Lee Roy Selmon Crosstown Expressway Expansion
Hillsborough County, FL

Team

Owner:
Tampa-Hillsborough Expressway Authority

Designer:
FIGG, Tallahassee, FL

Engineer:
FIGG, Tallahassee, FL

General Contractor:
PCL Civil Construction, Inc., Tampa, FL

Reinforcing Bar Fabricator:
Ameristeel

Concrete Supplier:
CEMEX, Tampa, FL

Total Project Cost:
$120 million

Total Project Size:
17.5 miles (overall span);
142 ft (typical span);
1,567,000 sq ft (deck)

Award:
2008 CRSI Design Award Honorable
Mention – Bridges Category

Photography:
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STRUCTURAL FRAMING SYSTEM
Applying traditional precast concrete segmental design in a nontraditional setting — the median of an existing expressway — helped to meet all of the goals set by officials of the Tampa Hillsborough Expressway Authority for its expansion of the Lee Roy Selmon Crosstown Expressway.

Goals for the project, which consists of two bridges of elevated lanes running more than five miles near downtown Tampa, Florida, required the structure to be built while traffic on the at-grade lanes of the expressway below flowed freely. The elevated expressway had to provide a pleasant appearance both for at-grade drivers and the community surrounding the site.

The project features 3,032 box-girder segments, that were cast in a facility established in the Port of Tampa and erected span-by-span. The segments were cast concurrent with construction of the foundation and piers, speeding the schedule. Because access was limited, segments were efficiently delivered over completed spans in some areas.

Reinforced cast-in-place piers, ranging from 25 to 60’ tall, featured curved flares at the top to correspond to the width of the bottom slab of the box girders. The curved bottom of the superstructure overhangs the pier’s top, hiding the bearings and providing a smooth transition between the pier and box girder.

Due to the box shape of the segments, only half of the smooth structure's underside is visible to drivers below the expressway, limiting the structure’s visual scale. The use of lightly tinted surface sealants and an alternate color as a vertical inset to the pier increased the visual appeal of the structure for at-grade drivers.

The project was completed at an approximate cost of $65 per square foot of bridge deck, which added to savings from eliminating the need to make any right-of-way acquisitions. This price represented one of the lowest costs for a major urban expressway expansion anywhere in the United States, combining great value with a dramatic appearance.

Reinforced-concrete framing coupled with match cast segments resulted in low cost.