# AGENDA
# CMC
## Congestion Management Committee
**Collier County Transportation Management Services Department**
**South Conference Room**
**2885 South Horseshoe Drive**
**Naples, Florida 34104**

**NOTE: THIS IS AN IN-PERSON MEETING**

**November 20, 2024**
**2:00 p.m.**

1. **Call to Order**
2. **Roll Call**
3. **Approval of Agenda**
4. **Approval of September 18, 2024 Meeting Minutes**
5. **Open to Public for Comment on Items Not on the Agenda**
6. **Agency Updates**
   A. FDOT
   B. MPO
   C. Other
7. **Committee Action**
   A. Elect Chair for this meeting in the absence of elected officers
   B. Review and Comment on Draft Joint Lee/Collier CMP Scope
8. **Reports and Presentations (May Require Committee Action)**
   A. Staff presentation on Collier MPO Comprehensive Safety Action Plan development
   B. Don Scott from Lee MPO to present development of their Safe Streets for All Safety Action Plan
9. **Member Comments**
10. **Distribution Items (No presentation)**
    A. 2025 Meeting Calendar for MPO Board approval December 13
11. **Next Meeting Date:**
    *January 15, 2024, 2 p.m.*
12. **Adjournment**

***PLEASE NOTE:***
*The meetings of the advisory committees of the Collier Metropolitan Planning Organization (MPO) are open to the public and citizen input is encouraged. Any person wishing to speak on any scheduled item may do so upon recognition of the Chairperson. Any person desiring to have an item placed on the agenda should contact the MPO Director at least 14 days prior to the meeting date. Any person who decides to appeal a decision of the advisory committee will need a record of the proceedings pertaining thereto, and therefore may need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence upon which the appeal is to be based. In accordance with the Americans with Disabilities Act, any person requiring special accommodations to participate in this meeting should contact the Collier Metropolitan Planning Organization 72 hours prior to the meeting by calling (239) 252-5814. The MPO's planning process is conducted in accordance with Title VI of the Civil Rights Act of 1964 and Related Statutes. Any person or beneficiary who believes that within the MPO's planning process they have been discriminated against because of race, color, religion, sex, age, national origin, disability, or familial status may file a complaint with the Collier MPO Title VI Coordinator, Ms. Suzanne Miceli, (239) 252-5814 or by email at: Suzanne.Miceli@colliercountyfl.gov, or in writing to the Collier MPO, attention: Ms. Miceli, at 2885 South Horseshoe Dr., Naples, FL 34104.*

**CONGESTION MANAGEMENT COMMITTEE of the**
**COLLIER METROPOLITAN PLANNING ORGANIZATION**
**MEETING MINUTES**

**September 18, 2024, 2:00 p.m.**

1. Call to Order

**Mr. Goicoechea** called the meeting to order at approximately 2:01 p.m.

**2. Roll Call**

**Ms. Miceli** called the roll and confirmed a quorum was present in the room.

**CMC Members Present In-Person**
Leandro A. Goicoechea, Vice-Chair
Don Scott
Dan Hall
Karen Homiak
Omar De Leon
Dave Rivera

**CMC Members Absent**
Alison Bickett
Dayna Fendrick
John Lambcke
Justin Martin

**MPO Staff**
Anne McLaughlin, Executive Director
Sean Kingston, Principal Planner
Suzanne Miceli, Operations Support Specialist II

**Others Present**
Mike Harris, Kimley Horn
Christopher Ordonez, Collier County Traffic Operations
Lorraine Lantz, Collier County Transportation Planning

**3. Approval of the Agenda**

***Mr. De Leon*** *moved to approve the agenda.* ***Mr. Rivera*** *seconded. Carried unanimously.*

**4. Approval of the March 20, 2024 Meeting Minutes**

***Ms. Homiak*** *moved to approve the March 20, 2024 minutes.* ***Mr. Rivera*** *seconded. Carried unanimously.*

**5. Public Comments for Items not on the Agenda**

None.

**6. Agency Updates**

**A. FDOT**

Not present.

**B. MPO**

None.

**C. Other**

**(i) City of Naples**

**Mr. Rivera** said that Mooring Line Drive from US 41 to the east side of Mooring Line Bridge had been repaved and bicycle symbols were added, and that 8th Street South from 5th Avenue South to 12th Avenue South, would be closed for street milling and paving in the upcoming week.

**(ii) Collier County Public Transportation & Neighborhood Enhancement (PTNE)**

**Mr. De Leon** said PTNE's major Transit Development Plan was underway in coordination with Collier MPO. At the end of October, PTNE would host "Mobility Week" in partnership with The Florida Department of Transportation, as transit would be a part of the initiative. In coordination with the Collier County Supervisor of Elections, PTNE would be hosting, "Try Transit" day on November 2, 2024, in honor of Mobility Week, offering free transit on the last day of early voting in Collier County.

(iii) Collier County Traffic Management Center (TMC) Operations

None.

(iv) Lee County MPO

**Mr. Scott** said that Lee MPO was working on their Long Range Transportation Plan, Safe Streets 4 All (SS4A) Safety Action Plan, the CR 951 Extension project, and would be discussing the upcoming Collier-Lee joint congestion management scope.

**7. Committee Action**

## A. Discuss Joint Lee County/Collier MPO Congestion Management Plan Scope

**Ms. McLaughlin** said that the impetus for a joint Collier-Lee Congestion Management Plan (CMP) scope was in response to the recently proposed House Bill 7409, directing Collier and Lee MPOs to conduct a consolidation feasibility study. To proactively demonstrate coordinated regional planning efforts already in place between Collier and Lee, as well as address the legislature's concerns that there was a lack of progress in improving traffic congestion on major corridors linking the two regions, the idea arose that rather than develop a joint CMP in totality, it might be more expedient to jointly develop a regional component for inclusion in each region's CMP. Committee feedback would be an important element of developing the regional component of the CMPs.

**Mr. Scott** said that the scope would be aimed at the adopted regional network. Collier's urbanized area had made its way up to Alico Rd, so the focus could be from Alico Rd to Immokalee Rd., where Collier's urbanized area is absorbed into Lee's area. The scope could follow that segment and include projects that had already been adopted between the two MPOs, as the regional network.

A group discussion followed, and **Mr. Scott** passed around a copy of the Collier-Lee Regional Roadway Network adopted in 2017, attached to these minutes. The group reviewed the map, and noted that updates to the map to include planned roads, as well as some current facilities, were needed. Certain areas of concern in the network, achieving traffic signalization concurrence between regions, and the benefit of preparing traffic model runs were discussed. The MPOs would exchange the names of the consultants that would be working on their individual CMPs for a smooth workflow. The scope would need to be finalized in the near future. There would be further discussion at the November 20, 2024 CMC meeting.

*This item was presented for review and discussion only.*

## B. Review FY25-29 SU Funded Projects for Viability and Prioritization Regarding Programming Construction Costs

**Ms. McLaughlin** said that FDOT met with Collier MPO and Collier County Transportation Planning to review project priorities in the FY25-29 Work Program cycle. FDOT provided a spreadsheet of SU-funded projects with notes of concern for the future of certain projects due to budgetary constraints, which can be viewed in the September 18, 2024 CMC Agenda. With the rise of construction costs, FDOT's ability to cover costs had diminished and project priorities would need to be reassessed for each jurisdiction within the Collier region. Timelines for projects in the design phase that were moving toward construction would need to be reconsidered. **Ms. McLaughlin** said she would be reaching out to Committee members and the local municipalities to review and reassess programmed projects in their jurisdictions.

**Mr. Scott** said that FDOT had also requested that Lee reprioritize their programmed projects, suggesting that each jurisdiction have no more than two to three projects moving into construction.

A group discussion followed, regarding considerations for possible alternative project funding sources and project completion strategies, how project categorization could qualify some projects for

certain specified additional funding, reexamining design phase costs, and that recent legislation calling for more Right of Way requirements was necessitating some projects be modified in order to move forward.

There would be further discussion at the November 20, 2024 CMC meeting.

*This item was presented for review and discussion only.*

**8. Reports and Presentations**

None.

**9. Member Comments**

**Mr. Scott** said that the CR 951 Extension feasibility study was ongoing and that the project would probably cost close to $2 billion due to several issues, including going through environmental land. More conversations would be had.

**10. Distribution Items**

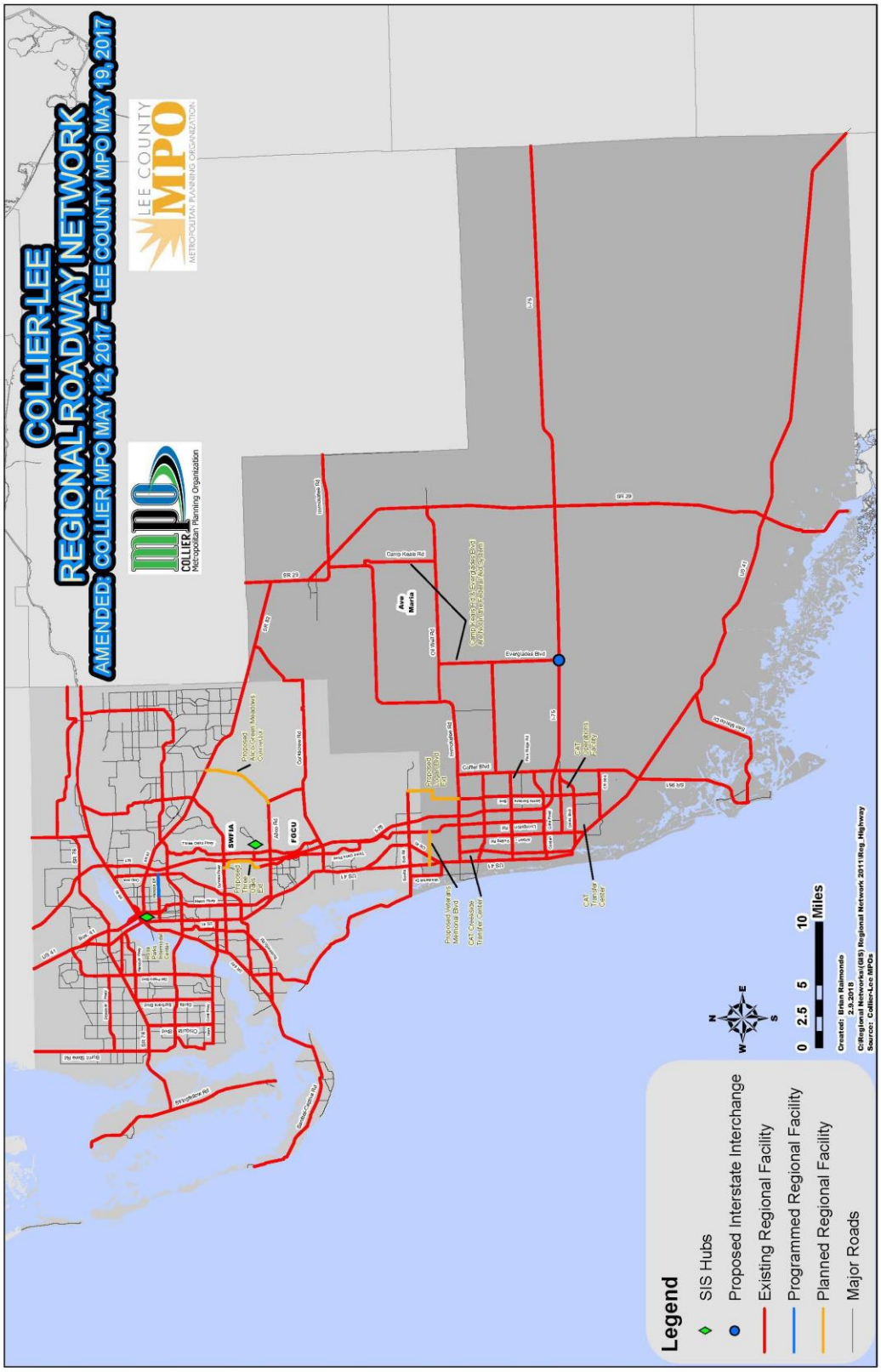
None.

**11. Next Meeting Date**

*November 20, 2024, 2:00 p.m. –Transportation Management Services Bldg. South Conference Room, 2885 S. Horseshoe Dr., Naples, FL, 34104 – in person.*

**12. Adjournment**

There being no further comments or business to discuss, **Mr. Goicoechea** adjourned the meeting at 2:57 p.m.




Map can be viewed in Collier MPO FY25-29 TIP, Appendix B, p195

**EXECUTIVE SUMMARY**
**COMMITTEE ACTION**
**ITEM 7A**

**Elect Chair in the Absence of Elected Officers**

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**OBJECTIVE:** For the committee to elect a chair for this meeting, effective once elected.

**CONSIDERATIONS:** CMC bylaws require officer elections at the first regularly scheduled meeting of each year. They shall hold the offices until their successors are elected.

Officer roles on the CMC are currently vacant. A chair is needed. The election will be decided by the majority vote of Committee members present. Elections for next year will be held at the first CMC meeting of 2025.

**STAFF RECOMMENDATION:** That the committee elect a Chair for this November 20th meeting, the last of 2024 with elections for 2025 to be made at the subsequent regularly scheduled meeting.

**ATTACHMENT(S):**
None

Prepared By: Sean Kingston, AICP, PMP, Principal Planner

**EXECUTIVE SUMMARY**
**COMMITTEE ACTION**
**ITEM 7B**

**Review of the Lee and Collier Regional Congestion Management Process (CMP) Element Scope of Services**

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**OBJECTIVE:** For the committee to review and comment on the Regional Scope of Services for the CMP, to be included in the 2050 Long Range Transportation Plan (LRTP) update.

**CONSIDERATIONS:** The Lee and Collier MPOs are working together on a Regional Congestion Management Process (CMP) Element Scope of Services. (**Attachment 1)** The Regional CMP Element will address regional roadways within the Bonita urbanized area that is part of the Lee County Metropolitan Planning Area down to Immokalee Road in Collier County. The Regional Roadway Network map approved by both MPO Boards in 2017 is shown in **Attachment 2.**

The regional coordination for this project helps fulfill commitments made during the discussions that came out of efforts by the Legislature last year to consolidate the two MPOs.

Staff will go over the draft scope to receive input at the meeting. The approval of the final scope will occur at the January 15th meeting.

**STAFF RECOMMENDATION:** Provided for committee review and comment. The committee has the option to vote to adjust or make revisions.

**ATTACHMENT(S):**

1. Regional Congestion Management Process Element Scope of Services
2. Collier Lee Regional Roadway Network (2017)

Prepared By: Sean Kingston, AICP, PMP, Principal Planner

# REGIONAL CONGESTION MANAGEMENT PROCESS ELEMENT SCOPE OF SERVICES

## Background

The federal government requires all urbanized areas to have in place a continuing, cooperative and comprehensive transportation (3-C) planning process as a condition to the receipt of federal capital or operating assistance. As part of this 3-C planning process the MPO is required to prepare and adopt a 20 year Long Range Transportation Plan (LRTP). The LRTP is made up of several components including the Freight and Goods Movement element, the Congestion Management Process (CMP) element, the Bicycle Pedestrian element and Transit element. This Scope of Services has been written for the update and development of the Congestion Management Process Element for the 2050 LRTP.

For this LRTP update, the two MPOs are developing a regional Congestion Management Process component of the CMP which will be included in both the Lee and Collier MPO plans. The regional CMP component is being developed to help the MPOs meet one of the commitments that was made as part of the consolidation discussions last year. In addition, this analysis is being done to help address commuting congestion during the peak hours between the two MPO urbanized areas.

## Task 1 – Kickoff Meeting and Project Management

The Consultant will provide overall project management, QA/QC review of documents and provide support services as needed. Coordination between the two Lee and Collier Project Managers and the Consultant Project Manager will be conducted on a routine schedule to ensure management of the schedule, resolve any issues/questions and get timely review of the project deliverables. The Consultant will schedule a virtual meeting with the Lee and Collier MPO staff to discuss the scope, schedule and data/previous reports and studies needed for the update and development of the 2050 CMP Element.

Deliverables:

- Kick off meeting and meeting summary
- Project schedule with updates
- Periodic Teams coordination meetings

## Task 2 – Update of the Current Regional Objectives, Performance Measures and Define the CMP Network

The Consultant will update the current regional objectives using the MPOs previous CMP as well as the current goals and objectives in the 2050 LRTP that is under development. This will also include a review of the performance measures that are currently being used to define how the multi-modal transportation system is operating and make recommended changes as needed.

The MPO staff is proposing that the CMP network for this update include the joint regional Lee and Collier roadway network, the most recent version that was approved by the Joint MPO Board's back in 2017 (attached). The separate regional component that will be included in both MPO plans will include the regional roadways that are within the portion of the Bonita urbanized area that is a part of the Lee County MPA down to Immokalee Road in Collier County. From the US census analysis, this equates to the area In Lee County where more than 50% of the commuters living in Lee County commute to the Bonita urbanized area. The Consultant will review and make recommendations to the two MPO's where the regional network needs to be revised to address any recent changes or planned changes to the roadway system. The CMP bicycle pedestrian network will follow the facilities on the regional roadway map as well as the SUN (Shared Use Network) facilities in Lee and Collier Counties. The transit network will follow the service routes and new potential routes consistent with the regional roadway network map as well.

Deliverables:

- Updated regional CMP objectives and performance measures
- Updated regional network maps and tables

**Task 3 – Overview of Current CMP Policies, Procedures and Requirements**

The Consultant will provide an overview and background of each of the MPOs CMP requirements and update the documentation, as necessary. This task will also include documenting the current programmed projects on the regional roadway network that are planned to be implemented to help address congestion and safety issues on the CMP network. Examples of these projects for inclusion include the US 41 and Bonita Beach Road displaced left that is programmed for design in FY 2026 and the I-75 and Pine Ridge Road DDI that is currently being designed.

Deliverables:

- Documentation and update of each MPOs CMP policies, procedures and requirements
- Develop table and map of the programmed congestion and safety improvements

**Task 4: Identify Congested Corridors and Hot Spots and Document Potential Toolbox Solutions**

Utilizing existing and prior studies, reports and databases, the Consultant will develop corridor level travel summaries of conditions. The summaries will also include information on peak hour bottlenecks to identify hot spot locations to focus on for identifying potential improvements. This task will include the analysis of non-re-occurring (crash, incidents, construction etc.) congestion and the impacts of that on the other regional facilities. The Consultant should use pictures, video, maps and any other visual data available to illustrate the issues that are experienced on the congested corridors and intersection hot spots.

The data sources that should be reviewed and used for this analysis includes the following:

- Prior Lee and Collier Congestion Management Process documents and projects
- Lee County Traffic System and Management Operations (TS&MO) Plan
- FDOT Districtwide LOS Analysis
- District One regional model runs to date (E+C and Alt 1 as of November 2024)
- Collier County Annual Update Inventory Report (AUIR)
- Lee County concurrency analysis
- Collier MPO origin and destination study
- RITIS
- FDOT Lee and Collier mobility profiles
- Crash analysis from the Lee and Collier MPO's High Injury Network (HIN) analysis as part of the SS4A projects. FDOT HIN analysis on state roads in Lee County
- Travel time data from BlueTOAD sensors and other sources
- Transit ridership, operational and coverage information from the TDP's and other recent studies
- Corridor and intersection analysis included in the I-75 Master Plan

This task will include conducting a regional origin and destination study focusing on peak hour commuter traffic between Lee and Collier Counties. The breakdown of trips will be by community/planning district and the analysis should be by one of the big data sources that is commonly used. The two MPO's are open to recommendations as to what is used but also how this data can be checked for accuracy as well. The origin and destination data will be used to recommend improvements and strategies.

Also as part of this task, the Consultant will develop a process to classify and address congestion and recommend an updated toolbox of projects and CMP Strategies to

address recurring and non-recurring congestion. The updated toolbox of projects and strategies should include generalized information on costs of implementation.

Deliverables:

- Corridor level travel condition summaries
- Identification of Intersection hot spots and bottlenecks
- Peal hour commuter origin and destination data between Lee and Collier counties
- Updated toolbox of projects and strategies to improve recurring and non-recurring congestion with generalized cost data

**Task 5: Analyze Conditions and Develop Recommended Projects and Strategies for Potential Implementation by the MPO's**

Using what comes out of task 4, as well as the toolbox of Congestion Management Process strategies, identify specific projects and strategies that will help reduce congestion on roadways and at intersections for implementation. This task will include developing an implementation schedule (short term, mid-term and long term), implementation responsibilities and costs at a planning level cost estimate. The recommended projects and strategies should include a mix of the following:

- Intelligent Transportation Systems (ITS)
- Transportation Demand Management (TDM)
- Operational improvements
- Capacity expansion
- Transit improvements
- Commuter services and van pools
- Technological improvements
- Bicycle/pedestrian and micromobility improvements

The identification of projects should include where the proposed fix needs further study and include that cost and responsibility for that analysis as well.

Deliverables:

- Identification of site specific projects and strategies to address congested locations with schedule, responsibility and planning level cost estimates

## TASK 6: Develop a Prioritization Process to Identify a Prioritized List of Projects and Strategies for Implementation

The Consultant will, with the help of the MPO staff, identify the distinct types and amount of funding that is currently available to the MPOs for programming projects and strategies. The Consultant will develop a prioritization process with the input of the MPO staff and MPO committees to develop a list of prioritized projects to be included in the LRTP update for implementation.

Deliverables:

- Identification of available funding for projects and strategies and prioritization process
- List of prioritized projects, strategies and recommendations for both MPOs

## TASK 7: Monitoring Strategy Effectiveness

This Task will address the monitoring of the effectiveness of strategies and projects that are implemented. As part of this task, the Consultant will review the MPO's processes and provisions to monitor and evaluate the effectiveness of the CMP strategies and projects that have been implemented to address congestion, and recommend ways to improve these provisions.

Deliverables:

- Technical Memorandum on findings and recommendations to improve and enhance the MPO's current practices to monitor the effectiveness of implemented strategies and recommendations.

## Task 8: Public Involvement and MPO Committee Presentations

The Consultant will participate in the public involvement meetings that take place as part of the development of the Long Range Plan. In addition the Consultant will make presentations (or provide materials for MPO staff to present) and seek input at the MPOs Congestion Management meetings, TAC, CAC and MPO Board as needed. The total number of meetings estimated as part of this task is sixteen over the project time frame.

Deliverables:

- Summary of comments and recommendations received as part of the public involvement activities

## Task 9: Develop the Draft and Final Congestion Management Elements Documentation

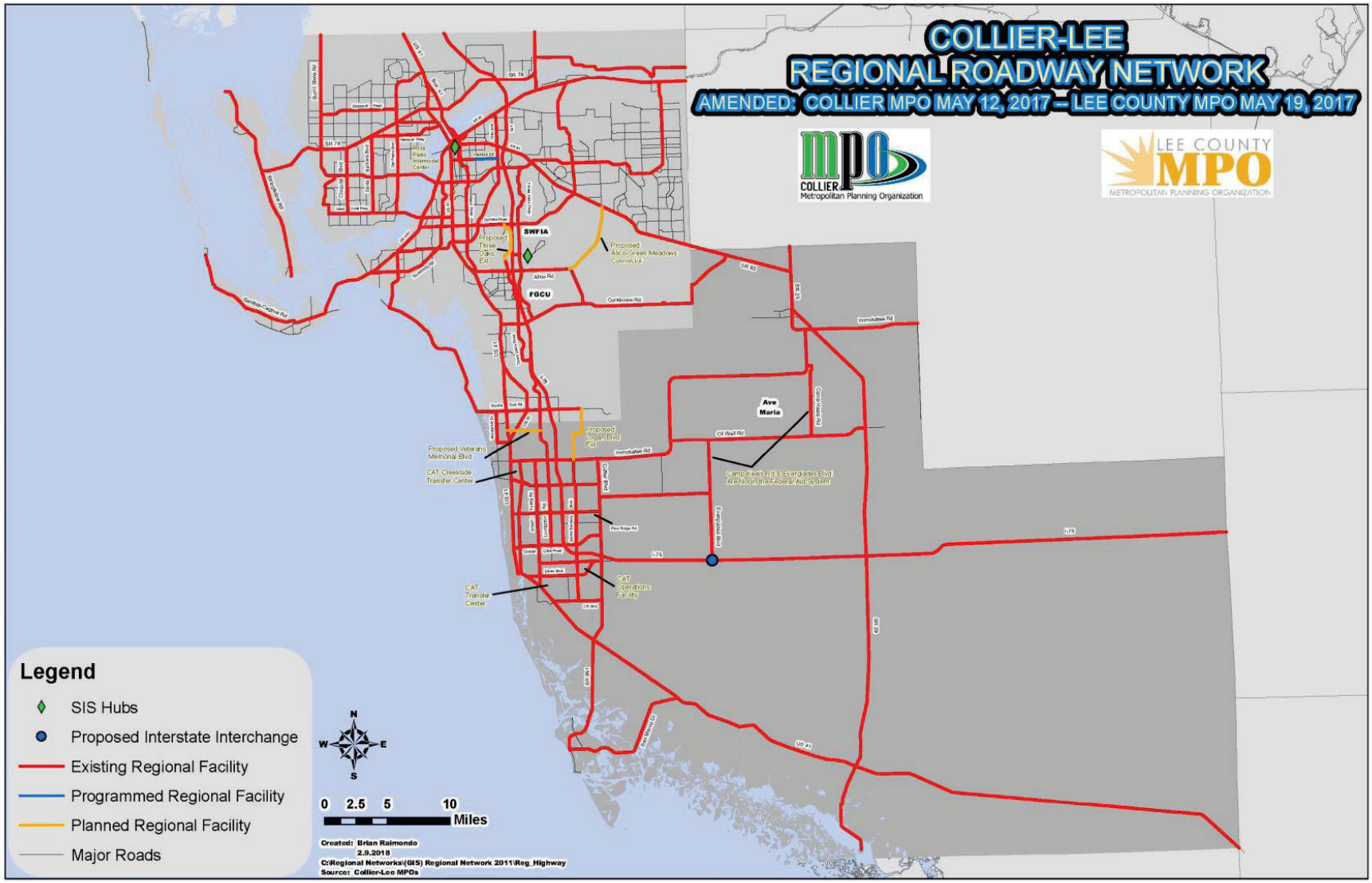
This task will include pulling together the documentation that has been done in the previous tasks and developing the updated congestion management elements for the Lee and Collier MPO's for inclusion in their Long Range Plans. This will also include a separate regional technical memorandum that will be included in both MPO plans. The CMP elements will include the documentation of the deliverables identified in each of the project tasks. The Consultant will compile and present the first draft of the 2040 CMP Element to the MPO's Traffic Management and Operations Committee, Technical Advisory Committee, Citizens Advisory Committee and the MPO Board. A final version of the 2050 CMP Element will be completed after input from the public, staff and the committees.

Deliverables:

- Draft and final congestion management element documentation for inclusion on the 2050 LRTPs

## Schedule and Budget

The Consultant will perform the scope tasks within twelve months of the Notice to Proceed. The budget for this project is $120,000 for the Lee MPO and $ 67,765 for the Collier MPO for FY2024/25. Collier MPO has an additional FY2025/26 allocation of $155,000 for the Congestion Management Process update, some of which can be applied toward this Regional Element, if necessary.


COLLIER-LEE
REGIONAL ROADWAY NETWORK
AMENDED: COLLIER MPO MAY 12, 2017 – LEE COUNTY MPO MAY 19, 2017
COLLIER Metropolitan Planning Organization
LEE COUNTY MPO
METROPOLITAN PLANNING ORGANIZATION
SWFIA
FGCU
Ave Maria
Legend
SIS Hubs
Proposed Interstate Interchange
Existing Regional Facility
Programmed Regional Facility
Planned Regional Facility
Major Roads
N
W
E
S
0 2.5 5 10
Miles
Created: Brian Raimondo
2.9.2018
C:\Regional Networks\(GIS) Regional Network 2011\Reg_Highway
Source: Collier-Lee MPOs

**EXECUTIVE SUMMARY**
**COMMITTEE ACTION**
**ITEM 8A**

**Staff Presentation on Collier MPO Comprehensive Safety Action Plan (CSAP) development**

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**OBJECTIVE:** For the committee to receive a presentation on the CSAP and to provide comments for plan development.

**CONSIDERATIONS:** TY Lin International is the project consultant for the CSAP and has prepared the draft Existing Conditions & Safety Analysis Memorandum and the presentation staff will provide. Staff will provide a presentation introducing the project **(Attachment 1)**, provide an overview of the Draft Existing Conditions and Safety Analysis Memorandum **(Attachment 2)**, open the floor for a question-and-answer session, and receive comments on the Draft Memorandum.

These documents have been presented to, and revised after receiving comments from, the Bicycle/Pedestrian Advisory Committee on October 15th and the Technical and Citizens Advisory Committees on October 28th. A public meeting was held on October 30th, and with the feedback from it and comments received from public outreach through survey and interactive map, along with those from this committee, the revised documents will be presented to the MPO Board at their meeting on December 13th.

**STAFF RECOMMENDATION:** Provided for committee review and comment.

**ATTACHMENT(S):**

1. Presentation on project, existing conditions, next steps, and Q&A
2. Existing Conditions & Safety Analysis Memorandum

Prepared By: Sean Kingston, AICP, PMP, Principal Planner

# Congestion Management Committee presentation

**Collier Metropolitan Planning Organization (MPO)**
**Safe Streets and Roads for All (SS4A)**
**Comprehensive Safety Action Plan (SAP)**

**November 20, 2024**

Contract No. 18-7432 MP

SAFETY ACTION PLAN

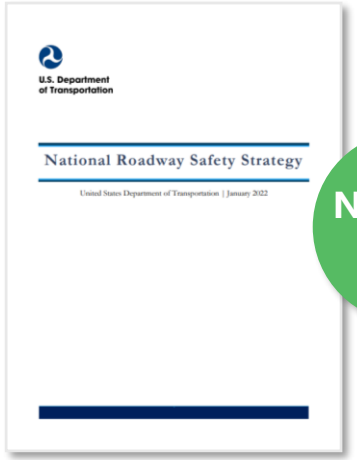
# Agenda

1. Comprehensive Safety Action Plan Overview
2. Existing Safety Conditions Summary
3. Engagement-to-Date Summary
4. High-Injury Network
5. Next Steps

SAFETY ACTION PLAN

# Comprehensive Safety Action Plan (CSAP)

- Aimed at reducing and eliminating **serious-injury and fatal** crashes affecting **all roadway users** on **all public roads**.
- Adopts a Safe Systems Approach
- Aligns with the Florida Strategic Highway Safety Plan
- Focuses on safety needs and issues of the city, county, or region.

