

Advertising Supplement

# Whilamut Passage Bridge

With years of planning and community involvement the new I-5 bridge over the Willamette River reaches completion.



Illustrative rendering provided by:

**CAMERON  
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LANDSCAPE ARCHITECTURE & PLANNING

A community celebration and tour on Saturday, Aug. 3 will commemorate the completion of the new Interstate 5 **Whilamut Passage Bridge** over the Willamette River.



After serving West Coast travelers for more than 40 years, the Interstate 5 bridge over the Willamette River was showing its age. During an inspection in 2002, Oregon Department of Transportation engineers identified shear cracks severe enough to require weight limits for the bridge. Heavy-haul trucks had to be rerouted 200 miles around one of the vital links in the West Coast's major north-south freeway.

By 2004, ODOT had built a temporary detour bridge to keep freight and other vehicles moving while crews built the northbound and southbound replacement bridges. The agency set out to replace the structures as part of the OTIA III State Bridge Delivery Program, which is repairing or replacing hundreds of aging bridges across the state.

The newly named Whilamut Passage Bridge features a graceful deck-arch design that will last 100 years. The now-demolished original structure was a somewhat uninspired, simple box-beam bridge with multiple piers in the river.

To meet aesthetic and environmental priorities, the new replacement spans consist of separate northbound and southbound bridges designed with pairs of graceful arches crossing the Willamette River. These new bridges —

side by side and 16 feet apart — provide open views of the river for drivers and a sleek profile to passing bicyclists and river users below.

Though the arches may appear uncomplicated to casual observers, they are highly technical, carefully engineered supports based on a modern update of engineering principles used since the Roman Empire.

See photos on Pages 6-7 of this section for a better understanding of the intricate, technical and well-executed steps required to construct the arches.

# Over-arching TRANSFORMATION

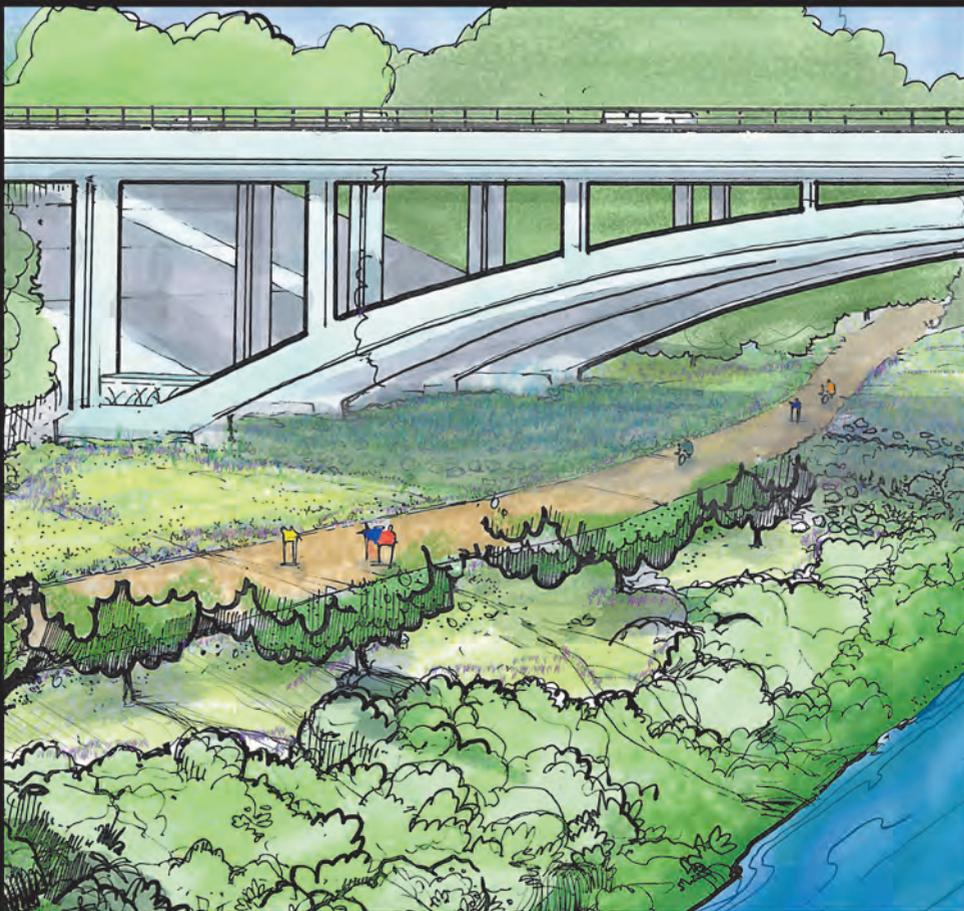
The new Whilamut Passage Bridge's arches reflect a classic design of beauty and longevity.

The stories and photos in this insert were provided by the Oregon Department of Transportation as part of the OTIA III State Bridge Delivery Program.

