TAPPAN ZEE BRIDGE/I-287
ENVIRONMENTAL REVIEW

Tappan Zee Bridge/ I-287 Corridor

Scoping Update Packet

February 2008

Thruway Authority

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

MTA Metro-North Railroad

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TAPPAN ZEE BRIDGE/I-287
ENVIRONMENTAL REVIEW

SCOPING UPDATE COMMENT FORM

You are invited to comment on the Tappan Zee Bridge/I-287 Corridor Project and this Scoping Update Packet in the space below. Note that in compliance with NEPA and SAFETEA-LU Section 6002, public comments are being specifically requested on the included purpose and need (Section *3.0* Appendix *A*), range of alternatives (Section *4.0)* and coordination plan (Section *5.0* Appendix *B)*.

Name: _____

Address: _____

Email: _____

☐ **Please add my name to the Tappan Zee Bridge/I-287 Corridor Project Mailing list.**

Comments can be submitted in writing until March 31, 2008 to the address listed below:

Mr. Michael P. Anderson
NYSDOT
Tappan Zee Bridge/I-287 Corridor Project Director
660 White Plains Road, Suite 340
Tarrytown, NY 10591

Thruway Authority

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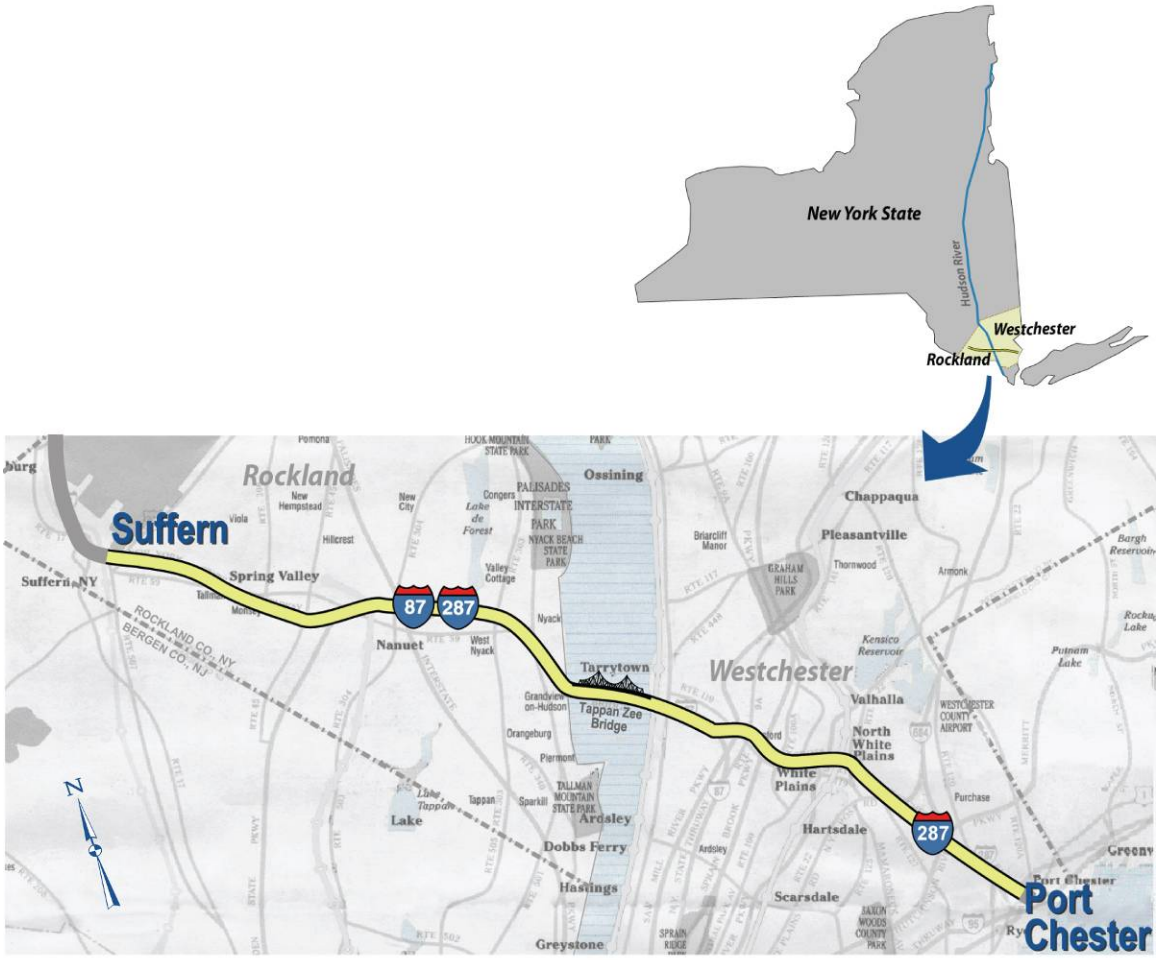
1. Introduction

1.1 Project Description

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) in cooperation with the New York State Department of Transportation (NYSDOT), the New York State Thruway Authority (NYSTA) and the Metro-North Railroad, a subsidiary of the Metropolitan Transportation Authority (MTA/MNR), are preparing an Environmental Impact Statement (EIS) for the Tappan Zee Bridge/I-287 Corridor in Rockland and Westchester Counties, NY. The EIS is being prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, and implemented by the Council on Environmental Quality (CEQ) regulations (40 CFR parts 1500-1508), the FTA/FHWA Environmental Impact regulations (23 CFR part 771), and the FTA/FHWA Statewide Planning/Metropolitan Planning regulations (23 CFR part 450), as well as the requirements of the Safe, Accountable, Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Section 6002. The EIS and the environmental review process will also satisfy requirements of the New York State Environmental Quality Review Act (SEQR).

The EIS will examine the series of proposed transportation improvements within the Tappan Zee Bridge/I-287 Corridor (the Corridor). The Corridor extends 30 miles from the I-287/I-87 interchange in Suffern, New York to the I-287/I-95 Interchange in Port Chester, New York and includes the Tappan Zee Bridge. The purpose of the EIS is to evaluate multimodal highway and transit alternatives that will address the transportation and mobility needs of the Tappan Zee Bridge/I-287 Corridor. Additionally, the structural and security needs of the Tappan Zee Bridge will be evaluated as well as other existing highway improvement needs within the Corridor. This EIS will present a tiered analysis: a transit analysis (Tier 1) and a highway and bridge analysis (Tier 2). See Sections 1.2, 1.4 and 1.5 for further discussion on the NEPA document organization and details about how information will be organized within the EIS.



Tappan Zee Bridge – I 287 Corridor

Figure 1-1

1.2 Project Background

On December 23, 2002, the Notice of Intent (NOI) to prepare an Alternatives Analysis (AA) and an Environmental Impact Statement (EIS) for the I-287 Corridor between Suffern, New York (Rockland County) and Port Chester, New York (Westchester County) was published in the Federal Register (Volume 67, No. 246). While extensive scoping, AA and public involvement activity has been conducted since publication of the original NOI, due to NYSDOT's increased involvement and the new provisions of the recently enacted SAFETEA-LU (enacted in August 2005), it has been deemed appropriate by the lead agencies to prepare a revised NOI at this time.

The purpose of the revised NOI is to define the realignment of project management including the addition of NYSDOT to the project team, acknowledge adherence to the provisions of SAFETEA-LU Section 6002, and update interested parties regarding the plan to prepare an EIS. The revised NOI will also

present the opportunity for the public and agencies to review and comment on the following documents: the Purpose and Need, the Range of Alternatives, the Public and Agency Coordination Plan and evaluation methodologies.

The revised NOI, issued in February 2008, provide the public with updated information on the proposed project, purpose and need and range of alternatives. As part of the provisions of SAFETEA-LU (Section 6002), the public will also be re-invited to participate in the NEPA process, including providing comments on the refined scope of the EIS proposed in this NOI. Scoping Update meetings will be scheduled that will offer information on the Project and its new direction.

The Project team has also refined the environmental review process since the original NOI was published in 2002. The Tappan Zee Bridge/I-287 Corridor project is a multimodal project with proposed bridge, highway and transit improvements. In an effort to expedite the delivery of integrated, multi-modal transportation improvements in way that allows each modal element to advance at its own appropriate pace, the EIS will be conducted with a tiered analysis approach. The EIS will conduct two levels of analysis:

- Tier 1 analysis findings on the transit mode and alignment associated with the preferred alternative.
- Tier 2 analysis findings on the bridge facilities and transit elements from the Tier 1 analysis, approaches and associated highway network improvements within the Corridor associated with the preferred alternative.

This process will allow the project to focus the environmental review process and progress work that has been conducted to date. For more information on this process, see Section 1.5.

1.3 Scoping

The Council on Environmental Quality (CEQ) has provided regulations and guidance for implementing the National Environmental Policy Act of 1969 (NEPA). They identify the scoping process as an early and open process for determining the range of issues to be addressed and for identifying significant issues related to the proposed action. One of the functions of scoping is to identify the public involvement/public hearing process for the Federal and State agencies that will ultimately act upon the proposed action. Whenever possible these processes have been and will continue to be integrated into the EIS process so that joint public meetings and hearings can be conducted, eliminating duplication and significantly reducing the time and cost of processing an EIS and the subsequent approvals. At the conclusion of the EIS, the public will be more informed and aware of all impacts and mitigation of a proposed action and have an understanding of the decision making process.

In general, the initiation of an EIS and the scoping process begins with the publication of a NOI to prepare an EIS in the Federal Register. However, for the Tappan Zee Bridge/I-287 Project the EIS remains in development while the revised NOI was published in the Federal Register. The next step is a scoping update process where a range of alternatives will be identified along with potential issues to be evaluated in the EIS. Agency and public comments will be solicited in response to the scoping information and used to identify reasonable alternatives and issues to be considered in the preparation of the EIS. This scoping update process builds upon the original scoping meetings held in early 2003.

The scoping process for this project originally began on December 23, 2002 with the initial publication of the NOI. Scoping meetings were held and the information that was gathered was utilized to develop potential alternatives and identify potential impacts. While the project activities advanced, SAFETEA-LU was signed into law on August 10, 2005, refining the environmental review process under NEPA and increasing the opportunities for public involvement. Due to the regional importance of the project, NYSDOT increased its involvement in the project, with its role growing to become the project director in

May 2007 with the formal adoption of a Memorandum of Agreement among the three state agencies. Due to these changes, FHWA and FTA requested that the project reissue the NOI formally recognizing the role of NYSDOT and officially complying with the SAFETEA-LU guidance for current activities and future work.

The issuance of a revised NOI in February 2008 has provided an opportunity for additional public comment on the project as part of the Scoping Update Process. As part of this process and the SAFETEA-LU 6002 requirements, the Project is providing the opportunity for comment on the following specific items:

- The Scoping Update Packet
- Purpose and Need: Section 3.0 Appendix A;
- Range of Alternatives: Section 4.0; and
- Coordination Plan: Section 5.0 Appendix B.

In addition, these documents and items are being provided to Federal, State, and local agencies and Native American tribes with jurisdiction or the potential to be impacted by the project for their review and comment. The Scoping Update Packet is intended to inform participants of the project and the potential features planned for consideration within the EIS.

Three additional public scoping update meetings will be conducted one each in Westchester, Rockland and Orange Counties, to solicit additional public comments on the scope of the EIS. Each meeting will run from 4:00 to 9:00 p.m. and consist of an informal open house setting and two formal presentations. Formal presentations will be made at 5:00 p.m. and again at 7:00 p.m. After each presentation, the public will be provided the opportunity to comment. Those wishing to speak must sign up by either 5:30 p.m. or 7:30 p.m., respectively. A court reporter will be available to record the formal meeting and public comments. The public meetings will be held in the following locations:

- *Westchester County Public Scoping Update Meeting:* Tuesday, February 26, 2008, The Performing Arts Center, Purchase College, State University of New York, 735 Anderson Hill Road, Purchase, NY 10577.

- *Orange County Public Scoping Update Meeting:* Wednesday, February 27, 2008, Orange-Ulster BOCES Campus, 53 Gibson Road, Goshen, NY 10924

- *Rockland County Public Scoping Update Meeting:* Thursday, February 28, 2008, The Palisades Center, 1000 Palisades Center Drive, West Nyack, NY 10994.

Oral and written comments will be accepted during the Public Scoping Update Meetings. Written comments will also be accepted until March 31, 2008 and can be submitted to

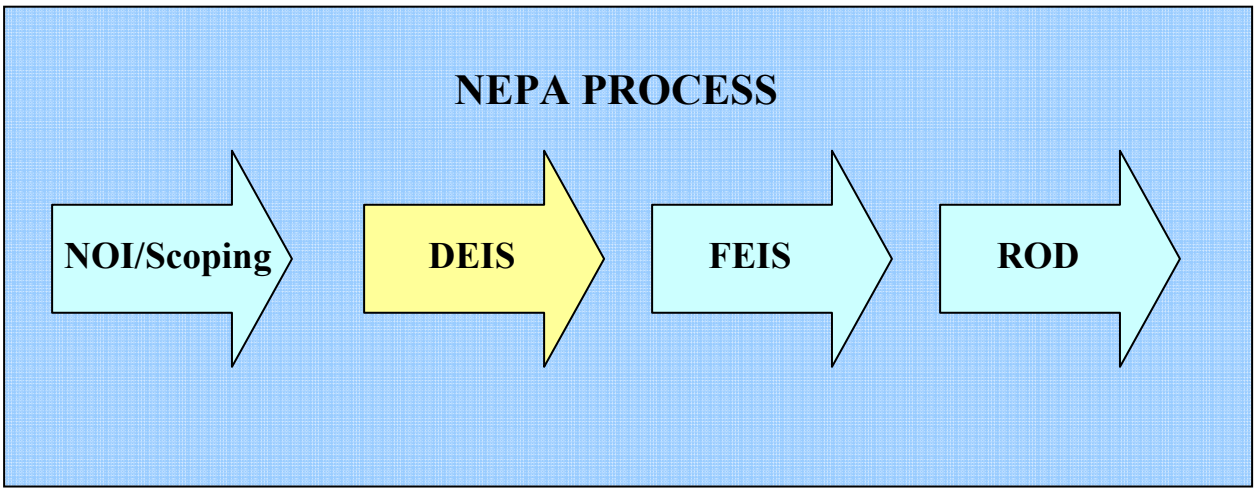
Mr. Michael P. Anderson
NYSDOT
Tappan Zee Bridge/I-287 Corridor Project Director
660 White Plains Road
Tarrytown, NY 10591

After March 31, 2008 the formal comment period on the scoping process will be closed, although public involvement will continue throughout the duration of the EIS process. At the conclusion of the scoping process, the Project team will develop a Scoping Summary Report that will outline the alternatives that will undergo analysis in the EIS. See Section 7.0 for additional ways that the public is involved on the Tappan Zee Bridge/I-287 Corridor Project or Sections 1.2, 1.4 and 1.5 for a further explanation of the NEPA process.

1.4 NEPA Requirements and Procedures

The Project EIS will be prepared in accordance with the most recent NEPA regulations and guidelines. The commencement of the project through to the Final EIS (FEIS) requires the following procedures, which will be incorporated into the EIS schedule and process:

- Commencement of the EIS begins when the publication of the NOI to prepare an EIS in the Federal Register. The local project agencies will also publish notices in the local papers.
- At the completion of the alternatives and environmental analysis, the DEIS will be filed. They will then publish a Notice of Availability in the Federal Register. The local project agencies will also publish notices in the local papers.
- The DEIS will be available to the public at least 30 days prior to the public hearing. SAFETEA-LU stipulates that the public comment period not exceed 60 days unless a different period is agreed to by the lead agencies, project sponsors and participating agencies. As per NEPA and SAFETEA-LU guidelines, a public hearing will be held. The DEIS, including the details of the preferred alternative, will be circulated to all parties interested or having jurisdiction by law over the proposed action.
- At the conclusion of the DEIS circulation and comment period, the project sponsors will review the comments and refine the document to produce a FEIS. The FEIS will provide additional detail on design, impacts and mitigation, and present mitigation commitments where applicable. The FEIS will serve as the basis for federal environmental findings and determinations needed to conclude the environmental review process through the issuance of a Record of Decision (ROD).



1.5 NEPA Document and Tiered Analysis

As discussed in the project background section, several issues have emerged that warrant refinement of the environmental review process. Traditionally, transportation projects prepare one NEPA analysis which includes the disclosure of the impacts and mitigation measures for the proposed alternatives. However, in accordance with NEPA and SEQR regulations, the Project sponsors have decided to prepare the EIS with two tiers of analysis.

According to FHWA, tiering is defined as follows:

> *Tiering allows project sponsors to conduct the planning and NEPA activities for large transportation projects in two phases: a Tier 1 Analysis addresses broad, overall corridor issues, such as general location, mode choice and land use impacts and a Tier 2 Analysis focuses on site-specific impacts, costs and mitigation measures. The first tier*

usually results in a NEPA document with the appropriate level of detail for corridor-level decisions. Second tier studies result in traditional project-level environmental documents.

Tier 1 Analysis

Address broad, overall corridor issues such as:

- General Location
- Alignment
- Mode type

Tier 2 Analysis

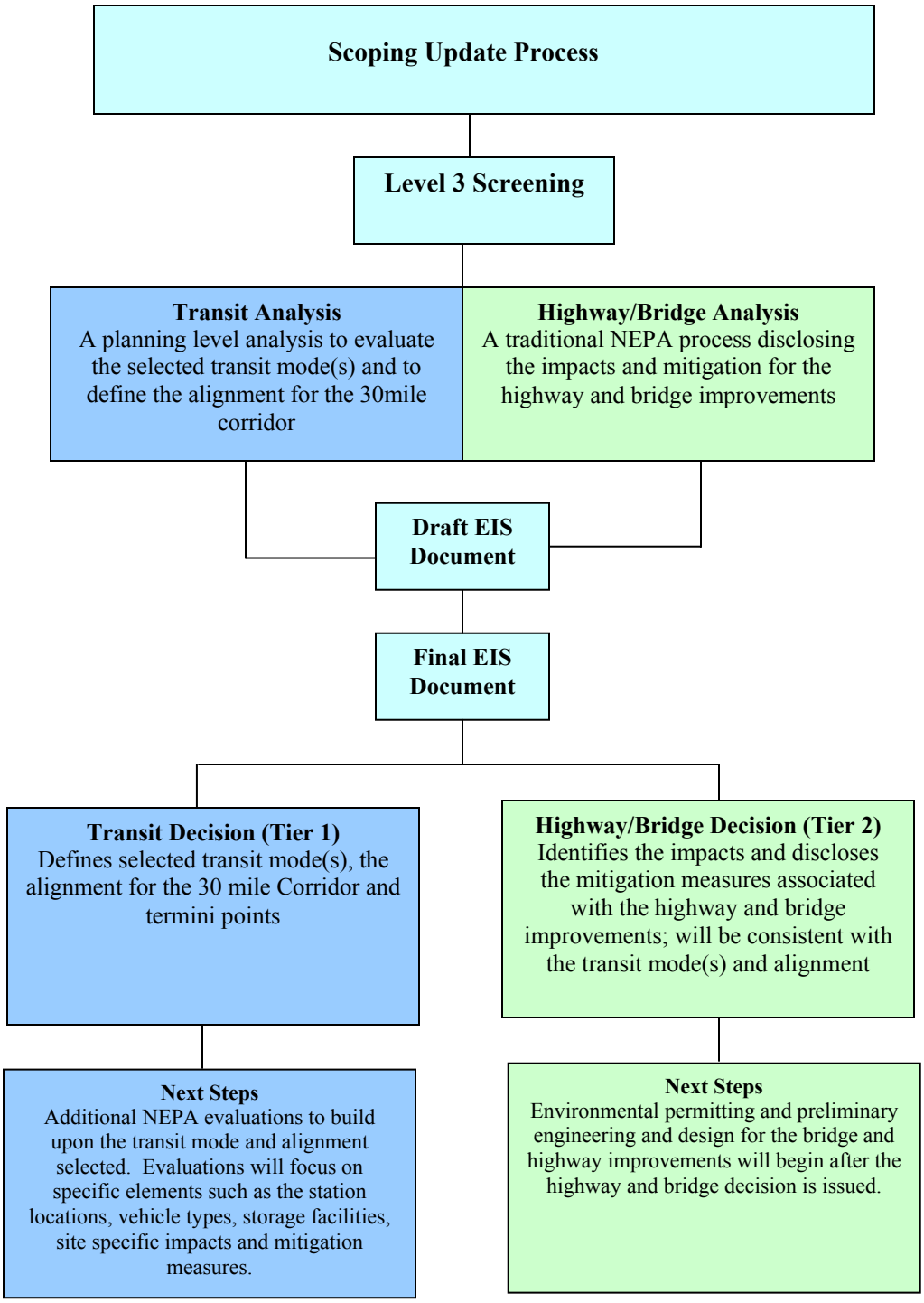
Address:

- Site Specific Impacts
- Cost and Mitigation measures
- Detailed analysis

The proposed tiering approach will allow the joint lead agencies to focus on both broad overall corridor issues in a Tier 1 transit analysis of general alignment and mode type while simultaneously assessing site specific impacts, costs and mitigation measures in a Tier 2 bridge and highway analysis. The scope of analysis in the Tier 1 and Tier 2 will be appropriate to the level of detail necessary to make informed decisions and will receive input from the public and reviewing agencies. The intent of the joint lead agencies is for the Tier 1 and Tier 2 analyses to be developed concurrently in order to maximize the efficiencies and potential for multimodal solutions.

The Tier 1 transit analysis will provide the basis for a corridor level decision on transit mode(s), alignment(s), and logical termini within the Corridor and sufficient detail of impact assessments and preliminary engineering to allow the Tier 2 highway and bridge elements to proceed to final design and construction. Because the transportation needs of the corridor require a multimodal solution, the highway, bridge, and transit elements are intricately tied to one another and require iterative and concurrent development, analysis and consideration up to the decision on mode and alignment. Once the transit mode and alignment decisions are made, the analysis can focus on the needs of the corridor which includes the structural needs of the existing Tappan Zee Bridge and associated highway network, while preserving the transit corridor within the existing right of way. It is anticipated that a subsequent NEPA action will address station locations, vehicle types, storage facilities, site specific impacts and mitigation measures.

