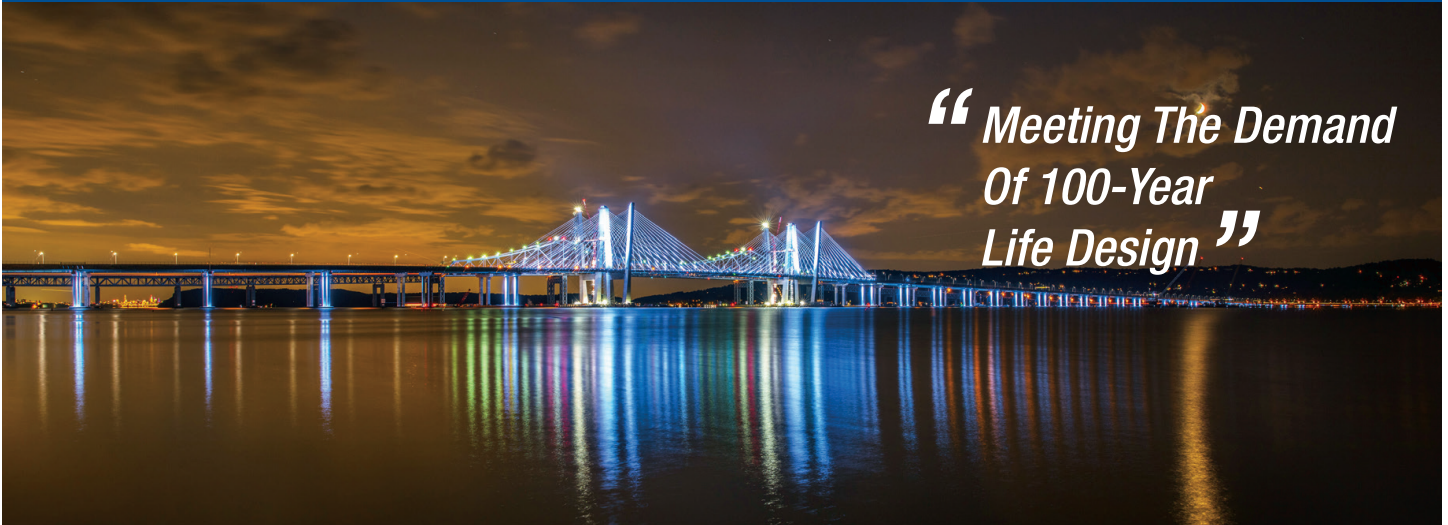




Tappan Zee Bridge Replacement Project

HAPCO DESIGNS AND MANUFACTURES A CUSTOM ALUMINUM POLE SOLUTION



**“ Meeting The Demand
Of 100-Year
Life Design ”**

All Photos Courtesy of New York State Thruway Authority

New York State Thruway Authority

Governor Mario M. Cuomo Bridge

(Replacing the original Tappan Zee Bridge)

Hudson River

Rockland and Westchester Counties,
New York

(25 miles north of NYC)

Companies Driven to Excellence Thrive on Complex Challenges.

As a pioneer in aluminum pole manufacturing with 60 plus years' experience, Hapco possesses the Engineering, R & D and Manufacturing expertise for projects requiring custom pole solutions. The nationally acclaimed Tappan Zee Bridge replacement was the perfect example of a project requiring innovative design, extensive testing, and unparalleled manufacturing capabilities. The custom 5-degree tilt, custom vibration dampening system, and 100-year design life criteria were a perfect fit for Hapco's pledge of "Better By Design", adding to our long history of proven performance.



Hapco Is Focused on Performance

Decades-Long Investment in R & D

Advanced Technical Engineering
Skill with In-Depth Metallurgical
Knowledge

State-Of-The-Art
Manufacturing Facilities

Dedicated Quality Assurance Systems

Highest Quality Aluminum Alloys
*(Superior Aesthetics/Near-Zero
Maintenance)*

Lifetime Warranty



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Background

Built across the Hudson river in the mid-1950's, the original Tappan Zee bridge was named for a local Indian tribe – Tappan – and the Dutch word for sea – Zee. When officially opened in December 1955, its three-mile length made it the longest bridge in the state of New York. The bridge was unique for its time, later featuring a seven-lane design incorporating a middle lane with a movable barrier. This design allowed eastbound and westbound traffic to be switched based on the prevalent morning and evening commuter direction, alleviating congestion in this quickly growing metropolitan area. Just twenty-five miles north of Midtown Manhattan, the bridge connected Rockland and Westchester Counties, serving as a vital artery for residents, commuters and commercial traffic between NYC and the suburbs of the lower Hudson Valley.

The Tappan Zee bridge was originally built with a 50-year design life and anticipated 100,000 vehicles per day. By the early 2000's, hundreds of millions of dollars had been spent to maintain and repair the deteriorating structure, and traffic was averaging nearly 140,000 vehicles per day. It was time to replace this iconic structure.

Opportunity

Plans for the \$3.98 Billion twin-span Governor Mario M. Cuomo Bridge project were approved in 2012, with construction on one of the largest public-works projects in the United States beginning in October 2013. Eight traffic lanes, four breakdown/emergency lanes, bus lanes, a bike and pedestrian path, and six scenic overlooks would be incorporated into a visually striking and recognizable landmark. Lighting poles for the project were a challenge. The project required a custom pole design that would meet the 100-year design life and "Buy American" criteria. Aesthetics were paramount, but at 139 feet above the river, both environmental and vibration issues from a bridge mounted application would have to be considered. A combination of Design, Engineering, R & D, and Manufacturing capabilities would be required for a turn-key solution.

Hapco Solution

Familiar with our 60 plus year history in aluminum pole manufacturing, industry-first Lifetime Warranty, and ability to proudly meet the "Buy American" initiative from our Abingdon, VA facility, the project contractor looked to Hapco in the early design phases of the project. Meeting vigorous AASHTO specifications, the pole design ultimately chosen contained a unique 5-degree tilt requiring a custom base and hours of testing in our in-house R & D lab. A custom vibration dampening system was also developed and tested to work in the angled pole. All of the poles were installed prior to the opening of it's second span in September, 2018, and will be admired by over 50 million vehicles a year...each year...for the next 100 years.

Hapco provides unsurpassed Engineering, R & D, and Manufacturing expertise for the most complex light pole projects.



Hapco's custom aluminum 5-degree tilt pole with custom vibration dampening system and 100-year design life criteria were a perfect fit for Hapco's pledge of "Better By Design"!



HAPCO

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