

The Florida Department of Transportation (FDOT) is pleased to nominate the Interstate 75 at University Parkway Diverging Diamond Interchange (DDI) project.

Situated on the Manatee/Sarasota County line and surrounded by large commercial and residential developments, FDOT constructed the first DDI in Florida and, with six lanes in each direction, the largest in the nation. Funded in 2015, FDOT's challenge was to substantially complete the construction prior to the 2017 World Rowing Championships on an interchange averaging more than 100,000 vehicles per day while maintaining access to communities and businesses.

The accelerated timeline required the identification of efficiencies to save approximately one year. To reduce construction time, the largest Acrow bridge in U.S. history was designed and constructed specifically for this DDI. The 280-foot long by 42-foot wide temporary bridge facilitated the demolition and reconstruction of the existing bridges without reducing lanes.

A cutting-edge technology, adaptive signal system minimizes delays at each intersection by constantly measuring the number of vehicles queued in each lane. The adaptive system focuses on reducing vehicle queue numbers using an algorithm based on real-time data to evaluate aggregated demand and wait time for each signal phase. Then adapts accordingly by altering sequences and adjusting the green phase to best serve demand.

Extensive public outreach initiatives were implemented including over 50 public meetings, workshops educating drivers how to navigate the DDI, development of a YouTube video drawing nearly 950,000 views, and a project website with live camera feeds.

Since opening, commuters using this interchange have experienced a 40% reduction in travel delays, a reduction in vehicular crashes up to 50% by decreasing the number of conflict points, and enhanced mobility.

This innovative solution accommodates population and traffic growth by improving service levels, reducing delays and environmental impacts, and providing the safest interchange for vehicles, pedestrians, and bicyclists.