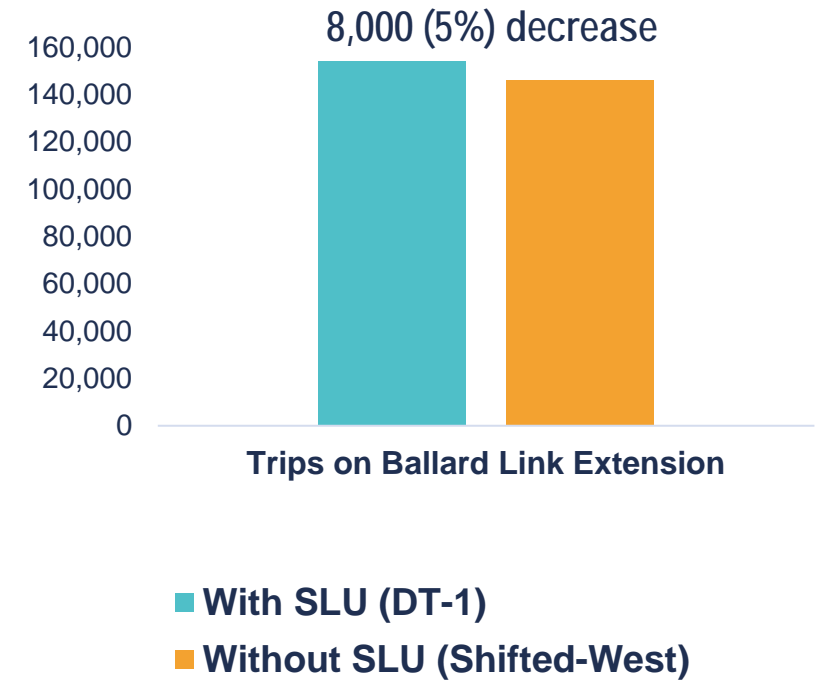


Ridership modeling results

What would happen if the Denny and SLU stations were consolidated...

Overall transit ridership would remain steady¹ but fewer people would choose to ride Link. Riders would instead choose to ride the bus or would stay on the bus and not transfer to Link.

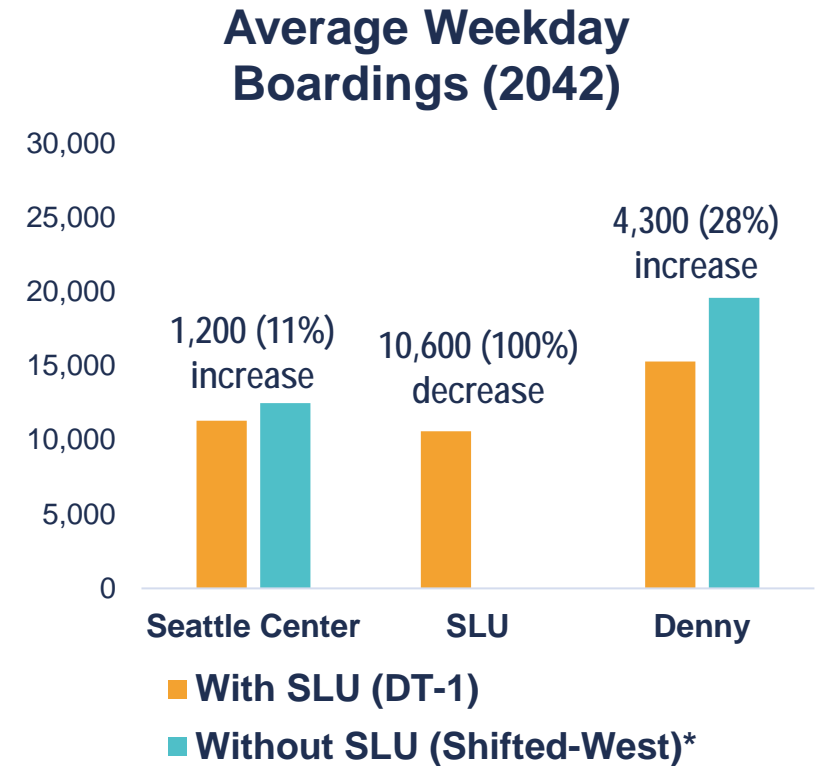
Average Weekday (2042)



Ridership modeling results

How do travel patterns shift in SLU area...

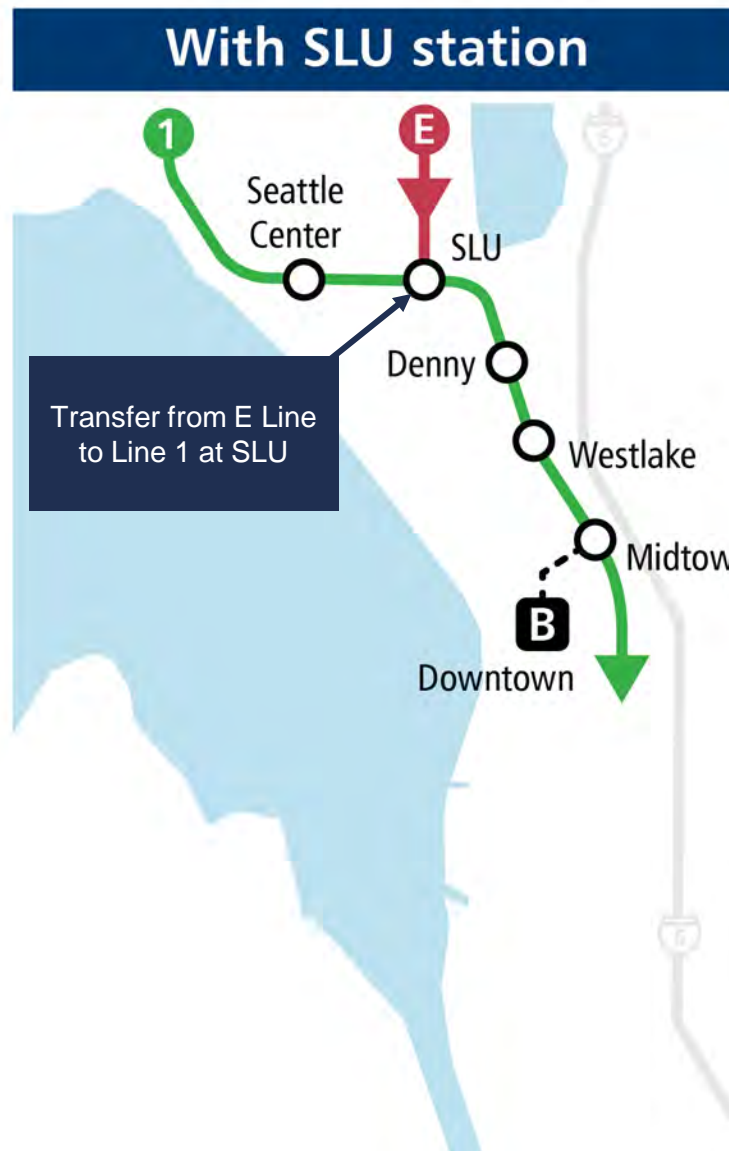
Approximately half of projected boardings expected at SLU Station shift to Seattle Center and Denny Stations in Shifted West Scenario. Remaining boardings mostly shift to bus. Overall boardings on Link drop by ~10k.



Ridership modeling results

How trips could change...

