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SCDOT Connector Study Phase 2 Draft Scope of Work

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Phase 2 will address the fundamental issue of traffic congestion in the IOP Connector Corridor, define its effect on emergency access/egress and update the island's hurricane evacuation plan for a changed roadway.

Background

The island is oriented east-west with Dewees Inlet at the easternmost end and Breach inlet with access to Sullivan's Island to the west. The IOP Connector is a north/south route with the island to the south and the town of Mt. Pleasant to the north. It is the primary access route to the island. The Isle of Palms is effectively the end of the road, with a very limited capacity to accommodate traffic.

The island is a resort community with about 4500 permanent residents which increases to about 12,000 seasonal residents and an additional 8-10,000 day visitors during peak summer months. Peak season two-way traffic on the connector is consistently recorded at 25,000 vehicles per day (vpd) and has reached as high as 30,000 vpd on a summer weekend. For comparison, the capacity of a two-lane roadway is estimated at between 20,000 and 25,000 vpd depending on the number of intersections and curb cuts along the corridor.

Because many of the permanent residents and most of the seasonal visitors are either retired or on vacation, traffic patterns do not follow typical cycles of AM and PM peak hour traffic. Rather, ATR counts on the connector show a pattern of southbound morning traffic (onto the island) increasing to a peak around 11 am and remaining steady until around 3 pm when it begins to dissipate. Northbound traffic leaving the island increases throughout the day finally peaking late in the afternoon. It is not unusual for traffic flow to be equally high in both directions throughout much of the day. Unlike many other routes, in the peak season the highest volumes occur on weekends. These traffic characteristics must be taken into consideration when conducting the study.

Study Area

During the five month peak season, beach traffic on the IOP Connector Corridor and at its intersections can reach or exceed capacity. Since a road's capacity is limited by the capacity of its intersections, the consulting firm will prepare intersection capacity analyses and a corridor signal timing plan for the entire IOP Connector corridor. Detailed intersection capacity and signal timing studies will be developed for the following:

IOP Connector at US 17;
IOP Connector at Hungryneck Blvd.;
IOP Connector at Rifle Range Rd.; and
IOP Connector at Palm Blvd.

Because of the unusual traffic characteristics of a resort community, a corridor signal timing plan will be developed from intersection turning movement counts that take into account the following conditions:

- 1) For both peak and off-peak seasons, the time and duration of the peak periods for both weekdays and weekends.
- 2) For off-season weekdays (October through April) AM and PM peak hour turning movement counts;
- 3) For peak season (May through September) weekday and weekend turning movement counts for AM and PM peak periods (which do not occur at typical times).

For the alternative alignment selected in Phase 1, the Phase 2 study will include:

- 1) Capacity analyses for four intersections;
- 2) Ability to accommodate bicycle and pedestrian traffic as well as vehicle flow throughout the corridor;
- 3) Connectivity requirements on both sides of the bridge/causeway for travel lanes and pedestrian and bicycle paths, and whether modifications will be required at corridor intersections;
- 4) Whether a studied alternative increases/decreases delay for the motoring public, creates challenges for first responders or requires additional roadway improvements outside of the limits of the bridge/causeway;
- 5) Safety and operational analyses for first responders;

- 6) If the number of southbound lanes (onto the island) is increased, consideration should be made of the capacity of Palm Blvd, 14th Street and other island roads to accommodate additional traffic.

Deliverables

The study will produce a written report summarizing the data collection and analyses and include:

- 1) Detailed signal timing plans for four intersections on the IOP Connector: at US 17, Hungryneck Blvd, Rifle Range Rd and Palm Blvd.;
- 2) Pavement marking plans (if different from those recommended in Phase 1) for the IOP Connector including tie-ins to island and mainland travel lanes and pedestrian and bicycle lanes;
- 3) Cost estimates for implementation and operations of the recommended plan; and
- 4) Emergency access/egress procedures and an evacuation plan for hurricane conditions.

Coordination

The consulting firm will schedule meetings with the City of Isle of Palms, SCDOT, the Town of Mt. Pleasant and Charleston County:

- 1) At the outset to review scope, process, and possible outcomes;
- 2) During alternatives development to discuss options to be considered;
- 3) After alternatives are evaluated to discuss the selected alternative.

Three community meetings will be held at the initiation of the study, the alternatives development and plan selection stages. The consulting firm will be required to solicit input/comments from the public, local governments and other stakeholders about the proposals and include that information in the study.