It has been a very busy year for the Tappan Zee Bridge/I-287 Corridor Project—one marked by continued progress and close attention to public input. Here’s what has been accomplished to date:

- The environmental process has been streamlined and will continue with the production of two Environmental Impact Statements (EIS). The initial EIS will evaluate plans for improving the I-287 corridor and bridge. The first (current) EIS will identify the transit mode or modes (commuter rail, bus rapid transit, light rail), its general route, and beginning and end points. It will also evaluate plans to accommodate that transit in an improved I-287 highway and bridge corridor. The second EIS will focus on integrating the mass transit mode into the communities it will serve, including route specifics and location and design of transit stations. A final decision on the first EIS in the spring of 2010 will kick off work on the second. Continuing the study in this way will allow the highway and bridge improvements to begin several years sooner, in the process saving hundreds of millions of dollars each year in project costs.

- We are now following new federal regulations (known as Section 6002) that mean increased opportunities for comment and involvement from agencies and the public, active engagement of participating and cooperating agencies with an interest in or jurisdiction over this study, and a formal process for agencies to resolve issues.

- Over 300 people attended our Scoping Update meetings held on February 26–28, 2008 in Westchester, Orange, and Rockland Counties. More than 250 comments were received, both at the meetings and submitted by mail, fax, and email during the scoping comment period. The comments will be factored into our recommendations.

- Our Stakeholders’ Advisory Working Groups (SAWGs) continued to meet and review the study’s latest analyses.

- The project team has met, and will continue to meet, with the public in various other settings. We’ve met with a range of cooperating and participating agencies including federal, state, and local agencies and municipalities. Additionally, we are reaching out to consulting parties as part of the National Historic Preservation Act, the law that considers a project’s effects on historic properties.

Now, as a result of continuous technical analysis and public input, the project team is able to present its preliminary study results for two major components of the study:

- Rehabilitation or replacement of the Tappan Zee Bridge
- Selection of the transit mode that will best meet the transportation needs of the corridor and will be studied in the Draft Environmental Impact Statement (DEIS)

The following pages present a summary of these results. With your help, we will select a transit mode and find a solution for the bridge. More in-depth information will be available soon in the Alternatives Analysis for Rehabilitation or Replacement of the Tappan Zee Bridge and Transit Mode Selection reports, which will be posted at www.tzbsite.com.

Please review our website for more project-related information, let us know what you think, and stay in touch throughout the study.

Thank you for your continued interest and participation.

Michael P. Anderson, P.E.,
Project Director
To comprehensively assess which rehabilitation or replacement alternatives are reasonable alternatives for further evaluation in the Draft Environmental Impact Statement, the project team developed several options for study (see below).

All the rehabilitation options call for complete replacement of the bridge’s causeway section to bring it up to the current standards required to withstand the effects of an earthquake. The foundations also would be replaced. All options add at least one or two bicycle/pedestrian paths. Except for Rehabilitation Option 1, all the options would provide eight lanes with full shoulders added to increase safety, as well as space to accommodate a form of transit.

The options were evaluated according to the criteria proposed last February (see page 3).

**Rehabilitation Options for the Tappan Zee Bridge**

**Rehabilitation Option 1**
This option, which maintains the bridge’s existing configuration—seven lanes, one of which is a reversible lane—adds a bicycle/pedestrian path on one side of the bridge. It does not provide an exclusive lane for transit and does not meet the project’s Purpose and Need.

*Cost: $3.4 billion

**Rehabilitation Option 2**
This option would widen and strengthen the bridge structure to fit eight general purpose lanes, two BRT/HOV lanes, and two bicycle/pedestrian paths.

*Cost: $6.4 billion

**Rehabilitation Option 3**
This option constructs a parallel bridge. Each bridge would carry traffic in a separate direction and consist of four general purpose lanes, one BRT/HOV lane, and a bicycle/pedestrian path. The existing bridge would be rehabilitated and a support added to carry the bicycle/pedestrian path.

*Cost: $5.1 billion

**Rehabilitation Option 4**
This option adds a parallel structure to carry two commuter rail tracks. Each bridge would carry traffic in a separate direction and consist of four general purpose lanes, one BRT/HOV lane, and a bicycle/pedestrian path. The existing bridge would be rehabilitated and a support added to carry the bicycle/pedestrian path.

*Cost: $6.3 billion

**Replacement Options for the Tappan Zee Bridge**

**Replacement Option 1**
In this option, two new parallel structures would each carry four general purpose lanes, one BRT/HOV lane, and one bicycle/pedestrian path.

*Cost: $5.2 billion

**Replacement Option 2**
Three new parallel structures would carry eight general purpose lanes, two BRT/HOV lanes, two commuter rail tracks, and two bicycle/pedestrian paths.