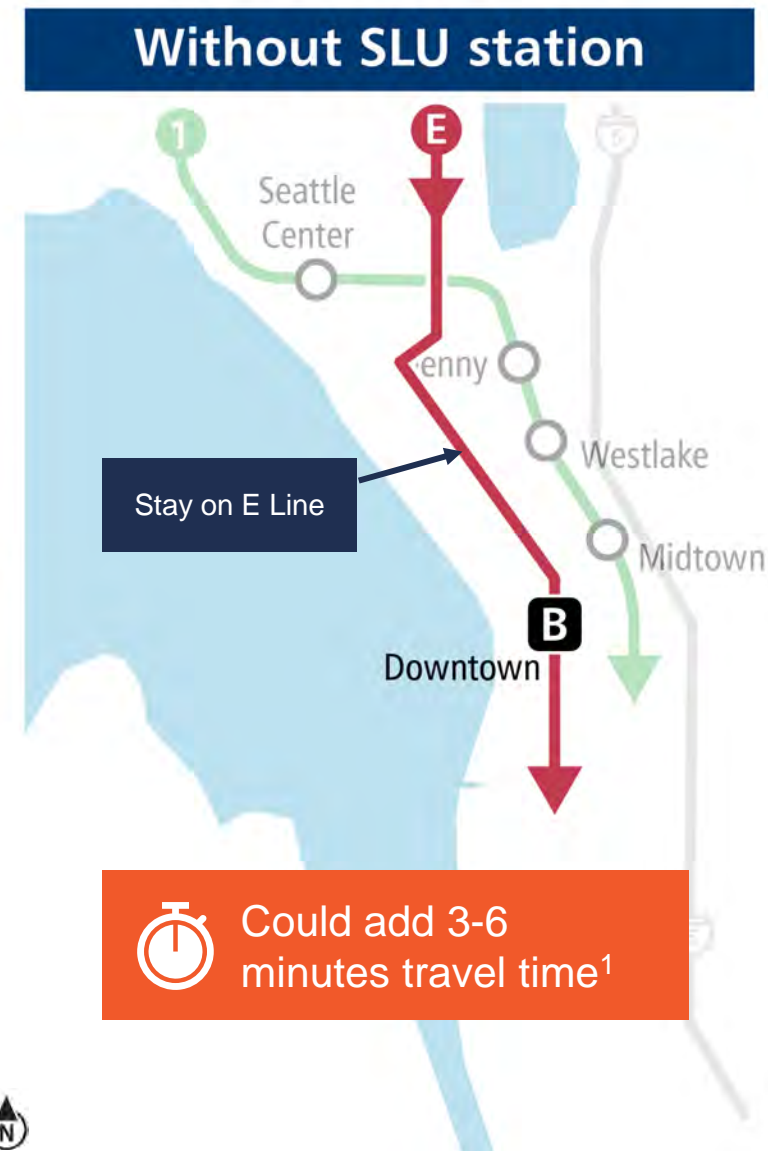
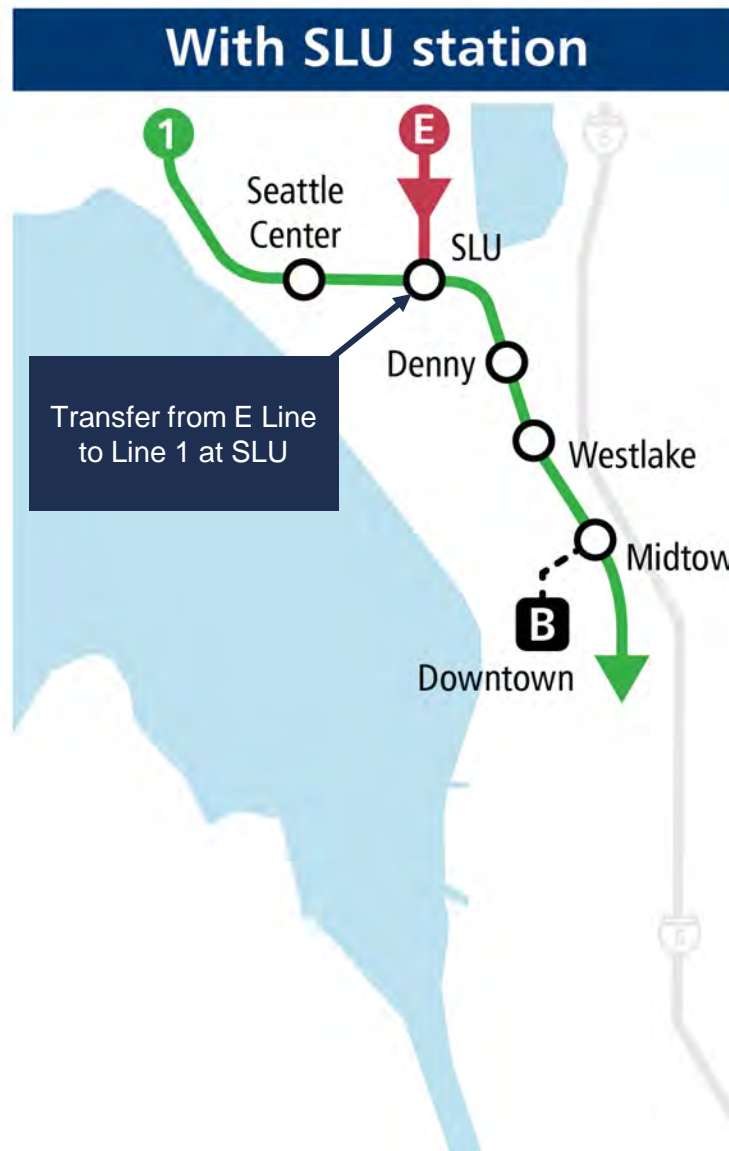
Someone who rides the E Line from the north into downtown might have transferred to Link at SLU for the remainder of their trip but instead chooses to stay on the bus to access their destination



Ridership modeling results

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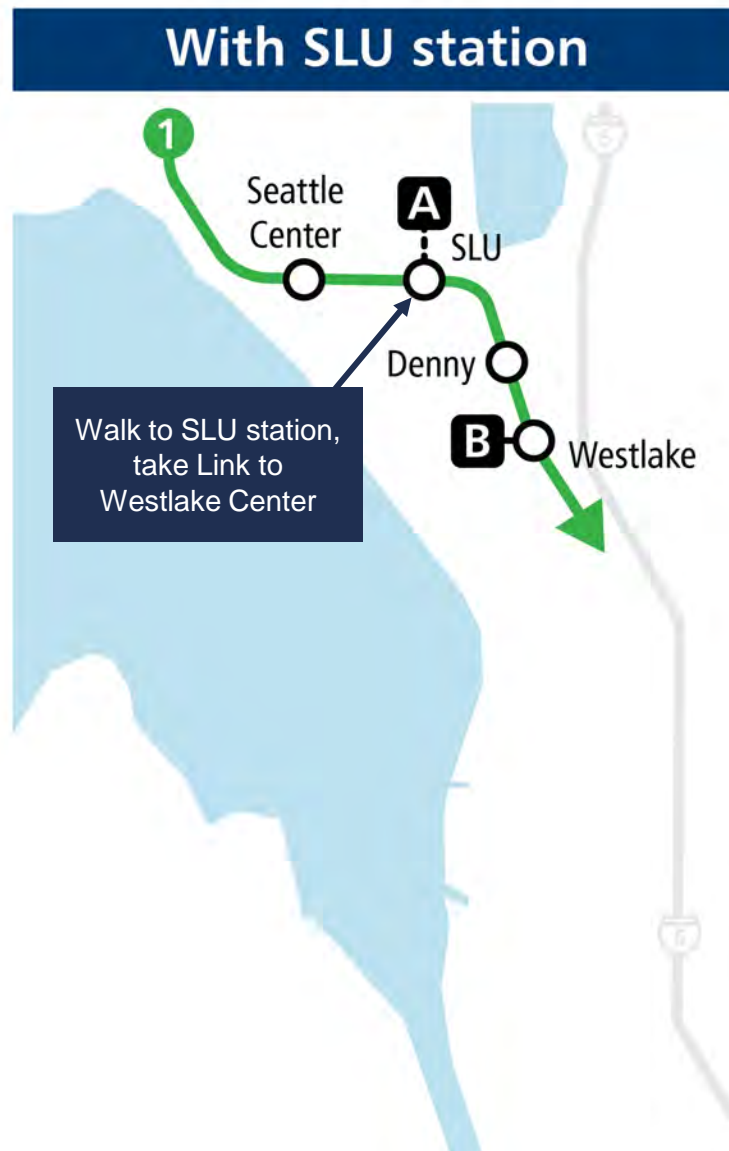
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Ridership modeling results

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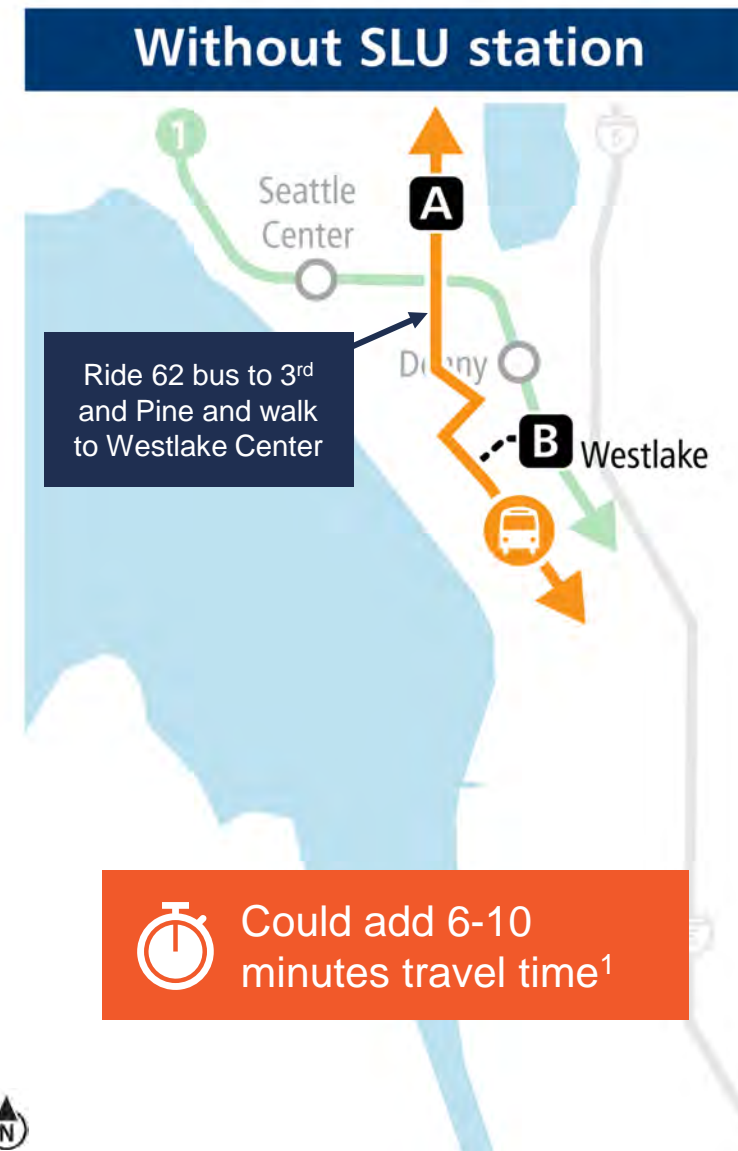
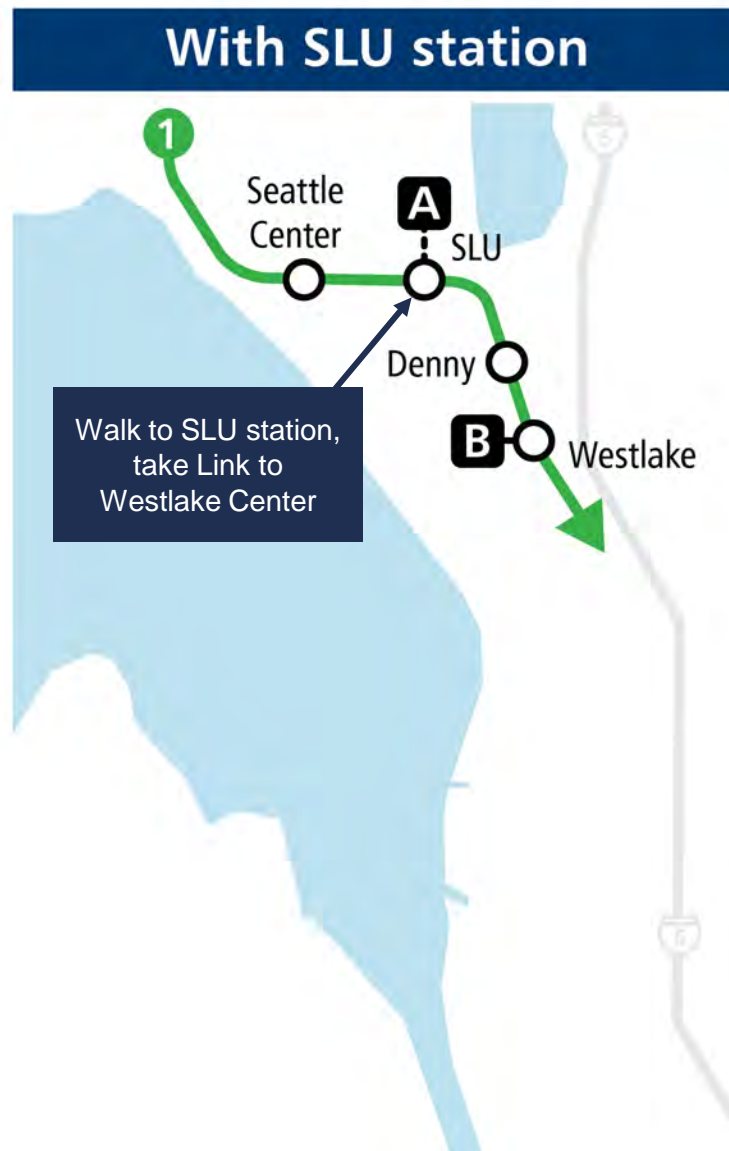
Someone at Dexter and Mercer who might have chosen Link to get to Westlake Center via a 3-minute walk to the SLU station instead chooses to ride the 62 bus