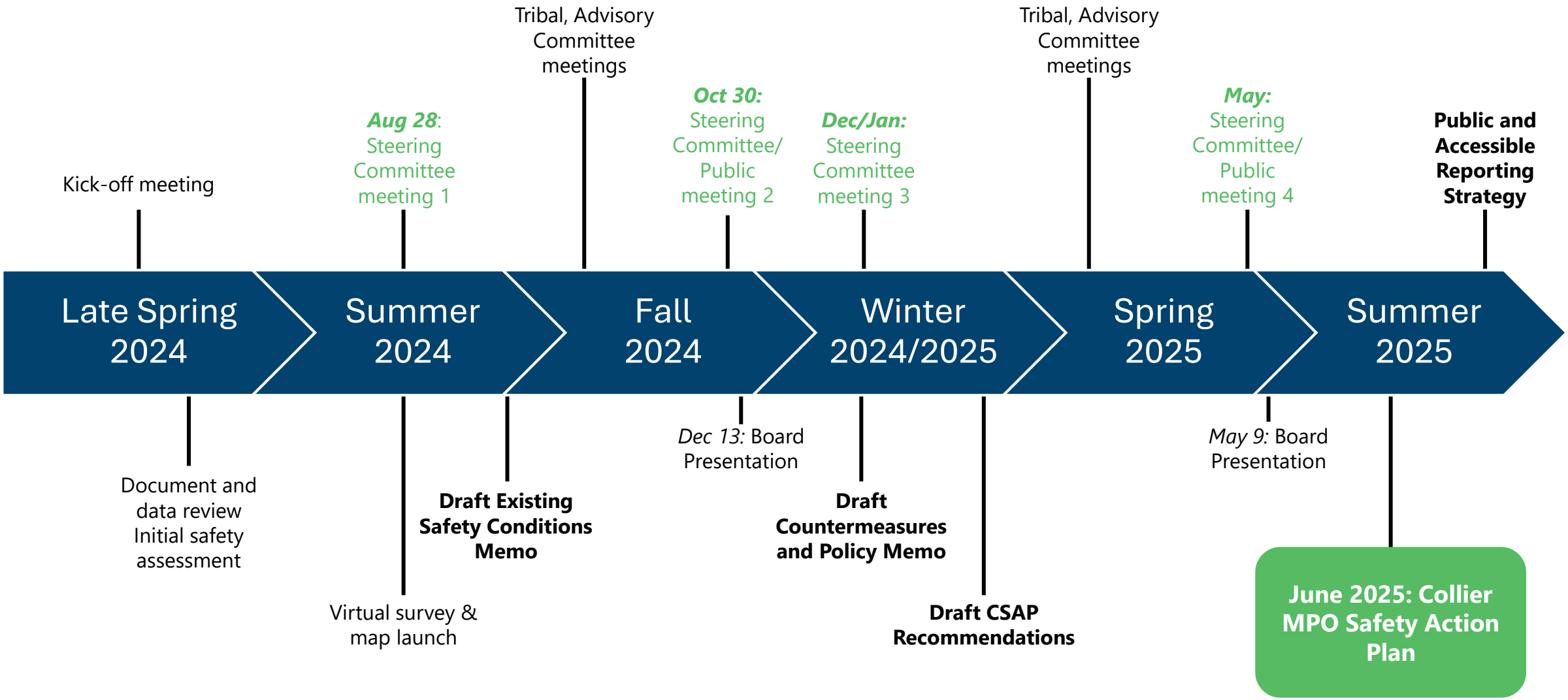



National Plan


State Plan

LOCAL PLAN

# Project Timeline




SAFETY ACTION PLAN

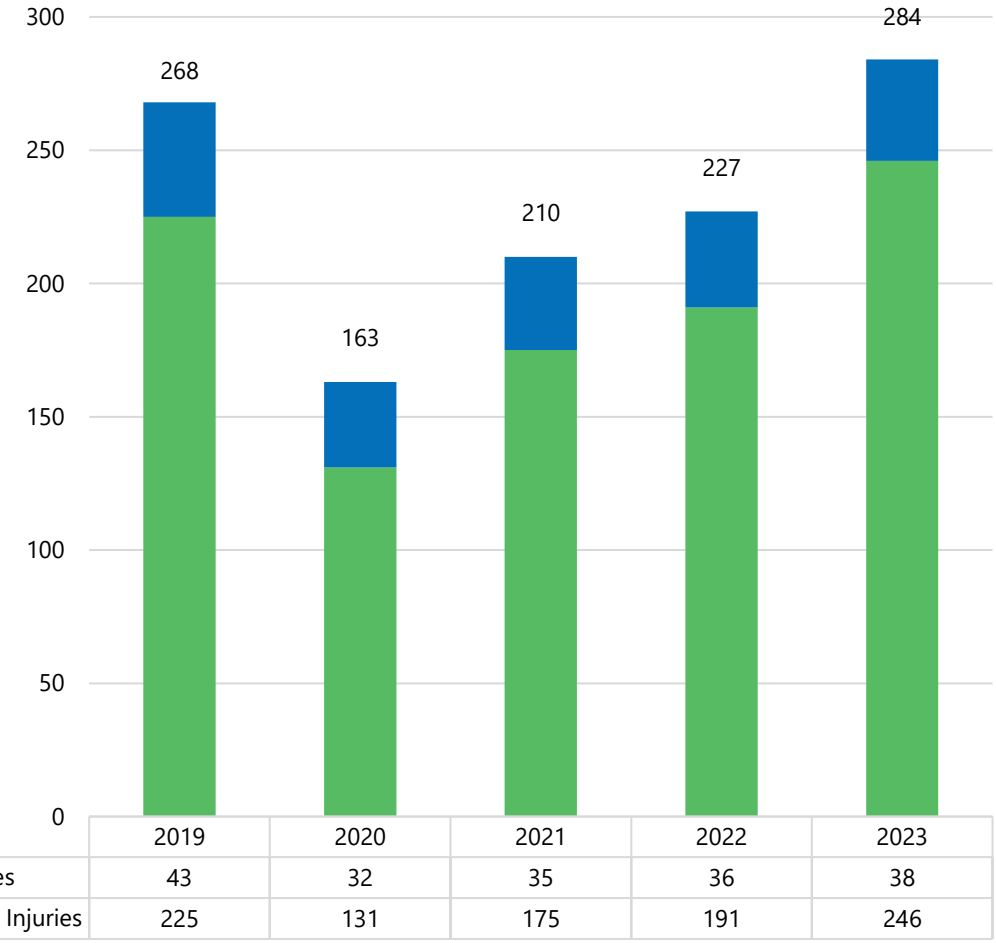
# Existing Safety Conditions

## Crash Trends: Overall

- Fatal and Serious Injury (KSI) crashes have been rising since 2020
- 20- to 30-year-olds are involved in the most KSI crashes (24%), even though they make up just 9% of the population

| Year | Total Crashes | Fatal and Serious Injury Crashes |
|---|---|---|
| 2019 | 11,410 | 216 |
| 2020 | 9,395 | 137 |
| 2021 | 11,494 | 172 |
| 2022 | 12,236 | 186 |
| 2023 | 12,470 | 218 |
| 2019-2023 | 57,005 | 929 |

People Seriously Injured or Killed in Collier County (2019-2023)




*Data: Signal4, 2019-2023. Excludes interstate crashes.*

# Existing Safety Conditions

## Crash Trends: Overall

**Collier County experiences an average of:**

**36** fatalities per year

OR

1 fatality every **10 days**

**193** serious injuries per year

1 serious injury every **2 days**

SAFETY ACTION PLAN

*Data: Signal4, 2019-2023. Excludes interstate crashes.*

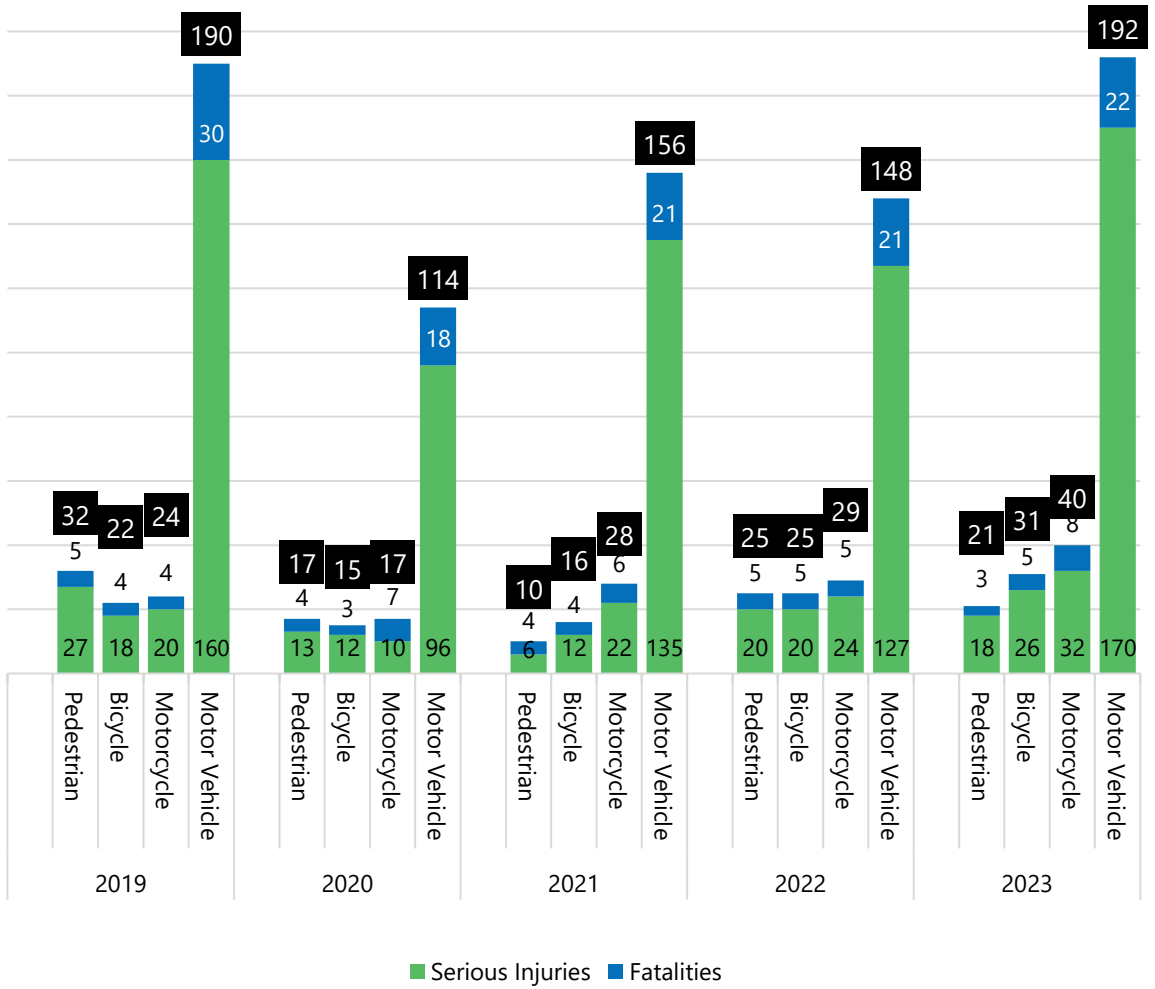
# Existing Safety Conditions

## Crash Trends: By Mode

- Fatalities and Serious Injuries are over-represented among Motorcyclist, Bicycle, and Pedestrian crashes
- Motorist crashes are most common (96%), but are less severe than all other crashes
- Children and teens (0-19) are the most common victims in pedestrian and bicyclist KSI crashes, disproportionate to their share of the population

| User Type | % Crashes | % of KSI Crashes | Relative Severity |
|---|---|---|---|
| Pedestrian | 2% | 11% | 6.1 |
| Bicycle | 2% | 12% | 7.1 |
| Motorcycle | 1% | 14% | 14.8 |
| Motor Vehicle | 96% | 63% | 0.7 |

People Killed or Seriously Injured in Collier County, by Mode

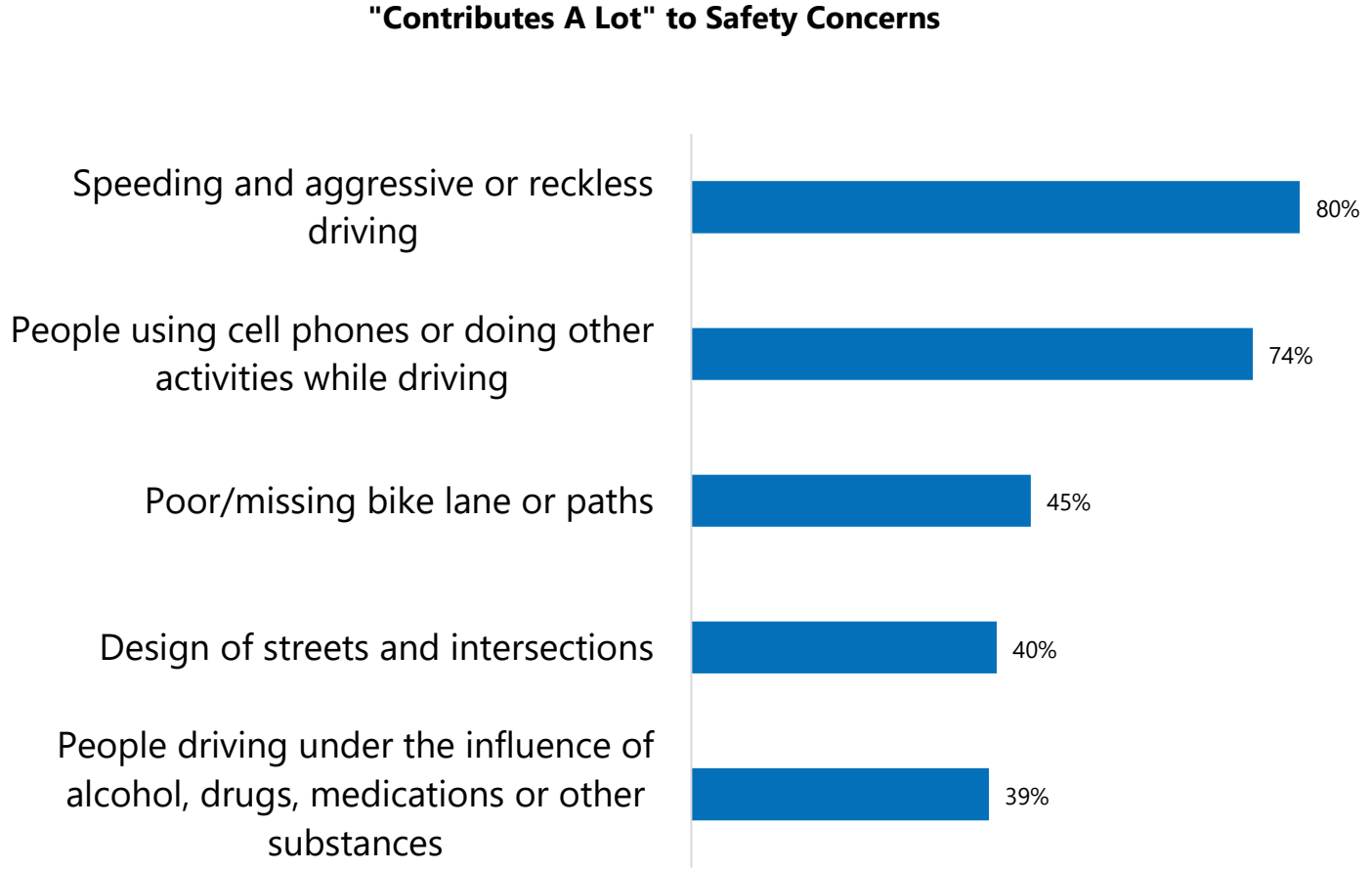



*Data: Signal4, 2019-2023. Excludes interstate crashes.*

# What We've Heard So Far

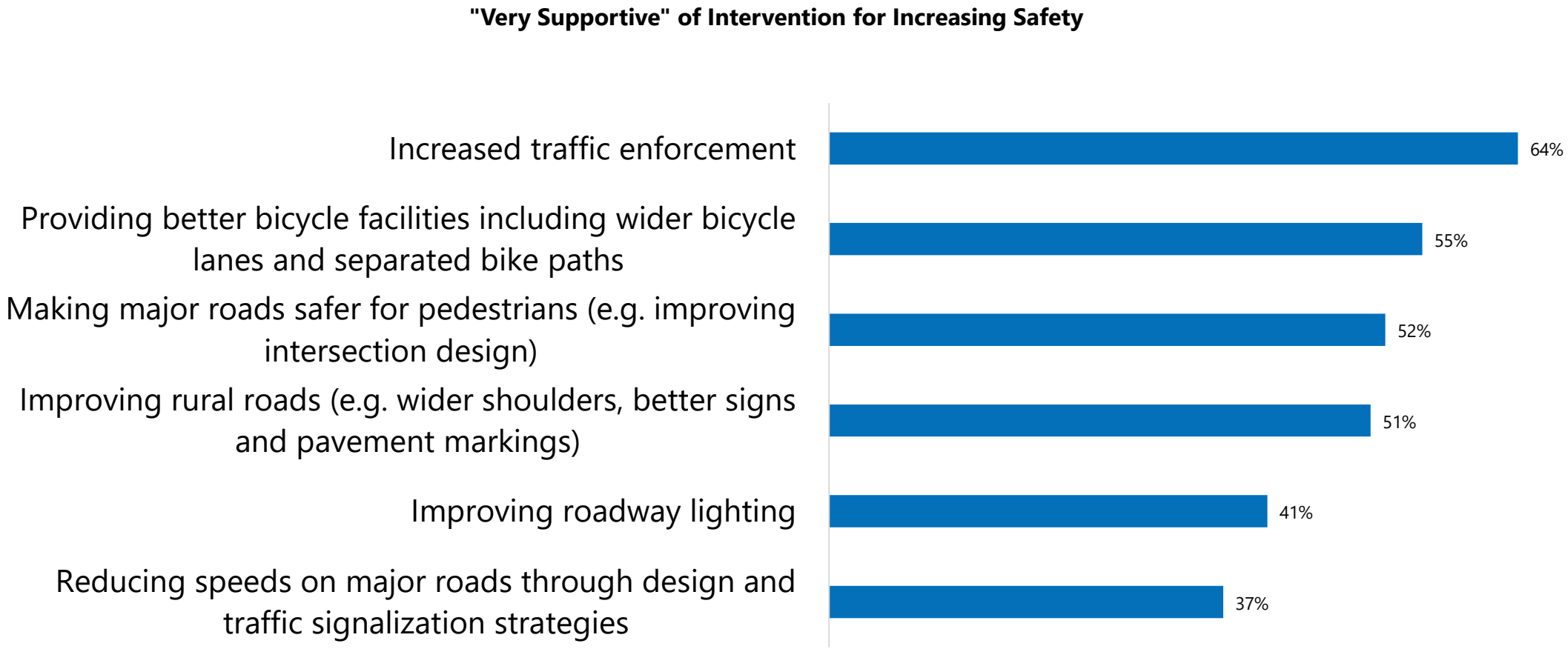
## Online Survey Highlights

- 300+ survey replies
- Many (80%) have changed plans due to traffic safety concerns



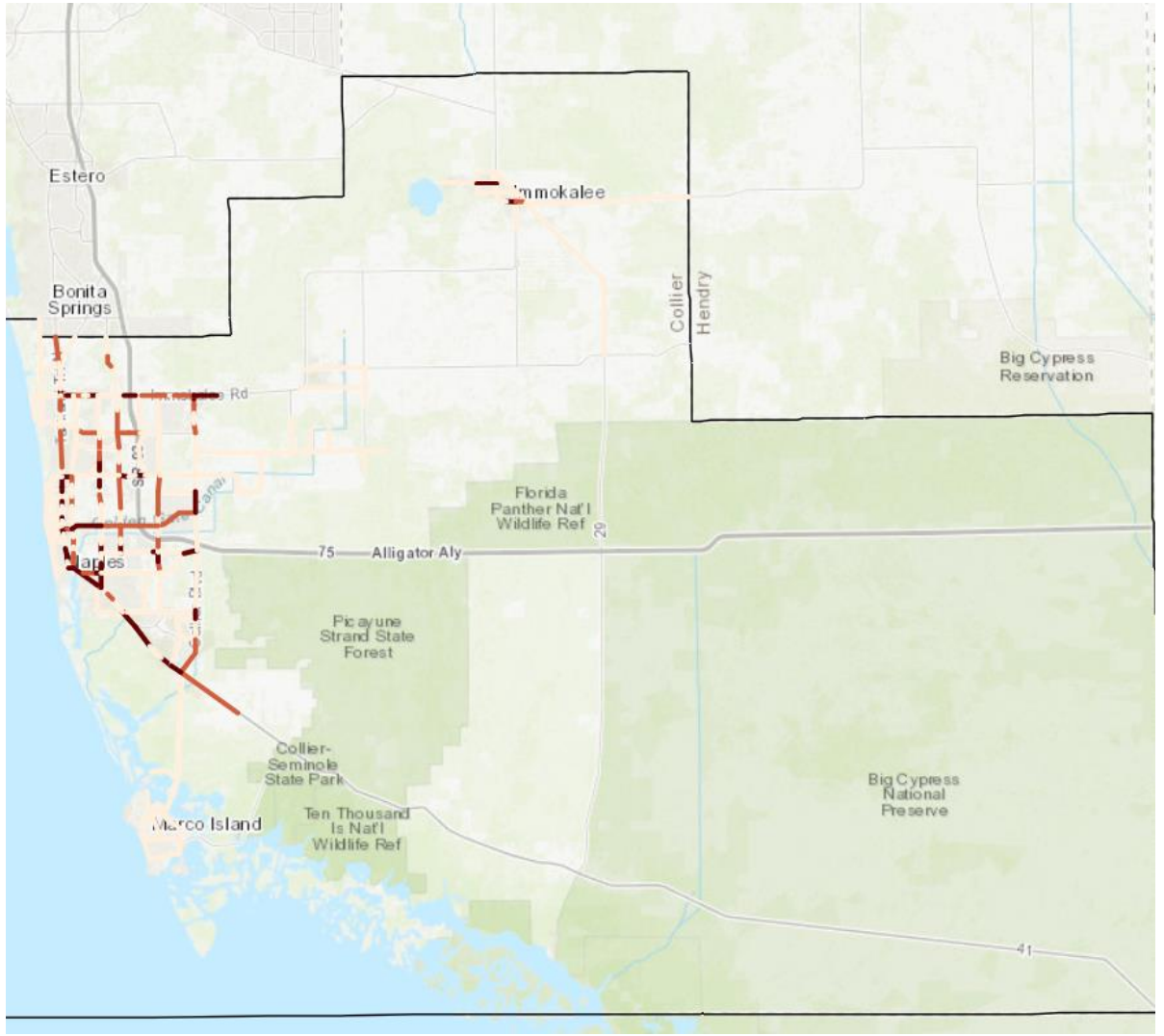
# What We've Heard So Far

## Online Survey Highlights

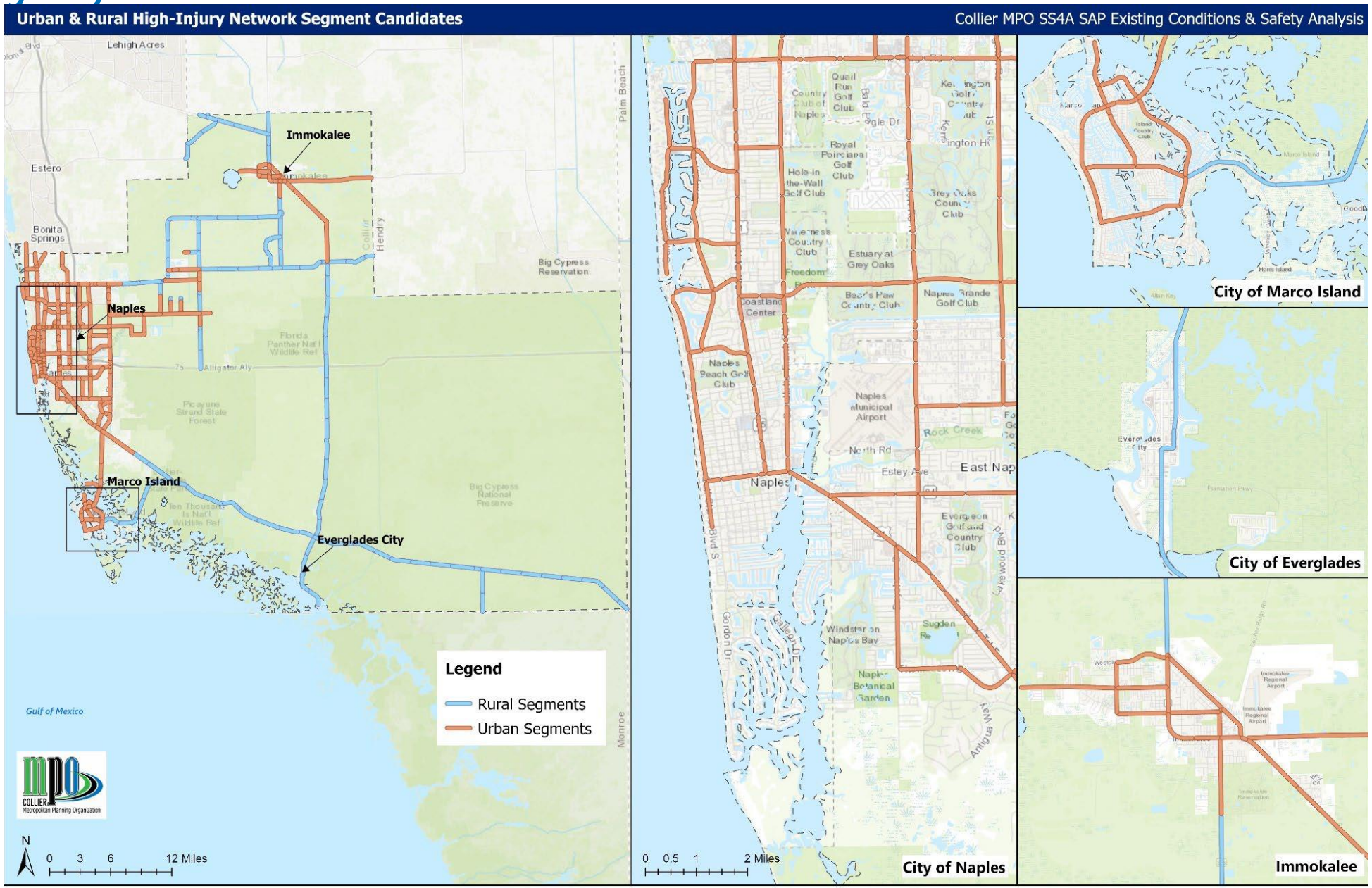


# High Injury Network

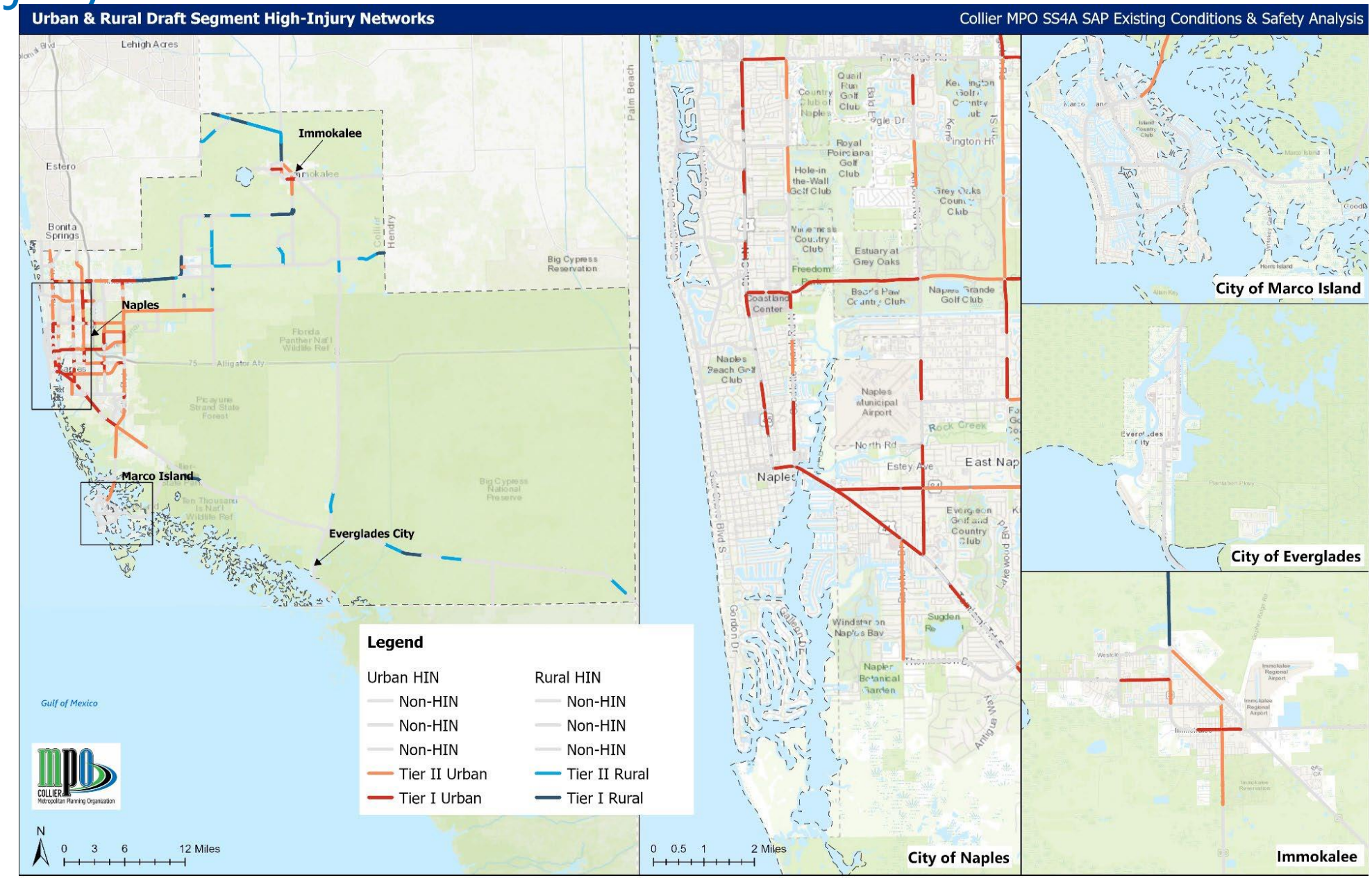
- A HIN includes road segments where serious crashes happen more often than in other areas.
- Also considers systemic risk.
- HIN will be further prioritized into focus corridors through:
  - Feedback from the community
  - Other factors identified by the MPO, including equity considerations



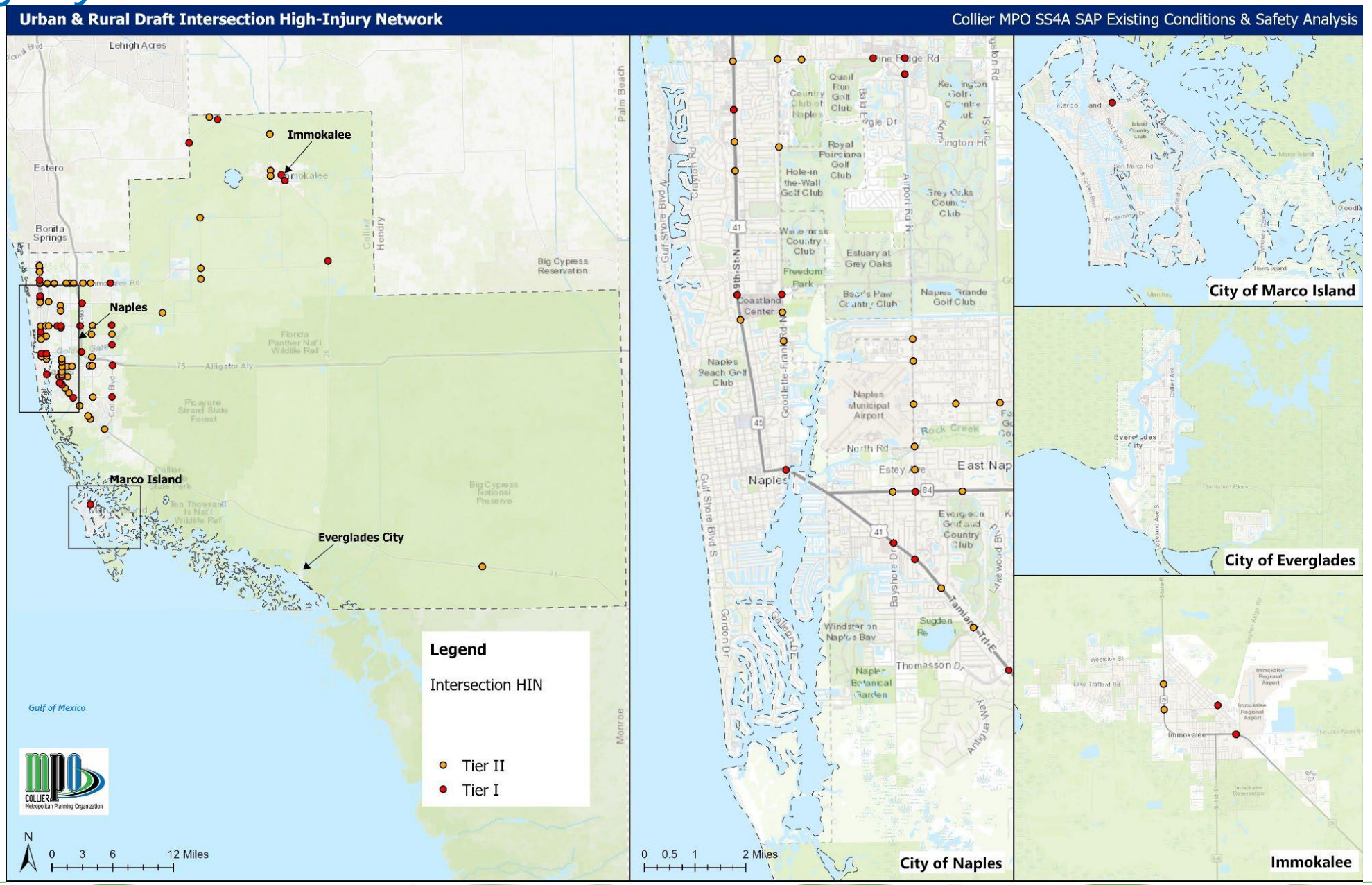
# High Injury Network



# High Injury Network



# High Injury Network




SAFETY ACTION PLAN

# Next Steps

- Winter: Developing Countermeasures and Policy actions
- Spring 2025: Additional Engagement and Board Meeting
- Final Plan: Early Summer 2025

**Collier County Safe Streets and Roads for All (SS4A) Comprehensive Safety Action Plan (SAP)**

# DRAFT Existing Conditions & Safety Analysis Memorandum

October 30, 2024 — Contract # 18-7432 MP
Collier Metropolitan Planning Organization (MPO)



COLLIER Metropolitan Planning Organization

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# Contents

# EXECUTIVE SUMMARY

Collier MPO has included safety goals in many preceding plans which reflect considerable thought, effort, and engagement. The previous plans are fundamental in shaping the Safety Action Plan, providing a foundation and areas for alignment.

Collier County reported 929 killed or serious injury (KSI) crashes on their roadway network over a five-year period, averaging about 186 per year (152 serious injury crashes and 34 fatal crashes annually). These crashes resulted in 184 fatalities, averaging 36 traffic deaths per year, as summarized in Table 2. The number of KSI crashes dipped slightly in 2020, in contrast to nationwide trends, but have since surpassed 2019 levels, highlighting a troubling increase in traffic incidents and the urgent need for improved safety measures.

Crash data reveals several patterns that provide a better understanding of traffic safety issues in Collier County:

- **Seasonality:** More crashes occur in winter and spring, accounting for nearly 60% of all KSI crashes. Concurrently, over half of pedestrian and bicycle KSI crashes, 66%, occur in winter and spring. This contrasts national trends but aligns with the region's annual population fluctuations during these periods.
- **Age of Victim**: In Collier County, individuals aged 20 to 30 are involved in the highest percentage of KSI (Killed or Seriously Injured) crashes, accounting for 24% despite representing only 9% of the population. Additionally, children and teens (0-19) are disproportionately affected in pedestrian and bicyclist KSI crashes, underscoring their vulnerability.
- **Contributing Factors:** Based on the reported crash data, over half (65%) of all fatal and severe injury crashes are attributed to five main causes: failure to yield, roadway departure, reckless driving, disregarding traffic signals, and speeding.
- **Location:** A large portion of crashes (25%) occur in parking lots. Parking lot locations accounted for 10% of all fatal and serious injury crashes for pedestrians and cyclists, which is disproportionately higher than for all road users (6%).

A systemic analysis reveals the relative severity of different types of crashes and types of crash locations:

- **Crashes by Mode:** Motor vehicle crashes account for the majority of all crashes and cause the most serious injuries and fatalities. However, non-motor vehicle crashes tend to be more severe when they occur.

  Pedestrians and cyclists account for only 4% of all crashes but represent 23% of all KSI (Killed or Seriously Injured) crashes. Motorcyclists are involved in just 1% of all crashes but makeup 14% of KSI crashes.

