

Appendix A

West Sound Cycle Club Presentation, March 2021

A shared use path on the west side of the Warren Avenue bridge, a tunnel under Warren Avenue, and a shared use path in the Callahan underpass provide the foundation for a north-south bike and pedestrian corridor linking north Bremerton to Downtown.

It is also a solution to the limitations current bridge inspection equipment pose to building a shared use path at WSDOT's recommended width.



Overcoming obstacles to a wide, safe, shared use path across the Warren Avenue Bridge

As residents of the Kitsap Peninsula we are very concerned about the safety of the Warren Avenue Bridge for cyclists and pedestrians. Bremerton's SR 303 Corridor Study was undertaken to resolve this and other transportation concerns. The final plan adopted a 10-foot wide shared use path on both sides of the bridge. The WSDOT design manual states the desirable paved width of a shared-use path is 12 feet, and the minimum paved width is 10 feet. West Sound Cycling Club recommends a 12-, and preferably 14-foot wide path on just the west side of the bridge to reflect newer practice and safety recommendations. We want to accommodate the needs of PSNS and Olympic College commuters well into the future, and not have the new facility be outdated the day it is completed.

On March 16th, during the monthly Public Works Committee meeting we learned that Bremerton plans ***to narrow these paths to 8-feet***. The professed rationale for doing so is the inability of WSDOT's bridge inspection truck to reach over a 10-foot wide path to inspect the underside of the mid-bridge steel supports. Since WSDOT's current inspection truck can reach over an 8-foot path, WSDOT recommends substituting an "8-foot sidewalk" for the shared use path. The term "sidewalk" is used presumably because a path of 8-feet no longer qualifies as a shared use path.

An 8-foot path is unacceptable for many of us. Bikes and pedestrians don't mix well in such a constricted space. The implication is that cyclists may be relegated to the roadway. It should be pointed out that there isn't room for a 5 or 6 foot bike lane on the bridge deck - a minimum requirement in this location. Motorists would approach cyclists from behind at several times their speed, separated from them by a painted line.

Bikes crossing the bridge should not be relegated to the roadway. [Sixty-five percent of cyclist fatalities occur on arterial roads](#) (like SR 303) with speed limits of 30 to 45 mph. [The most common type of crash is being struck from behind.](#) [This carnage can be avoided through better policy and design.](#) Cities with an improved built environment for cyclists, like protected and separated bike facilities, [are safer for all road users.](#)

WSDOT's problem with bridge inspection can be solved by adopting WSCC's proposal to widen only the west side of the bridge. Their current inspection truck can extend its bucket 60 feet under the bridge - just shy of the full width of the bridge. Newer inspection trucks can extend their inspection bucket 75 feet, allowing inspection of the entire under-structure *from the east side of the bridge*. This approach (no construction on the east side of the bridge) will probably save 2 million dollars, enough to buy a 75 foot-capable inspection truck if needed.

A shared use path on only one side of the I-90 and SR 520 floating bridges works well, and can work for the Warren Avenue Bridge as long as a tunnel is built under Warren Avenue at Olympic College to connect both sides of the bridge to one another.

