

EMPHASIS AREA: LIGHTING

SAFE ROADS

Roadway design should follow the FHWA Safe System approach, which aims to eliminate fatal and serious injuries for all road users, which means that the infrastructure should be designed in such a way as to manage the potential risk to any driver.

Lighting falls into the Safe Roads element in a Safe System approach. As part of the roadway infrastructure, a well-designed roadway lighting system will improve visibility and make for safer roads and safer road users. Investment in lighting for a roadway is a critical decision for an agency to consider. On the Mississippi Gulf Coast, **58% of fatali-**

ties occurred at nighttime according to crash data from 2020-2023.

The purpose of roadway lighting is generally:

- Provide a visual environment for road users to safely use the road system during hours of darkness.
- Reduce the impacts of disability glare from approaching headlights and off-roadway lighting, thereby improving visibility.
- Reveal objects on the roadway beyond the range of vehicle headlights.

INTERSECTION LIGHTING

While there is a need to consider safety on all areas of the roadway, particular consideration should be placed on intersections. These are the primary areas of the roadway for potential interaction of vulnerable road users and vehicles.

Intersections are challenging locations for all road users but can be especially dangerous for pedestrians and bicyclists. Factors such as a lack of roadway lighting, large number of lanes, and high vehicle speeds compound safety problems for non-motorized road users at intersections. Lighting provides road users the capacity not only to be seen but also to see, giving vehicles and pedestrians time to react to a potential conflict and provides perceptions of safety and security.

Simply presence of lighting at an intersection isn't always good enough. A proper lighting design is an important aspect of the

lighting development process in order to improve the driver's visual performance. Given the vast differences in product performance, it is worth properly evaluating the performance of lighting designs.

WARRANT ANALYSIS

A warranting system for intersection lighting was used to define the need for intersection lighting. The warranting system is based on nighttime crash percentage. The intersections identified in this report are recommended for improvements to lighting based on having greater than or equal to **51% nighttime crashes** based on 2023 crash data.

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.



OBJECTIVE

Reduce motor vehicle crash fatalities and serious injuries.

STRATEGY

Install street lighting or replace street lighting at intersections.

MEASURE

Percent of intersections lighted sufficiently.