Ridership modeling results

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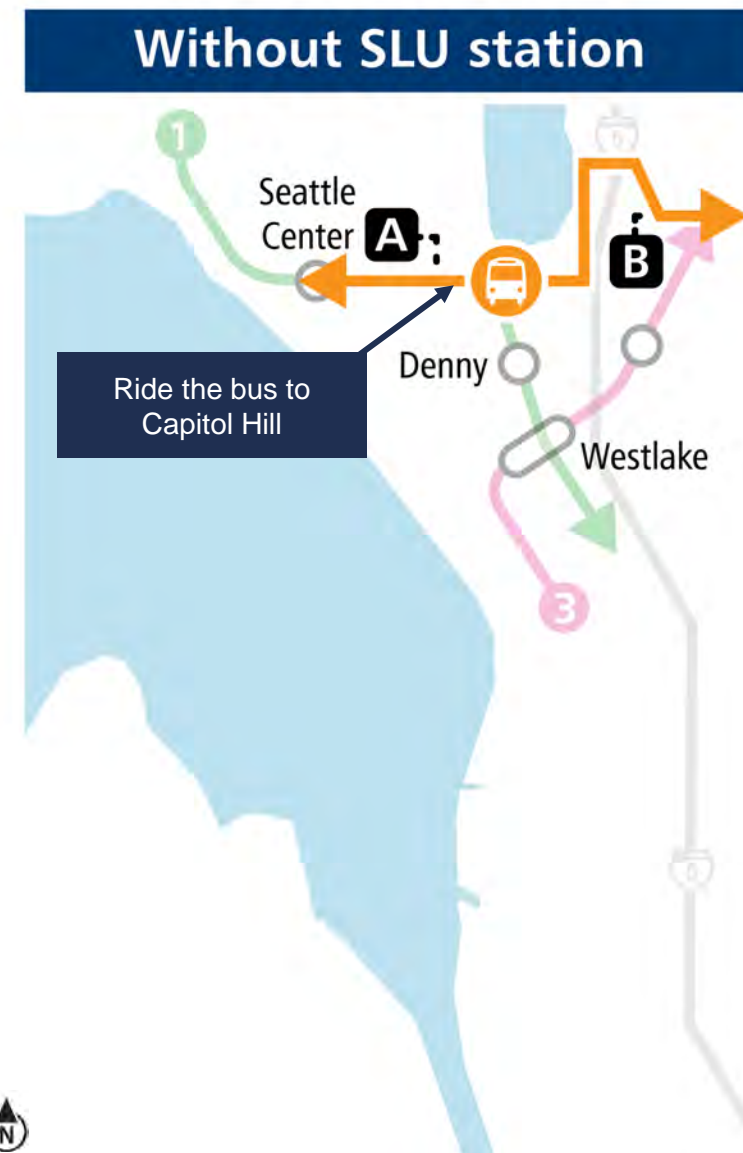
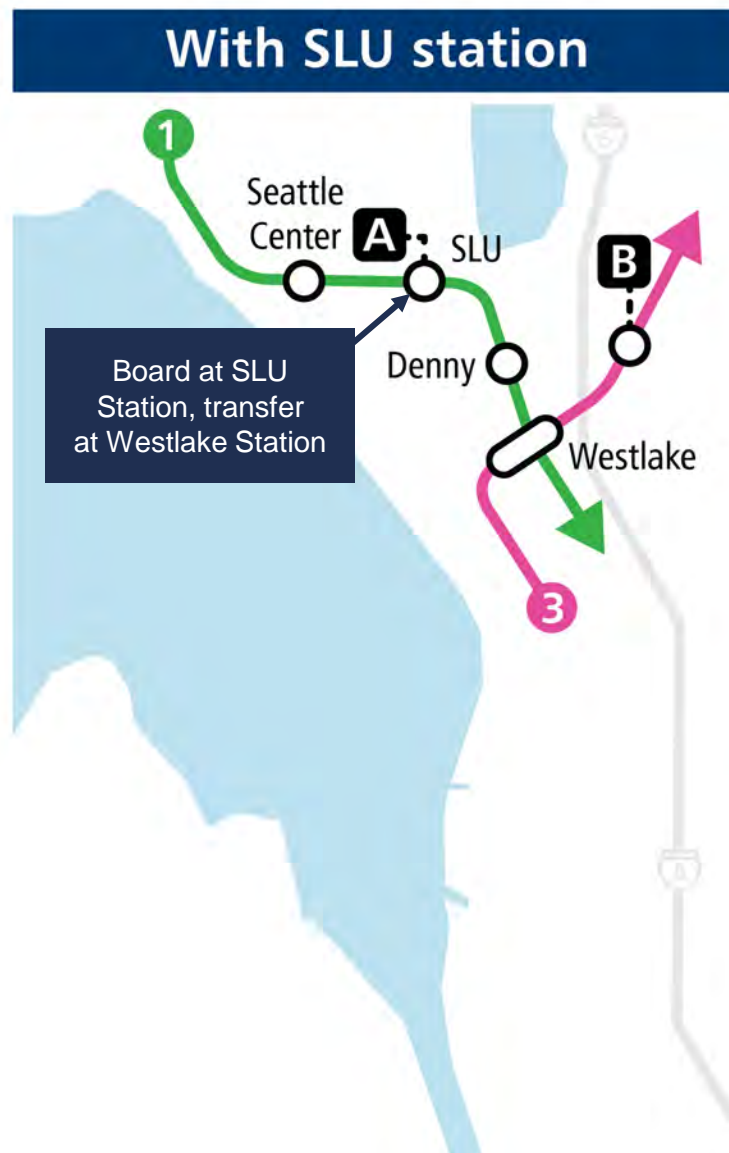
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Ridership modelling results

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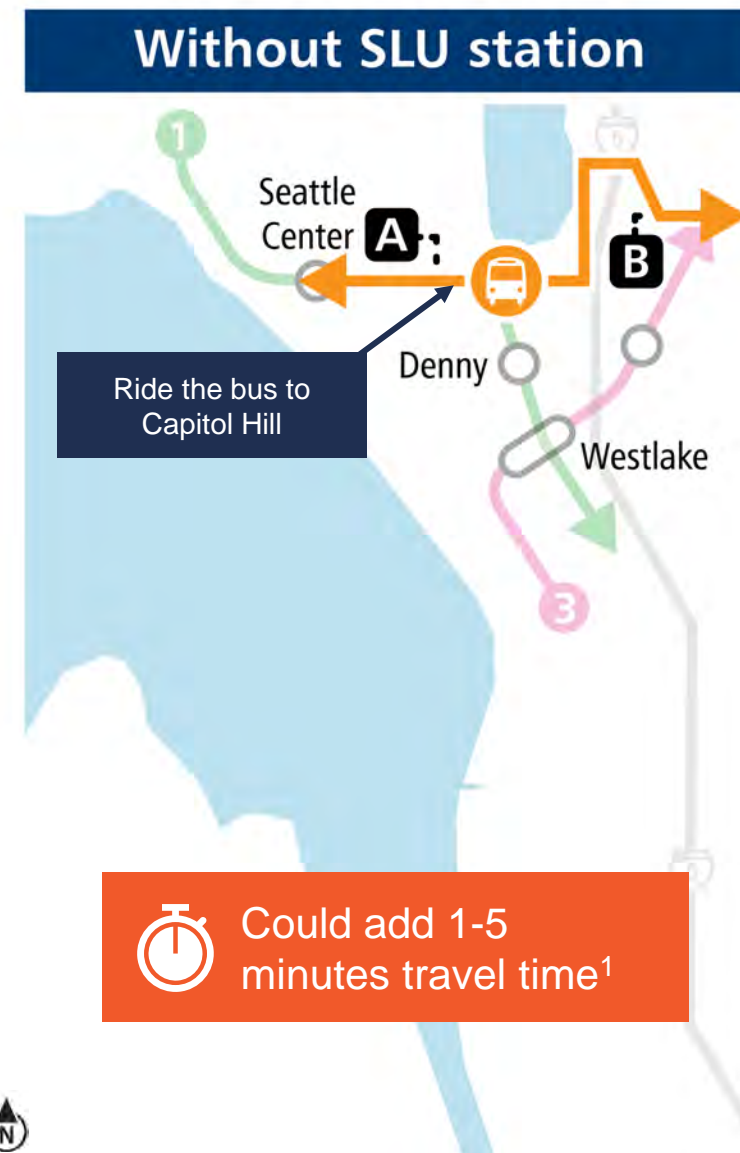
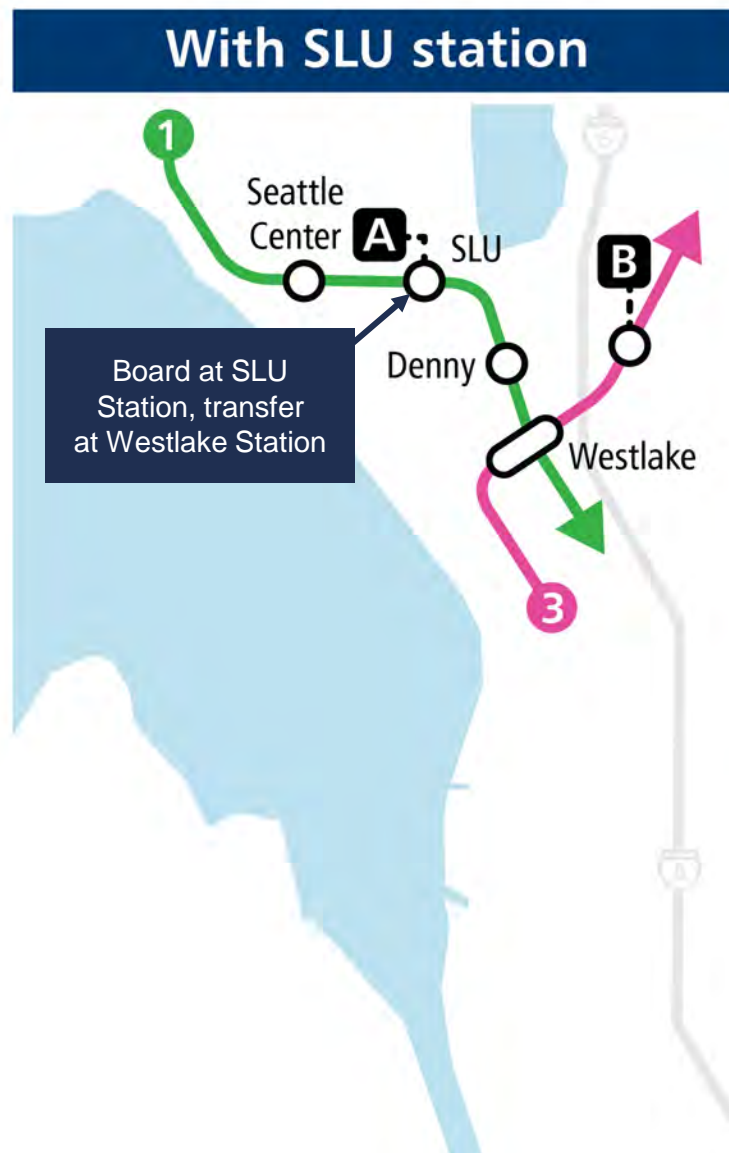
Someone at Dexter and Harrison going to Capitol Hill might have boarded Link at SLU station would instead ride METRO CONNECTS Route 3028/3104 to Capitol Hill



