



Questions from November 19, 2009 CAC Meeting
Willamette River Bridge Vertical Clearance and Bike Connections

1) More info on climate change studies cited?

A copy of the final climate change study will be posted on trimet.org/pm when it's available.

2) How to resolve conflicts among contradictory research?

The consultant team evaluating the climate change research continues to use conservative numbers in their work and keeps incorporating new, relevant statistics and studies as they become available. To address uncertainties, conservative values are defined as the value for a particular item that (1) is within the predicted range of reasonable values documented by the best available science, and (2) results in a higher predicted river stage at the project area.

3) How to resolve conflicts among needs of river users and bridge users?

The U.S. Coast Guard undergoes a bridge permit process that is meant to do just that. They review both river navigation needs and landside implications when they consider granting their bridge permit. They use Federal Standard 33 CFR 116.01-a as their guideline. It states "all bridges are obstructions to navigation and are tolerated only as long as they serve the needs of land transportation while allowing for the reasonable needs of navigation."

4) Effects of vertical clearance on slope of pedestrian path?

With a vertical clearance of 77.36 feet, the pedestrian path slope is 4.75%. Keeping in mind construction tolerances, this is the steepest slope we can build and still ensure ADA compliance. Any vertical clearance greater than 77.36 feet results in a non-compliant ADA slope unless the project creates ramps and landings or raise the landside stations. A bridge with 85 feet vertical clearance using ramps and landings would cost the project approximately an additional \$17.2 million.

5) Cost per foot of higher vertical clearance that maintains appropriate pedestrian slope?

A matrix was produced with various vertical clearance levels evaluated and the resulting increase in costs. Although not every foot of additional vertical clearance was evaluated, the following numbers were included in the matrix: 77.36' (\$0), 78.36' (\$3.7mm), 80'

(\$16.2mm), 85' with no ramps and landings (\$25.3mm), 85' with ramps and landings (\$17.2mm), 90' (\$49.7mm) and 120' (\$84.8mm).

6) Delay in project schedule due to lack of consensus? Increased cost due to delay?

If the project is delayed one year, the cost has been estimated at \$62 million.

7) Delay decisions about vertical clearance until study is published?

On December 1, 2009 the Portland-Milwaukie Steering Committee endorsed the staff recommended vertical clearance of 77.36 feet for the Willamette River Bridge. The FTA has the opportunity to review the vertical clearance in the "Record of Decision" as part of approving the Final Environmental Impact Study (Summer 2010). The U.S. Coast Guard will review the vertical clearance as part of their bridge permit process which includes a public comment period (Summer/Fall 2010).

8) Convene a team of technical experts to review study?

The project team hired consultants to create the original study. Both the U.S. Coast Guard and the U.S. Army Corps of Engineers have reviewed early drafts of the study.

9) Definition of "reasonable"?

Federal Standard 33 CRF 116.01-a states "all bridges are obstructions to navigation and are tolerated only as long as they serve the needs of land transportation while allowing for the reasonable needs of navigation." There is no written definition of "reasonable" as part of this Federal Standard. If you look up reasonable in Webster's dictionary, you find that the definition is "agreeable to reason or sound judgment; logical" and "not exceeding the limit prescribed by reason; not excessive" so those are the definitions the project team are using when evaluating bridge clearance and the effect it might have on river users.

10) Impact of private dam removal on river levels?

The Willamette River has eight Federal dams and no private dams. The US Army Corps of Engineers stated that there are no plans to remove any Federal dams on the Willamette River. On the Columbia River, there are private dams upstream of Federal dams but according to US Army Corps of Engineers, no Federal dams will be removed. Two private dams upstream of Federal dams have licenses that have expired: the Condit and Hells Canyon dams. Hells Canyon dam has applied to renew its license and the FEIS does not even explore the possibility of this dam being removed as a viable alternative. The Condit dam will be removed, but the rise in river level for both the Columbia and Willamette resulting from its removal is so small that the impact is imperceptible. The remaining private dams all have licenses that do not expire for at least another 30-40 years. In the Columbia River Basin, there are two other private dams that are not upstream of Federal dams. These dams (Mayfield and Mossyrock) are on the Cowlitz River. The Cowlitz River flows

into the Columbia River downstream of the Willamette River and enters the Columbia River basin around St. Helens. Therefore, after reviewing the private dam information, the project concludes there will be no perceptible impact on the level of the Willamette River from private dam removal at this time.

11) Distance upriver to next bridge with lower clearance?

The Sellwood Bridge is approximately two miles upriver from the Willamette River Bridge. The vertical clearance for the Sellwood Bridge is 75 feet.

12) Could City of Portland allow fueling and maintenance at Salmon Springs dock when river levels prevent access to docks upriver from the Willamette River Bridge?

At the December 1st Steering Committee meeting, Sue Keil committed to look into this situation. The project team, in partnership with City of Portland staff, are pulling appropriate documents from the City archives and reviewing those documents to look into this possibility further.

13) Other ways to mitigate impacts of bridge clearance for river users?

If the US Coast Guard deems it is necessary, the agency could ask the Portland-Milwaukie project to modify an existing vessel.

14) Other policies affecting river users should be updated in connection with a decision on the bridge's clearance.

