

**WORK  
ZONE**



**SCDOT  
Office of  
Traffic  
Safety**

# SCDOT Safety Investment Plan by Emphasis Area

<b>Emphasis Area: Roadway Departure</b>	<b>\$80M Emphasis Area Allocation</b>
Rural Road Safety Program	\$50M
Interstate Safety Program	\$15M
Roadway Departure Mitigation Program	\$15M
<b>Emphasis Area: Intersections &amp; Other High-Risk Locations</b>	<b>\$42M Emphasis Area Allocation</b>
Intersection Safety Projects	\$20M
Railroad Safety Projects	\$5M
Road Safety Assessment & Implementation	\$17M
<b>Emphasis Area: Vulnerable Road Users</b>	<b>\$10M Emphasis Area Allocation</b>
Pedestrian & Bicycle Safety Projects	\$10M
<b>Safety Data Analytics</b>	<b>\$3M Emphasis Area Allocation</b>
<b>Total Annual Funding</b>	<b>\$135M</b>



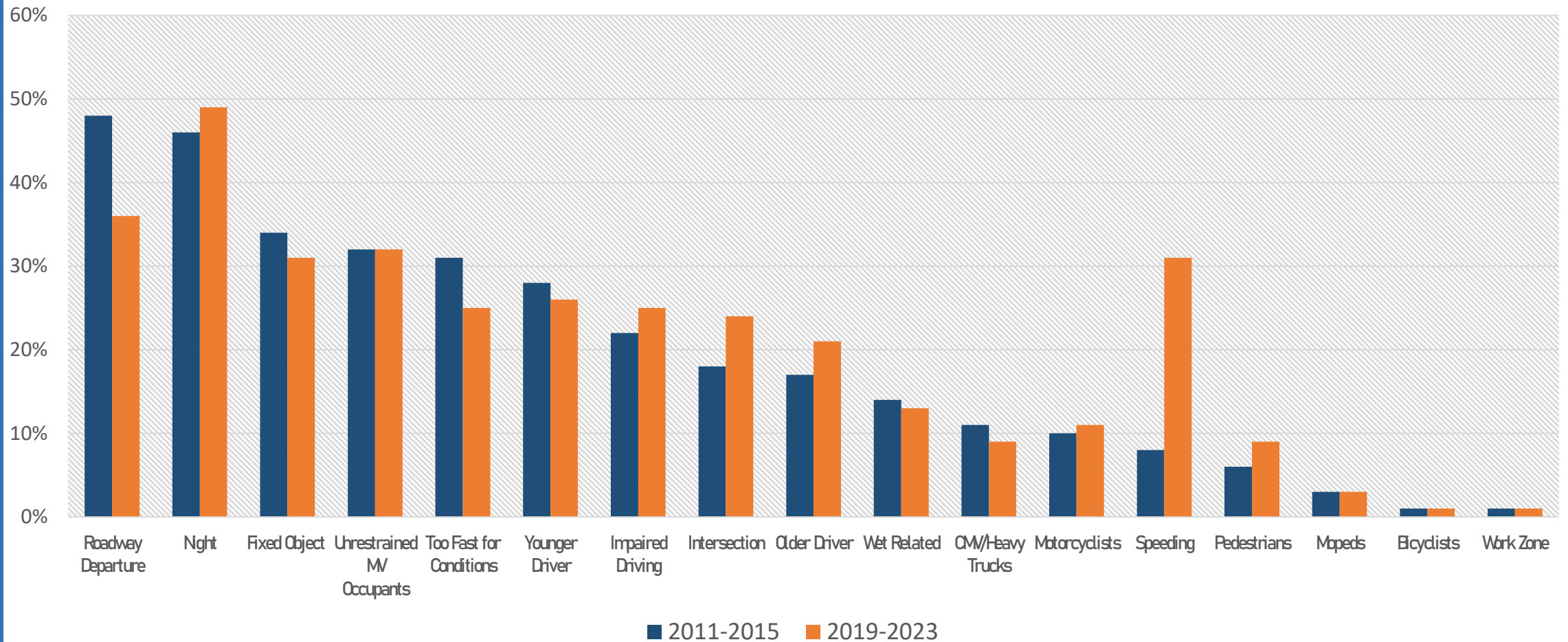


**WORK  
ZONE**

# **Rural Road Safety Program**

# Understanding the Issue on our Rural Roads

## F&SI Crashes on Rural Arterials





# Targeting the Issue on our Rural Roads

*Systemic Engineering Solutions that can be tailored to the individual corridor:*

