



TAPPAN ZEE BRIDGE/I-287
ENVIRONMENTAL REVIEW

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

Presentation

Stakeholders' Advisory Working Group (SAWGs)

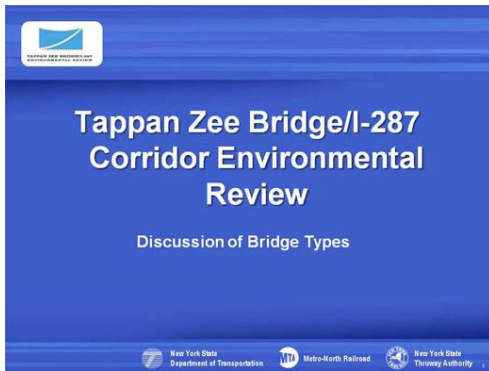
Bridge SAWG Meeting #21

Tappan Zee Bridge/I-287 Corridor Project



September 30, 2010

1. Bridge Slide Presentation



Slide 1

Mark Roche, Arup (engineering consultant), welcomed everyone to the meeting and explained the agenda.

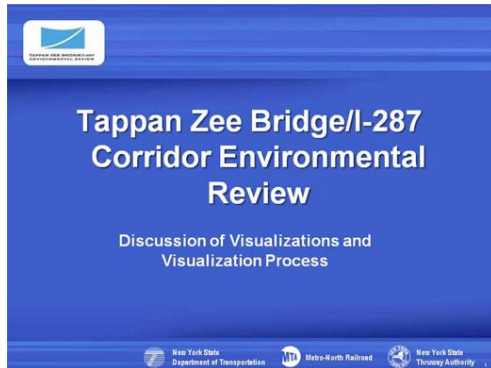
The number of bridge options has been reduced to six: three single level and three dual level options. A report has been written to compare the three single level bridges and the three dual level bridges, and recommend that at least one single level and one dual level bridge be studied further in the DEIS. The other four options would be dropped from additional consideration. These recommendations are under review by NYSDOT, NYSTA, and MTA Metro-North Railroad and will be shared with the public once they are finalized in the next few weeks.



Slide 2

This slide, which has been shown previously, outlines the various facilities and properties that present challenges to the design of the Westchester landing of the replacement bridge. Tonight's discussion will focus on these key issues.

2. Visualization Slide Presentation



Slide 3

Mark Roche, Arup (engineering consultant), began the visualization portion of presentation

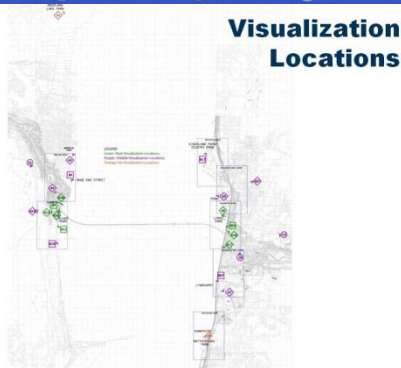
As part of the DEIS, visualizations of the options under evaluation are created to aid in the assessment of potential visual impacts. The team will analyze how views of and from the bridge will change based on two possible bridge options (single and dual) and two possible main span types (cable stayed and arch). This presentation explains the steps taken to turn real photographs, taken at key locations along the Hudson River, into visualizations that illustrate the views of the replacement Tappan Zee Bridge. Most of the locations are either historic sites or districts or natural elements such as parks.



Slide 4

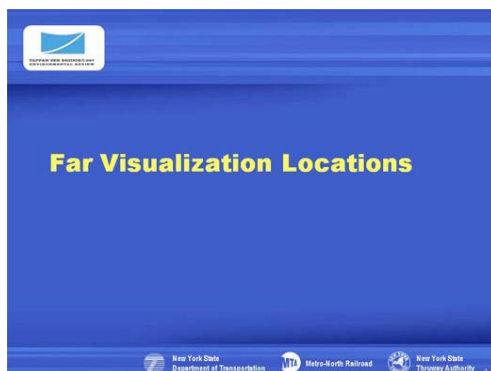
In tonight's presentation, we will look at

