



TAPPAN ZEE BRIDGE/I-287  
ENVIRONMENTAL REVIEW

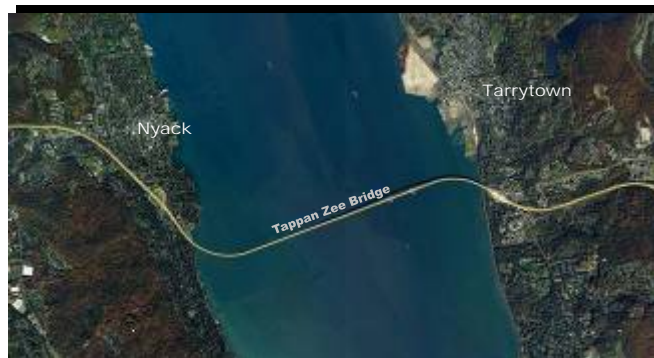
**New York State Department of Transportation  
Metropolitan Transportation Authority Metro-North Railroad  
New York State Thruway Authority**

**Meeting Minutes**

***Stakeholders' Advisory Working Group  
Bridge Meeting 7***

***Tappan Zee Bridge/I-287 Corridor  
Environmental Review***

---



**November 18, 2008**



TAPPAN ZEE BRIDGE/I-287  
ENVIRONMENTAL REVIEW

## Bridge SAWG Meeting 7

Holiday Inn Suffern

Name	Attendance 10/18/2008
Helmer, William F.	X
Hintersteiner, Robert	X
Hoffman, Milton	X
Messina, John B.	X
Richards, Paul G.	X
Trenk, Neil	X
<b>Alternates</b>	
Lorenzini, Marie	X
<b>Also attending:</b>	
Jacob, Klaus	X

### 1. INTRODUCTION

The meeting was opened with an introduction from Kristine Edwards, the NYSDOT bridge manager, who welcomed all to the meeting. Kristine outlined that this meeting was the last in a series of three about the studies and ongoing efforts to complete the *Alternatives Analysis for Rehabilitation or Replacement of the Tappan Zee Bridge Report*.

The first meeting on this subject, Bridge SAWG 6 on April 17, focused on the Engineering Criteria. The second meeting was the combined SAWG and Stakeholders meeting on October 16, which presented the overall recommendations. This meeting, the third in the series, focused on the evaluation results for the Cost, Transportation and Environmental Criteria.

Kristine outlined that the details and recommendations of the report were presented at three public information meetings at the end of October and that the formal period to comment would be open until December 1<sup>st</sup>.

### 2. STUDY TEAM PRESENTATION

The following pages outline details of the technical presentation made by the study team. The presentation focused on the results of the evaluation criteria used in the draft report *Alternatives Analysis of Rehabilitation or Replacement of the Tappan Zee Bridge*.

### **3. DISCUSSIONS AFTER PRESENTATION**

1. Question: Any changes to the staging of the construction of the replacement bridge?

Response: No change to the staging outlined in the previous meeting was envisioned. Construction would be in three major stages. First, 90% of the new bridge would likely be built to the north of the existing bridge. Second, traffic would be shifted from the existing bridge to the new bridge, then the existing bridge would be removed and replaced with a new bridge. In the third stage, the final landings of the new bridge would be completed.

2. Question: What is the cost of the possible replacement bridge? SAWG member highlighted concerns about possible soil failure under seismic loading that may affect cost or feasibility.

Response: Costs for all the options were determined using the same methodology using costs per pile and per foundation components. A large contingency of 30% was added to all costs pending more detailed design of the possible replacement bridge in the future. Analysis of the soil capacities under seismic conditions indicated some failures near the surface that were taken into account in the design of the piles. Overall, the capacity of the piles used was found to be well in excess of the demands applied with potential for cost savings later in the EIS/Design process.

3. Question: How many people will be employed on the possible replacement bridge construction?

Response: The number of construction personnel had not been determined yet for the possible replacement bridge. Construction of a recent large bridge required up to 1,000 personnel directly involved with many more thousands in the supply chain.

4. Question: Why were the impacts on the Hudson River ecosystems almost the same for all the options?

Response: The similarity in impacts results from the similar scale of work required in the river that may potentially disrupt the riverbed's sediments. In all options, the Causeway is replaced with new foundations (similar for all options) in the western 1.5 miles of the bridge. In the remaining sections, the replacement or enlargement of foundations for the rehabilitation options is also similar in scale to the new foundations required in the replacement options.

5. Question: Will the buoyant foundations be considered for a possible replacement bridge.

Response: Buoyant foundations were not used in the analysis conducted for the draft report. Though the option had been considered it was rejected for now as unsuitable and vulnerable.

6. Question: What span lengths were considered in the draft report?

Response: Span lengths of 230 and 450 feet were used in the replacement options. These span lengths covered the full range of likely possible spans.