  For pedestrian crashes, 1 in every 10 results in a fatality or serious injury. For bicyclists, this figure is 1 in every 9 crashes, and for motorcyclists, it is 1 in every 4 crashes. In contrast, motor vehicle crashes result in a fatality or serious injury every 95 crashes.
- **Motor Vehicle Crash Types:** While rear end, sideswipe, and other / non-collision crashes are the most common motor vehicle crash types, the most severe crash types are roll-over, head-on, left-turn, and ran-off roadway / fixed object crashes (where a motor vehicle strikes a parked car, tree, or other non-moving object).
- **Intersection Crashes**: Risk was assessed for both urban and rural intersections. In urban areas, the relative risk for crashes and KSI (killed or serious injury) crashes is higher at high-volume intersections

with more lanes. However, the highest risk for pedestrian KSI crashes is at signalized intersections with 1 or 2 lanes and low average daily traffic (under 25,000 vehicles). All crash types are more frequent at intersections with 6 or more lanes, with the greatest risk at high-volume, non-signalized intersections with 6 or more lanes.

At rural intersections, non-signalized rural intersections have a greater frequency of KSI crashes yet pedestrian and bicyclist crashes are uncommon at rural intersections. The highest risk for vehicle reported crashes were identified to be speed-related on 6+ lane signalized intersections and related to speed.

- **Segment Crashes**: Risk was assessed for both urban and rural roadway segments. On urban roadway segments, the relative risk for roadways with 1 or 2 lanes is consistently low, regardless of average daily vehicle traffic. In general, risk increases with the number of lanes and daily traffic: the risk of KSI crashes is greatest on 6+ lane segments with moderate Average Annual Daily Traffic (AADT) and of the crash types examined, all occur more frequently than average on 3 to 6+ lane roadway segments with moderate AADT.

  On rural roadway segments, the risk increases with the number of lanes, even though these roads typically have low average annual daily traffic (AADT)

- **Equity Assessment**: Based on an equity score comprised of demographic and socio-economic factors, areas with a high equity need are overrepresented in the County's crashes and KSI crashes. Although containing only 3% of the county's roadway miles, 9% of KSI crashes occurred in the most disadvantaged communities.

A high injury network (HIN), a set of roads and intersections with the highest rates of severe and fatal crashes determined by data analysis, was developed to support Collier MPO in prioritizing safety projects throughout the county. The HIN includes both intersection and segment locations and was developed based on three equally weighted criteria: Severe Crash Risk Score, Facility Risk Score, and Relative Risk Score.

# PREVIOUS PLANS

This conditions assessment started with a review of relevant past studies and plans that set safety goals impacting the region and future projects. The existing MPO plans and their goals demonstrate significant thought, effort, and engagement, forming the foundation for the Safety Action Plan and providing areas for alignment. Relevant excerpts from these resources are documented below. Several major themes emerged across the plans reviewed:

- Increased safety of the transportation system for motorized and non-motorized users.
- Safe, connected, efficient, and convenient mobility options including transit.
- Accessibility for people walking and biking through investments in the built environment.
- Equitable community input and inclusive transportation network outcomes.

Overall, Collier MPO's existing plans reflect an intention for a Complete Streets approach where the design, management, operations, and maintenance of the County's streets and transportation systems reflect the needs of all users. These plans are guided by and optimized for broader social, economic, and environmental outcomes, rather than solely focusing on motor vehicle traffic.

## Plan Findings

Below are excerpts from the reviewed plans. Plans that did not contain goals, priorities, or recommendations relevant to a Comprehensive Safety Action Plan have been omitted.

### *Local Roads Safety Plan (LRSP), May 2021*

"The purpose is to prioritize opportunities **to improve roadway safety** on locally owned and maintained roadways **in support of Florida Department of Transportation's Vision Zero goal of achieving zero fatalities and serious injuries Statewide.**"

### *2045 Long Range Transportation Plan (LRTP)*

- **Goal #6: Increase the Safety of the Transportation System for Users**
    - **Reduce the number of fatalities, injuries, and crashes**.
    - Ensure **adequate bicycle and pedestrian facilities** are incorporated into new highway and transit projects.
    - Implement **safety-related improvements on high crash corridors.**
- **Goal #7: Promote Multimodal Solutions**
    - Improve frequency and reliability of public transit service routes and **improve access** to park-and-ride lots.
    - **Improve pedestrian and bicycle facilities**.
    - **Implement Complete Streets policies.**

### *Transportation Improvement Program (TIP)*

The MPO and its partners prioritize projects listed in the TIP to enhance regional mobility and improve the safety, condition, and efficiency of the transportation system. The TIP includes projects for all transportation modes, including roadways, bicycle and pedestrian paths, transit, and aviation. Its development involves input from all transportation system users, including those traditionally underserved who may face challenges accessing employment and other services. The MPO's LRTP and TIP are developed with consideration of the ten planning factors from MAP-21 and the FAST Act, a selection of which are listed below.

- Increase the safety of the transportation system for motorized and non-motorized users.
- Increase the security of the transportation system for the motorized and non-motorized users.
- Increase the accessibility and mobility of people and for freight.
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
- Enhance travel and tourism.

### *FY22-24 Unified Planning Work Program (UPWP)*

The Florida Transportation Plan and the State's Strategic Highway Safety Plan prioritize safety, aiming for zero traffic fatalities and serious injuries. MPOs must demonstrate how their Long-Range Transportation Plan (LRTP) and priority projects in the Transportation Improvement Program (TIP) contribute to these safety targets. The UPWP should consider enhancements to data analyses and community involvement to better inform the identification and prioritization of safety projects.

### *Congestion Management Process (CMP), April 2022*

The following Objectives were reviewed by the CMP and approved by the MPO Board to provide more specific guidance and direction in evaluating the CMP's performance measures and strategies.

- Objective 1: Improve the safety of transportation facilities.
- Objective 3: Develop, maintain, expand, and close gaps in pedestrian, bicycle, and shared-use path facility networks for efficient and safe movement of people. Connect these pedestrian and bicycle facilities to existing and future transit stops.
- Objective 4: Reduce vehicle miles traveled (VMT) by encouraging alternative modes of transportation, supporting sustainable land use development, and creating an integrated multimodal transportation system.
- Objective 6: Promote transportation investments that support the LRTP's priorities, goals, and objectives.
    - LRTP Goal #6: Increase the Safety of the Transportation System for Users; CMP-Related Objectives:
    - LRTP Goal #7: Promote Multi modal Solutions; CMP-Related Objectives:

*Bicycle and Pedestrian Master Plan, March 2019*

*Vision*: "To provide a safe and comprehensive bicycle and pedestrian network that promotes and encourages community use and enjoyment." This plan aims to provide a safe and comprehensive bicycle and pedestrian network that promotes and encourages community use and enjoyment. It builds on prior efforts to develop a first-class network throughout Collier County. It is not intended to duplicate or conflict with existing local plans and ongoing projects but rather to unify planning efforts and influence facility improvement priorities at the county level.

Strategies and objectives of the plan includes:

- **Safety: Increase safety for people who walk and bicycle in Collier County.**
    - Objectives:
        - Reduce the number and **severity of bicycle crashes.**
        - Reduce the number and **severity of pedestrian crashes**.
    - Strategies:
        - **Identify high-crash locations** for RSAs. Projects that implement recommendations identified in RSAs will be a high priority for funding.
        - Collaborate with law enforcement to develop and deploy **enforcement/education campaigns**.
        - Work with FDOT and law enforcement agencies to seek funding for **High Visibility Enforcement (HVE)** for pedestrian and bicycle safety.
        - Enhance the partnership with the Community Traffic Safety Team
        - **Adopt a Complete Streets Policy and work with local governments and the County to develop and adopt their own Complete Streets policies.**
        - Work with FDOT, MPO member entities, and other transportation agencies to reduce the number of crashes, particularly those with severe or fatal injuries
- **Safety Performance Targets of Vision Zero Florida and the Bicycle and Pedestrian Master Plan:**
    - Number of fatalities: 0
    - Rate of fatalities per 100 million vehicle miles traveled (VMT): 0
    - Number of serious injuries: 0
    - Rate of serious injuries per 100 million VMT: 0
    - Number of non-motorized fatalities and serious injuries: 0

One of the primary goals of the Bicycle and Pedestrian Master Plan is to reduce the number of bicycle and pedestrian serious injuries and fatalities by funding projects that will support this goal.

# CRASH TRENDS

Unless otherwise noted, all crash analyses were done using crash data from the Florida Department of Highway Safety and Motor Vehicles (FLHSMV), queried via Signal Four Analytics for the years 2019-2023. All crashes marked as Interstate were removed for analysis, so crashes along I-75 will not be included. Crash data only includes reported crashes that meet the state's definition of a crash. Throughout the analysis, the term KSI crash describes crashes resulting in fatalities or serious injuries.

## Overall Crash Numbers – Including Interstate Crashes

From 2019 through 2023, Collier County experienced over 60,000 traffic crashes and over 1,000 fatal or serious injury crashes (Table 1). 2023 peaked with 13,399 total crashes and 253 fatal or serious injury crashes. Although there was a decrease in fatal and serious injury crashes (KSI) between 2019 and 2020, the numbers have been steadily increasing since then. These figures include Interstate crashes, which are excluded from the subsequent sections of this report. Interstates have been left out of the remainder of the crash analysis due to differences in jurisdiction, traffic volumes, and the scope of countermeasures and strategies.

| Year | Total Crashes | KSI Crashes |
|---|---|---|
| ***2019*** | 11,933 | 238 |
| ***2020*** | 9,849 | 151 |
| ***2021*** | 12,100 | 198 |
| ***2022*** | 12,947 | 214 |
| ***2023*** | 13,399 | 253 |
| ***Total*** | **60,228** | **1,054** |

*Table 1. Total crashes and total fatal and serious injury crashes in Collier County from 2019-2023, including interstate crashes.*

## Overall Crash Numbers – Non-Interstate Crashes

Excluding Interstate crashes, **Collier County saw just over 57,000 crashes between 2019 and 2023** (Table 2). Of those, **929 were serious or fatal injury crashes**. This equates to an average of 11,401 crashes, 152 serious injury crashes, and 34 fatal crashes per year. Once again, both crashes and KSI crashes decreased below 2019 levels, but have been steadily increasing since.

| Year | Total Crashes | KSI Crashes |
|---|---|---|
| ***2019*** | 11,410 | 216 |
| ***2020*** | 9,395 | 137 |
| ***2021*** | 11,494 | 172 |
| ***2022*** | 12,236 | 186 |
| ***2023*** | 12,470 | 218 |
| ***Total*** | **57,005** | **929** |

*Table 2. Total crashes and total fatal and serious injury crashes in Collier County from 2019-2023, excluding interstate crashes.*

Examining serious injury and fatal crashes more closely (Table 3), both fatal and serious injury crashes follow similar trends with a decrease in 2020 from the 2019 level and increases since. Serious injury crashes peaked at 184 in 2023, and fatal crashes peaked at 35 in 2022.

| Year | Serious Injury Crashes | Fatal Crashes |
|---|---|---|
| ***2019*** | 177 | 39 |
| ***2020*** | 108 | 29 |
| ***2021*** | 139 | 33 |
| ***2022*** | 151 | 35 |
| ***2023*** | 184 | 34 |
| ***Total*** | **759** | **170** |

*Table 3. Total fatal and serious injury crashes in Collier County from 2019-2023.*

Table 4 and Table 5 summarize non-interstate crashes for three major cities in Collier County, highlighting the total number of crashes and those resulting in fatal or serious injuries. Between 2019 and 2023, the City of Naples accounted for 4,199 crashes, representing 7% of the county's total crashes. However, these crashes were more severe, making up 11% of the county's KSI crashes.

Meanwhile, the City of Marco Island experienced 943 crashes, constituting 2% of the total crashes. Of these, 24 were KSI crashes. The City of Everglades reported 43 crashes, representing less than 1% of the county's total.

| City | Population | Total Crashes | KSI Crashes |
|---|---|---|---|
| ***City of Naples*** | 19,315 | 4,199 | 104 |
| ***City of Marco Island*** | 15,942 | 943 | 24 |
| ***City of Everglades*** | 143 | 43 | 3 |
| ***Immokalee*** | 27,753 | 3,220 | 82 |

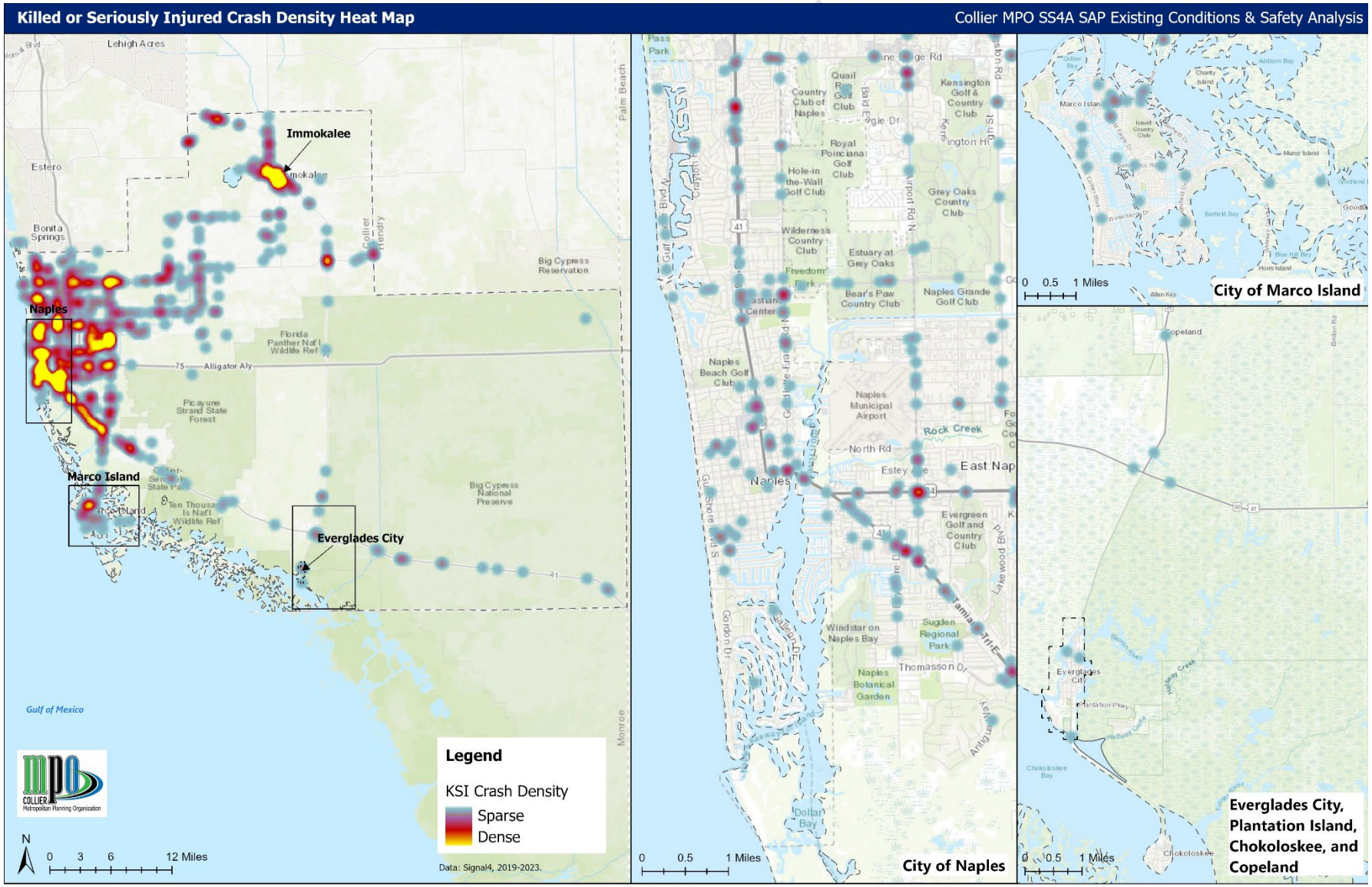
*Table 4. Total crashes and total fatal and serious injury crashes within Major Cities from 2019-2023, excluding interstate crashes.*

| City | Serious Injury Crashes | Fatal Crashes |
|---|---|---|
| ***City of Naples*** | 100 | 4 |
| ***City of Marco Island*** | 21 | 3 |
| ***City of Everglades*** | 3 | 0 |
| ***Immokalee*** | 62 | 20 |

*Table 5. Total fatal and serious injury crashes within Major Cities from 2019-2023.*

Figure 1 shows a heatmap of crash locations, which are most dense in the city of Naples, Marco Island, and Immokalee, consistent with population centers.

*Figure 1. Crash Density Heat Map: KSI Crashes*



As a result of these crashes, there have been **184 fatalities in Collier County associated with traffic crashes from 2019-2023, or an average of 36 traffic fatalities per year** (Figure 2). Likewise, there were **968 individuals that were seriously injured from a crash, with an average of 193 annually.** Following crash data trends, both fatalities and serious injuries saw a dip from 2019-2020, followed by a steady increase to 2023. Fatalities saw a peak in 2019 at 43 deaths, and serious injuries saw a peak in 2023 at 246.

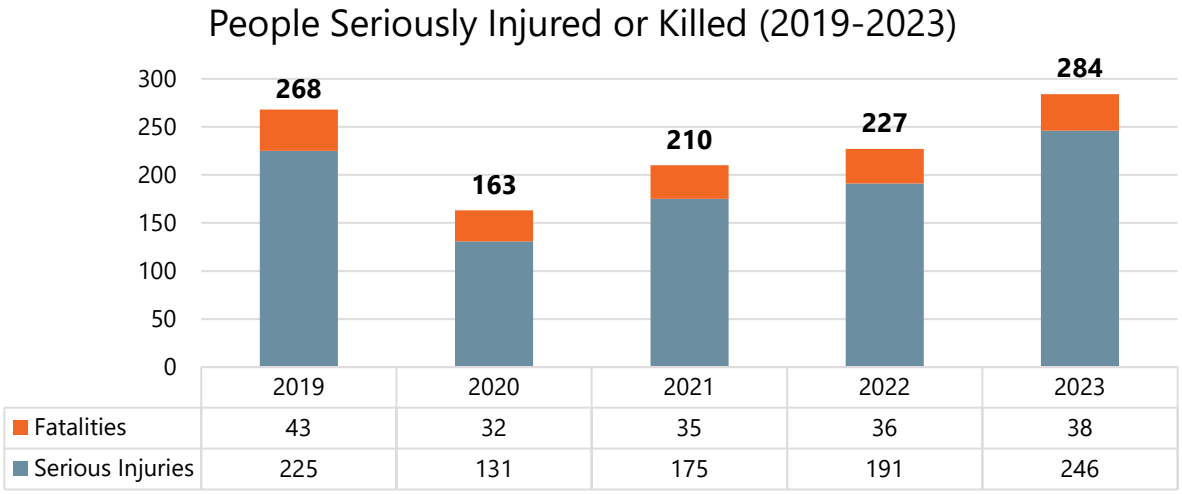



*Figure 2. People seriously injured or killed in traffic crashes in Collier County from 2019-2023.*

## Neighboring Counties Fatality Comparison

The following analysis includes a comparison with neighboring counties for fatal crash records from the National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS). Based on the limitations of the FARS data query tool, the data do not filter out the fatal crashes on interstates. The most recent available data is for the period 2019-2022, resulting in this section not perfectly aligned with the timeframe used in the previous and preceding sections.

Compared to overall state levels and several neighboring counties, **Collier County has one of the lowest traffic fatality rates at 0.46 fatalities per 1,000 people** (Table 6). This **rate is lower than Florida's average of 0.63** but only slightly lower than Miami-Dade County's rate of 0.47. Collier County's **traffic fatality rate is similar to neighboring Lee and Broward Counties**, both of which have rates just over 0.5 per 1,000 people.

| County | Fatalities (2019 – 2022) | Population (2022) | Fatalities Per 1,000 People |
|---|---|---|---|
| *Collier County* | 178 | 380,221 | 0.46 |
| *Lee County* | 456 | 772,902 | 0.58 |
| *Hendry County* | 60 | 39,902 | 1.50 |
| *Broward County* | 1,049 | 1,940,907 | 0.54 |
| *Miami-Dade* | 1,267 | 2,688,237 | 0.47 |
| *Florida State* | 13,785 | 21,634,529 | 0.63 |

*Table 6. Collier County traffic fatalities per 1,000 people compared to peer counties*

Naples, the largest city in Collier County, had a traffic fatality rate of 0.36 per 1,000 people, lower than other large cities like Fort Myers, Fort Lauderdale, and Miami, which all had rates above 0.5 (Table 7).

| City | Fatalities (2019 – 2022) | Population (2022) | Fatalities Per 1,000 People |
|---|---|---|---|
| *Naples* | 7 | 19,315 | 0.36 |
| *Fort Myers* | 70 | 88,699 | 0.78 |
| *Fort Lauderdale* | 177 | 182,673 | 0.96 |
| *Miami* | 259 | 443,665 | 0.58 |

*Table 7. City of Naples traffic fatalities per 1,000 compared to peer cities*

## Crashes by Mode

Between 2019-2023, an average of **21 pedestrian, 22 cyclist, 28 motorcyclist, and 160 motorist fatalities or serious injuries** occur from crashes every year in Collier County. Of the 184 fatalities in the county over this period, most were motorists (112), followed by motorcyclists (30), and pedestrians and cyclists (21 each). On average per year, this breaks down to 22.4 motorist fatalities, 6 motorcyclist fatalities, and 4.2 fatalities each for pedestrians and cyclists. Vulnerable Road Users are individuals at a higher risk of injury or fatality in the event of a traffic crash due to their lack of physical protection compared to vehicle occupants. These includes pedestrians, cyclists, motorcyclists, users of personal mobility devices (such as scooters), and other non-motorized road users.

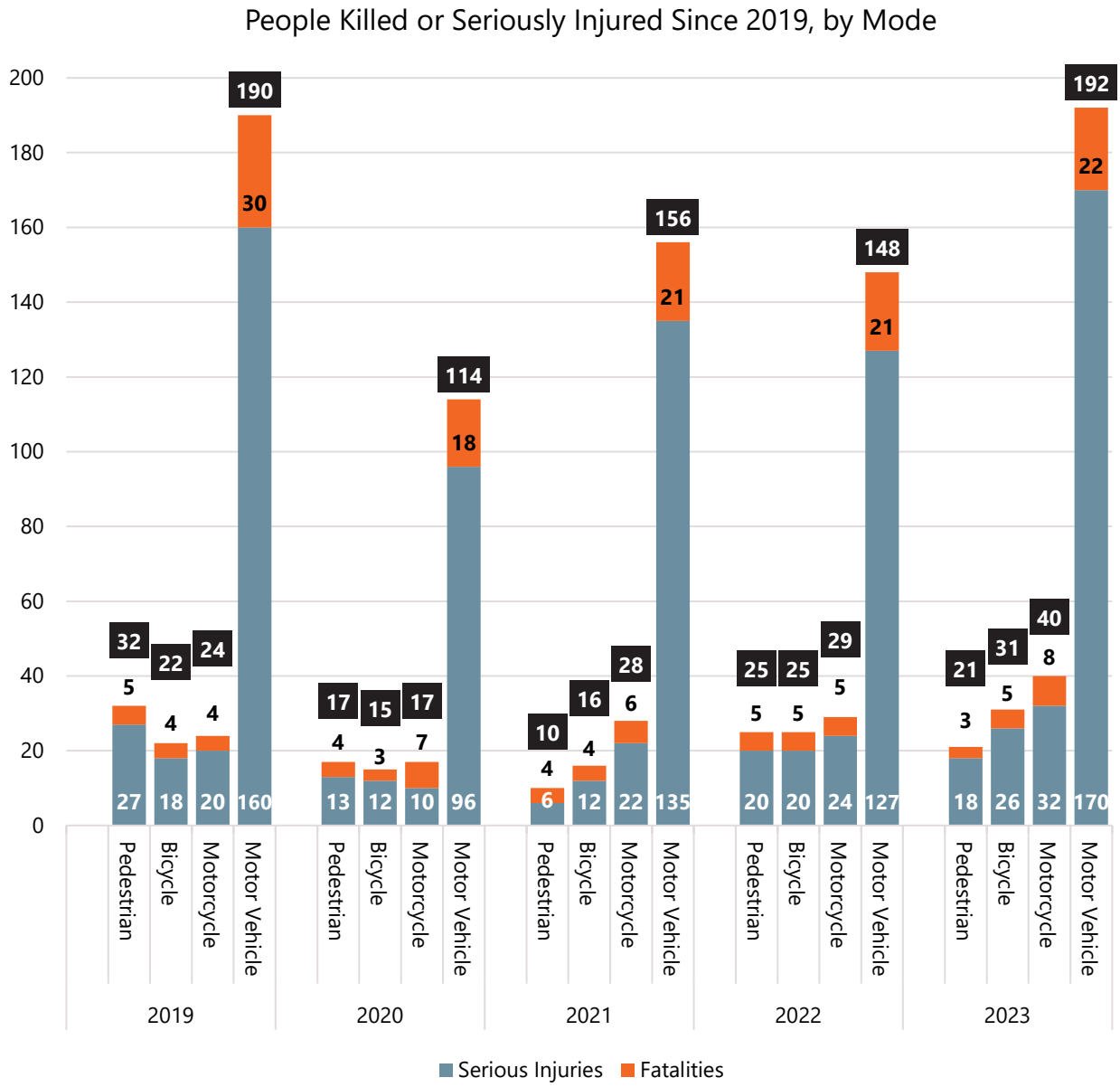



*Figure 3. Total fatalities and serious injuries in Collier County from 2019-2023, by mode (pedestrian, bicycle, motorcycle, and motor vehicle).*

Fatal and serious injuries decreased across most transportation modes from 2019 to 2020, then increased from 2021 to 2023, reaching or surpassing 2019 levels. For example, the number of pedestrians seriously injured fell from 32 to 10, then rose to 21 by 2023. Motorists seriously injured dropped from 160 to 96, then increased to 170 by 2023. While the serious injuries among cyclists and motorcyclists exceeded 2019 levels, rising from 22 to 31 and 24 to 40, respectively.

Calculating crash severity shows how severe crashes are for different types of transportation compared to how often they happen. Table 8 shows the percentage of total crashes and KSI crashes for each mode from 2019-2023. The relative severity score indicates how much more frequent severe crashes are for a specific mode. For example, a pedestrian severity score of 6.1 means severe pedestrian crashes are 6.1 times more

common than expected based on the total number of crashes.

**From 2019-2023, motorist involved crashes made up 95% of all crashes and 63% of the most severe (KSI) crashes**. The remaining KSI crashes were fairly evenly split among pedestrians, cyclists, and motorcyclists, even though these groups account for only 5% of all crashes. The relative severity is the ratio of the percent of KSI crashes to the percent of crashes; where the relative severity exceeds 1, KSI are overrepresented for that crash type relative to the number of crashes that occur. **The relative severity shows that while crashes involving pedestrians, cyclists, and motorcyclists are less common, they tend to be much more severe**. This is especially true for motorcyclists, who are involved in just 1% of all crashes but account for 14% of KSI crashes. Pedestrians and cyclists each account for 2% of all crashes, but pedestrians make up 11% of severe (KSI) crashes, and cyclists 12%. Together, these two groups represent just 4% of all crashes but **23% of all KSI crashes**. Figure 4 shows crashes and corresponding KSI crashes by mode involved.

| User Type Involved | % Crashes | % of KSI Crashes | Relative Severity |
|---|---|---|---|
| Pedestrian | 2% | 11% | 6.1 |
| Bicycle | 2% | 12% | 7.1 |
| Motorcycle | 1% | 14% | 14.8 |
| Motor Vehicle | 95% | 63% | 0.7 |

*Table 8. Total percentage of crashes, total percentage of KSI crashes, and relative severity of crashes in Collier County from 2019-2023, by mode involved (pedestrian, bicycle, motorcycle, and motor vehicle).*

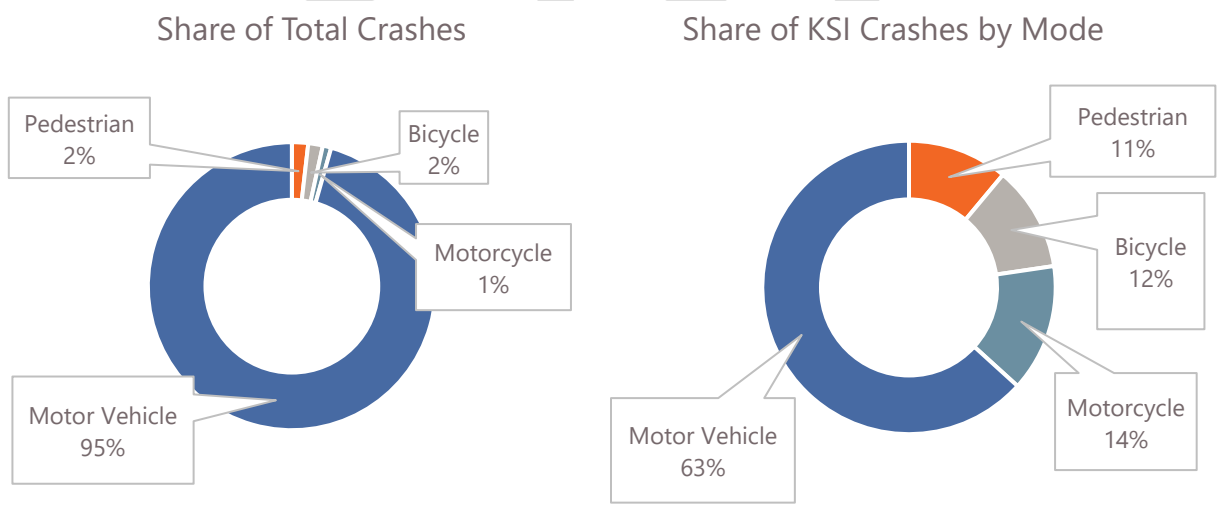
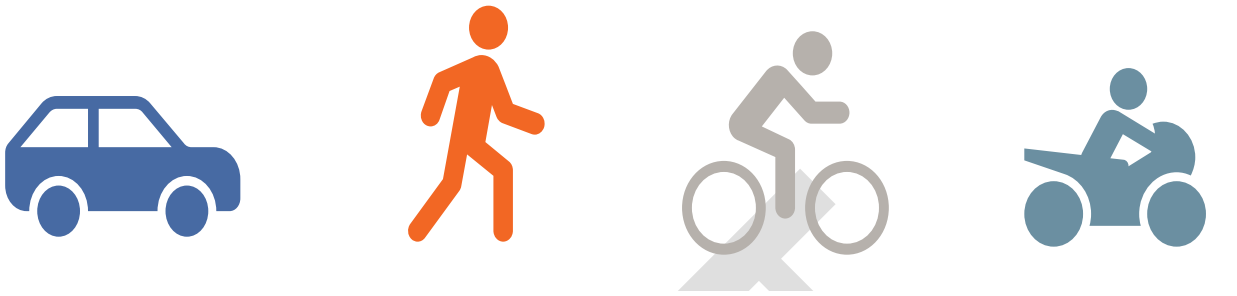



*Figure 4. Share of total crashes by mode involved (left) and corresponding share of KSI crashes by mode (right).*

For pedestrian crashes, **1 in every 10 crashes** leads to a fatality or serious injury. For cyclists, this number is just **1 in every 9 crashes** and for motorcyclists **1 in every 4 crashes.** Motor vehicle crashes, by contrast, result in a fatal or serious injury every **95 crashes**. Figure 5 shows the density maps of pedestrian and bicycle, or non-motorized crashes at county level as well as the more detailed maps for municipalities.

