

Michigan Department of Transportation

Historic Bridge Inventory Update



NBI_Bridge_ID # 82200080000B010 **Structure #:** 12086 **County:** WAYNE
NR Recommendation: Eligible **City:** PLYMOUTH

MDOT Region: 7- METRO **Owner:** COUNTY

Location: NORTHVILLE T W/NORTHV RD. **Milepoint:** 4

Feature On: SIX MILE ROAD

Feature Intersected: MIDDLE ROUGE RIVER

Type: RIGID FRAME **Design:**

Material: REINFORCED CONCRETE

Railing Type: CONCRET PARAPETS WITH TUBULAR HANDRAILS (1985CA)

Spans: 1 **Overall Length (ft):** 60 **Deck Width (ft):** 55.8

Year Built: 1933 **Alteration (Date):** 1985CA **Source:** PLAQUE

Designer/Builder: WANE COUNTY ROAD COMMISSION

Setting/Context:

SUBURBAN

Physical Description:

Summary of Significance:

The 60'-long reinforced concrete rigid frame bridge carries a 2-lane local street over a stream in a regional park. With its characteristic profile that is deepest at the knees where the stresses are the greatest, the bridge is architecturally embellished with moulded surrounds and massive, Moderne-style pilasters that extend to become end posts for the upper roadway railings. The original railings were replaced with concrete parapets with channel accenting and tubular handrails circa 1985. The bridge is identical to 82200080000S010 (Six Mile Road over E. N. Hines Drive) that is immediately to its east.

The 1933 reinforced concrete rigid frame bridge is one of the earliest examples of its type in the state. It is one of a series of similar bridges constructed as part of the development of Edward N. Hines Park, a 17-mile long park and associated parkway that brackets the Middle Rouge River in western Wayne County. The "official" name of the park is Middle Rouge Park, but Hines Park is the name commonly used. Starting at its northwestern boundary in Northville, Hines Park extends southeasterly and passes through the communities of Plymouth, Livonia, Westland, Garden City, and Dearborn Heights before ending in Dearborn. Edward Hines Drive extends the full length of the park, runs parallel to the Middle Rouge River, and except for one small segment, is located north of the river.

Leroy C. Smith, chief engineer for the Wayne County Road Commission, began promoting the development of parkways in the 1920s, and in November 1929, Wayne County Road Commissioner Edward N. Hines announced plans to develop a system of parkways along the Rouge River and its branches. Their intent was to lay out the road along the river bank and to eliminate at-grade crossings with railroads and important highways. The purpose of the parkway was to decrease traffic on other routes and "to serve individuals who need fresh air, sunshine and care-free recreation," according to Smith. It was finished as far as Newburgh Road prior to World War II, and finally completed in 1948. Henry Ford was an important player in the creation of the park. He bought several abandoned water-powered mills

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along the Middle Rouge River, built new dams and then turned the mills into his "village industry" factories. Between 1937 and 1944, he turned over the four mills to Wayne County, and they were incorporated into the park system.

Edward N. Hines (1870-1938) was a lifelong advocate of improved roads in Michigan. In the early 1890s, he served as the head of the Michigan division of the League of American Wheelmen (LAW), an organization of bicyclists who lobbied for improved roads, and was a vice president of the national LAW. He led the effort for Michigan's County Road Law (1893) which encouraged the formation of county road commissions. He was one of three original Wayne County road commissioners when the commission was established in 1906, and he served as a commissioner until 1938, mostly as the chairman. He is credited with Michigan's first mile of concrete road (1909), the invention of the white center line, and the first road maintenance testing laboratory (1910). In early 1937 the Wayne County Road Commission renamed the Middle Rouge Parkway Drive to the "Edward N. Hines Drive" to honor his lifetime contributions to improving highways and parks.

That the park's planners and designers would turn to the reinforced concrete rigid frame for the parkway's bridges is very much in step with the motorcar parkway movement in this country. Arthur Hayden of the Westchester County (NY) Park Commission introduced the bridge type for their pioneering parkway system that he helped develop starting in the early 1920s. He favored the bridge type, where the legs and deck are integral, because of its ability to work well in settings with limited vertical clearance, economy of materials, and "extreme adaptability to architectural expression as compared with ordinary types of construction..." It is a handsome basic design, and it lends itself well to the plastic, and thus decorative, qualities of concrete. Hayden demonstrated the seemingly infinite variety of possibilities to accent the graceful, cast-in-place bridge type, and it was employed throughout the country for bridges in parks, along parkways, and even for major highways, like the 1938-1942 Pennsylvania Turnpike and Detroit's early 1940s Davison Freeway.

Described as an "exemplary road commission," in the "1995 Michigan Bridge Inventory: The Survey Sample," the Wayne County Road Commission was historically noted for its "innovative ideas, sometimes breaking ground well in advance of the Michigan State Highway Department," as evidenced by its 1933 use of the rigid frame bridge type at least two years before the department constructed its first example in 1935. The Plymouth and Six Mile roads bridges are the earliest reinforced concrete rigid frame bridges in the state, and they are historically and technologically significant for the introduction of the important bridge type to Michigan and for the integration of a regional transportation facility into the design of a manipulated landscape in the tradition of the parkway movement of the 1920s and 1930s. E. N. Hines Drive ranks as the state's most notable landscaped parkway. The fact that the original railings on the bridges have been replaced does not diminish their technological and historical significance.

Sources: Wayne Roads, History Section: "The Birthplace of Modern Road Building," www.co.wayne.mi.us/dps_roads/history/road_building; "Edward N. Hines, Printer and Citizen," *The Detroit*, 9 January 1928, p. 7; E.A. Batchelor, "Personal and Confidential: Edward N. Hines," *Detroit Saturday Night*, 22 December 1928, n.p.; "Honors Road Pioneer," *Motor News*, March 1937; and Wm. J. Trepagnier, "Road's End: A World Figure in Highways Passes On After Serving American Motorists Three Decades," *Motor News*, July 1938, pp. 9, 28; www.michigan.gov/mdot: "Historical Summary of Wayne County Parks" @ www.waynecounty.com/parks/history; Arthur G. Hayden, "The Rigid-Frame Bridge," 1940 edition: MDOT, "Michigan Bridge Inventory: The Survey Sample," 1995.

Reviewed By: LCE (7/07)

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