- Visualization locations
- Photos of the existing bridge at each visualization location
- The steps taken to create a visualization of the replacement Tappan Zee Bridge



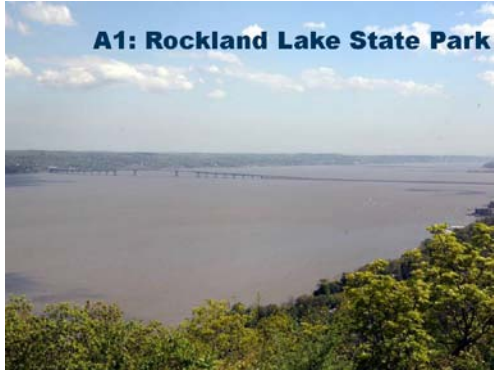
Slide 5

A range of locations was selected to simulate the views of the replacement Tappan Zee Bridge. Visualizations of the proposed bridge were created at key locations that are far, middle, and short distances from the existing bridge. Photos were taken in the spring and fall to ensure that images spanned the range of foliage, which could block or increase the view of the proposed bridge.



Slide 6

The following two photos show the existing Tappan Zee Bridge from a long distance.



Slide 7

This is what the existing bridge looks like from Rockland Lake State Park, north of the bridge.



Slide 8

From Matthiessen Park, south of the bridge in Westchester County, the existing bridge looks like this.



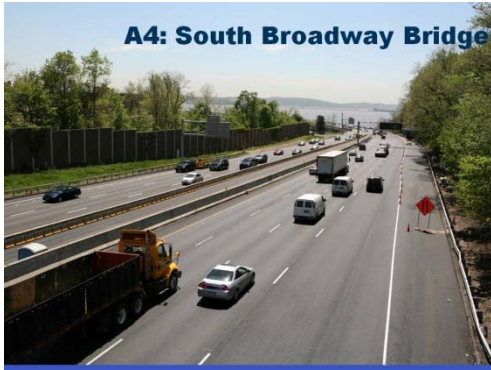
Slide 9

The next 13 photos show the existing Tappan Zee Bridge from a middle distance.



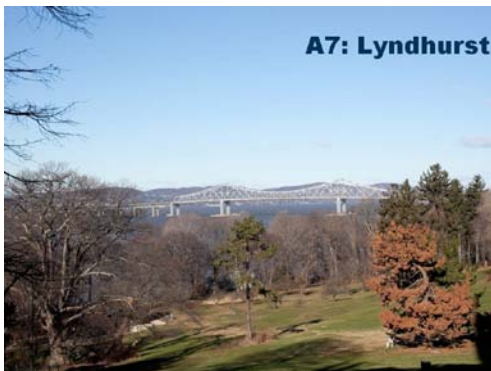
Slide 10

This photo captures a view of the existing bridge from Memorial Park, north of the bridge in Rockland County.



Slide 11

This image, taken from the South Broadway Bridge, shows the existing Rockland County landing. The bridge, however, is not visible. This image would be used to visualize the changes in the Rockland landing.



Slide 12

This is taken from the caretaker's cottage at Lyndhurst, south of the bridge in Westchester County.



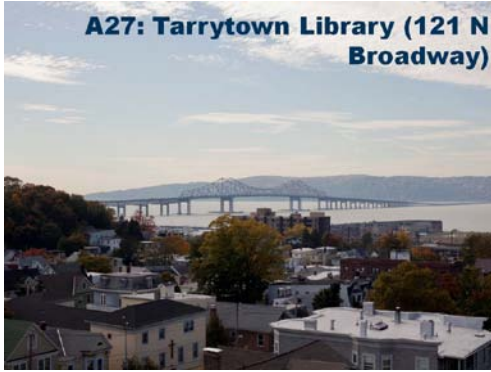
Slide 13

From Pierson Park, north of the bridge in Westchester County



Slide 14

From Highland Avenue and Tweed, west of the bridge in Rockland County



Slide 15

From the roof of Tarrytown Library (121 North Broadway), north of the bridge in Westchester County



Slide 16

From Gesner Avenue at the Hudson River, north of the bridge in Rockland County



Slide 17

From 135 River Road, south of the bridge in Rockland County



Slide 18

From the park near the Tarrytown Lighthouse, north of the bridge in Westchester County

**B27: Lyndhurst
(Short Tunnel)**



Slide 19

This photo will be used to visualize the potential impacts of the short tunnel option from the Lyndhurst property, south of the bridge in Westchester County. Note that the bridge in this visualization is not the primary focus.