- **Rumble Strips**
- **Raised Pavement Markers**
- **High Reflective Signs**
- **Wider Pavement Markers**
- **Guardrail**
- **Specialized Pavement Treatments**

Keep vehicles  
on the road

- ***Wider Shoulders***
- ***Paved Shoulders***
- ***Wider Clear Zone***
- ***Relocate the Ditch***

Provide opportunities to  
get back on the road

# Rural Road Safety Program Ranking Criteria

## *Per Engineering Directive 72 – Rural Road Safety Project Prioritization Process*

- Segments were ranked based on the number of crashes resulting in a fatality or serious injury within each segment.
- Tie breakers were used for segments with the same number of fatalities and serious injuries crashes.
- Tie breakers listed in order of priority are: total fatalities, total road departure crashes, and annual daily traffic (ADT).



**At this time we have before and after crash data on 155 miles of RRSP improvement projects.**

**20%**

Reduction in Fatal and Serious Injury Crashes.

**49%**

Reduction in Roadway Departure Fatal and Serious Injury Crashes.



**Before**

**After**



Improved Clear Zone

Wider Paved Shoulders

Wider & Brighter Pavement Markings

Rumble Strips





# SCDOT Highway Safety Program



# SC Roadway Departure Mitigation (RDM)

## Candidate Ranking Criteria

- 5 Mile Segments (Max)
- Minimum Roadway Departure Related Crash Density of 10 (RD crashes / mile)
- Roadway Departure Crashes greater than 20% of total crashes
- Ranked based on number of Roadway Departure F&SI crashes
- Screened for existing conditions, location, length of segments.

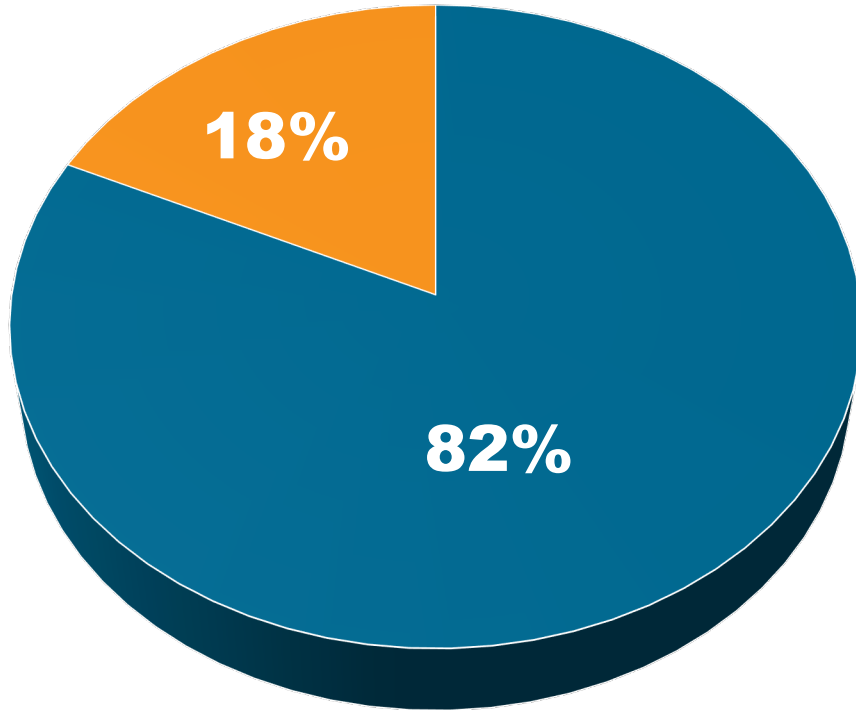
## Countermeasures

- Rumble Strips
- Raised Pavement Markers
- High Reflective Signs
- Wider Pavement Markings
- Guardrail
- Clear Vegetation
- Enhanced signing