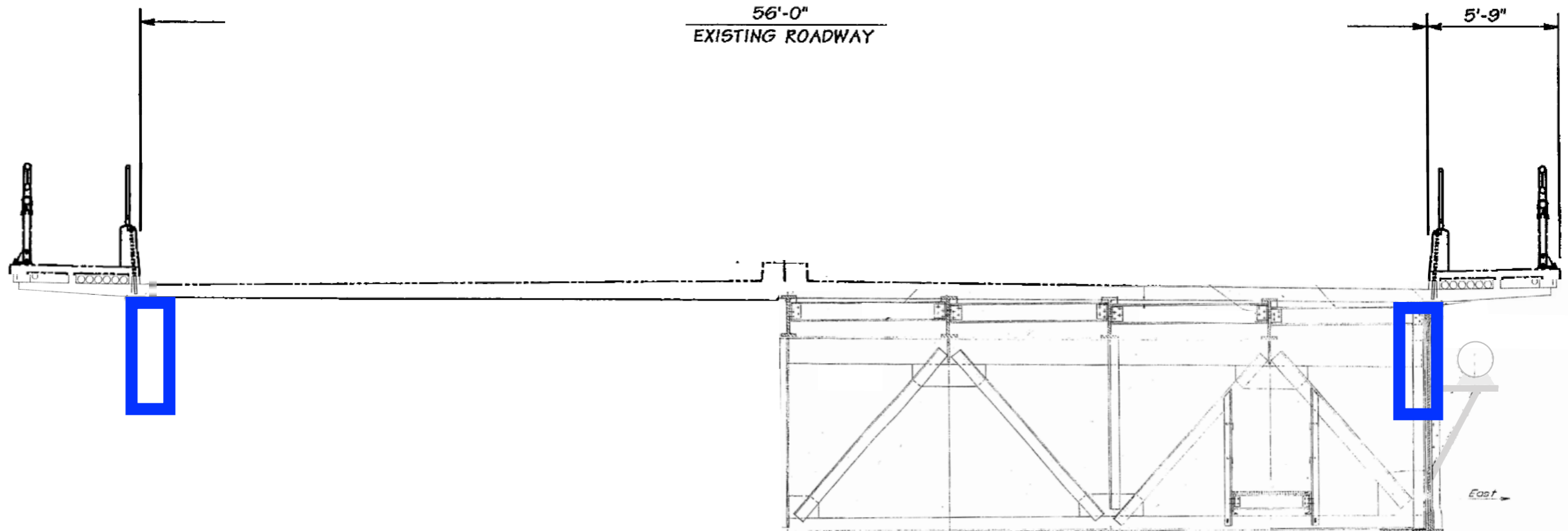
The WSCC proposal creates a north-south bike-pedestrian corridor entirely separated from traffic on SR 303 by using parallel slower and lower volume streets, or by physically separating active transportation users from the highway. A single separated path 12 to 14 feet wide on the bridge is all that is needed to keep active transportation users safe and increase bike mode share by commuters.

When the city authorizes a design contract with WSDOT, we recommend that you set parameters for possible design alternatives. Do not accept 8-foot "sidewalks" as an option for the bridge design - they are not recommended for a path shared by cyclists and pedestrians by WSDOT or federal guidelines.

Existing Warren Avenue Bridge Cross Section

West

East



TYPICAL SECTION

STEEL GIRDER SPAN SHOWN,

The blue rectangles represent lateral bridge supports.

ASPEN A-75 II Bridge Inspection Unit

Extended Reach - Access Your Widest Bridges

A brief internet search found this truck capable of inspecting the entire bridge infrastructure from one side of the bridge deck.

Underdeck Access.....The flexibility of the Aspen A-75 enables operators to get to virtually any location on wider bridges. The articulated boom design permits access around bridge members and light supports, over fences, across wide sidewalks, between cables/trusses and behind deep girders.

Platform Designed For In-depth Inspections.....A 700 lb. capacity, 40" x 60" **rotating** platform is provided. This, coupled with two rotating turntables plus multiple articulating and telescoping booms allow workers to get to all areas for a close up inspection. The unit can deploy off of either side of the truck, to safely work in the direction of traffic. The Aspen A-75 is truly in a league of its own.

Stabilization.....Outriggers are not required and all counterweights stay within the width of the truck body. The redesigned sliding counterweight is installed under the truck bed and operates to either side while the Aspen A-75 is deployed to the opposite side. In the transport mode, the counterweight stays in the center of the truck for improved road handling. A torsion-box subframe and hydraulic axle locks unitize the chassis and truck axles, allowing the vehicle to travel while the unit is fully deployed.