7. Question: Discuss the feasibility and details of the foundations in the Causeway area.

Response: All options assumed a new Causeway with all adopting the same foundation type in the deep soft soils. The foundation consisted of up to 12 steel piles in each foundation. Each pile was 4-foot in diameter with steel thickness of up to 1.5 inches. Analysis results indicated that the capacity of these assumed piles would be 3-4 times greater than the demands with potential for either a reduction in the number of piles or a reduction in the steel thickness. All analysis indicated that reasonable foundations were feasible for the Causeway area. Technical review by national experts also reached the same conclusions.

8. Question: What is the next stage in the process?

Response: The next stage is the DEIS and the identification of the bridge options going forward into the DEIS. These options will be identified once all the comments from the Public Information Meetings had been received and included in the draft report. It was suggested that the next bridge SAWG meeting in January discuss the requirements of the DEIS.

9. Question: What is the difference between DEIS and EIS?

Response: The EIS (Environmental Impact Statement) is composed of two parts – the DEIS followed by the FEIS. The DEIS (Draft Environmental Impact Statement) is the first document produced which will likely identify a preferred alternative. The document is then subject to a Public Hearing and the outcome is included in a final document – the FEIS (Final Environmental Impact Statement).

10. Question: Will the bridge type be identified as part of the EIS process?

Response: It is unlikely that the final bridge form would be identified in the EIS. Instead it was anticipated that a bridge ‘envelope’ would be identified that would describe the types of bridges that would be appropriate. This methodology would preserve the decision on the final bridge form until later to take advantage of contractor and design innovation in the design process after the EIS.

In the EIS, focus would be more on the Fit and Function of the bridge particularly at the landings.

11. Comment: A SAWG member highlighted the work of the Sea Level Rise Task Force (SLRTF) and NYS Energy Research and Development Authority (NYSERDA) Programs that would inform the development of the Design Criteria for a possible replacement bridge.

Response: A USCG public notice on navigational clearances will be issued shortly, with 30-day comment period provided. We will take the lead from these agencies on the appropriate incorporation of this issue.

12. Comment: Member opened a discussion on the continuing role of the bridge SAWG

Response: To date the group had made key input in the development of options and evaluations for the Rehabilitation and Replacement Options. This role would continue but would be more focused on the landings and arrangements of a possible replacement bridge. It was anticipated that there would be further meetings of the group through 2009.

13. Comment: Member indicated a desire for pedestrian/cycleways on the possible replacement bridge.

14. Comment: A SAWG member requested the opportunity to take the floor (granted) and made a presentation suggesting a possible arrangement/form of a replacement bridge. Details of his presentation are included overleaf.

**PROPOSED BRIDGE OPTIONS**

**BRIDGE TRAFFIC**

<b>Estimated VPD 2035 / 2008</b>
<b>Cross-Corridor - 81,000 / 139,500</b>
<b>To/From NYC - 103,800 / 10,500</b>
<b>Total - 184,800 / 150,000</b>

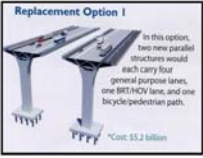
**THE PROBLEM**

- I-287 TRAFFIC CONGESTION**
- 70% of the traffic between Rockland and Westchester
- 23% To NYC Area & Long Island
- 7% To Manhattan



**TAPPAN ZEE BRIDGE**

- Existing Bridge will be removed after the new TZB is built.
- The new crossway/bridge will contain CRT/BRT/HOV services.
- FEIS will be completed in 2010 [?] and it will contain:
  - The type of bridge to be built.
  - Financing
  - Transportation Options



**REPLACEMENT OPTION 1**

- Two - four lane crossway/bridges
- North of the existing bridge
- Using the same portals
- Requires at least 150 piers each
- Over 300 intrusions into the Hudson River
- Existing Bridge has about 200 intrusions



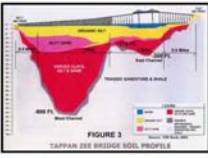
**REPLACEMENT OPTION 2**

- Three crossway/bridges
- North of the existing bridge
- Using the same portals
- Third crossway/bridge for CRT
- At least 450 intrusions in the Hudson River



**REPLACEMENT OPTION 3**

- Two crossway/bridges
- North of the existing bridge
- Using the same portals
- Double-decker span
- CRT on lower deck
- 300 intrusion into the River



**MAIN SPAN**

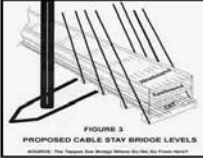
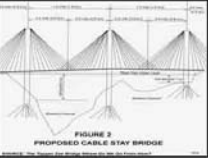
- Requires at least 155 feet of clearance height for shipping
- East Channel 40 ft in depth
- West Channel 7 ft in depth
- Tidal surge varies 7 feet twice per day

**MAIN SPAN SUSPENSION BRIDGE**

- Suspension Bridge span length of 2 miles (10,500 ft)
  - Verrazano-Narrows - 4,260 feet
  - Golden Gate - 4,200 feet
  - Strait of Messina Bridge - 10,877 feet
- Abutments under the existing portals/roadway

**MAIN SPAN PARTIAL SUSPENSION BRIDGE**

- Partial Suspension bridge 1 mile span Floating abutments
- Requires one for each crossway/bridge, or
- Combine all crossways into one bridge



Any Questions