Ridership modelling results

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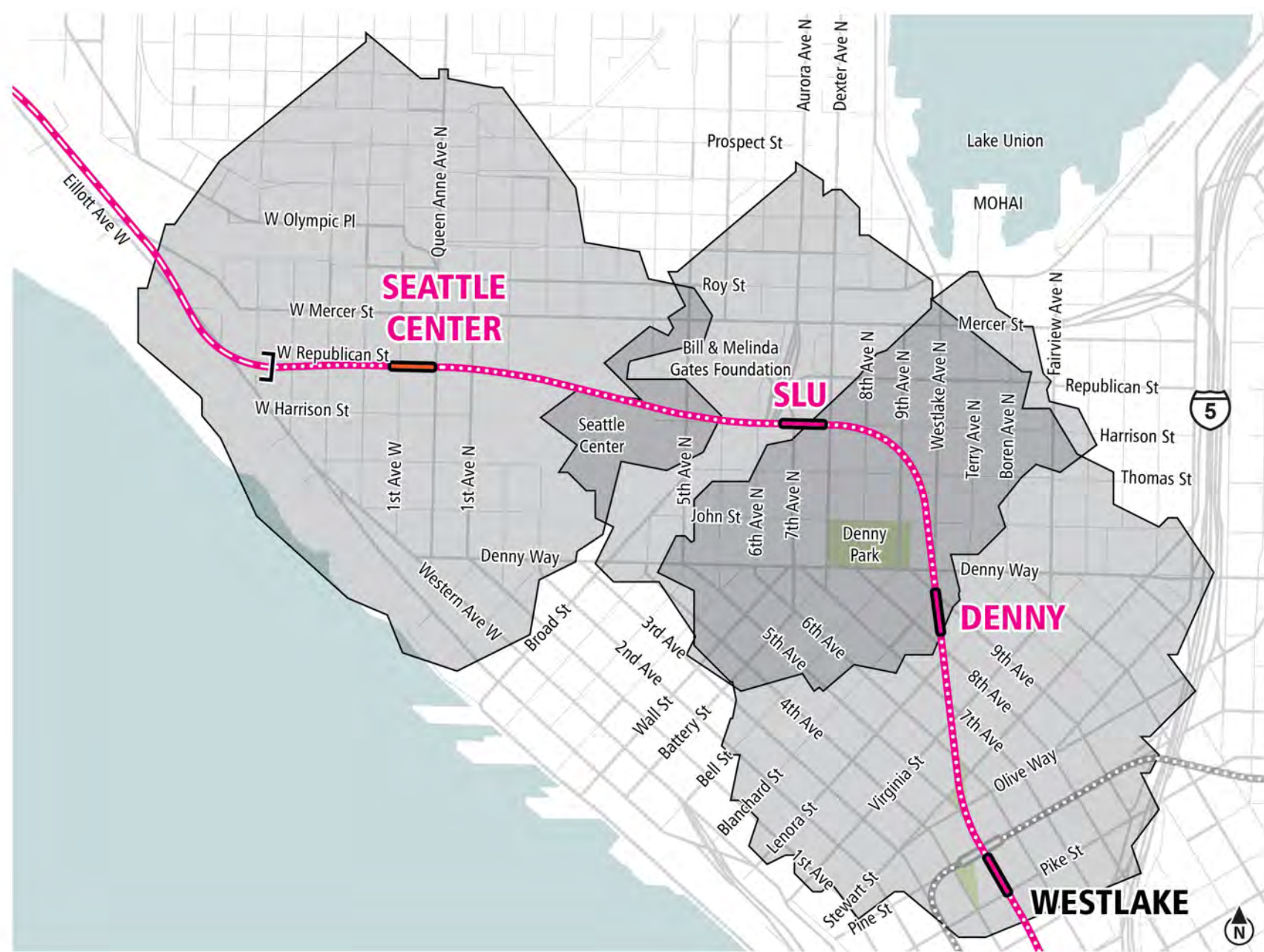
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Walk access

10-minute Walksheds*

With SLU



10-minute Walksheds*

Without SLU



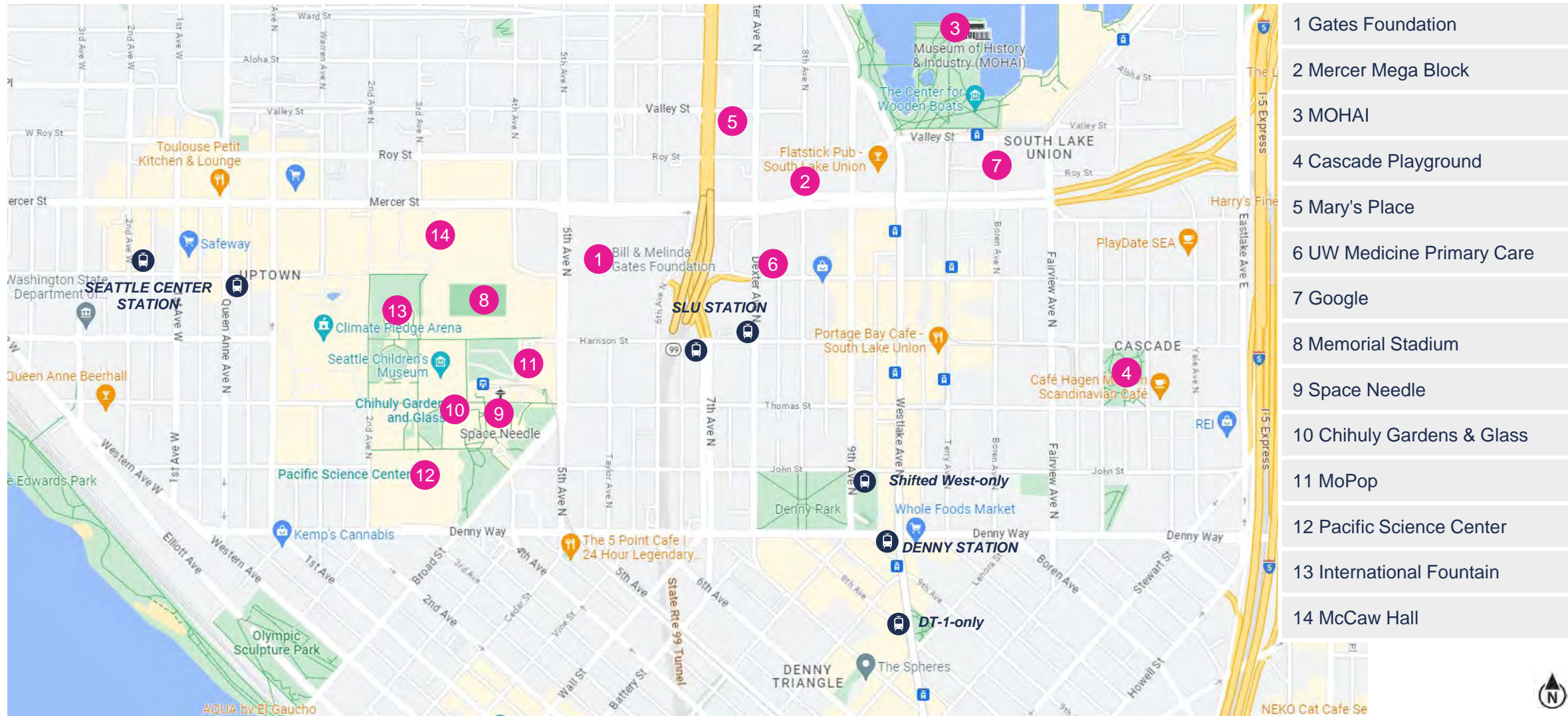
Walk time to nearest 1-Line station*:

5+ min difference

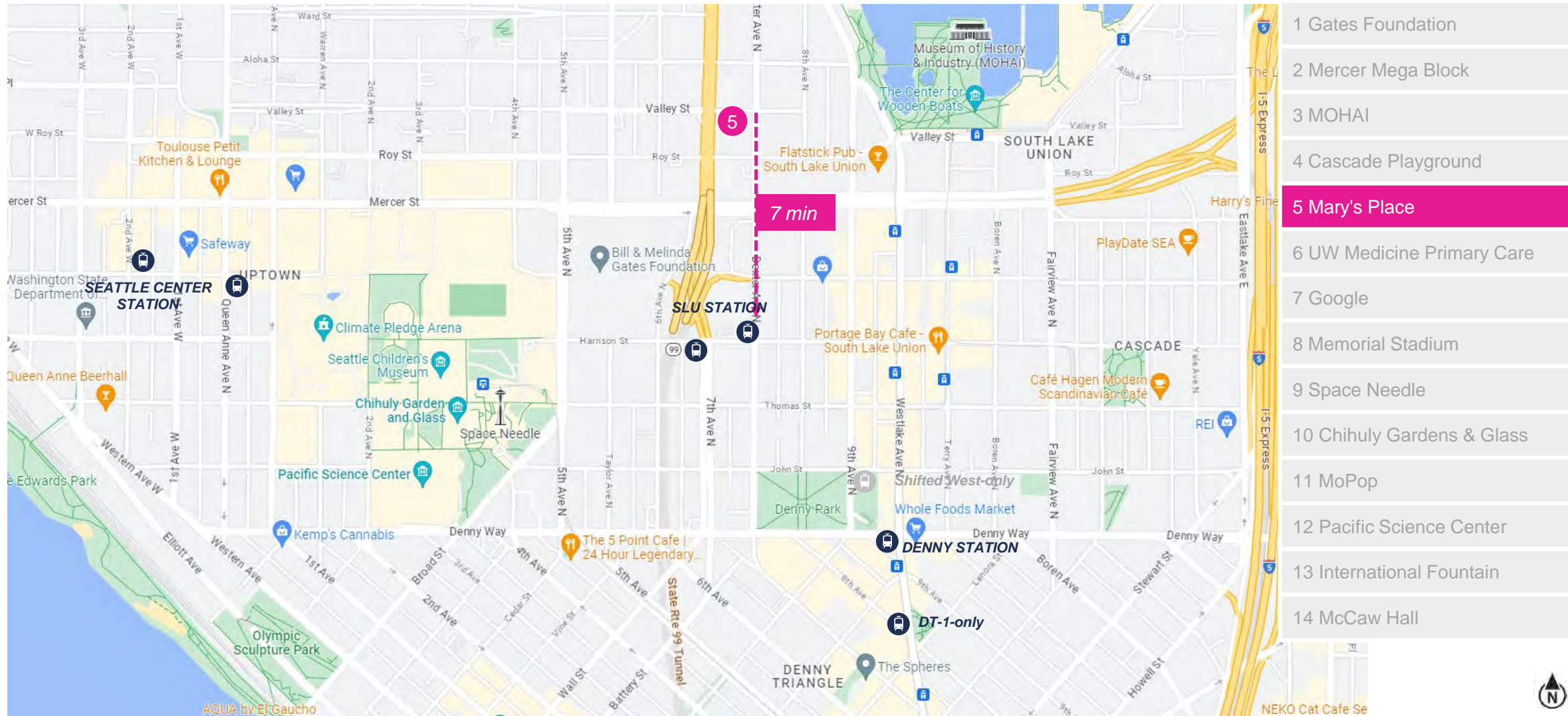
| | With SLU | Without SLU | Notes |
|----------------------------|----------|-------------|---|
| 1 Gates Foundation | 2 min | 10 min | Walk to Denny (shifted west) instead of SLU. Would introduce additional arterial crossings for Gates Foundation (7th Ave and Dexter Ave) and Mary's Place (Dexter Ave). |
| 2 Mercer Mega Block | 6 min | 12 min | |
| 3 MOHAI | 14 min | 15 min | |
| 4 Cascade Playground | 10 min | 10 min | |
| 5 Mary's Place | 7 min | 12 min | |
| 6 UW Medicine Primary Care | 2 min | 8 min | |
| 7 Google | 12 min | 12 min | |
| 8 Memorial Stadium | 6 min | 6 min | Walk to Seattle Center rather than either Seattle Center or SLU |
| 9 Space Needle | 7 min | 10 min | Walk to Seattle Center rather than SLU. Walking to Seattle Center station would involve fewer arterial crossings. |
| 10 Chihuly Gardens & Glass | 8 min | 10 min | |
| 11 MoPop | 4 min | 10 min | Walk to Seattle Center in both scenarios |
| 12 Pacific Science Center | 10 min | 10 min | |
| 13 International Fountain | 6 min | 6 min | |
| 14 McCaw Hall | 6 min | 6 min | |

*Walk times are approximate based on an example walking route and do not account for all passengers' preferences