The Tappan Zee Bridge/I-287 Corridor Environmental Process



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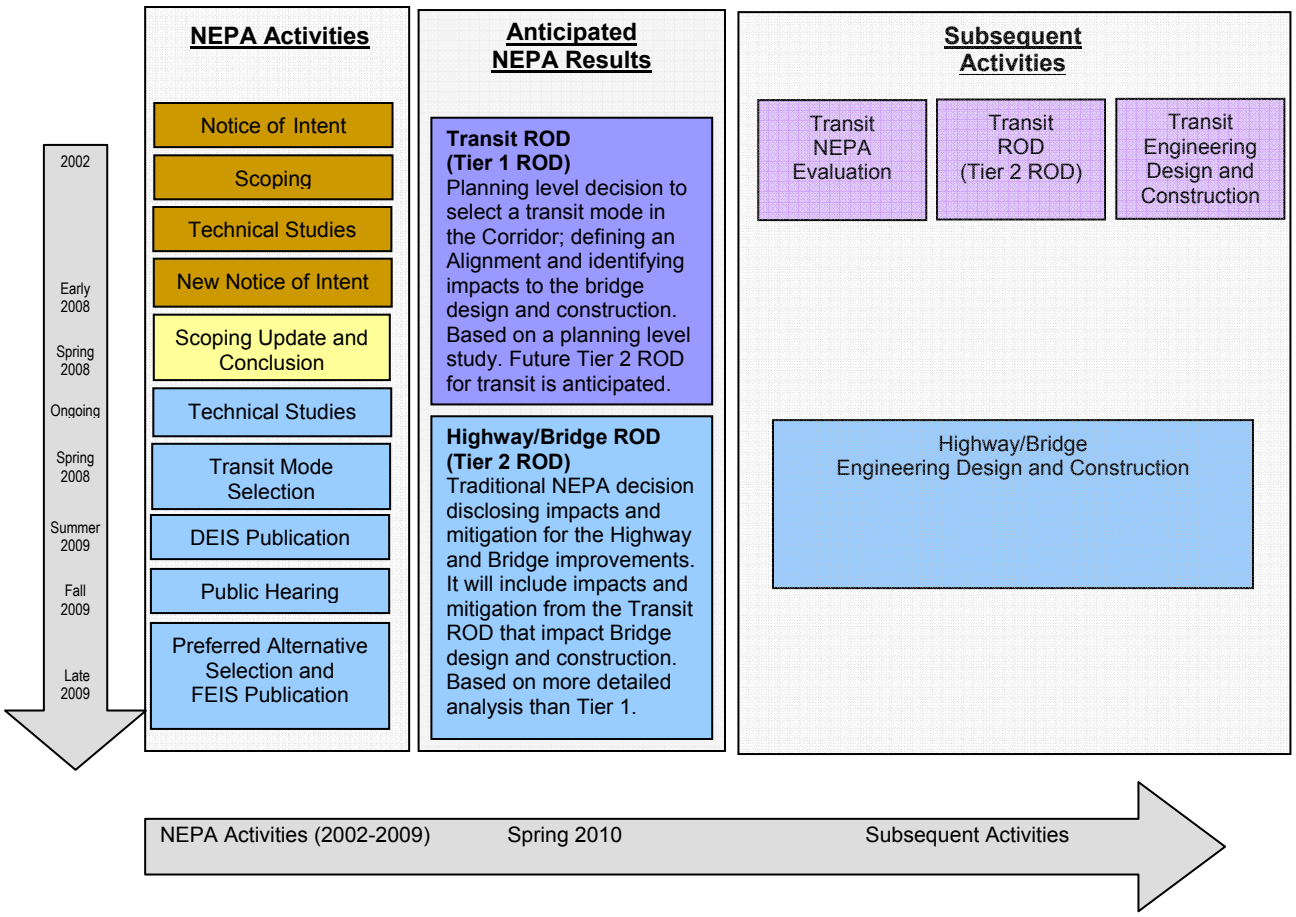
The following graphic identifies current work efforts within NEPA Activities and future work items under Anticipated NEPA Results and Subsequent Activities.

Tappan Zee Bridge/I-287 NEPA Timeline



2. Study Overview

2.1 Previous Study Efforts

Over the years, the Corridor has been the subject of numerous studies and transportation improvements. Improvements that have been made to the Tappan Zee Bridge include the installation of a movable barrier that allows operation of a seven-lane cross section with four lanes in the peak direction, electronic toll collection, and variable pricing for commercial vehicles. Corridor highway improvements include a number of lane additions and other roadway improvements in Rockland County east of Interchange 11 and modifications to the Spring Valley toll barrier. In Westchester improvements include the reconstruction/reconfiguration of I-87/I-287 Interchange 8 and other safety and operational roadway improvements on I-287. Transit improvements include adding express bus services on I-87/I-287, feeder bus service across the river to the Tarrytown train station (where passengers bound for Manhattan can transfer to Metro-North's Hudson Line), ferry service between the Ossining train station and Haverstraw, and the opening of park-and-ride lots in Rockland County. Despite the many improvements that have been implemented, congestion in the corridor has grown steadily and the aging bridge structure has reached the point where major reconstruction is needed just to sustain this vital link in the transportation system.

The most recent study of the Corridor was the Long Term Needs Assessment and Alternatives Analysis (April 2000), which was initiated by the Governors I-287 Task Force. The Long Term Needs Assessment and Alternatives Analysis report concluded that while there was no single preferred solution for addressing the transportation needs in the corridor, both a short-term aggressive Transportation Demand Management (TDM) program and longer-term capital improvements are needed. All of the long-term alternatives evaluated by the Task Force called for replacement of the Tappan Zee Bridge because it was concluded that rehabilitation of the existing structure would be highly disruptive, cost an estimated $1.1 billion, and not result in mobility enhancements or meaningful congestion relief. The Task Force further concluded that offering transit as a viable alternative travel option to the single occupant auto would enhance greatly the corridors people-handling capacity.

On November 28, 2000, NYSTA and MTA/MNR announced that an EIS would be undertaken to identify and evaluate alternatives to address the mobility needs of the I-287 Corridor as well as the structural and safety needs of the Tappan Zee Bridge. The alternatives contained in the I-287 Task Force report, as well as those suggested by elected officials, transportation and environmental groups, community groups, and the public, are all being considered during the current environmental process.

As part of the Alternative Analysis Report and initial environmental process, two cycles of alternative screening, Level 1 and Level 2, were conducted. In Level 1 screening, a "long list" of approximately 150 alternative elements was identified, analyzed, and evaluated according to a set of selection criteria. The key criteria used in the screening process included corridor mobility, projected ridership, cost effectiveness, operational aspects, capital and operating/maintenance costs, engineering and constructability considerations, and environmental impacts. These key criteria were developed through a comprehensive program of public outreach, review of previous studies, and recommendations from various agencies and public officials, and were grouped into four broad categories: travel demand management (TDM) and transportation system management (TSM); new/improved transit services; corridor improvements; and Hudson River crossing improvements. The 72 alternative elements that survived Level 1 screening were combined into 16 corridor-wide scenarios that represented combinations of the elements that met the goals and objectives of the project for TDM/TSM, highway, transit and river crossing options as follows:

- No Build Alternative

- Rehabilitation of the bridge with TDM/TSM measures.
- A highway improvement option with a replacement bridge.
- Seven transit single mode scenarios consisting of full corridor bus rapid transit (BRT), light rail transit (LRT), or commuter rail transit (CRT) options along with a variety of river crossing options.
- Six multi-modal alternatives that combined various transit elements with a variety of river crossing and highway improvement options.

In order to implement the Level 2 screening process, it was necessary to develop the scenarios in sufficient detail to permit the necessary transportation, engineering, environmental, and cost analyses associated with the Level 2 screening process. This involved developing conceptual designs for highway, bridge, and transit elements; developing conceptual, station locations, and service plans for those scenarios with transit components; and extensive computer modeling to forecast future travel demand using the New York Metropolitan Transportation Council's Best Practice Model (BPM). The BPM was the key planning tool for the study and provided year 2025 (*Alternatives Analysis Report,* January 2006) estimates of vehicular traffic and transit ridership in the study corridor.

After the conclusion of the Level 1 and 2 screening process several options among them a highway/rail tunnel were eliminated due to not meeting Level 1 and Level 2 criteria.

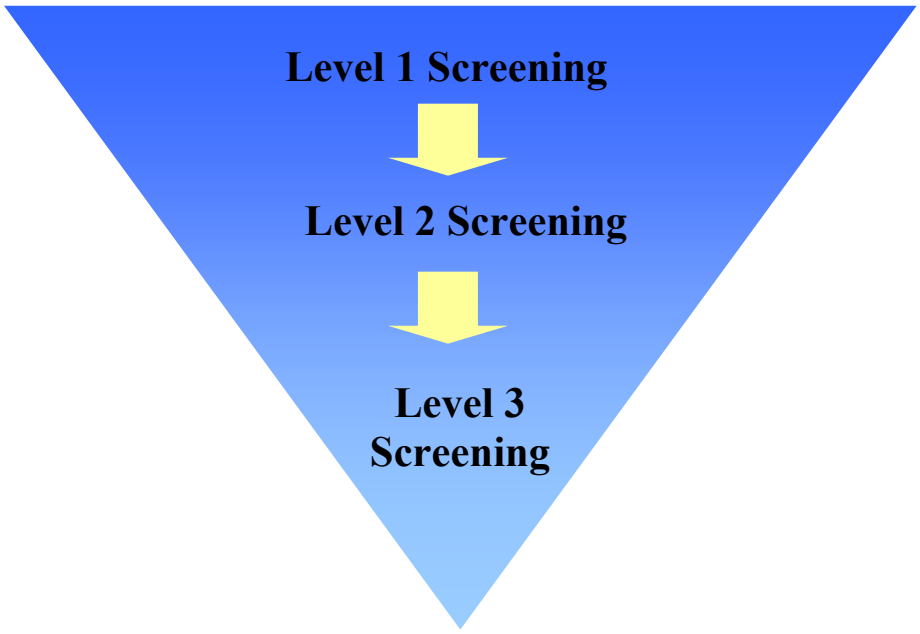
A variety of technical studies were conducted during this process on topics such as the need for climbing lanes, auxiliary lanes, high occupancy vehicle lanes (HOV), transit mode options and alignments, and river crossing options. One of the most important findings outlined in the Long Term Needs Assessment and Alternatives Analysis report was that traffic forecasts clearly demonstrated a demand for travel capacity in the corridor that cannot be accommodated by highway improvements alone. The need to include transit improvements in a dedicated right-of-way across the corridor was demonstrated. Level 2 screening identified six alternatives:

- No Build Alternative
- A Rehabilitated Bridge with TDM and TSM measures
- Full Corridor BRT with a new Bridge and highway improvements in Rockland County
- Full Corridor CRT with a new Bridge and highway improvements in Rockland County
- Manhattan Bound CRT with LRT in Westchester County, a new Bridge and highway improvements in Rockland County
- Manhattan bound CRT with BRT in Westchester County, a new Bridge and highway improvements in Rockland County

As the study progressed and more information was obtained, Project sponsors initiated a third level of screening. The Level 3 screening will involve:

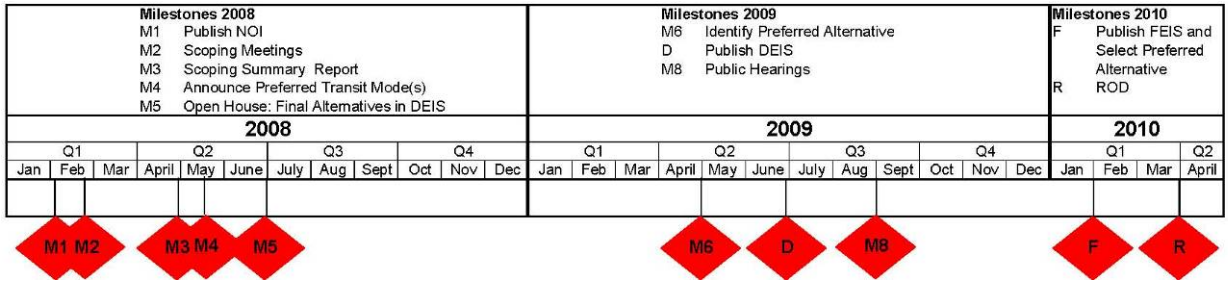
- Rehabilitation or replacement of the Tappan Zee Bridge decision,
- Transit Mode, and
- Finalization of the assessment methodologies to be utilized in the DEIS.

Decisions are anticipated on each of these topics within the next six months and will be subject to public and agency comment and review. A more detailed description of the Level 3 screening process and criteria can be found in Section 4.0 and Appendix C and D.



2.2 Schedule

A draft project milestone schedule has been developed and is provided below for review. Note that this schedule only applies to the initial EIS for the bridge and highway improvements (Tier 2) and transit mode(s) and alignment selection (Tier 1).



Key Milestones include:

- Announcement of the Preferred Transit Mode is anticipated in May 2008,
- Publication of the DEIS is anticipated in June 2009,
- Public Hearings for the DEIS is anticipated in September 2009,
- Publication of the FEIS is anticipated in February 2010, and
- Publication of the Record of Decision is anticipated in April 2010.

3. Purpose and Need

3.1 Purpose and Need Comment Process

The Purpose and Need of a project traditionally tells the story of the transportation problem so that appropriate actions can be proposed and evaluated as to how they address that problem. The Purpose and Need statement becomes a chapter in the NEPA or EIS document. On the Tappan Zee Bridge/I-287 Corridor Project, the Purpose and Need is an evolving document and it is anticipated that public and agency comments will lead to further revisions. As such, the Purpose and Need is provided within Appendix A for public and agency review and comment. Note that under SAFETEA-LU 6002, the Purpose and Need is an element for which opportunity must be provided to the public to comment. Comments will be accepted on the Purpose and Need through the conclusion of the formal comment period established as part of the scoping update process. The revised Purpose and Need will be published as part of the DEIS. During the public hearings for the DEIS, the public and agencies will also have the opportunity to comment on the content.

3.2 Goals and Objectives

The following needs have been identified for the Corridor:

- Preserve the existing river crossing as a vital link in the regional and national transportation network.
- Provide a river crossing that has structural integrity, meets current design criteria and standards and accommodates transit.
- Improve highway safety, mobility, and capacity throughout the Corridor.
- Improve transit mobility and capacity throughout the Corridor and travel connections to the existing north-south and east-west transit network.

The following Goals and Objectives have been identified for the Project:

Improve the mobility of people, goods and services for travel markets served by the Tappan Zee/I-287 Corridor

- Reduce traffic congestion levels
- Improve travel times for local trips
- Improve travel times for regional trips
- Provide modal travel alternatives not subject to roadway congestion
- Increase the share of travel demand accommodated by transit and ridesharing
- Provide a non-motorized means of travel, such as bicycle and pedestrian, across the Hudson River

Maximize the flexibility and adaptability of new transportation infrastructure to accommodate changing long-term demand

- Maximize ability to accommodate increases in travel demand
- Minimize constraints to serving future travel patterns and markets

Maintain and preserve vital elements of the transportation infrastructure

- Assure that the Corridor's transportation infrastructure meets applicable standards for structural design and integrity

Improve the safety and security of the transportation system

- Reduce motor vehicle accident severity and rates
- Improve roadway geometrics to current standards
- Improve the likelihood that the Bridge would withstand a severe natural or manmade event.

Avoid, minimize and or mitigate any significant adverse environmental impacts caused by feasible and prudent corridor improvements

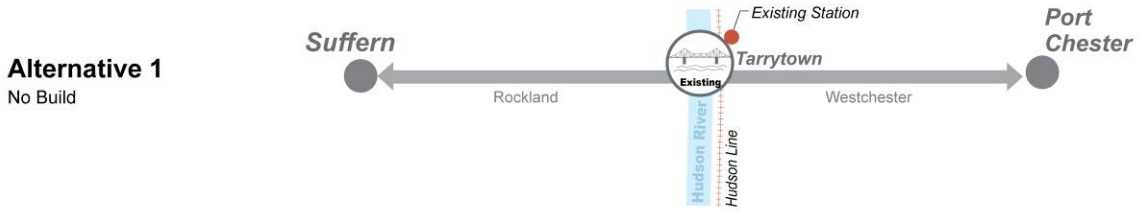
- Minimize community disruption, displacements, and relocations; as well as adverse impacts to public parks, visual resources and aesthetics resulting from mobility improvements in the Corridor
- Implement mitigation measures that are feasible, constructible, innovative, sustainable, cost-effective and that address regulatory requirements.

4. Range of Alternatives

The range of alternatives of a project identifies the reasonable alternatives that will be evaluated in the EIS. As the process proceeds, alternatives will be evaluated relative to the screening criteria and ineffective alternatives can be eliminated based on performance as relates to those criteria and the goals and objectives. These alternatives include a variety of options for meeting the goals and objectives of the Project. Each alternative along with the No Build will be evaluated for transportation, environmental, social and economic impacts. The following section describes the proposed alternatives. Note that under SAFETEA-LU 6002, the range of alternatives is one of the elements for which opportunity for public and agency comment and review must be provided. Comments will be accepted on the range of alternatives through the conclusion of the formal comment period established as part of the scoping update process. The revised range of alternatives will be published as part of the DEIS. During the public hearings for the DEIS, the public and agencies will also have the opportunity to comment on the content.

4.1 No Build Alternative

Consistent with NEPA and SEQR requirements, a No Build Alternative will be analyzed in the EIS. There are several key components of the No Build Alternative. The first includes the maintenance of the bridge structure and highway to avoid unacceptable levels of deterioration that would lead to operational and safety deficiencies. Second, the No Build would include the proposed projects listed in the Transportation Improvement Program (FY 2008-2012), including highway improvements in Westchester County. The potential impacts of this alternative were studied in the AA Report, which determined that the No Build Scenario would not meet the goals and objectives established for the Project.



4.2 Mode Definitions

The following three modes are being evaluated for the Tappan Zee Bridge/I-287 Corridor: Bus Rapid Transit (BRT), Commuter Rail Transit (CRT) and Light Rail Transit (LRT). A brief description of each mode as proposed within the Corridor is provided below.

Bus Rapid Transit
BRT is a limited stop, rapid bus service that operates on an exclusive busway, high-occupancy vehicle lanes, and exclusive bus lanes on local arterials. An exclusive busway is a barrier-separated facility in which unauthorized vehicles cannot enter; it is only accessible to buses. An exclusive bus lane is a dedicated lane on a local arterial and does not have a barrier separation. Vehicles could enter a dedicated bus lane, if warranted, as there is no physical barrier. BRT routes typically operate along a main trunk line, with service every 5 to 10 minutes during peak periods. Stations are similar to rail stations with level boarding from the platform and can have rapid boarding systems such as multiple doors (also similar to rail). BRT utilizes intelligent transportation system technology, transit signal priority, convenient and

rapid fare collection, frequent service and integration with the land use in order to enhance the bus system performance.

Commuter Rail Transit
CRT generally connects suburban communities with the central business district. Trains are typically powered by diesel or electricity. Stations are typically several miles apart and speeds can reach up to 80 miles an hour. Within the Corridor, commuter rail service currently operates on the Port Jervis Line, Pascack Valley Line, Hudson Line, Harlem Line and New Haven Line.

Light Rail Transit
LRT is a passenger rail system operating along a grade separated fixed rail right-of-way or in a street right-of-way adjacent to or shared with traffic. Systems are generally single or multiple car trains with station level or street level boarding capabilities. LRT is more flexible than CRT as it can travel through city streets serving neighborhoods more directly.

4.3 The Build Alternatives

The following original five build alternatives from the Level 2 screening process will be evaluated:

- Alternative 2 – A Bridge Rehabilitation with Transportation Demand Measures (TDM)/Transportation System Management (TSM) Measures
- Alternative 3 – Full Corridor BRT with a new Bridge and Highway Improvements in Rockland
- Alternative 4A – Full Corridor CRT with a new Bridge and Highway Improvements in Rockland
- Alternative 4B – Manhattan-bound CRT with LRT in Westchester County, a new Bridge, and Highway Improvements in Rockland
- Alternative 4C – Manhattan-bound CRT with BRT in Westchester County, a new Bridge, and Highway Improvements in Rockland,

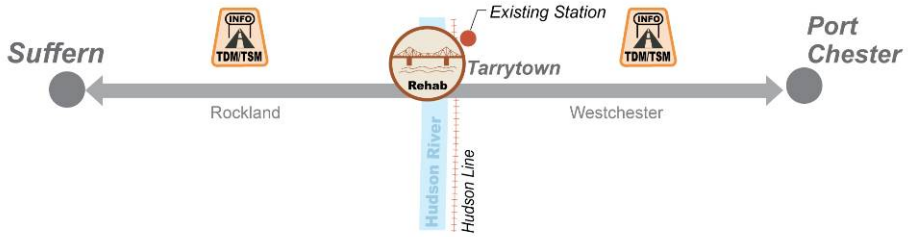
In addition, variations/enhancements of the above alternatives have been developed based on comments received from the public and other studies conducted throughout the environmental review process. These include: Option 3A (enhancement of Alternative 3), Option 3B (variation of Option 3A) and Option 4D (variation of Alternative 4C). A brief description of each alternative and option as proposed within the Corridor is provided below.

The build alternatives 3, 4A, 4B, and 4C include a number of common elements. The fundamental differences between the alternatives are the transit modes. The common elements include the following:

- **Highway:** Six general purpose lanes, two HOV lanes, westbound climbing lane from the Tappan Zee Bridge to Interchange 14A and a new eastbound climbing lane from Interchange 12 to 11 in Rockland County.
- **TDM/TSM Measures:** Potential TDM/TSM measures include ramp metering and congestion pricing along with proposed projects for the Corridor included in the TIP 2008-2012.
- **River Crossing:** A River Crossing with two HOV lanes, eight general purpose lanes, shoulders and a full-length pedestrian/bicycle path linking Rockland and Westchester.

Alternative 2 – Bridge Rehabilitation with TDM/TSM Measures
The bridge would be retained and structurally rehabilitated to include the retrofit measures necessary to bring the bridge into compliance with the current seismic criteria. However, the existing conditions such as narrow lanes, no shoulders, and the movable barrier for the seven-lane bridge would remain. TDM/TSM measures such as ramp metering and congestion pricing along with projects in the TIP 2008-2012 will also be included in this alternative.