*Cost: $6.4 billion

**Replacement Option 3**
Two new parallel, dual-level structures would each carry four general purpose lanes, one BRT/HOV lane, and one bicycle/pedestrian path. The northern structure also would carry two commuter rail tracks on its lower level. The double deck configuration results in an overall narrower structure width than that in Replacement Option 2.

*Cost: $6.6 billion

*All costs are in 2012 dollars and include capital costs for the bridge only. They do not include the associated highway and transit work that also would be completed as part of the complete project.
All rehabilitation options involve substantial and complex modifications to strengthen the structure. These are similar in scale to the effort required to construct a new bridge. For example, all eight of the bridge’s floating foundations would need to be replaced, and the piers and steelwork would need to be modified and strengthened. A substantial percentage of the bridge would need to be replaced and a new partner structure added for the rehabilitation to be successful. Overall, with the new partner structure, the causeway replacement, and the foundation replacement, over 80 percent of the bridge would be new in the rehabilitation options that meet the Purpose and Need.

Although an extensive and complex rehabilitation would improve the Tappan Zee’s structural condition and reduce short-term maintenance requirements, it would not address the bridge’s lack of redundancy (duplication of members), and the residual 20 percent would retain vulnerabilities, especially among critical components in the deck and truss. Because of the extensive work needed for a bridge rehabilitation, potential environmental impacts of a rehabilitation, including those to the Hudson River, are similar to those expected if a replacement bridge were to be built. Construction costs also are similar for rehabilitation and replacement.

Both the rehabilitated and new bridge would be designed and constructed according to all current standards for structural integrity and would be expected to last up to 130 years. However, the new bridge would be designed to respond to a seismic event (i.e., an earthquake) predictably and reliably. The replacement bridge could be constructed while the existing bridge is still in place, with fewer disruptions to traffic than would occur if the bridge were to be rehabilitated. The duration of construction in the river to replace the bridge foundations—called for by all rehabilitation options—is likely to be longer than replacing the bridge.

When the Tappan Zee Bridge opened in 1955, its foundations, which float in the Hudson River, were a major innovation. The buoyancy reduced the number of deep piers that needed to be driven down to rock. The floating foundations are not suitable to withstand the effects of a major seismic event. The rehabilitation options would therefore replace the foundations so they are up to today’s standards. Below, in orange, are the foundations and main span members that would need to be replaced if the bridge were to be rehabilitated.

Because the extent of work needed on the Tappan Zee’s 1.6-mile causeway section is substantial, all rehabilitation options would remove and replace this part of the bridge. Supported by a foundation of timber piles, the causeway is 8,360 feet long—about half the length of the 16,100-foot bridge. The new causeway would be constructed north of the existing one and meet all current bridge standards. All lanes on the existing causeway would be kept operational while the new one is being built, but tie-in of the new causeway will introduce curves and significantly complicate traffic during construction.

The current Tappan Zee Bridge, at right, has seven lanes, one of which is reversible. It has no shoulders for breakdowns and no dedicated transit lanes.

To improve safety and mobility, full-width shoulders, lanes to accommodate transit, HOV, and bicycle/pedestrian paths would be added, either on a widened bridge (as in Rehabilitation Option 1, at left) or a parallel structure. The number of general purpose lanes would remain the same.

We also are in a better position to support and sustain the economic vitality of the region and facilitate smart growth and sustainable development, with a comprehensive, dependable mass transit system in the corridor.

In the past few years, the project team has studied the merits of the three transit modes for the Suffern-to-Port Chester corridor—commuter rail transit (CRT), bus rapid transit (BRT), and light rail transit (LRT)—and how they would best serve two sets of commuters: those traveling across the Hudson River between Rockland and Westchester Counties and points beyond, and those from Orange, Rockland, and western Westchester heading to and from Manhattan. Evaluation criteria were developed last February to identify which of these modes should be carried forward in the Environmental Impact Statement. Several alternatives and options were developed to test and identify the transit mode(s) that best serves the corridor.

Once the mode(s) is identified and selected, the project team will develop alternatives that best integrate the mode(s) into the corridor. These will be studied in detail in the Draft Environmental Impact Statement. The final transit alternatives will be presented for public review later this year.