The City of Portland is currently undergoing an update of the River Plan. Find out more at <http://www.portlandonline.com/bps/index.cfm?c=42541&>

15) Status of Portland Spirit's plans for taller vessels? (answered by Dan Yates, President of the Portland Spirit)

"We have a plan for adding wind turbines to the Portland Spirit and that plan is waiting final rules from the Coast Guard concerning stability. The Coast Guard has proposed increasing the average weight of a passenger from 145 pounds to 185 pounds. This requirement has been in process for several years and the final rules are due any time. The proposed stability rules actually change how stability is calculated. Once the final rule is accepted, I anticipate the Spirit will be able to submit its drawing, get approval and complete the modification within one year of acceptance of the new rules. We are also investigating replacing the Spirit with a new vessel that would use fuel cells, wind and solar technologies. That vessel would be at least two years off. A new vessel would have taller interior decks that eliminate support posts on each deck. Currently we cannot take the Blazers, or at least Greg Oden, as our decks are too short."

16) Does Portland Spirit operate during flood conditions? (answered by Dan Yates, President of the Portland Spirit)

“The Portland Spirit in the 1996 flood operated with passengers almost the entire time, missing maybe two or three days at most, mainly because we had no cruises scheduled. During the flood of 1997, we did not lose any operating days as we did a series of flood watch cruises. Floods only have limited impact on our customer base, but are interesting for people to view. Floods are not like snow storms for TriMet. We can operate in almost any condition if our passengers can get to us we go.”

17) Analysis of other vessels affected?

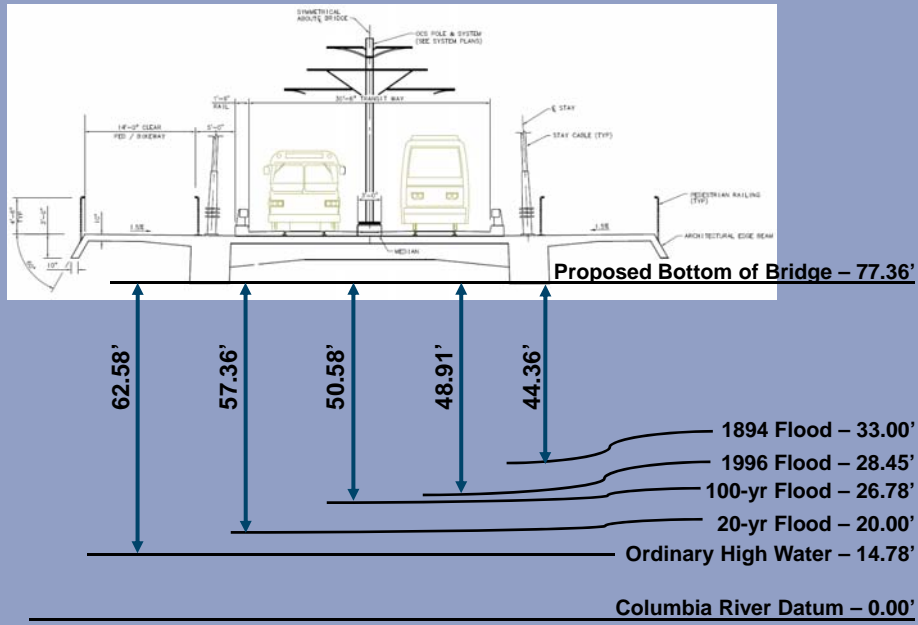
The project team hired a consultant to produce a river user study for the Portland-Milwaukie project. Between her work and the work of the project team, a comprehensive list of vessels using this stretch of the Willamette River and their height was compiled and the project team contacted everyone who might not have 100 percent passage under the Willamette River Bridge with the vertical clearance of 75' (the vertical clearance being evaluated at that time). All vessel owners were satisfied with the proposed Willamette River Bridge matching the current vertical clearance of the Sellwood Bridge (75') except for Portland Spirit and Gray's Harbor Historic Seaport Authority. Portland Spirit has requested 85' vertical clearance. The project team continues to work with Portland Spirit and their concerns. Gray's Harbor has requested 90' vertical clearance for their two tall mast sailing vessels when they participate in the Rose Festival activities. The project received a letter from the Rose Festival Association stating that the community value of the Willamette River Bridge outweighs the needs of one of their vendors needing that stretch of the river one time each year and that they would be willing to work with Gray's Harbor to find another way for them to continue to participate in the Rose Festival. (See attached summary slides for the proposed clearances below the Willamette River Bridge at various river stages.)

18) OMSI and Portland Opera desire continued involvement in discussions about bike and pedestrian connections to the bridge.

The project team continues to meet with property owners on both sides of the river to continue the discussion about bike and pedestrian connections to the bridge and nearby greenways.

Vertical Clearance

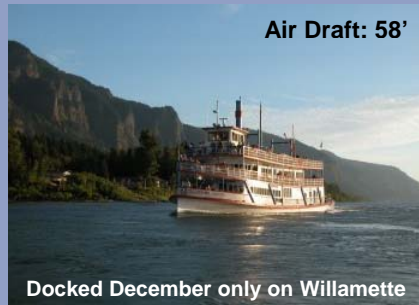
Willamette River Transit Bridge



Vertical Clearance Update

Willamette River Transit Bridge

Portland Spirit's Vessels



Columbia Gorge

(Copied from: <http://www.portlandspirit.com/sternwheeler.php>)

100% Passage to just shy of the 20-year flood elevation



Portland Spirit

(Copied from: <http://www.portlandspirit.com/spiritech.php>)

100% Passage up to the highest river elevation ever recorded - June 1894

(Pre - Dam Era)