**B27: Lyndhurst
(Long Tunnel)**



Slide 20

This photo will be used to visualize the potential impacts of the long tunnel option from the Lyndhurst property, south of the bridge in Westchester County.

C3: Castle on Hudson



Slide 21

From the Castle on Hudson, east of the bridge in Westchester County

D1: Nyack College



Slide 22

From Nyack College, north of the bridge in Rockland County



Slide 23

The following photos show the existing Tappan Zee Bridge from a near distance.



Slide 24

From Losee Park, north of the bridge in Westchester County



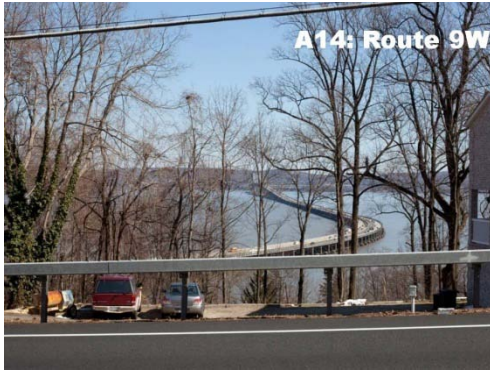
Slide 25

From Piermont Avenue, north of the bridge in Rockland County. This photo will be used to visualize the height and width of the two remaining options.



Slide 26

From River Road, south of the bridge in Rockland County. This photo will be used to show the height and width of the two remaining options.



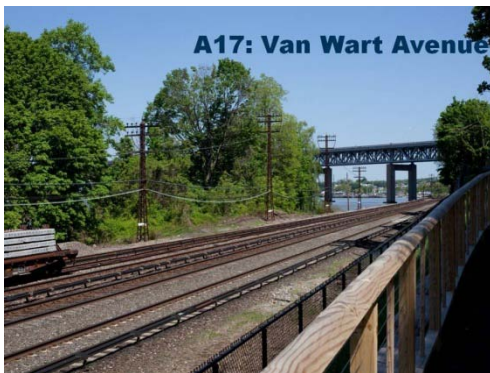
Slide 27

From Route 9W, west of the bridge in Rockland County



Slide 28

From the Quay Condominiums, north and east of the bridge in Westchester County



Slide 29

This photo, showing the view of the bridge from Van Wart Avenue, south of the bridge in Westchester County, will be used to visualize the potential impacts of the short tunnel and trestle options.



Slide 30

From 24 River Road, south of the bridge in Rockland County. This photo will be used to show the height and width of the two remaining options.



Slide 31

From 74 River Road, south of the bridge in Rockland County



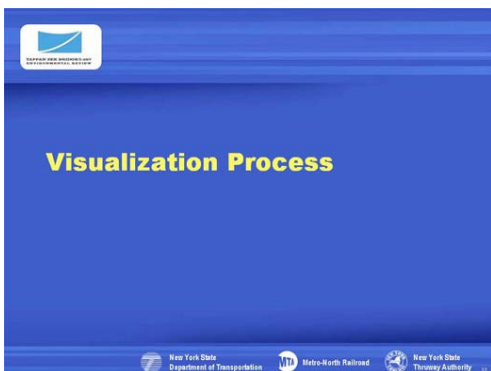
Slide 32

From 109 Tappan Landing, east of the bridge in Westchester County



Slide 33

This view is from Broadway Bridge, south and east of the bridge in Westchester County.



