OREGON

has more than 200 historic bridges

eligible for the National Register of Historic Places. Many of these bridges are concentrated on the Oregon Coast Highway. The Oregon Department of Transportation (ODOT) recognized as far back as the 1970s that a significant number of its historic structures were deteriorating in ways conventional maintenance could not control. The spectacular beauty of the coastal bridges, designed primarily by Conde B. McCullough, state bridge engineer from 1919 to 1935, and the fear they would be lost to deterioration, compelled ODOT to make fundamental changes in its approach to historic bridge preservation.

The Department undertook a comprehensive inventory of its older bridges to identify which bridges had true historic features and should be preserved. Concurrently, ODOT created a new engineering unit, assigned to perform a thorough condition evaluation of the coastal bridges most at risk, and to develop techniques to restore these bridges to their original condition while preserving them from further deterioration. This resulted in practical methods for shotcrete and pumped concrete repairs, precasting of replacement components, composite strengthening, and cathodic protection of structures.

Through ODOT's efforts to develop a system to identify and prioritize needed bridge work, including replacement, widening, and rehabilitation of bridges based upon their condition, many coastal bridges have been saved for future generations to use and appreciate.

Conde B. McCullough
Oregon's Master Bridge Builder

Conde B. McCullough [1887-1946] arrived in Oregon in 1916 to teach engineering at Oregon Agricultural College (now Oregon State University). He was among a new breed of college-educated engineers, and a pioneer of the movement to create a well-planned American highway system. Beginning in the early 1900s, McCullough argued that bridges should be built efficiently, economically, and aesthetically. He became Oregon's state bridge engineer in 1919 and initiated creation of hundreds of custom-designed spans characterized by architectural elegance. His legacy of beautiful bridges lives today and most of his bridges are considered significant landmarks.

This brochure is dedicated to the skill and commitment of ODOT's bridge engineers, maintenance crews, and others, for their part in saving Oregon's wonderful collection of historic bridges.

US 101 is known as the Oregon Coast Highway and also the Pacific Coast Scenic Byway. This byway was recognized as Oregon's first State Scenic Byway in 1991 and was dedicated as a National Scenic Byway in 1998. One of several themes that unite the byway is its functional and visionary engineering.

Brochure funded by the Oregon Department of Transportation.
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Pub#0502

SPANNING OREGON'S COAST

Highway Bridges Along US 101
The Pacific Coast Scenic Byway

● Designed by Conde B. McCullough
● Designed by other engineers

1.Astoria - Megler Bridge

1966, MP 4.1. The longest three-span, continuous cantilever, through-truss bridge in the world. It crosses the Columbia River linking Oregon to Washington. It completed US 101 as an unbroken link between the Canadian and the Mexican borders. Designed by Washington State Bridge Engineer William A. Burgee.

3.Lewis and Clark River Bridge

1924, Warrenton Highway, Astoria, MP 4.78. The only remaining single leaf bascule drawspan in Oregon. Four double leaf bascule bridges remain on Oregon's highway system.

5.Chasm (Neahkahnie Mtn.) Bridge

1937, MP 40.71. Located in one of Oregon's most spectacular stretches of coastline. It features stone masonry on the bridge and on the railings, which extend nearly uninterrupted around the mountain. Designed by Glenn S. Paxson.

7.Depoe Bay Bridge

1927 and 1940, MP 127.61. A reinforced concrete deck arch located at the mouth of Depoe Bay, the world's smallest bay. A stairway on the bayside and a walkway at the north end provide an opportunity to look under the bridge.

2.Old Youngs Bay Bridge

1921, Warrenton Highway, Astoria, MP 6.89. This bridge is an example of a double leaf bascule drawspan. The large Art Deco Style wood and concrete pylons on both ends of the bridge are McCullough hallmarks. The buildings located at the bascules are the bridge operator's houses.

4.Necarney Creek Bridge

1937, MP 39.53. Located in Oswald West State Park. This was one of the first bridges with steel girders and steel towers built in Oregon. It heralded a period of structural steel bridges, which lasted until the 1960s. The bridge was dedicated to Sam Reed, a generous benefactor for Oswald West State Park. Designed by Glenn S. Paxson.

6.Wilson River Bridge

1931, MP 64.73. This was the first reinforced concrete tied arch span constructed in America. This bridge style is also referred to as a bowstring arch bridge.

8.Rocky Creek Bridge

1927, MP 130.03. The bridge spans a small gorge on Otter Crest, a bypassed section of the original US 101 alignment. It is also known as the Ben Jones Bridge, for the "Father of the Coast Highway." Jones introduced legislation for construction of the Roosevelt Military Highway (the original name for the Oregon Coast Highway) in 1919 and convinced the federal government to finance half its cost.

9.Yaquina Bay Bridge

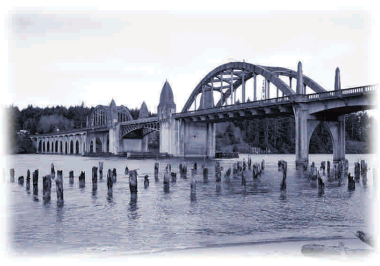
1936, MP 141.68. This bridge, located in Newport, has a combination of both steel and concrete arches. The main span of the 3,223-foot structure is a 600-foot steel through arch flanked by two 350-foot steel deck arches. There are five reinforced concrete deck arch secondary spans on the south end. Each end has a pedestrian plaza with elaborate stairways leading to observation areas.

