43 at Willamette River Bridge (Oregon City Bridge) PROJECT

November 2009

Frequently Asked Questions

When was the bridge constructed?
The historic bridge linking Oregon City with West Linn was officially opened on January 1, 1923. The bridge is listed on the National Register of Historic Places. It is likely the only one of its type in the world.

Is the bridge made of solid concrete?
The main structural portions of the arch section of the bridge are made of steel. The arch ribs are hollow steel boxes riveted together. These, and the steel floor beams and stringers which support the deck, are encased in a 1-1/2 inch coating of sprayed concrete, called Gunite.

What is Gunite?
Gunite is concrete that is sprayed onto surfaces with compressed air similar to the way they build in-ground pools today. It was a relatively new invention in 1922 and was used to protect the steel from corroding.

Why was it applied to this bridge and not others?
The crossing, due to river depth, navigation requirements and the basalt rock bottom, needed to be constructed without supports in the river. The crossing was too narrow to make a suspension bridge economical, which left a steel truss or a steel arch as the remaining choices. The arch was chosen because it could be protected from rusting easier than a truss.

The designer, Conde B. McCullough, was concerned that emissions from the nearby mills and other industrial facilities were more corrosive than paint could resist. He elected to use Gunite, to provide a heavy duty protective layer. This system has worked quite well over the bridge's 87 year life.

What repairs are needed?
- The Gunite coating is cracked and portions of it have been adversely affected by water. This coating needs to be repaired to protect the steel underneath. The existing Gunite material on the arches will be removed and replaced.
- Several stringers supporting the deck have corrosion damage and need to be repaired.
- The ornate pedestrian rails will be replaced with vehicle rails that appear nearly identical, but are composed of structural steel hidden within pre-cast concrete.
- The deck will be re-paved.
- New roadway lighting will be installed including reproductions of the original lights.
- The Oregon City bridge approach will be reconstructed.
- Most utilities will be relocated underneath the bridge.

What kinds of repairs are allowed?
ODOT must follow the Secretary of Interior's standards which are required for rehabilitating National Register properties. Visually, the bridge should look as close as possible to original, while providing safe use by the public. ODOT has developed a replacement rail system which provides a level of safety appropriate while looking essentially the same as the original. Similarly, the historic lighting will be restored.

Will the bridge be widened?
No. The arch ribs cannot be moved further apart to facilitate a wider roadway in-between. Adding lanes outside of the arch ribs cannot be supported by the existing structure. Modifying the bridge to do so would result in significant changes that would not be allowed because of the bridge's historic significance. Additionally, widening the road would adversely affect the adjacent buildings in Oregon City

When will construction begin?
Construction is expected to begin in early 2010. The closure of the bridge will occur after the first of the year so it will remain open during the 2009 holiday season.

Will the bridge be closed for all traffic?
Yes, the plan is to close the bridge to all traffic, including bicyclists and pedestrians for safety reasons. Plans to use shuttles or Tri-Met buses are in development.

How long will construction take?
By closing the bridge, construction that requires closure of the bridge should be completed in about 24 months.

What is the detour route for vehicles?
Traffic will use the I-205 Abernethy Bridge to cross the Willamette River between West Linn and Oregon City.

Will the bridge look new when completed?
Yes. The bridge will have a new coating of Shotcrete, new sidewalks, guardrail, lights and a new deck overlay.

Is the bridge safe for the traveling public?
Yes. Cars, light trucks and SUV's can safely cross. However, ODOT recently placed a weight restriction to the bridge. The structure is now closed to all commercial motor vehicles and all vehicles weighing more than 14 tons. Recent inspections have uncovered a few areas of concern which could be overloaded by the weight of larger commercial vehicles. Limiting the weight of vehicles to 14 tons will allow motorists to cross and protect the bridge until it can be repaired.

For more information:
Visit the Project web site: www.archrehab.com
Contact: Rick Keene, Project Leader, 503.731.3289, e-mail: rick.k.keene@odot.state.or.us
Susan Hanson, Community Affairs Coordinator, phone 503.731.3490, email: susan.c.hanson@odot.state.or.us

Oregon Department of Transportation Region 1
123 NW Flanders; Portland, OR 97209
ODOT Website: www.oregon.gov/ODOT/HWY/REGION1/