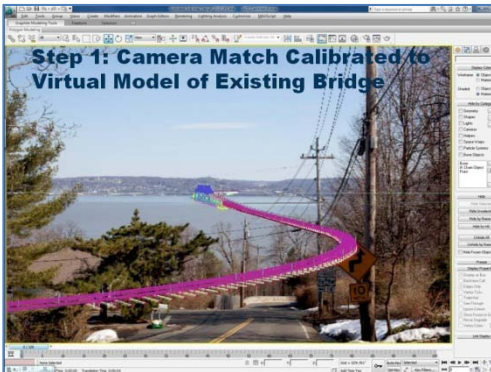
Slide 34

The following images were created to convey how a visualization is created. Images are now being created to assess the visual impacts of the replacement Tappan Zee Bridge.



Slide 35

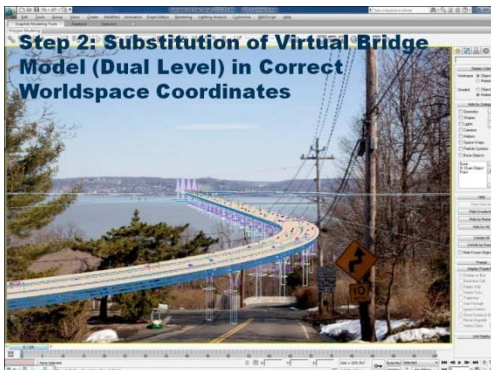
This is the original photo of the existing Tappan Zee Bridge from Highland Avenue and Tweed in Rockland County, north and west of the bridge.



Slide 36

The first step is to create a virtual model of the existing bridge, place it on top of a photograph to calibrate it with the original photograph. Because the existing bridge is in the photograph, the model is placed over it to make sure everything is lined up.

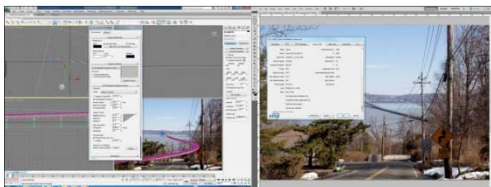
Note that there are elements of the bridge that appear closer than they actually are. This is because in reality, these parts of the bridge are behind some elements (trees, buildings, utility poles) in the photograph.



Slide 37

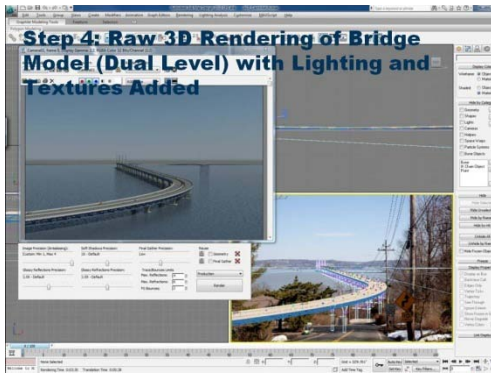
A virtual model of the dual level option is substituted for the virtual model of the existing bridge using precise coordinates.

Step 2: Match Virtual Camera Settings to Original Camera Data (Exposure, Time of Day, f-stop, etc.)



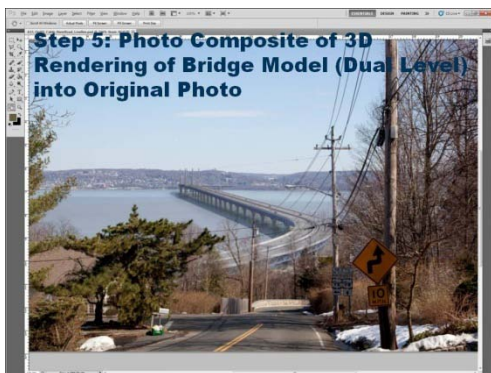
Slide 38

The virtual camera settings are modified to match the camera settings from the original photo/camera data (such as exposure, time of day, f-stop, etc.).



Slide 39

A raw 3D rendering of the dual level model for the replacement Tappan Zee Bridge is created and appropriate lighting and textures are added to match those of the existing bridge (for example, concrete color, river color, sky color, etc.).



Slide 40

The photo composite of the 3D rendering of dual level option of the replacement Tappan Zee Bridge is added into the original photo, adjusting the photo elements that would really be in the front of the rendering.



Slide 41

The result is a completed 3D composite of the dual level bridge option for the replacement Tappan Zee Bridge.