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Florida's University Parkway & U.S. 301 Intersection Expands to Accommodate Rapid Population Growth

By Jeffrey Trim, P.E., PTOE

The University Parkway and U.S. 301 Intersection project in Sarasota, Fla., proves that successful roadway design is achieved through effective leadership and teamwork. Opened to traffic in June 2007, the newly revitalized University Parkway-U.S. 301 intersection is one of the most heavily traveled junctions in Southwest Florida.

Since 2000, both Manatee and Sarasota County have experienced rapid population growth, and are expanding existing infrastructure to accommodate increasing roadway traffic. During the past six years, more than 46,000 people have migrated to Manatee and Sarasota Counties, and each grew by an average of 16 percent. The growth rate for Florida's west coast counties will increase well into the future—and so will roadways demand.

A westbound view of University Parkway in Sarasota, Fla., highlighted by improved railroad crossing bridge structures for two crossings, along with improved turn lane capacity.

A Rocky Start

More than a decade ago, the Sarasota-Manatee Metropolitan Planning Organization (MPO) recognized the need for expansion of the University Parkway and U.S. 301 intersection. At the MPO's request, the Florida Department of Transportation (FDOT) completed a Project Development & Environment (PD&E) study of the intersection, which established that a costly grade separated interchange for design year 2025 was needed to accommodate estimated traffic volumes. FDOT moved the project forward despite high cost projections related to the need for substantial right-of-way acquisition and business relocations. The financial burden of the project brought it to a halt in 1999.

Determined to breathe new life into the intersection project, the MPO requested FDOT evaluate interim at-grade improvements that could be completed in 2001. FDOT's analysis showed widening both University Parkway and U.S. 301 from two to three through lanes, and adding turn lanes to U.S. 301, would provide adequate capacity through 2015—facilitating approximately 17,000 vehicles per hour during peak times.

Teaming Up & Moving Forward

In 2002, FDOT initiated a Local Agency Program (LAP) which provided additional funding and allowed local governmental agencies to design and construct improvements to state-owned highway, U.S. 301. This set the volatile project in motion once again.

Manatee County and the MPO agreed to take on the project yet again with the help of Wade Trim, a civil engineering and planning firm founded in Dearborn, Mich., that has provided transportation services to clients throughout the United States since 1926. Wade Trim has been providing consulting services in Florida for nearly 25 years. As the project's lead consultant, Wade Trim was responsible for all design improvements and overall project management.

The four project stakeholders—Manatee County, Sarasota County, the FDOT and the Sarasota Manatee Airport Authority—partnered to shoulder original project costs.

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Fast-Tracking Design by Sharing Information & Resources

In December 2002, Wade Trim set to work on the project's design, and it was completed and permitted on a fast-track seven month schedule. The FDOT was instrumental in moving the project forward quickly—sharing a complete digital terrain model and topographic survey and contributing much-needed funds that became available after the cancellation of the previous U.S. 301 resurfacing project.

Wade Trim engineers were challenged to design a wider road within the existing right-of-way space—there was no funding for right-of-way acquisition and further delays would have jeopardized vital project funding provided by the Airport Authority's Transportation Outreach Grant. Using design variations on roadway cross slopes, front ditch slopes and median width, Wade Trim completed the design, which also included three at-grade railroad crossings, without a hitch.

Storm water permits for the project were handled expediently with the assistance of the Southwest Florida Water Management District. Notably, a deteriorating wetland in the right-of-way was designed to be part of the storm water management system and off-site retention facilities were avoided.

Setting to Work

The project was bid in late 2003 with a 270-day time frame. Bids totaled $7.5 million, almost $3 million over the engineer's estimate. Manatee County representatives and Wade Trim consultants evaluated design modifications and re-bid the project in 2005 with a 400-day time frame. Russell Engineering of Bradenton, Fla., was awarded the project in September 2005 with a bid of $7.8 million. The final bid required the four partner groups to contribute additional construction funds for the project.

Getting the Job Done

The University Parkway-U.S. 301 Intersection is truly an important piece of the regional transportation puzzle. University Parkway is the main road taking traffic from Interstate 75—the main north-south route for the west coast of Florida—to nearby Sarasota-Bradenton International Airport.

In June 2007, a determined team of professionals completed the project on schedule and within the proposed budget.

Today, University Parkway is now a six-lane divided arterial highway transversing the Manatee and Sarasota County line, regularly carrying more than 60,000 vehicles per day.

U.S. 301 is primarily a four-lane divided arterial highway, expanded to 6-lanes through the improved intersection, owned and operated by the FDOT. Together, University Parkway and U.S. 301 form one of Florida's most highly traveled, well-functioning intersections.

Said Mike Howe, executive director of the MPO, "This has been a significant need for over a decade for a critical urban corridor serving the two county Manatee/Sarasota area and the Sarasota-Bradenton International Airport. We are very pleased with the end product and result. The regional concerted effort of the many stakeholders combined with the talented engineering professionals resulted in a valuable benefit for the entire region." ❍

Looking southeast highlighted by the "suspended box" signal configuration, which includes video vehicle detection, railroad and emergency preemption, illuminated street name signs, and signalized pedestrian crossings.

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