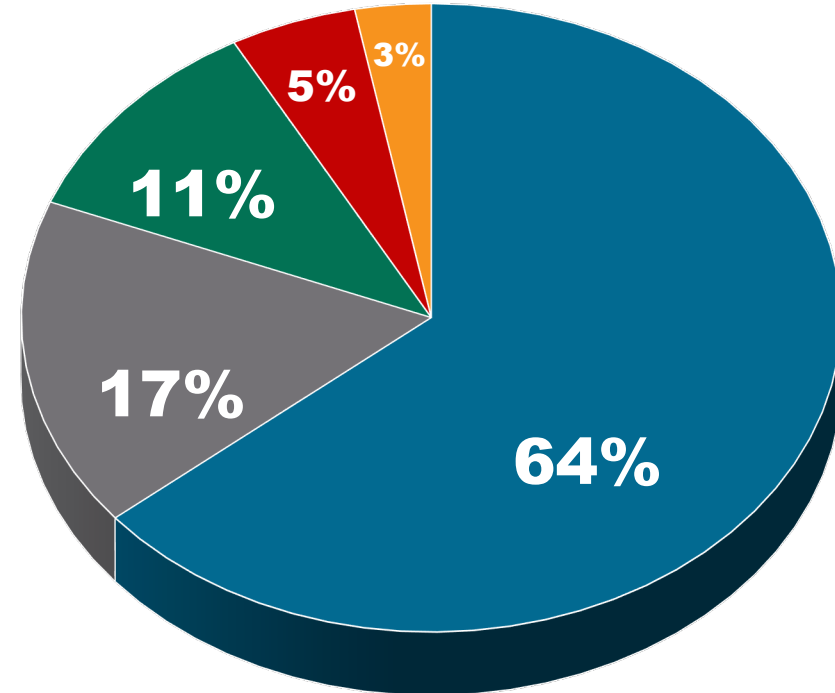
# SC Intersection Safety Program

## Intersection Crashes



- Intersections without F&I Crash
- Intersections with F&I Crash

## Intersection F&I Crashes by Manner of Collision



- Angle
- Rear End
- Non-collision w/MV
- Head On
- Sideswipe



# Proven Intersection Countermeasures



## ROUNDBABOUTS

- SCDOT Safety Office is approaching 50 roundabouts
  - 79% reduction in injury crashes
  - 64% reduction in total crashes