Contact Information:  
503-986-3985

Jyll.E.SMITH@odot.state.or.us

WHILAMUT PASSAGE



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*We sincerely appreciate the opportunity to work with the many subconsultants, agencies, and community members to design and implement this fantastic project.*

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LANDSCAPE ARCHITECTURE & PLANNING



# ‘Whilamut’: What’s in a name?

The Whilamut Passage Bridge name honors the Kalapuya tribe that resided “where the river ripples and runs fast.”

Long before it was named the Whilamut Natural Area, the Kalapuya tribe inhabited this 70-acre site on the north bank of the Willamette River west of Interstate 5. Members of The Confederated Tribes of Grand Ronde, the Kalapuya were the largest Native American group in Western Oregon. They gathered food, traveled on the river and hunted local game in the area for centuries.

The name Whilamut (pronounced WHEEL-a-moot) means “where the river ripples and runs fast” in the Chinuk Wawa language. Chinuk Wawa, also known as Chinook Jargon, arose in the 19th century as a common language for speakers of disparate native languages as well as English and French.

The Whilamut Passage theme, adopted by the I-5 Willamette River Bridge project’s Community Advisory Group, incorporates words, phrases and images that encompass the variety of users of the bridge and its surroundings — past, present and future — as well as the area’s geography. It continues to guide design enhancements that will be built

alongside I-5 as well as in the surrounding natural area.

Citizen volunteers for the bridge replacement project have worked with tribal leaders and the Oregon Department of Transportation since 2009 to officially name the Whilamut Passage Bridge. As a government agency, ODOT remained neutral about a name for the new bridge, so the Community Advisory Group for the bridge project drove the process that resulted in the proclamation and name honoring the Kalapuya.

At the naming ceremony in 2012, the sound of tribal drums and singing filled the morning air in the Whilamut Natural Area of Alton Baker Park. ODOT also recognized the community volunteers who successfully navigated the name approval process in honor of the tribe, which included Lane County, the cities of Springfield and Eugene, and the Oregon Geographic Names Board. Speakers expressed gratitude that the bridge’s name recognizes the importance of Native Americans in Oregon and national history.

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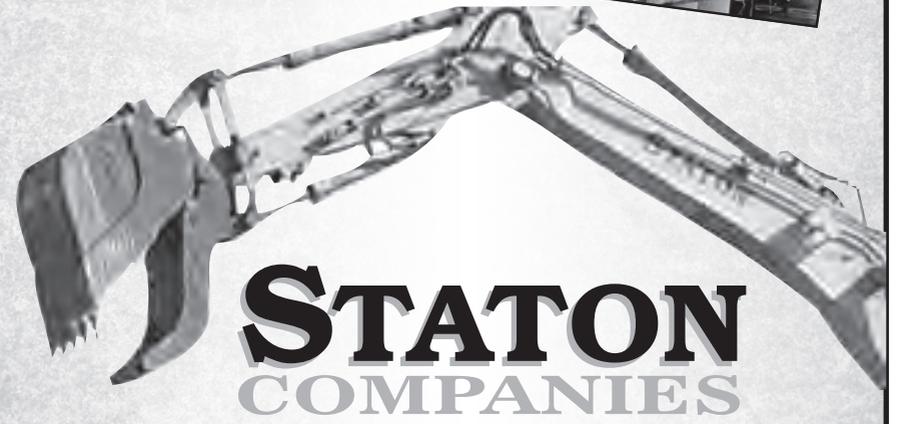
- At one point in the demolition, we had 8 excavators on site and it looked like a war zone. If you drove from Eugene to Springfield on Franklin Blvd., you could have had a real close up of big time bridge demolition.



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# The man behind the bridge

Warren Neer reflects back on a long ODOT career, which included challenging survey work required to carry I-5 traffic across the river.

Throughout his 33-year career with the Oregon Department of Transportation, Warren Neer, now 91, wore many hats as a survey chainman, an inspector, a transitman and a party chief.

Perhaps one of his greatest contributions to ODOT was his careful and accurate surveying work on the original Interstate 5 Willamette River Bridge.

"It was a funny thing that happened," Neer chuckled as he sat in his living room. "[The Highway Division] had a help wanted sign out on the

lawn, so I went inside. I had been taking drafting in vocational school, so I thought I was a draftsman. I went up to this room, and there was an older gentleman sitting at a typewriter, typing with one finger. He looked up, and he said, 'Can I help you?'"

"I said, 'Well, I wondered. I saw the help wanted sign. Do you need any draftsmen?'"

"He said, 'No, I don't need any draftsmen. Can you type?'"

"I said, 'Yes.'"

"He said, 'With more than one finger?'"

"And I said, 'Yes, all of them.'"

"He said, 'You be here Monday morning.' And that's how I got on with the highway department."

Neer rose through the ranks to become one of the original surveyors for the I-5 Willamette River Bridge — a role that had its share of obstacles. In the early 1960s, surveyors didn't have the technology for precise bridge and location measurements, such as GPS tools, laser levels and computerized plotting software. Additionally, the environment around the riverbanks was almost a jungle.

"We would have to walk and carry out instruments and our equipment for sometimes half a mile, maybe up to a mile. It was a lot of work just to get up to the job site," Neer said.