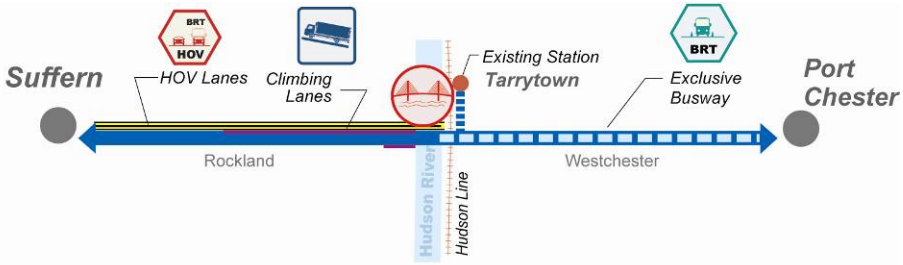
Alternative 2
Bridge Rehab



Alternative 3 – Full Corridor BRT with New Bridge and Highway Improvements in Rockland

The transit component of Alternative 3 includes BRT between Suffern and Port Chester with connections to the Tarrytown Station. Buses would use HOV lanes in Rockland County and a barrier-separated facility (exclusive busway) in portions of Westchester County (alongside I-87/I-287) and exclusive bus lanes on Route 119 in Tarrytown and White Plains. Service connections would be possible to the Port Jervis, Pascack Valley, Harlem, and New Haven Lines.

Alternative 3
Full Corridor BRT

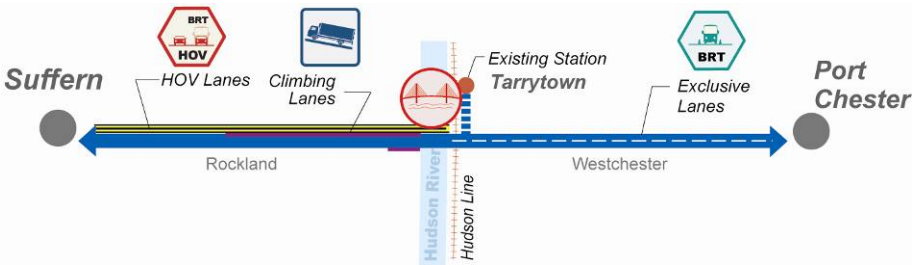


Option 3A – Full Corridor BRT

Option 3A is an enhancement of original Alternative 3 as referenced in the *Draft Alternative Analysis for Bus Rapid Transit in Westchester County Report*. Option 3A would provide BRT service between Suffern and Port Chester. The alignment provides a trunk route primarily along I-287 that is intended to operate like a rail system. The trunk would extend from Suffern to Port Chester connecting the New Jersey Transit Suffern Station to the Port Chester New Haven Line Station. In Rockland County, the BRT trunk line would operate on a section of the Piermont Railroad right-of-way in Suffern and in HOV lanes within the I-287 right-of-way. Through Westchester County, the BRT trunk line would operate in a combination of exclusive busways and exclusive bus lanes.

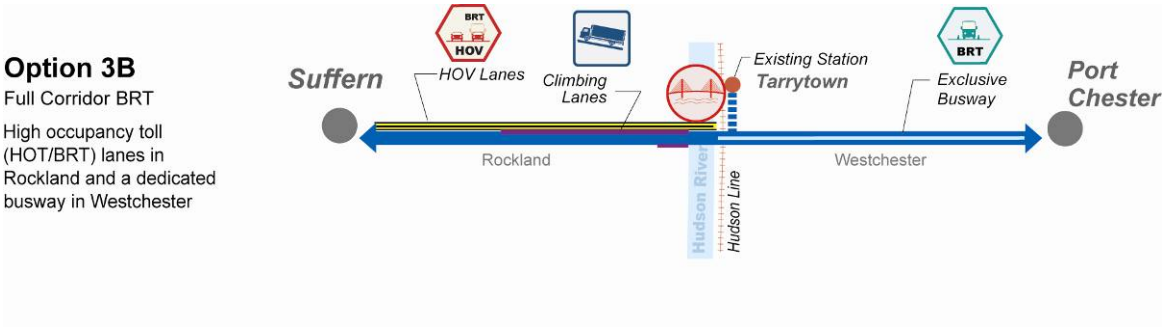
Option 3A
Full Corridor BRT

With an enhanced service plan additional stations, extended bus lanes on Westchester Ave., and connection to Port Chester Station



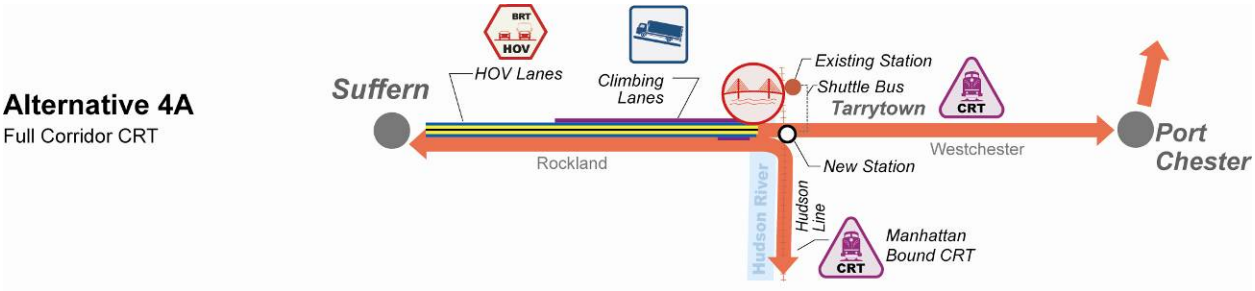
Option 3B- Full Corridor BRT with Westchester Busway

Option 3B is a variation of Option 3A. Option 3B would provide BRT service between Suffern and Port Chester. In Rockland County, BRT would operate on a section of the Piermont RR right-of-way in Suffern and in HOV lanes along I-287 and across the Tappan Zee Bridge. Through Westchester County, BRT would operate on an exclusive busway along I-287 to Port Chester. Service would also be provided through White Plains in dedicated bus lanes. BRT on the busway in this option would operate at high speeds and have extensive feeder bus connectivity. There would be minimal interference from the general purpose traffic.



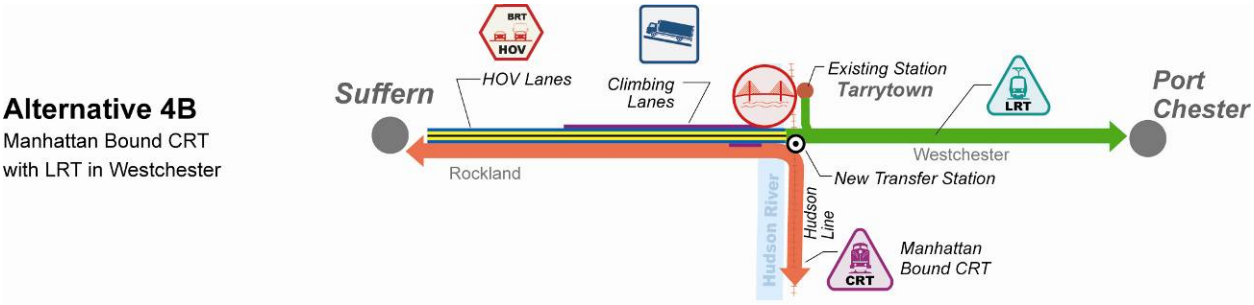
Alternative 4A – Full Corridor CRT with New Bridge and Highway Improvements in Rockland

Alternative 4A would provide CRT service between Suffern and Port Chester with a direct connection to the Hudson Line for a one-seat ride from Orange/Rockland County to Grand Central Terminal in Manhattan. Across Westchester County service would extend from a new Tappan Zee Station in Tarrytown to Port Chester with transfer capability to the Harlem and Line and a direct connection to the northbound New Haven Line.



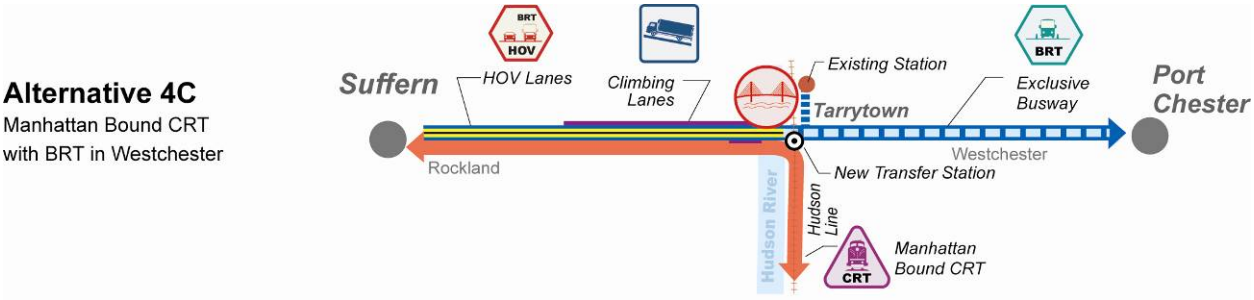
Alternative 4B – Manhattan-bound CRT with LRT in Westchester County with a New Bridge and Highway Improvements in Rockland

Alternative 4B would provide CRT service between Suffern and a new Tappan Zee Station in Tarrytown. CRT would begin in Suffern with a direct connection to the Port Jervis line and connect into the Hudson Line for a one-seat ride to Grand Central Terminal in Manhattan. LRT service would begin from the Hudson Line Tarrytown Station and continue through Westchester County to Port Chester with a transfer to the New Haven Line. It would follow a high-speed alignment along I-287 in Greenburgh and on local arterials through White Plains and back on a high speed alignment along I-287 for the connection to the Port Chester Station.



Alternative 4C – Manhattan-bound CRT with BRT in Westchester County with a New Bridge and Highway Improvements in Rockland

Alternative 4C would provide CRT service between Suffern and a new Tappan Zee Station in Tarrytown. CRT would begin in Suffern with a direct connection to the Port Jervis line and connect into the Hudson Line for a one-seat ride to Grand Central Terminal in Manhattan. BRT service through Westchester County would begin from a Tarrytown Station to Port Chester with transfers to the Harlem and New Haven Lines. It would travel within a barrier-separated facility (exclusive busway) along side I-287 in Greenburgh and in exclusive bus lanes on Route 119 in Tarrytown and White Plains. Service east of White Plains to Port Chester would be on local arterials.

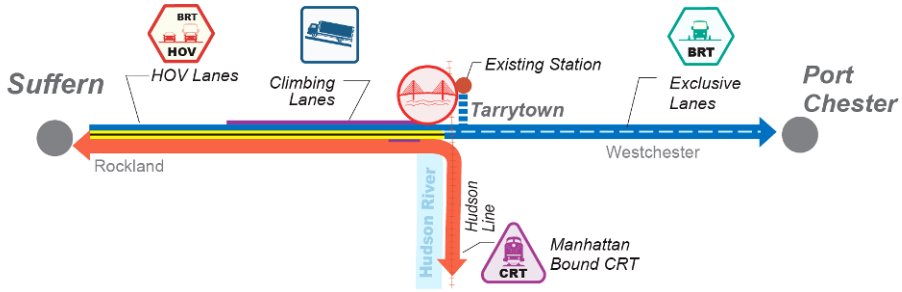


Option 4D – CRT in Rockland with Full Corridor BRT

Option 4D is a variation of Alternative 4C. It was an optimum solution to serve both the cross-corridor and the New York City market. Option 4D would provide CRT service between Suffern and Grand Central Terminal in Manhattan as well as BRT service between Suffern and Port Chester. CRT would begin in Suffern with a direct connection to the Port Jervis line and connect into the Hudson Line for a one-seat ride to Grand Central Terminal in Manhattan. BRT service would begin in Suffern across Rockland

County along I-287 and continue through Westchester County to Port Chester as in Alternative 3A with transfer capability to the Harlem and New Haven Lines.

Option 4D
Manhattan Bound CRT with full corridor BRT (as in Alt 3A) but with no Airmont or Tappan Zee CRT Stations



4.4 Level 3 Screening

The Level 3 Screening will be used to make decisions on the following:

- Rehabilitation or replacement of the Tappan Zee Bridge,
- Transit Mode, and
- Finalization of the assessment methodologies to be utilized in the DEIS.

The outcome of these decisions will determine the alternative configurations and methodologies for assessment in the DEIS.

To determine if the Tappan Zee Bridge is to be rehabilitated or replaced, a series of potential options will be developed and evaluated using the relevant engineering, environmental, transportation and cost criteria as were developed for the Level 1 and 2 Screenings. Options for the rehabilitated bridge will include allowance for the transit modes considered in the Tier 1 transit analysis on a, rehabilitated and widened bridge and/or supplemental structure. Options for the replacement bridge will also encompass the range of transit modes in the Tier 1 transit analysis plus consideration of a single or dual level structure. The criteria can be found in Appendix C.

The Transit Mode Selection Implementation Plan describes a process that will compare the three modes, CRT, LRT, and BRT based on transportation, environmental and cost criteria. The criteria utilized in the Transit Mode Selection builds upon the existing technical work supplemented by additional studies conducted throughout the Project. This screening process will determine the mode(s) that best meet the goals and objectives of the Project. It will also enable comparisons among the modes to determine if there are significant differentiators and if there are any major issues associated with a mode. Finally, it will determine if any mode(s) does not meet the goals and objectives and should not be advanced to become a full alternative in the DEIS. The Transit Mode Selection Implementation Plan can be found in Appendix D.

In addition to the decision on the bridge and transit mode(s), the Level 3 Screening will also finalize the assessment methodologies that will be utilized to evaluate the alternatives within the EIS. Methodologies will be established to evaluate: transportation; natural environment; socioeconomics and land use; construction impacts; and indirect (secondary) and cumulative impacts. Further details on assessment methodologies are located within Section 6.0 of the Scoping Update Packet.

5. Coordination Plan

5.1 Coordination Plan Comment Process

The Coordination Plan identifies opportunities for public and agency interaction with Federal, State and local agencies, focusing on opportunities for public and agency review and comment. On the Tappan Zee Bridge/I-287 Corridor Project, the Coordination Plan has been drafted and the agencies have been invited to participate in the NEPA process. It is anticipated that public and agency comments may lead to further revisions. As such, the Coordination Plan is provided within Appendix B for review and comment. Note that under SAFETEA-LU 6002, the Coordination Plan is one of the documents in which opportunity must be provided to the public to comment. Comments will be accepted on the Coordination Plan through the conclusion of the formal comment period established as part of the scoping update process. The Coordination Plan is located in Appendix B.

6. Assessment Methodologies

The EIS will assess the impacts of the Tappan Zee Bridge/I-287 Corridor alternatives that are selected as a result of the screenings within NEPA, SEQR and CEQ regulations. This evaluation will summarize the results of coordination with federal, state, and local agencies; present the appropriate federal and state regulations and policies; inventory and compile previous studies; describe the methodology used to assess impacts; identify the affected environment; predict and analyze the construction-related (short-term) and operational (long- term) impacts (direct, indirect, and cumulative) of reasonable alternatives; and identify opportunities for minimizing and mitigating significant impacts. Required reviews under various federal statutes including the Endangered Species Act, National Historic Preservation Act, Clean Air Act, and Clean Water Act, among others, will be conducted within the NEPA process. Reasonable alternatives will be evaluated at a comparable level of detail.

Scopes for the EIS environmental studies have been established and any additional information will be considered and incorporated as appropriate during scoping. These studies were based on the findings of the preliminary environmental analyses, baseline conditions information gathered during this stage of the Project, consultations with local, state, and federal agencies and comments from the public. The methodology will be refined to address tiering and it will be distributed to the appropriate Agencies as referenced in the Coordination Plan. A Tier 1 analysis for transit will be conducted in accordance with a corridor planning study. Whereas, a Tier 2 analysis for the bridge and highway will be conducted using typical NEPA assessment methodologies.

The EIS analysis will cover relevant aspects of the natural and built environment that may be affected by each alternative, and will include the following:

- Transportation system benefits and costs.
- Impacts of construction.
- Impacts of operation.
- Indirect (Secondary) and Cumulative impacts.

6.1 Transportation

6.1.1 Roadway and Traffic

An analysis of relevant major roadways will be developed to understand the existing conditions/traffic level, and to identify and quantify key problem areas and probable causes. This inventory will generally involve the interchange areas and approach roads within one-half mile of the 1-287 interchange ramps in the Corridor. Existing traffic conditions will be documented using several methods and data sources. Existing daily, AM peak and PM peak period traffic volume counts on affected roadways will be obtained from a number of sources, including the NYSTA, NYSDOT, Rockland and Westchester Counties, cities along the Corridor, and surveys undertaken for the project.

Traffic forecasts will be generated using existing New York Metropolitan Transportation Council (NYMTC) models. This data will then be used as input to a number of Corridor and facility specific traffic simulation models to assess the performance of the roadway network, toll plazas and other facilities as appropriate. Baseline and single design year traffic operational analyses of impacted roadways will be undertaken for each of the Corridor-wide alternatives, as well as the No Build alternative.

6.1.2 Public Transportation

Existing public transit facilities (e.g., bus and rail), services and ridership information has been compiled. Transit services in the I-287 Corridor that could be affected by the alternatives have been inventoried and

is being kept up to date. These include existing commuter rail services, numerous local and regional bus services, and ferry operations. The impacts of the alternatives on the bus and commuter rail systems will be assessed. Ridership forecasts by mode and line will be developed for the design year for all Corridor-wide alternatives, as well as the No Build alternative. The EIS will consider ridership diversions and impacts of additional/decreased buses on the regional highway network.

6.1.3 Non-Motorized (Bicycles and Pedestrian)

Existing bicycle and trail facilities have been inventoried together with available information on their current use. The inventory of information will be used as input in developing the impact of alternatives and assessing the potential use of any new bicycle and pedestrian facilities.

6.1.4 Navigation

Previous reports on navigational usage of the Hudson River have been reviewed. Maritime traffic summaries were obtained from the Army Corps Engineers and the Hudson River Pilots Association to determine the past and present usage of the channel under the existing bridge. Summaries of vessel accident reports for this reach of the river have already been obtained and reviewed to evaluate existing navigational limitations. The projected future navigation needs of this reach of the river will be considered in the evaluation of the alternatives.

6.1.5 Goods Movement

Existing rail freight lines will be inventoried and information will be gathered on the level of use and function of the lines in the region's overall freight network. Truck freight data will be developed from information contained in the regional transportation model, and augmented by surveys. The implications of the alternatives on goods movement by truck and rail will be assessed based on the likely changes in traffic capacity and travel times in the Corridor, as well as an assessment of the potential for rail freight.

6.1.6 Safety

Existing accident data from I-287 and the other primary roadways in the Corridor have been compiled. The impacts of the alternatives on transportation safety will be assessed based on a number of factors, including facility type, roadway geometry, traffic control devices, traffic volumes and vehicle miles of travel. All impacts will be identified based on a comparison to the No Build alternative. Additional safety considerations will be assessed related to the alternative transit modes.

6.2 Natural Environment

6.2.1 Air Quality

Currently, both Rockland and Westchester Counties are in non-attainment for particulate matter less than 2.5 microns in diameter (PM2.5) and ozone (0_3) as defined by the 1990 Clean Air Act Amendments. Westchester County is considered a maintenance (formerly non-attainment) area for Carbon Monoxide (CO). Motor vehicles are a predominant source of CO emissions and a significant source of particulate matters and ozone generating compounds such as nitrogen oxides (NO_x) and volatile organic compounds (VOC). Therefore, regional and localized analyses will be conducted to determine the degree to which project alternatives impact air quality compared to the No Build alternative. Air quality impacts during construction will also be assessed and, should significant impacts are predicted, mitigation strategies will be evaluated for both operational and construction activities, as appropriate.

6.2.2 Noise and Vibration

Noise studies will be undertaken to estimate the noise impacts of project construction as well as of projected future traffic conditions and/or rail operations. The applicable standards include those developed by FTA, and NYSDOT (Environmental Procedures Manual).

The noise analysis will recommend mitigation measures for any significant adverse impacts for both the construction and operating phases of the project. During construction, mitigation may involve the selection of traffic detour routes, noise suppression of construction equipment, and installation of temporary noise barriers. Long-term operational noise impacts will address incorporating features, such as constructing feasible and reasonable long-term noise barriers, into the Project design that effectively reduce noise levels. Potential vibration conditions during construction and operations will also be assessed, when applicable.

6.2.3 Hudson River Ecosystems and Water Resources

Alternatives that include construction work in the Hudson River may impact various habitats found within and alongside the river, including wetlands and submerged aquatic vegetation that serve as fish feeding and spawning areas. In addition, the river's channel may act as migratory passageway for fish that spawn and feed further upstream, including the striped bass and the short nose sturgeon (an endangered species). A detailed search and analysis of available data relating to fish, shellfish, benthic macro invertebrates, plankton, subaqueous vegetation, water chemistry, sediment chemistry, sediment toxicity, avian fauna, wildlife, bathymetry, tidal fluctuations, currents, wave conditions, turbidity, and wetlands is being performed.

Potential impacts to Hudson River habitats will vary depending on the alternative being evaluated. These impacts will be analyzed using mathematical models that estimate the dispersion of river sediments disturbed by construction work, the results of which can be compared to applicable water quality standards to assess the significance of the sediment disturbance. Alternatives will also be compared with respect to their potential to impact river habitats as a result of placement of temporary and/or permanent structures in the river and as a result of scouring of bottom sediments during construction. Loss of habitats such as shoreline wetlands and in-river submerged aquatic vegetation will be addressed as will the potential impacts of shading by a larger bridge structure. The habitat value of existing bridge foundations will also be considered in the EIS.

6.2.4 Hudson River Drainage Basin Ecosystems

The I-287 Corridor contains wetland areas that serve as important terrestrial and aquatic habitats, including potential habitat for protected species. A detailed review of available data has already taken place to identify nature preserves, critical habitats of protected species, vegetative coverage, wetlands, and streams. Alternatives will be compared with respect to their potential effects on habitats occurring along the Corridor.

Impacts to water resources along the Corridor may occur as a result of storm water entrained with roadway related contaminants entering local streams and tributaries. This impact will be of particular concern where local tributaries discharge to surface water bodies that act as potable water sources. In such circumstances, runoff control features that remove highway contaminants before they enter the tributaries, such as grassy swales, detention basins, and other features that can improve water quality, will be proposed.

Construction may temporarily or permanently impact local groundwater resources or surface watercourses. These impacts will be assessed and mitigation strategies identified. Mitigation measures may include sediment erosion and control plans, a storm water management plan, and spill prevention and control strategies.

6.2.5 Visual Resources and Aesthetics

The Hudson River Valley includes the largest National Historic Landmark District in the country. The Valley has also been designated as a National Heritage Area and the Hudson River has been named as an American Heritage River. Alternatives involving a new or rehabilitated crossing will be evaluated in

terms of compatibility with aesthetic and historic values associated with the Hudson River. Existing view sheds will be evaluated for visual quality and the potential impacts of alternatives will be assessed. Changes that could result from project features will be evaluated qualitatively using three criteria of visual relationship: vividness, intactness, and unity. Viewer groups will be identified and assessed in terms of their sensitivity, based on their numbers and exposure.