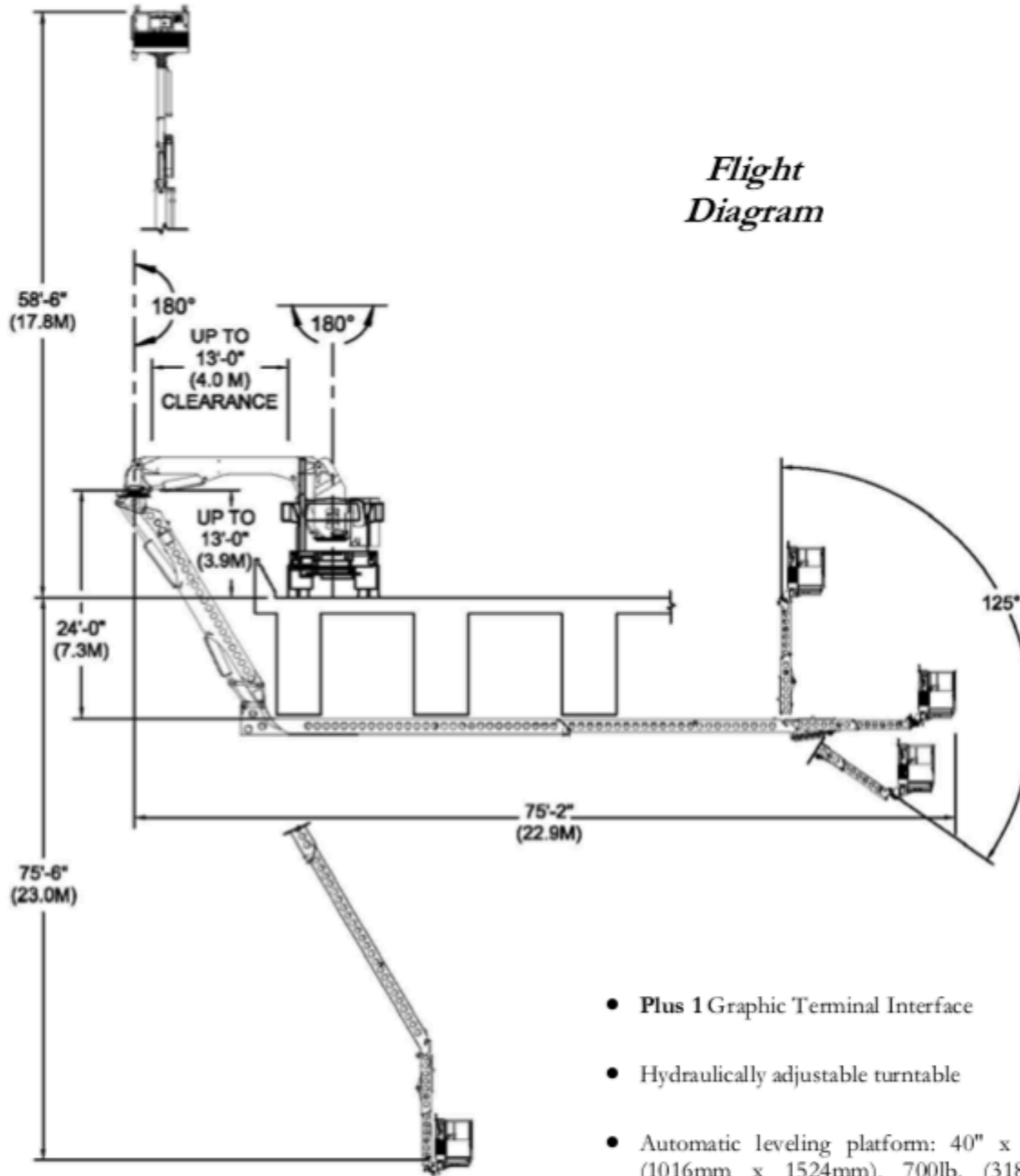
https://aspenaerials.com/wp-content/uploads/2019/03/a75II_brochure.pdf

ASPEN A-75 II

Bridge Inspection Unit



Flight Diagram



Aspen Aerials, Inc.
 4303 West 1st Street
 Duluth, MN 55807

Phone: 218-624-1111
 Toll Free: 800-888-2773
 Fax: 218-624-1714
 Web site: www.aspenaerials.com

- Plus 1 Graphic Terminal Interface
- Hydraulically adjustable turntable
- Automatic leveling platform: 40" x 60" (1016mm x 1524mm), 700lb. (318kg.) capacity w/access gate
- 2 sets of controls: one set in the platform