One fatality or serious injury occurs every…



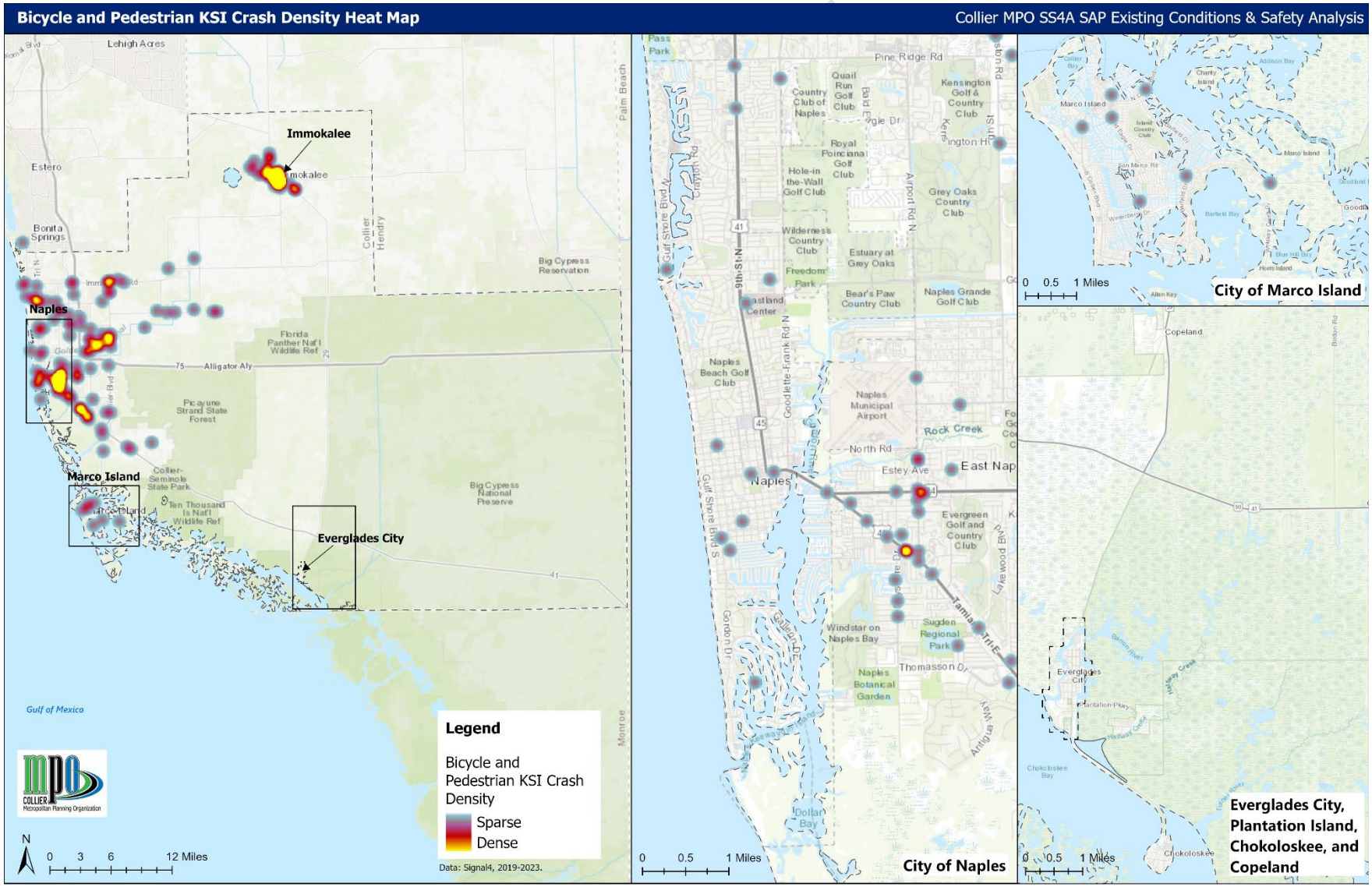
95
Motor Vehicle-Involved crashes

10
Pedestrian-Involved crashes

9
Cyclist-Involved crashes

4
Motorcycle-Involved crashes

*Figure 5. Bicycle and Pedestrian KSI crashes*



## Crashes by Month and Season

Examining the months and seasons when crashes occur helps to understand how environmental factors like weather, temperature, daylight, and road conditions affect crash rates and influence travel behavior in Collier County. This analysis looked at the average KSI (killed or seriously injured) crashes for all months from 2019-2023 and the seasons in which these crashes occurred, as well as all bike and pedestrian KSI crashes:

- **Winter**: December*, January, and February (*includes the December of the previous calendar year)
- **Spring**: March, April, and May
- **Summer**: June, July, and August
- **Fall**: September, October, and November

### Overall KSI Crashes by Month

The number of fatal or serious injury crashes in Collier County varies by month, with a **monthly average of 14.8 fatal or seriously injury crashes per month from 2019-2023** (Figure 6). There was a notable dip in the average in August to 9.5 KSI crashes and an increase in December to 18.75 KSI crashes. Likewise, March and May saw above average crashes where people were killed or seriously injured, at 17.75 and 16.5, respectively.

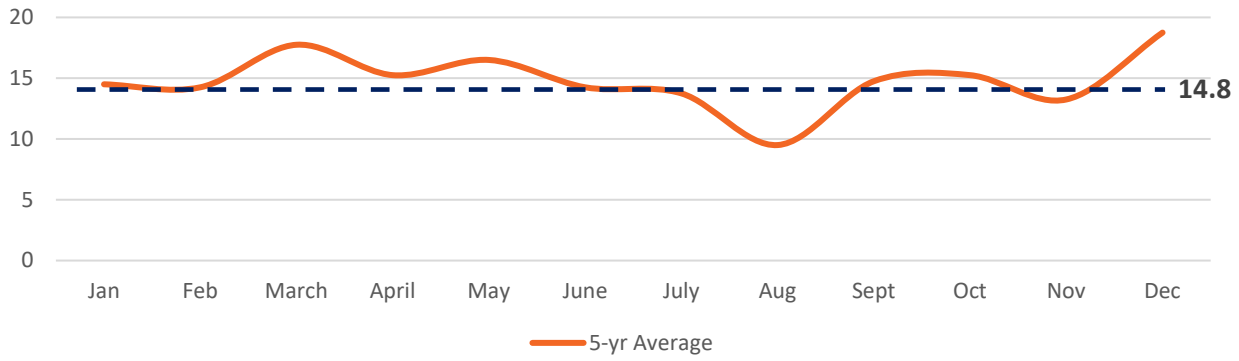



*Figure 6. Average fatal or serious injury crashes by month in Collier County from 2019-2023.*

On average, 44.4 KSI crashes occur in Collier County each season. Summer and fall have fewer KSI crashes, while winter and spring see significant increases, with spring reaching as high as 51.3 (Table 9). **Together, winter and spring account for nearly 60% of all KSI crashes during this period** (Figure 7). This aligns with the annual population increases to the region during these periods.

| Season | Average (2019-2023) |
|---|---|
| Winter | 50 |
| Spring | 51.3 |
| Summer | 36.8 |
| Fall | 39.8 |
| Seasonal Average | 44.4 |

*Table 9. Average fatal and serious injury crashes per season in Collier County from 2019-2023.*

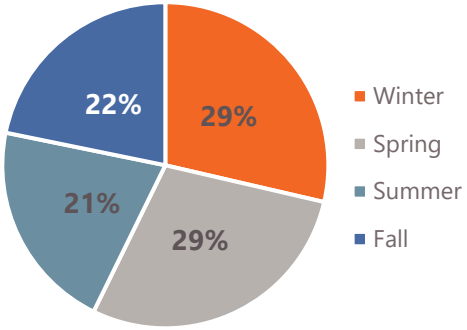



*Figure 7. Percent share of fatal and serious injury crashes by season in Collier County from 2019-2023.*

## Bicycle and Pedestrian KSI Crashes by Month

There is an **average of 3.3 pedestrian and cyclist KSI crashes per month in Collier County** from 2019 to 2023. The winter months, especially December, February, and March, see the highest numbers, with March and December averaging up to six crashes (Figure 8). KSI crashes drop below average during the summer months of June, July, and August.

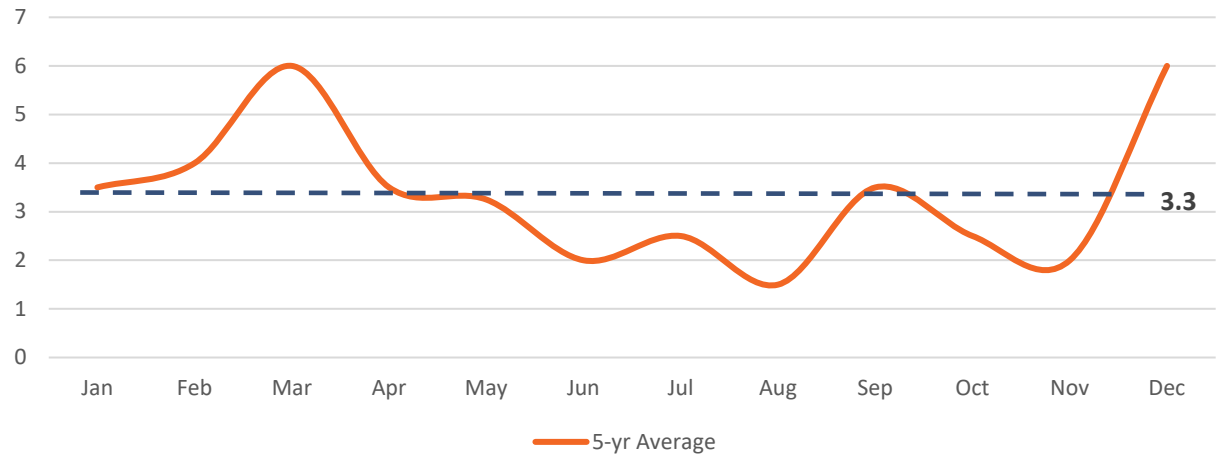



*Figure 8. Total bicycle and pedestrian fatal or serious injury crashes by month in Collier County from 2019-2023.*

Seasonal data shows more fatal or serious injury bicycle and pedestrian crashes in winter and spring, with both seasons averaging 12.5 crashes, higher than the average of 9.7 (Table 10). **The largest share, 66%, of pedestrian and bicycle KSI crashes occur in winter or spring** (Figure 9).

Again, these crash patterns align with the annual population increases to the region during these periods. They may also align to more moderate temperatures more suitable for walking and biking.

| Season | Average (2019-2023) |
|---|---|
| Winter | 12.5 |
| Spring | 12.5 |
| Summer | 5.75 |
| Fall | 8 |
| Seasonal Average | 9.7 |

*Table 10. Average pedestrian and cyclist fatal and serious injury crashes per season in Collier County from 2019-2023.*

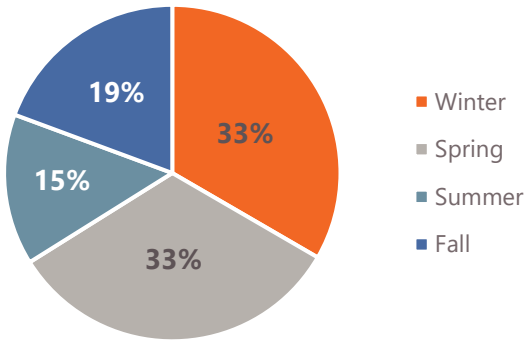



*Figure 9. Percent share of pedestrian and cyclist fatal and serious injury crashes by season in Collier County from 2019-2023*

## Crashes by Day & Time

Temporal crash trends show how the frequency and severity of traffic incidents vary over time. In addition to analyzing patterns by season, examining time of day, and day of the week can identify risk factors and help improve road safety. This section examines temporal trends for all KSI crashes and those involving cyclists and pedestrians.

### Overall KSI Crashes by Day & Time

*Time of Day*: For all KSI crashes, 39% occurred between 2 pm and 7 pm, with 4 pm each seeing the highest share of KSI crashes at 8%.

*Day of Week*: KSI crashes are spread somewhat evenly across all days of the week, with 70% occurring on weekdays vs. 30% on weekends.

Table 11 shows the total KSI crashes by both time of day and day of week for the time period.

| Hour | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | Total | |
|---|---|---|---|---|---|---|---|---|---|
| **12 AM** | 5 | 2 | 2 | 6 | 0 | 3 | 8 | **26** | 3% |
| **1 AM** | 4 | 2 | 4 | 4 | 1 | 6 | 3 | **24** | 3% |
| **2 AM** | 3 | 2 | 3 | 2 | 0 | 6 | 9 | **25** | 3% |
| **3 AM** | 0 | 3 | 0 | 0 | 0 | 3 | 4 | **10** | 1% |
| **4 AM** | 2 | 1 | 2 | 0 | 1 | 1 | 2 | **9** | 1% |
| **5 AM** | 2 | 1 | 3 | 3 | 3 | 3 | 1 | **16** | 2% |
| **6 AM** | 4 | 4 | 3 | 5 | 7 | 3 | 1 | **27** | 3% |
| **7 AM** | 7 | 8 | 4 | 3 | 4 | 0 | 4 | **30** | 3% |
| **8 AM** | 2 | 3 | 3 | 2 | 6 | 5 | 2 | **23** | 2% |
| **9 AM** | 5 | 6 | 5 | 10 | 8 | 10 | 3 | **47** | 5% |
| **10 AM** | 7 | 4 | 4 | 6 | 6 | 2 | 3 | **32** | 3% |
| **11 AM** | 6 | 6 | 8 | 2 | 4 | 4 | 7 | **37** | 4% |
| **12 PM** | 5 | 8 | 8 | 10 | 11 | 8 | 10 | **60** | 6% |
| **1 PM** | 6 | 3 | 5 | 9 | 6 | 7 | 4 | **40** | 4% |
| **2 PM** | 10 | 7 | 6 | 9 | 7 | 11 | 6 | **56** | 6% |
| **3 PM** | 6 | 7 | 12 | 12 | 7 | 10 | 6 | **60** | 6% |
| **4 PM** | 11 | 10 | 7 | 10 | 9 | 11 | 14 | **72** | 8% |
| **5 PM** | 5 | 17 | 5 | 11 | 7 | 5 | 11 | **61** | 7% |
| **6 PM** | 9 | 11 | 15 | 7 | 10 | 8 | 7 | **67** | 7% |
| **7 PM** | 8 | 8 | 5 | 8 | 7 | 6 | 6 | **48** | 5% |
| **8 PM** | 2 | 8 | 6 | 8 | 6 | 9 | 6 | **45** | 5% |
| **9 PM** | 6 | 2 | 4 | 8 | 7 | 9 | 7 | **43** | 5% |
| **10 PM** | 4 | 5 | 0 | 7 | 10 | 7 | 4 | **37** | 4% |
| **11 PM** | 2 | 2 | 2 | 6 | 6 | 9 | 4 | **31** | 3% |
| **Total** | **121** | **130** | **116** | **148** | **133** | **146** | **132** | **926** | |
| | 13% | 14% | 13% | 16% | 14% | 16% | 14% | | |

*Table 11. Total KSI crashes by time of day and day of week in Collier County from 2019-2023.*

## Bicycle & Pedestrian KSI Crashes by Day & Time

*Time of Day*: Bicycle and pedestrian KSI crashes are evenly spread throughout the entire day with 70% occurring from 7 am – 7 pm. However, evening and late night (8pm-3am) still account for 25% of severe bicycle and pedestrian crashes.

*Day of Week*: For cyclists and pedestrians, 71% of KSI crashes occur on weekdays. Monday and Sunday see peaks in KSI crashes at 18% and 16% respectively, while all other days see 13%.

Table 12 shows the total bicycle and pedestrian KSI crashes by both time of day and day of week for the time period.

| Hour | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | Total | |
|---|---|---|---|---|---|---|---|---|---|
| 12 AM | 1 | 0 | 0 | 1 | 0 | 1 | 3 | 6 | 3% |
| 1 AM | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 4 | 2% |
| 2 AM | 0 | 0 | 1 | 0 | 0 | 3 | 2 | 6 | 3% |
| 3 AM | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1% |
| 4 AM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0% |
| 5 AM | 0 | 0 | 1 | 0 | 3 | 1 | 0 | 5 | 2% |
| 6 AM | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 6 | 3% |
| 7 AM | 4 | 3 | 3 | 2 | 1 | 0 | 2 | 15 | 7% |
| 8 AM | 2 | 1 | 2 | 0 | 1 | 1 | 0 | 7 | 3% |
| 9 AM | 3 | 1 | 3 | 1 | 1 | 4 | 0 | 13 | 6% |
| 10 AM | 5 | 1 | 1 | 1 | 3 | 0 | 2 | 13 | 6% |
| 11 AM | 0 | 2 | 1 | 1 | 2 | 1 | 3 | 10 | 5% |
| 12 PM | 2 | 3 | 3 | 3 | 1 | 2 | 2 | 16 | 8% |
| 1 PM | 2 | 0 | 1 | 2 | 1 | 2 | 0 | 8 | 4% |
| 2 PM | 3 | 1 | 0 | 1 | 2 | 1 | 0 | 8 | 4% |
| 3 PM | 3 | 1 | 0 | 1 | 0 | 3 | 1 | 9 | 4% |
| 4 PM | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 9 | 4% |
| 5 PM | 0 | 3 | 2 | 2 | 1 | 1 | 4 | 13 | 6% |
| 6 PM | 2 | 3 | 4 | 0 | 2 | 1 | 2 | 14 | 7% |
| 7 PM | 6 | 2 | 1 | 1 | 2 | 1 | 0 | 13 | 6% |
| 8 PM | 0 | 1 | 2 | 2 | 3 | 3 | 1 | 12 | 6% |
| 9 PM | 2 | 0 | 0 | 4 | 0 | 2 | 2 | 10 | 5% |
| 10 PM | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 2% |
| 11 PM | 0 | 1 | 0 | 3 | 2 | 1 | 1 | 8 | 4% |
| Total | 39 | 28 | 28 | 28 | 28 | 34 | 27 | 212 | |
| | 18% | 13% | 13% | 13% | 13% | 16% | 13% | | |

*Table 12. Total bicycle and pedestrian KSI crashes by time of day and day of week in Collier County from 2019-2023.*

## Crashes By Age of Victim

In Collier County, the largest share of KSI crashes (24%) involves the age cohort 20 to 30 years old. **This age group consists of the most drivers killed or seriously injured in crashes, despite only making up 9% of Collier County's population.** Drivers of other age groups represent between 12%-15% of KSI victims. Collectively, 20-40 year old drivers account for 39% of victims, while only making up 19% of the population. Figure 10 compares KSI victim driver age (left) to share of the population (right).

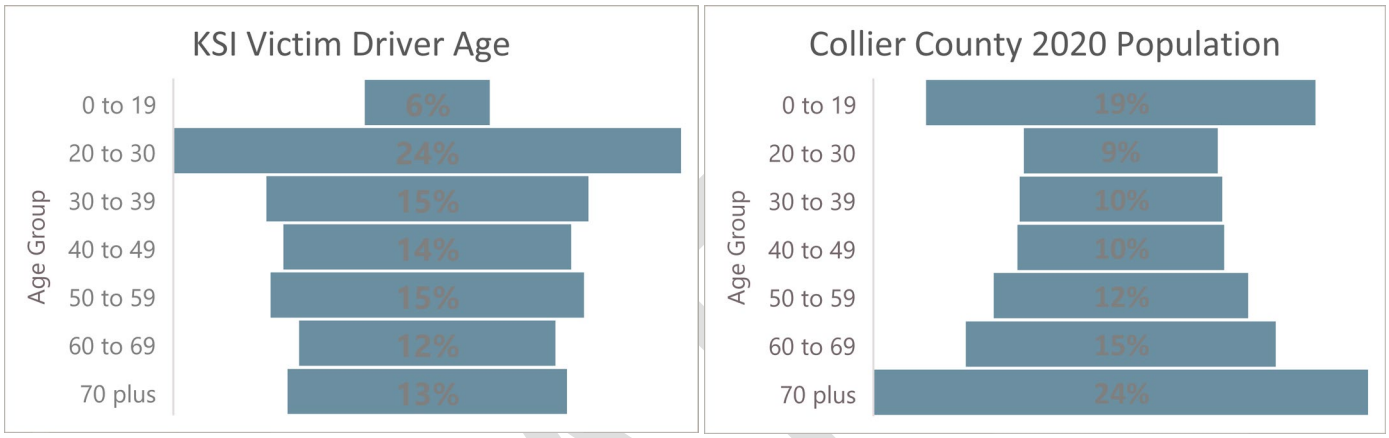



*Figure 10. Age distribution of drivers killed or seriously injured in crashes in Collier County from 2019-2023 (left) and age distribution of the total population of Collier County in 2020 from the 2020 American Community Survey (right).*

When examining the ages of pedestrians and cyclists killed or seriously injured in crashes, younger age groups are more prominent. **Despite the age cohort of 0-19 years making up only 19% of the population, this age group accounts for 27% of pedestrian and 21% of cyclist KSI victims** (Figure 11).

While children and teens constitute the largest share of KSI victims, younger adults and middle-aged residents tend to follow as a large share of victims**. For both pedestrians and cyclists, the second highest victim age group is 40-49 year olds at 19%, though these individuals only make up 10% of the population in Collier County**. Likewise, the ages of 20-29 and 30-39 make up a significant number of victims, representing 26% for pedestrian and 33% of cyclists.

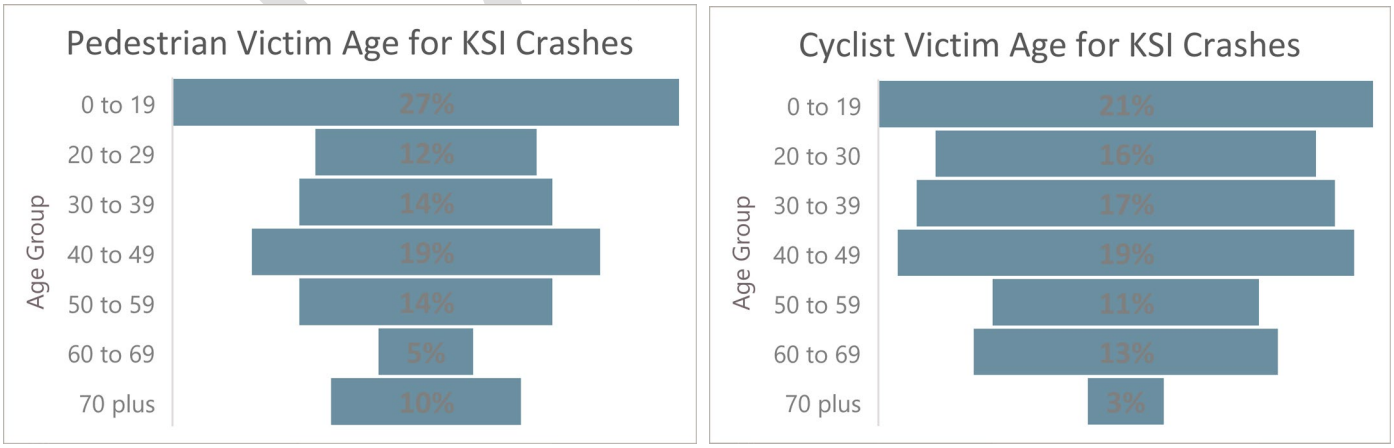



*Figure 11. Age distribution of pedestrian (left) and cyclist victims (right) of KSI crashes in Collier County from 2019-2023.*

## Crashes by Driver Contributing Action

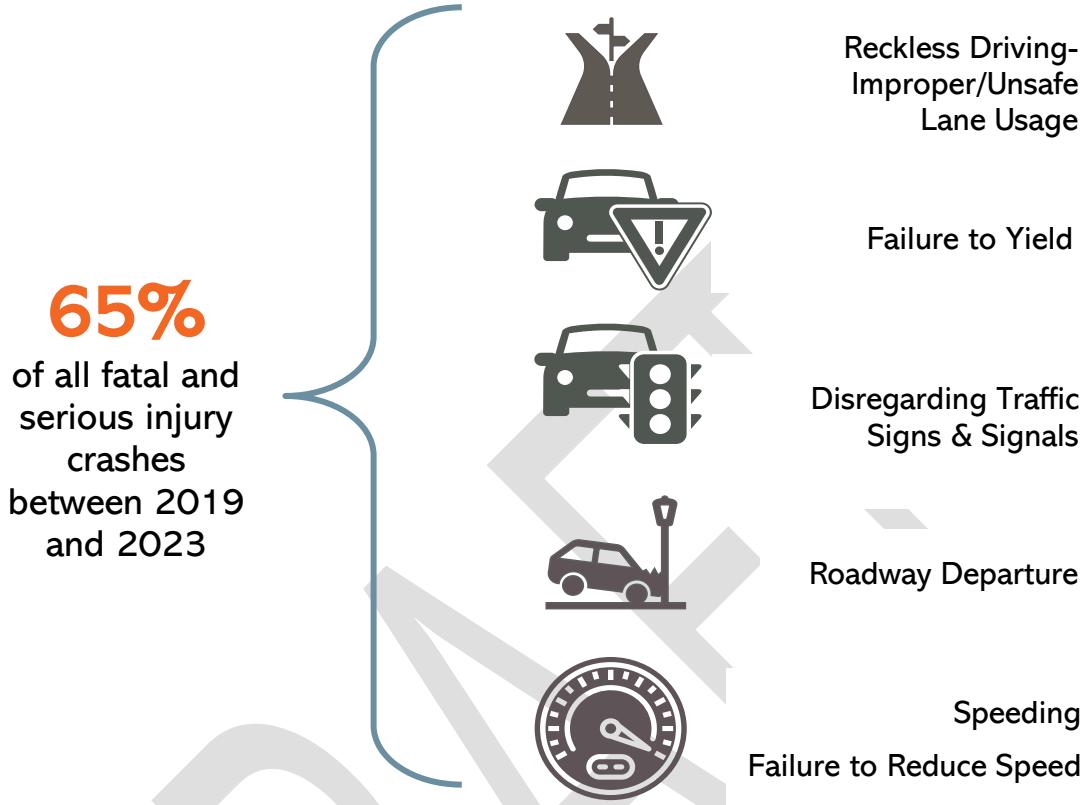
The actions of drivers that contribute to a crash, as reported by law enforcement, are the most significant factors leading to the crash for each driver involved. These causes are determined by the officer at the scene and may include multiple contributing factors per crash. **In Collier County, 65% of all fatal and severe injury crashes result from five primary causes: failure to yield, disregarding traffic signals, speeding, reckless driving, and roadway departure .** Reckless driving (24%), failure to yield (18%), and roadway departure (12%) represent the highest shares of contributing actions (Table 13).

| | % Share of Fatal or Severe Injury Crashes |
|---|---|
| ***Reckless Driving***[1] | 24% |
| ***Failure to Yield*** | 18% |
| ***Roadway Departure*** | 12% |
| ***Disregarding Traffic Signals*** | 8% |
| ***Speeding*** | 4% |

*Table 13. Primary contributing action of crashes in Collier County. Note that 65% represents the share of the sum of these factors against total KSI crashes. These five factors will not sum to 65% due to crashes having multiple reported contributing actions.*



[1] Reckless driving: A driver who exhibited any two of the following behaviors: Failed to Yield Right of Way (code 3), Followed Too Closely (code 10), Ran Red Light (code 11), Ran Stop Sign (code 13), Improper Passing (code 15), Failed to Keep in Proper Lane (code 25), Disregarded Other Traffic Sign (code 27), or Disregarded Other Road Markings (code 28). More Information and definitions on other contributing actions can be found on: https://signal4analytics.com/assets/files/S4_Data_Dictionary.pdf




## Parking Lot Crashes

In Collier County **a quarter of all crashes took place in parking lots from 2019-2023**, but comprise a relatively low percentage of KSI crashes at 6%. Table 14 details the share of crashes, serious crashes, fatal crashes, and combined KSI crashes in parking lots for all modes.

| Crash Location | All Locations | Parking Lots | % Crashes in Parking Lots |
|---|---|---|---|
| ***Total Crashes*** | 57,005 | 14,080 | 25% |
| ***Serious Injury Crashes*** | 759 | 50 | 7% |
| ***Fatal Crashes*** | 170 | 4 | 2% |
| ***Fatal and Serious Injury Crashes*** | 929 | 54 | 6% |

*Table 14. Crashes by location for all road users from 2019-2023, including all locations, parking lot locations and percent of crashes in parking lots.*

Comparatively, **parking lots make up a third of crash locations for bicycle and pedestrian crashes**. These user types see greater percentages of serious or fatal injury crashes in parking lots, with 11% of serious injury and 7% of fatal crashes occurring in parking lots. **Together, parking lot locations accounted for 10% of all fatal and serious injury crashes for pedestrians and bicyclists, which is disproportionately higher than**

**for all road users (6%).** Table 15 details the share of crashes, serious crashes, fatal crashes, and combined KSI crashes in parking lots involving bicycles and pedestrians.

| Crash Location | All Locations | Parking Lots | % Crashes in Parking Lots |
|---|---|---|---|
| ***Total Crashes*** | 2,032 | 667 | 33% |
| ***Serious Injury Crashes*** | 170 | 19 | 11% |
| ***Fatal Crashes*** | 42 | 3 | 7% |
| ***Fatal and Serious Injury Crashes*** | 212 | 22 | 10% |

*Table 15. Crashes by location for bicycle and pedestrians from 2019-2023, including all locations, parking lot locations and percent of crashes in parking lots.*

# SYSTEMIC ANALYSIS

The systemic analysis assesses the relative severity of different types of crashes and types of crash locations. This is helpful, as location prioritization should not just look at where crashes and KSI crashes have occurred, but the types of places in which crashes and KSI crashes commonly occur. The relative severity is the ratio of the percent of KSI crashes to the percent of crashes; **where the relative severity exceeds 1, KSI are overrepresented for that crash type relative to the number of crashes that occur.**

## Crash Type Analysis (Motor Vehicle Crashes)

Understanding which crash types occur most often, as well as which crash types most often result in fatalities and serious injuries is critical for developing effective safety countermeasures. **Between 2019-2023 the most common crash type was rear end, representing 34% of all crashes and 15% of all KSI crashes.** Sideswipe and other / non-collision crashes make up the second largest share at 12% and 27%, respectively. However, for KSI crashes specifically, ran off roadway / fixed object crashes represented the highest share of KSI crashes at 19%. This was followed by left turn, rear end, and pedestrian crashes.

In addition to share of crashes and KSI crashes, Table 16 includes a measure of relative severity, which helps demonstrate the crash types share of severe crashes relative to its share of total crashes.

| Category | Crash Type[2] | Share Crashes | Share KSI Crashes | Relative Severity |
|---|---|---|---|---|
| Intersection/ Access Management | Left Turn | 7% | 17% | 2.5 |
| | Angle | 6% | 8% | 1.3 |
| | Rear End | 34% | 15% | 0.4 |
| | Right turn | 2% | 2% | 0.9 |
| Lane Departure | Ran off Roadway/Fixed Object | 9% | 19% | 2.3 |
| | Head On | 1% | 6% | 5.8 |
| | Rollover | 0% | 5% | 10.9 |
| | Sideswipe | 12% | 4% | 0.4 |
| Other | Other/ Non-Collision | 27% | 2% | 0.1 |
| | Animal | 1% | 0% | 0.3 |

*Table 16. Table of crash types (organized by category) and their share of total crashes, KSI crashes, and relative severity in Collier County from 2019-2023.*

Analyzing these findings through the lenses of frequency and severity can pinpoint which types of crashes require the most urgent attention for safety interventions. Several key findings can be understood from Table 16:

- Intersection / Access Management:
    - Rear end crashes are common but tend to be less severe when they occur.
    - **Left turn and angle crashes, while only moderately common, tend to be more severe when they occur**.

[2] Definitions and graphical illustrations of each crash type can be found on https://signal4analytics.com/assets/files/S4_Data_Dictionary.pdf

- Right turn crashes are less common and less severe.

- Lane Departure:
  - Sideswipe crashes are more common, but tend to be less severe when they occur.
  - **Ran off roadway / fixed object crashes represent 9% off all crashes but 19% of KSI crashes**, tending to be more severe when they occur.
  - Both head on and rollover crashes are rare, representing less than 2% of all crashes combined, but these crash types tend to be very severe when they occur.
- Other:
  - While other / non-collision crashes are relatively frequent, they tend to not be very severe.

Different crash types may also tend to be more prevalent in different contexts and environments. For example, the distribution of angle, left turning, and ran off roadway/fixed object KSI crashes in Figure 12, Figure 13, and Figure 14, demonstrates a **relatively higher concentration of angle and left turn crashes in urban areas**. In contrast, ran off roadway/fixed object crashes show more evenly distribution across both urban and rural parts of the county.