11.Cummins Creek Bridge

1931, MP 168.44. This reinforced concrete deck arch bridge is located at Neptune Scenic Viewpoint. The arch is an open spandrel type with a low rise. The railing is supported by curved brackets and consists of small semi-circular arched openings.

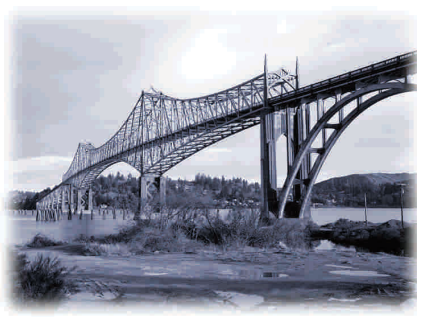
13.Big Creek Bridge

1931, MP 175.02. A reinforced concrete through tied arch bridge identical to the Wilson River Bridge and the Tenmile Creek Bridge.



15.Siuslaw River Bridge

1936, MP 190.98. Located at Florence, this steel double leaf bascule drawspan is connected between two concrete bowstring arch spans. The four bridge operator's houses are designed in the Art Deco Style.



17.Coos Bay Bridge

1936, MP 234.03. Dedicated posthumously in 1947 to its designer, Conde B. McCullough, this 5,305-foot steel cantilever truss bridge was the longest structure on Oregon's highway system when constructed. To ease design conflict between the steel truss and the arch spans, the cantilever was constructed with curved upper and lower chords.

19.Rogue River Bridge

1932, MP 327.64. Located near Gold Beach, the bridge consists of seven reinforced concrete deck arches. It was the first structure in the US constructed with the Freyssinet method of arch ring decentering and stress control, named after its French inventor. The American Society of Civil Engineers designated the bridge a National Historic Civil Engineering Landmark in 1982. The success of the bridge led to the widespread use of prestressing techniques in concrete construction. The structure is dedicated to Isaac Lee Patterson, the Oregon governor who promoted its construction.

10.New Alsea Bay Bridge

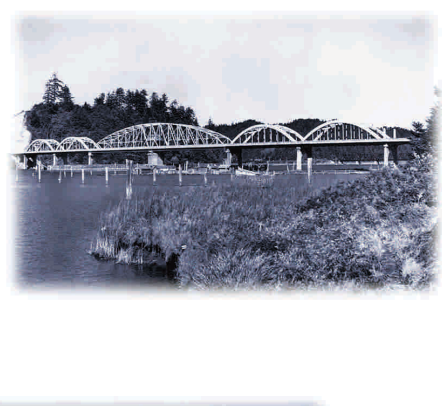
1991, MP 155.54. Begun in 1988, this visually stunning bridge was designed with bold Y-shaped piers and a towering steel arch at its center to preserve the memory of the 1936 multiple arch reinforced concrete bridge that it replaced. An interpretive center, located at the south end of the bridge, documents the old bridge and features the life and work of Conde B. McCullough. Designed by Howard Needles Tammen and Bergendoff with State Bridge Engineer Walter Hart.

12.Tenmile Creek Bridge

1931, MP 171.44. A reinforced concrete through tied arch bridge located approximately six miles south of Yachats. The bowstring main arch spans 120 feet and the total length is 180 feet. Identical to the Wilson River Bridge (#6) and Big Creek Bridge (#13).

14.Cape Creek Bridge

1932, MP 178.35. Located at Heceta Head Lighthouse Scenic Viewpoint. The numerous columns and arches of the viaduct section are reminiscent of the Roman aqueducts. The main span of the 619-foot structure is a 220-foot open spandrel rib-type reinforced concrete deck arch.



16.Umpqua River Bridge

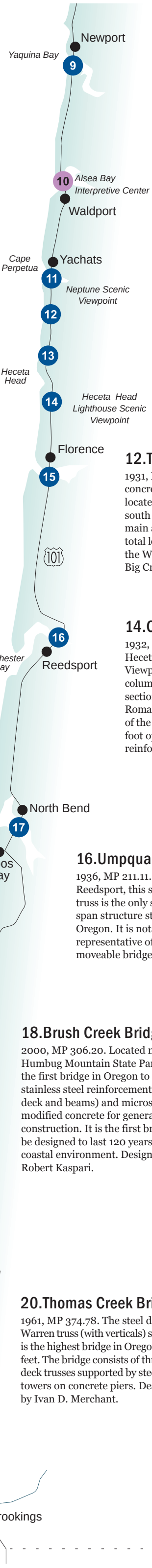
1936, MP 211.11. Located in Reedsport, this steel Parker through truss is the only state highway swing span structure still in operation in Oregon. It is notable as a representative of this outdated moveable bridge technology.

18.Brush Creek Bridge

2000, MP 306.20. Located near Humbug Mountain State Park. It is the first bridge in Oregon to use stainless steel reinforcement (in the deck and beams) and microsilica modified concrete for general construction. It is the first bridge to be designed to last 120 years in the coastal environment. Designed by Robert Kaspari.

20.Thomas Creek Bridge

1961, MP 374.78. The steel deck Warren truss (with verticals) structure is the highest bridge in Oregon at 345 feet. The bridge consists of three steel deck trusses supported by steel frame towers on concrete piers. Designed by Ivan D. Merchant.



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