



The completed eastbound bridge of the Route 36 Highlands Bridge Replacement project in Monmouth County, N.J.



AESTHETICS COMMENTARY

by Frederick Gottemoeller

Waterfront communities faced with replacing an existing drawbridge by a fixed, high-level bridge often overestimate the visual impact of the additional height and underestimate the visual benefit of removing the existing low-level bridge. Because of the long spans made possible by post-tensioned segmental concrete construction, people will be able to see right through the Route 36 Bridge and enjoy near and distant views. At the same time, the removal of the low-level drawbridge and its forest of piers will open up water-level views that haven't been seen since its construction. The whole bay will be visually reunited.

The horizontal and vertical geometry of a bridge is often obscured by topography or buildings, and its visual impact unseen. In fact, the geometry describes a ribbon in space with interacting curves that can make the ribbon itself attractive, or not. In a long viaduct, especially over water, the potential aesthetic power of the geometry becomes obvious. The curves required to get the Route 36 Bridge up and over the channel give the structure an attractive flowing, undulating appearance. They show signs of having been refined to do exactly that. The segmental box exactly follows these curves, reinforcing their impact.

The segmental box brings still more to the table. Because the box is both trapezoidal and haunched, the soffits of the boxes vary in width, making the intersections of the box sides and soffits three-dimensional curves in space. These curves visually interact with the curved horizontal and vertical alignments of the bridge, creating wavelike forms that, with their reflections in the water, frame the views beyond. Given the visual quality and complexity of the superstructure, the designer has sensibly kept the piers simple, so that the superstructure remains the star of the show.

All of this may seem abstract, but people recognize the effect. I've shown photos of similar bridges at community meetings and had people spontaneously applaud. And the great thing is that it is all accomplished with the lines and shapes of the structure itself; nothing needed to be added or pasted on.