6.2.6 Energy

Factors that will be considered in assessing the potential impacts of the alternatives include direct energy components such as change in vehicle miles traveled (VMT), type of vehicles using the roadways, fuel consumption of the vehicle fleet and changes in vehicle operating speeds. Also, indirect energy consumption related to roadway and rail construction and maintenance will be estimated and greenhouse gas analyses will be conducted.

6.2.7 Geology and Soils

Existing information on topography, soils, and geology has been collected and reviewed. Alternatives will be compared qualitatively with respect to such factors as potential for erosion, changes in topography from existing conditions (including cut and embankment slopes), and use or disposal of debris or excavated soils.

6.2.8 Hazardous Materials

An assessment of the environmental condition of Corridor properties is being conducted taking into consideration the relative significance of each site identified in available federal and state data bases on the basis of suspected contaminants at the site and the relationship of the proposed land use to the hazardous materials Alternatives will be compared with respect to the level of disturbance they potentially create at the identified contaminated sites along the I-287 Corridor.

6.3 Socioeconomics and Land Use

6.3.1 Land Use and Zoning

The land use analysis will consider areas approximately one-half mile on either side of the Corridor. A review and summary of pertinent land use and socioeconomic policies contained in local, county, and state land use plans and zoning has been conducted.

Alternatives will be compared with respect to potential impacts on land use, zoning and public policy, neighborhood and community cohesion, access to community facilities and services, and effects on local economies and commercial districts resulting from changes in travel patterns, travel time, and congestion. The analyses will also address the consistency of the alternatives with any approved Local Waterfront Revitalization Plans and the State's Coastal Zone Management Policies.

6.3.2 Environmental Justice

Executive Order 12898, issued in February 1994, requires all federal agencies to consider the issues of environmental justice in their decision-making and to develop environmental justice outreach. The order focuses attention on the environmental and human health conditions of minority and low-income communities. Key components to an environmental justice strategy are to enhance public participation in the planning and development process, and to ensure that transportation projects do not disproportionately affect minority and low-income populations.

Data on minority populations has been collected from the 2000 Census for the affected communities, identifying both total numbers and percentages of the total population, and comparing these to a larger community context. Similarly, 2000 Census block data on low- income populations (below poverty levels) has been compiled for the affected communities. Alternatives will be assessed to determine if

there are any concentrations of these sensitive populations that would suffer disproportionately high and adverse effects from any of the alternatives being considered. Factors such as exposure to emissions, loss of economic resources, and community access will be considered.

6.3.3 Displacements and Relocation

The number and characteristics of any displaced households, businesses and other institutions will be identified and described. Any potential disproportionate adverse effects on any special social groups (poor, elderly, transit dependent and handicapped) will be identified and evaluated with respect to identification of takings and access changes or limitations for each affected parcel based upon preliminary design plans. Acquisitions of properties, including residences, businesses, parklands, historic/cultural/archaeological resources, prime and unique farmlands (if any), and any other significant uses will be identified.

6.3.4 Public Services and Utilities

Major existing utilities along the Corridor will be identified and described, including cable and fiber optic lines, electric transmission lines, substation, and water and gas transmission lines. Alternatives will be evaluated with respect to disruptions, relocations, or need for utility construction.

6.3.5 Historical and Archaeological Resources

Cultural resource assessments and identification efforts pursuant to Section 106 of the National Historic Preservation Act and Section 14.09 of the New York State Historic Preservation Act are in progress. Background research and field surveys are being conducted within the study area to determine the location and type of National Register-listed and eligible architectural and archaeological resources, and locally significant architectural and archaeological resources protected by municipalities with historic preservation regulations.

Alternatives will be evaluated with respect to potential impacts on National Register-listed and eligible architectural and archaeological resources, and locally significant architectural and archaeological resources protected by municipalities with historic preservation regulations. The impact of alternatives on areas classified as possessing archaeological potential will also be evaluated.

6.3.6 Parklands and Section 4(f)/6(f) Evaluation

The nature and location of parks, recreation areas, wildlife or waterfowl areas, wild and scenic rivers, and national trails and natural landmarks along the I-287 Corridor have been identified and described. Resources that may be impacted by the alternatives will be identified as requiring a Section 4(f) evaluation. In addition, a Section 4(f) analysis may be needed should there be adverse impacts to cultural resources that either are listed or eligible to be listed on the National Register of Historic Places. Results of the 4(f) analyses will be presented in the EIS.

6.4 Construction Impacts

Temporary impacts of construction will be identified, including assessments of expected detour routes and traffic and passenger diversions as a result of temporary disruptions to the existing network. Temporary acquisitions and easements required for construction will be identified and the impacts will be assessed. Measures to mitigate short-term impacts will be identified and qualitatively discussed. Conceptual construction schedules, phasing and types of activities will be described, as appropriate.

6.5 Indirect (Secondary) and Cumulative Impacts

Cumulative impacts are those that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions. Guidelines established in "Considering Cumulative Effects under the National Environmental Policy Act" (CEQ, January 1997) will be used. The analysis will identify the qualitative direct and indirect effects of the alternatives related to the other identified future actions on those elements of the environment where cumulative impacts may be significant. The discussion will include, as appropriate, such topics as regional geography, broad demographic data, major land use patterns and trends, centers of economic activity, the regional transportation network and appropriate natural resources.

7. Outreach and Public Participation

FHWA, FTA, NYSDOT, NYSTA, and MTA/MNR have been and will continue to be committed to maintaining an open and transparent public and agency coordination process that will endure throughout the environmental review process. The program was designed to achieve a comprehensive public involvement process, beginning with public input in defining the goals and objectives for the Project. Public involvement activities will be conducted under the guidance and with the participation of FHWA and FTA.

Since the inception of the Project, a number of goals have been identified and continue to serve as the basis for the public involvement effort for the Project. The goals are to:

- Establish effective communication with all stakeholders;
- Educate the public about the environmental review process and the role of government and all stakeholders, including citizens;
- Engage the public in the environmental review process;
- Ensure that the public has the opportunity for input in the development of the alternatives and technical analysis;
- Create opportunities to communicate with local communities;
- Inform the public of the progress of the study and of additional opportunities to participate in the Process; and
- Incorporate the results of the public and agency coordination process into the EIS.

7.1 Program Elements

The Public and Agency Coordination Plan for the Tappan Zee Bridge/I-287 Corridor is comprised of the following principal elements:

7.1.1 Interagency Coordination

To facilitate a coordinated and collaborative process, and to facilitate information sharing among affected agencies and stakeholders, the interagency organizational structure will include a Project Management Team, Cooperating Agency Task Force, Stakeholders Committee, Inter-Metropolitan Planning Organization (IMPO), Technical Resource Subcommittees, and outreach to New Jersey and Connecticut.

7.1.2 Cooperating and Participating Agencies

One of the major components of SAFETEA-LU is the increased opportunity for both the public and federal, state, and local agencies to have active and early involvement in the NEPA process. This is intended to streamline the NEPA process and minimize costly delays at the end of the project. SAFETEA-LU requires project sponsors to identify Participating and Cooperating Agencies that will be involved in the development of the project. According to Council on Environmental Quality (CEQ) regulations (40 CFR 1508.5), "Cooperating agency" means any Federal agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative. A State or local agency of similar qualifications or, when the effects are on lands of tribal interest, a Native American tribe may, by agreement with the lead agencies, also become a cooperating agency.

“Participating agencies” are those federal, state, or local agency or Native American tribe with an interest in the project. The standard for participating agency status is more encompassing than the standard for cooperating agency status. Therefore, cooperating agencies are, by definition, participating agencies, but not all participating agencies are cooperating agencies. Participating and Cooperating agencies are responsible for identifying, as early as practicable, any issues of concern regarding the project’s potential

environmental or socioeconomic impact that could substantially delay or prevent an agency from granting a permit or other approval.

7.1.3 Meetings

Stakeholder meetings, including elected official and general public meetings, have been and will continue to be held at key intervals in the process. These meetings include but are not limited to the following:

- Stakeholder Committee Meetings: The Stakeholder Committee provides an open forum for discussion and encourages interaction among select stakeholders, who represent interest groups and organizations. Through active participation of its members, the Stakeholder Committee will continue to provide a wide range of opinions to be considered throughout the Project. The Stakeholder Committee is comprised of representatives of organizations that reflect the diverse nature of the region. Stakeholder Committee members include representatives from the following categories: environmental organizations, municipalities, the state and federal government (elected officials), educational institutions, development and planning organizations, emergency services organizations, engineering and transportation organizations, hospitals and health organizations, businesses and industries, and recreation and tourism. Regular meetings have been and will continue to be held throughout the Project, at key milestones and as required to update and inform the stakeholders. Stakeholder Committee members have been and will continue to be apprised of the progress of the Study via regular progress reports, newsletters, and meeting minutes distributed by the agencies.
- Elected Official Briefings: The Agencies have been and will continue to conduct briefings at Project milestones with elected officials representing the study area.
- Public Scoping Meetings: The Agencies will conduct three public scoping update meetings, one each in Westchester, Rockland, and Orange Counties, to solicit additional public comments on the scope of the EIS. The public scoping meetings will be held at times that will ensure that a broad spectrum of opinion is obtained and that as many people as possible are able to attend. The Scoping Update Packet will be made available both online and in written format concurrently with issuance of the NOI by the joint lead agencies. The public comment period will be open for a maximum of 30 days.
- Stakeholders' Advisory Working Groups (SAWG): Starting in Spring 2007, the Agencies have engaged members of the public and interested individuals to participate in one of the Tappan Zee Bridge/I-287 Corridor Environmental Review Study's four Stakeholders' Advisory Working Groups (SAWGs). These hands-on working groups will play an important role as the EIS process moves forward. The objective of the SAWGs is to keep interested individuals informed about the Study and solicit their input and ideas. The SAWGs are intended to be a valuable forum for the exchange of information, discussion of issues, and solicitation of feedback that the Project Team will take under consideration in the design development process. The Workshop-style sessions are designed to explore specific issues regarding Traffic and Transit, Environmental, Land Use and Bridge Design Issues.

- Public Workshops and Meetings: At key points in the Project, the NYSDOT, NYSTA and MNR have and will continue to sponsor public workshops to present information and obtain feedback from the community. Public workshops have been and will continue to be used as an educational

tool to provide information on the process and as a venue for soliciting input on topics (such as the screening of alternatives). Public meetings and workshops will be held to exchange information with the public. The meetings and workshops will be broadly promoted via such means as direct mail, Web site and media outlets.

7.1.4 Communication Tools

A variety of communication tools have been and will continue to be employed to share information with and obtain information from the public, as follows:

- Community Outreach Centers have been established in Westchester and Rockland Counties and serve as local opportunities for the public to obtain information and provide feedback on the Project;
- Project Web Site (www.tzbsite.com) has been designed to create a focal point for the public and the media. The site will continue to explain the environmental process thoroughly, provide up-to-date information and include an interactive component that will encourage two-way communication between the agencies and site visitors;
- Newsletters have been and will continue to be produced. Content includes information on the Project, visuals (maps and charts), contact persons, and upcoming meeting dates;
- Open Houses have been and will continue to be hosted. They are a forum for exchanging information related to the Project. At these events, Project team members provide background information, share new Project developments and solicit the feedback of all stakeholders, particularly the general public. Similarly, stakeholders are able to provide comments for consideration as the Study ensues.
- A media outreach effort has been and will continue to be undertaken to engage all interested parties. This involves engaging the media as soon as there are new Project developments to communicate to the public. Communication tools include news releases, project-related documents, visual aids, media briefings and advertising, toward ensuring maximum public participation in the environmental review process. Additionally, this effort has and will continue to engage media serving low-income and minority communities and apply other media engagement measures to assure that environmental justice goals are achieved.

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Appendices

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Appendix A: Purpose and Need

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1.0 Introduction

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) in cooperation with the New York State Department of Transportation (NYSDOT), the New York State Thruway Authority (NYSTA) and the Metro-North Railroad, a subsidiary of the Metropolitan Transportation Authority (MTA/MNR), are preparing an Environmental Impact Statement (EIS) for the Tappan Zee Bridge/I-287 Corridor in Rockland and Westchester Counties, NY.

The EIS will examine the series of proposed transportation improvement alternatives within the Tappan Zee Bridge/I-287 Corridor (the Corridor). The Corridor extends 30 miles from the I-287/I-87 Interchange in Suffern, New York to the I-287/I-95 Interchange in Port Chester, New York including the Tappan Zee Bridge (the Bridge). FHWA and FTA are the federal co-lead agencies responsible for the environmental review of the proposed project.

The EIS is being prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, and implemented by the Council on Environmental Quality (CEQ) regulations (40 CFR parts 1500-1508), the FTA/FHWA Environmental Impact regulations (23 CFR part 771), and the FTA/FHWA Statewide Planning/Metropolitan Planning regulations (23 CFR part 450), as well as the requirements of Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Section 6002. The tiering regulations are implemented by the Council on Environmental Quality (CEQ) regulation, (40 CFR Part 1502.20). The EIS and the environmental review process will also satisfy requirements of the New York State Environmental Quality Review Act (SEQR).

Recognizing that this corridor transcends across multiple planning organizations, the Inter-Metropolitan Planning Organization (IMPO) was established to advise and guide NYSDOT, NYSTA and MNR. The IMPO consists of the following members:

- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)
- New York Metropolitan Transportation Council (NYMTC)
- Orange County Planning Department
- Orange County Transportation Council
- Port Authority of New York and New Jersey (PANYNJ)
- Putnam County Department of Planning
- Rockland County Executive Office
- Rockland County Planning Department
- Westchester County Department of Public Works
- Westchester County Department of Transportation
- Westchester County Planning Board/Planning Department

1.1 Project Analysis

On December 23, 2002, the FHWA and FTA, in cooperation with NYSTA and the MTA/MNR issued a Notice of Intent (NOI) to prepare an Alternatives Analysis (AA) and an Environmental Impact Statement (EIS) for the I-287 Corridor in Westchester and Rockland Counties, NY (Federal Register Volume 67, No. 246). While extensive AA and EIS public involvement activity has been conducted since publication of that NOI, the lead agencies have determined that substantial changes have occurred such that a revised NOI is warranted. Of considerable note, is that the New York State Department of Transportation (NYSDOT) has become a sponsoring agency and taken on the role of lead State project manager. As a sponsoring agency, NYSDOT, as well as NYSTA and MTA/MNR, are considered Joint Lead Agencies for the project under SAFETEA-LU.

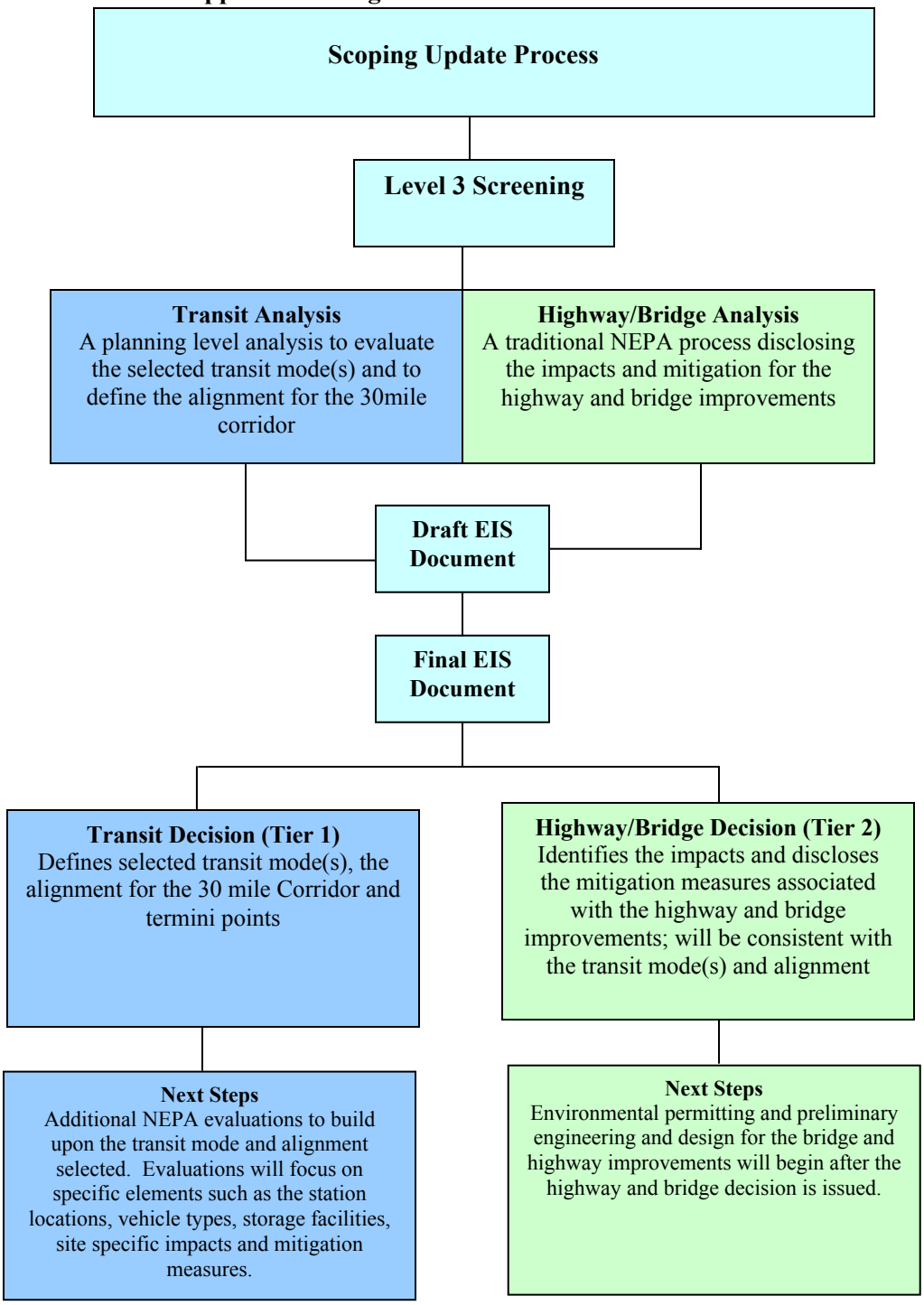
In addition, the Project team has also revised the environmental review process since the original NOI was published. The Tappan Zee Bridge/I-287 Corridor Project is a multimodal project with proposed bridge, highway and transit improvements. In an effort to expedite the delivery of integrated, multi-modal transportation improvements in way that allows each modal element to advance at its own appropriate pace, the EIS will be conducted with a tiered analysis approach. The EIS will conduct two levels of analysis:

- Tier 1 analysis findings on the transit mode and alignment associated with the preferred alternative.
- Tier 2 analysis findings on the bridge facilities and transit elements from the Tier 1 analysis, approaches and associated highway network improvements within the Corridor associated with the preferred alternative.

The proposed tiering approach will allow the joint lead agencies to focus on both broad overall corridor issues in a Tier 1 transit analysis of general alignment and mode choice while simultaneously assessing site specific impacts, costs and mitigation measures in a Tier 2 bridge and highway analysis. The scope of analysis in the Tier 1 and Tier 2 will be appropriate to the level of detail necessary for those documents and will receive input from the public and reviewing agencies. The intent of the joint lead agencies is for the Tier 1 and Tier 2 analyses to be developed concurrently in order to maximize the efficiencies and potential for multimodal solutions.

The Tier 1 transit analysis will provide the basis for a corridor level decision on transit mode(s), alignment(s), and logical termini within the Corridor and sufficient detail of impact assessments and preliminary engineering to allow the Tier 2 highway and bridge elements to proceed to final design and construction. Because the transportation needs of the corridor require a multimodal solution, the highway, bridge, and transit elements are intricately tied to one another and require iterative and concurrent development, analysis and consideration up to the decision on mode and alignment. Once the transit mode and alignment decisions are made, the analysis can focus on the needs of the corridor which includes the structural needs of the existing Tappan Zee Bridge and associated highway network, while preserving the transit corridor within the existing right of way.

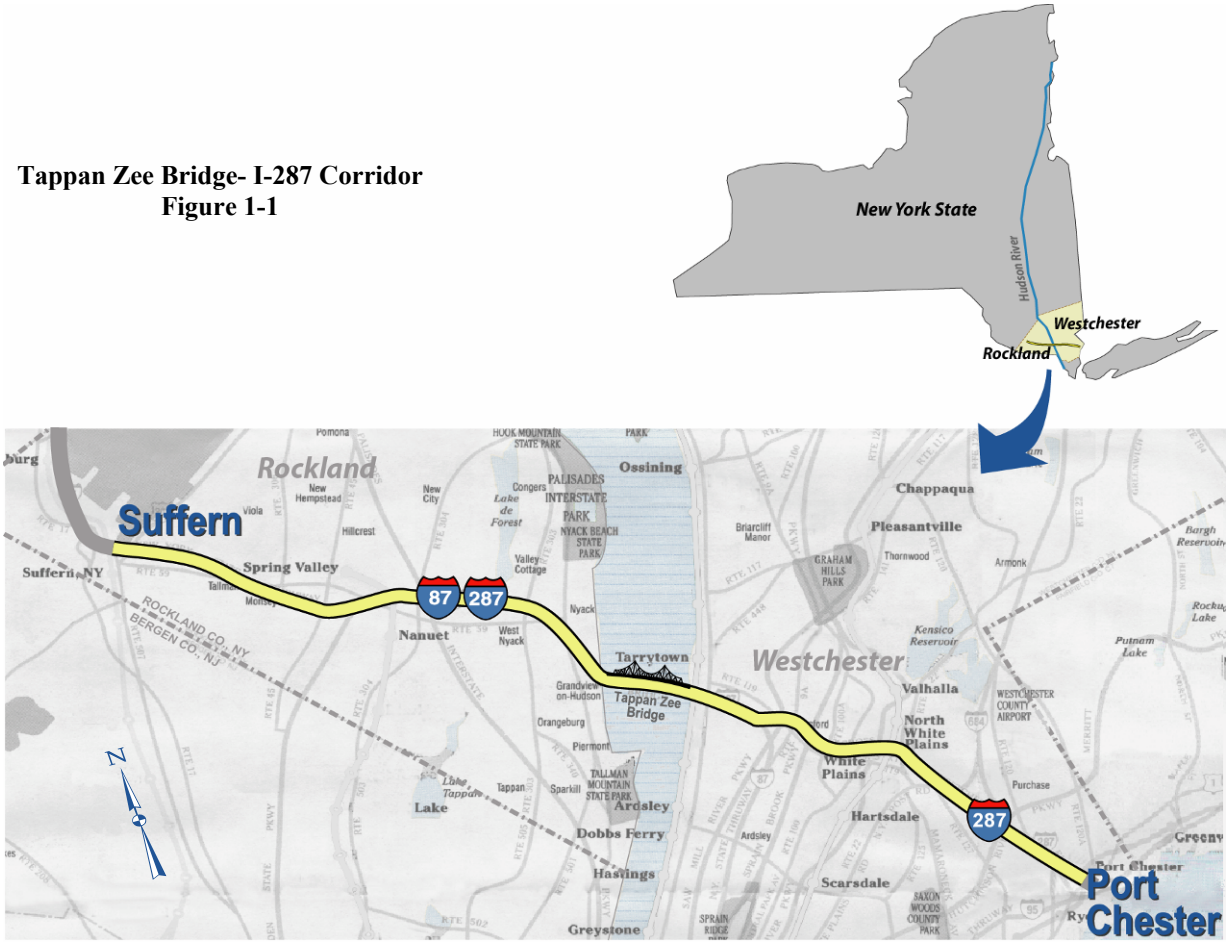
The Tappan Zee Bridge/I-287 Corridor Environmental Process



1.2 Project Overview

The study area consists of a linear 30 mile corridor that extends from I-87/I-287 Interchange in Rockland County to the I-287/I-95 Interchange in Westchester County and includes the Tappan Zee Bridge. The Corridor is an important part of a regional transportation system and transportation implications extend beyond the immediate roadway system to Poughkeepsie in

Tappan Zee Bridge- I-287 Corridor
Figure 1-1



Dutchess County to the north, Stamford, Connecticut to the east, the five New York City boroughs to the south and parts of Bergen and Orange County in New Jersey to the west.

