

Burke-Gilman Trail Missing Link Design Advisory Committee

Meeting #7 Summary

Thursday, October 28, 2017 | 2:30—4:30 p.m.

Ballard Eagleson VFW Post

Attendees

Design Advisory Committee Members

Member Name	Represented Interest	In Attendance
Warren Aakervik	Freight Interests	X
Tom Bayley	Commercial/Retail/Marina Interests	X
Sue Dills	Water-dependent/Maritime Interests	
Tom Friedman	Pedestrians	X
Davidya Kasperzyk Jennifer Macuiba, alternate	Trail Users	X
Armand MacMurray	Ballard Residents	X
Eric Nelson Sandra Nestorovic, alternate	Cultural and Historic Interests	X
Mike Stewart	Ballard Businesses	
Blake Trask	Bicycle Riders	X
Eugene Wasserman	Industrial Interests	X
Graham Pruss	DON Community Liaison for the Unhoused Community	X

Staff

Seattle Department of Transportation

- Louisa Galassini, Project Manager
- Maribel Cruz, Outreach and Communications Lead
- Matt Beaulieu, Transportation Operations

Office of Economic Development

- Roque Deherrera, Business Advocate

Expert Design Advisory Team

- Hermanus Steyn, Kittelson & Associates
- Karla Kingsley, Kittelson & Associates

EnviroIssues Facilitation Team

- Penny Mabie, facilitator
- Brett Watson

Note: This document is only a summary of issues and actions in this meeting. It is not intended to be a transcription of the meeting, but an overview of points raised and responses from SDOT and DAC members.

Welcome and Introduction

Penny Mabie, EnviroIssues facilitator for the Burke-Gilman Trail Missing Link Project Design Advisory Committee (DAC), welcomed DAC members and Seattle Department of Transportation (SDOT) staff to the meeting. She provided an overview of the agenda and outlined the primary purposes of the meeting – to present the DAC with recent Missing Link design updates and to gather additional DAC feedback on Schematic Design. Penny encouraged DAC members to share constituent feedback with SDOT.

DAC members provided minor edits to the summary from the previous DAC meeting on August 17. Members agreed to finalize the summary pending the inclusion of these edits.

Schematic Design Updates

Louisa Galassini, SDOT project manager, began the Schematic Design update by providing DAC members with an overview of project outreach to date. She noted that a recent outreach effort to share the Schematic Design included a workshop for nearby business owners, property owners, and residents, a public open house, a public self-guided walking tour, a public online open house, and various briefings with community groups and City advisory boards. She also highlighted that SDOT has been meeting with individual property and business owners as needed.

Louisa noted that the team is still reviewing recently provided comments on Schematic Design, and she highlighted some consistent feedback themes, which included:

- Suggestions for improving specific intersections along the corridor (e.g., NW Market St & 24th Ave NW, Shilshole Ave NW & NW Market St, and Shilshole Ave NW & 17th Ave NW)
- Concern about parking, conflict between freight traffic on Shilshole Ave NW and trail users, and trail alignment
- Excitement about a safer route for trail users and a more predictable experience for all users
- Interest in enhancing connections between the Missing Link and other nearby bike facilities

Hermanus Steyn, Kittelson & Associates and project Expert Design Advisor, provided DAC members with a debrief of the October 2, 2017 on-site field test. Hermanus outlined how the design team set up the field test, and he shared the major design **questions** and *answers* that the field test helped to illustrate, including:

1. **Did the proposed driveway width accommodate the trucks anticipated to use the driveways?**
Yes. No design modifications were suggested.
2. **Did the design clearly communicate to trail users the location of the driveways and where they should be positioned when yielding to driveway traffic?**
Yes. The green markings on driveways were clearly visible. However, there may be opportunities to more clearly show trail

users where they should wait (e.g. extending green paint, narrowing the trail at the driveway crossing area, or revisiting sign placement).

3. **How was visibility/sight distance for vehicles exiting the driveways?** *Sufficient sight distance in all directions was observed.*
4. **How did vehicles exiting the driveways interact with trail users?** *The field test confirmed the 3-step process for drivers: first stop before the trail and find a gap in trail users, then proceed to the road edge and find a gap in vehicle traffic, and finally enter the roadway when a gap is available.*
5. **Could trucks safely make a left-turn into the driveway?** *Yes. No design modifications were suggested.*
6. **Could trucks safely make a right-turn into the driveway?** *Yes; however, there was a large blind spot for right-turning trucks after the right turn was initiated. Field test findings helped to explore potential options for trail user wait zones and opportunities for in-lane detection equipment.*

Hermanus closed his summary of the field test by proposing some of his team's design suggestions for potentially addressing opportunities highlighted by the field test. The design treatments he proposed including narrowing the trail at key crossings, extending the green paint to indicate conflict areas, revisiting placement of LED warning signs near key driveways, exploring potential additional signage, and including in-lane detection for right-turning trucks.