*Figure 12. Crash Density Heat Map: Angle KSI Crashes*

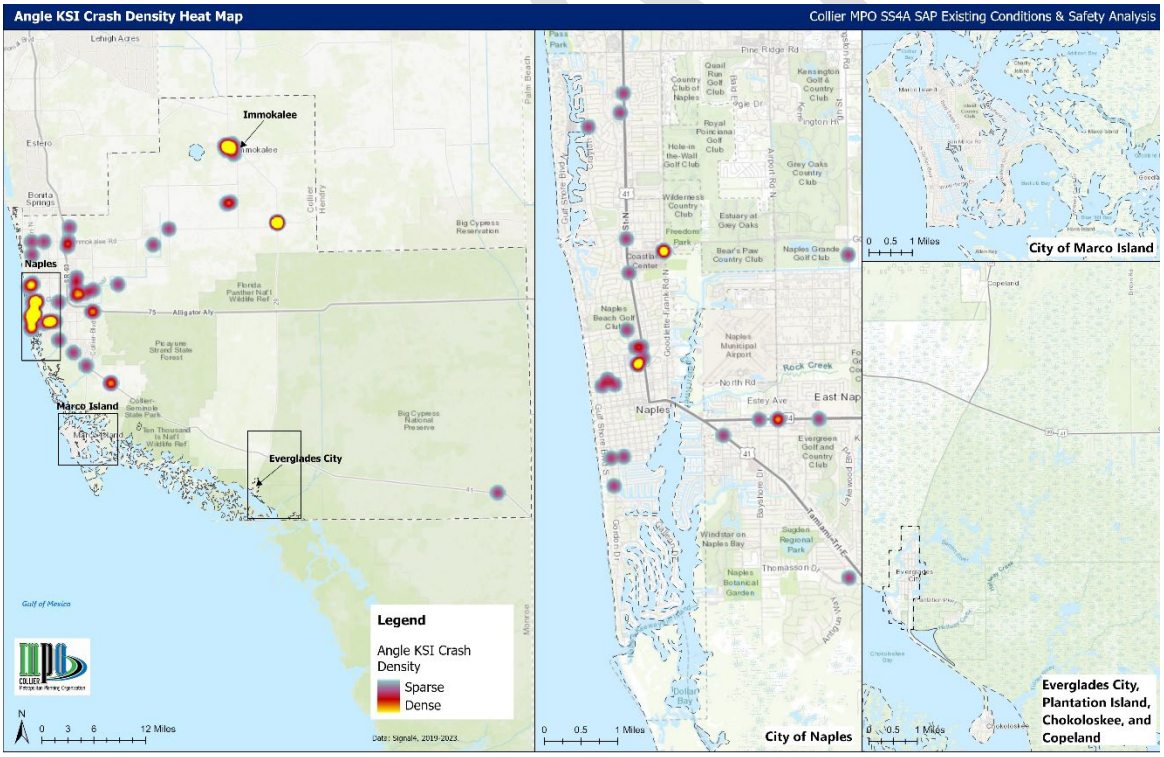


*Figure 13. Crash Density Heat Map: Left Turn KSI Crashes*

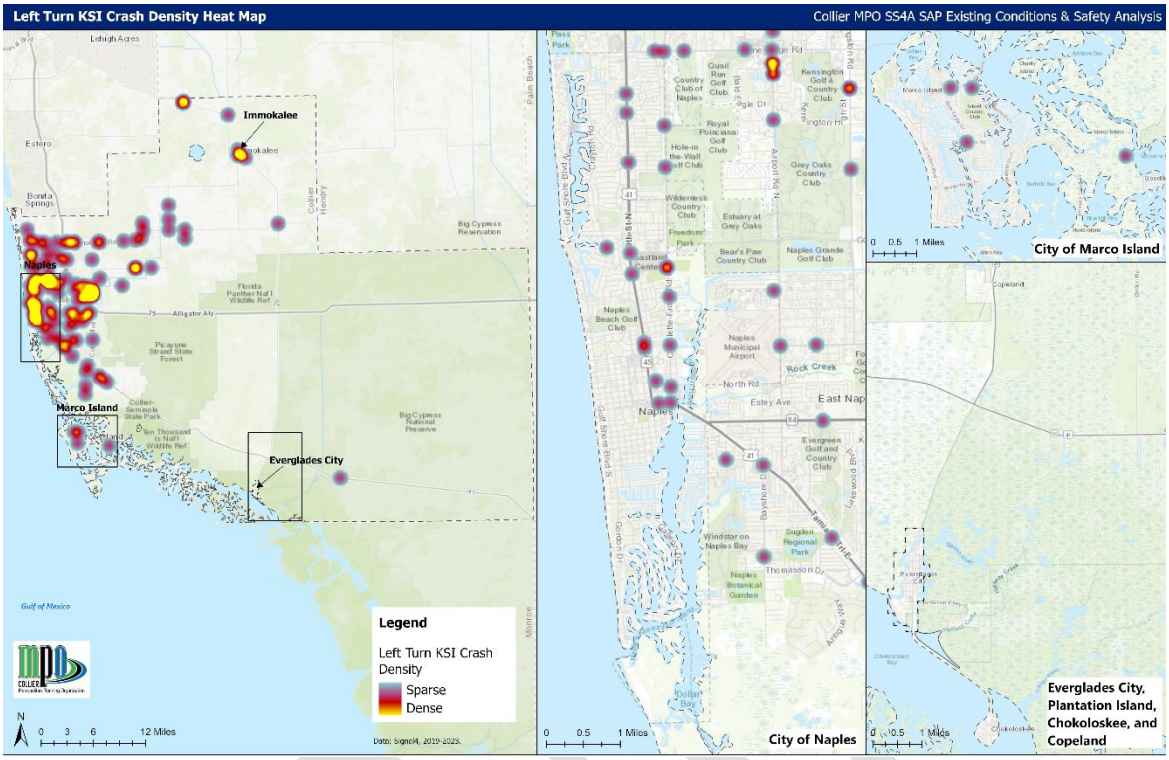
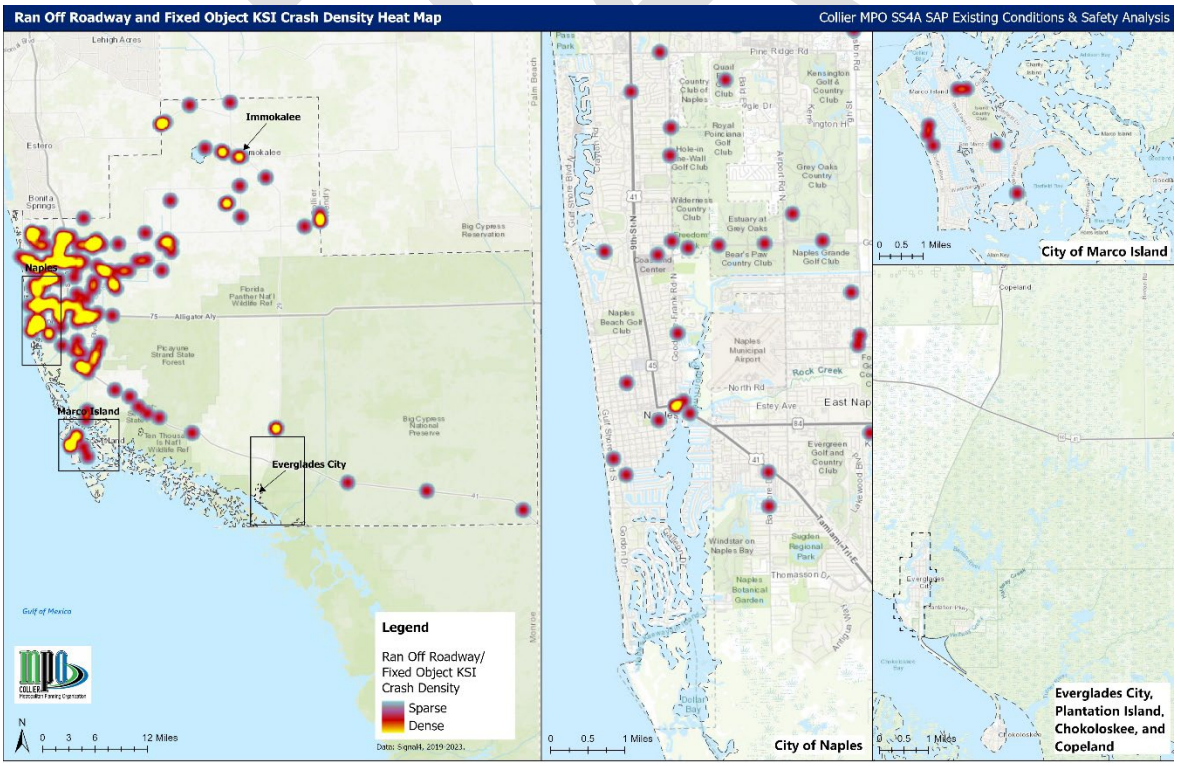



*Figure 14. Crash Density Heat Map: Ran off Roadway/Fixed Object KSI Crashes*



# High-Risk Features Analysis

The following sections summarize the likelihood of different intersection and roadway segment types resulting in a crash, serious injury, or fatality. By conducting this systemic analysis, the county can prioritize which locations should be prioritized for future investment. This analysis is conducted using relative risk scores; any value over 1 indicates an above-average risk for that feature.

For the segment systemic analysis, all non-Interstate roadways found in the FDOT GIS Data Portal were included. For the intersection systemic analysis, all intersections where segments met were included, along with all signal locations identified using Open Streets Map. **Local street classifications were omitted from this analysis due to data limitations on local street features such as number of lanes and Average Annual Daily Traffic (AADT)**.

## Intersections

This section provides an overview of crash data at both rural and urban intersections in Collier County, examining intersection characteristics such as signalization, number of lanes among intersection legs, and the AADT type.

The relative risk is calculated for key metrics such as overall crashes, KSI crashes, and various crash types identified as both high-risk and high-frequency in the Crash Type Analysis. **Those with greater frequency, or risk ratios greater than 1, are highlighted in red.** While all intersection types are included in the analysis to ensure a complete dataset, trends from those with less than 4 intersections are excluded from this highlight due to low sample size.

### *Urban Intersection*

Table 17 shows the relative risk of key metrics for urban intersections for the crash category and across intersection typologies.

On urban roadways in the county, the relative risk of different crashes varies across intersection type:

- **The relative risk for crashes and KSI crashes tends to be higher at high-volume intersections with a greater number of lanes.** This is true at both signalized and non-signalized locations, but highest at non-signalized intersections.
- **There is an above-average risk of pedestrian and cyclist crashes at 6+ lane, high-volume intersections (both signalized and non-signalized)**
- However, the **highest risk for pedestrian KSI crashes (5.5) is at signalized 1 or 2 lane intersection with low AADT**. The highest risk for cyclist KSI crashes is 6 or more lane intersections with moderate to high AADT.
- Of **the crash types examined, all are more frequent at intersections with 6+ lanes. The greatest risk occurs at 6+ lane, high-volume, non-signalized intersections.**

| Intersection Characteristics | Signalized Intersection | No | | | | | | | Yes | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Max Lanes | 1-2 | 3-5 | | | 6+ | | | 1-2 | | 3-5 | | | 6+ | | | Unk |
| | AADT Type | <25K | 25K-50K | 50K+ | <25K | 25K-50K | 50K+ | <25K | 25K-50K | <25K | 25K-50K | 50K+ | <25K | 25K-50K | 50K+ | <25K | Unk |
| | Intersection Count | 13 | 3 | 1 | 6 | 5 | 12 | 1 | 3 | 18 | 25 | 1 | 28 | 129 | 85 | 15 | 2 |
| | ***Crash Category*** | | | | | | | | | | | | | | | | |
| ***Relative Risk*** | KSI | 1.2 | 1.9 | 5.8 | 0.0 | 1.2 | 2.2 | 0.0 | 1.9 | 0.5 | 1.1 | 1.9 | 0.4 | 0.9 | 1.2 | 0.8 | 1.9 |
| | Crash | 0.3 | 1.1 | 5.0 | 0.2 | 1.2 | 4.3 | 1.1 | 2.0 | 0.3 | 1.0 | 2.3 | 0.5 | 0.6 | 1.5 | 0.8 | 1.2 |
| | Pedestrian KSI | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.5 | 4.0 | 0.0 | 0.0 | 0.8 | 0.6 | 0.0 | 0.0 |
| | Pedestrian | 0.5 | 2.0 | 0.0 | 2.0 | 1.2 | 2.0 | 0.0 | 5.9 | 1.6 | 1.4 | 5.9 | 0.4 | 0.7 | 1.2 | 0.0 | 0.0 |
| | Bicycle KSI | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.3 | 0.0 | 1.0 | 24.8 | 0.9 | 1.2 | 1.2 | 0.0 | 0.0 |
| | Bicycle | 0.3 | 0.6 | 0.0 | 1.3 | 3.0 | 1.3 | 0.0 | 2.5 | 0.6 | 0.7 | 5.6 | 1.2 | 0.7 | 1.7 | 0.3 | 0.0 |
| | Left Turn | 0.4 | 2.1 | 13.0 | 0.4 | 0.3 | 1.9 | 0.7 | 1.9 | 0.5 | 1.3 | 1.0 | 0.8 | 0.8 | 1.2 | 0.8 | 2.5 |
| | Angle | 1.0 | 2.2 | 2.0 | 0.0 | 1.4 | 2.5 | 0.0 | 7.1 | 0.9 | 1.1 | 0.0 | 0.5 | 0.7 | 1.2 | 1.4 | 1.0 |
| | Ran off Roadway | 0.7 | 0.3 | 8.4 | 0.3 | 1.3 | 4.2 | 0.0 | 0.3 | 0.2 | 1.3 | 4.7 | 0.7 | 0.7 | 1.1 | 1.1 | 2.3 |
| | Speed-Related | 0.5 | 0.6 | 6.1 | 0.0 | 1.0 | 3.4 | 1.7 | 1.4 | 0.2 | 0.9 | 4.3 | 0.5 | 0.7 | 1.4 | 1.3 | 3.5 |

*Table 17. Relative risk of crashes per intersection on urban roadways.*

### Rural Intersections

Table 18 shows the relative risk of key metrics for rural intersections for the crash category and across intersection typologies.

In rural roadways in the county, the relative risk of different crashes varies across intersection type:

- **Overall, non-signalized rural intersections have a greater frequency of KSI crashes.** 1 or 2 lane non-signalized intersections are nearly 2 times (1.8) riskier than the average rural intersection.
- **Signalized rural intersections have less frequent KSI crashes, but a greater risk for crashes in general.** The relative risk for a crash is greatest (1.5) for rural signalized roadways involving 6+ lanes.
- Of the crash types examined, the **highest risk of left turn crashes is at 6+ lane signalized intersections**, while ran off roadway risk is found to be higher at unsignalized intersections.
- **Among crashes marked as speed-related, 6+ lane signalized intersections were found to have the highest risk.**
- **Pedestrian and cyclist crashes are uncommon at rural intersections.**

| *Intersection Characteristics* | **Signalized** | **No** | | | **Yes** | | |
|---|---|---|---|---|---|---|---|
| | **Max Lanes** | **1-2** | **3-5** | **6+** | **1-2** | **3-5** | **6+** |
| | **AADT Type** | **<25K** | **25K-50K** | **<25K** | **<25K** | | |
| | **Intersection Count** | **10** | **1** | **1** | **3** | **4** | **5** |
| | ***Crash Category*** | | | | | | |
| *Relative Risk* | KSI | 1.8 | 2.0 | 0.0 | 0.0 | 0.5 | 0.4 |
| | Crash | 0.7 | 7.0 | 0.4 | 0.5 | 0.1 | 1.5 |
| | Pedestrian KSI | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Pedestrian | 0.0 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 |
| | Bicycle KSI | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Bicycle | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Left Turn | 0.9 | 4.3 | 1.4 | 0.8 | 0.0 | 1.3 |
| | Angle | 0.4 | 12.5 | 0.0 | 1.4 | 0.3 | 0.4 |
| | Ran off Roadway | 1.1 | 6.3 | 0.6 | 0.2 | 0.3 | 0.8 |
| | Speed-Related | 0.7 | 3.6 | 0.0 | 0.4 | 0.0 | 2.4 |

*Table 18. Relative risk of crashes per intersection on rural roadways.*

## Segments

Following the methodology and format of the intersections analysis, the tables below present a systemic analysis of urban and rural road segments in Collier County, focusing on crash types and severity across different lane types and Average Annual Daily Traffic (AADT) categories.

Relative risk is calculated per lane mile and for key metrics such as overall crashes, KSI crashes, and various crash types identified as both high-risk and high-frequency in the Crash Type Analysis. Those with greater frequency, or risk ratios greater than 1, are highlighted in red.

### *Urban Segments*

Table 19 shows the relative risk of key metrics for urban roadways – for the crash category and across segment typologies. Those with greater frequency, or risk ratios, are highlighted in red.

- On urban segments, **relative risk for roadways with 1-2 lanes are consistently lower, regardless of AADT.**
- There is an increased risk for both crashes and KSI crashes on roadway segments with more than 3 lanes. The risk **of KSI crashes is greatest (1.4) on 6+ lane segments with moderate AADT.**
- **Pedestrian crashes (2.1) and pedestrian KSI crashes (1.9) are of greatest risk on 3 to 5 lane urban roadway segments with lower AADT.**
- The **greatest risk for bicycle crashes and bicycle KSI crashes occurs on 6+ lane roadway segments**.
- **Of the crash types examined, all occur more frequently than average on 3 to 6+ lane roadway segments with moderate AADT.** Of these, speed-related crashes carry the highest risk – nearly 2x the average risk on 6+ lane roadways.

| *Roadway Characteristics* | Lane Type | 1-2 | | 3-5 | | 6+ | |
|---|---|---|---|---|---|---|---|
| | AADT Type | 25K+ | <25K | 25K+ | <25K | 25K+ | <25K |
| | Midblock Length (Miles) | 9.4 | 81.7 | 35.0 | 26.4 | 68.1 | 15.3 |
| | ***Category*** | | | | | | |
| *Relative Risk* | KSI | 0.7 | 0.5 | 1.3 | 0.9 | 1.4 | 1.3 |
| | Crash | 0.3 | 0.3 | 1.4 | 0.6 | 1.8 | 1.4 |
| | Pedestrian KSI | 0.6 | 0.9 | 0.5 | 1.9 | 1.3 | 0.0 |
| | Pedestrian | 0.1 | 0.8 | 0.9 | 2.1 | 1.2 | 0.2 |
| | Bicycle KSI | 0.0 | 0.6 | 1.3 | 1.4 | 1.2 | 1.5 |
| | Bicycle | 0.2 | 0.5 | 1.3 | 1.2 | 1.6 | 0.7 |
| | Left Turn | 0.4 | 0.5 | 1.5 | 0.8 | 1.5 | 1.0 |
| | Angle | 0.4 | 0.8 | 1.6 | 1.1 | 1.1 | 0.9 |
| | Ran off Roadway Crash | 0.5 | 0.4 | 1.3 | 0.8 | 1.6 | 1.5 |
| | Speed-Related Crash | 0.3 | 0.2 | 1.4 | 0.5 | 1.9 | 1.4 |

*Table 19. Relative risk of crashes per lane-mile on urban roadways.*

### *Rural Segments*

Table 20 shows the relative risk of key metrics for rural roadways for the crash category and across segment typologies.

- In general, **rural roadways have low AADT and risk increases with the number of lanes**. Crashes are 8.5 times more likely on roadways with 6+ lanes, and KSI crashes are nearly 3 times more likely. However, the greatest number of rural roadway miles have 1-2 lanes.
- Risk for all non-motorist crashes appears to be higher on larger rural roadways (3+ lanes); however, there are too few rural non-motorist crashes to definitively identify a trend.
- Of the crash types examined, all have the greatest risk on rural roadways with 6+ lanes. Of these, speed-related crashes carry the highest risk – nearly 12x the average risk.

| | | | | |
|---|---|---|---|---|
| *Roadway Characteristics* | **Lane Type** | **1-2** | **3-5** | **6+** |
| | **AADT Type** | **<25K** | | |
| | **Midblock Length (Miles)** | **159.6** | **17.6** | **5.2** |
| | ***Crash Category*** | | | |
| *Relative Risk* | KSI | 0.9 | 1.4 | 2.8 |
| | Crash | 0.7 | 1.4 | 8.5 |
| | Pedestrian KSI | 0.8 | 3.4 | 0.0 |
| | Pedestrian | 0.6 | 4.1 | 3.5 |
| | Bicycle KSI | 0.8 | 0.0 | 11.7 |
| | Bicycle | 0.8 | 0.0 | 10.0 |
| | Left Turn | 0.7 | 2.2 | 4.8 |
| | Angle | 0.7 | 3.3 | 3.6 |
| | Ran off Roadway Crash | 0.8 | 1.2 | 5.5 |
| | Speed-Related Crash | 0.6 | 1.0 | 11.9 |

*Table 20. Relative risk of crashes per lane-mile on rural roadways.*

# Equity Considerations

## The Role of Equity in a Safety Action Plan

Studies show that historically disadvantaged communities – including communities of color, low-income communities, and communities with limited resource availability— face higher injury risks due to lack of infrastructure investment and high rates of walking, bicycling, and transit use. In 2021, Indigenous, Black or African American, and Hispanic or Latino people in the United States faced higher traffic fatality rates than the overall population, with the disparity even more pronounced for certain groups outside of a vehicle. The fatality rate for Black and African American pedestrians and cyclists stood at 4.1 fatalities per 100,000 people while that for American Indian or Alaskan Native stood at 6.6, in comparison to a fatality rate of 2.5 for the total population.[3] Evidence suggests that this disparity is widening: between 2017 and 2021, overall fatal traffic crashes rose 15% while fatalities among Black and Hispanic people increased 31% and 28% respectively.[4] The USDOT has identified that people living in the 40% of counties with the highest poverty rate had 35% more fatalities than the national average per capita.[5]

These facts are not only concerning on their own but also contribute to economic insecurity, limited access to opportunities, health disparities, and other inequities, thereby deepening the impact of each fatality on families, neighborhoods, and communities. These same communities often experience less infrastructure and investment compared to more privileged areas or suffer from the negative effects of arterials and highways that divide neighborhoods, hinder mobility, and increase high-speed vehicle traffic. This has resulted in a significant disparity in the quality and design of streets in underserved communities.

To effectively address crash factors on the County's roads, it's essential to identify the populations that the Safety Action Plan will serve and determine project priorities. The USDOT, FDOT, and Collier MPO are committed to creating a transportation network that equitably serves all users. Achieving zero traffic fatalities necessitates a dedicated effort to understand and tackle these disparities at their core. Vision Zero's principle of equitable infrastructure investment focuses on allocating more resources to areas that face disproportionate burdens, aiming to correct the impacts of past decisions. By investing equitably in safer streets, we can significantly enhance safety, disrupt the cycles of traffic deaths and serious injuries , and foster healthier, more just, and prosperous communities.

## Traffic Fatalities & Race in Collier County

The National Highway Traffic Safety Administration (NHTSA) documents racial data for traffic fatalities through the Fatality Analysis Reporting System (FARS). Traffic fatalities in Collier County from 2017 through 2021 were captured and analyzed to identify any racial disparities among traffic fatality victims

[3] United States Department of Transportation. 2024. NHTSA's National Center for Statistics and Analysis, Traffic Safety Facts: Race and Ethnicity. Washington, DC: USDOT. Pg. 2-3, 5.
[4] Ibid. Pg. 3
[5] United States Department of Transportation. 2022. National Roadway Safety Strategy. Washington, DC: USDOT. Pg. 7.

in the County.[6] Results from this analysis are outlined in Table 21. Consistent with national trends, **non-white populations in Collier County bear a disproportionate number of traffic fatalities.**

| | White (Non-Hispanic) | Hispanic or Latino | Black or African American (Non-Hispanic) | Asian (Non-Hispanic) |
|---|---|---|---|---|
| **Population in Collier County** | 233,909 | 108,822 | 24,232 | 5,338 |
| **Share of Collier County (%)** | 61.5% | 28.6% | 6.4% | 1.4% |
| **Persons Killed in Fatal Crashes** | 104 | 71 | 20 | 5 |
| **Share of Fatalities, 2017-2021 (%)** | 51% | 35% | 10% | 2% |
| **Fatalities per 100,000 Residents** | **44.46** | **65.24** | **82.54** | **93.67** |

*Table 21. Race and fatalities analysis. Data Source: American Community Survey, 2018-2022: ACS 5-Year Estimates; Fatality Analysis Reporting System (FARS), 2017-2021.*

## Traffic Crashes & Disadvantaged Communities in Collier County

The MPO's previous identification of Environmental Justice (EJ) communities were used to examine the issue of equity in terms of traffic safety countywide. These designations, updated for use in the 2019 Collier MPO Bicycle and Pedestrian Master Plan, identify disadvantaged communities at the census block group level by analyzing four socio-economic factors: minority status, poverty, no access to a vehicle, and limited ability to speak English. The EJ communities were given ranking scores of low (one) to high (four or five) factors meaningfully greater (>10% points) than the countywide percentage, and refined by MPO staff and advisory committees.[7] Environmental Justice areas are shown in Figure 15.

In Collier County, **EJ areas include 34% of the county population and 27% of the total households but contain disproportionately large portions of the County's underserved populations**, including non-white, impoverished, disabled, carless, and non-English speaking communities (Table 22).

[6] Traffic fatalities include all fatal crashes in FARS database that fall within the County boundary. This matches the methodology for all other crash analyses in the memo.

[7] Full details on EJ methodology can be found in the 2019 Collier MPO Bicycle and Pedestrian Master Plan accessed at https://www.colliermpo.org/bp-master-plan/

| Category | In Collier County | Share of County (%) | In EJ Areas* | Share in EJ Areas (%) |
|---|---|---|---|---|
| **Total Population** | **380,221** | - | **129,626** | **34%** |
| **Total Households** | **156,768** | - | **42,985** | **27%** |
| **Minority Population (People)** *Non-white population* | 101,782 | 27% | 58,265 | 57% |
| **Elderly Population (People)** *Population aged 65+* | 124,784 | 33% | 22,299 | 18% |
| **Poverty Population (People)** *Population below poverty level* | 39,131 | 10% | 18,578 | 47% |
| **Population Impacted by Disability (Households)** *Households with a person with a disability* | 34,458 | 22% | 9,550 | 28% |
| **Carless Population (Households)** *Households with zero vehicles available* | 7,270 | 5% | 3,483 | 48% |
| **Non-English Speaking Population (Households)** *Households with limited English proficiency* | 10,650 | 7% | 6,199 | 58% |

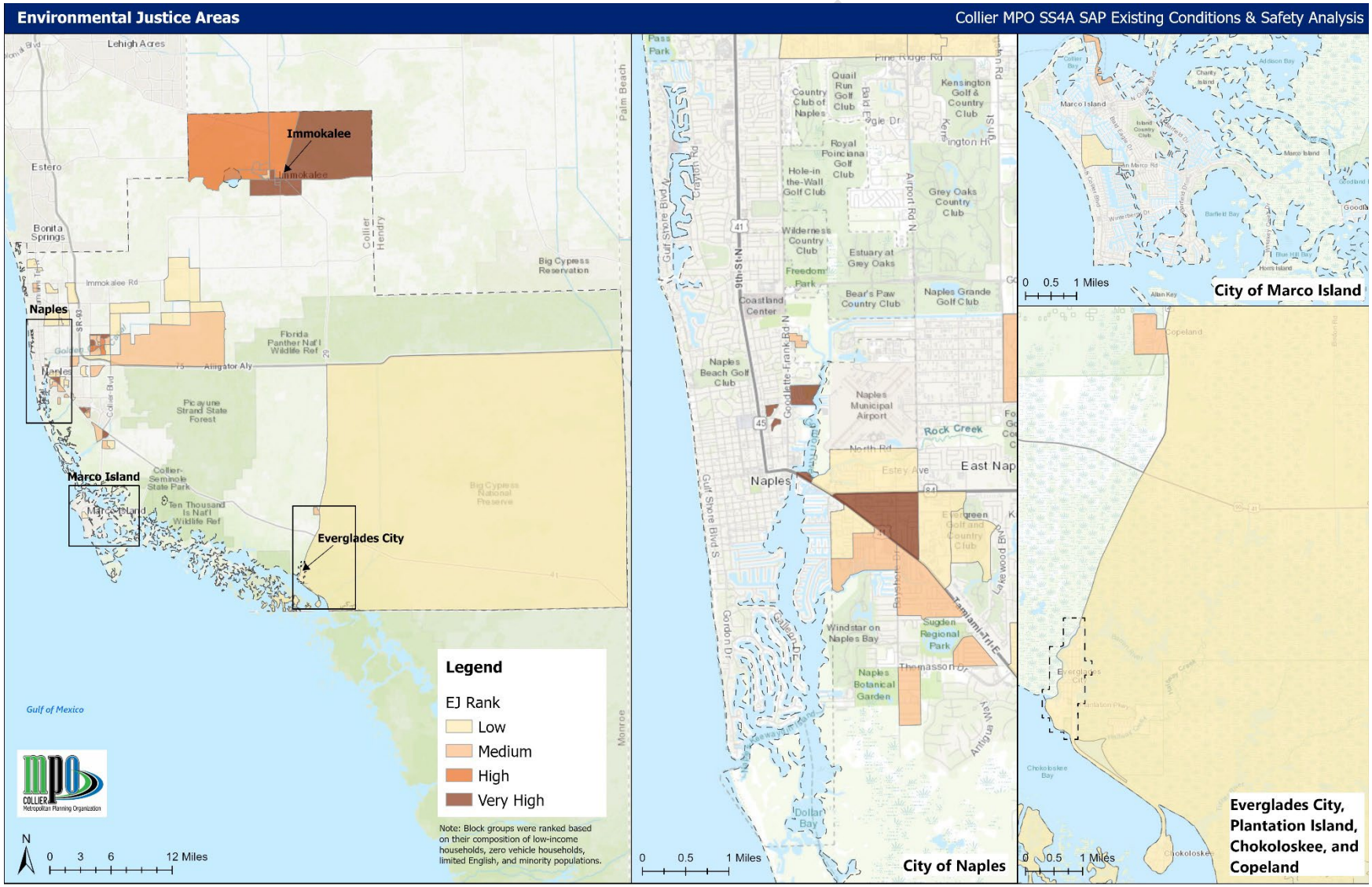
*Table 22. Environmental Justice (EJ) areas and disadvantaged communities.*
*Data Source: American Community Survey, 2018-2022: ACS 5-Year Estimates.*
**EJ populations are approximate to due to slight geographic changes in the block group level in the 2020 Census*

Between 2019 and 2022, approximately 35% of all crashes, and 38% fatal and serious injury crashes occurred on the 28% of roadway miles in EJ areas (Table 23). Although containing only 3% of the county's roadway miles, 9% of KSI crashes occurred in the most disadvantaged communities (EJ areas with the highest rank). **This indicates a disproportionate amount of traffic safety risk to these communities.**

| Category | Roadways | | Crashes (2019-2023)* | | |
|---|---|---|---|---|---|
| | Roadway Centerline Miles | Roadway Centerline Miles (%) | Total Crashes | KSI Crashes | KSI Crashes (%) |
| **Entire County** | **3,161** | - | **57,005** | **929** | - |
| **All EJ Areas** | **885** | **28%** | **20,129** | **355** | **38%** |
| ***Low*** | 441 | 14% | 8,754 | 124 | 13% |
| ***Medium*** | 236 | 7% | 4,691 | 74 | 8% |
| ***High*** | 108 | 3% | 2,983 | 70 | 8% |
| ***Very High*** | 99 | 3% | 3,701 | 87 | 9% |

*Table 23. Crashes in Environmental Justice (EJ) Areas*
**This analysis uses non-interstate crashes*

*Figure 15. Environmental Justice Areas*



# HIGH INJURY NETWORK – DRAFT

## Purpose

A high-injury network (HIN) provides decision-makers with quantitative information about the specific streets and intersections with the highest concentration of severe traffic crashes that can, therefore, benefit most from the implementation of safety countermeasures. The network is identified based on data analysis of the rate of severe and fatal traffic injuries along road segments and intersections.

While other tools may complement high injury networks in developing a data-driven safety action plan, high injury networks are useful for:

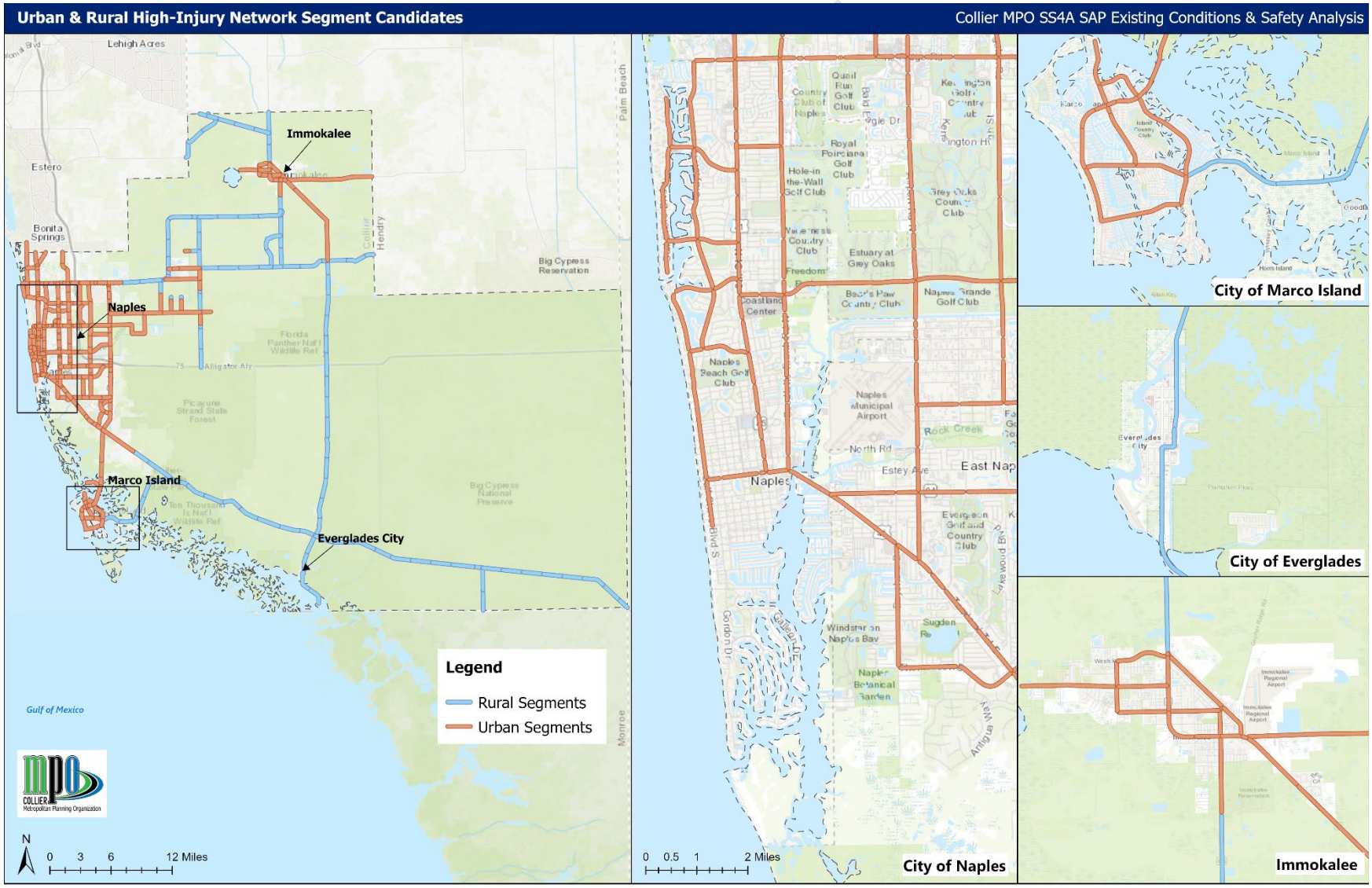
- **Prioritizing Projects**. A high-injury network indicates the major corridors and intersections with both the greatest demonstrated safety need and the greatest opportunities to make progress towards reducing serious injuries and fatalities.
- **Identifying High Impact Grant Application**. A high-injury network indicates the corridors and intersections that are most likely to demonstrate safety need and impact on competitive regional, state, and federal grant applications.
- **Developing Critical Partnerships.** A high-injury network demonstrates where partnerships are most needed, either as part of continuing inter-agency coordination, or as a starting point for collaboration.

## Candidate intersections and street segments

Candidate street segments and intersections followed the same guidelines as those included in the systemic analysis. Therefore, candidate intersections included all non-Interstate roadways found in the FDOT GIS Data Portal and candidate intersections included all intersections where segments met along with all signal locations identified using Open Streets Map. Because the high-injury network is a tool to identify high-impact locations for safety improvements, local street networks were omitted from this analysis.

Due to the size of the county, a separate high-injury network analysis was conducted for both urban and rural segments. FDOT functional classification was used to distinguish urban and rural segments. Any segment with a functional classification >10 was marked urban, while any segment with a functional classification <10 was marked rural. Due to the low number of rural intersections, a single intersection high-injury network analysis was conducted county-wide. Urban and rural segment designations are outlined in Figure 16.