Many of these counties have seen rapid urbanization over past several decades. In Rockland County, which lies just west of the Hudson River, the population has more than tripled from 89,276 in 1950 to 286,753 in 2000. Westchester County, which is just east of the Hudson River, the population has had a more modest increase from 625,816 in 1950 to 808,991 in 2000. However, Westchester County saw a major increase in commercial development in the 1950s and 1960s with the completion of the interstate highways I-95, I-87, I-287 and I-684. This led to a surge in corporate headquarter relocations to the area resulting in the "Platinum Mile" section of I-287 in the Town of Harrison.

According to NYMTC, the metropolitan planning organization for New York City, Long Island and the Lower Hudson Valley, outlying counties of the region, are expected to have significant increases in both population and employment over the next 20 years. Between 2000 and 2025, New York City Metropolitan area regional household population, as defined by the US 2000 Census, is expected to grow by 12 percent, while Rockland County is expected to grow by 18 percent and Orange County by 27

percent. Westchester, the most developed County in the study area, is projected to have a more stable population growth at four percent. In addition to population growth, employment is also projected to increase within the Corridor. All three counties are expected to exceed the forecasted New York City Metropolitan area regional employment growth of 17 percent: Westchester will grow by 19 percent, Rockland by 29 percent and Orange by 35 percent. This increase in population and employment will continue to place demand on the I-87/I-287 Corridor, including the Bridge.

The Tappan Zee Bridge

Constructed in 1955, the 3.1 mile Tappan Zee Bridge does not meet current bridge and highway standards, such as lane width, shoulders and emergency lanes or engineering standards such as seismic and security. In addition, as the Bridge has aged, an extensive and costly maintenance program has been required to keep the Bridge in a state of good repair. The expenditure for the maintenance program has increased over the years. In September 2007, major rehabilitation of the deck bearings, barriers, steelwork, and concrete commenced.

During the past 20 years, due to growth in population and jobs, and changing inter-corridor commute patterns, traffic volumes have grown significantly in the Corridor: more than 50 percent in the I-287 Corridor and more than 70 percent on the Bridge. When the Bridge opened to traffic in 1955, it carried an average of 18,000 vehicles daily during its first year of operation. Today, approximately 135,000 vehicles cross the Bridge on an average weekday, with volumes as high as 170,000 vehicles on some peak days.

Several measures have been implemented to improve mobility and capacity of the Bridge including Transportation System Management (TSM) and Transportation Demand Management (TDM) improvements. Most notably a movable barrier, that allows operation of a seven-lane cross section with four lanes in the peak direction, was installed to increase the capacity of the bridge during the peak period; EZ Pass tolling was installed at the Toll Plaza to improve mobility; and variable pricing for commercial vehicles was implemented to reduce truck traffic at peak periods. Through these proactive measures, the Bridge handles 120 percent of its intended 1955 design capacity.

The Corridor

The 30-mile Corridor from Suffern in Rockland County to Port Chester in Westchester County including the 3.1-mile-long Tappan Zee Bridge, encompasses a critical section of the NYSTA (I-87) and the entire Cross Westchester Expressway (CWE, I-287). I-87, which is owned and maintained by NYSTA, connects New York City and Canada (Figure 1-2). The CWE is owned by the NYSDOT, but is maintained and patrolled by NYSTA within Westchester County from Exit 1 in Elmsford to Exit 10 in Port Chester. It provides a critical link in the Federal Interstate Highway System.

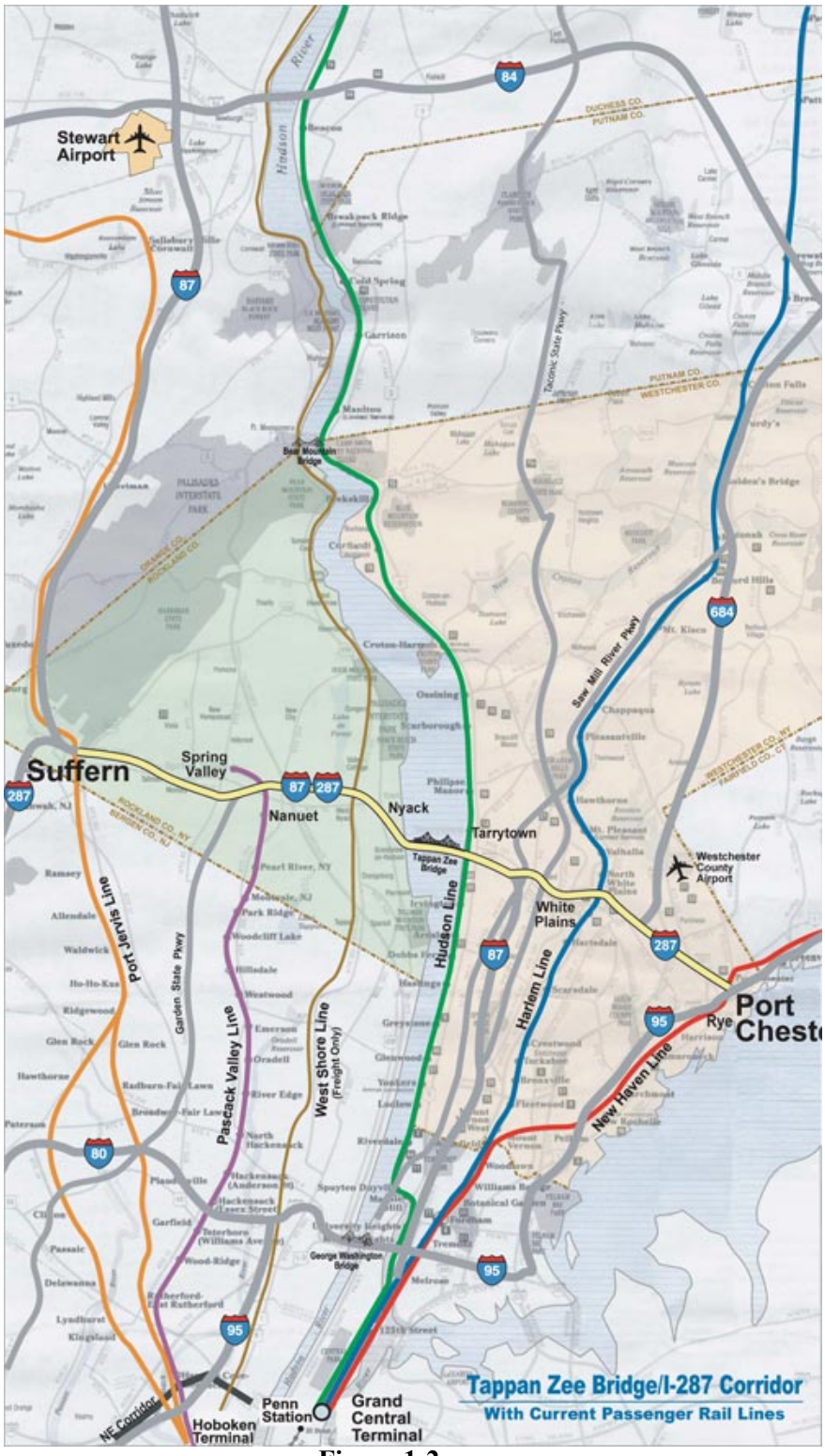


Figure 1-2
Tappan Zee Bridge/I-287 Corridor with Current Passenger Rail Lines

According to an origin and destination survey conducted for the project in 2003, the majority of daily eastbound commuters crossing the Tappan Zee Bridge are bound for locations in central and south Westchester County. Trips outside the corridor most notably are to Connecticut and the Bronx,

representing 10 and 16 percent, respectively. Figure 1-3 depicts the commuting patterns of vehicles traveling eastbound across the Tappan Zee Bridge:

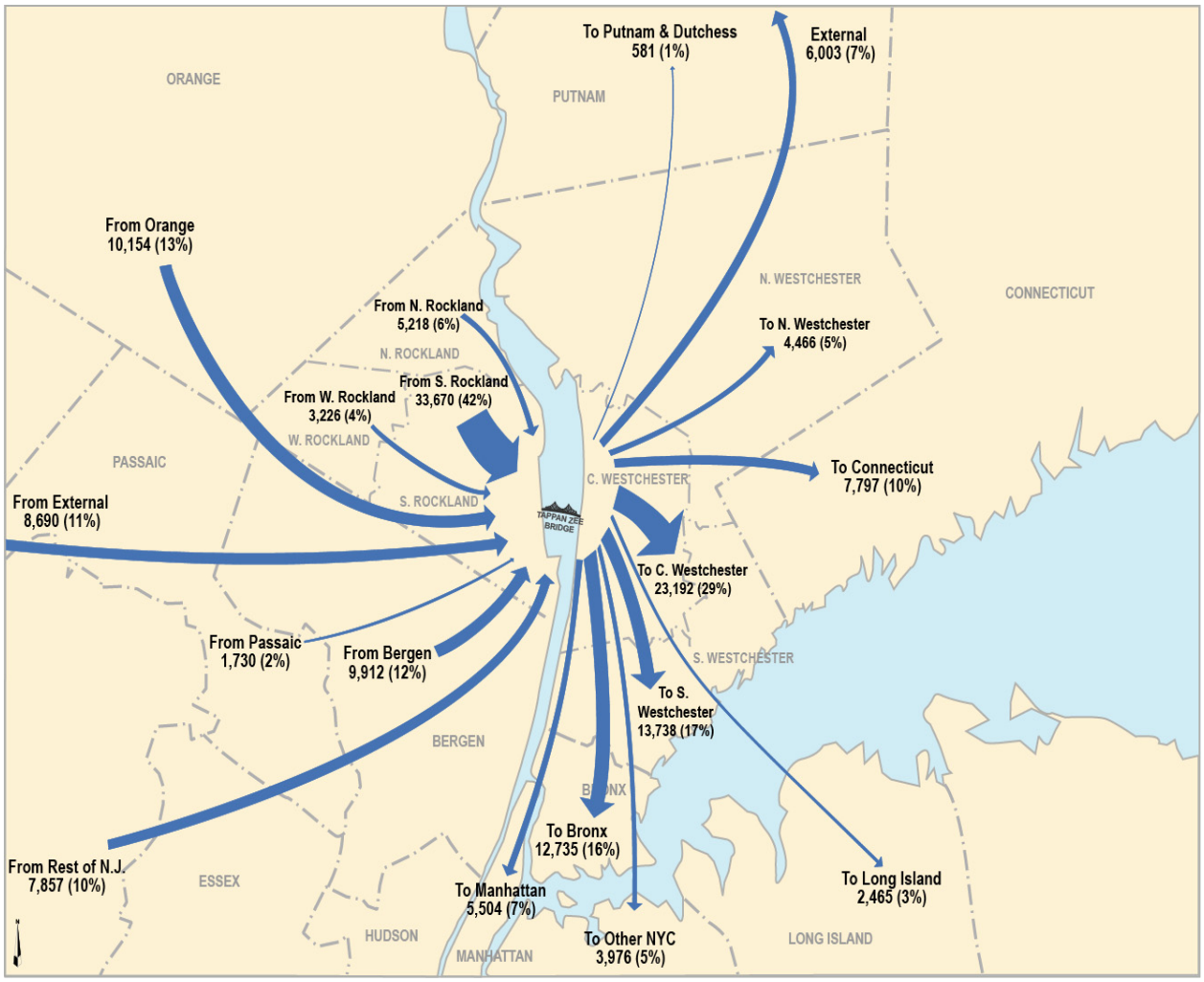


Figure 1-3
Tappan Zee Bridge Eastbound Average Weekday Person Trips

According to the survey, the majority of eastbound trips across the Tappan Zee Bridge are in single occupancy vehicles. On an average weekday AM peak period, 27,813 vehicles cross the Tappan Zee Bridge, 24,031 are single occupancy vehicles. Currently, only two percent of the commuters that cross the Tappan Zee Bridge do so via public transit.

There are several existing bus networks throughout the Corridor, including both the Bee Line (Westchester County) and Transit of Rockland (TOR) local buses and express buses to Manhattan. These buses are either operated by the County or operated by private bus companies under contract to the County. TOR operates the Tappan Zee Express (TZX) buses from Rockland County across the Tappan Zee Bridge to the Metro North Tarrytown Station and to the White Plains Transit Center. Additional bus service is operated by the Orange Westchester Link (OWL).

The Corridor is also served by commuter rail. Metro-North Railroad operates commuter rail service on both sides of the Hudson River Corridor. Five lines radiating from New York City cross the corridor. The Port Jervis Line and Pascack Valley Line in Rockland County are operated by agreement with New Jersey Transit and serve Secaucus and Hoboken. The Hudson, Harlem and New Haven Lines operate through Westchester County and serve Grand Central Terminal.

2.0 Purpose and Need

Following the original scoping and outreach meetings, further analysis was conducted based upon input from stakeholders and the public. As a result, the Purpose and Need has been refined to better articulate the transportation needs of the Corridor and to clarify the goals and objectives of the project. The Purpose and Need is intended to evolve and can be revised throughout the duration of the project. It is fully consistent with the original intent, yet necessarily specific to help focus on optimum solutions to deliver the Project in the most effective, efficient, and environmentally responsible manner possible.

2.1 Purpose and Need Statement

Studies have shown that several transportation improvements including mobility, transit options, and safety are needed in order to meet the growing travel demands of the Corridor. The Corridor experiences significant delays due to congestion and is often operating at or near capacity particularly in the vicinity of the Tappan Zee Bridge. Rockland County is one of the fastest growing communities in the Metropolitan Region and Westchester is experiencing employment growth in areas around White Plains and the Platinum Mile. The Tappan Zee Bridge and the Corridor provides an important link between these communities and to the overall regional transportation network. In addition to the capacity constraints of the Corridor, the Tappan Zee Bridge is aging and in need of a regular and extensive maintenance program. As the region grows, travel demand will increase on an already strained roadway network. The following needs have been identified for the Corridor:

- Preserve the existing river crossing as a vital link in the regional and national transportation network.
- Provide a river crossing that has structural integrity, meets current design criteria and standards, and accommodates transit.
- Improve highway safety, mobility, and capacity throughout the Corridor.
- Improve transit mobility and capacity throughout the Corridor and travel connections to the existing north-south and east-west transit network.

2.2 Preserve the River Crossing as a Vital Link in the Regional and National Transportation Network

The Tappan Zee Bridge is a critical infrastructure element within the Corridor spanning the Hudson River between Rockland and Westchester Counties. Located between the two-lane Bear Mountain Bridge to the north and the George Washington Bridge to the south, it is the only Hudson River crossing for approximately 46 miles. As a result of the Region's limited river crossings, the Tappan Zee Bridge provides a vital link to communities east and west of the Bridge and north and south. If the Bridge were to become unserviceable the consequences would be devastating to both the regional and local transportation network and economies.

2.3 Provide a River Crossing that has Structural Integrity, Meets Current Design Criteria and Standards and Accommodates Transit

Built in 1955, some components of the Bridge need regular maintenance due to age. As a result, an extensive maintenance program is required to keep the Bridge in a state of good repair. The expenditure for the maintenance program has increased over the years as the age of the Bridge increases. Major rehabilitation of the deck bearings, barriers, steelwork, and concrete are scheduled in the next few years.

In addition to the extensive maintenance program required, elements of the Bridge do not meet current standards, such as lane widths and shoulders. Without shoulders, isolated events such as vehicle breakdowns and minor traffic accidents can cause severe congestion in both directions. In turn, these can become major problems in terms of safety and traffic flow.

In a three-year period from January 2004 to December 2006, the most current accident data available, an average of 1.4 accidents per day occurred between Interchange 9 in Tarrytown and Interchange 10 in Nyack, which includes the Bridge, the approaches to the Bridge and the toll plaza. 911 accidents were reported on the Bridge itself. The majority, 83 percent, were attributed to human error. Human error accidents are routinely associated with the high truck volumes, narrow lane widths, lack of shoulders, steep grades, frequent lane closures, movable barriers and the toll plaza on the Bridge.

While the existing condition is safe, several structural issues need to be addressed. The Bridge is located in a moderate seismically active zone, and was not designed in accordance with current seismic code. The seismic vulnerability of the Bridge is an area of great importance to the Project.

The Bridge also has significant vulnerabilities including overload, steel details, and vessel collision. The most recent study of the Corridor, the Long Term Needs Assessment and Alternatives Analysis (April 2000), which was initiated by the Governors I-287 Task Force, concluded that all of the long-term alternatives evaluated by the Task Force called for replacement of the Tappan Zee Bridge. It was concluded that rehabilitation of the existing structure would be highly disruptive, cost an estimated $1.1 billion and would not result in the necessary safety improvements, mobility enhancements, or capacity improvements.

2.4 Improve Highway, Safety, Mobility and Capacity Throughout the Corridor

The Tappan Zee Bridge I-287/I-87 Corridor continues to grow both in population and employment. Traffic crossing the Tappan Zee Bridge has grown from 100,000 daily trips to nearly 135,000 daily trips since 1990, driven by the opening of I-287 in New Jersey. The areas of Rockland and Westchester Counties are primarily exurban communities with a few areas of dense commercial activity such as the "Platinum Mile". According to projections from NYMTC, future economic growth, as sited in Section 1.1, is expected for Rockland and Orange Counties. As the population and commercial activity in the region increase, the reliance and demand on the I-87/I-287 Corridor will increase.

Traffic is also growing at other points in the Corridor as urban activity develops throughout this region. Congestion on I-287 is spilling onto parallel arterials (in particular, NY Route 59 in Rockland and NY Route 119 in Westchester), especially during peak periods contributing to the existing capacity constraints.

In addition to commuter traffic, weekend traffic is also expected to increase. Traffic volumes are projected to grow 30 percent by 2025 for holidays and summer weekends in Rockland. The large number of non-work, recreational travelers during the Friday PM peak period that exists today would continue to create more westbound congestion than the typical weekday. Similarly, Sunday afternoon and evening eastbound congestion is worse than the weekday AM peak period.

Mobility is often measured by the Level of Service on a roadway. The Highway Capacity Manual (Transportation Research Board Special Report 209, 2000 Edition), defines Level of Service (LOS) on a scale of A through F. LOS A describes free-flow operations while LOS F describes traffic with frequent breakdowns in vehicular flow, commonly characterized as "stop and go" traffic. LOS A through D is characterized as an acceptable condition, while LOS E and F are considered an unacceptable or failing condition.

Currently the Corridor has various levels of congestion depending on the location from acceptable to failing. In Rockland County during the AM Existing peak hour (7AM – 8AM) eastbound operations currently show acceptable conditions with a LOS C throughout most of the County with the exception between Interchange 10 and across the Tappan Zee Bridge which operates at an unacceptable LOS E. In Westchester, more significant congestion is present with unacceptable LOS ratings of D/E for the majority of the Corridor and LOS F in the area near White Plains between Exit 7 and Exit 8 (Table 1-1 and Figure 1-4).

During the PM Existing peak hour (5 PM – 6 PM) westbound operations currently show unacceptable levels of service (LOS E and F) throughout most of the Corridor with the exception between Interchange 10 and Interchange 11 in Nyack, the Tappan Zee Bridge and Interchange 8 (CWE), and Exit 9 and Exit 10 in Westchester County which all operate at a LOS C or D (Table 1-2 and Figure 1-5).

Table 1 – 1
Estimated Main-Line Impacts – Eastbound AM Peak Hour
Existing and 2025 No Build
Vehicle Volumes/LOS

Expressway Segment	Number of Lanes	Effective Capacity	Existing Conditions	2025 No Build
Rockland County				
Int 15 (Rte 17) – Int 14A (GSP)	3	6400	3900/C	4800/D
Int 14A (GSP) – Int 14 (Rte 59)	3	6400	3900/C	5000/D
Int 14 (Rte 59) – Int 13 (PIP)	3	6400	3600/C	4400/F[1]
Int 13 (PIP) – Int 12 (Rte. 303)	3	6400	3900/C	5000/F[1]
Int 12 (Rte. 303) – Int 11 (Rte 9W, Nyack)	3	6400	4200/C	5400/F[1]
Int 11 (Rte 9W, Nyack) – Int 10 (Rte 9W, Nyack)	4	8600	5500/C	7200/F[1]
Int 10 (Rte 9W, Nyack) – Int 9 (Tappan Zee Bridge)	4	8200	6700/E	8800/F
Westchester County				
Int 9 (I-287) – Int 8 (CWE)	4	8200	6300/D	7800/E
Exit 2 (Rte 9A) – Exit 3 (Sprain Brook)	3	5800	5000/E	5200/E
Exit 4 (Rte 100A) – Exit 5 (Rte 100)	4	8100	6600/D	6800/D
Exit 7 (CWP) – Exit 8W (Rte 127)	3	5800	6400/F	6800/F
Exit 9 (HRP) – Exit 10 (Rte 120)	3	6100	4100/D	4500/D

Notes:
1. *LOS F is caused by queues from bridge, not volume on segment itself.*
2. *Existing conditions based on year 1996 counts, the year to which the Best Practice Model (BPM) is calibrated.*
3. *2025 No Build was estimated based on 1996 counts. Recent 2004 counts indicate that in the AM peak congestion may be underestimated in the western portion of Rockland corridor.*

Peak period traffic in the Corridor is projected to increase at an overall rate of 30 percent between 1996 (the baseline year for the stage of the study) and 2025. In the AM peak period on a typical weekday in

2025, traffic operations would worsen throughout Rockland to LOS D/F. The Tappan Zee Bridge would become a capacity constraint primarily due to the existing geometric configuration of the Bridge and the projected high traffic volumes. Traffic approaching the toll plaza, particularly with the speed-reducing three percent upgrade between Interchange 12 and 11, would be at LOS F for the full length of the Bridge and could extend back as far as Interchange 14 (Route 59) in Rockland County, a distance of about 7 miles. Because of the capacity constraint on the Bridge segment, vehicle queues would spill back and cause the existing lane capacity to be exceeded in many locations along the Rockland corridor. The number of lane miles in the Corridor operating at LOS E or F would significantly increase (Figure 1-4 and Table 1-1).

