



Credit: New York State Thruway Authority

Tappan Zee Hudson River Crossing Project

New York State Department of Transportation and New York State Thruway Authority

Rockland and Westchester Counties, New York

Replacement of an aging bridge structure with a new bridge, featuring a shared-use path and infrastructure to accommodate future transit operations.

NOTABLE PRACTICES

☑ Environmental Justice Analysis

- Developed an environmental justice analysis for potential toll increases and subsequent traffic diversions.

☑ Multi-Modal Travel Considerations

- Incorporated infrastructure improvements into the bridge design to accommodate future transit services.
- Created new bicycle and pedestrian shared-use path.

☑ Meaningful Public Involvement

- Community outreach office and team reached thousands of students and community members.
- Public meetings held in locations accessible to public transit users.

In response, the New York State Department of Transportation (NYSDOT) and the New York State Thruway Authority (NYSTA) began to consider how to address the aging bridge and its heavy traffic volume. In 2002, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), along with NYSTA and Metro-North Commuter Railroad as project sponsors, filed a Notice of Intent (NOI) to prepare an Alternatives Analysis and an Environmental Impact Statement (EIS) for a project that would evaluate whether to replace or repair the aging Tappan Zee Bridge, and to consider the transit needs of the I-287 Corridor in Rockland and Westchester Counties. This project was known as the “Tappan Zee Bridge/I-287 Corridor Project.”

By 2009, the Alternatives Analysis and EIS found that rehabilitation was not reasonable, and bridge replacement was the safest, most cost-effective approach. However, financial constraints led FHWA, NYSTA, and NYSDOT to terminate the Tappan Zee Bridge/I-287 Corridor project in October 2011. A Final Environmental Impact Statement (FEIS) was not published. Subsequently, the project sponsors narrowed the scope and initiated the “Tappan Zee Hudson River Crossing Project” and revised the NOI in 2008 to consider the needs of the bridge but not the broader corridor or transit improvements, that were deemed not “reasonably foreseeable” at that time.



OVERVIEW

The original Tappan Zee Bridge opened to traffic in 1955 linking New York’s Rockland and Westchester Counties. The bridge is 16 miles north of New York City and is a vital Hudson River crossing point. By the late 1990s, the aging bridge reached the point in its lifespan when it needed major repair and reconstruction to meet safety, security, and mobility standards. Congestion had also significantly increased since the bridge’s construction: in 1956 about 18,000 vehicles crossed the Tappan Zee each day. By 1990, daily bridge traffic exceeded 112,000 vehicles.

While financial constraints limited the direct implementation of transit improvements for this project, multi-modal considerations were incorporated into the new bridge design and the July 2012 FEIS in order to “not preclude” future transit operations. The project also analyzed the potential impacts of toll increases and traffic diversion on environmental justice communities and included mitigation measures.



Figure 1. Map of project area. Credit: New York State Thruway Authority from Appendix C-1 of the FEIS.

Construction for the 3.1-mile, twin-span replacement bridge began in 2013. The Rockland-bound span of the bridge opened in 2017, followed by the Westchester-bound span in 2018. A shared-use path opened in 2020.

The total cost of the project was \$3.98 billion. NYSTA received a \$1.6 billion loan for the project through the U.S. Department of Transportation’s Transportation Infrastructure Financing and Innovation Act (TIFIA) program. At the time that it was awarded in 2013, it was the largest loan in the history of the program. Toll revenue was also used to fund the project.

ENVIRONMENTAL JUSTICE ANALYSIS

The July 2012 FEIS considered the impact of increased toll prices, including impacts on environmental justice (EJ) populations. The EJ analysis determined that the toll increase would not have disproportionately high and adverse effects on minority and low-income populations.

Analyzing the Impact of Traffic Diversions on Environmental Justice Communities

The analysis of potential vehicle diversions under the replacement bridge alternative with a toll increase found that toll increases were not expected to result in substantial trip diversions

through EJ communities. In general, projected diversions were determined to be minimal. Per the analysis, the highest resulting fractional increase in traffic would be by 3.3 percent in peak hour and daily traffic projected at Bear Mountain Bridge, the next crossing north of the Tappan Zee. The FEIS determined that because the toll increase was expected to result in minimal diversions to neighboring areas as well as minimal shifts in transit ridership, the diversions would not have any disproportionately high and adverse effects on EJ populations.

Mitigating Potential Adverse Impacts on Environmental Justice Communities

The FEIS used data from the Census Transportation Planning Products Program to determine the project’s impact on low-income individuals and estimated that only 1.23 percent of regular commuters on the bridge are low-income. However, the FEIS noted that for these low-income drivers, the increased toll prices would represent a higher proportion of their income than higher-income drivers. Also, those without a bank account or credit card as well as those with language barriers would have a more difficult time accessing the discounts offered to E-ZPass customers.

To mitigate these potential adverse impacts, NYSTA and NYSDOT committed to additional education and marketing efforts to expand the use of E-ZPass and other discount programs across minority and low-income communities. The FEIS documented that the offsetting benefits of E-ZPass discounts and transportation improvements are such that the project would not result in disproportionately high and adverse effects on EJ populations.