In addition to measuring and locating distances across the river, the crew had to deal with clearing the dense foliage ahead of them as they worked.

"We didn't have chainsaws — we



used machetes and brush hooks to clear the pathway so we could see through with our instruments," he said.

Before the original Willamette River Bridge opened in 1961, I-5 ran to the north and south of Eugene and Springfield, but the highway did not cross the river. As a result, drivers traveling through the area were forced to the

leave the interstate and navigate city streets and bridges before reconnecting with the highway.

"Eugene and Springfield were two very separate cities," Neer said. He called the bridge "a major improvement, because there was no other way [to make a direct crossing]."

In his more than three decades with ODOT, Neer always took pride both in his job and in well-done craftsmanship, and the Willamette River Bridge was no exception.

In 2002, when surveying crews plotted the course for the Willamette River Bridge replacement, the Whilamut Passage Bridge, they encountered many of the markers that were placed when the first bridge was built. To their surprise, the original measurements made by Neer and his team were accurate to within inches, a testament to their great pride in hand measuring.

Despite any ebbs and flows that may have occurred in his more than 30 years with ODOT, Neer said he'd do it all again.

"I don't believe a person could find a more enjoyable job to work at. There were a lot of college graduates that worked at [ODOT] and the fellows like myself that were eager to learn. It was kind of like a big family — the people were really good to work for and to work with."

## It's a bridge — and more!



### Thanks to the volunteers

Beneath the Interstate 5 Whilamut Passage Bridge lies a network of pedestrian and bike paths connecting Eugene and Springfield. There's also a natural area that includes the Willamette River. Volunteers spent thousands of hours making this project the best that it could be. Come to the celebration on Saturday to learn more about their work and how it will benefit our community for years to come.



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### Community Advisory Group and Design Enhancement Steering Committee

#### VOLUNTEERS

**Charlotte Behm** - Springfield Neighborhood, Citizen Planning Committee for the Whilamut Natural Area of Alton Baker Park, DESC

**Charles Biggs** - Citizen Planning Committee for the Whilamut Natural Area of Alton Baker Park

**Dave Carvo** - Glenwood Neighborhood Group

**Rich Hazel** - Laurel Hill Valley Citizens Association

**Jody Heady** - American Institute of Architects (Southwest Oregon Chapter)

**Bob Kline** - Harlow Neighbors, DESC

**Vicky Mello** - Citizen Planning Committee for the Whilamut Natural Area of Alton Baker Park, DESC

**Jack Radabaugh** - Harlow Neighbors

**David Sonnichsen** - Fairmount Neighborhood Association

**Jan Wostmann** - Laurel Hill Valley Citizens Association

**Scott Wylie** - Springfield resident, Artist, DESC

#### AGENCY REPRESENTATIVES

**Chris Henry** - City of Eugene Public Works, DESC

**Lauri Holts** - Eugene Parks and Open Space Division

**Greg Hyde** - Willamalane Park & Recreation District

**Philip Richardson** - Eugene Parks and Open Space Division

**Jake Risley** - Willamalane Park & Recreation District

**Trevor Taylor** - Eugene Parks and Open Space Division

**Joe Valasek** - City of Eugene Public Art Committee, DESC

Thanks to the Oregon Department of Transportation for giving us the privilege of working with both groups. Together, they enhanced the Willamette River Bridge project for everyone's benefit. We've enjoyed collaborating with you!

# A new PASSAGE

Community celebration and bridge walk on Aug. 3 mark the opening of new I-5 Whilamut Passage Bridge.

A community celebration and tour on Saturday, Aug. 3 will commemorate the completion of the new Interstate 5 Whilamut Passage Bridge over the Willamette River. The northbound bridge will open in August.

The event will be from 11 a.m. to 2 p.m. with a brief ceremony at 11:30 a.m. in the Whilamut Natural Area of Alton Baker Park. The Oregon Department of Transportation is hosting the celebration.

Visitors will have an opportunity to take a self-guided walking tour of the project, including design enhancements, park improvements and the new northbound bridge. Booths and stations will be staffed by project team members.