*Figure 16: Candidate HIN Segments (Urban vs. Rural)*



## Evaluation criteria and calculations

To evaluate safety risk at candidate intersections and street segments and develop the high-injury network, all were evaluated on three equally weighted criteria: Severe Crash Risk Score, Facility Risk Score, and Relative Risk Score. Each criteria provides different, but equally important, information on the risk of severe crashes and potential impact of safety improvements for each candidate intersection and street segment.

- **Severe Crash Risk Score** assesses the number of severe crashes that have occurred at each intersection and street segment in the last five years.
- **Facility Risk Score** assesses the risk of each intersection and street segment based on their physical features (i.e. # of lanes, AADT, etc). Facility Risk Score is calculated in the High-Risk Features Analysis.
- **Relative Risk Score** assesses the number of severe crashes that have occurred at each intersection and street segment relative to the expected number based on the location's physical features (i.e. # of lanes, AADT, etc).

These three criteria are combined to produce a net HIN score for each segment and intersection.

## Results

Net HIN scores assigned to each segment and intersection are used to rank each location and produce a final high-injury network for intersections, urban segments and rural segments. For each of these high-injury network layers, the top 20% ($80^{th}$-$100^{th}$ percentile) of scores are identified as the Tier I High-Injury Network and the next 20% ($60^{th}$-$80^{th}$ percentile) are identified as the Tier II High-Injury Network. These networks are shown in Figure 17 and Figure 18.

*Figure 17: Collier County Segment High-Injury Network*

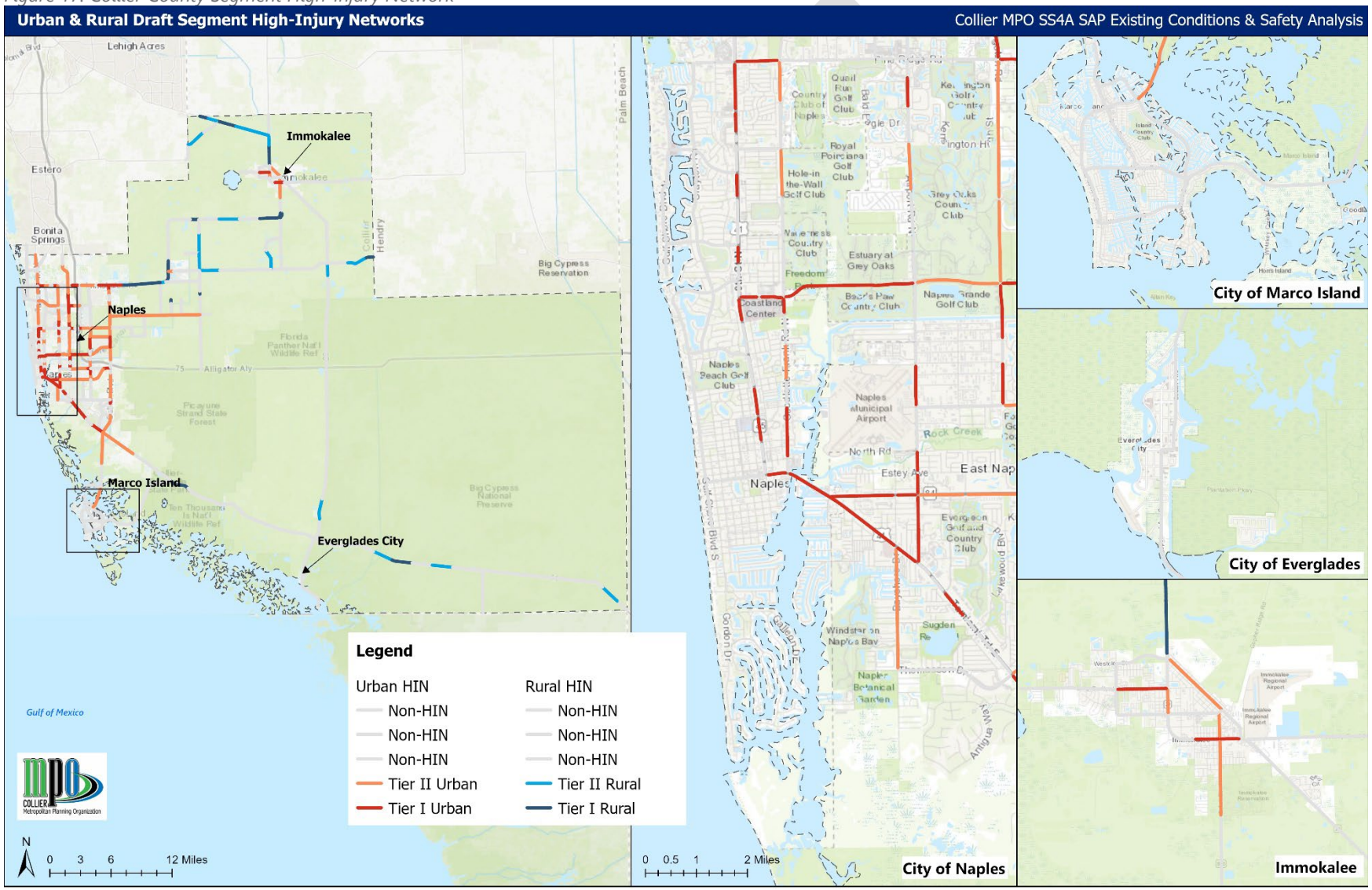
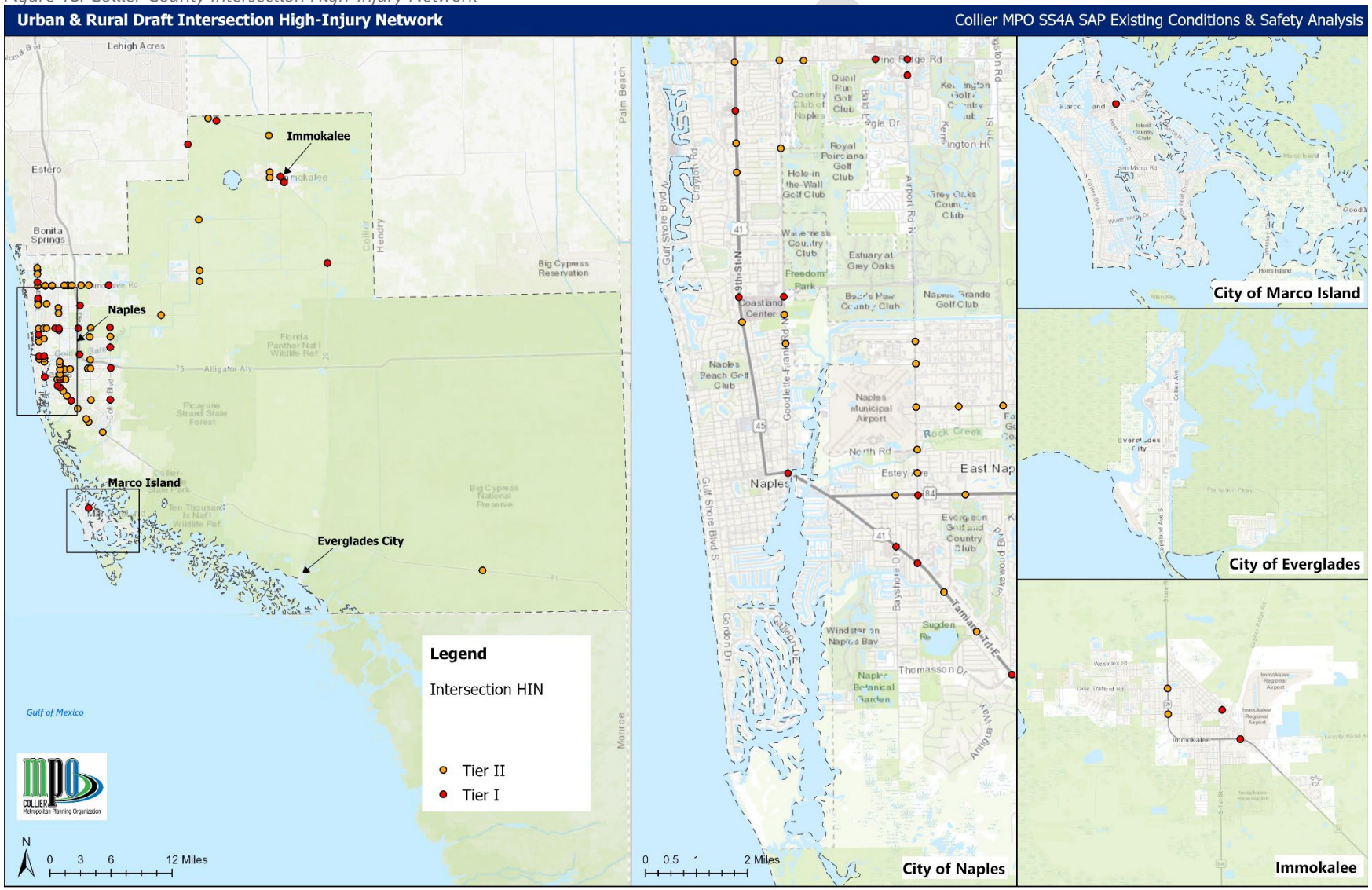


*Figure 18: Collier County Intersection High-Injury Network*



**EXECUTIVE SUMMARY**
**COMMITTEE ACTION**
**ITEM 8B**

**Presentation from Lee MPO staff on their Comprehensive Safety Action Plan (CSAP) Development**

---

**OBJECTIVE:** For the committee to receive a presentation on the Lee MPO's CSAP development.

**CONSIDERATIONS:** The Lee MPO is undertaking a study to develop a Comprehensive Safety Action Plan like the Collier MPO's. The Plan will help shape a safer community for Lee County.

CMC member Don Scott, Executive Director of the Lee MPO will provide an update on the project with a presentation.

**STAFF RECOMMENDATION:** Provided for committee review.

**ATTACHMENT(S):**

1. Lee MPO CSAP presentation

Prepared By: Sean Kingston, AICP, PMP, Principal Planner

Lee County MPO SS4A

SAFE STREETS FOR ALL

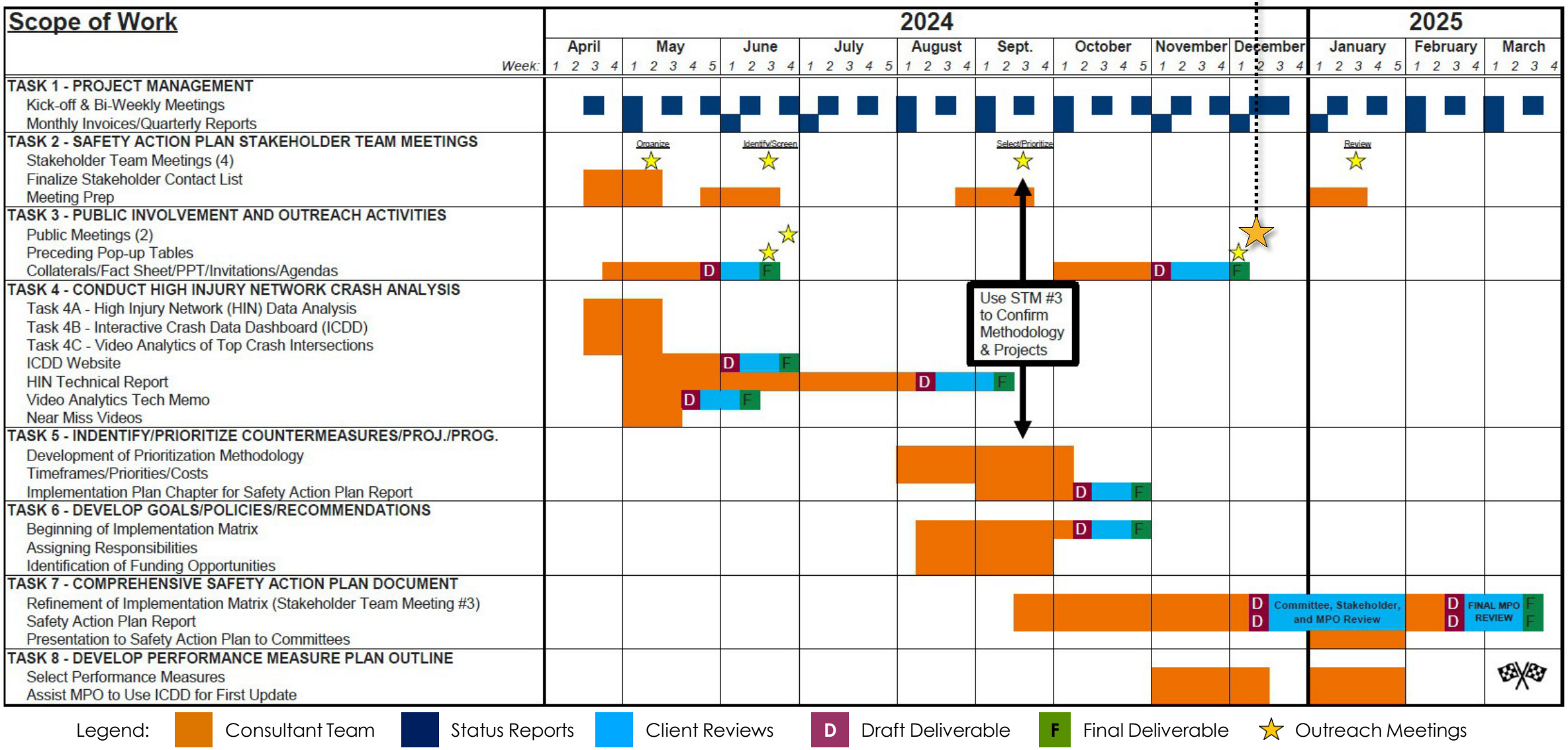
LEE COUNTY MPO
METROPOLITAN PLANNING ORGANIZATION

# Status Update

Collier CMC November 20, 2024

**Next Public Meeting: December 9th (Monday)**

# Project Schedule




Legend: Consultant Team | Status Reports | Client Reviews | D Draft Deliverable | F Final Deliverable | Outreach Meetings

- 99,030 Total Crashes (~54 per day)
- 496 Fatal Crashes (~2 per week)
- 2,155 Serious Injury Crashes (~8 per week)
- 21,585 Total Injury Crashes (~12 per day)
- 74,794 Property Damage Only Crashes (~41 per day)
- $10.7B Cost to Society[3] (~$6.0M per day)

**Figure 1** illustrates these trends year-to-year and highlights the uptick in total crashes in 2021.

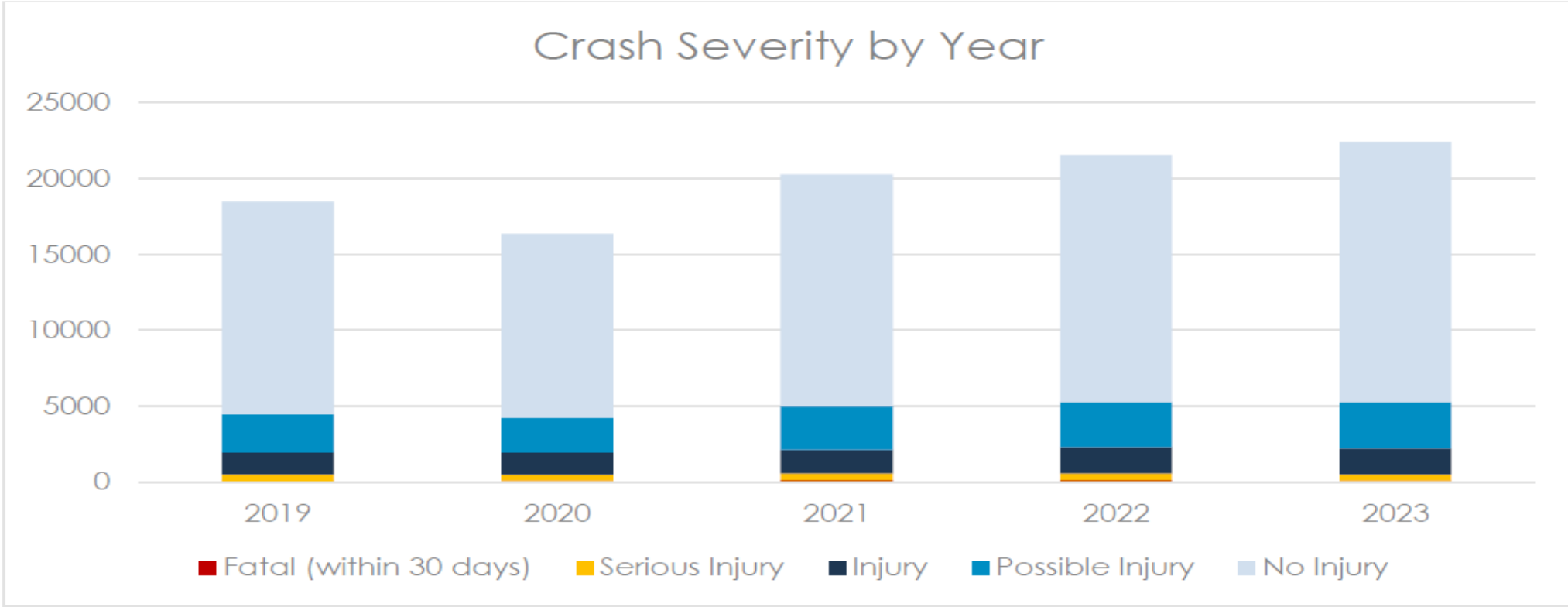
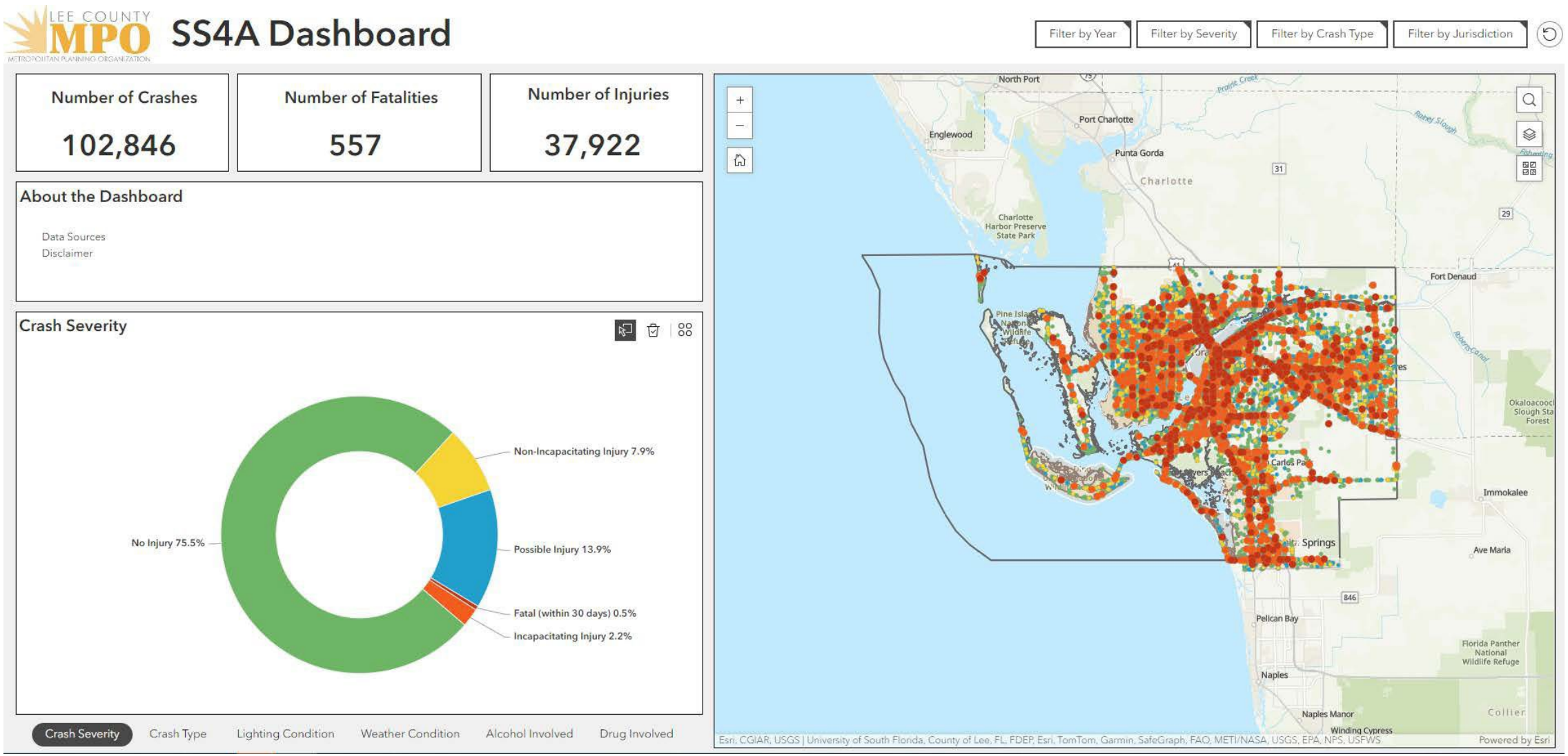



**Figure 1. Crashes per Year by Severity (2019-2023)**

# Interactive Crash Database Dashboard



# High Injury Network (HIN) - Segments

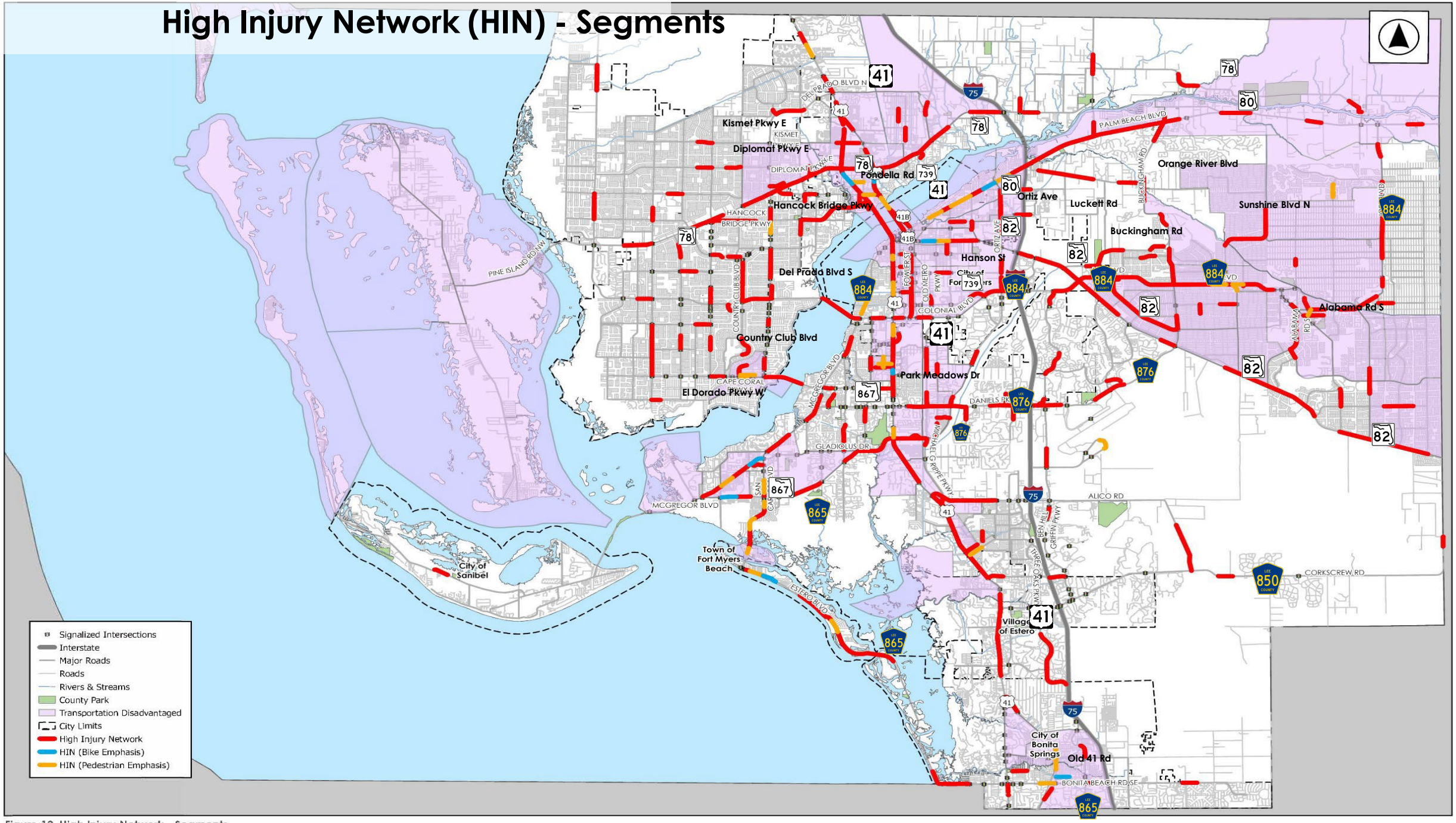



Figure 13. High Injury Network - Segments

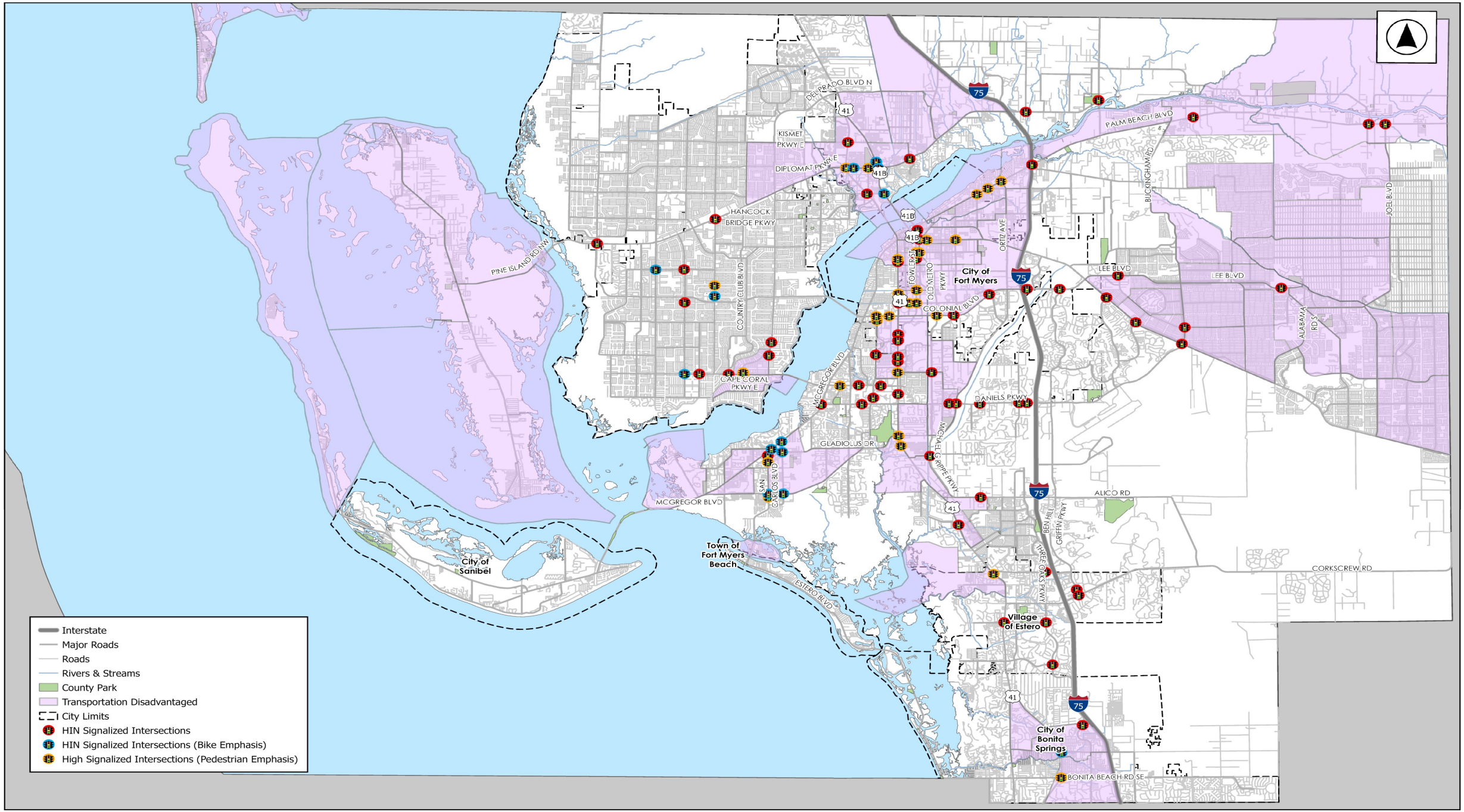



Figure 14. High Injury Network - Signals

Table 15: High Injury Network – Pedestrian & Bicycle Emphasis Areas

| | Overview | HIN Segments | HIN Signalized Intersections | HIN (Segments + Signalized Intersections) |
|---|---|---|---|---|
| **2019-2023 KSI* Pedestrian/Bicycle Crashes** | 458 crashes | 13 miles (66 KSI pedestrian/bicycle crashes) | 43 intersections (57 KSI pedestrian/bicycle crashes) | 122 crashes (26% KSI pedestrian/bicycle crashes) |
| **2019-2023 KSI* Pedestrian/Bicycle Crashes Within Transportation Disadvantaged Areas** | 289 crashes | 11.5 miles (52 KSI pedestrian/bicycle crashes) | 32 intersections (34 KSI pedestrian/bicycle crashes) | 86 crashes (30% KSI pedestrian/bicycle crashes) |

*Mappable fatal and serious injury crashes and excluded limited access roads

Table 2. Fatal and Serious Injury Crashes by Crash Type (2019-2023)

| Crash Type | Fatal Crashes | | Fatalities | | Serious Injury Crashes | | Serious Injuries | |
|---|---|---|---|---|---|---|---|---|
| **Pedestrian** | 124 | 25.0% | 125 | 23.5% | 199 | 9.2% | 208 | 7.4% |
| **Left Turn** | 98 | 19.8% | 113 | 21.2% | 443 | 20.6% | 689 | 24.5% |
| **Fixed Object/Run-Off Road** | 68 | 13.7% | 74 | 13.9% | 258 | 12.0% | 291 | 10.4% |
| **Other** | 53 | 10.7% | 55 | 10.3% | 243 | 11.3% | 288 | 10.3% |
| **Rear End** | 37 | 7.5% | 37 | 7.0% | 367 | 17.0% | 481 | 17.1% |
| **Angle** | 35 | 7.1% | 35 | 6.6% | 252 | 11.7% | 354 | 12.6% |
| **Head On** | 28 | 5.6% | 38 | 7.1% | 99 | 4.6% | 167 | 5.9% |
| **Bicycle** | 28 | 5.6% | 28 | 5.3% | 107 | 5.0% | 111 | 4.0% |
| **Rollover** | 13 | 2.6% | 13 | 2.4% | 82 | 3.8% | 88 | 3.1% |
| **Sideswipe** | 7 | 1.4% | 8 | 1.5% | 76 | 3.5% | 99 | 3.5% |
| **Right Turn** | 5 | 1.0% | 6 | 1.1% | 29 | 1.3% | 33 | 1.2% |
| **Total** | **496** | **100%** | **532** | **100%** | **2,155** | **100%** | **2,809** | **100%** |

## Table 9. Fatal and Serious Injury Crashes by Contributing Behavior (2019-2023)

| Contributing Behavior | Fatal Crashes | | Serious Injury Crashes | |
|---|---|---|---|---|
| Aggressive Driving | 82 | 24% | 184 | 9% |
| Distracted Driving | 47 | 9% | 444 | 21% |
| Speeding Related | 65 | 13% | 133 | 6% |