Louisa noted that the SDOT design team had further updated design of key driveway crossings along Shilshole Ave NW, including adding mountable truck aprons and tapering the trail from 12 to 8 feet at crossings. She noted that SDOT was still internally considering the best placement for LED driveway warning signs, and options included either placing the signs further away from driveways and provide an opportunity for trail users to slow or placing them near driveways at the potential conflict area to highlight a safe space for trail users when trucks are turning.

Matt Beaulieu, SDOT Transportation Operations, said that either proposed location for driveway LED signage would be expected to work safely for bicycle stopping distances.

Louisa closed the presentation by highlighting two final updates:

- Parking changes will be implemented along Ballard Ave NW. Parking costs will be decreased in the morning when there is lower demand and increased in the evening when there is higher demand. The Ballard Alliance received a grant to install wayfinding parking signs and direct drivers to underutilized nearby parking lots. There will potentially be more private parking lots opened near the trail, as well.
- The mixing zone for pedestrians and cyclists on the southwest corner of the NW Market St and 24th Ave NW will be larger than the present space by about 50%. She also noted other changes to the intersection (connecting bike lanes, adding bike boxes, green ramps, shifting lanes, and shifting curb bulbs) should help it to function better.
- To ensure that the trail is functioning appropriately and that corridor users understand how driveway crossings work, SDOT will work post-design to study the corridor and get the word out

about how to effectively use the trail and the roadway. This effort would be divided into three phases: pre-construction (anticipated spring 2018), pre-opening (anticipated spring 2019), and after opening (anticipated 2019 and beyond). Each of these phases will include targeted outreach, ongoing public education, and conversations with nearby community members and stakeholders. In addition, SDOT will consider strategies for monitoring corridor design such as field observations and design corridor changes if any are identified.

DAC members provided the following comments on driveway crossings:

- Eugene Wasserman, North Seattle Industrial Association, asked if the in-lane detection sensors would use weight to identify turning trucks.
 - Matt said that there are multiple ways that trucks could be detected to trigger the LED sensors. He noted that SDOT is currently working with the sign vendor to determine what equipment and logic software is available, and how it can be best put to work at crossings. He said that height or dwell time sensors may be useful triggers for Shilshole driveways. SDOT is looking at sensor equipment that can be placed in the right of way and is familiar to SDOT crews.
- Armand MacMurray, Central Ballard Residents Association, asked if it would be possible for truck drivers to have in-cab overrides to trigger flashing LED signs. He noted that this could add certainty to trucks
 - Matt said that this strategy could potentially be challenging to implement because of the large number of trucks and drivers that use the driveways. In addition, he noted that in-cab triggers would leave out non-regular drivers.
- Warren Aakervik, Ballard Oil, asked if it would be possible for signals to change to a red or stop light once a truck begins to turn. He identified that mid-turn is the most challenging moment for turning trucks, when parts of the trail are in the truck's blind spot.
 - Matt said that these signs (blackout signs) would be inconsistent with other areas of the Burke-Gilman trail, which could create confusion for trail users.
- Warren asked what the width of the driveway would be, including the mountable truck apron.
 - Louisa said that the width was based on the truck turning radius she would check on total width and provide an answer.
- Graham Pruss, DON Community Liaison for the Unhoused Community, asked why driveway crossings were painted green, noting that a color like yellow may be more appropriate.
 - Warren noted that green paint created the perception of a "bikes only" zone.
 - Matt said that Seattle identifies bike/traffic conflict zones with green to be consistent with federal guidelines.
- Blake Trask, Cascade Bicycle Club, asked if SDOT was looking at any signs that could be triggered by trail users to alert trucks pulling out of driveways. He wondered if this could be a potential strategy to address some concerns from the freight community about knowing when trail users were nearby.
 - Warren noted that the most dangerous moment for the truck is when they stop, highlighting that it's difficult to tell where moving trail users are at that point in the turn.

- Tom Friedman, Ballard Running Group, said that placing signs any closer than 50 feet may not give cyclists adequate time to stop for turning trucks.
 - Louisa said that the signs placed 50 feet away from crossings would be visible to trail users as they approach driveways. She also stressed that signs would only be one form of alert. She also noted that there would be striping, a “slow” sign and tapering of trail. Louisa highlighted that driveway crossing treatments were still being looked at by the design team, and that DAC feedback would be considered as 90% design was finalized.

Penny noted that additional conversations on managing design treatments at key driveway crossings may be helpful. She told DAC members that the facilitation team would work to coordinate a time for this discussion in the coming weeks.