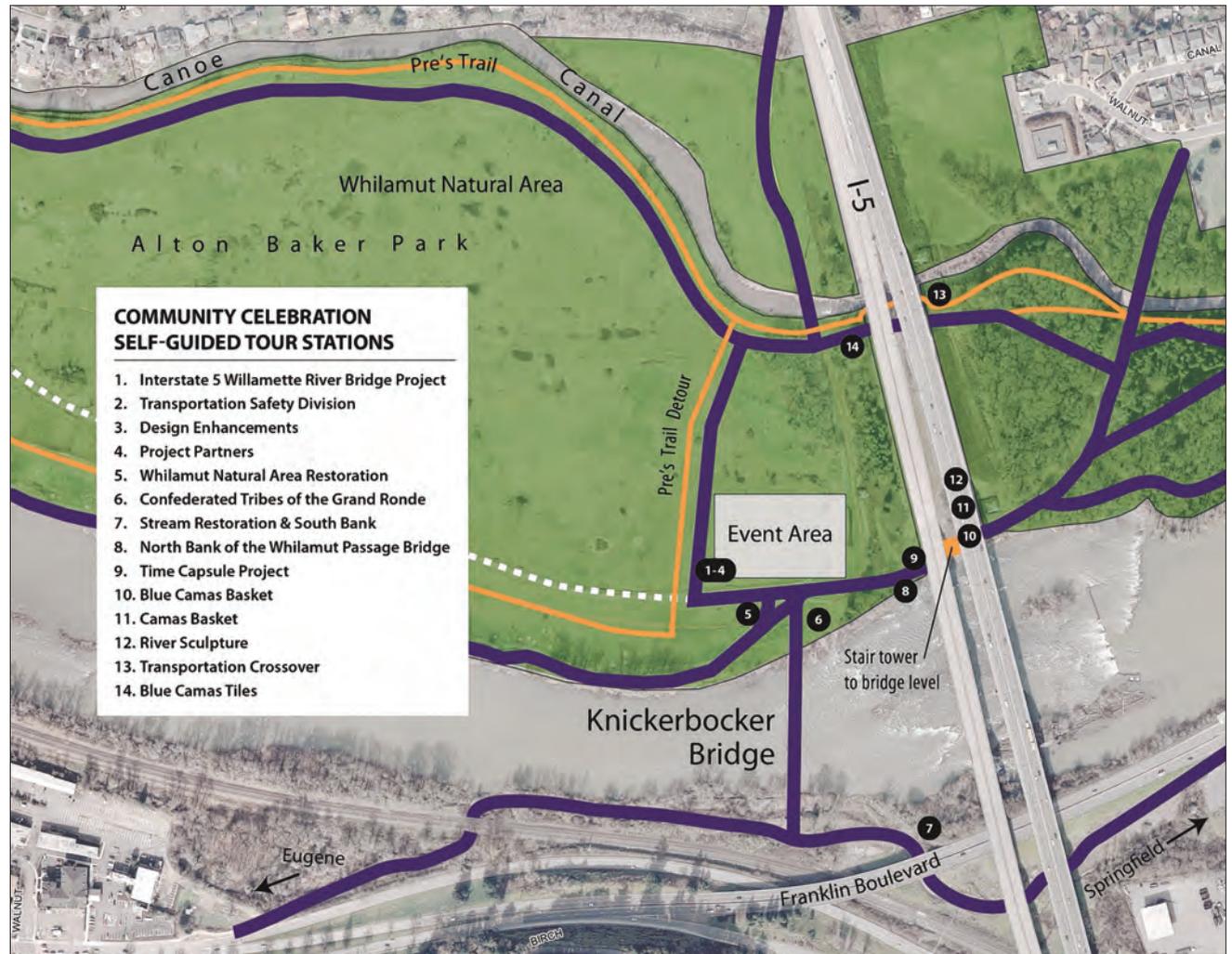
This is the public's chance to walk on the bridge before it opens to traffic. Access to the bridge walk is via a scaffold-style stair tower. Because final construction is still underway, stairway access is restricted to visitors age 16 and older who are wearing closed-toe shoes. For safety reasons, no sandals or open-toe shoes are allowed on the bridge tour. The rest of the self-guided tour is open to all ages.

## Getting there:

The Aug. 3 community celebration will be held north of the Knickerbocker Bridge in the Whilamut Natural Area of Alton Baker Park.

People are encouraged to ride bikes, walk or take an LTD bus to the park. There are nearby bus stops and many bicycle and pedestrian routes to the natural area. Free, secure bike valet parking will be available.

Parking for senior and disabled visitors will be in Lot 9 off Leo Harris Parkway. A courtesy shuttle will carry visitors from there to the event.



Additional pedestrian and bicycle path routes to the event area are shown. Free, secure bike valet parking will be provided inside the event area. The map also offers a list and locations of self-guided tour stations for your reference at the event. Join the Oregon Department of Transportation and learn more about the project.



The Oregon Department of Transportation encourages attendees to use alternate modes of transportation. This map shows nearby bus stops and path routes to the event area from the transit stops. Public parking will be located at Entry 4 of Autzen Stadium off of Leo Harris Parkway. Senior and disabled parking will be located in Lot 9 off of Leo Harris Parkway. A courtesy shuttle will transport those from the senior and disabled parking area to the event site. Bicycle valet will be provided.

## Whilamut Passage Bridge opening celebration

**What:** Ceremony and tour of the new I-5 Whilamut Passage Bridge, hosted by the Oregon Department of Transportation

**When:** 11 a.m. to 2 p.m. on Saturday, Aug. 3; ceremony at 11:30 a.m.

**Where:** Whilamut Natural Area, Alton Baker Park

**Cost:** Free

Bridge tours limited to those over the age of 16, who are wearing closed-toe shoes. Park tour open to all ages.

# A bridge built for the future

Graceful, distinctive I-5 bridge to span Willamette River for next 100 years.



The original I-5 Willamette River Bridge opened in 1961. It was built using a reinforced concrete box-girder design that required five sets of piers in the river. Franklin Boulevard is to the right in this vintage photo.