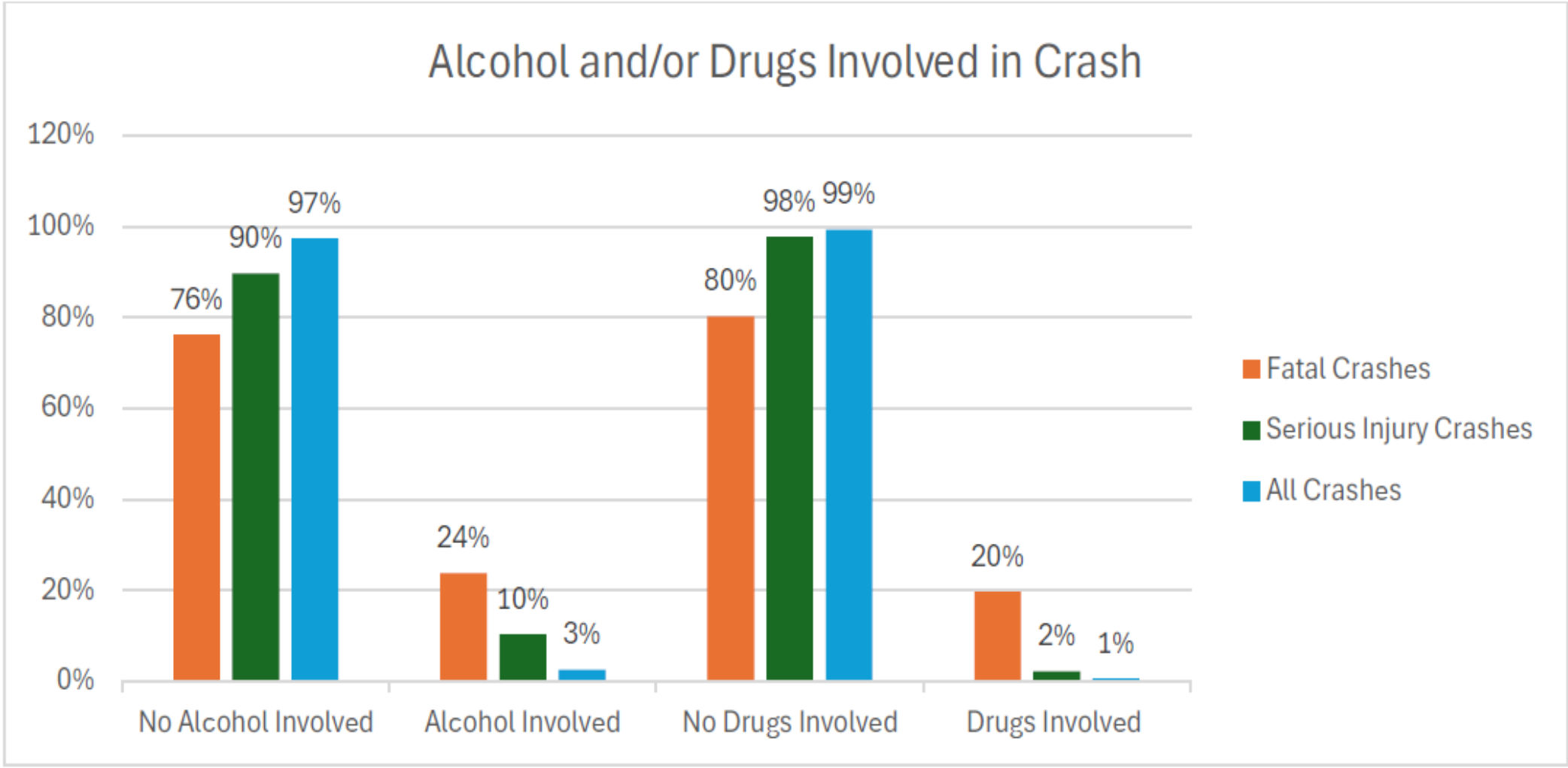
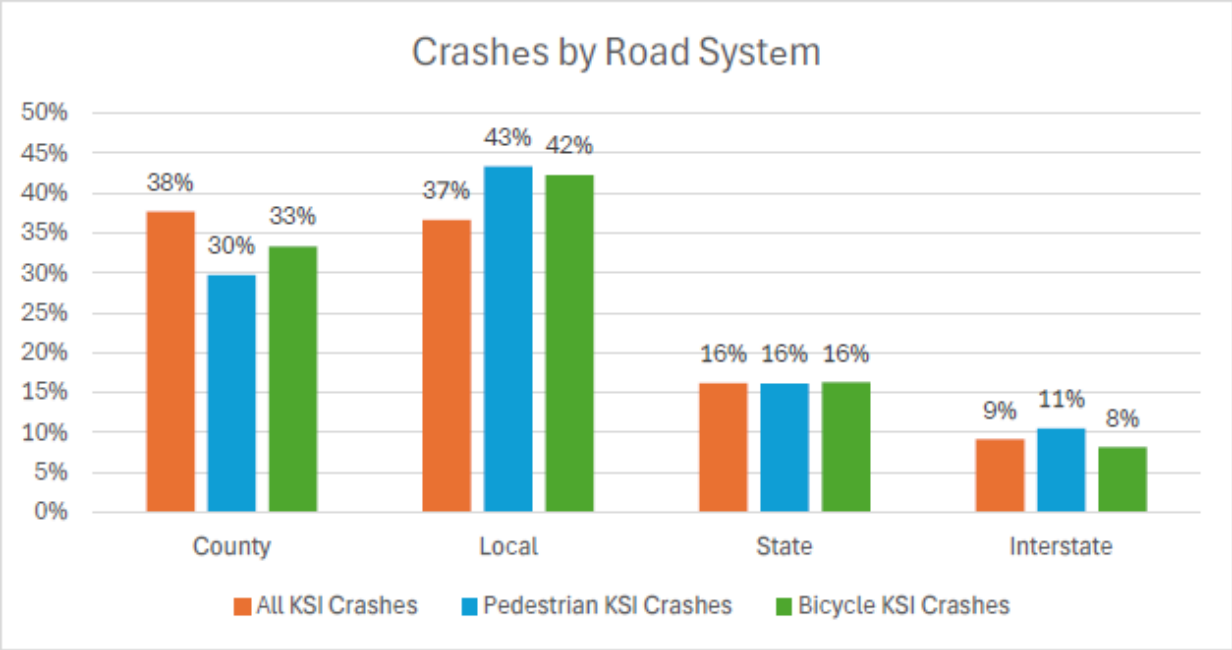



**Figure 9. Percent of Crashes with Alcohol and/or Drugs Involved (2019-2023)**

## Table 13. Signalized Intersections Crashes by Crash Type (2019-2023)

| Crash Type | All Crashes | KSI Crashes |
|---|---|---|
| **Rear End** | 50% | 20% |
| **Sideswipe** | 16% | 2% |
| **Angle** | 7% | 13% |
| **Left Turn** | 11% | 32% |
| **Pedestrian** | 1% | 10% |
| **Bicycle** | 1% | 4% |
| **Off Road** | 3% | 6% |
| **Head On** | 1% | 3% |

# Fatal and Serious Injury Crashes by Jurisdiction




On County and Local Roads:

- 75% of all KSI crashes
- 73% of Pedestrian KSI crashes
- 75% of Bicycle KSI crashes

# Approaches to Road Safety Management

- Site-specific
  - Reactively addresses safety issues based on crash history over a specific period
    - Example: Uses High Injury Network based on crash locations from 2019 through 2023
- Systematic (system-wide)
  - Proactively installs countermeasures at all sites system-wide that meet specific (policy) criteria
    - Example: Design manual says to install edgeline rumble strips on all flush shoulder roads with a speed limit of 50 mph or greater and travel lanes 11' wide or greater
- Systemic
  - Proactively installs countermeasures at locations with the highest risk of severe crashes
    - Example: Uses crash characteristics from the High Injury Network over a long-period that shows fatal and serious injury bicycle crashes are much more likely to occur under each of the following conditions: at intersections in areas of economic disadvantage, and within 0.25 miles of a school. Install protected intersections where these factors overlap.

A comprehensive approach is <u>both</u> reactive <u>and</u> proactive

Projects of <u>all three approaches</u> should be considered to optimize the safety program

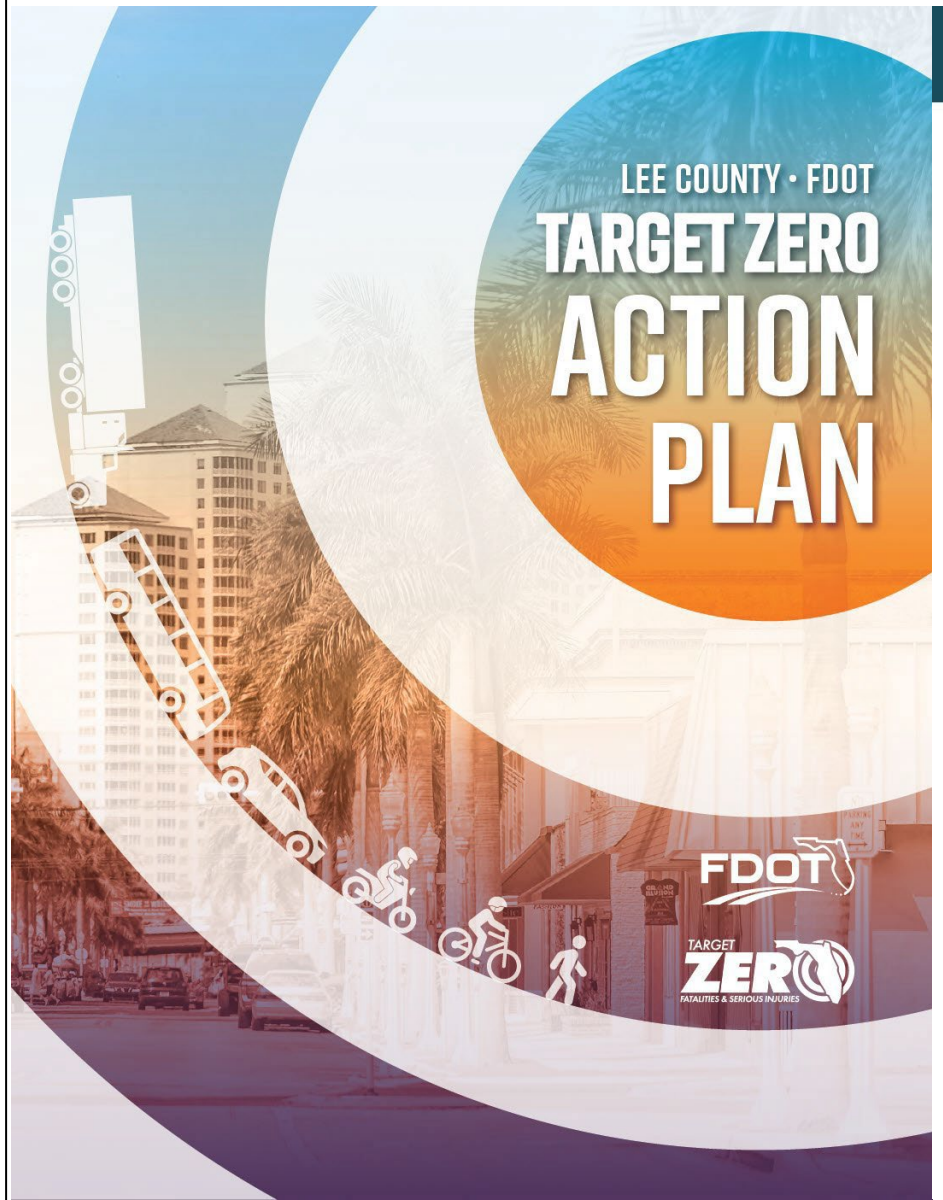
# Project Identification

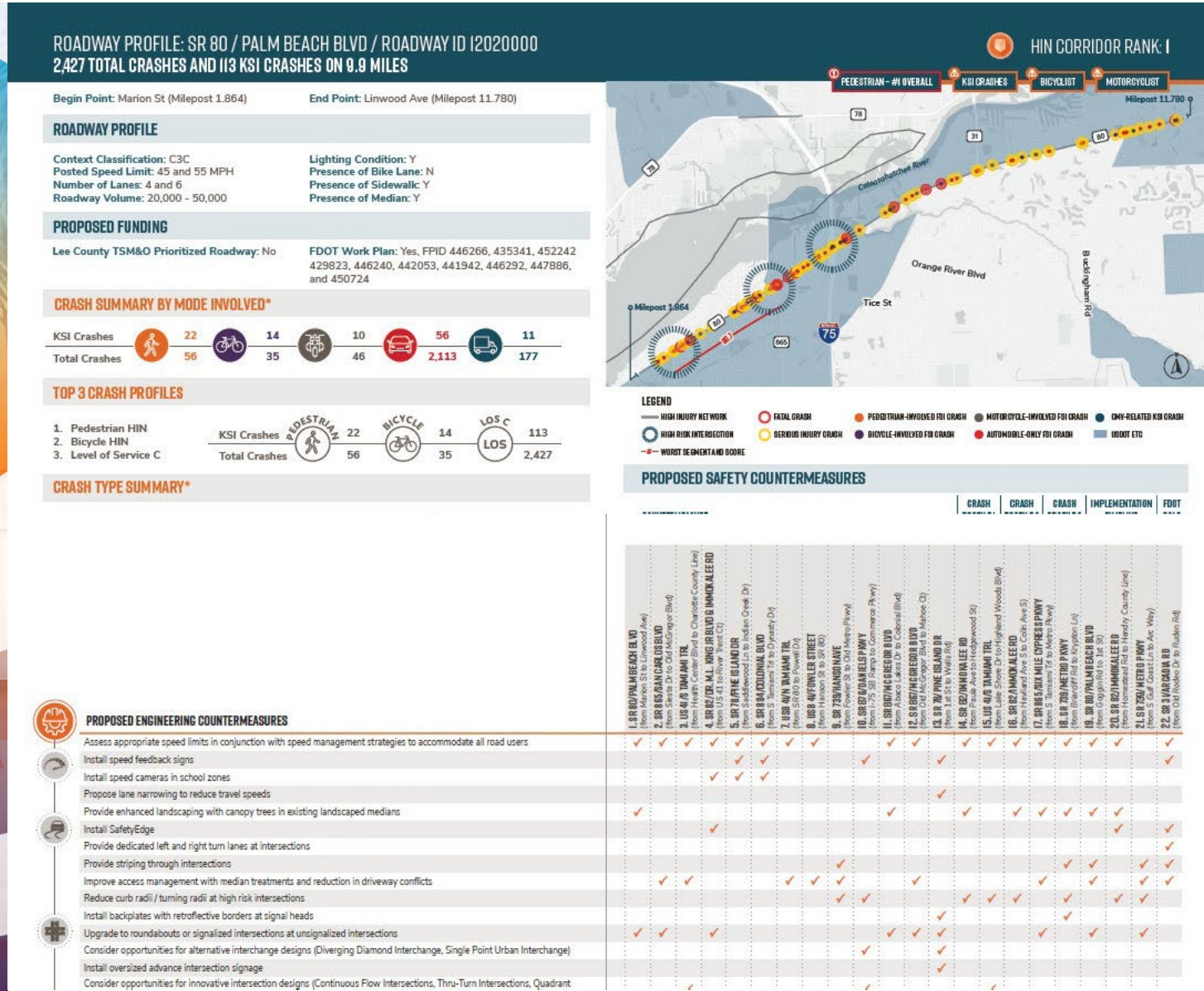
- HIN locations for site-specific recommendations
- Locations flagged by higher speeds for site-specific recommendations
- Equity data for systematic County recommendations
- HIN characteristics for systemic County recommendations (proactive)
- Emphasis areas (targeted crash types):
  - Speed Management
  - Pedestrian/Bicyclist
  - Intersection (Angle or left-turn crashes)
  - Roadway Departure (Run-off-road crashes)

# FHWA's Countermeasures by Emphasis Area

- Speed Management
  - Appropriate speed limit for all road users
  - Speed safety cameras
- Pedestrian/Bicyclist
  - Bicycle lanes
  - Crosswalk visibility enhancements
  - Leading Pedestrian Interval
  - Medians/Pedestrian Refuge Islands
  - Walkways
  - RRFB's / PHB's
  - Road Diets
- Intersection
  - Backplates
  - Reduced Left Turn Conflicts
  - Corridor Access Management
- Roadway Departures
  - Enhanced Delineation
  - Curve Design
  - SafetyEdge
  - Median Barrier
  - Rumble Strips

# Alignment with FDOT D1 Safety Action Plan



Once a target speed is determined, the speed can then be designed using both roadway geometry and modifications such as more frequent controlled crossings, enhanced parallel facilities, greater separation between vehicle traffic and bicycle and pedestrian facilities, terminated vistas, raised crosswalks, shared lanes with sharrows, street trees, lane narrowing, wide sidewalks, separated bicycle lanes, green colored pavement markings, and intersection refuge islands. These are important characteristics for consideration in the identification of transportation safety countermeasures.

Choosing the best tool for a location will depend on location-specific characteristics like number of travel lanes, geometry, vehicle speeds, and volumes. The determination of a roadway's context classification involves a complex process which generally considers the land use, built environment, and transportation characteristics of an area. The applicable facility types represent general characteristics for land use and users where each countermeasure might be appropriate.

TABLE 2. FROM THE FDOT DESIGN MANUAL (FDM)

| Context Classification | Allowable Design Speed Range (mph) | SIS Minimum (mph) |
|---|---|---|
| C1 Natural | 55-70 | 65 |
| C2 Rural | 55-70 | 65 |
| C2T Rural Town | 25-45 | 40 |
| C3 Suburban | 35-55 | 50 |
| C4 Urban General | 25-45 | 45 |
| C5 Urban Center | 25-35 | - |
| C6 Urban Core | 25-30 | - |

## Crash Reduction Effectiveness

The potential effectiveness of each countermeasure was based on published research, including information from the of FHWA's Crash Modification Factor (CMF) Clearinghouse, FHWA's Proven Safety Countermeasures, and other published references (see complete list of references at end of this section). The CMF Clearinghouse provides peer reviewed studies and a link to the applicable study. As this toolkit is intended to be a quick resource guide to help identify the range of potential countermeasures, the efficacy of various treatments was summarized into the following categories:

- **UNKNOWN:** No quantitative data is available
- **LOW:** Expected Crash Reduction < 20%
- **MEDIUM:** 31%≤ Expected Crash Reduction < 35%
- **HIGH:** Expected Crash Reduction ≥ 35%

The expected crash reduction represents a multiplicative factor indicating the proportion of crashes that are expected to be reduced after the implementation of a countermeasure with the reduction only applying to crashes affected by the countermeasure.

Detailed crash analysis based on the most current crash modification factor is recommended as the intent of the factors provided in this document is to allow for a quick comparison of the expected efficacy of specific countermeasures relative to their cost as well as highlight the need for additional data to document the efficacy of specific improvements that may be implemented regionally. Additionally, FDOT should continue to track crash data trends given the implementation of countermeasures to track unique pre- and post-conditions and measure the effectiveness of projects and programs in their ability to reduce crashes.



## Capital Costs and Maintenance Costs

Cost information shared in the dashboard is meant to convey an overall order of magnitude assessment of up-front capital costs and routine maintenance costs to help compare potential strategies. Importantly, the Project Team recognizes that most countermeasures would not likely be implemented as a standalone project but incorporated into a larger corridor enhancement project with cross-cutting countermeasures implemented in appropriate contexts along the corridor and/or as a necessary synergistic project need. For example, installation of a Rectangular Rapid Flashing Beacon (RRFB) to support safe pedestrian crossing would likely occur with other crosswalk visibility enhancements, lighting improvements, and/or speed reduction measures. These cross-cutting measures are better reflected in the Implementation Plan prepared as a part of the Target Zero Vision Action Plan for each segment of the HIN. Other factors such as the need to acquire additional right-of-way or other easements may also affect countermeasure implementation.

The assigned cost ratings for countermeasures are as follows:

- **LOW ($):** Typically, $10,000 or less
- **MEDIUM ($$):** Typically, $10,000 to $100,000
- **HIGH ($$$):** Typically, $100,000+

## Implementation Timeline

This field represents the typical time to implement the countermeasure. It should be noted that there may be some variability in implementation timeline based on whether the countermeasure can be implemented using "Quick Build" materials or permanent materials. The assigned timeline thresholds for implementation are as follows:

- **QUICK BUILD:** Typically, within 1 year
- **SHORT:** Typically, within 1 to 3 years
- **MEDIUM:** Typically, 3 to 5 years
- **LONG:** Typically, 5 years and more

## Analog Plans

Lastly, the Countermeasures Dashboard includes information on identified countermeasures across other important initiatives or programs, such as the FHWA's Proven Safety Countermeasures Initiative (PSCi), FDOT D1 Desk Reference, Manatee County Target Zero Action Plan, and National Association of City Transportation Officials (NACTO) Urban Street Design Guide, creating synergy across each of these efforts and offering opportunity to implement the most effective countermeasure options. In particular, the PSCi offers a suite of 28 countermeasures and strategies maximally effective in reducing roadway fatalities and serious injuries.

# PRIORITIZATION OF COUNTERMEASURES

A suite of prioritized countermeasures are outlined in the Target Zero Action Plan Implementation Plan, identified through a data-driven process that takes into consideration the findings from our crash data analysis, HIN outcomes, and collision profiles. The identification and prioritization of countermeasures on the HIN are crucial components of this Action Plan. These countermeasures are specifically tailored to address the unique challenges and traffic safety issues identified on the HIN. Prioritization is based on several criteria, including crash rates, KSI crash rates, cost-effectiveness, countermeasure efficacy, and the ease of implementation in line with existing or planned projects by partnering agencies.

| COUNTERMEASURE | DESCRIPTION | CMF (CMF-ID, STAR RATING) | MODAL SAFETY EMPHASIS | CAPITAL COSTS | TIMELINE | CONTEXT CLASSIFICATION | FOCUS COLLISION PROFILE | SAFE SYSTEM STRATEGY |
|---|---|---|---|---|---|---|---|---|
| Rectangular Rapid Flashing Beacons (RRFB) | A RRFB is a pedestrian-activated flashing light with signage to alert motorists of a pedestrian crossing. It improves safety by increasing the visibility of marked crosswalks and provides motorists a cue to slow down and yield to pedestrians. This is a low-cost countermeasure to increase driver compliance in yielding to pedestrians at midblock locations. | 0.31 (652, 4-Star) | Pedestrian | $$ |  | C2T, C3C, C3R, C4, C5, C6 | Pedestrian | Manage Conflicts in Time, Increase Awareness and Attentiveness |
| Medians and Pedestrian Refuge Islands | A median is the area between opposing lanes of traffic, excluding turn lanes. Medians in urban and suburban areas can be defined by pavement markings, raised medians, or islands to separate motorized and non-motorized road users. A pedestrian refuge island (or crossing area) is a median with a refuge area that is intended to help protect pedestrians who are crossing a road. | 0.14 (502, 3-Star) | Pedestrian | $$ |  | C3R, C3C, C4, C5, C6 | Pedestrian | Manage Conflicts in Time, Increase Awareness and Attentiveness, |



| COUNTERMEASURE | DESCRIPTION | CMF (CMF-ID, STAR RATING) | MODAL SAFETY EMPHASIS | CAPITAL COSTS | TIMELINE | CONTEXT CLASSIFICATION | FOCUS COLLISION PROFILE | SAFE SYSTEM STRATEGY |
|---|---|---|---|---|---|---|---|---|
| Pedestrian Hybrid Beacons or High-Intensity Activated Crosswalk (PHB or HAWK) | The PHB or HAWK notifies oncoming motorists to stop with a series of red and yellow lights. Unlike a traffic signal, the PHB rests until a pedestrian activates it via pushbutton or other form of detection. This traffic control device is designed to help pedestrians safely cross higher-speed roadways at midblock crossings and uncontrolled intersections. The beacon head consists of two red lenses above a single yellow lens that activate in a flashing sequence to direct motorists to slow and stop and provides the right-of-way to the pedestrian to safely cross the roadway. | 0.88 (611, 5-Star) | Pedestrian | $$$ |  | C2T, C3C, C3R, C4, C5, C6 | Pedestrian | Manage Conflicts in Time, Increase Awareness and Attentiveness |
| Add Walkways / Sidewalks | Adding sidewalks provides a separated and continuous facility for people to walk along the roadway, providing safe distance for people walking with conflicting vehicle travel. | 0.60 (665, 4-Star) | Pedestrian | $$$ |  | C3R, C3C, C4, C5, C6 | Pedestrian | Remove Severe Conflicts |
| Horizontal Deflection (Curb Extensions, Bulb Outs, or Edge Islands) | These are traffic calming measures that extend sidewalks at crossing locations. Curb extensions shorten the crossing distance, and provide additional space at intersections, allowing pedestrians to see and be seen before entering a crosswalk. | N/A | Pedestrian | $$ |  | C4, C5, C6 | Pedestrian | Manage Vehicular Speeds, Manage Conflicts in Time |

# ROADWAY PROFILE: SR 80 / PALM BEACH BLVD / ROADWAY ID 12020000

## 2,427 TOTAL CRASHES AND 113 KSI CRASHES ON 9.9 MILES

HIN CORRIDOR RANK: 1

**Begin Point:** Marion St (Milepost 1.864)

**End Point:** Linwood Ave (Milepost 11.780)

## ROADWAY PROFILE

**Context Classification:** C3C
**Posted Speed Limit:** 45 and 55 MPH
**Number of Lanes:** 4 and 6
**Roadway Volume:** 20,000 - 50,000

**Lighting Condition:** Y
**Presence of Bike Lane:** N
**Presence of Sidewalk:** Y
**Presence of Median:** Y

## PROPOSED FUNDING

**Lee County TSM&O Prioritized Roadway:** No

**FDOT Work Plan:** Yes, FPID 446266, 435341, 452242 429823, 446240, 442053, 441942, 446292, 447886, and 450724

## CRASH SUMMARY BY MODE INVOLVED*

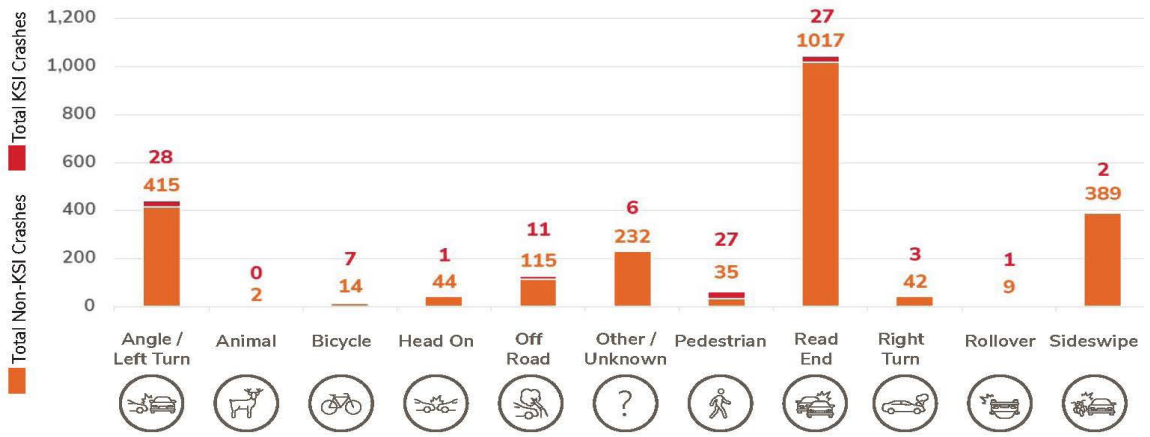
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| KSI Crashes | | 22 | | 14 | | 10 | | 56 | 11 |
| Total Crashes | | 56 | | 35 | | 46 | | 2,113 | 177 |

## TOP 3 CRASH PROFILES

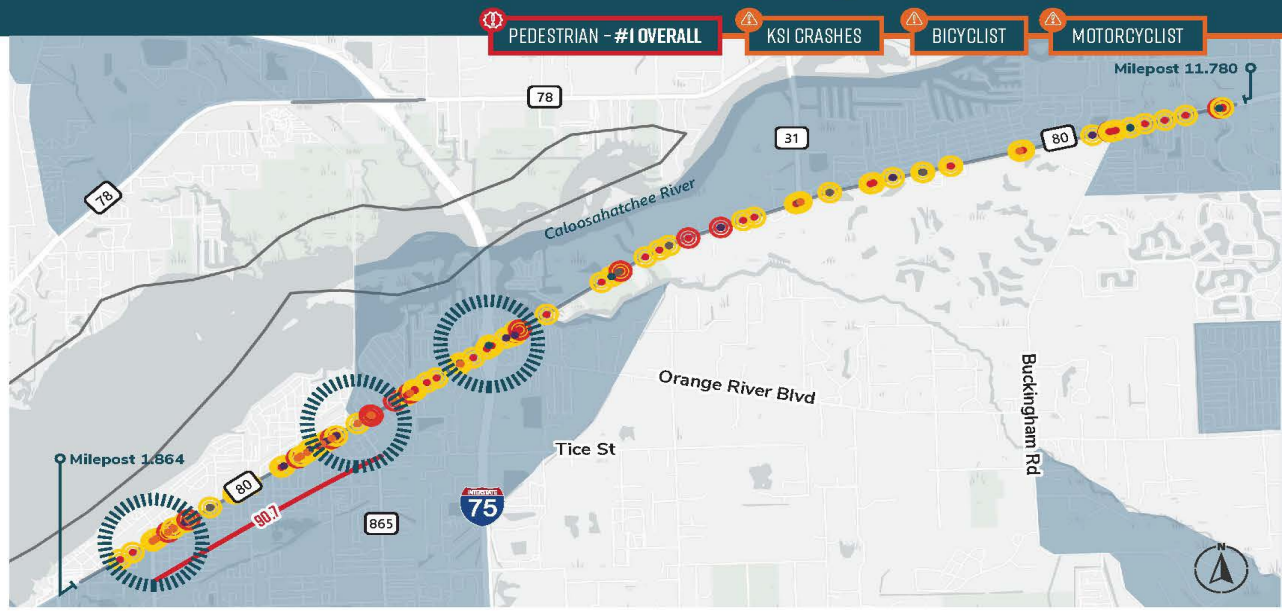
1. Pedestrian HIN
2. Bicycle HIN
3. Level of Service C

| | PEDESTRIAN | BICYCLE | LOS C |
|---|---|---|---|
| KSI Crashes | 22 | 14 | 113 |
| Total Crashes | 56 | 35 | 2,427 |

## CRASH TYPE SUMMARY*




*The crash summary by mode involved and crash type summary differ in that a single crash type may include multiple modes involved.




**LEGEND**

- HIGH INJURY NETWORK
- HIGH RISK INTERSECTION
- #— WORST SEGMENT AND SCORE
- FATAL CRASH
- SERIOUS INJURY CRASH
- PEDESTRIAN-INVOLVED FSI CRASH
- BICYCLE-INVOLVED FSI CRASH
- MOTORCYCLE-INVOLVED FSI CRASH
- AUTOMOBILE-ONLY FSI CRASH
- CMV-RELATED KSI CRASH
- USDOT ETC

## PROPOSED SAFETY COUNTERMEASURES

| COUNTERMEASURE | CRASH PROFILE 1 | CRASH PROFILE 2 | CRASH PROFILE 3 | IMPLEMENTATION TIMELINE | FDOT GOLD |
|---|---|---|---|---|---|
| Provide intersection improvements to include signalization, crosswalks, and reduced curb radii at unsignalized intersections | ✓ | ✓ | ✓ | Medium | ★ |
| Co-locate midblock crossings with visibility enhancements and pedestrian refuge islands with bus stop locations | ✓ | ✓ | ✓ | Short | ★ |
| Provide leading bike or pedestrian interval recall signalization at existing crosswalk locations | ✓ | ✓ | ✓ | Short | ★ |
| Propose lane narrowing to reduce travel speeds and accommodate buffered bike lanes | ✓ | ✓ | ✓ | Medium | ★ |
| Assess appropriate speed limits in conjunction with speed management strategies to accommodate all road users | ✓ | ✓ | ✓ | Short | ★ |
| Provide enhanced landscaping with canopy trees in existing landscaped medians | ✓ | | ✓ | Medium | ★ |
| Upgrade to roundabouts or signalized intersections at unsignalized intersections | ✓ | ✓ | ✓ | Varies | ★ |

# ROADWAY PROFILE: SR 80 / PALM BEACH BLVD / ROADWAY ID 12020000

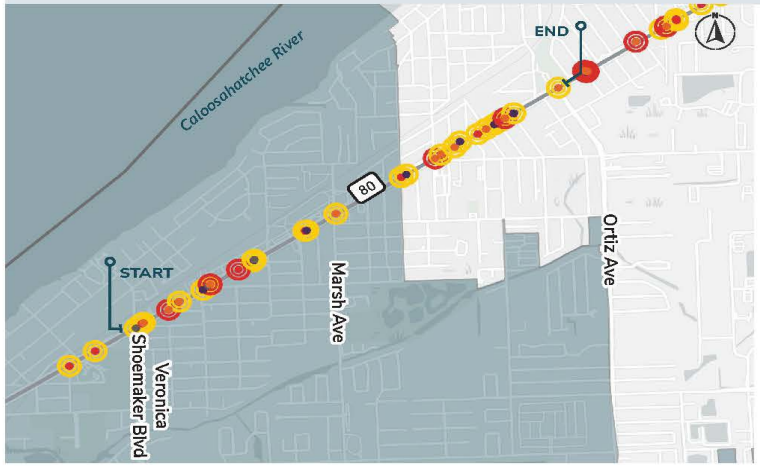
## 2,427 TOTAL CRASHES AND 113 KSI CRASHES ON 9.9 MILES

HIN CORRIDOR RANK: 1

PEDESTRIAN - #1 OVERALL | KSI CRASHES | BICYCLIST | MOTORCYCLIST

For a more focused evaluation of the lengthy SR 80 study corridor, the following maps and data reflect information on the top three most dangerous segments along the SR 80 High Injury Network (HIN). For each segment, data is analyzed to determine overall crash rates, rates of crashes resulting in fatalities or severe injuries (KSI), and crash rates by transportation mode (e.g., pedestrian, bicycle, commercial motor vehicle, automobile, and motorcycle). Additionally, an overview of the overall crash ranking across all 79 segments of the HIN that comprise the Lee County state road HIN is provided. This breakdown provides segment-level insights for more targeted engineering, education, enforcement countermeasures to address segment-specific issues. and target solutions based on a more refined understanding of nearby community assets and more specific roadway characteristics.

