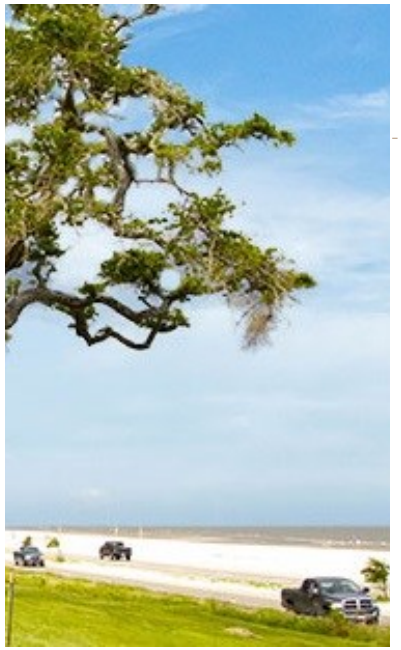


GRPC PLANNING - ROUNDABOUTS

ROUNDABOUTS

The modern roundabout is an intersection with a circular configuration that safely and efficiently moves traffic. Roundabouts feature channelized, curved approaches that reduce vehicle speed, entry yield control that gives right-of-way to circulating traffic, and counterclockwise flow around a central island that minimizes conflict points. The net result of lower speeds and reduced conflicts at roundabouts is an environment where crashes that cause injury or fatality are substantially reduced.

Roundabouts are not only a safer type of intersection; they are also efficient in terms of keeping people moving. Even while calming traffic, they can reduce delay and queuing when compared to other intersection alternatives. Furthermore, the lower vehicular speeds and reduced conflict environment can create a more suitable environment for walking and bicycling.

FEASIBILITY RULES

According to the "Guide for Roundabouts: National Cooperative Highway Research Program Report 1043," Transportation Research Board, National Research Council, Washington, DC, 2023:

- All way stop control is acceptable for intersections with less than 15,000 vpd entering.
- A full-size single-lane roundabout can handle up to 25,000 vpd total entering demand.
- A two-lane roundabout can handle up to 45,000 vpd total entering demand.

INJURY CRASH REDUCTION

Roundabouts have clear safety benefits and can also increase throughput at some intersections. Many of the safety benefits in roundabouts stem from the fact that they have fewer conflict points. A conventional intersection has 32 conflict points exist at which a crash may occur. This is reduced to eight conflict points in a typical roundabout. The vehicle conflict points at a roundabout are unlikely to yield right-angle or head-on collisions which tend to be more severe crash types. Instead the majority will be rear-end or sideswipe collisions. In addition to less-severe crash types, crashes at roundabouts tend to occur at lower speeds which results in fewer injuries and fatalities.

Conversion of an intersection to a roundabout has a Crash Modification Factor (CMF) of .89 for total crashes and a CMF of .54 for injury crashes.

OBJECTIVE

Reduce motor vehicle crash fatalities and serious injuries

STRATEGY

Improving the safety of intersections system-wide by considering innovative design changes

MEASURE

Number of serious injury and fatality crashes

GRPC Mission

Provide a planning process that identifies, develops, and promotes projects and programs that contribute toward a safe, efficient, and resilient Mississippi Gulf Coast transportation system.