From its very beginning, the project has focused on the critical need to develop dependable transit solutions that accommodate future growth in the Tappan Zee Bridge/1-287 Corridor while reducing dependence on the automobile as the sole means of travel. A new transit system would relieve the significant growth in congestion expected in the future and provide direct connections or transfers to five rail lines, transfers to north-south bus lines, and direct service to and from employment centers. By taking a long-term view in our planning and decision making, we are able to better address our current energy situation, rising fuel costs, dependency on foreign oil, and global warming.
Alternatives and Options for Evaluation

The following alternatives and options were developed to evaluate which transit mode—bus rapid transit, light rail, or commuter rail—would work best for the study areas. The transit mode analysis took into account transportation, environmental, economic, and social concerns. Discussions of both existing and proposed transit options on pages two and three (except Rehabilitation Option 4C) are compatible with the alternatives and options below. Each assessment is independent of the other, and need not since it does not include a transit system. In addition to the alternatives and options shown below, a full-comfort LRT option that facilities considered and eliminated in an earlier phase of the study was re-evaluated in this round. The travel times and new options validated in the final assessment and found that this option performed poorly. All alternatives and options have three general purposes and two high-occupancy vehicle (HOV) high-occupancy toll (HOT) lanes in Rockland and across the bridge. Re l a t i v e t r a n s i t m o d e e v a l u a t i o n

Commuter Rail Transit (CRT)

Bus Rapid Transit (BRT)

Light Rail Transit (LRT)

Alternative 3 would provide a 4000-ft long rapid transit (BRT) system between Suffern and Port Chester. The CRT would use HOT lanes in Rockland and exclusive bus lanes in Westchester. This would allow bus travel at higher speeds and have more reliable travel times. Alternative 3A, an enhanced version of Alternative 3, includes a more robust BRT service plan and extends the LRT line to the Port Chester train station. Alternative 3B, an option for an LRT system at the Tappan Zee Bridge, would construct a new LRT system. This alternative would carry between 21,000 and 23,200 passengers per day in the year 2030. 

Alternative 4B would extend the motorway across the Tappan Zee Bridge to the Connecticut shore. The BRT would use high-speed bus rapid transit (i.e., bus lanes and rail transit) with a one-seat ride to Manhattan. This would allow bus travel at high speeds and have more reliable travel times. Alternative 4C would provide an exclusive bus rapid transit (BRT) system between Suffern and Grand Central Terminal. This option would carry between 21,000 and 23,200 passengers per day in the year 2030.

Alter nati ve 4D would provide commuter rail service between Suffern and Grand Central Terminal as has rapid transit between Suffern and Port Chester, serving both New York City-bound and cross-corridor passengers.

Preliminary Transit Results

Transit travel time and energy consumption are the factors of primary interest in this evaluation. Our ridership numbers indicate that BRT systems attract the highest number of daily trips. Bus Rapid Transit (BRT) systems—strongly preferred over CRT systems in Rockland County—and the existing Tarrytown station (4D), with a one-seat ride down the Hudson Line to Rockland County. The commuter rail would branch off Metro-North’s Port Jervis Line near Taylor. This would allow bus travel at higher speeds and have more reliable travel times. Alternative 3A, an enhanced version of Alternative 3, includes a more robust BRT service plan and extends the LRT line to the Port Chester train station. Alternative 3B, an option for an LRT system at the Tappan Zee Bridge, would construct a new LRT system. This alternative would carry between 21,000 and 23,200 passengers per day in the year 2030.

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Travel time savings: Compared to the proposed Tappan Zee commuter rail station in Tarrytown and Port Chester, Alternative 3 would provide feeder service to the New Haven Line. This would allow buses to travel at higher speeds and have more reliable travel times. Alternative 4B would extend the motorway across the Tappan Zee Bridge to the Connecticut shore. The BRT would use high-speed bus rapid transit (i.e., bus lanes and rail transit) with a one-seat ride to Manhattan. This would allow bus travel at high speeds and have more reliable travel times. Alternative 4C would provide an exclusive bus rapid transit (BRT) system between Suffern and Grand Central Terminal. This option would carry between 21,000 and 23,200 passengers per day in the year 2030. 

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Preliminary Transit Results
**Cost**

**Capital Costs** The capital costs of building and providing a transit system in the corridor are shown in the graph below.

The least expensive of these systems is BRT, and the most expensive are two rail alternatives, Alternatives 4A and 4B. In between are the two commuter rail/BRT systems, Alternative 4C and Option 4D.

**Total Transit Capital Cost (2012 Dollars)**

These costs include bridge, highway, and transit elements. The graph below shows the updated costs, in 2012 dollars, for each alternative and option considered. These costs include bridge, highway, and transit elements.

**Total Costs of the Alternatives and Options (2012 Dollars)**

<table>
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<tr>
<th>Alternatives/Options</th>
<th>Rockland</th>
<th>Westchester</th>
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**What’s Next?**

We need your input on the project team’s initial findings. Public comments are important to us. We encourage you to use the comment cards available at public information meetings or to contact us via our website, www.tzbsite.com. The team plans to review and consider all comments and will incorporate your comments in the Scoping Summary Report, expected to be published later this year. This report, which will close the scoping update phase, also will include the final list of alternatives that will be studied in the Draft Environmental Impact Statement (DEIS).

We expect the DEIS work to take about one year and anticipate public hearings in the fall of 2009. Visit www.tzbsite.com