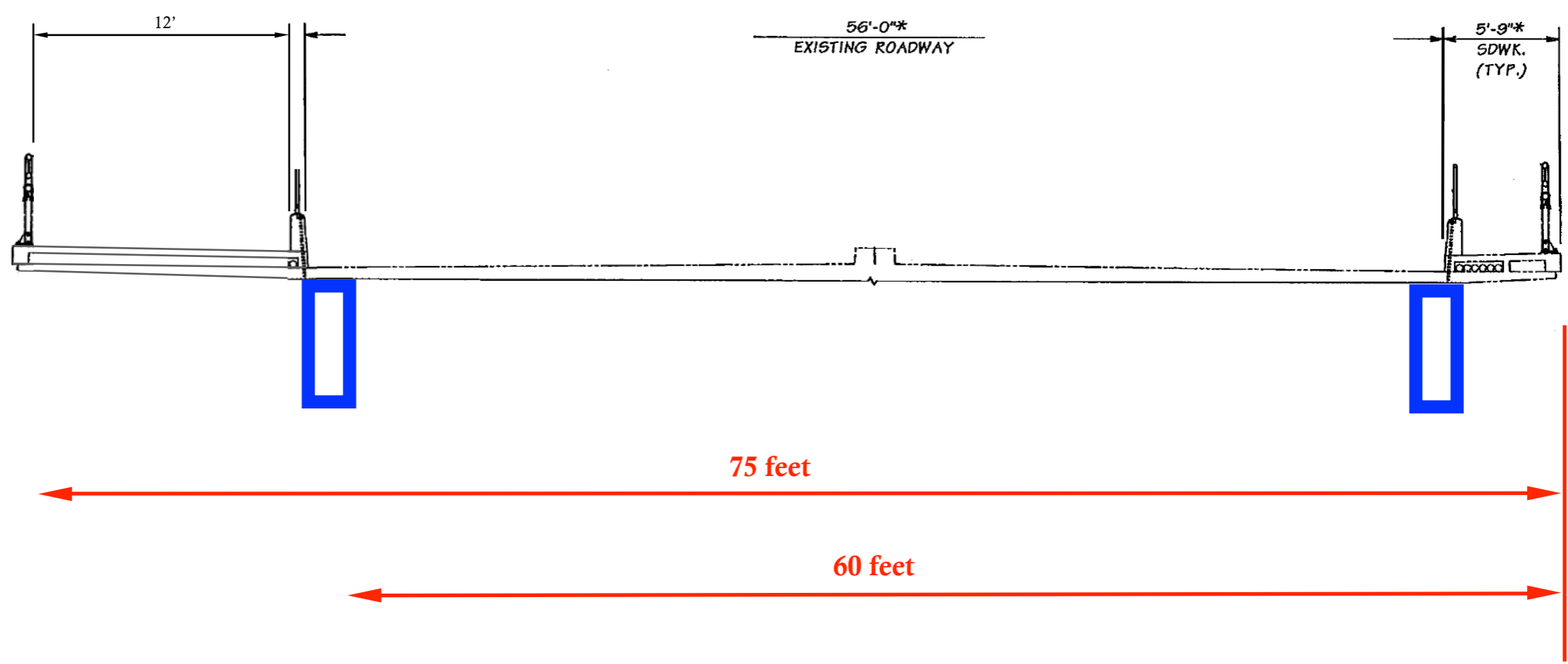
Horizontal Underbridge Reach 75' / 22.86m

Vertical Reach 75'-6" / 22.02m

WSCC proposed 12-foot shared use path on only the west side of bridge.

West

East



The blue rectangles represent lateral bridge supports.

A shared use path accommodates pedestrians, wheelchair users, bicycles, and strollers at the same time. It is defined as being 10 feet wide or wider, however newer designs and upcoming guidelines suggest minimum widths of 12 to 14 feet, especially on bridges where hand rails can hook handlebars.

The following images show 8-, 10-, and 14-foot wide shared use paths.

