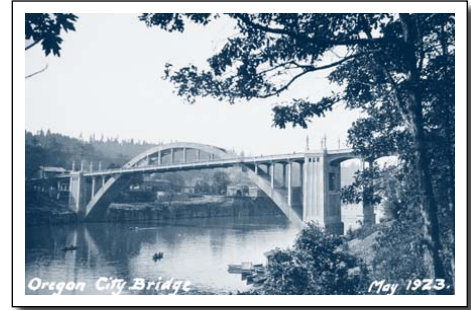


A Brief History

This bridge and other beautiful Oregon bridges are the legacy of Conde B. McCullough, one of the leading bridge engineers in the United States between the world wars. His work in Oregon hundreds of structures including more than 30 arched spans—was part of the state's nationally recognized highway system at a time when the automobile first claimed its place in the life and character of America.



In 2005, McCullough's Willamette River (Oregon City) Bridge was listed in the National Register of Historic Places.

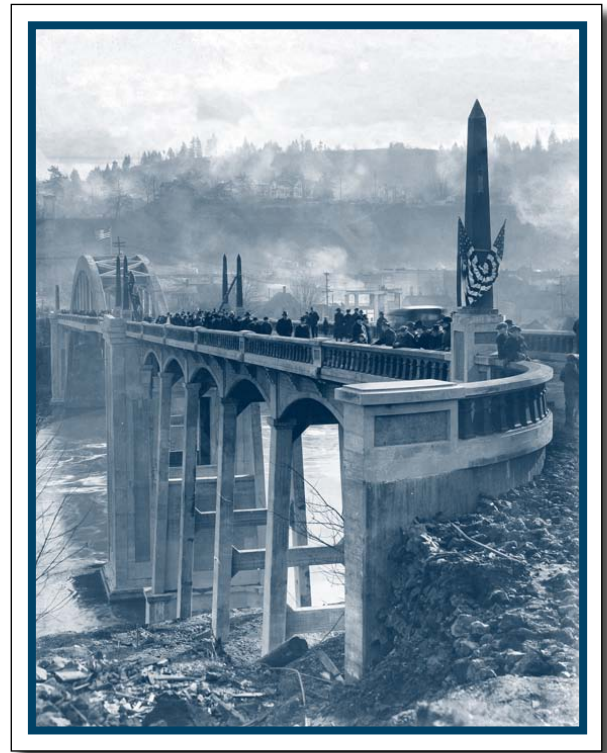
The Oregon City – West Linn

Willamette River Arch Bridge

McCullough constructed many concrete deck arches in the 1920s for Oregon highways. He first diverged from this form when he designed a span to cross the Willamette River at Oregon City in 1922. Here, an old wooden suspension bridge could not carry the additional traffic expected with the new Pacific Highway, which would cross the Willamette at Oregon City. McCullough studied the site for two years. A deck arch was possible, but steady traffic on the river and the main channel depth prohibited the use of wooden false work needed during construction. A steel-truss span or a suspension bridge was vulnerable to corrosion. A steel half-through arch, in which the roadway is supported halfway up the arch, was what McCullough finally chose. The deck is suspended between two 350 foot massive arch ribs. Each arch rib is actually a series of connected hollow steel box segments. He employed the old suspension bridge's anchors, towers, and main cables to support the box segments during construction. Once the arch ribs were built, he constructed the columns, hangers and roadway deck. Finally, he encased all of the exposed steel members in a concrete covering called Gunitite. The Gunitite was a combination of sand and cement that was mixed with water and blown by air onto the steel surfaces. This covering was used instead of paint to protect the steel from the corrosive atmosphere generated by the nearby mills.

At right: The Grand Opening celebration of the Conde B. McCullough arch bridge over the Willamette River - Oregon City, 1923

At left: Looking through the east portal of the arch bridge over the Willamette River - January 6, 1923



QUESTIONS, COMMENTS OR SUGGESTIONS?

PLEASE CONTACT: Rick Keene, Project Leader
Voice: (503) 731-3289
E-mail: Rick.K.Keene@odot.state.or.us

Susan Hanson, Community Affairs Coordinator
Voice: (503) 731-3490
E-mail: Susan.C.Hanson@odot.state.or.us