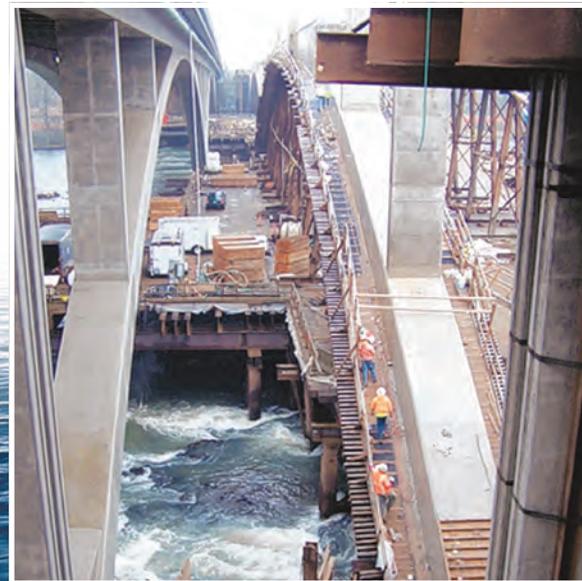
The new Whilamut Passage Bridge was designed as two structures — one for northbound traffic and one for southbound. The graceful twin arches span a long distance and touch down in the river only once. The open top deck gives drivers a great view of the river and parks below.



One of the first tasks was to demolish the original 1961 bridge to make way for its replacement. ODOT's contractor built a massive work bridge that kept debris from falling into the river as equipment broke the bridge into smaller pieces. Concrete and steel from the original bridge was separated and recycled.



Steelworkers assemble the steel cages that give the bridges' underwater reinforced concrete piers great strength. The arches on the new bridges rest atop the piers, which are anchored to deep bedrock below the river.



On a winter day, high above the swift-flowing Willamette River, crews work on the first northbound bridge arch and spandrel columns that would eventually support the top deck. The completed southbound bridge is to the left.



This photo from spring 2010 shows the temporary I-5 bridge in the background as the bridge piers are being installed deep under the river. The massive wood and steel work bridge provided a strong platform from which construction could be safely and swiftly completed.

The new Whilamut Passage Bridge embodies the successful completion of a complicated challenge: getting freeway traffic across a broad river, a well-loved park, a busy local boulevard and a railroad — all while meeting the Oregon Department of Transportation’s commitment to incorporate community values and suggestions into the project’s design and construction.

Early on, ODOT gathered public opinion through surveys, open houses and other forums. People said the new bridge should be graceful, distinctive, memorable, curved and unique. Local residents and community activists worked with ODOT to ensure the new bridge also would honor the longtime tribal use and history of the area.

The new twin bridges feature an elegant deck-arch design in which the arches touch down in the water only once, in the middle of the river. The design provides an open top deck with long vistas for drivers on Interstate 5 and a sleek profile to passing river paddlers and park visitors below. The twin arches also minimize disturbance to river dwellers, such as salmon and Oregon chub.

The reinforced concrete arches are about 400 feet long. The total length of the new bridges, including their approach spans, is 1,870 feet. They are designed to carry I-5 traffic for the next 100 years.

The story of the Whilamut Passage Bridge began in 2002, when ODOT engineers found expanding cracks in the aging I-5 bridge over the Willamette River, which had served local Eugene and Springfield travelers and West Coast motorists for more than 40 years. The cracks were severe enough that ODOT rerouted heavy-haul trucks through central Oregon — a detour of 200 miles around this vital link in I-5.

Deterioration of highway bridges built in the 1950s and 1960s led the Oregon Legislature in 2003 to fund the third Oregon Transportation Investment Act, which provided \$1.3 billion to address hundreds of aging state highway bridges through the OTIA III State Bridge Delivery Program. With an overall budget of \$204 million, the I-5 Willamette River Bridge project is the largest single bridge replacement project in ODOT history.

By 2004, ODOT had bypassed the obsolete bridge with a temporary bridge. This ended the long detour through central Oregon for heavy loads and kept I-5 traffic moving freely.

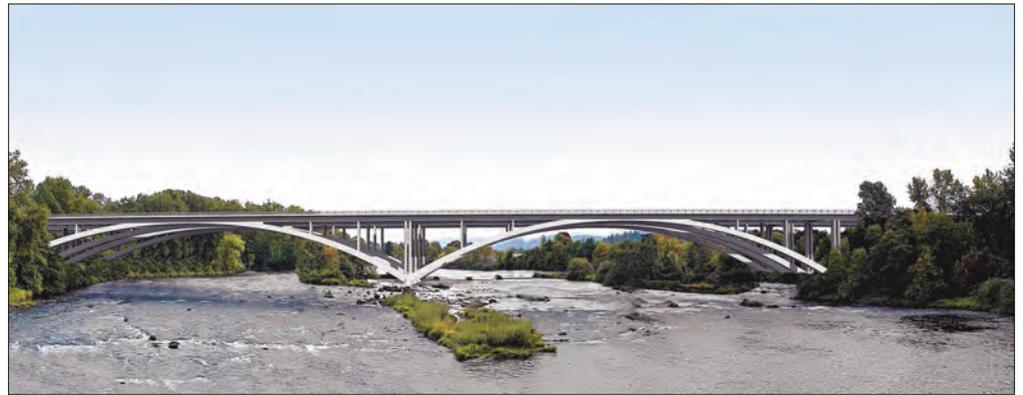
On Aug. 11, 2009, ceremonial golden shovels flashed in the hot sun as transportation advocates U.S. Sen. Ron Wyden and U.S. Rep. Peter DeFazio joined ODOT Director Matthew Garrett and the project team to break ground to begin construction on a long-term replacement.