East Channel Bridge at Mercer Island



8 feet



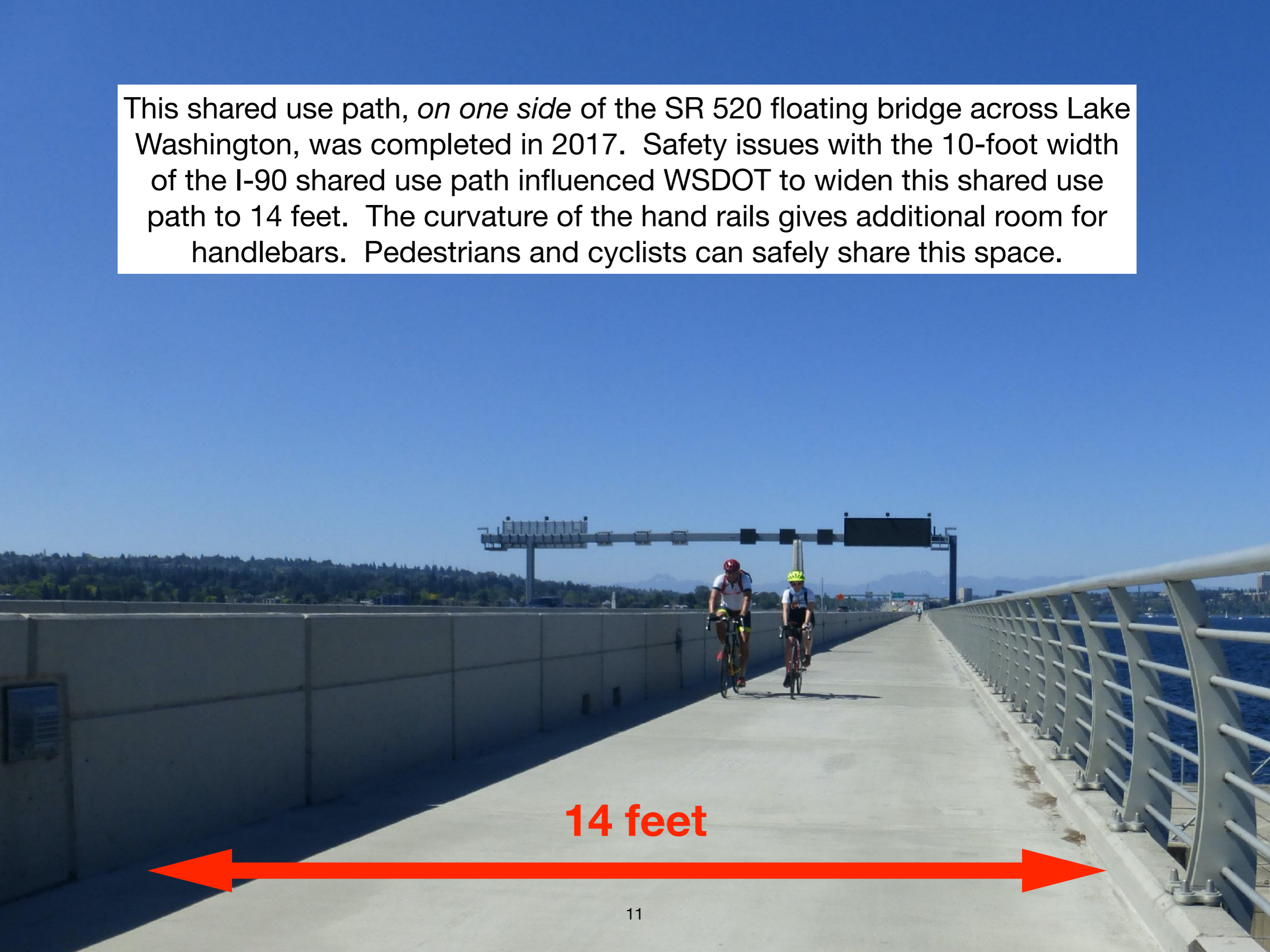
Pedestrians won't feel safe on an 8-foot path shared with cyclists.

This shared use path, *on one side* of the I-90 floating bridge across Lake Washington, was built in 1993.



10 feet

This shared use path, *on one side* of the SR 520 floating bridge across Lake Washington, was completed in 2017. Safety issues with the 10-foot width of the I-90 shared use path influenced WSDOT to widen this shared use path to 14 feet. The curvature of the hand rails gives additional room for handlebars. Pedestrians and cyclists can safely share this space.



14 feet

Rest stops /viewing platforms along the SR 520 floating bridge are an additional 14 feet wide.



The Johnson Street Bridge in Victoria is an example of a bridge with shared use paths of different widths.



This side is for pedestrians only.



This side is for all users, is much wider, and connects directly to a regional trail.

On a crowded path, cyclists feel more comfortable riding closer to the edge of pavement when there is no adjacent vertical fencing.



The best view of the Olympic Mountains is situated here, on the reinforced concrete section of the bridge