## ALTERNATIVE INTERSECTION DESIGNS (RCI)

- 91% reduction in injury crashes
- 55% reduction in total crashes



## TRAFFIC SIGNALS/SIGNS

Flashing Yellow Arrows



## PAVEMENT MARKINGS



## IMPROVED SIGHT DISTANCE



## BACKPLATES WITH RETROREFLECTIVE BORDERS

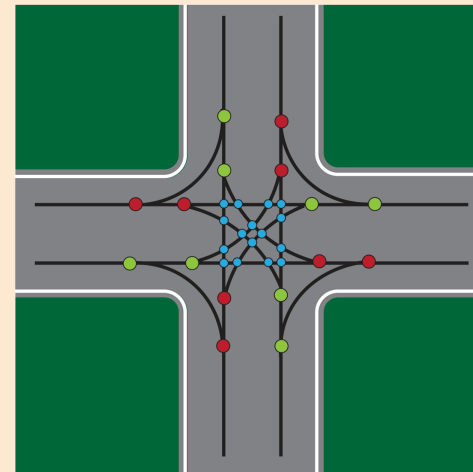


## ACCESS MANAGEMENT (Corridor Approach)

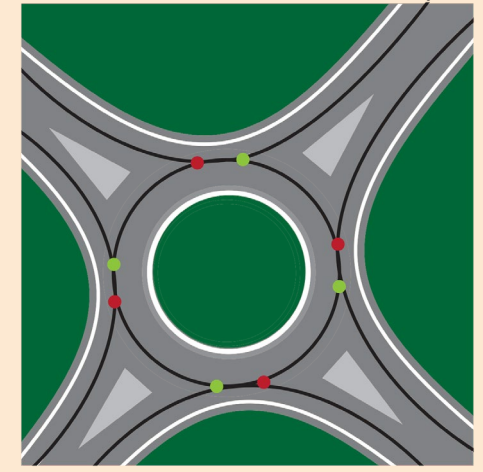


## ROAD DIETS (Corridor Approach)

### Roundabouts - Points of Conflict



● Crossing (16) ● Diverging (8) ● Converging (8)



● Crossing (0) ● Diverging (4) ● Converging (4)

# Intersection Safety Candidate Ranking Criteria



- Intersections that have a fatal and injury percentile greater than the statewide average.
- Final candidate list was sorted by crash rate and analyzed by traffic safety engineers.

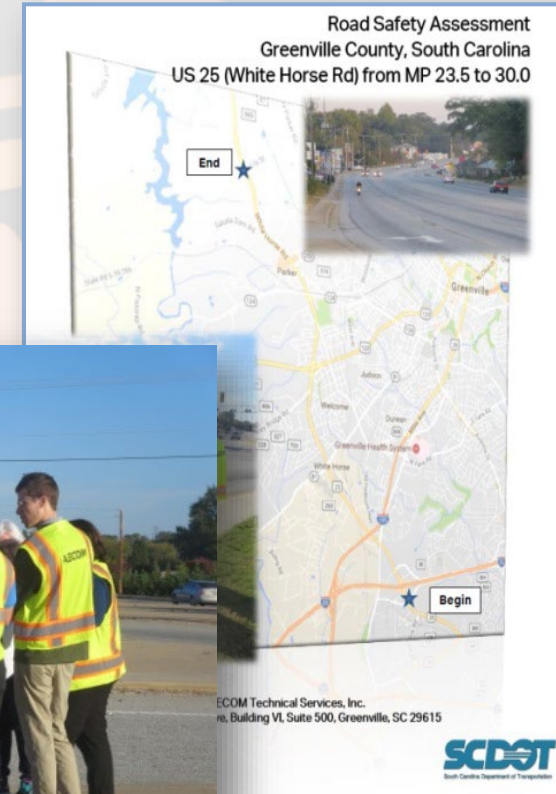
# SC Road Safety Assessment Program

## What is an RSA?

- A formal study by team of multidisciplinary, qualified examiners
- Assess crash data & identify safety concerns
- Written report includes considerations for safety improvements
- Available to all stakeholders