Four years later, construction is nearly complete, and the graceful new bridges that arch above the river bear a new name: Whilamut Passage Bridge.

ODOT’s project partners include Hamilton Construction and its primary subcontractor, Slayden Construction, together with design consultants OBEC Engineers and T.Y. Lin International.



Workers use a large paving machine to create the reinforced concrete roadways leading to and from the bridge.



The new Whilamut Passage Bridge spans the Willamette River on graceful arches, serving as the gateway between southern Oregon and the Willamette Valley. The bridge design and other improvements made within the work zone reflect the history and culture of the area, honor longtime tribal use of the riverbanks and incorporate community values.



This view shows the wood and steel falsework used to shape the reinforced concrete bridge arches and spandrel columns on the northbound I-5 bridge. After the concrete cured, the falsework was removed.



Many large beams that supported the 2004 temporary detour bridge were re-used to build the new multiuse viaduct path along Franklin Boulevard (right). When completed, the viaduct will carry pedestrian and bicycle traffic to Alton Baker Park from Springfield.



Stream bank restoration is an important improvement that helps fish migrate in the watershed.

# New bridge a tribute to community collaboration

**T**he soon-to-be-opened Whilamut Passage Bridge is a tribute to community collaboration. Designers, builders, project managers, volunteer community members and officials worked together to make it a success.

Before construction began, the Oregon Department of Transportation promised to weave community values and ideas into the bridge design and to leave the project work area in better shape than before construction began.

While there isn't room to recognize everyone personally, here are a few of the many partners who made ODOT's efforts to include community values in the project possible:



#### Local partners

- Community Advisory Group
- Design Enhancement Steering Committee
- Citizen Planning Committee for the Whilamut Natural Area of Alton Baker Park
- City of Eugene
- City of Springfield
- Eugene Area Chamber of Commerce
- Eugene Water & Electric Board
- Fairmount Neighbors Association
- Glenwood Neighborhood
- Harlow Neighbors
- Lane County
- Lane Transit District
- Laurel Hill Valley Citizens Association
- Springfield Chamber of Commerce
- Springfield Neighborhood
- Springfield Utility Board
- Willamalane Park & Recreation District
- Eugene Parks and Open Space

#### Tribal partners

- The Confederated Tribes of Grand Ronde
- Kalapuya Tribal Elders

#### Federal partners

- Rep. Peter DeFazio and members of the Oregon Congressional Delegation
- Federal Highway Administration

#### State partners

- Oregon Legislature
- Oregon Governor's Office
- Oregon Transportation Commission
- Oregon Department of Transportation
- Oregon Department of Environmental Quality
- Oregon Department of Fish and Wildlife
- Oregon State Marine Board
- Hamilton Construction
- Slayden Construction
- OBEC
- T.Y. Lin
- CAWOOD
- Oregon Bridge Delivery Partners
- Willamette River Bridge Project Development Team



Thank you to all of our partners, the Eugene/Springfield community, and ODOT, for their combined efforts on this project.

We are honored to have been a part of this exciting and important transportation improvement project that our community can be proud of.

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# Reflections of meaningful beauty

Whilamut Passage Bridge honors area's heritage with a series of installations by several artists.

The Oregon Department of Transportation builds highways and bridges that are safe, functional and appealing. When planning the Willamette River Bridge project, ODOT promised the Eugene-Springfield community to build a beautiful gateway between the Willamette Valley and southwestern Oregon. Collaboration with local stakeholders helped ODOT to deliver on its promise with the new Whilamut Passage Bridge and its related improvements.

Local residents volunteered more than 1,300 hours of their time to ensure the bridge design and onsite enhancements honor the history, heritage and longtime use of the crossing — from the area's first residents, the Kalapuya, to commuters and freight haulers on Interstate 5 today. When setting the groundwork for design enhancements on the project, the Community Advisory Group kept the Kalapuya tribe's historic use of the project area top of mind and adopted the Whilamut Passage theme for the bridge.

To incorporate the theme, ODOT,

working closely with its community partners including the Design Enhancement Steering Committee and The Confederated Tribes of Grand Ronde, signed contracts with three Oregon artists to design and build roadside enhancements. Installed adjacent to I-5, at the north and south ends of the project, most of the enhancements will be complete by this summer.

The design selection team chose artwork that resonated with the local community and stakeholders. ODOT employed local craftspeople to help build pieces that reflect community values and the natural beauty of the Willamette Valley and the river.