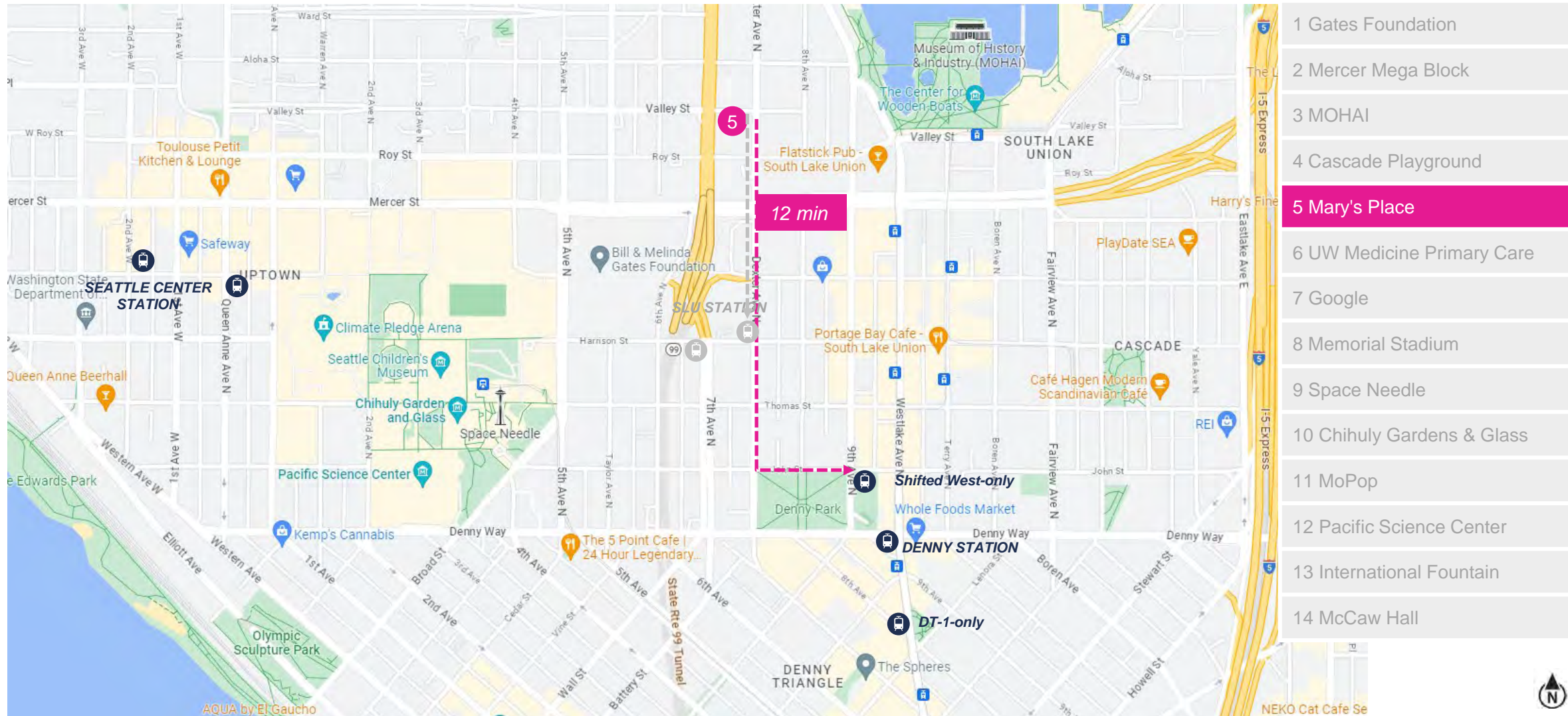
Walk Access*



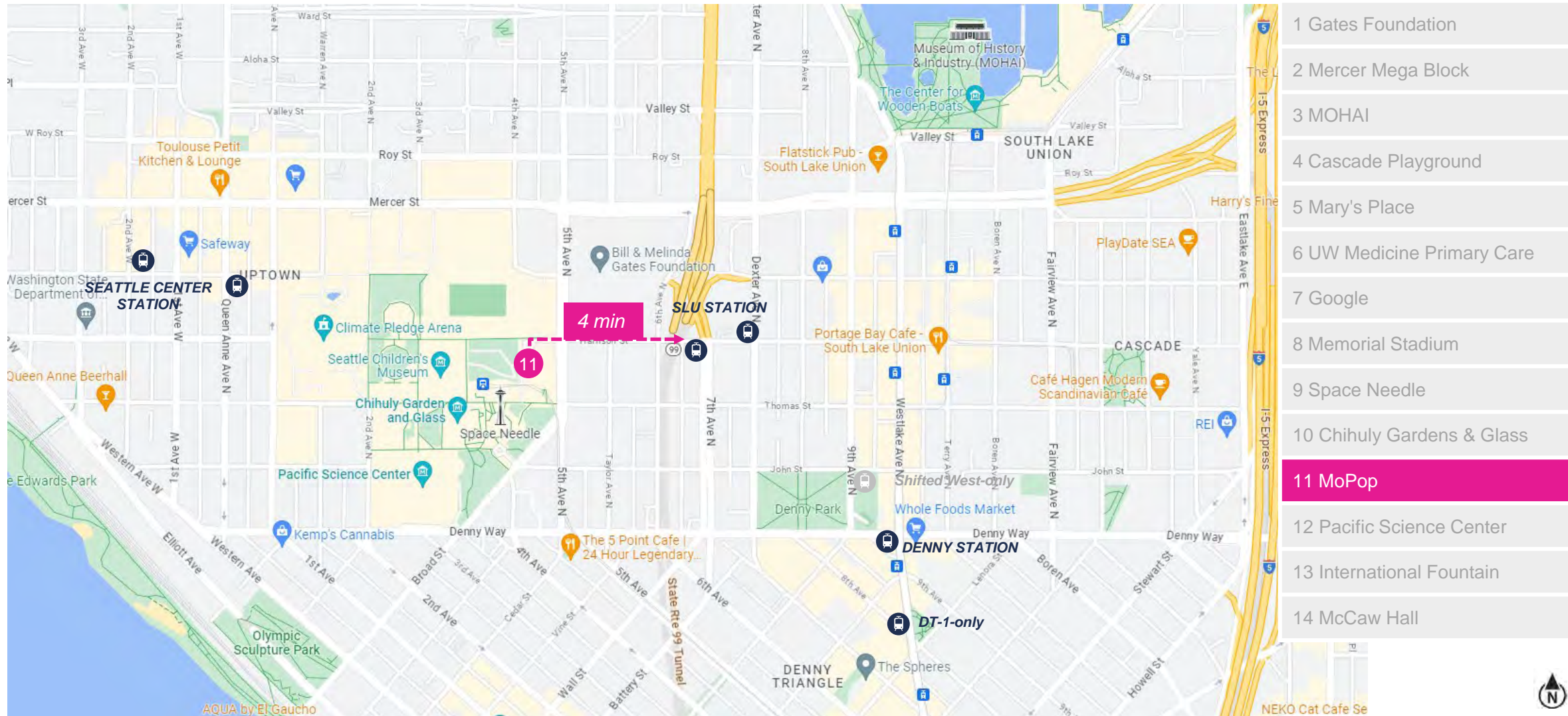
Walk Access – with SLU



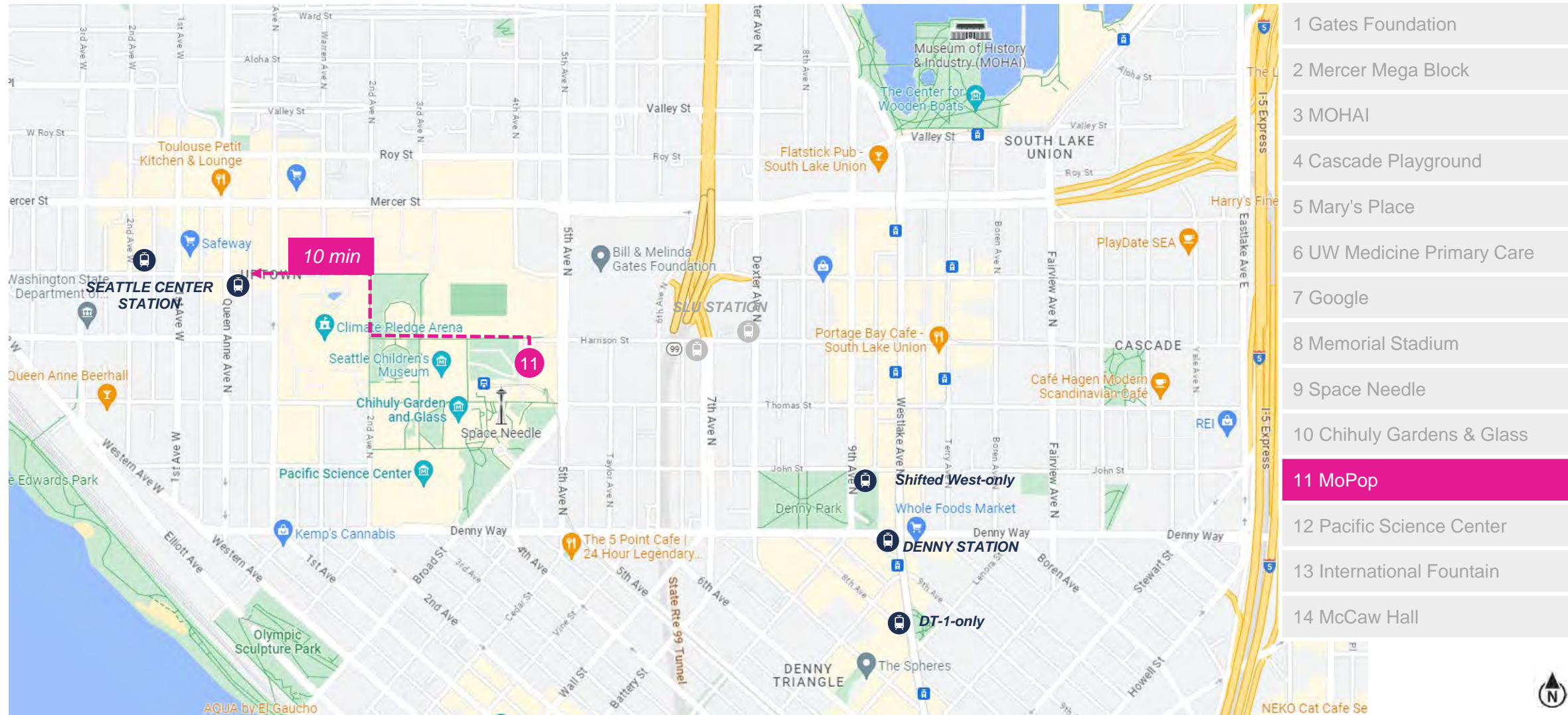
Walk Access – without SLU



Walk Access – with SLU



Walk Access – without SLU



Equity

Racial Equity Toolkit

Outcomes

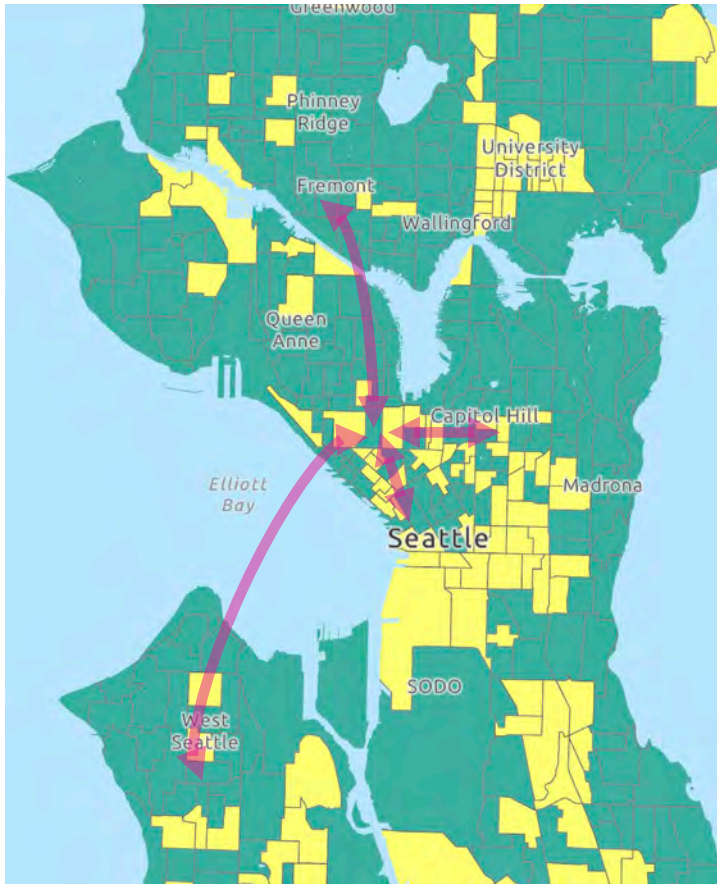
- Advance environmental and economic justice to improve economic and health outcomes for communities of color.
- Enhance mobility and access for communities of color and low-income populations;
- Create opportunities for equitable development that include expanding housing and community assets for communities of color;
- Avoid disproportionate impacts on communities of color and low-income populations;
- Create a sense of belonging for communities of color at all stations, making spaces where everyone sees themselves as belonging, feeling safe, and welcome; and
- Meaningfully involve communities of color and low-income populations in the project.

