

# Tilikum Crossing Transit Bridge (Portland-Milwaukie Light Rail Bridge)

Portland, OR



Epoxy-coated reinforcing steel (ECR rebar) is being used in the **Tilikum Crossing Transit Bridge**, (Tilikum Crossing Bridge of the People) formerly the Portland-Milwaukie Light Rail Transit project that connects Portland State University in downtown Portland, inner Southeast Portland, Milwaukie and north Clackamas County. This bridge will be the first span built over the river since the addition of the Fremont Bridge in 1973 and it is designed to carry light rail trains, buses, cyclists and pedestrians, and in the future, streetcars. Cars are prohibited from this bridge.

The segmental bridge design is cast-in-place, balanced cantilever concrete construction. Epoxy-coated reinforcing steel (ECR rebar) was used to provide corrosion protection to the reinforcing steel. Construction commenced in July 2011 and in December 2014, construction was substantially completed on Tilikum Crossing Transit Bridge, a new concrete cable-stay bridge crossing the Willamette River in Portland, Oregon. The first of its kind in the U.S., the cable-stayed transit-only bridge will carry light rail trains, buses, pedestrians, bicyclists, and future streetcars. Named Tilikum Crossing, "Bridge of the People," the landmark bridge is the feature component and vital element of the Portland-Milwaukie Light Rail Transit Project to reduce congestion and provide efficient travel along the 7.3-mile light rail corridor connecting downtown Portland, the South Waterfront, the City of Milwaukie, and North Clackamas County.

The bridge is now the brightest star in the family of Portland bridges. With some celebrations past, there are more to come as the city boasts of its new icon. Images of the bridge with Mt. Hood in the background have already been the subject of architectural conference, and the bridge is featured in images of the city, occupying a key position in local literature. In addition to complying with the challenging environmental regulations related to construction in a prime salmon river, the team's design innovations for reducing foundation size and eliminating handling of hazardous waste were a major enhancement to the project's environmental footprint. And certainly, the very purpose of the bridge as a public transit facility is heralded for reducing the carbon footprint of the transportation system in the Portland region.

By 2030, this light rail line will carry up to an average of 22,765 to 25,500 weekday rides, and there will be approximately 22,000 households and 85,000 employees within walking distance of Portland-Milwaukie light rail stations.

## Team

### Owner:

Tri-County Metropolitan District of Oregon

### Designer:

T.Y. Lin International

### Contractor Engineering Services:

T.Y. Lin International

### General Contractor:

Kiewit Infrastructure West Co

### Design Criteria:

- Provide context-sensitive bridge for rail.
- Provide a grade suitable for light rail with an absolute max. of 6.5%.
- Provide suitable navigation clearances.

### Total Project Cost:

\$110 million

### Total Size:

LENGTH: 1720 ft

WIDTH: 110.5 ft

### Epoxy-coated Reinforcing Steel:

1,404 tons

### Photography:

Tri-County Metropolitan Transportation District of Oregon

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## Epoxy-Coated Reinforcing Steel

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