Tapping into the Eugene-Springfield area's history, the artists are creating structures that mirror the cultural legacy of Oregon's early inhabitants. These enhancements will join 11 "talking stones"

engraved with words from the Kalapuya language that lie along the paths in the Whilamut Natural Area of Alton Baker Park. A sampling of the project's design enhancements are shown on this page.



## A BRIDGE TO THE FUTURE

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# Better than before

Work crews improve the area around the new bridge in many ways, from landscaping to revamping paths to making the Canoe Canal more appealing.

At the outset of the Willamette River Bridge replacement project, the Oregon Department of Transportation committed to leaving the area within the work zone in better condition than before construction began.

Even as crews focused on completing the bridge construction on time and under budget, they put equal importance on restoration and enhancement work in the park and surrounding areas to

ensure the project reflects the values of the local community.

As part of that effort, ODOT is restoring Augusta Creek, revamping park bicycle and pedestrian paths, and making aesthetic enhancements that complement the attractive new bridge design. ODOT worked closely with the cities of Eugene and Springfield, as well as the Community Advisory Group, which represents key stakeholders interested in the restoration work.

### Path safety improvements

Surrounding parks, protected open space and pedestrian paths made construction of the new Whilamut Passage Bridge somewhat unusual. These factors injected more complexity than a typical bridge project would have, but they also provided unique opportunities to improve the area.

Working closely with the cities of Eugene and Springfield led to improved safety on pedestrian paths along the

banks of the Willamette River near the new bridge.

Crews repaved and striped the Canoe Canal path and paved paths under the bridges on the riverbanks. They also built a new connector between North Walnut Road and the north bank path, while eliminating a congested and confusing intersection and a large drop in the path on the north end of the Knickerbocker Bridge.

The new connection makes the path easier and safer for users going either east or west. In addition, the new connection is far enough from other intersections to minimize congestion or confusion. Path users also will see new landscaping, including native species of trees, shrubs, flowers and prairie grass.

**New south-bank pedestrian path**  
A new path on the river's south bank will link existing routes and provide great views of the river. It will start east of the Knickerbocker Bridge, follow the riverbank under the I-5 bridges and

connect to Franklin Boulevard. The city of Springfield plans to extend this new path to the intersection of Glenwood Boulevard and Franklin Boulevard, where traffic signals will make the intersection safer for path users crossing Franklin. Eastbound cyclists will share a wide sidewalk with pedestrians, and westbound cyclists will use a path on the south side of Franklin Boulevard.

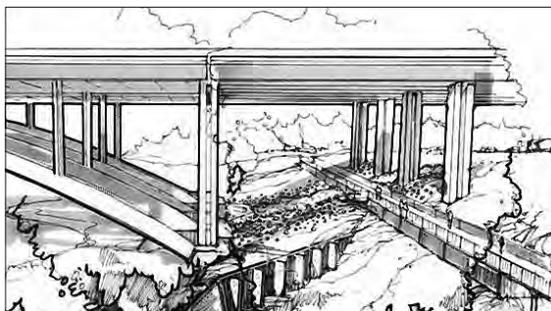
The south bank viaduct path is an investment in the community's infrastructure. City officials and ODOT recognize that it's a vital part of the bicycle and pedestrian network and are working to improve it.

### Canoe Canal transformed

The walls of Eugene's Canoe Canal also have undergone dramatic changes. Slayden Construction, one of the main contractors working on the Willamette River Bridge project, is responsible for the transformation.

Lowering the walls makes the canal more visible and opens up the embankments on both sides. Landscaping and design enhancements will further change this area.

ODOT will replace temporary wooden railing with standard steel railing. When it's finished, path users can walk, run or ride along the water, as well as stop to observe passing canoeists and trout.



Thanks to the Oregon Department of Transportation and its many federal and community partners for creating a signature bridge that gracefully unites earth and sky, art and engineering, past and future.

*"The sensitivity to the river, the enhanced bike paths, the art, the high level of community involvement, and most especially the commitment to the Native American presence make this a model for other projects."*

Thank you ODOT for

*a stellar project.*

—Mayor Kitty Piercy





# Safeguards sustain healthy environment

ODOT strives to protect and improve water quality, native fish populations and more around the bridge site.

They don't vote and they don't pay taxes, but plants and animals had an important impact on the I-5 Willamette River Bridge project. During and after construction, the Oregon Department of Transportation worked to preserve and improve habitat for local flora and fauna.

Below the Whilamut Passage Bridge, Eugene's Alton Baker Park and Springfield's Eastgate Woodlands comprise the flourishing Whilamut Natural Area — land covered with grass prairies, flowering plants, and giant Douglas fir and oak trees.

Western pond turtles and North American beavers make their homes in the riverbank. Oregon chub, chinook salmon, steelhead, and bull and rainbow trout spawn and feed in the river. Bats, herons, osprey, hummingbirds and butterflies find shelter in the trees and on the bridge itself.

Project team members looked for every opportunity to safeguard and even enhance the environment around the bridge to ensure that the structure's ecological footprint would be as small as possible. Here are a few of their proactive solutions.