ENVIRONMENTAL ANALYSIS

For at least a decade, New York State considered multiple alternatives to address the needs of the aging Tappan Zee Bridge. Such alternatives included rehabilitation, tunnel, and single structure options. However, NYSDOT, NYSTA, and Metro-North Commuter Railroad ultimately determined that these alternatives were unreasonable as they would not meet the purpose and need of the project, which was to:

- 1) Ensure the long-term vitality of the Hudson River crossing.
- 2) Improve transportation operations and safety.
- 3) Maximize the public investment in a new Hudson River crossing.

The EIS was developed with prior concurrence from FHWA headquarters, which ensured there would not be any delays or major concerns regarding the National Environmental Policy Act (NEPA) decision.

In the July 2012 FEIS, the project sponsors presented only two alternatives: the replacement bridge alternative and the no-build alternative.

FHWA, NYSDOT, and NYSTA published the FEIS and Final Section 4(f) Evaluation for the Tappan Zee Hudson River Bridge Crossing Project in July 2012, followed by a Record of Decision (ROD) in September 2012.



MULTIMODAL TRAVEL CONSIDERATIONS

Transit considerations that were originally discussed in the larger Tappan Zee Bridge/I-287 Corridor Project were a major part of community and agency discussions about modernizing the transportation corridor and addressing the issues associated with the original Tappan Zee Bridge. Unfortunately, financial constraints excluded bus rapid transit and commuter rail service improvements from the narrower Tappan Zee Hudson River Crossing Project.

Incorporating Transit Infrastructure Into the Bridge Design

The project planners incorporated transit-related provisions into the Tappan Zee Hudson Crossing Project bridge design to enable potential future multimodal travel. These provisions included added width, a gap between structures, providing certain grades, and increased design loadings. Moreover, the bridge was built with the structural capacity to handle rail in the future. The FEIS ensures that the design of the bridge “maximize the public investment” while “not precluding” future transit services.

New Pedestrian and Cycling Path

The project includes a 12-foot-wide bicycle and pedestrian path. The shared-use path provides a new connection between communities on both sides of the Hudson River. The original Tappan Zee bridge did not have cycling or pedestrian elements.



Figure 2. The “Fish and Ships” overlook, alongside the shared-use path (blue). Credit: New York State Thruway Authority.

The shared-use path was included in the 2012 FEIS, but public input collected throughout the early construction process revealed public support for shared-use facilities (e.g., parking and restrooms). Because this was a new project element, FHWA, NYSDOT, and NYSTA conducted a separate environmental assessment (EA) to determine if significant adverse impacts would result from the proposed work or alter the conclusions identified in the FEIS. The agencies published the EA for the shared-use path facilities in February 2016, followed by FHWA’s Finding of No Significant Impact (FONSI) in June 2016.

Today, the path features overlooks artwork, 3.6 miles of trail, connections to local recreational resources such as the Esposito Trail, and visitor landings on both sides of the bridge. The addition of the shared-use path also benefits residents without access to a personal vehicle.



MEANINGFUL PUBLIC INVOLVEMENT

Public involvement was constant throughout the scoping, planning, environmental review, and construction processes. To advertise the public

hearings for the Tappan Zee Hudson River Crossing Project EIS, project proponents placed advertisements in five newspapers, including two newspapers serving environmental justice communities and published notices in Spanish. NYSTA and NYSDOT also compiled a mailing list of more than 5,000 individuals and organizations to distribute meeting information and project announcements. The agencies held public meetings in several locations and took specific actions to ensure that the meetings were accessible to public transit users.

Additionally, an educational outreach team for the project met with at least 75,000 students. The NYSTA project team opened physical community outreach centers in Nyack, NY and Tarrytown, NY and staffed them seven days a week until 2019.

Because the project area was along a significant navigation channel, NYSTA and NYSDOT had regular contact with the U.S. Coast Guard. Project planners included the commercial and recreational maritime communities as project stakeholders.



PROJECT OUTCOMES

Building a new Tappan Zee Bridge allowed NYSDOT and NYSTA to address the structural, operational, security, and capacity deficiencies of the previous bridge.

Although the Tappan Zee Hudson River Crossing Project did not directly include transit, the bridge has been designed to accommodate potential future multimodal improvements, which could be implemented as future studies are completed and funding becomes available. In doing so, the bridge's design was able to "maximize the public investment in the new crossing." Multimodal improvements have the potential to improve travel times for transit riders and vehicle drivers alike. The shared-use path also benefits those who favor non-motorized modes of travel, including cycling or walking.

The project will reduce idling and traffic congestion and improve roadway safety. The original bridge had seven lanes and no shoulders or emergency vehicle access; the new bridge has eight, wider general traffic lanes and

shoulders. It is designed to last 100 years before requiring any major maintenance.



FOR MORE INFORMATION, CONTACT

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RESOURCES

Tappan Zee Hudson River Crossing Project
FEIS Executive Summary:

<https://www.newnybridge.com/documents/feis/vol1/00-executive-summary.pdf>

Joint ROD and SEQRA Findings Statement:

<https://www.newnybridge.com/documents/rod/00record-of-decision.pdf>



PHOTO CREDITS

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