## Candidate Ranking Criteria

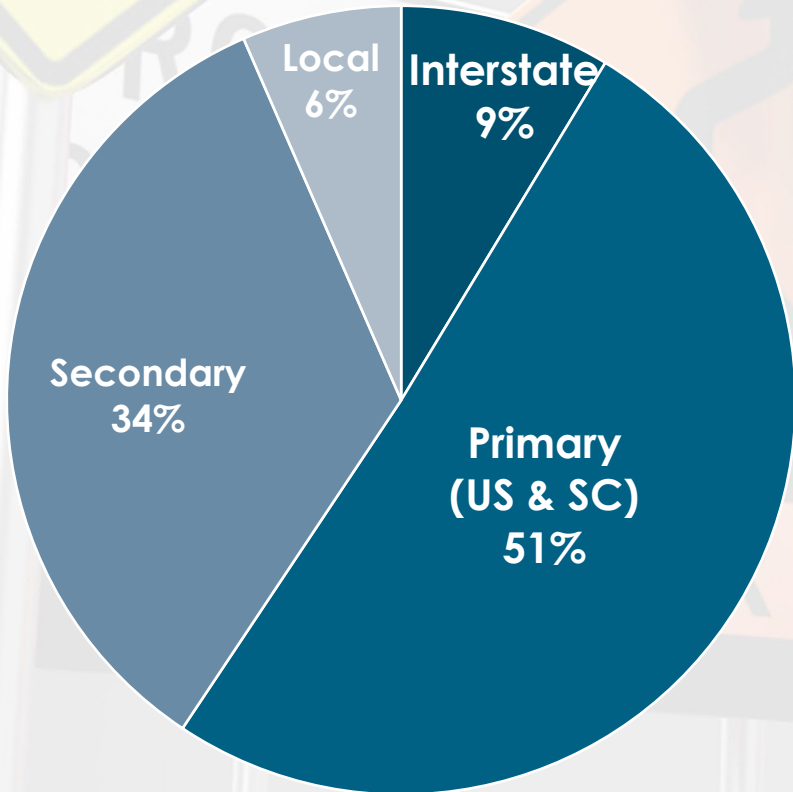
1 mile non-interstate statewide sections with the highest number of fatal and serious injury crashes.



