



11/7/06

# Sellwood Bridge Project: Statement of Purpose and Need

## Project Purpose

The purpose of the proposed action is to rehabilitate or replace the Sellwood Bridge within its existing east-west corridor\* to provide a structurally safe bridge with connections that accommodate multi-modal mobility needs.

## Project Need

The proposed action would serve the following needs:

1. Provide structural capacity to ~~safely~~ accommodate safely various vehicle types, including transit vehicles, trucks, and emergency vehicles; and to withstand moderate seismic events;
2. Provide a geometrically functional and safe roadway design;
3. Provide for existing and future travel demands between origins and destinations served by the Sellwood Bridge;
4. Provide for connectivity, reliability, and operations of existing and future public transit;
5. Provide for improved freight mobility to and across the bridge; and
6. Provide for improved pedestrian and bicycle connectivity, mobility and safety to and across the bridge.

\* The corridor extends between Highway 43 and approximately 500 feet to the north and south of SE Tacoma Street.

The specific needs to be addressed by the proposed action include the following.

Project Needs	Problem/Background
<p>1. Provide structural capacity to <del>safely</del> accommodate <u>safely</u> various vehicle types, including transit vehicles, trucks, and emergency vehicles; and to withstand moderate seismic events.</p>	<p><b><i>The Sellwood Bridge continues to deteriorate and cannot adequately accommodate today’s traffic needs due to its structural condition. Load restrictions have eliminated bus service, restricted freight loads, and prohibited some emergency vehicles from using the bridge. The bridge does not meet current seismic standards.</i></b></p> <p>The Sellwood Bridge was opened to traffic in 1925. Sections of the bridge are actually more than 100 years old; however, as the first Burnside Bridge’s (circa 1894) steel girder approaches were reused at each side of the Sellwood Bridge.</p> <p>The Sellwood Bridge is showing signs of stress. It suffers from fractures in its west end girders, caused by earth movement prior to and since 1960. Vehicle loads were restricted to a maximum of 32 tons in 1985 after calculations showed that higher weights would overstress critical bridge elements. Further restrictions were imposed in 2004, when large cracks were discovered in the concrete girders, limiting vehicle weight to 10 tons and prohibiting bridge use by all buses, and large emergency vehicles and trucks.</p> <p>The bridge’s light-weight deck system is inadequate to handle current vehicular demands. The bridge continues to deteriorate, with concrete falling off the bridge and problems with expansion joints. The existing lead paint coating has largely failed and there is widespread corrosion attacking the steel truss.</p> <p>The Sellwood Bridge is functionally obsolete, meaning it is no longer adequate to properly accommodate traffic due to its structural and geometric deficiencies. Its sufficiency rating, a measure based on bridge inspection reports that indicates a bridge’s ability to provide service, is 2 out of a scale of 0 to 100.</p> <p>The bridge is located in a seismically active zone,</p>

Project Needs	Problem/Background
	<p>does not meet current seismic standards, and is vulnerable to failure in the event of an earthquake.</p>
<p><b>2. Provide a geometrically functional and safe roadway design.</b></p>	<p><b><i>The Sellwood Bridge does not have shoulders, its vertical curves provide limited sight distance for motorists, and its interchange with Highway 43 has several deficiencies.</i></b></p> <p>The Sellwood Bridge has no shoulders to provide access for emergency vehicles, accommodate vehicular break-downs, or for use in maintaining the bridge.</p> <p>In addition, the bridge's vertical curves limit motorist sight distance.</p> <p>Highway 43's interchange with the Sellwood Bridge also has many substandard features, including horizontal and vertical alignments that limit motorist sight distance and reduce the ability of trucks to safely make turns. Several ramp connections also provide insufficient vertical clearances, narrow or nonexistent shoulders, and excessive grades.</p>
<p><b>3. Provide for existing and future travel demands between origins and destinations served by the Sellwood Bridge.</b></p>	<p><b><i>The Sellwood Bridge provides a direct connection across the Willamette River for several key travel origins and destinations. Travel demands are expected to increase in the future (the project will assess year 2035 conditions), leading towards decreased accessibility for all motorized vehicles.</i></b></p> <p>The Sellwood Bridge's closest crossings over the Willamette River are about 2-1/2 miles north at the Ross Island Bridge and about 8 miles south at the I-205 crossing. The bridge links the Sellwood, Westmoreland, and Milwaukie areas with Highway 43 and southwest Portland, Dunthorpe and Lake Oswego. It carries more than 30,000 vehicles per day, making it Oregon's busiest two-lane bridge. It operates at capacity conditions for several hours each day, resulting in congested conditions and slow travel speeds.</p> <p>Daily traffic demand will increase substantially in the</p>