## Work bridge protects water quality

Tearing down the original 2,000-foot-long, 50-foot-high bridge had the potential to threaten water quality and generate lots of construction waste. ODOT's project team spent months planning and preparing a demolition process that greatly minimized impacts to the surrounding parks, river and roads. They settled on using powerful hydraulic hammers and excavators to pull apart the obsolete structure from a work bridge built below the existing structure.

The project team constructed a wood and steel work bridge — stretching the width of the Willamette River, about 10 feet above the high-water mark — to support the machines used for demolition and the construction of the new bridge. The work bridge doubled as a containment structure to protect the river below; later it was dismantled and reassembled on the other side of the new bridge to build the northbound bridge, cutting down on waste and cost.

The leftover wood, concrete and steel from the old bridge — demolished

by large hydraulic hammers that ran on all-natural canola oil to reduce risk of water pollution — yielded approximately 30 million pounds of debris, which was either shipped to local recyclers or reused on this and other ODOT projects as fill.

## Bubbles shield fish from noise

During construction, fish must be protected from noise that can interfere with their migration. To diminish the noise of underwater pile driving, ODOT contractor Hamilton Construction used a noise attenuator, dubbed the "bubbleator."

The bubbleator was a custom-built, circular device made of sheet metal and lined with high-density polystyrene foam. Perforated aluminum pipes framing the piles produced a thick wall of frothy bubbles using compressed air, dampening sound from pile driving. The bubbleator frame also served as a sturdy work platform for crews during pile driving. Hydroacoustic monitoring on the project showed that the bubbleator kept underwater noise below the level recommended by fish biologists.



## Dirt dissolves pollution

Rain and managing the resulting runoff of water into the river will present an ongoing challenge after construction crews are gone. The new bridges are wider and have a larger surface area to collect more rainwater than the old bridge did. This runoff becomes contaminated when it mixes with highway pollutants such as grease, dirt, brake dust, deposited vehicle exhaust, road particles, automotive fluids and deicing chemicals.

Without containment and treatment of this runoff, the water would flow directly into the river and nearby natural areas. Instead, the new bridge collects the runoff and discharges it into a system of bioswales for treatment. Bioswales are gently sloped areas planted with native vegetation designed to remove silt and pollution from surface water.

Runoff captured from the bridge is filtered by the vegetation or held in a grassy bowl until particles can settle out. The treated water either soaks into the ground or is released into the surrounding watershed, river or nearby creeks. ODOT built multiple bioswales

to treat rainwater runoff on or near the project site, saving the cost of collecting and piping it for discharge farther away.

## Fish climb ladder of success

Black-spotted cutthroat trout are a species of concern, meaning their numbers are declining. The population that returns to the Willamette River and its tributaries to spawn is critical to rebuilding the species' population.

Before construction on the new Whilamut Passage Bridge, the trout were stopped by a huge culvert, 400 feet long, that opened six feet above the river as they approached a tributary often referred to as Augusta Creek. The trout were only able to access the remote

stream above at limited times of the year because the culvert was too high for them to jump when water was low.

Working with the Oregon Department of Fish and Wildlife and Hamilton Construction, ODOT pro-

posed building a temporary fish ladder to allow the trout to make their way up the Augusta Creek tributary during construction.

ODFW recommended a Denil design because cutthroat trout are strong swimmers that prefer to swim upstream in rapid water. The Denil fishway looks and works something like an escalator: the ladder, on one side, helps fish travel upstream; a flat metal chute on the other side allows the rest of the waterway, and even an occasional fish, to flow downstream. The ladder consists of 33 baffles, each wishbone-shaped with a triangular bottom. They create a backwater effect as water flows over them, allowing fish to jump, then rest if they need to, before jumping again to reach the next level, all the way to the top.

The fish ladder is temporary because the culvert won't be needed after 2014, when Augusta Creek will be restored to its native channel.

## Due credit

ODOT received tremendous help on its environmental stewardship: The City of Eugene Parks and Open Space, Lane County, Willamalane Park and Recreation District, Oregon Parks and Recreation Department, National Park Service, Oregon Department of Fish and Wildlife and the Citizen Planning Committee for the Whilamut Natural Area were all invaluable partners in taking care of the natural area's valuable assets.

# WHILAMUT

PASSAGE BRIDGE

**28,581 cubic yards of concrete**  
**10,434,492 pounds of steel**  
**Countless tons of collaboration**

**. . .What it takes to build a great bridge**



Photo courtesy of ODOT

Bridges have always served as a symbol of connection and the dual bridges of the Whilamut Passage live up to that metaphor in every way. Thousands of us from many walks of life worked together to create this masterpiece: beautifully engineered, skillfully constructed, environmentally forward, economically critical, and sensitive to the heritage and rich culture of this place we call home.

Rarely are we given the opportunity to create a lasting legacy for our community—this is ours. For generations to come, the Whilamut Passage will reflect all the best of who we are and what we can achieve working together.

Thank you to the Oregon Department of Transportation and all of you for giving us the opportunity to work with you to build these bridges.



CONTRACTORS & ENGINEERS

[www.hamil.com](http://www.hamil.com)