Table 1 – 2
Estimated Main-Line Impacts – Westbound PM Peak Hour
Existing and 2025 No Build
Vehicle Volumes/LOS

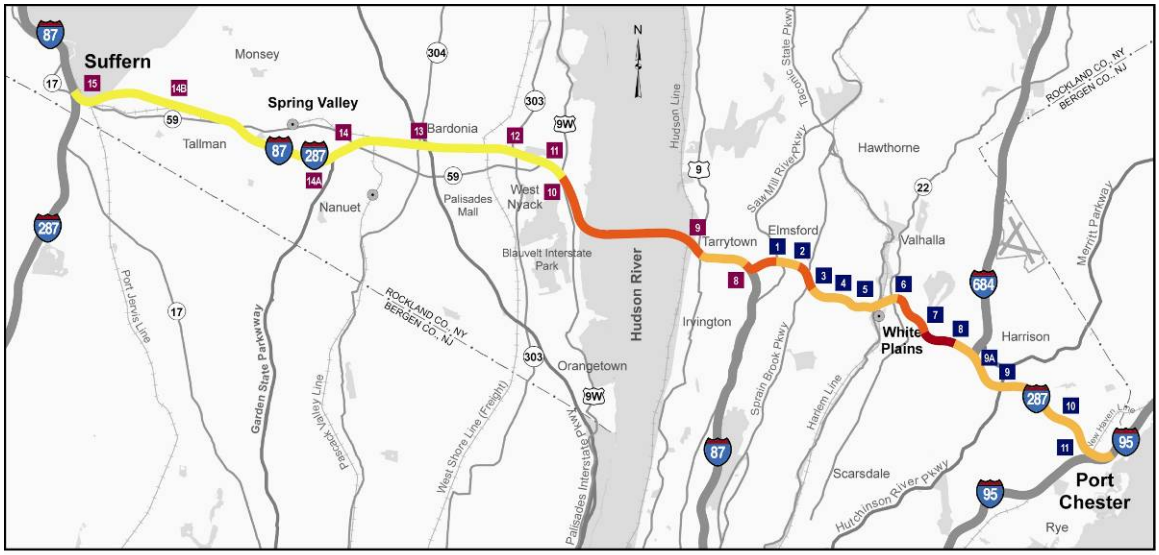
Expressway Segment	Number of Lanes	Effective Capacity	Existing Conditions	2025 No Build
Rockland County				
Int 14A (GSP) – Int 15 (Rte 17)	3	6400	6000/E	7200/F
Int 14 (Rte 59) – Int 14A (GSP)	3	6400	5600/E	6700/F
Int 13 (PIP) – Int 14 (Rte 59)	3	6400	5800/E	6300/E
Int 12 (Rte. 303) – Int 13 (PIP)	3	6100	6200/F	7300/F
Int 11 (Rte 9W, Nyack) – Int 12 (Rte. 303)	3	6400	5600/E	7100/F
Int 10 (Rte 9W, Nyack) – Int 11 (Rte 9W, Nyack)	4	8400	5300/C	7100/D
Int 9 (Tappan Zee Bridge) – Int 10 (Rte 9W, Nyack)	4	8200	6100/D	8100/F
Westchester County				
Int 8 (CWE) - Int 9 (Tappan Zee Bridge)	4	8200	4900/C	6300/F[1]
Exit 3 (Sprain Brook) – Exit 2 (Rte 9A)	3	5800	5100/E	5800/F
Exit 5 (Rte 100) – Exit 4 (Rte 100A)	3	6100	6000/E	6300/F
Exit 8W (Rte 127) – Exit 7 (CWP)	3	5800	5100/E	6000/F
Exit 10 (Rte 120) – Exit 9 (HRP)	3	6100	3700/C	4200/D

Notes:
4. *LOS F is caused by queues from Bridge, not volume on segment itself.*
5. *Existing conditions based on year 1996 counts, the year to which the BPM is calibrated.*
6. *2025 No Build was estimated based on 1996 counts. Recent 2004 counts indicate that in the AM peak congestion may be underestimated in the western portion of Rockland corridor.*

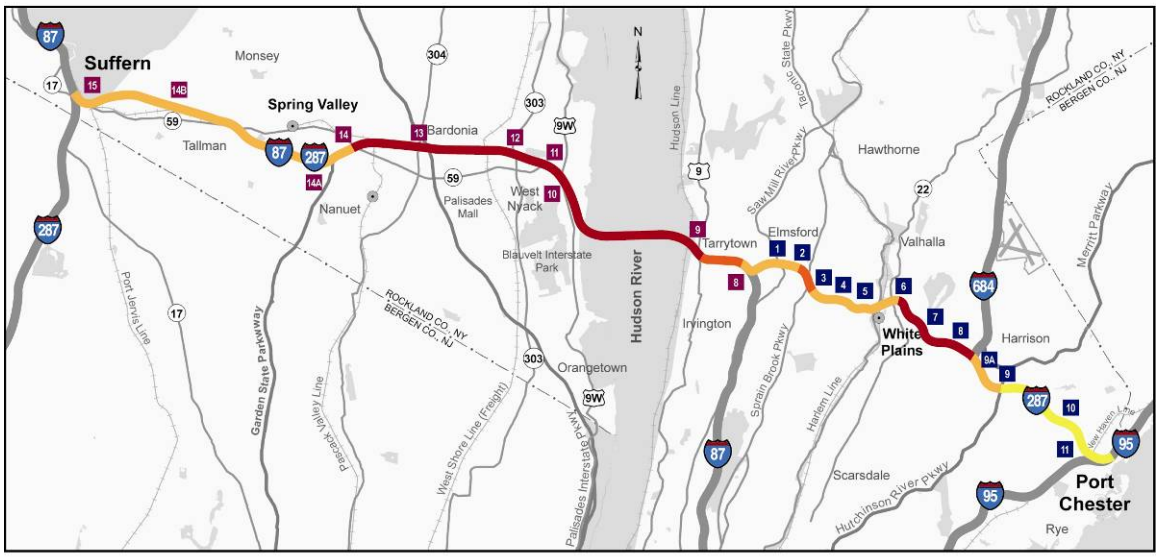
In Westchester, LOS ratings of D/E are projected from the Tappan Zee Bridge to Exit 10 on the Cross Westchester Expressway, a distance of approximately 10 miles (Figure 1-4 and Table 1-1) during the AM peak hour, eastbound direction.

In the PM Peak hour on a typical day in 2025, traffic operations are projected to worsen throughout Rockland and Westchester County. The entire I-287 Mainline between Suffern and the Tappan Zee Bridge in Rockland County would operate at an unacceptable LOS E or F with the exception of a small segment between Interchange 13 and Interchange 14 and between Interchange 10 and 11 in Nyack. Traffic approaching and across the Bridge would operate at an LOS F and continue to operate at unacceptable conditions on I287/CWE through most of Westchester County (Table 1-2 and Figure 1-5).

The analysis of traffic flows and projections indicate that if no improvements are made in the Corridor, peak period spreading (increase in the length of the rush hour) would occur as drivers alter the time of their trip, earlier or later to avoid congestion. With peak spreading in both the AM and PM periods, there would be very little time remaining between the peaks for non-congested operations. Extremely poor operating conditions would extend throughout the entire peak periods.



Existing Mainline LOS
AM Peak Hour Eastbound



No Build 2025 Mainline LOS
AM Peak Hour Eastbound

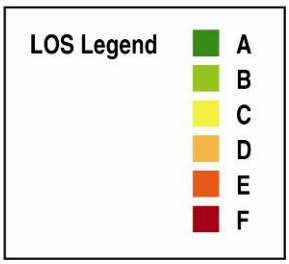
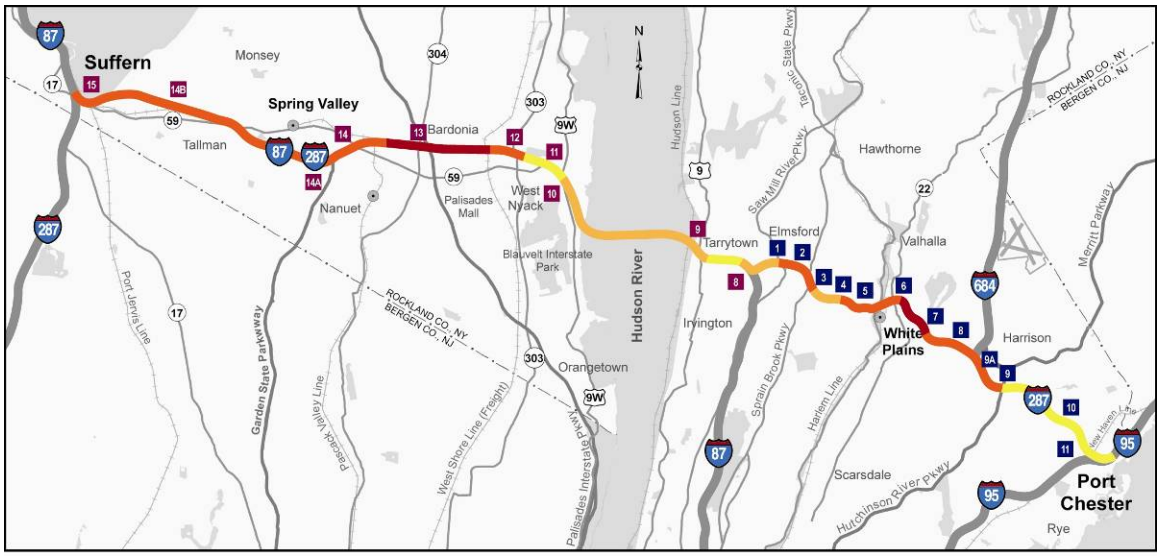
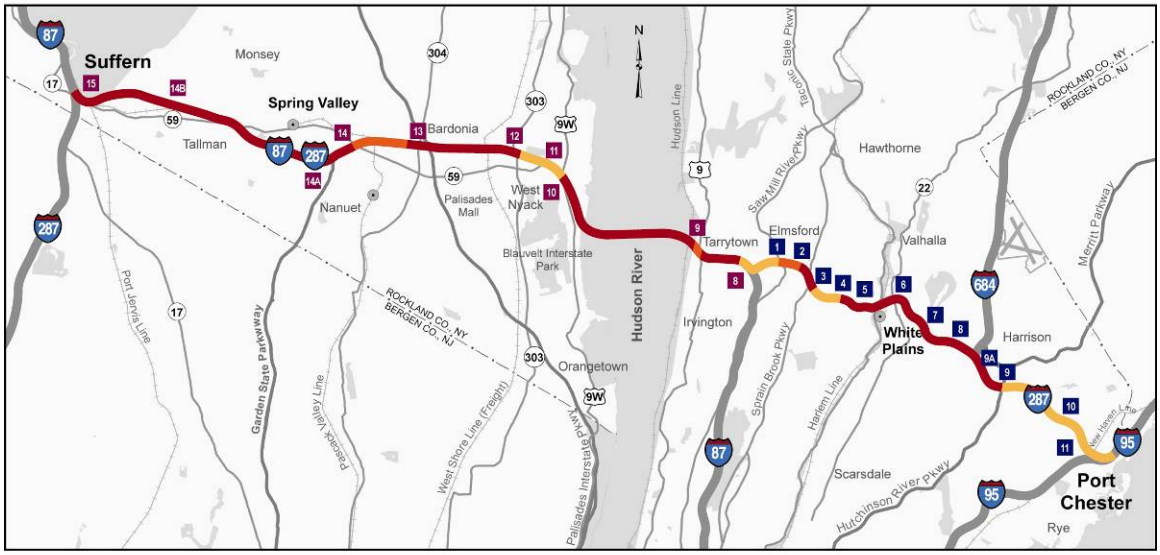


Figure 1-4
Existing and No Build 2025
Mainline LOS Eastbound AM Peak Hour



Existing Mainline LOS
PM Peak Hour Westbound



No Build 2025 Mainline LOS
PM Peak Hour Westbound

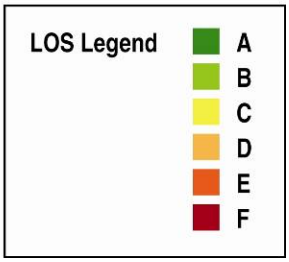


Figure 1-5
Existing and No Build 2025
Mainline LOS Westbound PM Peak Hour

2.5 Improve Transit Mobility and Capacity Throughout the Corridor and Travel Connections to the Existing North-South and East-West Transit Network

The Corridor is served by commuter rail and bus, both express and local. Rail service in the Corridor operates north and south originating in New Jersey and New York and terminating at Grand Central Terminal, Hoboken or Secaucus. Metro-North operates five commuter lines, the Port Jervis Line and the Pascack Valley Line in Rockland and Orange Counties operated under special agreement with New Jersey Transit and three Westchester Lines operated solely by Metro-North, the Hudson, Harlem and New Haven lines. The existing commuter rail lines provide only north and south service from Orange and Rockland Counties through New Jersey to Secaucus, Hoboken or New York Penn Station and from Westchester, Putnam, and Dutchess Counties and Connecticut to Grand Central Terminal in Manhattan (see Figure 1-2). In addition, the existing lines west of the Hudson are operating at or near capacity.

Metro-North's lines east of the Hudson River are oriented to the Manhattan commuter travel market, while the lines west of the river are underutilized since they require a transfer at either Secaucus or Hoboken and result in long travel times for trips in the primary travel markets. Currently there are other transit initiatives being studied by New Jersey Transit (such as Access to the Region's Core ARC which will provide service to the west side of Manhattan via a new Hudson River tunnel to Penn Station), that could improve service to Manhattan for west of Hudson commuters.

Existing transit service through the cross–corridor (Suffern to Port Chester) is limited to bus service which operates in mixed traffic. The bus network includes the Bee Line in Westchester County, Transit of Rockland (TOR) local buses and express buses which are operated by private bus companies under contract by the Counties. Since transit does not have a dedicated lane in the Corridor or across the Bridge, buses are subject to the same congestion as general traffic.

The nearest exclusive transit crossings for the Hudson River are located to the south in New York City: the Lincoln Tunnel bus lane that serves the Port Authority Bus Terminal and the Northeast Corridor rail tunnel that connects to New York Penn Station. As a result, a number of potential transit markets within the Corridor are not served by a dedicated transit system. These transit markets include trips from origins west of the Hudson to Midtown Manhattan; trips generated strictly within the Corridor from Rockland and Westchester origins and destinations; and travel through the Corridor with either an origin or destination in Orange (New York), Bergen (New Jersey), Putnam (New York), Dutchess (New York), or Fairfield County (Connecticut).

3.0 Goals and Objectives

Five goals have been established to address the Bridge, highway and transit needs of the Corridor. Specific objectives for each goal have been identified through outreach with the public and stakeholders and will be used to measure whether the Purpose and Need met the Project's objectives. All levels of screening conducted throughout the project will be consistent with the Purpose and Need and the Project's goals and objectives. Table 1-3 explains the connection between the goals and objectives and the Purpose and Need.

Improve the Mobility of people, goods and services for travel markets served by the Tappan Zee/I-287 Corridor

- Reduce traffic congestion levels
- Improve travel times for local trips
- Improve travel times for regional trips
- Provide modal travel alternatives not subject to roadway congestion
- Increase the share of travel demand accommodated by transit and ridesharing
- Provide a non-motorized means of travel, such as bicycle and pedestrian, across the Hudson River

Maximize the flexibility and adaptability of new transportation infrastructure to accommodate changing long-term demand

- Maximize ability to accommodate increases in travel demand
- Minimize constraints to serving future travel patterns and markets

Maintain and preserve vital elements of the transportation infrastructure

- Assure that the Corridor's transportation infrastructure meets applicable standards for structural design and integrity

Improve the safety and security of the transportation system

- Reduce motor vehicle accident severity and rates
- Improve roadway geometrics to current standards
- Improve the likelihood that the Bridge would withstand a severe natural or manmade event.

Avoid, minimize and or mitigate any significant adverse environmental impacts caused by feasible and prudent corridor improvements

- Minimize community disruption, displacements, and relocations; as well as adverse impacts to public parks, visual resources and aesthetics resulting from mobility improvements in the Corridor
- Implement mitigation measures that are feasible, constructible, innovative, sustainable, cost-effective and that address regulatory requirements.

Table 1 -3
Purpose and Need/Goals and Objectives

Purpose and Need	Goals and Objectives
• Improve highway safety, mobility, and capacity throughout the Corridor • Improve transit mobility and capacity throughout the Corridor and travel connections to the existing north-south and east-west transit network.	**Improve the Mobility of people goods and services for travel markets served by the Tappan Zee Bridge** • Reduce traffic congestion levels • Improve travel times for local trips • Improve travel times for regional trips • Provide modal travel alternatives not subject to roadway congestion • Increase the share of travel demand accommodated by transit and ridesharing • Provide an non-motorized means of travel, such as bike and pedestrian
• Improve highway safety, mobility, and capacity throughout the Corridor • Improve transit mobility and capacity throughout the Corridor and travel connections to the existing north-south and east-west transit network.	**Maximize the flexibility and adaptability of new transportation infrastructure to accommodate changing long-term demand** • Maximize ability to accommodate increases in travel demand • Minimize constraints to serving future travel patterns and markets
• Provide a river crossing that has structural integrity, meets current design criteria and standards and accommodates transit • Preserve the river crossing as a vital link in the regional and national transportation network	**Maintain and preserve vital elements of the transportation infrastructure** • Assure that the Corridor's transportation infrastructure meets current standards for structural design and integrity
• Improve highway safety, mobility, and capacity throughout the Corridor. • Improve transit mobility and capacity throughout the Corridor and travel connections to the existing north-south and east-west transit network. • Provide a river crossing that has structural integrity, meets current design criteria and standards and accommodates transit.	**Improve the safety and security of the transportation system** • Reduce motor vehicle accident severity and rates • Improve roadway geometrics to applicable standards • Improve the likelihood that the Bridge would withstand a severe natural or manmade event.
• Improve highway safety, mobility, and capacity throughout the Corridor • Improve transit mobility and capacity throughout the Corridor and travel connections to the existing north-south and east-west transit network. • Provide a river crossing that has structural integrity, meets current design criteria and standards and accommodates transit • Preserve the river crossing as a vital link in the regional and national transportation network	**Avoid, minimize or mitigate any significant adverse environmental impacts caused by feasible and prudent corridor improvements** • Minimize community disruption, displacements, and relocations; as well as adverse impacts to public parks, visual resources and aesthetics resulting from mobility improvements in the Corridor. • Implement mitigation measures that are feasible, constructible, innovative, sustainable cost-effective and that address regulatory requirements.

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Appendix B: Coordination Plan

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SAFETEA-LU 6002 Coordination Plan
Tappan Zee Bridge/ I-287 Corridor
Environmental Review
P.I.N. 8TZ1.01101

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1. Introduction

1.1 Purpose of Coordination Plan

In an effort to provide for more efficient environmental reviews for project decision making, Section 6002 of Public Law 104-59 "Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users" (SAFETEA-LU), enacted August 10, 2005, implemented the development of a coordination plan for all projects which an Environmental Impact Statement (EIS) is prepared under the National Environmental Policy Act of 1969. The plan's purpose is to coordinate public and agency participation and comment on the environmental review process for the Tappan Zee Bridge /I-287 Environmental Impact Statement.

1.2 Project History

The study corridor extends for approximately 30 miles through Rockland and Westchester Counties from the I-87/I-287 Interchange in Suffern to the I-287/I-95 Interchange in Port Chester. The corridor includes the 3.1-mile-long Tappan Zee Bridge crossing the Hudson River, and encompasses a critical section of the New York State Thruway and the entire Cross Westchester Expressway (CWE, I-287). The CWE is owned by the New York State Department of Transportation (NYSDOT), but is maintained and patrolled by New York State Thruway Authority (NYSTA) from Exit 1 to Exit 10. It provides a critical link in the federal interstate highway system.

Over the years, the Corridor has been the subject of numerous studies and transportation improvements. Improvements that have been made to the Tappan Zee Bridge include the installation of a movable barrier that allows operation of a seven-lane cross section with four lanes in the peak direction, electronic toll collection, and variable pricing for commercial vehicles. Corridor highway improvements include a number of lane additions and other roadway improvements in Rockland County east of Interchange 11 and modifications to the Spring Valley toll barrier. In Westchester, improvements include the reconstruction/reconfiguration of I-87/I-287 Interchange 8 and other safety and operational roadway improvements on I-287. Transit improvements include adding express bus services on I-87/I-287, feeder bus service across the river to the Tarrytown train station (where passengers bound for Manhattan can transfer to Metro-North's Hudson Line), ferry service between the Ossining train station and Haverstraw, and the opening of park-and-ride lots in Rockland County. Despite the many improvements that have been implemented, congestion in the Corridor has grown steadily and the aging bridge structure has reached the point where major reconstruction is needed just to sustain this vital link in the transportation system.

The most recent study of the Corridor was the Long Term Needs Assessment and Alternatives Analysis (April 2000), which was initiated by the Governors I-287 Task Force. The Long Term Needs Assessment and Alternatives Analysis report concluded that while there was no single preferred solution for addressing the transportation needs in the Corridor, both a short-term aggressive Transportation Demand Management (TDM) program and longer-term capital improvements are needed. All of the long-term alternatives evaluated by the Task Force called for replacement of the Tappan Zee Bridge because it was concluded that rehabilitation of the existing structure would be highly disruptive, cost an estimated $1.1 billion, and not result in mobility enhancements or meaningful congestion relief. The Task Force further concluded that offering transit as a viable alternative travel option to the single occupant auto would enhance greatly the Corridor's people-handling capacity.

