Improvements to I-595 should support growth of economy, population
As one of the major urban areas in the nation, southeast Florida faces growing transportation challenges. One of those most pressing is ensuring the viability of Broward County’s only east-west corridor, I-595 (S.R. 862), which links the Fort Lauderdale-Hollywood International Airport, Port Everglades, I-95, the Florida Turnpike, the Sawgrass Expressway and I-75.

It is essentially the backbone of southeast Florida’s transportation network serving regional mobility, connections to the central and gulf coast areas of the state along with national and international markets. Opened in 1989 with six lanes and traversing approximately 13 miles of some of South Florida’s densest population, I-595’s traffic volumes rapidly increased to over 180,000 cars daily within 10 years and are projected to be 300,000 by 2034. Florida Department of Transportation (FDOT) officials quickly realized that the increasing levels of roadway congestion required that major improvements be made to that vital corridor. In 1998, FDOT contracted with the consulting firm RS&H to prepare a master plan to assess project needs for the corridor and conceptual design alternatives.

Following the master

Former FDOT District 4 Secretary Rick Chesser, who now serves as Florida transportation leader for RS&H, said the original I-595 was built on a 20-year projection of traffic demand, but the density of the area increased due to land-use zoning changes and the migration caused by Hurricane Andrew in 1992.

“Broward’s growth in the late 1970s and early 1980s necessitated the district to begin looking at an extensive network of expressways,” he said, “which led to the original construction of I-595.”

As growth in Broward County continued during the 1990s, the needs to serve mobility in the region became paramount especially within the I-595 corridor.

“The master plan served as the foundation for realistic solutions to address the rising mobility needs within the I-595 corridor,” said Scott Seeburger, project manager for the I-95/I-595 master plan. “The planning study focused on developing realistic multimodal solutions that could be implemented within the existing right-of-way while maximizing the operational efficiency of the investment that had already been made.”

The success of the I-595 PD&E study and VE/DR earned multiple awards from AASHTO, the FHWA and the Florida Institute of Consulting Engineers.
“Adding to I-595’s importance,” said James Wolfe, current FDOT District 4 secretary, “is that it has become a key component to Florida’s Strategic Intermodal System making it even more critical to the regional and statewide transportation infrastructure.”

In 2004, following the development of the I-595/I-95 master plan, FDOT and RS&H began a project development and environment (PD&E) study for I-595 improvements that revealed a host of challenges that included right-of-way impacts and environmental hurdles, as well as considerable public and private coordination. Among the environmental issues that had to be addressed were the historic New River Canal and Sewell Lock, potential noise impacts to adjacent residential communities and a proposed parallel Broward County Greenway and Pond Apple Slough, a pristine wetland. An EPA-designated Superfund cleanup site also sat adjacent to the corridor. In addition to an aware and involved citizenry, there were other stakeholders and resource agencies that required participation and input.

According to Steve Braun, FDOT senior project manager for the PD&E study, the project’s preferred alternative recommended the following key components to serve mobility choices in the corridor: 1) The retention of the general-purpose lanes, augmented with interchange improvements and operational upgrades including a system of “braided ramps,” which will eliminate the weaving of exiting and entering traffic; bypass bridges that will accommodate the combining of exit movements and allow the secondary exit to bypass the S.R. 84 signalized intersection to access the next cross road; and auxiliary lanes throughout the corridor that will facilitate traffic entering and exiting I-595; 2) the construction of a continuous connection on S.R. 84, a parallel facility along with a collector-distributor system between I-95 and S.R. 7 and Florida’s Turnpike; 3) the construction of reversible express lanes to serve longer trips between the I-75/Sawgrass Expressway interchange to and from Florida’s Turnpike, or I-95; and 4) transit accommodations.

In June 2006, location design concept approval was granted by the Federal Highway Administration’s (FHWA) Florida Division.

“The concepts initiated in the master plan and further developed in the PD&E study received a lot of favorable public input,” said Braun, “especially regarding the innovative approach proposed to address both operational and capacity needs.”

Braun said that the complexity of the project, the right-of-way constraints, the extensive coordination and public participation and the requirement to balance environmental impacts with engineering needs were challenges throughout the process. “However, the project team delivered the approval of the PD&E study ahead of the aggressive project schedule allowing this much-needed project to advance towards implementation,” he said.

Phil Schwab, project manager for RS&H who now serves as the corridor’s design consultant and owner’s representative, said FDOT’s large commitment and funding levels mandated that the design team could not afford any issues that would impact the implementation of the project. “We knew we had to get this right the first time,” said Schwab, “which is...
why we implemented a series of value engineering/design review [VE/DR] meetings that were held to look at all aspects of the project as it progressed through the PD&E process.”

**Investing and digesting**

The I-595 project looked to be on its way, except that the funding that FDOT had available was not enough to implement all of the proposed approximately $1.5 billion in improvements. FDOT, therefore, decided to expedite the project by pursuing a private-public partnership.

“Like most states, Florida is required to have the money programmed and secured before advertising a project,” said Joe Borello, FDOT project manager. “We thought we could advance the project by 10 years by having a private-public partnership finance the construction.”

According to Borello, FDOT normally does conventional procurements such as design-build and design-bid-build, but this project was different because of the long-term operation and maintenance it requires.

“This is going to be a design-build-finance-operate-and-maintain (DB-FOM) PPP for a 35-year term,” he said, adding, “that provides the ability to allocate the risk to the entity best equipped to manage that risk.”

Borello said the “availability” payment on the project will be paid monthly once the project is completed and is contingent on all the lanes being available to traffic. He said FDOT preferred the availability arrangement because it allows FDOT to retain the tolling authority and all revenue from the tolls. This alleviated the concerns from local government that tolls could escalate quickly once the express lanes were in use and the toll setting was left with the concessionaire. Borello said three teams of concessionaires have been short-listed.

Schwab said the primary reason the project moved so quickly through the PD&E process, even with so many stakeholder interests, was due to innovative new engineering project management practices, primarily, the team approach to evaluating project alternatives and the use of the VE/DR.

“The VE/DR team conducted a detailed review of the preliminary design alternatives during the PD&E study at critical stages to assure that the project remained cost-effective and constructible. The VE/DR was an effective forum to coordinate key engineering decisions and a proactive approach to managing the project,” said Braun.

During a five-tiered series of week-long VE/DR sessions, the project’s key engineering decisions were thoroughly reviewed and evaluated, the first time FDOT used such a process.

“It provided early validation of project alternatives and obtained buy-in from FDOT management, stakeholders, agencies and team members,” said Schwab. “It also minimized overall project impacts and facilitated a seamless transition between the PD&E and design phases.”

The success of the I-595 PD&E study and VE/DR earned multiple awards from the American Association of State Highway & Transportation Officials, FHWA and the Florida Institute of Consulting Engineers (FICE).

In November 2007, FDOT received approval from the FHWA on the re-evaluation of the proposed design change to include the three at-grade reversible lanes. In April 2008, FHWA granted approval of the re-evaluation to move ahead with the P3, which will include the design and implementation of the project.

“Expanding an urban interstate provides immense challenges trying to maximize the improvements within the corridor without creating unacceptable impacts to the surrounding area,” said Gerry O’Reilly, FDOT District 4 director of transportation development. “The I-595 proposed improvements are a perfect example of a megaproject proposed for an urban area.”

O’Reilly said construction for the first phase is scheduled to begin in the spring of 2009.

Bernos is the director of public relations for Reynolds, Smith and Hills Inc.
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