

WASHINGTON COUNTY, OHIO

by Roger Wright, Washington County

Washington County is located in southeast Ohio and was established on July 26, 1788. Events that led up to this establishment were due to the perseverance of two men, General Rufus Putnam and Reverend Dr. Manasseh Cutler. General Putnam was superintendent of the colony of 47 pioneers who settled Marietta, Ohio, on April 7, 1788, the first organized settlement in the Northwest Territory.

Today, Washington County remains one of the largest counties (by geographic area) in Ohio at 641 square miles. Washington County has responsibility for 341 miles of two-lane county roads and 381 county bridges. While the oldest bridges still in service are wooden covered bridges—Hune 1879, Shinn 1886, and the Bell 1888—Washington County also has a number of very old concrete bridges. Of the 381 county bridges, 244 of them are made of some type of concrete, ranging from concrete slabs to precast concrete box beams. The Craven Bridge and the Lavelle Bridge are both simple-span concrete slab bridges built in 1910. Other than routine maintenance, these bridges have served the residents of Washington County for over 100 years and are still in good and satisfactory condition, respectively.

Putnam Bridge

Washington County is also home to the Putnam Bridge, Ohio's first cast-in-place concrete, segmental, box-girder bridge. The Putnam Bridge spans the Muskingum River, in the pioneer city of Marietta. Construction began in June 1998 and was completed in September of 2000, replacing a 1914 steel through-truss bridge. The original design was by HNTB of Cleveland, Ohio, with a value engineering re-design by Finley McNary Engineers Inc. of Tallahassee, Fla. Construction of the bridge was



Putnam Bridge piers 1 and 2 south elevation. Photo: Julia David, Barr & Prevost.



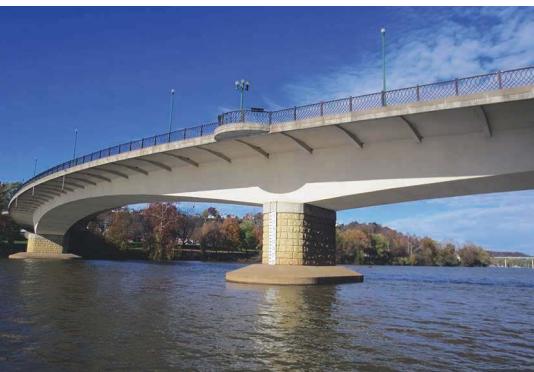
South elevation. Photo: David White, Washington County Commissioner.

done by Kokosing Construction Company Inc. of Fredericktown, Ohio, and completed at a cost of over \$8 million.

The Putnam Bridge has a three-span superstructure with a main span length of 321 ft and two side spans of 182 ft, for an overall length of 686 ft. It carries four lanes of vehicular traffic and two sidewalks. Spans 1 and 2 are curved with a 738 ft radius at the centerline and span 3 is tangential to the approach. This allowed the bridge to be partially constructed while keeping the existing through-truss open. The bridge was cast in place with form travelers using the balanced cantilever method of construction. The variable-depth, single-cell box girder segments, with cantilevered wing slabs, are typically 69 ft wide and 16 ft long. The segments were transversely post-tensioned

through the top slab and cantilevered wing slabs, with each segment having one full-width transverse strut. The box segments have variable-depth, inclined webs and variable-thickness bottom slab with longitudinal post-tensioning in the top and bottom slabs. Segment depths vary from 8 ft 2.5 in. to 18 ft 0.5 in.

A concrete post-and-pedestal railing separates vehicular and pedestrian traffic and an aesthetic steel pedestrian railing replicating the 1914 bridge railing is located along the exterior edge of the sidewalk. The Putnam Bridge sidewalks also have scenic overlooks above the two piers. The concrete abutments and piers utilized formliners to mimic the existing sandstone found on the historic buildings adjacent to the bridge. ▲



Putnam Bridge north elevation. Photo: Dale Arnold, Jones-Stuckey.

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