On November 28, 2000, NYSTA and MTA/MNR announced that an EIS would be undertaken to identify and evaluate alternatives to address the mobility needs of the I-287 Corridor as well as the structural and safety needs of the Tappan Zee Bridge. The alternatives contained in the I-287 Task Force report, as well

as those suggested by elected officials, transportation and environmental groups, community groups, and the public, are all being considered during the current environmental process.

As part of the Alternative Analysis Report and initial environmental process, two cycles of alternative screening, Level 1 and Level 2, were conducted. In Level 1 screening, a "long list" of approximately 150 alternative elements was identified, analyzed, and evaluated according to a limited set of selection criteria. The key criteria used in the screening process included corridor mobility, projected ridership, cost effectiveness, operational aspects, capital and operating/maintenance costs, engineering and constructability considerations, and environmental impacts. These key criteria were developed through a comprehensive program of public outreach, review of previous studies, and recommendations from various agencies and public officials, and were grouped into four broad categories: travel demand management (TDM) and transportation system management (TSM); new/improved transit services; corridor improvements; and Hudson River crossing improvements.

In order to implement the Level 2 screening process, it was necessary to develop the elements in sufficient detail to permit the necessary transportation, engineering, environmental, and cost analyses associated with the Level 2 screening process. This involved developing conceptual designs for highway, bridge, and transit elements; developing conceptual, station locations, level service plans for those scenarios with transit components; and extensive computer modeling to forecast future travel demand.

While the screening activities were in process, SAFETEA-LU was signed into law on August 10, 2005 refining the environmental review process under NEPA. In addition in December 2005, NYSDOT became a more active participant due to the regional importance of the Project with its role growing to project director in May 2007.

The Project has also refined the environmental review process since the original NOI was published in 2002. The Tappan Zee Bridge/I-287 Corridor project is a multimodal project with proposed bridge, highway and transit improvements. In an effort to expedite the delivery of integrated, multi-modal transportation improvements in way that allows each modal element to advance at its own appropriate pace, the EIS will be conducted with a tiered analysis approach. The EIS will conduct two levels of analysis:

- Tier 1 analysis findings on the transit mode and alignment associated with the preferred alternative.
- Tier 2 analysis findings on the bridge facilities and transit elements from the Tier 1 analysis, approaches and associated highway network improvements within the Corridor associated with the preferred alternative.

This process will allow the project to focus the environmental review process and progress work that has been conducted to date. Section 1.5 discusses in greater detail this process.

Due to these significant events FHWA and FTA requested that the Project reissue the Notice of Intent formally recognizing the role of NYSDOT and officially complying with SAFETEA-LU Section 6002 guidance for future technical activities.

1.3 Key Resource Concerns

As part of the NEPA process, affected environment, impacts, and mitigation will be evaluated for transportation, environmental, social, and economic elements within the Project area. The EIS will contain discussion on the following topics: land use and zoning; displacement and relocation; park lands and public open space; community facilities and services; socioeconomics; environmental justice; transportation; air quality; noise and vibration; energy; historic resources; archaeological resources; visual

resources; topography, geology, and soils; water resources; ecology; hazardous materials/waste; utilities; Section 4(f)/6(f) properties; indirect and cumulative impacts; and other NEPA considerations.

The following topics have the potential to affect the Project schedule:

- Surface Waters and Navigation
- Historic and Archaeological Resources-
- Wetlands
- Air Quality
- Noise
- Ecology
- Secondary (Indirect) and Cumulative Impacts

2. Lead/Cooperating/Participating Agencies

2.1 List of Agencies, Roles, and Responsibilities

SAFETEA-LU requires the identification of lead, participating, and cooperating agencies in the development of an EIS. For the Tappan Zee Bridge I-287 EIS, the lead agencies include the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) with the New York State Department of Transportation (NYSDOT), New York State Thruway Authority (NYSTA), and Metro North Railroad, a subsidiary of the Metropolitan Transportation Authority (MTA/MNR). They will determine what other federal, state, and local agencies will serve as joint lead agencies, project sponsors, participating agencies, and cooperating agencies.

Under SAFETEA-LU, the lead agencies must perform the functions that they have traditionally performed in preparing an EIS in accordance with 23 CFR part 771 and 40 CFR parts 1500-1508. In addition, the lead agencies now must identify and involve participating agencies; develop coordination plans; provide opportunities for public and participating agency involvement in defining the Purpose and Need and determining the range of alternatives; and collaborate with participating agencies in determining methodologies and the level of detail for the analysis of EIS alternatives. In addition, lead agencies must provide increased oversight in managing the process and resolving issues.

Cooperating Agencies and Participating Agencies
According to Council on Environmental Quality (CEQ) regulations (40 CFR 1508.5), "cooperating agency" means any Federal agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative. A State or local agency of similar qualifications or, when the effects are on lands of tribal interest, a Native American tribe may, by agreement with the lead agencies, also become a cooperating agency.

Participating agencies are those with an interest in the project. The standard for participating agency status is more encompassing than the standard for cooperating agency status described above. Therefore, cooperating agencies are, by definition, participating agencies, but not all participating agencies are cooperating agencies. The lead agencies should consider the distinctions noted below in deciding whether to invite an agency to serve as a cooperating/participating agency or only as a participating agency.

The roles and responsibilities of cooperating and participating agencies are similar, but cooperating agencies have a higher degree of authority, responsibility, and involvement in the environmental review process. A distinguishing feature of a cooperating agency is that the CEQ regulations (40 CFR Section 1501.6) permit a cooperating agency to "assume on request of the lead agency responsibility for developing information and preparing environmental analyses including portions of the environmental impact statement concerning which the cooperating agency has special expertise." An additional distinction is that, pursuant to 40 CFR 1506.3, "a cooperating agency may adopt without re-circulating the environmental impact statement of a lead agency when, after an independent review of the statement, the cooperating agency concludes that its comments and suggestions have been satisfied." This provision is particularly important to permitting agencies, such as the U.S. Army Corps of Engineers, who, as cooperating agencies, routinely adopt USDOT environmental documents.

Table 2.1 lists all of the Lead and Cooperating Agencies involved in the environmental review process for the proposed project and their associated roles and responsibilities.

Table 2.1 Lead and Cooperating Agencies

Agency	Role	Responsibilities
Federal Highway Administration (FHWA)	Co-Lead Agency	Manage environmental review process; prepare EIS and decision document; provide opportunity for public & participating/cooperating agency involvement, arbitrate and resolve issues.
Federal Transit Administration (FTA)	Co-Lead Agency	Manage environmental review process; prepare EIS and decision document; provide opportunity for public & participating/cooperating agency involvement, arbitrate and resolve issues.
New York State Department of Transportation (NYSDOT)	Co-Lead Agency	Manage environmental review process; prepare EIS and decision document; provide opportunity for public & participating/cooperating agency involvement, arbitrate and resolve issues.
Metro North Railroad (MNR) a subsidiary of the Metropolitan Transportation Authority (MTA)	Co-Lead Agency	Manage environmental review process; prepare EIS and decision document; provide opportunity for public & participating/cooperating agency involvement, arbitrate and resolve issues.
New York State Thruway Authority (NYSTA)	Co-Lead Agency	Manage environmental review process; prepare EIS and decision document; provide opportunity for public & participating/cooperating agency involvement, arbitrate and resolve issues.
New York State Department of Environmental Conservation (NYSDEC)	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation Tidal Wetland Permit Freshwater Wetland Permit Protection of Waters Permit Stormwater Discharge Permit SPDES Permit Stationary Air Emission Source Permit
United States Coast Guard (USCG)	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation Responsible for shipping channel and shipping traffic in the Hudson River

Table 2.1 Lead and Cooperating Agencies

Agency	Role	Responsibilities
United States Army Corp of Engineers (USACE)	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation Potential to adopt the EIS and coordinate public outreach when possible. Section 404 Permit Section 10 Rivers and Harbors Act Permit
US Fish and Wildlife Service (USFWS)	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation Responsible for the federal review of the Section 404/10 Corps Permit Process.
National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA)	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation Endangered Species Act Section 7 Consultation and Permits, Biological Assessment review, etc. Responsible for the federal review of the Section 404/10 Corps Permit Process.
US Environmental Protection Agency (EPA)	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation Responsible for the approval of construction within Sole Source Aquifers. Responsible for the federal review of the Section 404/10 Corps Permit Process.

Table 2.1 Lead and Cooperating Agencies

Agency	Role	Responsibilities
New York State Office of Parks, Recreation and Historic Preservation (SHPO) *(Section 106 Consulting Party)*	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation Responsible for Federal Section 106 Review and State Review pursuant to the New York State Historic Preservation Act of 1980.
National Park Service	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation
New York State Department of State	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation
New York State Office of General Services	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation
New York City Department of Environmental Protection	Cooperating Agency	Provide comments on: • Purpose and Need • Range of Alternatives • Methodologies • Level of detail for analysis of alternatives • Identification of issues that could substantially delay or prevent granting of permit/approval. • Opportunities for collaboration • Mitigation Coordination with the aqueduct issues.

Note that Cooperating Agencies are also automatically assigned the additional role of Participating Agencies.

The following agencies have been identified as Section 106 Consulting parties and will be consulted throughout the project, the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), New York State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP). These agencies have jurisdiction on pre-historic/historic architectural and archaeological resources. Other consulting parties will be identified and engaged throughout the project as the need arises.

Table 2.2 lists all of the agencies that have been involved in the project to date and those that have been invited to become Participating Agencies. According to SAFETEA-LU 6002, Participating Agencies are defined as any Federal, State or local agency or Native American tribe that has an interest in the project. As Participating Agencies, they will be responsible for the following items:

- Providing comments on the Purpose and Need;
- Providing comments on the Range of Alternatives;
- Providing comments on the Coordination Plan;
- Identifying issues that could substantially delay the project;
- Providing comment on assessment methodologies and level of detail within their agencies' area of expertise; and
- Identifying opportunities for collaboration and mitigation.

Table 2.2 Participating Agencies

Agency	Invite Confirmation	Invite Denial
1. US Department of the Interior, Office of Environmental Policy and Compliance		
2. United States Department of Agriculture, Natural Resources Conservation Service		
3. United States Transportation Command		
4. Federal Railroad Administration		
5. Federal Aviation Administration		
6. Federal Energy Regulatory Commission		
7. United States Department of Defense		
8. United States Department of Energy		
9. United States Department of Health and Human Services		
10. Centers for Disease Control		
11. New York State Police – Troop K		
12. New York State Police – Troop F		
13. New York State Office of Homeland Security		
14. Port Authority of New York and New Jersey		
15. Westchester County Department of Health		
16. Rockland County Department of Health		
17. Federal Emergency Management Agency		
18. National Park Service		
19. Soil and Water Conservation District, Rockland County		
20. Soil and Water Conservation District, Westchester County		
21. Advisory Council on Historic Preservation *(Section 106 Consulting Party)*		
22. NYS Department of State, Coastal Zone Management		

Table 2.2 Participating Agencies

Agency	Invite Confirmation	Invite Denial
23. NYS Office of General Services		
24. Palisades Interstate Park Commission		
25. Newburgh-Orange County Transportation Council		
26. New York Metropolitan Transportation Council		
27. North Jersey Transportation Planning Authority		
28. South Western Regional Planning Agency		
29. Orange County		
30. Rockland County		
31. Westchester County		
32. City of Port Jervis		
33. City of Rye		
34. City of White Plains		
35. Town of Clarkstown		
36. Town of Greenburgh		
37. Town of Orangetown		
38. Town of Ramapo		
39. Town of Rye		
40. Town of Sleepy Hollow		
41. Village of Airmont		
42. Village of Chestnut Ridge		
43. Village of Elmsford		
44. Village of Grandview-On-Hudson		
45. Village of Hasting-On-Hudson		
46. Village of Hillburn		
47. Village of Irvington		
48. Village of Kaser		
49. Village of Montebello		
50. Village of Port Chester		
51. Village of Rye Brook		
52. Village of Nyack		
53. Village of South Nyack		
54. Village of Spring Valley		
55. Village of Suffern		
56. Village of Tarrytown		
57. Village of Upper Nyack		

These tables will be completed upon receipt of agency acknowledgements of the agency coordination and participation letters. Agencies have 30 days to accept and identify a contact person or decline in writing. In accordance with SAFETEA-LU, Cooperating Agencies are also Participating Agencies, and non responding Participating Agencies will have the opportunity to provide comments with the public. The Participating Agency list will be revised and updated as needed throughout the duration of the Project.

2.2 Agency Contact Information

Table 2.3 lists all of the agencies involved in the SAFETEA-LU 6002 process for the TZB/I-287 Project, points of contact, and if available phone/email.

Table 2.3
Agency Contact Information

Agency	Contact	Address	Phone/Email
1. US Army Corp of Engineers, Department of the Army ***(Current Cooperating Agency, re-affirm status)***	Mr. Richard L. Tomer Chief, Regulatory Branch	26 Federal Plaza, Room 1937 New York, NY 10278	917.790.8510 Richard.I.tomer@usace.army.mil
2. NYS Department of Environmental Conservation ***(Current Cooperating Agency, re-affirm status)***	Ms. Margaret (Peg) Duke, Permit Director Region 3	21 South Putt Corners Road New Paltz, NY 12561	845.256.3059 meduke@gw.dec.State.ny.us
3. NYS Department of Environmental Conservation *(Current Cooperating Agency, re-affirm status)*	Mr. Michael Sheenan	625 Broadway Albany, NY 12233	
4. US Coast Guard ***(Current Cooperating Agency, re-affirm status)***	Mr. Gary Kassof, Commander First Division OBR	Battery Park Building One South Street New York, NY 10004	212.668.7021 Gary.kassof@uscg.mil
5. US Fish and Wildlife Service ***(Invited as Cooperating Agency)***	Mr. Steve Sinkevich Senior Fish and Wildlife Biologist	3 Old Barto Road Brookhaven, NY 11719	631.776.1401 Steve_sinkevich@fws.gov
6. National Oceanic and Atmospheric Administration, National Marine Fisheries Service ***(Invited as Cooperating Agency)***	Ms. Diane Rusanowsky Reviewing Biologist	212 Rogers Avenue Milford, CT 06460	203.882.6571 Diane.rusanowsky@noaa. gov
7. US Environmental Protection Agency ***(Invited as Cooperating Agency)***	Ms. Lingard Knuston Regional NEPA Coordinator	290 Broadway, 25th Floor New York, NY10007	212.637.3747 Knutson.lingard@epamail.epa.gove
8. New York State Office of Parks, Recreation and Historic Preservation ***(Invited as Cooperating Agency)***	Ms. Ruth L. Pierpont Director Field Service Bureau, NYS OPRHP	PO Box 189 Waterford, NY 12188	518.237.8643 Ruth.pierpont@oprhp.state.ny.us
9. National Park Service ***(Invited as Cooperating Agency)***	Dennis R. Reidenbach, Northeast Regional Director	U.S. Custom House 200 Chestnut Street, 5th Floor Philadelphia, PA 19106	215.597.7013
10. NYS Department of State, Coastal Zone Management ***(Invited as Cooperating Agency)***	Mr. George Stafford, Director of Coastal Resources	41 State Street Albany, NY 12231	518.474.6000
11. NYS Office of General Services ***(Invited as Cooperating Agency)***	Mr. Charles Sheifer, Real Estate Officer / Assistant Chief Bureau of Land Management Officer	Corning Tower, 26th Floor Empire State Plaza Albany, NY 12242	518.474.2195 Charles.sheifer@Ogs.state.ny.us
12. New York City Department of Environmental Protection ***(Invited as Cooperating Agency)***	Ms. Emily Lloyd, Commissioner	Customer Service Center 59-17 Junction Boulevard, 13th Floor Flushing, NY 11373	
13. US Department of the Interior, Office of Environmental Policy and Compliance	Ms. Ethel Smith Environmental Protection Specialist	1849 C Street, NW Washington, DC 20240-0001	202.208.4169 Ethel_smith@ios.doi.gov
14. United States Department of Agriculture, Natural Resources Conservation Service	Secretary Charles F. Conner	Office of the Secretary 1400 Independence Ave, SW, Room 200A Washington, D.C. 20250	
15. United States Transportation Command (TRANSCOM)	Rear Admiral Mark Harnitchek, USN	Office of Public Affairs United States Transportation Command Scott Air Force Base, IL 62225-5357	618.229.4828
16. Federal Railroad Administration (Railroad)	Joseph H. Boardman, Administrator	Federal Railroad Administration Office of Railroad Development 1120 Vermont Avenue NW - Mail Stop 20 Washington, D.C. 20590	202.493.6381
17. Federal Aviation Administration	William J. Flanagan	Airports Division, AEA -600 Eastern Region 1 Aviation Plaza Jamaica, NY 11434	718.553.3330
18. Federal Energy Regulatory Commission	Thomas R. Herlihy, Executive Director	Environmental Evaluation Branch 888 First Street, NE Room 1A Washington, D.C. 20426	202-502-8715

Table 2.3
Agency Contact Information

Agency	Contact	Address	Phone/Email
19. United States Department of Defense	Asst. Deputy Under Secretary of Defense for Environment, Safety and Occupational Health	3400 Defense Pentagon, Room 3C553 Washington, D.C. 20301-3400	
20. United States Department of Energy	Carol M. Borgstorm, Director	Office of NEPA Policy and Compliance (EH-42) 1000 Independence Ave, SW Washington, D.C. 20585-0119	
21. United States Department of Health and Human Services	Secretary Mike Leavitt	200 Independence Avenue, S.W. Washington ,D.C. 20201	202.690.7000
22. Centers for Disease Control (CDC)		Special Program Group (F16) National Center for Environmental Health 1600 Clifton Road Atlanta, GA 30333	
23. New York State Police		Troop K 2541 Route 44 Salt Point, NY 12578	845.677.7300
24. New York State Police		Troop F 55 Crystal Run Road Middletown, NY 10941	845.344.5300
25. New York State Office of Homeland Security		1220 Washington Avenue State Office Campus Building 7A, Suite 710 Albany, NY 12242	518.402.2227
26. Port Authority of New York and New Jersey	Anthony E. Shorris, Executive Director	225 Park Avenue South New York, NY 10003	212.435.7000
27. Westchester County Department of Health	Joshua Lipsman, Commissioner of Health	145 Huguenot Street, 8th Floor New Rochelle, NY 10801	914.813.5000
28. Rockland County Department of Health	Joan H. Facelle, Commissioner of Health	Robert L. Yeager Health Center Building D 50 Sanatorium Road Pomona, NY 10970	845.364.2512
29. Federal Emergency Management Agency	Mr. Steve Kempf, Regional Director	26 Federal Plaza, Suite 1337 New York, NY 10278	212. 680.3600
30. Soil and Water Conservation District, Rockland County	Mr. Allan Beers District Manager	50 Sanitorium Road Building P Pomona, NY 10970	845.364.2670
31. Soil and Water Conservation District, Westchester County	Mr. Robert Doscher, District Manager	148 Martine Avenue Room 432 White Plains, NY 10601	914.995.4407
32. Advisory Council on Historic Preservation	Ms. Carol Legard FHWA Liaison	1100 Pennsylvania Ave., NW Suite, 809 Old Post Office Building Washington, D.C. 20004	202.606.8503 clegard@achp.gov
33. Palisades Interstate Park Commission	Mr. Michael T. Cullen Sr. Landscape Architect	Administration Building Bear Mountain State Park Bear Mountain, NY 10911	845.786.2701 Michael.cullen@ oprhp.state.ny.us
34. Newburgh-Orange County Transportation Council (NOCTC)	Mr. David E. Church AICP, Commissioner Orange County Department of Planning	124 Main Street Goshen, NY 10924	845.291.2318 dchurch@co. orange.ny.us
35. New York Metropolitan Transportation Council	Mr. Gerry Bogacz, Director of Planning	199 Water Street, 22nd Floor New York, NY 10038	212.383.7260 gbogacz@dot. state.ny.us
36. North Jersey Transportation Planning Authority	Mr. Joel S. Weiner, Executive Director	One Newark Center, 17th Floor Newark, NJ 07102	973.639.8400
37. South Western Regional Planning Agency	Mr. Daniel A. Wilder, Chairman	Government Center, 3rd Floor 888 Washington Blvd. Stamford, CT 06901	203.316.5190
38. Orange County	Mr. Edward A. Diana, County Executive	One County Government Center 255 Main Street Goshen, NY 10924	845.291.2700
39. Rockland County	Mr. C. Scott Vanderhoef, County Executive	Office of the County Executive 11 New Hempstead Road New City, NY10956	845.638.5122

Table 2.3
Agency Contact Information

Agency	Contact	Address	Phone/Email
40. Westchester County	Mr. Andrew J. Spano, County Executive	Michaelian Office Building 148 Martine Avenue White Plains, NY 10601	914.995.2900
41. City of Port Jervis	Mr. Gary W. Lopriore Mayor	Office of the Mayor 20 Hammond Street Port Jervis, NY 12771	845.858.4017
42. City of Rye	Mr. Steven Otis Mayor	City Hall 1051 Boston Post Road, 3rd Floor, Room 31 Rye, NY 10580	914.967.7404
43. City of White Plains	Mr. Joseph M. Delfino Mayor	Department of Planning 255 Main Street – Annex White Plains, NY 10601	914.422.1252
44. Town of Clarkstown	Mr. Alexander J. Gromack Town Supervisor	10 Maple Avenue New City, NY 10956	845.639.2056
45. Town of Greenburgh	Mr. Paul Feiner Town Supervisor	177 Hillside Avenue Greenburgh, NY 10607	914.993.1500
46. Town of Orangetown	Mr. Thom Kleiner Town Supervisor	Town Hall 26 Orangeburg Road Orangeburg, NY 10962	845.359.5100
47. Town of Ramapo	Mr. Christopher P. St. Lawrence Town Supervisor	Town Hall 237 Route 59 Suffern, NY 10901	845.357.5100
48. Town of Rye	Mr. Robert A. Morabito Town Supervisor	Town Hall 10 Pearl Street Port Chester, NY 10573	914.939.3075
49. Town of Sleepy Hollow	Mr. Phillip E. Zegarelli Mayor	28 Beekman Avenue (2nd Floor) Sleepy Hollow, NY 10591	914.366.5100
50. Village of Airmont	Mr. Dennis Kay Mayor	251 Cherry Lane PO Box 578 Tallman, NY 10982	845.357.8111
51. Village of Chestnut Ridge	Mr. Jerome Kobre Mayor	277 Old Nyack Turnpike Chestnut Ridge, NY 10977	914.425.2805
52. Village of Elmsford	Mr. Robert Williams Mayor	Village Hall 15 South Stone Avenue Elmsford, NY 10523	914.592.6555
53. Village of Grandview-On-Hudson	Mr. Lawrence R. Lynn Mayor	118 River Road Grand View-On-Hudson, NY 10960	845.358.2919
54. Village of Hasting-On-Hudson	Mr. Francis A. Frobel Village Manager	Village Hall 7 Maple Avenue Hastings-on-Hudson, NY 10706	914.478.3400
55. Village of Hillburn	Mr. Brian L. Miele Mayor	Village Hall 31 Mountain Avenue Hillburn, NY 10931	845.357.2036
56. Village of Irvington	Ms. Erin Malloy Mayor	Village Hall 85 Main Street Irvington, NY 10533	914.591.7070
57. Village of Kaser	Mr. Bernard Rosenfeld Mayor	Village Hall 15 Elyon Road Kaser, NY 10952	845.352.2932
58. Village of Montebello	Mr. Jeffrey S. Oppenheim Mayor	Village Hall One Montebello Road Montebello, NY 10901	845.368.2211
59. Village of Port Chester	Mr. Dennis Pilla Mayor	Village Hall 10 Pearl Street Port Chester, NY 10573	914.939.5204
60. Village of Rye Brook	Mr. Lawrence A. Rand Mayor	Village Hall 938 King Street Rye Brook, NY 10573	914.939.1121
61. Village of Nyack	Mr. John Shields Mayor	Village Hall 9 North Broadway Nyack, NY 10960	845.358.0229
62. Village of South Nyack	Ms. Patricia Du Bow Mayor	282 South Broadway South Nyack, NY 10960	845.358.5078

Table 2.3
Agency Contact Information

Agency	Contact	Address	Phone/Email
63. Village of Spring Valley	Mr. George O. Darden Mayor	200 North Main Street Spring Valley, NY 10977	845.573.5867
64. Village of Suffern	Mr. John B. Keegan Mayor	61 Washington Ave. Suffern, NY 10901	
65. Village of Tarrytown	Mr. Stephen McCabe, Village Administrator	Village Hall 21 Wildey Street Tarrytown, NY 10591	914.631.1885
66. Village of Upper Nyack	Mr. Michael Esmay Mayor	Village Hall 328 N. Broadway Upper Nyack, NY 10960	845.358.0084

This table will be revised upon receipt of agency acknowledgements of the agency coordination and participation letters.