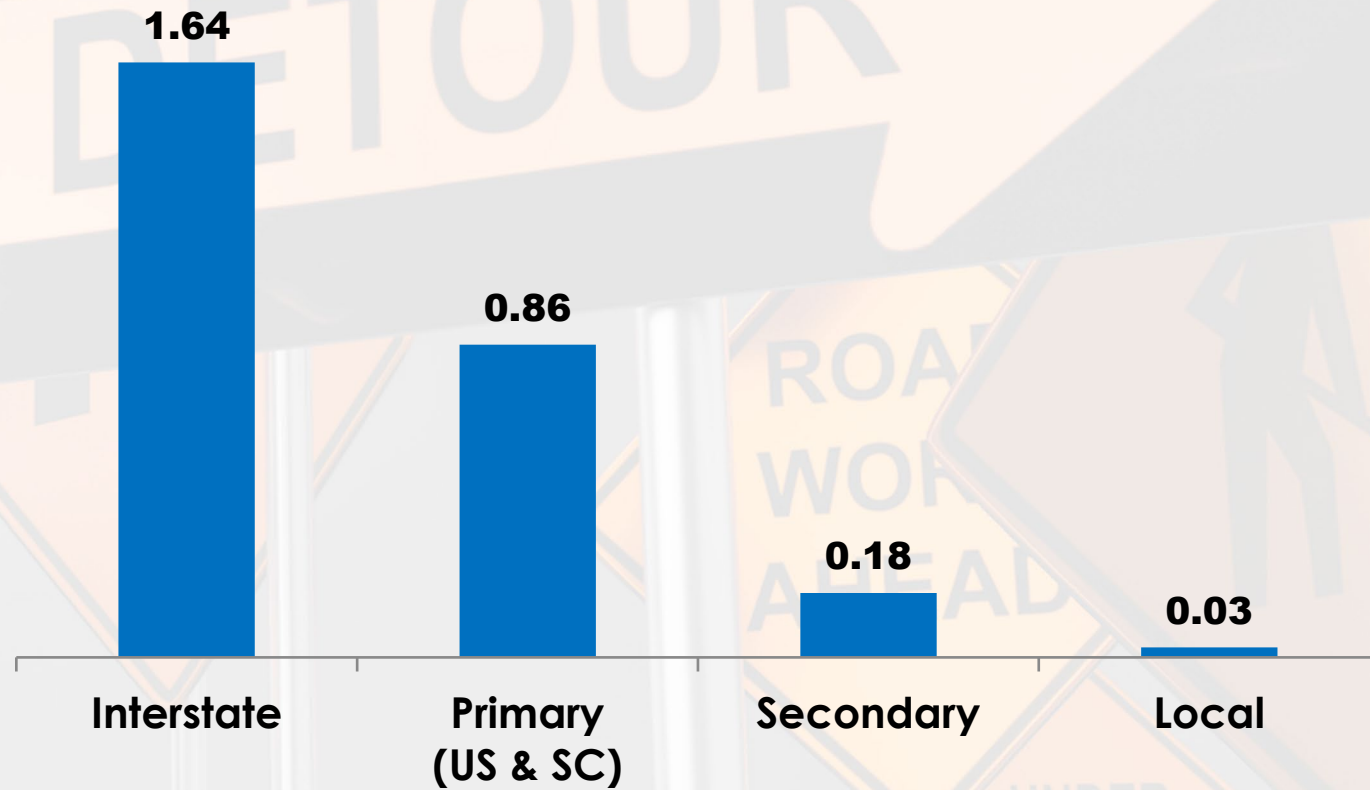


# Interstate Safety Program

## Fatal and Serious Injury Collisions



## Fatal and Serious Injury Crashes per Mile



# Interstate Safety Program

## Candidate Ranking Criteria

- 30 mile Interstate sections with the highest number of fatal and serious injury roadway departure crashes.



## Countermeasures

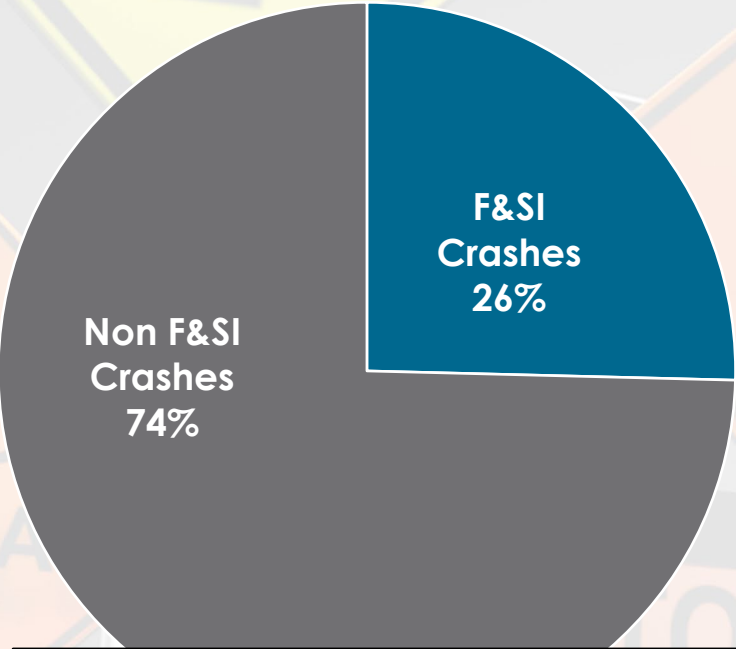
- Clear zone reclamation
- Pavement markings
- Install guardrail/cable barrier