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	<p>future, leading to increased durations of congestion along approach roadways, including Highway 43 and Tacoma Street. Increased congestion levels will impact emergency accessibility, transit service, freight movements, and general vehicular traffic.</p>
<p><b>4. Provide for connectivity, reliability, and operations of existing and future public transit.</b></p>	<p><b><i>Transit service has been discontinued across the Sellwood Bridge due to its structural deficiencies. However, if service is restored to the bridge, transit could be unreliable and not meet future mobility needs as traffic volumes continue to increase.</i></b></p> <p>Prior to the added weight restriction in 2004, bus usage across the Sellwood Bridge was substantial (Tacoma Street is a Major Transit Street), even though buses were subject to the same level of congestion as general traffic along the two-lane roadway. Bus routes previously crossing the bridge served many travel markets, including those between the Sellwood, Westmoreland, and Milwaukie areas and southwest Portland. Since the weight restriction, the bus routes have been rerouted, making use of public transportation unattractive between key markets.</p> <p>Transit use in the Sellwood Bridge corridor is expected to rise substantially by 2035 and increased traffic levels, even if load restrictions are not in place, could impact public transportation service reliability and mobility.</p>

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<p><b>5. Provide for improved freight mobility to and across the bridge.</b></p>	<p><b><i>Freight mobility and reliability, currently affected by load limits on the Sellwood Bridge, will be further impacted as travel demands continue to rise.</i></b></p> <p>The Sellwood Bridge is designated as a Truck Access Street in Portland's Freight Master Plan, recognizing its need to serve as an access and circulation route for the delivery of goods and services to neighborhood-serving commercial and employment land uses. This includes serving truck trips between Sellwood, Westmoreland, and Milwaukie on the east side of the Willamette River and the southwest Portland area on the west side, via Highway 43.</p> <p>Due to current load restrictions and physical geometry of the west end interchange, no large trucks can currently use the bridge, thereby substantially impeding freight movement between these areas. This condition has resulted in increased freight costs and delays by causing out-of-direction travel for businesses located in the commercial districts on both sides of the river. Even if load restrictions are lifted in the future, rising traffic levels will impact freight movement along the Sellwood Bridge corridor.</p>

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<p>6. <b>Provide for improved pedestrian and bicycle connectivity, mobility and safety to and across the bridge.</b></p>	<p><b><i>The Sellwood Bridge's pedestrian sidewalk is narrow, unsafe and cannot accommodate some disabled users. The bridge does not provide bicycle facilities. The bridge's connections with multi-use pathways are deficient.</i></b></p> <p>The Sellwood Bridge provides a critical linkage between the west and east sides of the Willamette River and with established multi-use pathways. The bridge has a 4-foot 3-inch sidewalk on its north side, with only a 3-foot passage next to its 22 light poles. There is no sidewalk on the south side. The existing sidewalk is narrower than the 6-foot minimum standard and it does not meet Americans with Disabilities Act (ADA) requirements due to its width and substandard connections on the west and east ends. Designated bicycle facilities do not exist on the bridge.</p> <p>There are no sidewalks, crosswalks, or bicycle lanes on Highway 43 in the Sellwood Bridge interchange. Pedestrian and bicyclist connections between the highway and the bridge are circuitous, unmarked, and in some areas, force users to mix with vehicle traffic. Most of these facilities do not comply with ADA guidelines. In addition, the bridge's connection to the Willamette Greenway on the west side is narrow, has deficient horizontal curves and limited sight distances, low vertical clearances, and does not meet ADA standards.</p>