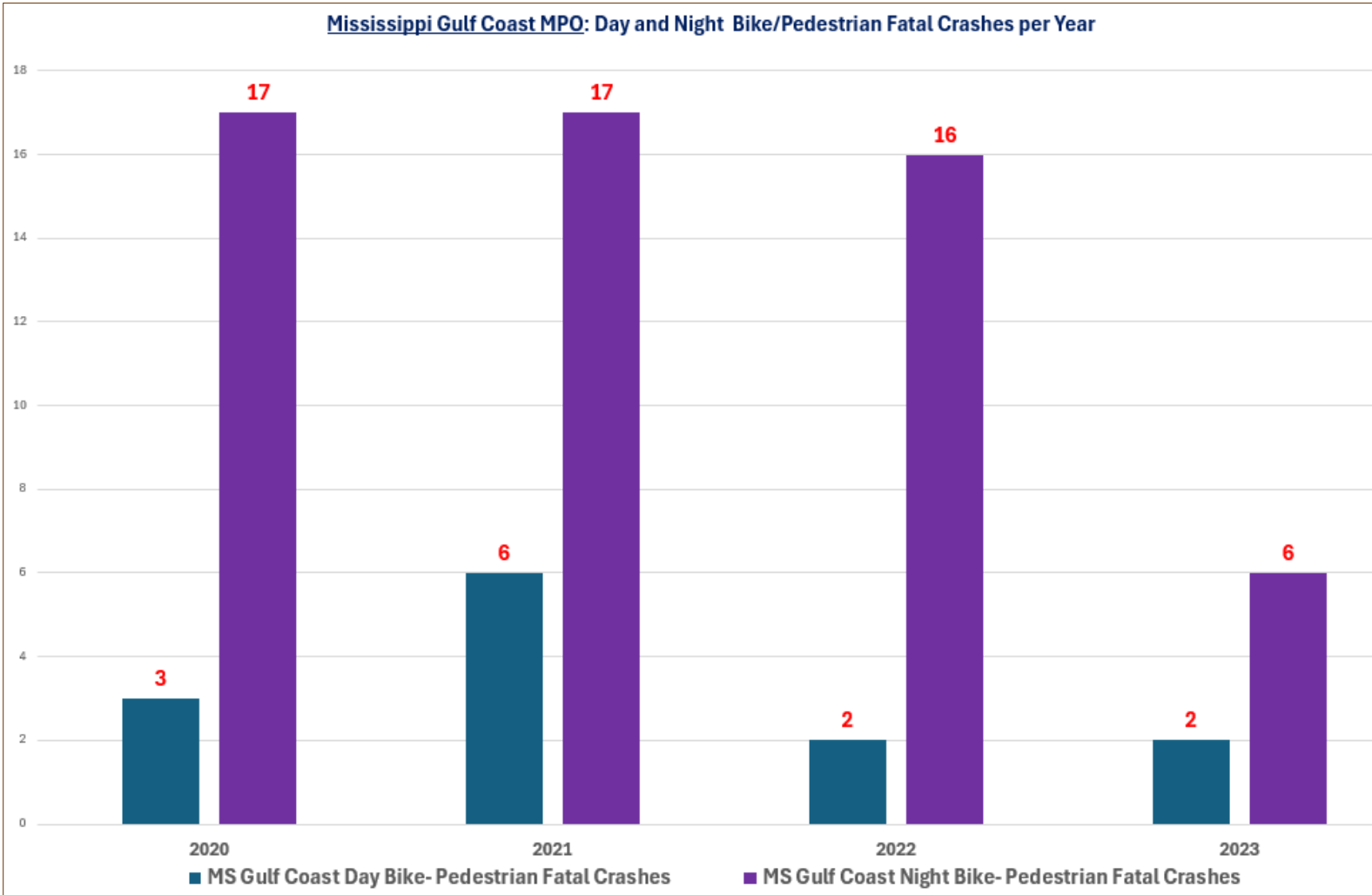


PEDESTRIANS & BICYCLISTS

Studies show that road users such as pedestrians and bicyclists are affected by darkness far more than motorists. Lighting of sidewalks and pathways provides the pedestrian both guidance and a feeling of security. Where the sidewalk is adjacent to roadway, the lighting can also make the pedestrian more visible to drivers. Bike lanes come in a variety of configurations, but from a lighting perspective the main consideration is the bike lane defined via pavement markings or by a barrier, fence, or curb separation from roadway

traffic. Lighting is of the greatest benefit where the bike lane is defined by pavement markings as there is no barrier to protect the cyclist from the motor vehicle.

Crash data on the Gulf Coast from 2020-2023 shows that **81% of pedestrian or bike fatalities occurred at night**. Studies show that a drop in the night-to-day crash rate ratio is evident with increasing illuminance level.