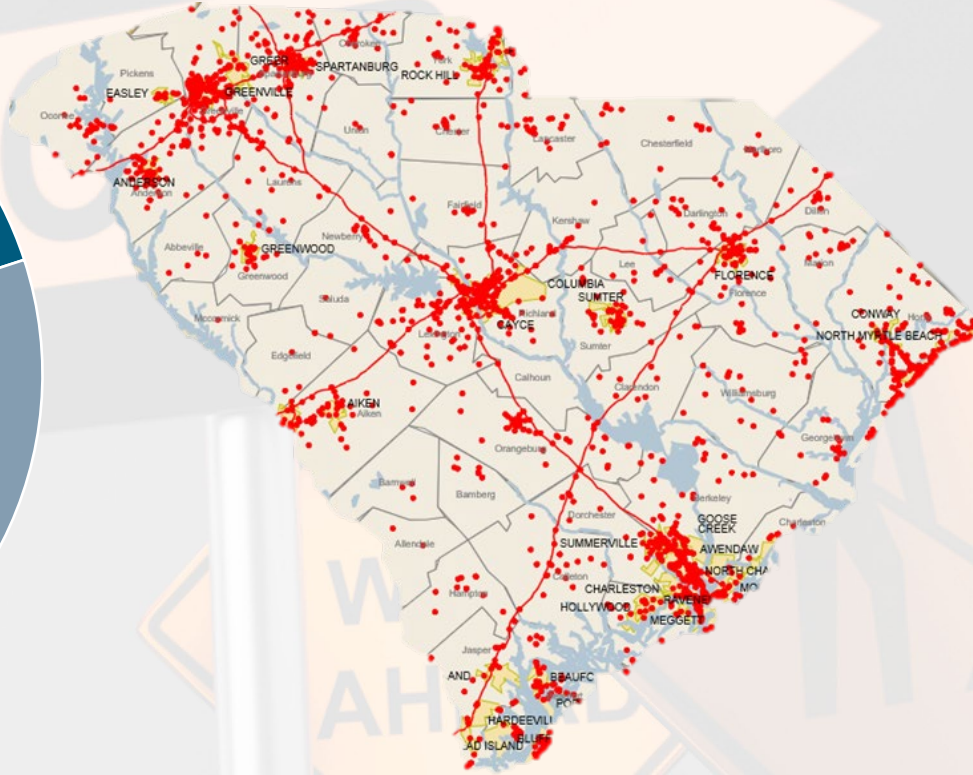
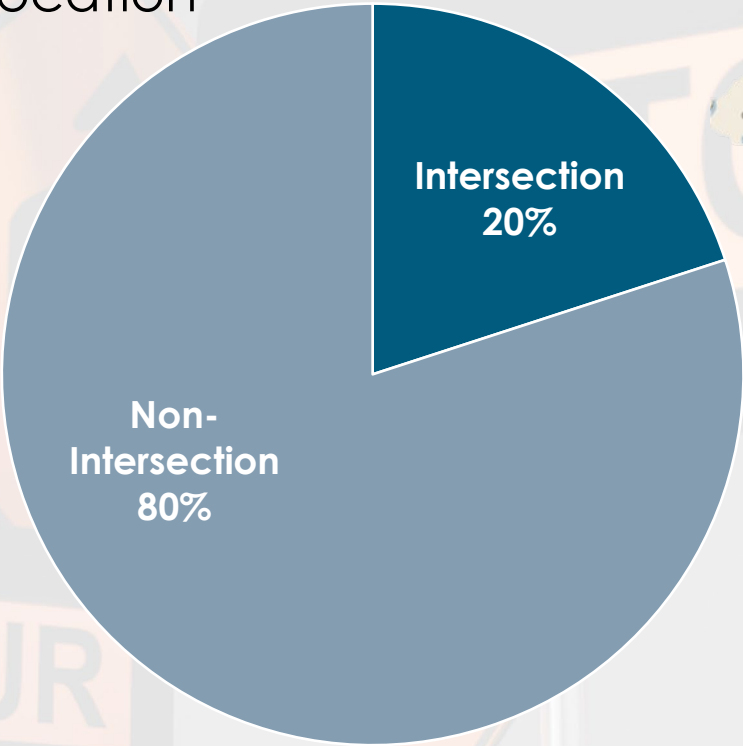


# SC Bike/Ped Safety Program

Ped/Bike Crashes by Severity



Ped/Bike F&SI Crashes by Location



For all road users, only 3% of crashes result in a Fatal or Serious Injury Crash compared to 26% for Ped/Bike

2018-2022 Fatal & SI Crashes ~2,280



# SC Bike/Ped Safety Program

- SC's first Pedestrian and Bicycle Safety Action Plan (PBSAP) was published in May of 2022
- The PBSAP identifies steps, actions, solutions, and potential countermeasures to measurably reduce pedestrian and bicycle crashes, injuries, and fatalities on the South Carolina roadway network.

