

The increased emphasis on aesthetics heavily favored the segmental concrete alternative.

The I-95/I-295 North Interchange flyover bridge in Jacksonville, Fla. Photo: Ray Stanyard Photographer.



AESTHETICS
COMMENTARY
by Frederick Gottemoeller

This bridge seems simple, and it is. But the simplicity masks a series of sophisticated choices about proportions, shapes, and materials that make this bridge in fact extremely elegant. If one pays attention to the characteristics that we usually look right past, the elegance emerges.

Start with the geometry, the lines of the structure. All of the main lines of the structure—the edges of the parapet, the intersection of the overhang and the girder, the bottom edge of the girder—exactly follow the curve of the ramp itself. None are interrupted by a pier cap, expansion joint, or other competing line; none are broken into chords. The shadows cast by these elements divide the superstructure into parallel bands of strongly contrasting light and dark that reinforce the main lines of the structure and make it appear thinner. The overhangs are a large enough portion of the total width to make these bands significant. The end result is a bridge that itself reflects the curving, high-speed trajectories of the vehicles that use it.

The piers are thin at their bases so that landscape flows through the bridge without interruption. They widen at their tops just enough to provide room for the two bearings. The bearings hold the girder some distance above the top of the pier, so that you can see daylight between them from many angles. This demonstrates that the bridge is supported on just these two points, and makes it seem lighter than it is. It seems to float over the landscape. It is the like a waiter carrying a heavy tray. By balancing it on his fingertips, he makes the task seem effortless. Because the superstructure is lifted above the pier its lines run right past the pier, and are not interrupted by a pier cap or edge. As a final refinement, the girder depth increases just a bit over the piers, visually expressing the load concentration at that point.

Interchange bridges are mostly seen by people traveling at high speeds, who only have time to recognize the major lines and the largest shapes. This designer concentrated on getting these elements right. Time and money were not wasted on simulated finishes. Such finishes would be simply unrecognizable at highway speeds and the effort would therefore be wasted.

We don't all have the intensity of the Florida sun to play with, but in every area the sunlight has distinctive characteristics that can be used to enhance the appearance of a bridge. It is part of our job to figure how to take full advantage of that.