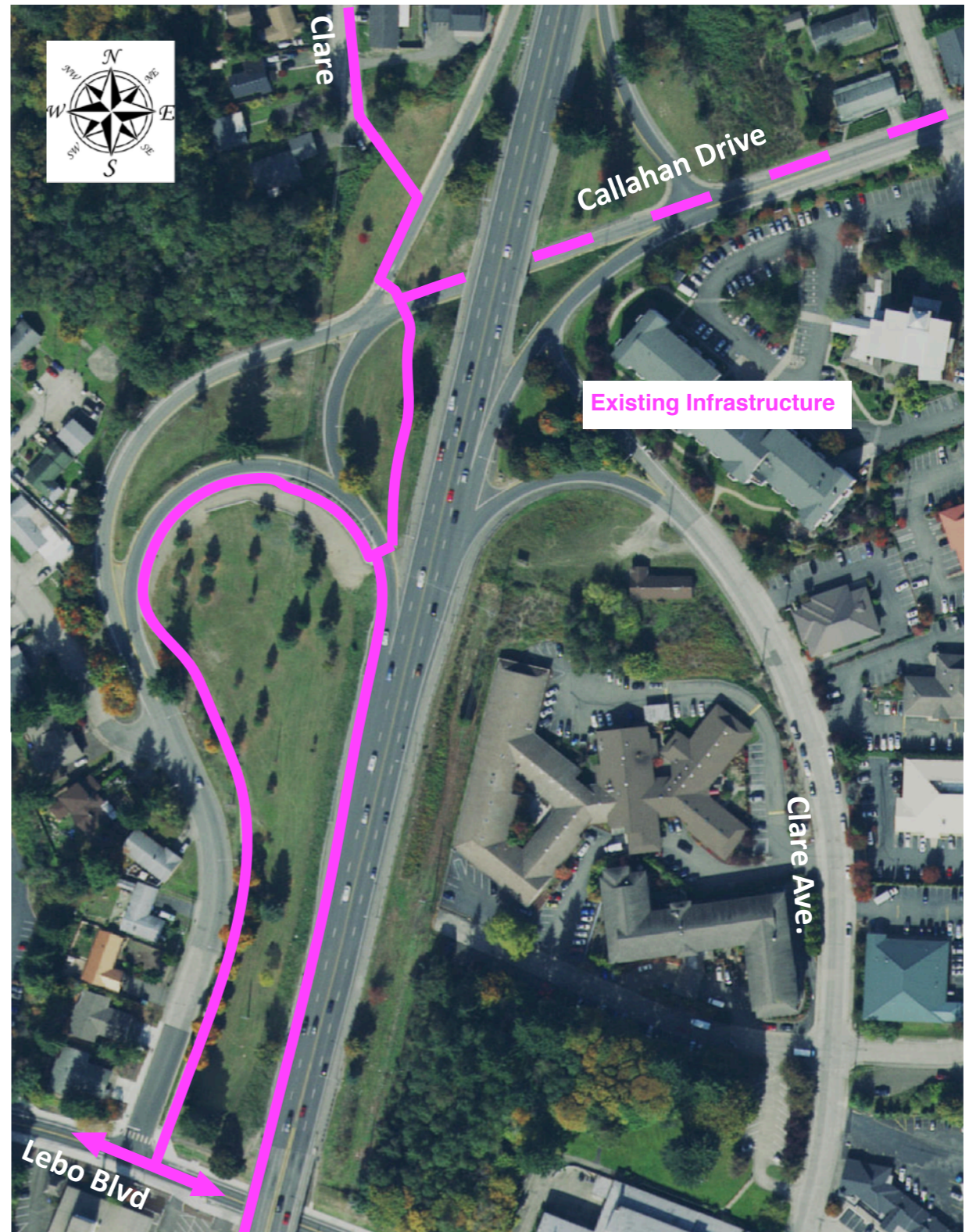
Steel bridge spans



A 12-foot shared use path on the west side of the bridge could be widened considerably to create an exceptional viewing platform where the bridge's pillar footings can support the added width. This image shows how that might look.

Support for a shared use path on only the west side of the Warren Avenue Bridge.

The final draft SR-303 Corridor Study adopted a roundabout concept for the north end of the Warren Avenue Bridge. With or without a roundabout, neighborhood connectivity is significantly better using the west side of the bridge than the east side since existing non-motorized infrastructure extends NE and NW as well as south to Lebo Blvd. Clare Avenue obstructs northward movements from the bridge with a roundabout or without. Usage will be much greater on the west side of the bridge under any scenario or phase of construction. A shared use path on the west side of the bridge should be substantially wider than the east side.



Support for a tunnel under Warren Avenue at Olympic College

The City of Bremerton paid the firm Exeltech to evaluate engineering solutions to help Olympic College Students safely cross Warren Avenue in 2016. The introduction to the study report states, “Warren Avenue has a high volume of daily traffic. Olympic College resides at the south end of the Warren Avenue Bridge and utilizes building facilities on both sides of Warren Avenue. Students and local pedestrians currently cross Warren Avenue at 16th street signal or at unmarked crossings. There currently is a safety concern due to the high traffic volume and limited pedestrian crossing locations and time.”