3. Coordination Points, Responsibilities and Project Schedule

3.1 Coordination Points, Information Requirements and Responsibilities

SAFETEA-LU establishes milestones within the environmental review process for involvement and review opportunities. Table 3.1 summarizes the key coordination points between the lead agencies, cooperating agencies, participating agencies, and the public including which agency is responsible for activities during that coordination point. Estimated dates are included for informational and resource planning purposes. Time frames and review periods are established in accordance with SAFETEA-LU unless covered under existing agreements (i.e. review periods established in the NYSDOT/FHWA/SHPO Section 106 Agreement). Note that this table documents activities related to the release of the revised NOI and SAFETEA-LU compliance. It does not document historic project activities.

Table 3.1 Coordination Points

	Coordination Point	Anticipated Date	Originating Agency	Receiving Agency	Task	Anticipated Completion
1	Notice of Initiation Letter	January 2008	NYSDOT	FHWA/FTA	Letter sent to FHWA/FTA, FHWA/FTA acknowledges receipt in writing	January 2008
2	Notice of Intent to Prepare an EIS	February 2008	NYSDOT	FHWA/FTA	NOI to be drafted by NYSDOT, reviewed and accepted by FHWA/FTA, Published in the Federal Register	February 2008
3	Identification of Participating and Coordinating Agencies	February 2008	NYSDOT	Participating and Cooperating Agencies	Invitation letter sent by NYSDOT, Agencies have 30 days to accept and identify a contact person or decline in writing	March 2008
4	Coordination Plan including schedule	February 2008	NYSDOT	Public, Participating and Cooperating Agencies	Coordination plan issued by NYSDOT, Subject to revisions as needed and based upon initial comments, Initial comment period will be part of the public scoping update period	March/April 2008
5	NEPA Scoping Update Meetings	February 2008	NYSDOT FHWA/FTA	Public	Scoping update meetings will be held; comments will be taken on the scoping package including the purpose and need, coordination plan, and range of alternatives; a scoping summary report will be drafted	February 2008
6	Purpose and Need	February 2008	NYSDOT	Public, Participating and Cooperating Agencies	Comments will be accepted as part of the scoping update process	TBD
7	Range of Alternatives	February 2008	NYSDOT	Public, Participating and Cooperating Agencies	Comments will be accepted as part of the scoping update process.	June 2008

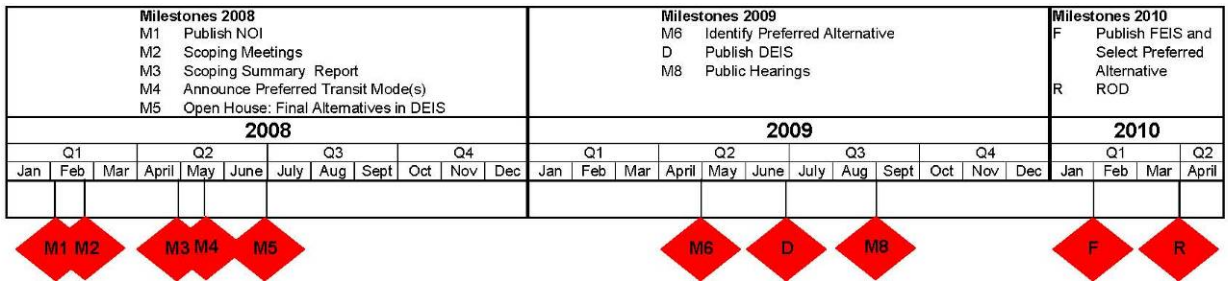
Table 3.1 Coordination Points

	Coordination Point	Anticipated Date	Originating Agency	Receiving Agency	Task	Anticipated Completion
8	Assessment Methodologies	As needed	NYSDOT, NYSTA, MNR	Varies by issue Permitting Agencies, Participating and Cooperating Agencies	Numerous methodologies were developed in cooperation with the permitting agencies and agencies with federally recognized guidance or jurisdiction. Additional methodologies will be developed or refined as a result of tiering on an as needed basis with comment from coordinating and participating agencies.	As needed
9	Identify Preferred Alternative	To be determined	NYSDOT,	Cooperating Agencies	Cooperating Agencies to comment on preferred alternative.	To be Determined
10	Administrative DEIS	March 2009	NYSDOT, FHWA/FTA	Cooperating Agencies	NYSDOT to issue a working draft for high level review and comment, may be issued on a chapter by chapter basis.	June 2009
11	DEIS Circulation	June 2009	NYSDOT, FHWA/FTA	Public, Participating and Cooperating Agencies	Public hearing and comment period	September 2009
12	Administrative FEIS	December 2009	NYSDOT, FHWA/FTA	Cooperating Agencies	NYSDOT to issue a working draft for high level review and comment.	January 2010
13	FEIS Circulation	February 2010	NYSDOT, FHWA/FTA	Public, Participating and Cooperating Agencies	Public Review	February 2010
14	Record of Decision	April 2010	NYSDOT, FHWA/FTA	Public, Participating and Cooperating Agencies	Public Notice in the Federal Register, starts 180 day clock for legal challenges	April 2010
15	Permits	January 2010	NYSDOT	Permitting Agencies	Review of permits and issue permits	To be Determined

3.2 Project Schedule

A general project schedule is provided below.

Note that detailed coordination information for participating and cooperating agencies is provided in table 3.1 above. In general, participating agencies will have 30 days from the transmittal of information from NYSDOT or FHWA/FTA in which to respond and provide comments. The Project schedule anticipates EIS with issuance of the ROD by FHWA/FTA in the second quarter of 2010.



Key Milestones include:

- Announcement of the Preferred Transit Mode is anticipated in May 2008,
- Publication of the DEIS is anticipated in June 2009,
- Public Hearings for the DEIS is anticipated in September 2009,
- Publication of the FEIS is anticipated in February 2010, and
- Publication of the Record of Decision is anticipated in April 2010.

4. Revision History

Changes to the coordination plan are identified below.

Note: If the schedule requires modification, concurrence on the schedule is only required from cooperating agencies if the schedule is being shortened. Participating agencies are not required to concur with the changes.

Table 4.1

Version	Date	Name/Section	Description

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Appendix C: Rehabilitation or Replacement of Tappan Zee Bridge

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Bridge Evaluation Criteria

Engineering

- Structural Integrity
- Seismic
- Emergency Response
- Construction Impacts
- Vulnerability
- Redundancy
- Navigation
- Life Span

Transportation

- Travel Time
- Alt. Modes/Mode Split
- Non-Vehicular Travel
- Rail Freight
- Traffic Safety
- Roadway Congestion
- Transit Ridership
- Reserve Capacity
- Trans. System Integration

Environmental

- Land Use
- Historic Resources
- Archaeological Resources
- Ecosystems
- Visual Resources
- Displacements
- Acquisitions
- Parklands & Section 4(f)
- Water Resources
- Aesthetics

Cost-Effectiveness

- Capital cost
- Operating and Maintenance Costs
- Life Cycle Cost

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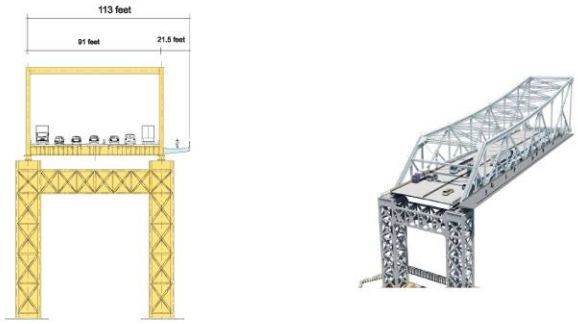
Bridge Rehabilitation Options

Rehabilitation Option 1

Existing Bridge Rehabilitated for Alternative 2

- 7 GP lanes (one reversible as existing)
- Ped/Cycle

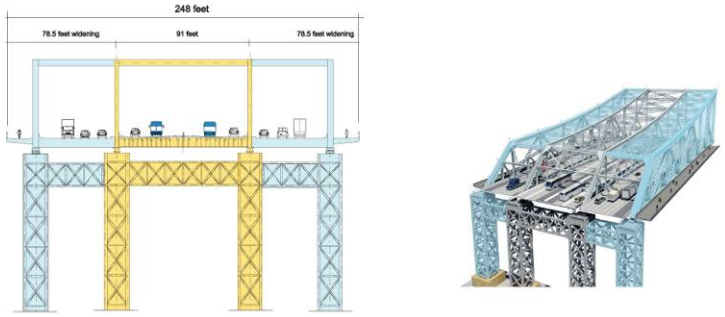


Rehabilitation Option 2

Existing Bridge Widened on both sides For Options 3A and 3B

Key
Existing Structure Modified
New Structure

- 8 GP lanes
- 2 HOV Lanes
- 2 Ped/Cycle

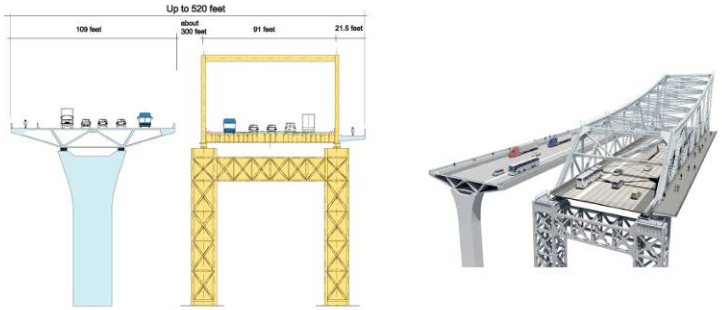


Rehabilitation Option 3

Existing bridge rehabilitated and single level new parrallel structure for Options 3A and 3B

Key
Existing Structure Modified
New Structure

- 8 GP lanes
- 2 HOV Lanes
- 2 Ped/Cycle

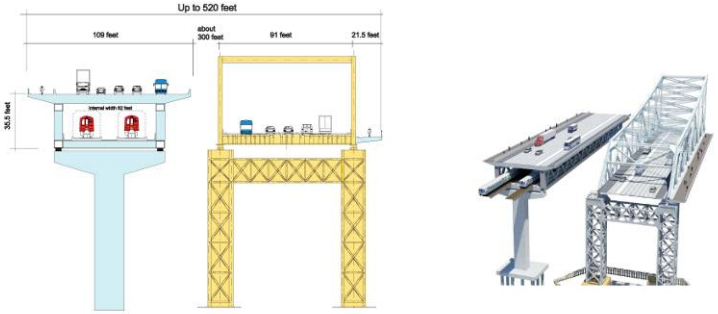


Rehabilitation Option 4

Existing bridge rehabilitated and new dual level parallel structure for Alternatives 4A, 4B, 4C and Option 4D

Key
Existing Structure Modified
New Structure

- 8 GP lanes
- 2 HOV Lanes
- 2 Ped/Cycle
- 2 CRT tracks

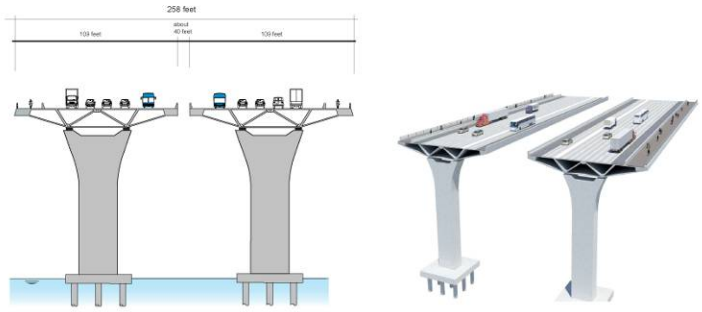


Bridge Replacement Options

Replacement Option 1

New, Single Level Bridge for Alternative 3 and Options 3A and 3B

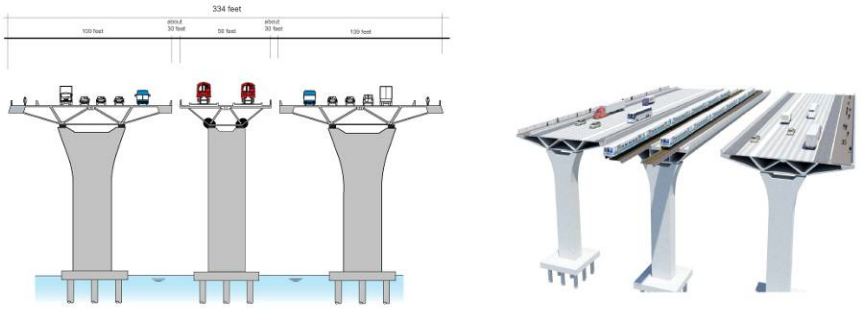
- 8 GP lanes
- 2 HOV Lanes
- 2 Ped/Cycle



Replacement Option 2

New, Single Level Bridge for Alternatives 4a, 4b, 4c and Option 4D

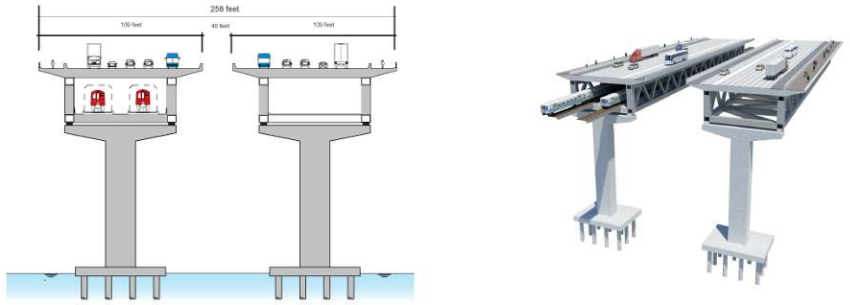
- 8 GP lanes
- 2 HOV Lanes
- 2 Ped/Cycle
- 2 CRT tracks



Replacement Option 3

New,Dual Level Bridge for Alternatives 4a, 4b, 4c and Option 4D

- 8 GP lanes
- 2 HOV Lanes
- 2 Ped/Cycle
- 2 CRT tracks



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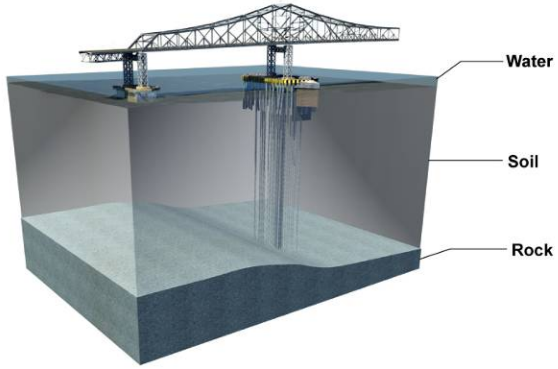
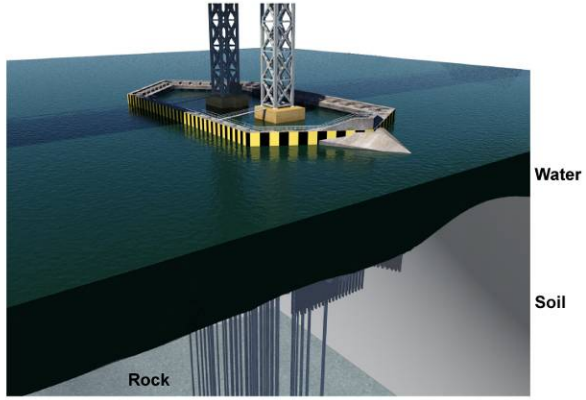
Bridge Foundation Details

Existing Bridge Foundation at Main Span





Appendix D: Transit Mode Selection Implementation Plan

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TAPPAN ZEE BRIDGE/I-287
ENVIRONMENTAL REVIEW

Tappan Zee Bridge Project
Transit Mode Selection Implementation Plan

The Transit Mode Selection Process has been derived from following simple principles:

- Evaluation based upon the goals and objectives;
- Builds upon the existing Alternatives Analysis work completed and additional Stage 2 work;
- Utilizes a limited but relevant number of criteria to determine advantages, disadvantages and differentiators between modes; and
- Utilizes quantitative analysis to the extent possible (i.e., air quality emissions) and maximizes qualitative analysis.

The essence of the process is simplicity and transparency for state and federal agencies as well as the general public and special interest groups.

Process

The development of the criteria for the evaluation of transit modes is based upon the established goals and objectives. The evaluation will enable comparisons among the modes to determine if there are significant differentiators; and if there are any major issues associated with a mode.

The evaluation of the mode, to the extent practical, should not be an assessment of a specific alignment, but rather a judgment on the ability of the mode to be built and operated within the corridor defined. Further, the criteria will be able to identify differences in the basic capability of the mode in carrying capacity, operating requirements, flexibility and impacts to the communities it passes through. Social, economic, financial and environmental and ridership performance will be utilized to measure whether differences are significant or minor.

Evaluation Criteria

The following evaluation criteria shall be considered for use in the evaluation of the transit modes:

Evaluation Criteria Summary Table

Evaluation Criteria	Measurement
TRANSIT RIDERSHIP CRITERIA	
Total Daily Transit Trips for Selected Major Markets	Total number of daily transit riders within the study area calculated for: o Cross Corridor o New York City o Total
New Transit Trips	Number of daily new transit riders that will utilize the new transit service
Daily Transit Ridership for the New Service	Total number of daily transit riders on the new service calculated for: o Intra-Rockland/Orange-Rockland o Cross Hudson o Intra-Westchester/Westchester-Orange o Cross-Hudson to/from Grand Central Terminal o Tappan Zee Station to/from Grand Central Terminal o Total

Evaluation Criteria	Measurement
Transit Accessibility West of Hudson	Number of crossing from the West side of the Hudson to the East side in the AM peak period for: o Tappan Zee Bridge o All Hudson River Crossings
ROADWAY CONGESTION CRITERIA	
Autos Diverted	Estimated number of vehicles crossing the Tappan Zee bridge in the AM peak period and that will be diverted due to transit
Vehicle Miles Traveled (VMT)	Estimated number of vehicle miles traveled within the region
CAPACITY CRITERIA	
Capacity at Peak Load Point for New Service	Estimated number of "seats" provided on the new transit service based upon a potential service plan and estimated vehicle configuration for crossings on the Tappan Zee Bridge. Calculated for Manhattan bound and cross corridor destinations
Potential to Meet Future Growth Projections	Estimated number of "seats" provided on the new transit service based upon a maximization of the service plan and vehicle configuration for crossings on the Tappan Zee Bridge. Calculated for Manhattan bound and cross corridor destinations
TRAVEL TIME CRITERIA	
Travel Time for New Service on Selected Trip Pairs	Estimated travel time from two points along the corridor utilizing the new transit service. Approximately 22 trip pairs will be estimated, they can be grouped into the following general patterns: o Intra-Rockland o Rockland-Westchester o Manhattan Bound o Westchester-Connecticut o Connecticut-Westchester o Westchester-Westchester o To and from the Bronx
Travel Time Savings for the Selected Trip Pairs	Estimated time savings calculated by comparing the travel time to the results of the no build. Approximately 22 trip pairs will be estimated, they can be grouped into the following general patterns listed above.
Number of Transfers	Estimated number of transfers. Approximately 22 trip pairs will be estimated, they can be grouped into the following general patterns listed above.
Aggregate Travel Time Savings	Travel time savings calculated and aggregated for all of the trip pairs mentioned above
ENVIRONMENTAL EVALUATION CRITERIA	
Consistency with Land Use Plans	Local land use plan review
Residential and Commercial Acquisitions/Displacements	Estimated residential displacements Estimated commercial displacements Estimated total acquisitions Underground easements
Transit Oriented Development (TOD) Potential	Assessment of opportunities for mixed use development in conjunction with transit
Wetlands	Estimated potential impacted acreage

Evaluation Criteria	Measurement
Parklands	Estimated direct impacts to parkland and recreational resources
Historic and Archaeological Resources	Estimated direct impacts to historic and archaeological resources
Hudson River Habitat Disturbance	Estimated acres of river bottom disturbance, both permanent and temporary
Energy	Units derived from estimated Vehicle Miles Traveled (VMT)
COST EVALUATION CRITERIA	
Capital Cost	Capital cost estimate by alternative and the transit option
Annual Operating Cost	Operating cost estimate by alternative and transit option
Fare Revenue	Estimated fare revenue based upon the service plan assumptions
O & M Cost per Rider	Ridership and Operations and Maintenance estimate
Net Cost per Passenger	$\frac{\text{Cost}}{\text{Annual Ridership}}$
Net Cost per Passenger Mile	$\frac{\text{Cost}}{\text{Annual Passenger Miles}}$