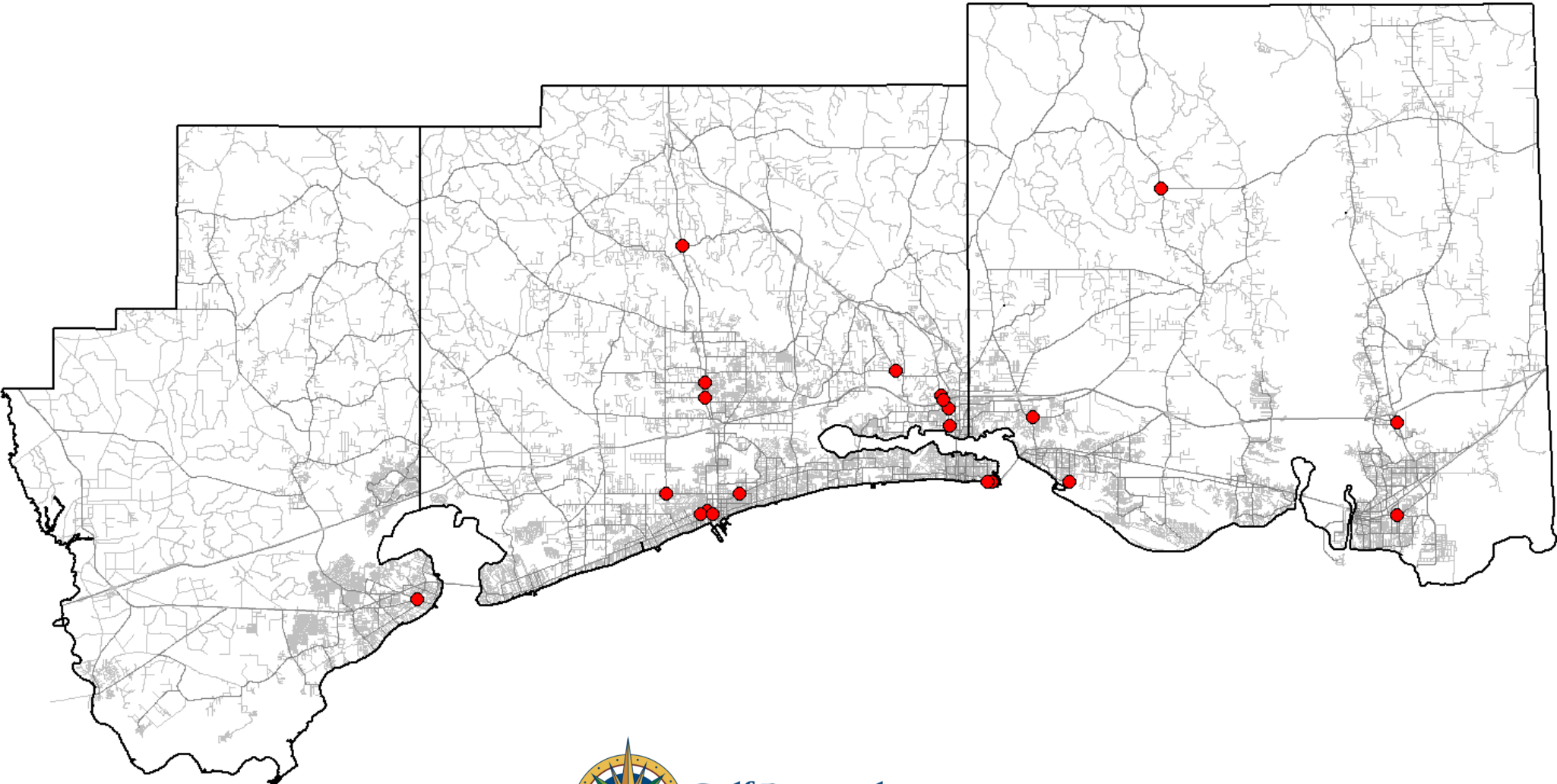
**GULF COAST
INTERSECTIONS
WITH GREATER
THAN 50%
NIGHTTIME
CRASHES**

Bay St Louis—Old Spanish Trail & Washington Street
Gulfport— 15th Street & 30th Avenue
Gulfport— Old Hwy 49 & Robinson Road
Gulfport—15th Street & 37th Avenue
Gulfport—28th Street & Pass Road
Gulfport—28th Street & Colby Avenue
Gulfport—17th Street & 33rd Avenue
Gulfport—Orange Grove Road & Old Hwy 49