A year later, the City of Bremerton and Olympic College shared costs for a \$50,000 study to develop a “frontage concept” along adjacent SR-303, hopefully to include a safer way to cross Warren Avenue. OC President Marty Cavalluzzi is quoted as saying it was “uncomfortable, at the least, for students to cross SR-303”. None of the three Exeltech suggestions were adopted due to aesthetic and practical considerations. The City adopted a tunnel concept for crossing under Warren Avenue during the 2020 SR-303 Corridor Study. Users crossing Warren Avenue through a tunnel located at RotoVista Park could do so safely without waiting for traffic lights or interacting in any way with vehicular traffic on Warren Avenue.

The need for a safe crossing in this location is greater now than when the initial study was requested 5 years ago, and the need will become greater still as traffic increases. Unfortunately, this project was given a priority of phase 12 of 12 phases in the SR-303 Corridor plan - possibly moving its construction 20 years out. Even after a roundabout at the north end of the bridge is constructed (during phase 9 of 12), a tunnel under Warren Avenue at the south end of the bridge will be needed to allow everyone, on either side of Warren Avenue at Olympic College, to access Callahan Drive and the North-South Bike-Pedestrian Corridor safely.

The proposed tunnel is not just a local Olympic College safety issue, **it is integral to the success of non-motorized connectivity across the retrofitted Warren Avenue Bridge, which is phase 1 of 12.** The tunnel is *necessary* to assure safe community access to and from the bridge. There is little benefit to a bridge shared use path otherwise.

[Bridge improvements may only show increased use by pedestrians and cyclists when accompanied by low stress access to both ends of the bridge from surrounding communities.](#)

The urgent need for a safe crossing of Warren Avenue at Olympic College was already a high priority before the SR-303 Corridor Study began. Tunnel construction is a high priority, not least because a shared use paths on the bridge will increase non-motorized usage. The fastest and shortest route to PSNS for commuters north of the Warren Avenue bridge will be through this tunnel. This route has 20% less elevation gain than riding through Manette.

SR-303 Corridor Project Priority List.	
Phase	
1A	TSP/Adaptive Signals full corridor; Burwell right in right out
1B	Warren Avenue Bridge; *Ped modifications only
1C	Add bicycle facilities on Almira Drive from Sylvan Way to NE Fuson
1D	10% Schematic Design
2A	Build a mid-block pedestrian crossing north of Dibb Street and provide High-intensity Activated Crosswalk (HAWK) signal and
2B	Build a mid-block pedestrian crossing between 6th Street and 11th Street and provide High-intensity Activated Crosswalk (HAWK) signal and pedestrian refuge. Relocate bus stop.
2C	Build a mid-block pedestrian crossing north of Pearl Street and provide High-intensity Activated Crosswalk (HAWK) signal and pedestrian refuge. Relocate bus stop.
2D	Build a mid-block pedestrian crossing south of NE Ridell Road and provide High-intensity Activated Crosswalk (HAWK) signal and pedestrian refuge. Relocate bus stop.
3A	Interim chanelazation improvements; Bridge to Sheridan
3B	Medians with u-turns; Sheridan to Sylvan
3C	Medians with u-turns; Sylvan to Ridell
3D	Medians with u-turns; Ridell to Fuson
4A	Remove median between Burwell and 5th; 6th St left turn; improve ped crossings at 4th and 5th (HAWK assumed)
4B	11th Street RAB
5A	Cherry Street Bike Facilities
5B	13th to Bridge Ped improvements; 18th St ramp closure
6B	Ped/Bike Improvements off corridor including Almira
7	BAT lane south of Sheridan to Sylvan; 10 ft sidewalks
8	BAT lane Sylvan to Hollis; 10ft sidewalks
9A	Callahan/Clare RAB
9B	Ridell RAB
10	Ridell to Fuson; 10ft sidewalks
11	Fuson to McWilliams; 10ft sidewalks
12	Ped tunnel under Warren at S bridge approach, and RABs N of Riddell
TBD	18th Street bike facilities (Warren to Ohio)

← Bridge phase 1

← Roundabout phase 9

← Tunnel phase 12

A tunnel under Warren Avenue at 18th street might resemble this shared use path in Idaho.



9th Street Bridge Tunnel, Boise Idaho
Four one-way vehicle lanes and two sidewalks above

This simpler tunnel under Highway 19 in Port Townsend is part of the Larry Scott Trail.



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