Less Congestion, More Safety: First Continuous Flow Intersection in Sunshine State

One challenge of this intersection was establishing design parameters for the first ever CFI in Florida.
As an important arterial roadway, SR 82 connects goods and services from the interior of the state to Fort Myers and I-75. The roadway, nearly 30 miles in length, is used by residents and visitors alike, traveling to and from bedroom communities of southwest Florida. High-projected traffic volumes, a congested intersection and high accident rates made the widening of SR 82 a priority project for Florida Department of Transportation (FDOT) and local government.

Adjacent environmental concerns and a relic sinkhole added to the complexity of widening SR 82. FDOT hired Dewberry to find a solution, ultimately adding capacity, improving safety, reducing intersection delays and addressing environmental concerns.

To solve the challenges presented by the existing roadway interchange, one solution was to widen the existing two-lane roadway to a six-lane, divided facility. Relieving congestion at the existing SR 82 and Daniels Parkway/Gunnery Road intersection was key to improving traffic flow. Some stakeholders opposed a grade-separated interchange, worrying that it would divide the community. This led to the idea of the Continuous Flow Intersection (CFI).

A concept designed in only a few communities across the United States, the CFI is a series of three closely spaced intersections. The left turn movements occur at a signal a few hundred feet in advance of the main intersection, crossing traffic into a displaced left turn lane to allow continuous flow of both the turn lanes and mainline traffic. The intersection accommodates traffic volumes similar to a single-point urban interchange, but at a reduced cost because it eliminates the need for bridge structures.

In addition, a CFI has less conflict points and creates a safer intersection. Environmental concerns for this project included drawdown of water-starved wetlands and canals and untreated discharge to impaired water bodies. A partnership was developed with the East County Water Control District, which allowed FDOT to discharge stormwater into its existing canal system. This eliminated the need for stormwater retention ponds and reduced wetland impacts. In addition, the West Harns Marsh Preserve project was constructed by FDOT to obtain fill material for the roadway while creating a stormwater treatment facility for the impaired Caloosahatchee River. These partnerships eliminated the need for six costly, off-site stormwater ponds. They also contributed to the construction of two regionally significant stormwater improvement projects, resulting in a win-win situation and cost savings for FDOT.

The four-and-four-tenth-mile intersection, which carries up to 1,410 cars during peak traffic, opened to the public following a ribbon-cutting ceremony in July 2019. Following the completion of construction, Roads and Bridges magazine named it a Top Project of the Year. It was also selected as a Grand Award Winner for Engineering Excellence in 2019 by the American Council of Engineering Companies of Florida.