Gulf Regional Planning Commission

GULF COAST INTERSECTIONS FEASIBLE FOR A ROUNDABOUT BASED ON TRAFFIC COUNT

Hancock County
Lakeshore Road &
Lower Bay Road

Diamondhead
Diamondhead Drive &
West Aloha Drive

Long Beach
Klondyke Road &
Commission Road

Gulfport
Canal Road &
28th Street

Harrison County
Canal Road &
Landon Road

Gulfport
Oneal Road &
Three Rivers Road

Gulfport
Klein Road &
Three Rivers Road

Gulfport
Seaway Road &
Three Rivers Road

Gulfport
Creosote Road &
Three Rivers Road

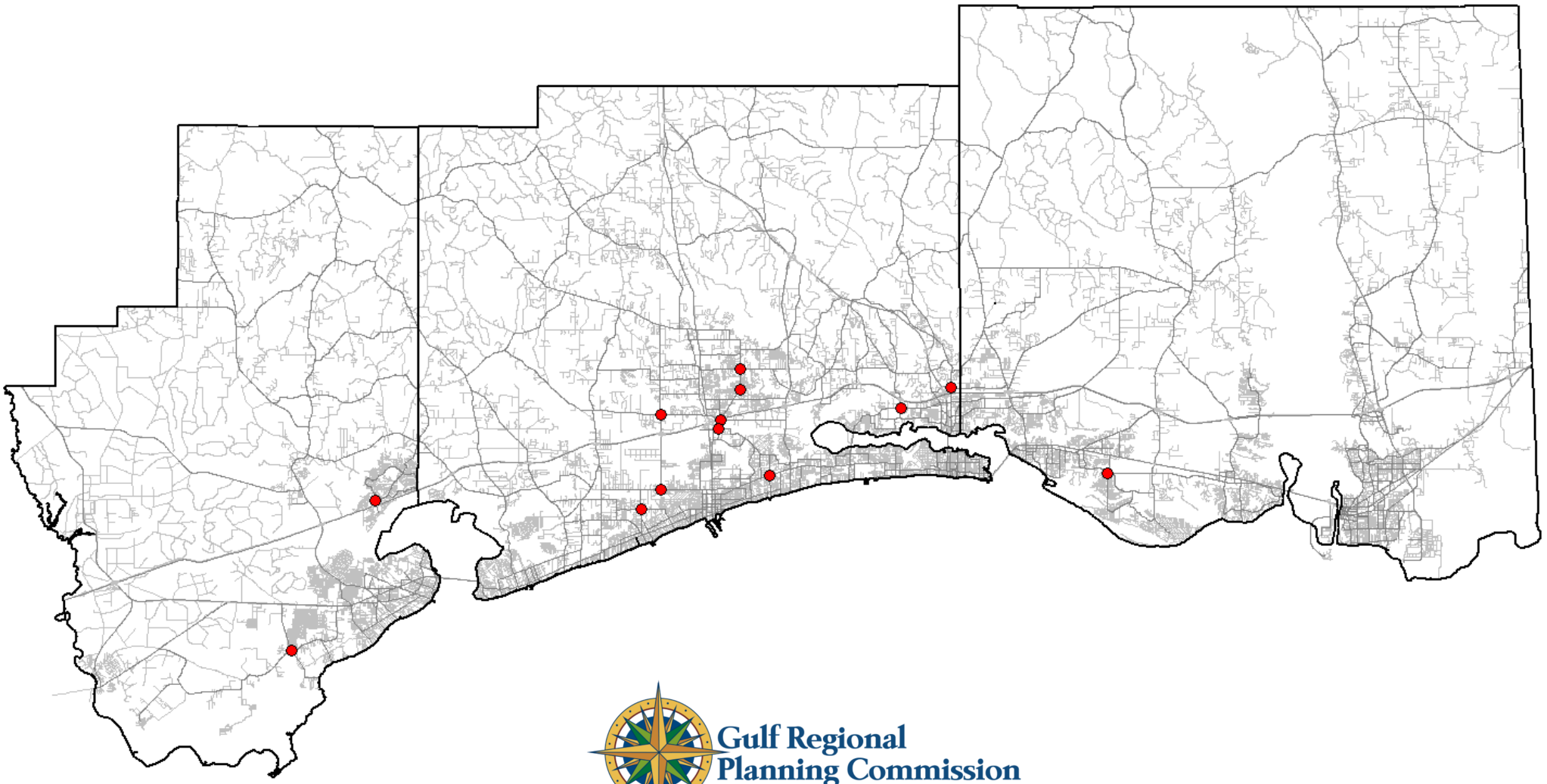
Gulfport
Pass Road &
Courthouse Road

Biloxi
Cedar Lake Road &
Popps Ferry Road

D'Iberville
Mallet Road &
Lamey Bridge Road

Ocean Springs
Beachview Drive &
Old Spanish Trail

FEASIBLE ROUNDABOUT LOCATIONS



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