Racial Equity Toolkit

Outcomes

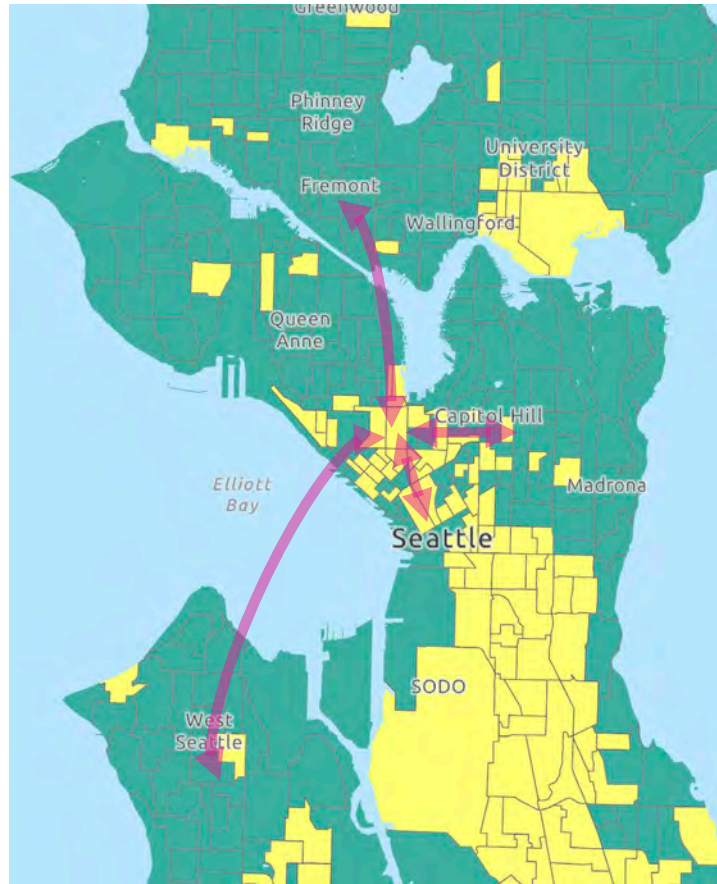
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Equity



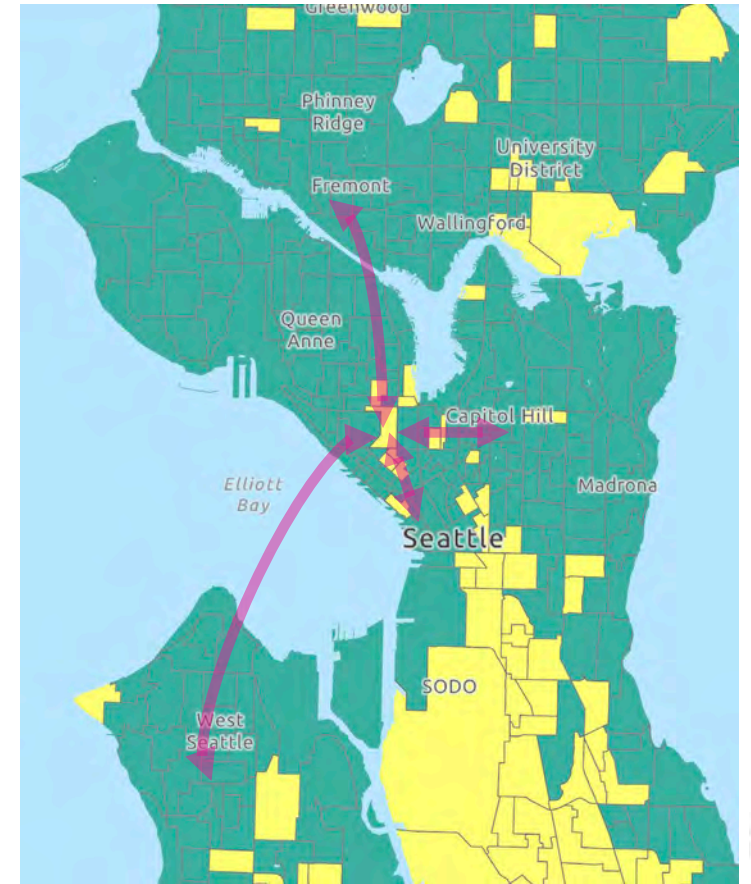
Low-Income

 At or Above Regional Average



Communities of Color

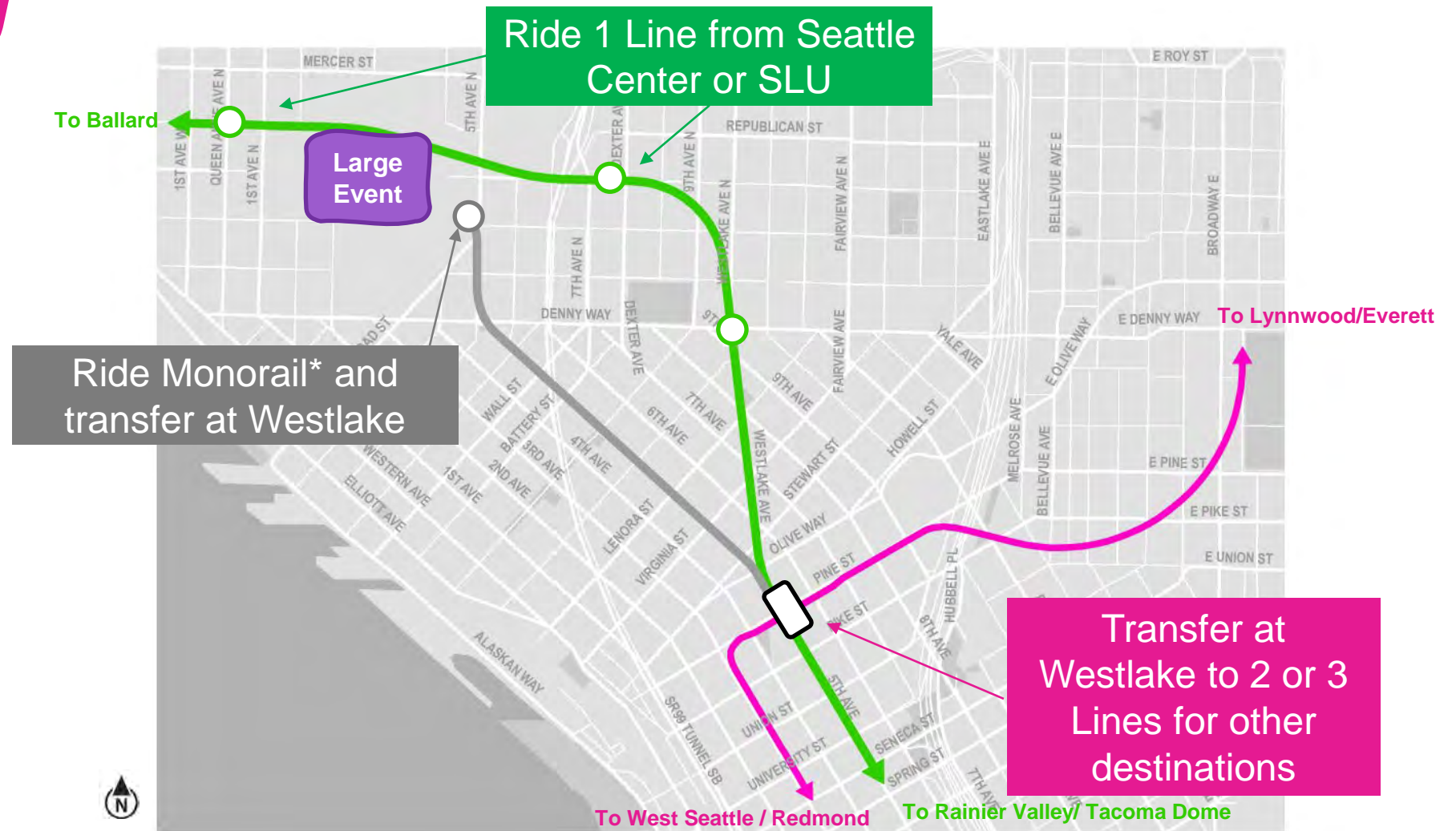
 Below Regional Average



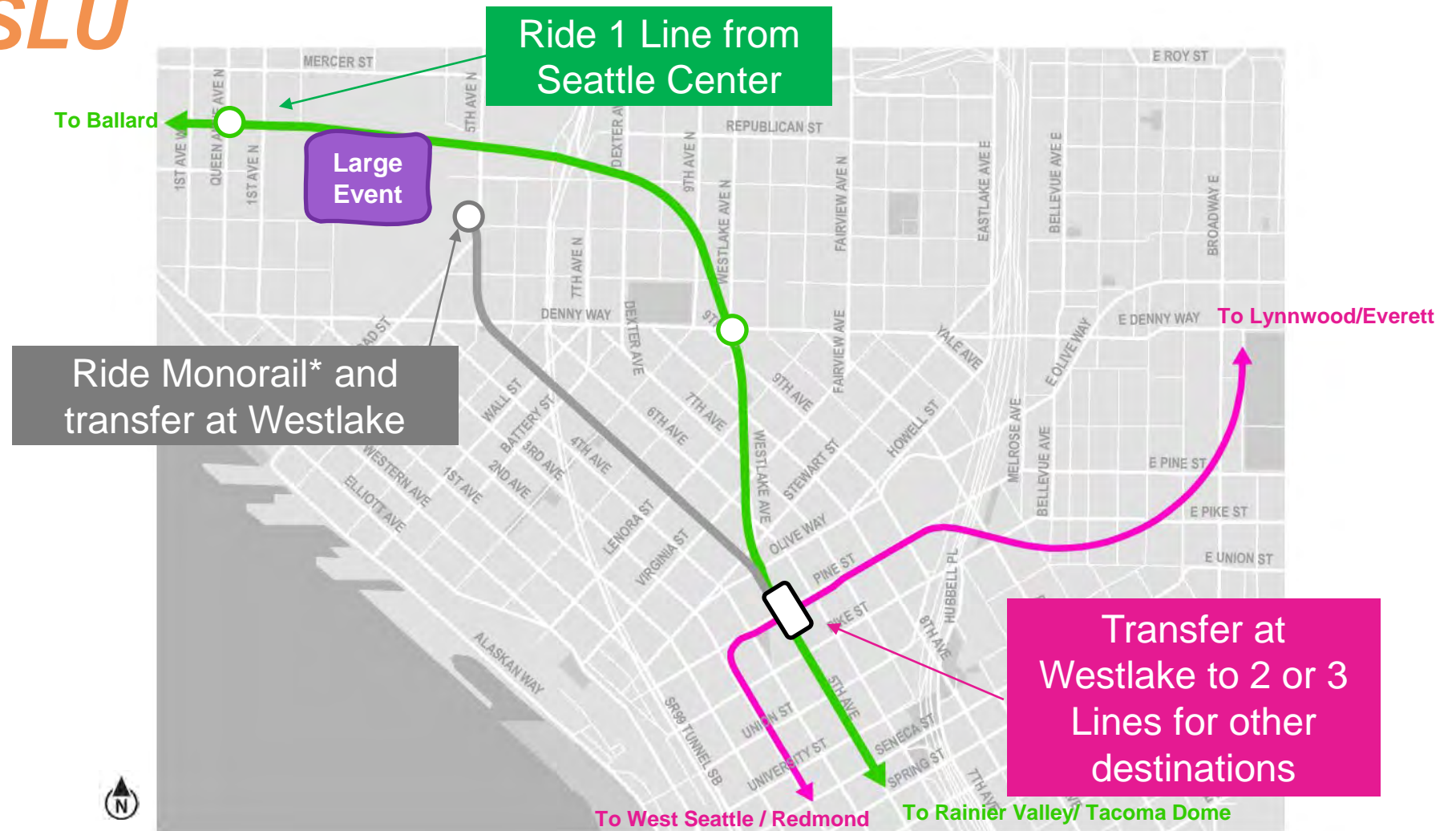
Limited English Proficiency

*Seattle Center
access/capacity*

Seattle Center/ Large Events With SLU



Seattle Center/ Large Events Without SLU



Three event scenarios:

