



GOVERNOR MARIO M. CUOMO BRIDGE

OVERVIEW

The New York State Thruway Authority has replaced the Tappan Zee Bridge with a new 3.1-mile state-of-the-art, twin-span bridge across the Hudson River between Rockland and Westchester counties.



The \$3.98 billion Governor Mario M. Cuomo Bridge is one of the largest single design-build contracts for a bridge project in the United States. Located less than 20 miles north of New York City, the cable-stayed span crosses one of the widest parts of the river and is the largest bridge in New York State history.

Tappan Zee Constructors, LLC (TZC), a consortium of design, engineering and construction firms, designed and built the new bridge.

Each span of the new bridge now carries four lanes of traffic. Construction is continuing on a shared bicycle/walking path on the westbound span. The fully completed project will include shoulders and a dedicated bus lane on each span.

BENEFITS

The new bridge will carry eight general traffic lanes (four each on the westbound and eastbound spans), breakdown/emergency lanes, dedicated bus lanes, and include space for commuter rail in the future. The bridge is also designed so that major maintenance will not be necessary for at least 100 years.

The westbound span will also feature a 12-foot-wide shared-use bicycle and pedestrian path, which will include six overlooks — resting points that will reflect the rich culture and history of the Lower Hudson Valley. The path will open in 2019.



Project Budget

- \$3.98 Billion

Type of Bridge

- Cable-Stayed

Total Length

- 3.1 Miles

Twin Span Width

- 87 feet - South/Eastbound
- 96 feet - North/Westbound

Number of Lanes

- 8 General Traffic Lanes & Shoulders

Main Span Length

- 1,200 Feet

Main Span Towers

- 8 Total - 4 on Each Span
- 419 Feet Tall

Stay Cables

- 192 Total - 96 on Each Span
- 190 to 623 Feet Long

DESIGN FEATURES

The **cable-stayed main span** is supported by eight 419-foot towers, which stand at five-degree angles and feature a sleek, chamfered design. The iconic towers support 192 stay cables, which are made up of roughly 4,900 miles of steel strands.

The bridge's roadway is illuminated at night with **dark-sky compliant LED light fixtures** to reduce light pollution. The highly efficient system uses an estimated 75 percent less energy compared to traditional lighting technology.

The crossing is also equipped with aesthetic lighting fixtures which emphasize the distinct features of the bridge, including its concrete piers and cable-stayed main span, while respecting the scenic appearance of the Hudson Valley. The Thruway Authority uses changing light displays to mark special occasions and holidays.

INNOVATIVE CONSTRUCTION EFFORTS

TZC utilized **modular construction** to create large sections of the bridge's foundations, roadway and superstructure on-land. This allowed TZC to safely prepare massive segments of the bridge off-site ahead of time, with some steel sections measuring up to 410 feet in length.

TZC was able to install these bridge elements thanks to its largest crane, dubbed **I Lift NY**. This enormous crane has a 328-foot lift arm that is capable of raising up to 1,900 tons of material — the equivalent of 12 Statues of Liberty at once.

The extraordinary lifting power of I Lift NY helped shorten construction time by months from original estimates and reduced project costs by millions of dollars. The crane also helped dismantle and recycle the old Tappan Zee Bridge.

Other innovative equipment includes: TZC's **mobile concrete batch plants**, which supply the majority of the structure's concrete directly on the river; the **self-climbing jump forms** that rose along with construction efforts to create the iconic main span towers; the **protective bubble curtains** used to absorb the energy produced during pile driving; and the **synchronized jacks** used to lower football-field-length foundations into the Hudson River.


SUPPORT STRUCTURES

TZC is constructing two buildings at the Tarrytown landing: the Thruway Authority's new maintenance facility and a new State Police facility. The buildings' proximity to the bridge will facilitate access for personnel charged with maintenance, traffic operations and security.

TZC has also created a **new maintenance dock** parallel to the new bridge in South Nyack. The dock provides convenient access for Thruway Authority and emergency vessels near the new bridge.

To improve safety and mobility on the crossing, the Thruway Authority will track roadway and bridge conditions through a network of **advanced monitoring systems**, notifying staff of any disruptions and extreme weather conditions on the roadway. Motorists will be informed of accidents and closed lanes via **overhead electronic signage**, minimizing delays.

Routine and preventive maintenance work will also be efficiently scheduled through this state-of-the-art system. This vital communication network will make the bridge one of the most technologically advanced crossings in the United States when the project is fully complete.

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