NOTE: DAC members met on 11/6 for a workshop to further discuss major driveway crossings along Shilshole Ave NW. A summary of the discussion points from this event are included in this summary as Appendix I.

Additional DAC comments on information highlighted in the design update included:

- Eugene asked if cyclists would need to stop or dismount as they move through the mixing zone at NW Market St and 24th Ave NW.
 - Louisa said that this would likely be determined by the time of day and how busy it is. She noted that SDOT would not set the expectation that cyclists can move through the mixing zone without yielding to pedestrians, who have the right of way.
- Warren asked how trucks travelling south on 24th Ave NW would make the right turn onto NW Market St with the new bike lane connections and with pedestrians crossing the cross walk.
 - Louisa said she would look into whether or not the intersection signal had a dedicated right turn phase for trucks.
- Graham said that trail education and outreach should be sure to reach the nearby unhoused community. He offered to help work with SDOT to target this work.
- Roque Deherrera, Office of Economic Development, said that it could be helpful to post rules of the trail at strategic rest stops along the Seattle portion of the Burke-Gilman Trail.
 - Davidya Kasperzyk, Friends of the Burke-Gilman Trail, agreed, and added that additional signage should be added near the Shilshole Ave NW portion of the Burke-Gilman Trail to specifically call out that trail users are entering the Ballard Maritime Industrial Area.
- Armand asked if SDOT would be ready to make adjustments to the corridor if post-construction monitoring demonstrated that something was not working as anticipated.
 - Louisa said that money is in the budget for monitoring the corridor and for adjusting recent corridor improvements if needed.

Design Advisory Committee Input

DAC members provided the following questions and feedback from themselves and their constituents regarding corridor design:

- Eugene said that members of the North Seattle Industrial Association would like Seattle Municipal Code to specifically call out bikes as different from pedestrians. He also noted that his constituents would like to see 15 MPH signs on trails.
- Tom said that there was some concern from the Sunset Hills neighborhood about potential backups on NW Market St that could be caused by vehicles making right turns onto Shilshole Ave NW. He noted that adequate space for right turning vehicles to queue up would be important.
 - Louisa noted that this was a tradeoff that SDOT was considering, as any additional space for right turning vehicles would likely lead to further parking loss.
- Eugene said that he would like to see adaptive technology incorporated into the signal at NW Market St and 15th Ave NW.
 - Louisa noted that signal changes on NW Market St may be incorporated at a later time. She noted that she would look into signal updates further and get back to the group with additional information.
- Warren asked if SDOT could coordinate further with the Seattle Fire Department on potential changes to the corridor and potential updates to NW 54th St. He said that they would likely be very interested if ingress and egress points to the roadway were updated.
- Warren asked where the loading zone for the Market Arms and 8oz. Burger Co. was going to be located.
 - Louisa said that both businesses have been engaged about their loading zone needs. She highlighted that no loading zones are being removed, and that she would return to the DAC with determined locations for loading zones at the group's next meeting.
- Warren said that during the walking tour he conducted a quick survey of pedestrian awareness while he was in his truck. He noted concern that those passing by were not as aware of his truck's presence as they should be, judging by eye contact. He highlighted this as an example of how important it is for design treatments to draw attention to crossing trucks.
 - Davidya noted that in his experience, pedestrians and cyclists are often very aware of their surroundings. He said that eye contact may not be the best strategy for gauging awareness.
- Roque noted that landscaped trees should likely not be placed in the Shilshole Ave NW area of the trail to ensure that sight-lines and the industrial character of the area are preserved.

Public Comment

No public comment was provided.

Design Process Next Steps and Wrap Up

Penny thanked DAC members and SDOT staff for their participation in discussion. She provided DAC members with an overview of what to expect as Missing Link design is clarified in the coming months and closed the meeting.

Between 60-90%:

- Vertical elements of the design are incorporated i.e. curb ramp slopes, sidewalk slopes, profile and elevation of the trail, drainage infrastructure profiles and elevations
- Pavement restoration limits are clearly defined
- Finalize geometry of the corridor
- All site preparation work needed to construct is finalized (removals, relocations, etc.)
- Striping and signing locations are close to being finalized
- All truck turning movements that are needed to be analyzed are complete
- Coordination with utility companies and agencies should be in progress
- Traffic signal pole locations finalized

Between 90-100%:

- Add any details that are missing
- Finalize all horizontal and vertical design elements
- Finalize traffic signal design, including wiring, conduit routing, and other underground work
- Project specs are finalized

Action items

- SDOT and the facilitation team will work to identify a time for DAC members to come together and further discuss major driveway crossings along the corridor.
- Follow up on individual questions, as identified.