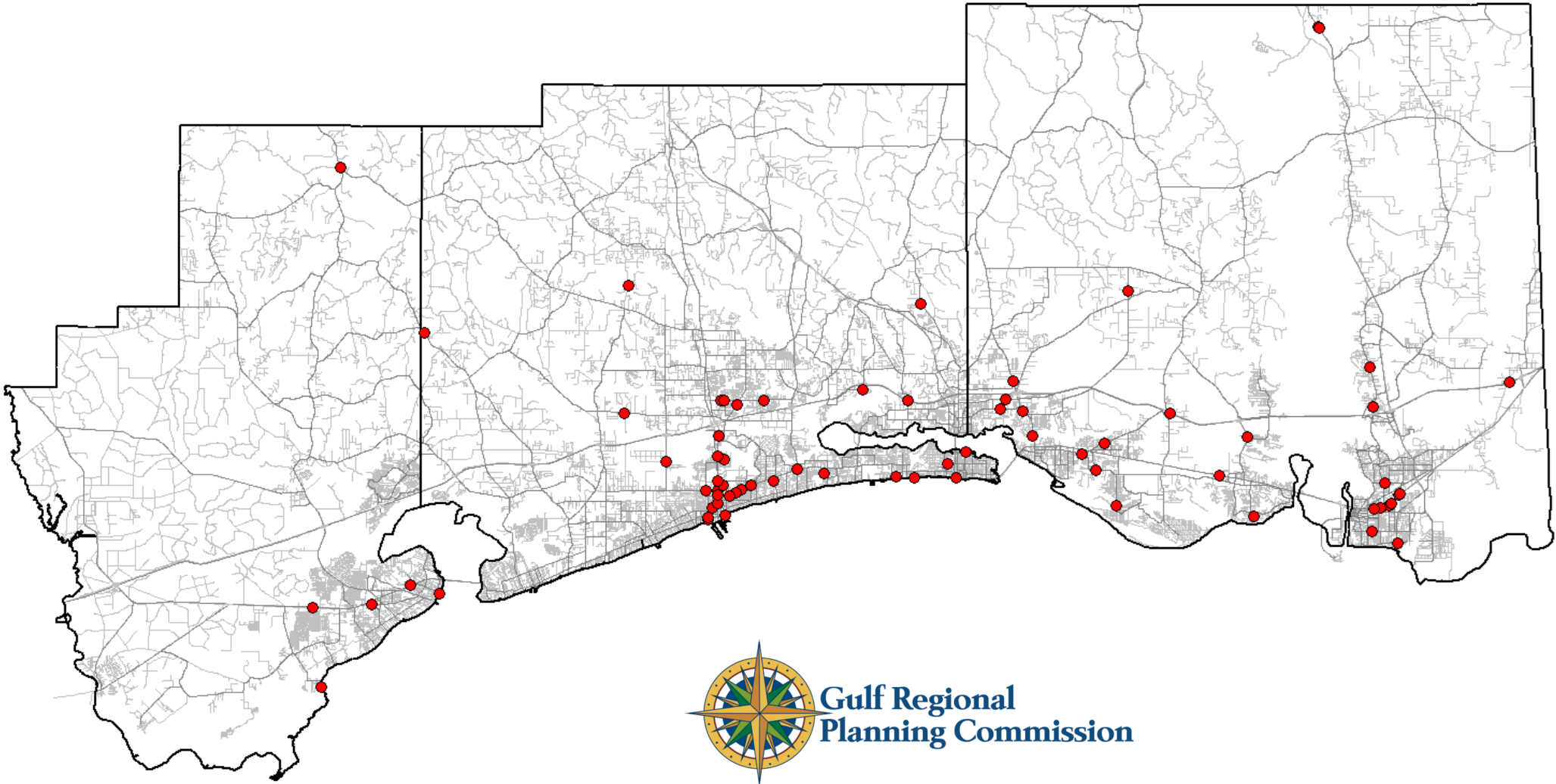
Biloxi—Old Hwy 67 & Woolmarket Road
Biloxi—US 90 & Oak Street
Biloxi—US 90& Pine Street
D’Iberville—Automall Parkway & Rodriguez Street
D’Iberville—Old Hwy 67 & Promenade Parkway
D’Iberville—D’Iberville Boulevard & Popps Ferry Road
D’Iberville—D’Iberville Boulevard & I-10 interchange
Harrison County—Hwy 49 & West Wortham Road

Ocean Springs—East Beach Drive & Halstead Road
Jackson County—Old Fort Bayou Road & Rose Farm Road
Jackson County—Wade Vancleave Road & Hwy 57
Pascagoula—Chicot Street & Old Mobile Hwy
Moss Point—Hwy 62 & Amoco Drive

INTERSECTION WITH >50% NIGHTTIME CRASHES



2023 NIGHTTIME PEDESTRIAN & BICYCLE CRASHES



INTERSECTIONS WITHOUT ROADWAY LIGHTING

