

Bayonne Bridge

The Beautiful Arch



www.panynj.gov

**THE PORT AUTHORITY
OF NY & NJ**

One of the longest steel arch bridges in the world ...

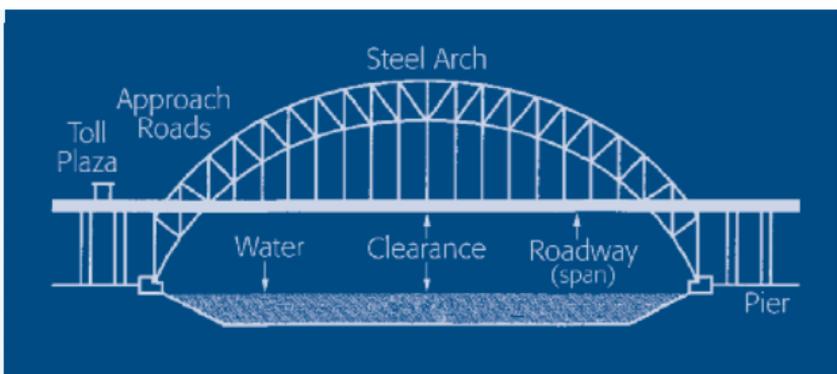
the Bayonne Bridge is also one of the most spectacular bridges in the metropolitan area. It spans the Kill Van Kull to link Bayonne, New Jersey, with the Port Richmond area of Staten Island, New York. Opened to the public on November 15, 1931, the Bayonne Bridge proudly marked 80 years of service to the region in 2011.

> VITAL CONNECTION

The Bayonne Bridge is one of three Staten Island Bridges linking New York and New Jersey. On Staten Island, it leads to the Verrazano-Narrows Bridge via the Martin Luther King, Jr. Expressway and the eastbound Staten Island Expressway (I-278). It also leads to the Goethals Bridge and Outerbridge Crossing via the westbound Staten Island Expressway. Used by thousands of commuters every day, the Bayonne Bridge is an important vehicular connection between Staten Island, New York and Bayonne, New Jersey, and provides access to the commercial and industrial districts in Bayonne, including the Port Jersey-Port Authority Marine Terminal.

> INNOVATIVE DESIGN

The most architecturally salient features of the bridge are its length and distinctive steel arch. The design of the arch features a slender, slightly tapered hyperbolic curve over the roadway. The arch trusses form a pleasing repetitive pattern of geometric triangles. It was the first major bridge to use manganese steel for its main arch structural members and rivets. Further, the innovative use of falsework (temporary scaffolding that upholds an unfinished span) precluded the need for heavy anchorages at the arch base. It was the first time that falsework was used for the construction of an arch span of this magnitude.



Steel Arch Bridge Profile

> **IMPORTANT LANDMARK**

The Bayonne Bridge, designed by legendary engineer Othmar Ammann, is the fourth longest steel arch bridge in the world, and was the longest in the world at the time of its completion. In recognition of its innovative structure and design, the Bayonne Bridge has been widely heralded as a major engineering landmark. The American Institute for Steel Construction awarded it a “Most Beautiful Steel Bridge” prize in 1931. In 1985, the Bayonne Bridge was designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers.

> **CONTINUING IMPROVEMENTS**

The primary purpose of the historic Bayonne Bridge was to allow vehicular traffic from Staten Island to reach Manhattan via the Holland Tunnel. However, the Kill Van Kull is the primary shipping channel for cargo to reach our marine terminals – Port Newark and Elizabeth-Port Authority Marine Terminal in New Jersey and Howland Hook Marine Terminal in Staten Island.

Today, since the bridge is only 151 feet above the water, larger container vessels often cannot pass under it to bring goods into our region.

To that end, The Port Authority of New York and New Jersey is taking action to “Raise the Roadway” of the Bayonne Bridge to 215 feet above the surface of the water. The 64 feet of additional air draft under the bridge will allow the Port of NY & NJ to welcome larger, and more efficient vessels. The rehabilitation of the Bayonne Bridge and construction of the new roadway represent a significant investment in our region.

Benefits to Our Region

“Raise the Roadway” has significant long-term benefits:

- The newer, larger vessels, with cleaner and more efficient engines calling on our port ultimately will displace the need for multiple smaller vessel calls, and that will mean cleaner air for our neighbors.
- Wider lanes, new shoulders, and median safety dividers will upgrade the bridge to current design standards.
- A bikeway and walkway extending the entire length of the bridge will make traveling the bridge easier for all of us.
- New piers, a new roadway deck, and new approach roads will ensure that the bridge will last for generations.
- The new Bayonne Bridge design will allow for future mass transit service.

For additional historical information and facts about the Bayonne Bridge and the “Raise the Roadway” Project, visit us online at www.panynj.gov/BayonneBridge.

> STATISTICS

Opened to traffic	November 15, 1931
Length of arch span	1,675 feet
Length of New Jersey viaduct	3,010 feet
Length of Staten Island viaduct	2,010 feet
Total length of elevated structure	6,695 feet
Total length of bridge	5,780 feet
Width of bridge	85 feet
Number of traffic lanes	4
Width of roadway	40 feet
Channel clearance of bridge at mid-span	151 feet*
Height of arch above water at crown	325 feet
Number of toll lanes	4**

* Channel clearance of bridge at mid-span will increase to 215 feet upon completion of "Raise the Roadway" Project.

** All toll lanes are equipped to accept E-ZPass.

For additional historical information and facts about the Bayonne Bridge and the "Raise the Roadway" Project, visit us online at www.panynj.gov/BayonneBridge.

For updates on lane closures and construction at the Bayonne Bridge, please subscribe to e-alerts at www.PAalerts.com, visit our website at www.panynj.gov/TrafficAdvisory, or call 1-800-221-9903.