Appendix I: Discussion Points from 11/6 Driveway Workshop

Land Use

- Consider driveway crossings and future land use needs along Shilshole

Safety

- Recognize the dangers that trucks can pose (see: news article provided on Kenmore cyclist death)

LED signs

- LED signs at high-volume driveways with large to medium trucks:
 - Infrared detection, imbedded pavement loops, and activation delays for large, right-turning trucks
 - Adjustments can be made to how long beacons flash
 - SUGGESTION: Active truck turn time is most critical to safety. Minimize active flash time to the greatest extent possible to ensure that the LED signs serve as effective warnings.
- LED sign questions:
 - Where should they be placed?
 - What should they look like?
 - How should they function?
 - What additional signs/permanent markings can help to make LED signs most effective?
- For LED Sign sensors make sure that they are placed in ways that are useful to where trucks are when they turn (e.g. trucks turning right onto Shilshole Ave NW out of driveways will be positioned far to the left side of the driveway, trucks turning left onto Shilshole Ave NW will be positioned far to the right)
- LED sensors need to be far enough away from the trail crossing that they will not be mistakenly set off, and they will need to be close enough that trucks trigger them as they pull up to the curb line
 - The ideal trigger point is where trucks stop at the edge of the curb as they prepare to make a turn
 - The signal will need to be triggered by the height of the cab, and placement will need to take this into account
 - Initially place 10 feet back from the curb and readjust as needed
 - Ideal placement for sensors is in the ROW
- LED sign location options (NOTE: Locating signs closer to the driveway entry could help with identifying/associating conflict):
 - A. Entry point for driveway
 - B. 30 feet from driveway
 - C. 50 from driveway
- Re: sensor placement – note that some very large trucks turning right out of driveways onto Shilshole Ave NW may need to partially move into the oncoming lane
- SUGGESTION: Instead of LED warning signs, some kind of digital sign that functions like a signal (green, red, yellow) at key driveway crossings?

Static Signs

- "Trucks Next Mile" signs placed as bookends along Shilshole?
 - Currently by PacFish and the Fred Meyer

- Conversation about adding at Rail/Trail crossing, but this was considered too much sign clutter
- Conversation about adding a sign on a side street for users entering the trail. Thought was the sign needed to be on the facility itself, but could be located near Shilshole/Dock to capture users from the Greenway
- “Rules of the Trail” signs:
 - SUGGESTION: Workshop participants felt that these could be useful at key locations along the Burke-Gilman Trail and potentially at key locations where cyclists turn onto the trail (e.g. NW Dock Pl)

Driveway Design

- Look at comprehensive effect of all driveway safety improvements and consider how they work together to slow users and draw focus:
 - Raised trail
 - Sight triangles
 - Slow trail markings
 - Green pavement markings
 - Narrowing of trail
 - LED signs
 - Static warning signs for vehicles entering and exiting driveways
 - “Trucks Next Mile” signs at either end of the industrial corridor
- Incorporate a physical feedback mechanism at the points where driveways narrow, and have this tactile mechanism continue across the driveway crossing
 - QUESTION: Could narrowing the trail at driveways potentially distract cyclists using the trail?
- Analysis shows that the longest possible stopping distance for cyclists on the Shilshole Ave NW portion of the trail is 100 feet.

Roadway Design

- The most active “driveway” for WB-67s will likely be the future Shilshole Ave NW and NW 54th St intersection
- Gaps in traffic resulting from signal updates at 24th Ave NW, NW Vernon Pl, and 17th Ave NW will help trucks turn more easily
 - Improvements to traffic light equipment will likely come with Rapid Ride improvements in 2023; existing equipment will remain (with phasing improvements) until then (e.g. Market St).
- “Look” markings on the trail may draw attention down to the trail and serve as a distraction
 - SUGGESTION: Workshop participants do NOT feel that these markings are needed
- SUGGESTION: Include a bicycle specific light at the Vernon crossing in addition to the pedestrian crosswalk.

SDOT Action Items

- Talk to Western Pioneer/Black family regarding trail and future property use
- Look at frequent vehicle users for Shilshole Ave NW driveways and ensure that Missing Link design reflects their land use
- Determine the maximum size vehicle that can turn right onto Shilshole Ave NW out of the future NW 54th St intersection and stay fully in-lane

- Clarify legal definition of cyclist on a trail. Same laws as pedestrians?
- Think about other potential placement of “Rules of the Trail signs”
- Follow up on potential speed limit signs on the trail:
 - How could this be managed?
 - Trail-wide vs. the Missing Link portion?
 - How do other Burke-Gilman Trail jurisdictions manage speed limits?
 - How could cyclists track their speed if a limit were imposed?