Climate Pledge Arena



18,300

Memorial Stadium



12,000

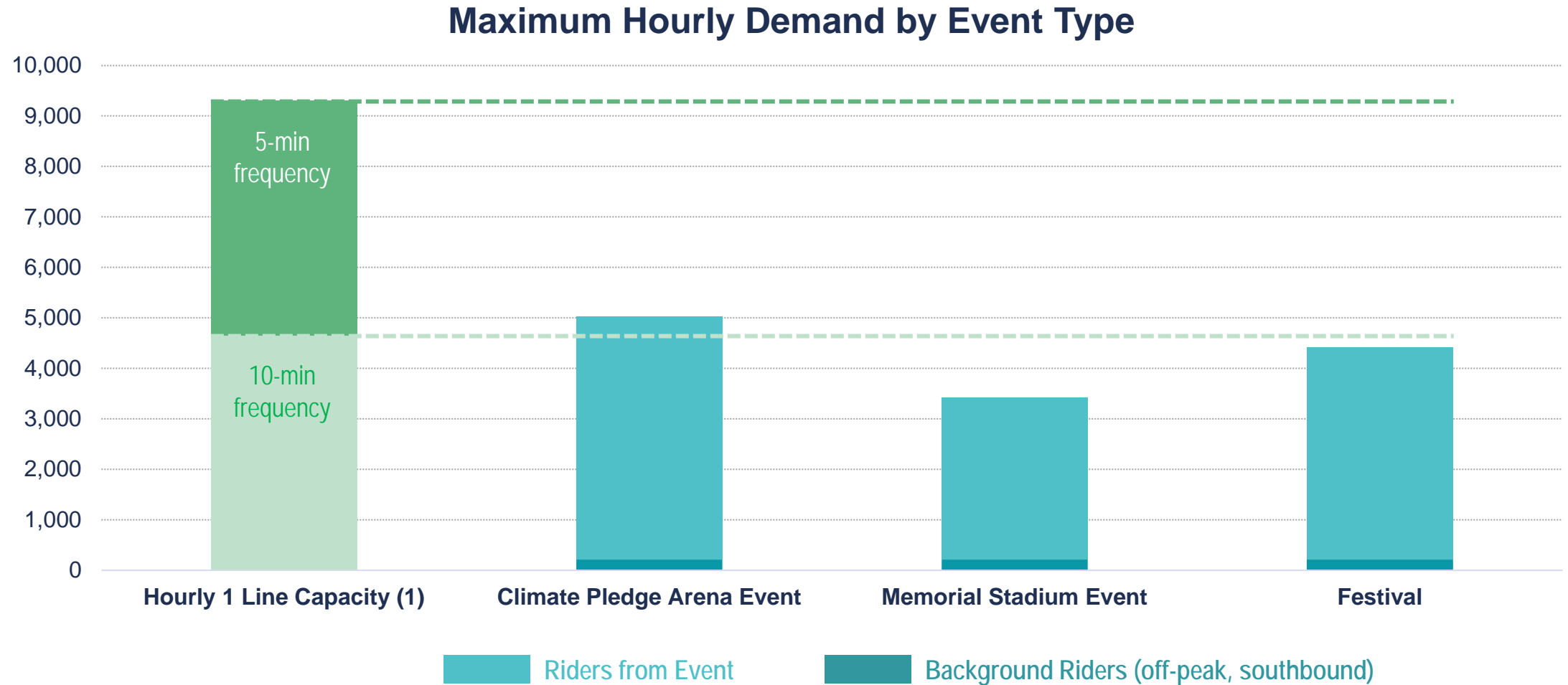
Large Festival



100,000 (per day)



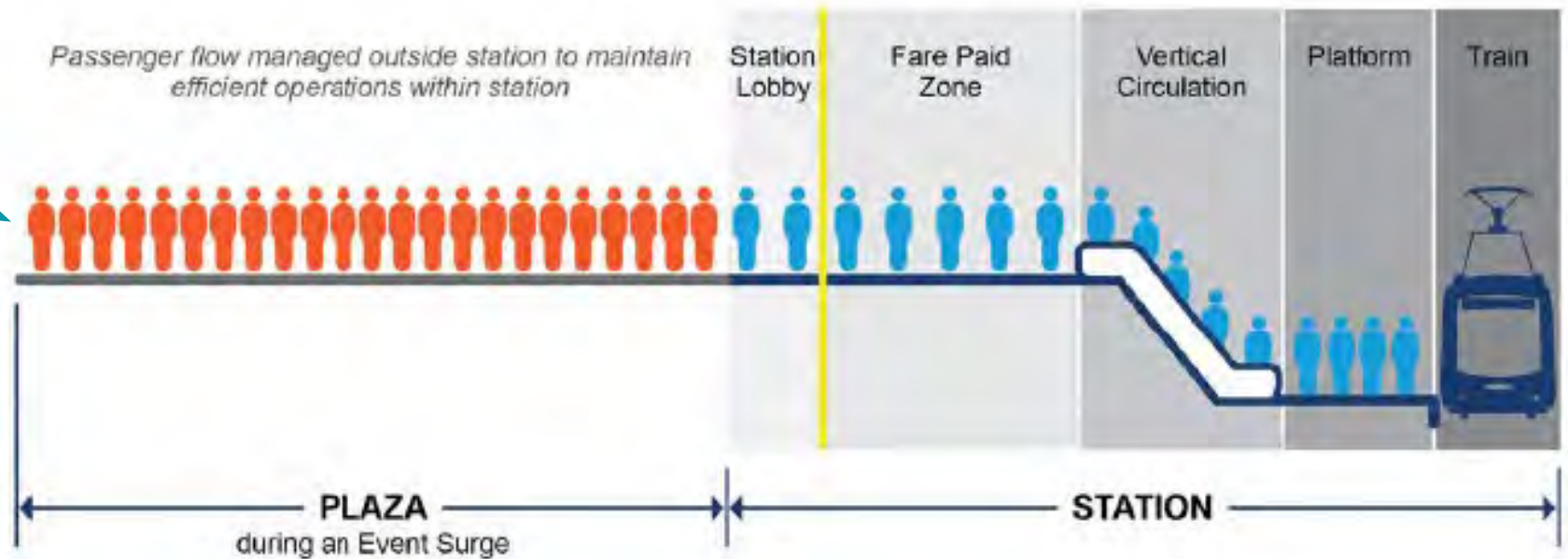
Passenger Surge (Post Event)



Passenger Surge (Post Event)

If the anticipated passenger surge volume exceeds the capacity of the Link light rail system, Sound Transit will plan and deploy passenger flow management strategies at stations.¹

Metering occurs at venue, pathway to station, and at station entrance (if needed)



**For frequency of events at Seattle Center, passenger flow management would need to be in place through agreement with City, Climate Pledge, and other partners*



| | Denny Westlake | Denny Terry | Denny Westlake refinement options | |
|---|--|---|---|---|
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| Technical <i>street closures</i> | Westlake Ave fully closed to cars, buses and streetcar for 4 years during construction | Westlake Ave open to cars, buses and streetcar during construction | Westlake Ave temporarily decked during construction. Open to cars and buses but not streetcar. Reduced number of lanes for 3-4 years. | Westlake Ave substantially open to cars, buses and streetcar during construction; avoids closure of Harrison St |
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| Performance <i>ridership, transit integration, passenger experience</i> | Convenient transfer to transit on Westlake Ave | Minimal impact to ridership; short walk to transit lines on Westlake Ave; provides station access to both sides of Denny Way | Convenient transfer to transit on Westlake Ave | 8,000 (5%) fewer weekday trips on Ballard Link Extension. Potential to re-route some bus lines to serve station location. Increased walk time to some destinations. |
| Cost <i>compared to Denny Westlake Draft EIS DT-1</i> | Base case for cost comparison | \$340m additional cost | \$170m additional cost* | \$440m cost savings due to consolidation of Denny and Harrison St stations* |
| Schedule <i>overall project delay</i> | Base case for schedule comparison | Uncertainty of fiber relocation could delay overall schedule | No delay to overall schedule | No delay to overall schedule |
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Community feedback

Community feedback

- Broad interest in retaining both Denny and SLU stations to serve the density and activity of surrounding neighborhoods, including SLU, Belltown and Uptown.
- Concerns about reduced walk, bike and bus access and loss of light rail ridership associated with a consolidated station and potential for crowding at adjacent Seattle Center and Denny stations.
- Broad concerns about impacts to Westlake Avenue and interest in potential ideas to mitigate or limit full closure of Westlake Avenue and related effects to traffic, transit and businesses in the area.

Community feedback

- Interest in Shifted West alternative to avoid construction impacts on Westlake Avenue and related effects to the neighborhood, downtown recovery and to public and private investment in SLU.
- Some interest in whether a shifted west SLU station could be paired with a Shifted West Denny station to maintain two stations and avoid construction effects and utilities at SLU Harrison station location.
- Others concerned about a shifted west SLU station location because of potential for impacts in the vicinity.

Community feedback

- Strong interest in delivering on the voter approved plan and avoiding any further delay or additional cost associated with further studies of new concepts.
- Some interest in any opportunities to speed up delivery of the Ballard Link Extension project.
- Questions about opportunities for TOD, potential for additional funding, and about potential property effects and other construction effects.

Potential board action

Potential board action

Motion No. M2023-57

A motion of the Board of the Central Puget Sound Regional Transit Authority confirming or modifying the preferred station location for the Denny Station for the Ballard Link Extension Environmental Impact Statement

 *wsblink.participate.online*