### SR 80 SEGMENT 1: VERONICA SHOEMAKER BLVD TO CR 80B/ORTIZ AVE

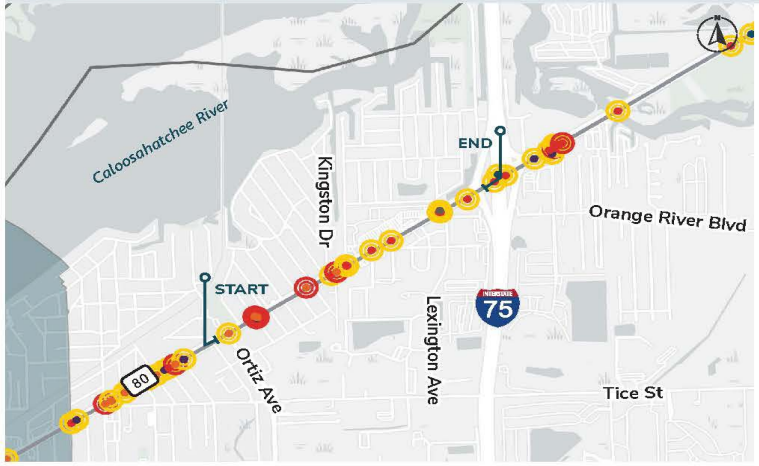



| | |
|---|---|
| Miles | 1.9 |
| Segment Ranking | 1 of 79 |
| Segment Score | 90.7 |
| **CRASH RATES** | |
| All Crashes | 844.3 |
| KSI Crashes | 35.7 |
| Pedestrian Crashes | 39.2 |
| Bicyclist Crashes | 26.2 |
| Motorcyclist Crashes | 16.6 |
| CMV Crashes | 44.0 |

LEGEND

HIGH INJURY NETWORK | USDOT ETC | FATAL CRASH | SERIOUS INJURY CRASH | PEDESTRIAN-INVOLVED KSI CRASH | BICYCLE-INVOLVED KSI CRASH | MOTORCYCLE-INVOLVED KSI CRASH | AUTOMOBILE-ONLY KSI CRASH | CMV-RELATED KSI CRASH

### SR 80 SEGMENT 2: CR 80B/ORTIZ AVE TO I-75

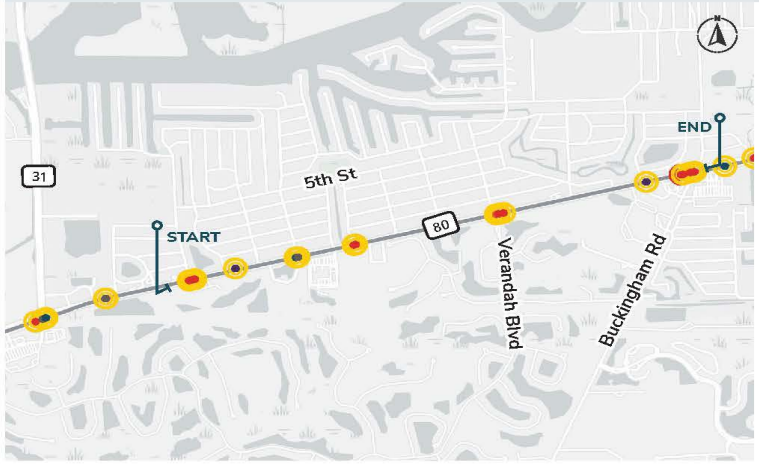



| | |
|---|---|
| Miles | 1.2 |
| Segment Ranking | 7 of 79 |
| Segment Score | 82.9 |
| **CRASH RATES** | |
| All Crashes | 701.7 |
| KSI Crashes | 45.4 |
| Pedestrian Crashes | 27.3 |
| Bicyclist Crashes | 12.7 |
| Motorcyclist Crashes | 7.3 |
| CMV Crashes | 41.8 |

LEGEND

HIGH INJURY NETWORK | USDOT ETC | FATAL CRASH | SERIOUS INJURY CRASH | PEDESTRIAN-INVOLVED KSI CRASH | BICYCLE-INVOLVED KSI CRASH | MOTORCYCLE-INVOLVED KSI CRASH | AUTOMOBILE-ONLY KSI CRASH | CMV-RELATED KSI CRASH

### SR 80 SEGMENT 3: SR 31 TO CR 80A/BUCKINGHAM RD




| | |
|---|---|
| Miles | 2.5 |
| Segment Ranking | 33 of 79 |
| Segment Score | 52.6 |
| **CRASH RATES** | |
| All Crashes | 313.3 |
| KSI Crashes | 13.4 |
| Pedestrian Crashes | 2.2 |
| Bicyclist Crashes | 1.1 |
| Motorcyclist Crashes | 7.8 |
| CMV Crashes | 25.7 |

LEGEND

HIGH INJURY NETWORK | USDOT ETC | FATAL CRASH | SERIOUS INJURY CRASH | PEDESTRIAN-INVOLVED KSI CRASH | BICYCLE-INVOLVED KSI CRASH | MOTORCYCLE-INVOLVED KSI CRASH | AUTOMOBILE-ONLY KSI CRASH | CMV-RELATED KSI CRASH

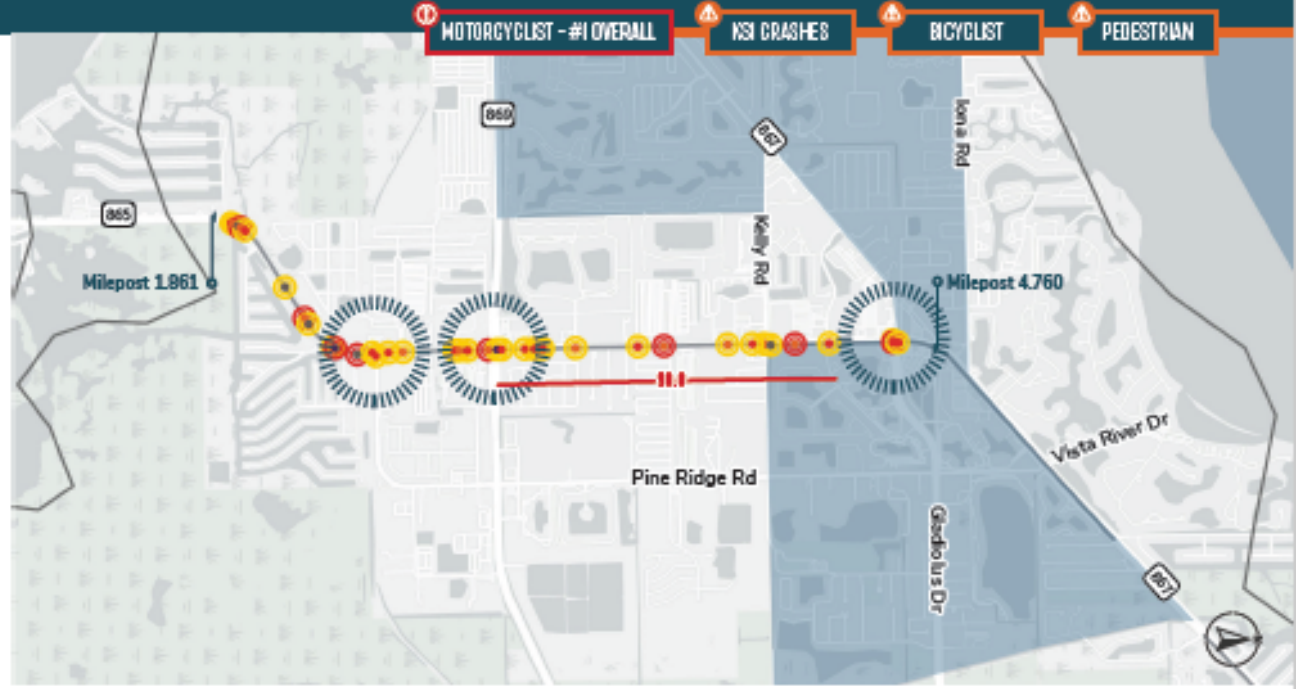
# ROADWAY PROFILE: SR 865 / SAN CARLOS BLVD / ROADWAY ID 12004000

## 690 TOTAL CRASHES AND 46 KSI CRASHES ON 2.9 MILES

HIN CORRIDOR RANK: 2

**Begin Point:** Siesta Dr (Milepost 1.861)

**End Point:** Old McGregor Blvd (Milepost 4.760)




## ROADWAY PROFILE

**Context Classification:** C3C
**Posted Speed Limit:** 45 MPH
**Number of Lanes:** 2 and 4
**Roadway Volume:** 10,000 - 30,000

**Lighting Condition:** Itermittent
**Presence of Bike Lane:** N
**Presence of Sidewalk:** Y
**Presence of Median:** Y

## PROPOSED FUNDING

**Lee County TSM&O Prioritized Roadway:** No

**FDOT Work Plan:** Yes, FPID 450727, 433726, and 447880

## CRASH SUMMARY BY MODE INVOLVED*

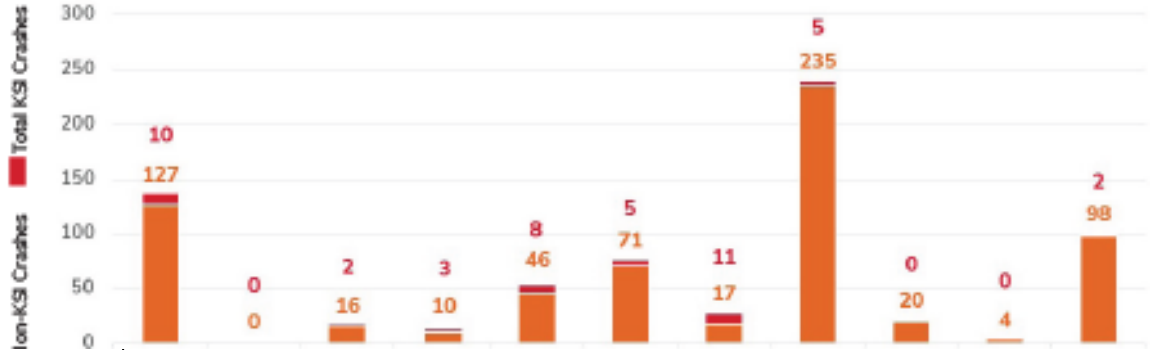
| | Pedestrian | Bicycle | Motorcycle | Car | Truck |
|---|---|---|---|---|---|
| KSI Crashes | 14 | 2 | 9 | 20 | 1 |
| Total Crashes | 23 | 28 | 28 | 589 | 22 |

## TOP 3 CRASH PROFILES

1. Pedestrian HIN
2. Motorcycle HIN
3. Posted Speed 45 MPH

| | Pedestrian | Motorcycle | Speed |
|---|---|---|---|
| KSI Crashes | 14 | 9 | 46 |
| Total Crashes | 23 | 28 | 690 |

## CRASH TYPE SUMMARY*




LEGEND

HIGH INJURY NETWORK
HIGH RISK INTERSECTION
WORST SEGMENT AND SCORE
FATAL CRASH
SERIOUS INJURY CRASH
PEDESTRIAN-INVOLVED FSI CRASH
BICYCLE-INVOLVED FSI CRASH
MOTORCYCLE-INVOLVED FSI CRASH
AUTOMOBILE-ONLY FSI CRASH
CMV-RELATED KSI CRASH
USDOT ETC

## PROPOSED SAFETY COUNTERMEASURES

| COUNTERMEASURE | CRASH PROFILE 1 | CRASH PROFILE 2 | CRASH PROFILE 3 | IMPLEMENTATION TIMELINE | FOOT GOLD |
|---|---|---|---|---|---|
| Assess appropriate speed limits in conjunction with speed management strategies to accommodate all road users | ✓ | ✓ | ✓ | Short | ★ |
| Upgrade to roundabouts or signalized intersections at unsignalized intersections | ✓ | ✓ | ✓ | Varies | ★ |
| Co-locate midblock crossings with visibility enhancements and pedestrian refuge islands with bus stop locations | ✓ | | ✓ | Short | ★ |
| Install PHBs, RRFBs, or other pedestrian signalization at mid-block crossings | ✓ | | ✓ | Medium | ★ |
| Provide leading bike or pedestrian interval recall signalization at existing crosswalk locations | ✓ | | ✓ | Short | ★ |

# ROADWAY PROFILE: US 41 / S TAMIAMI TRL / ROADWAY ID 12010000

## 10,330 TOTAL CRASHES AND 285 KSI CRASHES ON 28.0 MILES

HIN CORRIDOR RANK: **3**

**Begin Point:** Health Center Blvd (Milepost 5.449) **End Point:** Charlotte County Line (Milepost 33.409)

## ROADWAY PROFILE

**Context Classification:** C2, C3C, C3R, and C4
**Posted Speed Limit:** 40, 45, 50 and 55 MPH
**Number of Lanes:** 4 and 6
**Roadway Volume:** 20,000 - 80,000

**Lighting Condition:** Itermittent
**Presence of Bike Lane:** Y
**Presence of Sidewalk:** Itermittent
**Presence of Median:** Itermittent

## PROPOSED FUNDING

**Lee County TSM&O Prioritized Roadway:** No

**FDOT Work Plan:** Yes, FPID 412672, 452242, 444640, 431313, 445363, 451357, 449015, 453106, 451968, 448957, 451390, and 448699

## CRASH SUMMARY BY MODE INVOLVED*

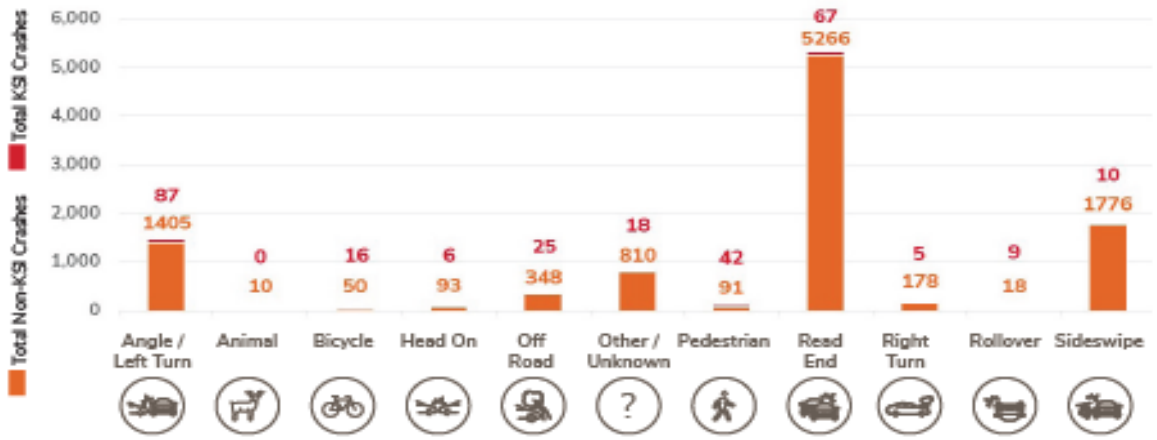
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| KSI Crashes | | 38 | | 21 | | 47 | | 164 | 15 |
| Total Crashes | | 108 | | 118 | | 152 | | 9,456 | 496 |

## TOP 3 CRASH PROFILES

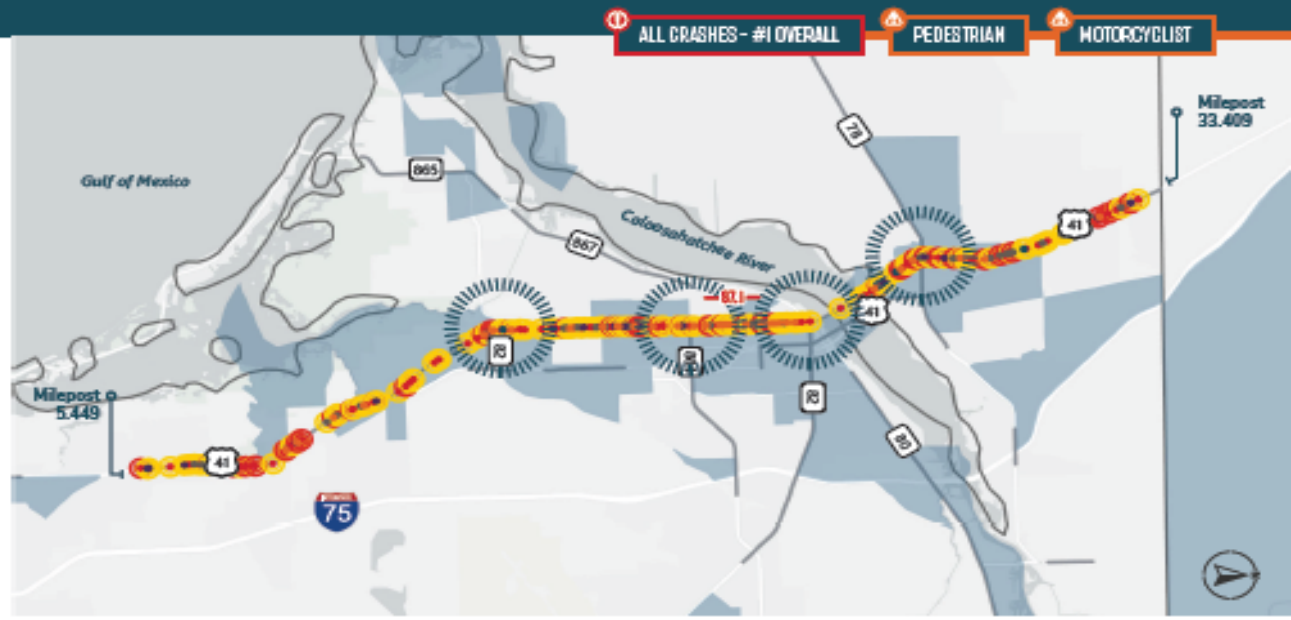
1. Pedestrian HIN
2. Bicycle HIN
3. Motorcycle HIN

| | PEDESTRIAN | BICYCLE | MOTORCYCLE |
|---|---|---|---|
| KSI Crashes | 38 | 21 | 47 |
| Total Crashes | 108 | 118 | 152 |

## CRASH TYPE SUMMARY*




*The crash summary by mode involved and crash type summary differ in that a single crash type may include multiple modes involved.




LEGEND

- HIGH INJURY NETWORK
- HIGH RISK INTERSECTION
- WORST SEGMENT AND SCORE
- FATAL CRASH
- SERIOUS INJURY CRASH
- PEDESTRIAN-INVOLVED FSI CRASH
- BICYCLE-INVOLVED FSI CRASH
- MOTORCYCLE-INVOLVED FSI CRASH
- AUTOMOBILE-ONLY FSI CRASH
- CMV-RELATED KSI CRASH
- USDOT ETC

## PROPOSED SAFETY COUNTERMEASURES

| COUNTERMEASURE | CRASH PROFILE 1 | CRASH PROFILE 2 | CRASH PROFILE 3 | IMPLEMENTATION TIMELINE | FDOT GOLD |
|---|---|---|---|---|---|
| Provide intersection improvements to include signalization, crosswalks, and reduced curb radii at unsignalized intersections | ✓ | ✓ | ✓ | Medium | ★ |
| Co-locate midblock crossings with visibility enhancements and pedestrian refuge islands with key community assets such as bus stops, schools, and major commercial centers | ✓ | ✓ | | Short | ★ |
| Upgrade to high-emphasis crosswalks at intersections | ✓ | ✓ | | Short | ★ |
| Consider opportunities for innovative intersection designs | ✓ | ✓ | ✓ | Varies | ★ |
| Propose lane narrowing to accommodate buffered bike lanes | | ✓ | ✓ | Medium | ★ |
| Improve access management with median treatments and reduction in driveway conflicts | ✓ | ✓ | ✓ | Long | ★ |
| Complete sidewalk gaps | ✓ | | | Medium | ★ |
| Assess appropriate speed limits in conjunction with speed management strategies to accommodate all road users | ✓ | ✓ | ✓ | Short | ★ |

# ROADWAY PROFILE: SR 82 / DR. M.L. KING JR BLVD / ROADWAY ID 12070000

## 2,754 TOTAL CRASHES AND 43 KSI CRASHES ON 7.3 MILES

HIN CORRIDOR RANK: **4**

**Begin Point:** US 41 (Milepost 0.000)

**End Point:** River Trent Ct (Milepost 7.326)

## ROADWAY PROFILE

**Context Classification:** C4 and C3C
**Posted Speed Limit:** 40, 45, and 50 MPH
**Number of Lanes:** 4 and 6
**Roadway Volume:** 30,000 - 60,000

**Lighting Condition:** Y
**Presence of Bike Lane:** Y
**Presence of Sidewalk:** Y
**Presence of Median:** Y

## PROPOSED FUNDING

**Lee County TSM&O Prioritized Roadway:** Yes

**FDOT Work Plan:** Yes, FPID 446269, 452242, 445363, and 448955

## CRASH SUMMARY BY MODE INVOLVED*

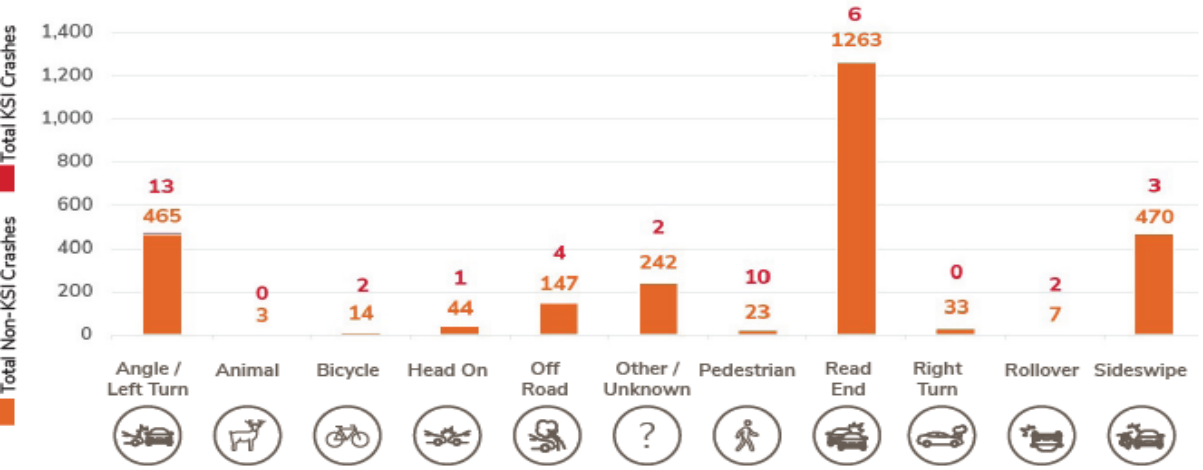
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| KSI Crashes | 7 | 5 | 6 | 23 | 2 |
| Total Crashes | 25 | 31 | 32 | 2,386 | 280 |

## TOP 3 CRASH PROFILES

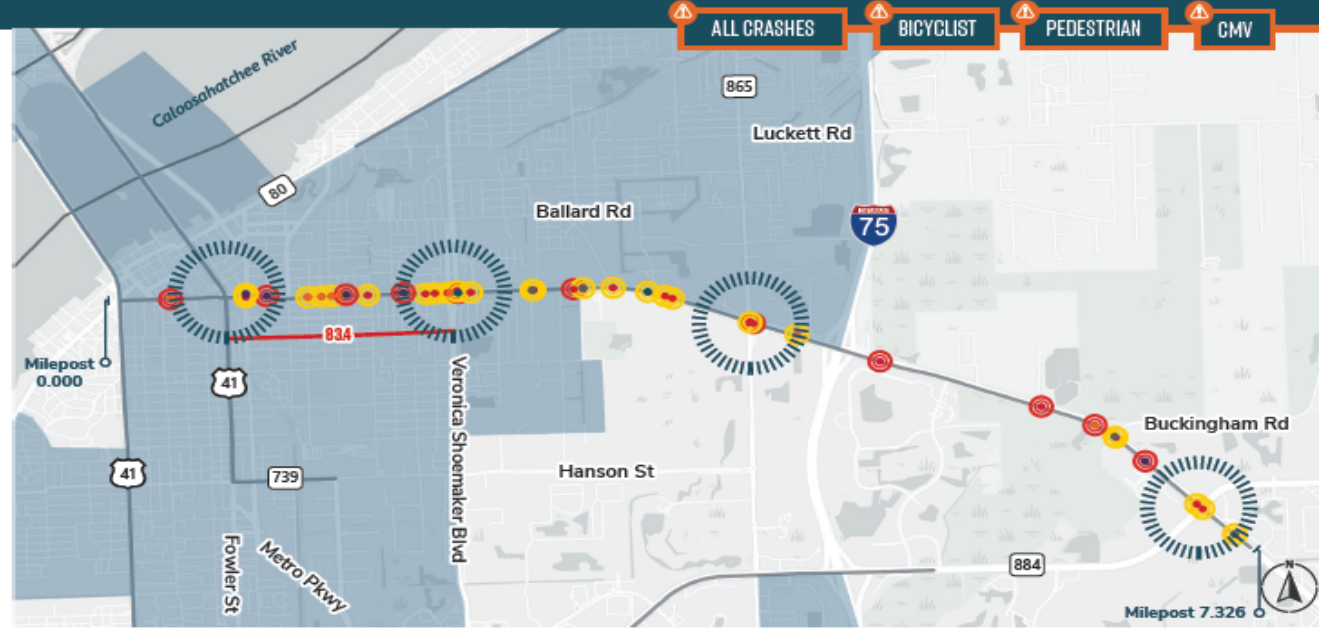
1. Pedestrian HIN
2. Unsignalized Intersections
3. Dark-Lit / Dark Conditions

| | PEDESTRIAN | NO SIGNAL | DARK |
|---|---|---|---|
| KSI Crashes | 7 | 29 | 19 |
| Total Crashes | 25 | 1,590 | 633 |

## CRASH TYPE SUMMARY*




*The crash summary by mode involved and crash type summary differ in that a single crash type may include multiple modes involved.*




**LEGEND**

- HIGH INJURY NETWORK
- HIGH RISK INTERSECTION
- #— WORST SEGMENT AND SCORE
- FATAL CRASH
- SERIOUS INJURY CRASH
- PEDESTRIAN-INVOLVED FSI CRASH
- BICYCLE-INVOLVED FSI CRASH
- MOTORCYCLE-INVOLVED FSI CRASH
- AUTOMOBILE-ONLY FSI CRASH
- CMV-RELATED KSI CRASH
- USDOT ETC

## PROPOSED SAFETY COUNTERMEASURES

| COUNTERMEASURE | CRASH PROFILE 1 | CRASH PROFILE 2 | CRASH PROFILE 3 | IMPLEMENTATION TIMELINE | FDOT GOLD |
|---|---|---|---|---|---|
| Assess appropriate speed limits in conjunction with speed management strategies to accommodate all road users | ✓ | ✓ | ✓ | Short | ★ |
| Upgrade to roundabouts or signalized intersections at unsignalized intersections | ✓ | ✓ | ✓ | Varies | ★ |
| Co-locate midblock crossings with visibility enhancement and pedestrian refuge islands with bus stop locations | ✓ | ✓ | ✓ | Short | ★ |
| Install PHBs, RRFBs, or other pedestrian signalization at mid-block crossings | ✓ | ✓ | ✓ | Medium | ★ |
| Provide leading bike or pedestrian interval recall signalization at existing crosswalk locations | ✓ | ✓ | ✓ | Short | ★ |
| Upgrade to high-emphasis crosswalks at intersections | ✓ | ✓ | ✓ | Short | ★ |
| Install SafetyEdge | | ✓ | | Short | ★ |
| Install speed cameras in school zones | ✓ | ✓ | | Short | ★ |

# ROADWAY PROFILE: SR 78 / PINE ISLAND DR / ROADWAY ID I2060000

## 2,934 TOTAL CRASHES AND 86 KSI CRASHES ON 11.0 MILES

HIN CORRIDOR RANK: **5**

**Begin Point:** Saddlewood Ln (Milepost 6.617)

**End Point:** Indian Creek Dr (Milepost 17.629)

## ROADWAY PROFILE

**Context Classification:** C3C
**Posted Speed Limit:** 40 - 55 MPH
**Number of Lanes:** 4
**Roadway Volume:** 20,000 - 60,000

**Lighting Condition:** Y
**Presence of Bike Lane:** Itermittent
**Presence of Sidewalk:** Itermittent
**Presence of Median:** Y

## PROPOSED FUNDING

**Lee County TSM&O Prioritized Roadway:** Yes
**Lee County MPO 2045 LRTP:** 4 and 6 lanes

**FDOT Work Plan:** Yes, FPID 446291, 452242, 450723, 446293, and 438102

## CRASH SUMMARY BY MODE INVOLVED*

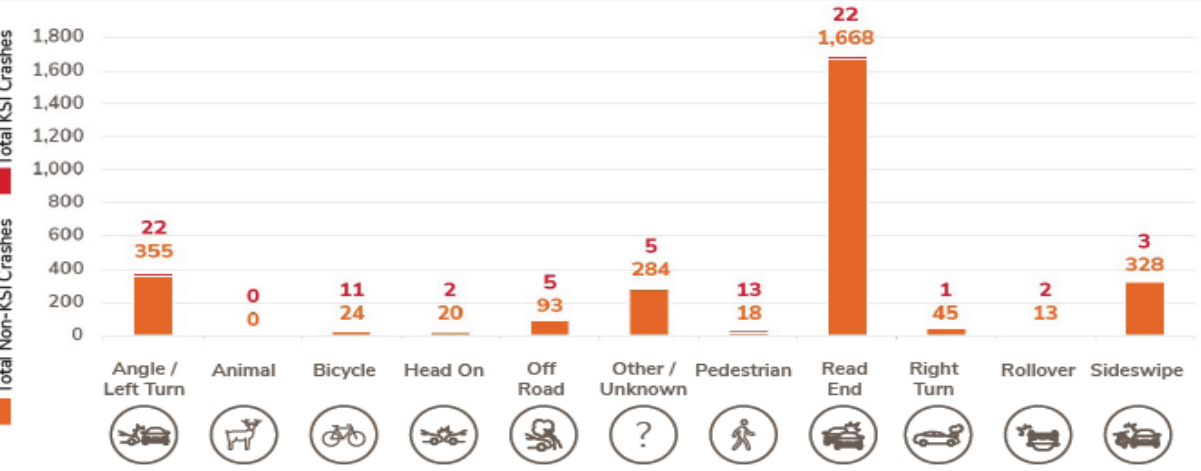
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| KSI Crashes | 11 | | 13 | | 15 | | 44 | | 3 |
| Total Crashes | 23 | | 50 | | 52 | | 2,681 | | 128 |

## TOP 3 CRASH PROFILES

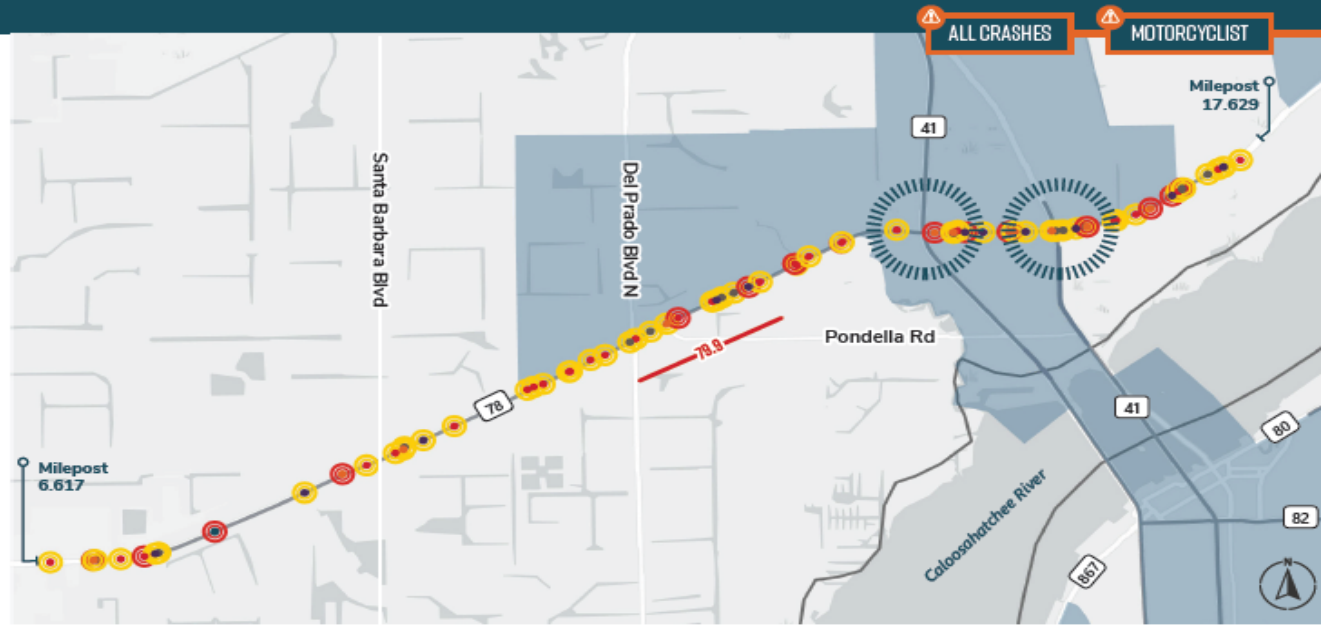
1. Motorcycle HIN
2. School Walk Shed
3. Pedestrian HIN

| | MOTORCYCLE | SCHOOL | PEDESTRIAN |
|---|---|---|---|
| KSI Crashes | 15 | 41 | 11 |
| Total Crashes | 52 | 1,281 | 23 |

## CRASH TYPE SUMMARY*




*The crash summary by mode involved and crash type summary differ in that a single crash type may include multiple modes involved.*




**LEGEND**

- HIGH INJURY NETWORK
- HIGH RISK INTERSECTION
- WORST SEGMENT AND SCORE
- FATAL CRASH
- SERIOUS INJURY CRASH
- PEDESTRIAN-INVOLVED FSI CRASH
- BICYCLE-INVOLVED FSI CRASH
- MOTORCYCLE-INVOLVED FSI CRASH
- AUTOMOBILE-ONLY FSI CRASH
- CMV-RELATED KSI CRASH
- USDOT ETC

## PROPOSED SAFETY COUNTERMEASURES

| COUNTERMEASURE | CRASH PROFILE 1 | CRASH PROFILE 2 | CRASH PROFILE 3 | IMPLEMENTATION TIMELINE | FDOT GOLD |
|---|---|---|---|---|---|
| Provide intersection improvements to include signalization, crosswalks, and reduced curb radii at unsignalized intersections | ✓ | ✓ | ✓ | Medium | ★ |
| Co-locate midblock crossings, visibility enhancements, and pedestrian refuge islands with bus stops in 40 MPH zones | | ✓ | ✓ | Short | ★ |
| Review signal coordination to improve traffic progression for all road users | ✓ | ✓ | ✓ | Short | ★ |
| Complete sidewalk gaps | | ✓ | ✓ | Medium | ★ |
| Propose lane narrowing to reduce travel speeds and accommodate buffered bike lanes | ✓ | ✓ | ✓ | Medium | ★ |
| Assess appropriate speed limits in conjunction with speed management strategies to accommodate all road users | ✓ | ✓ | ✓ | Short | ★ |
| Install speed feedback signs | ✓ | ✓ | ✓ | Short | ★ |
| Install speed cameras in school zones | ✓ | ✓ | ✓ | Short | ★ |

Questions/Comments?

**EXECUTIVE SUMMARY**
**COMMITTEE ACTION**
**ITEM 10A**

**Draft 2025 MPO Meeting Schedule**

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**OBJECTIVE:** For the committee to receive a copy of the draft 2025 MPO meeting schedule for MPO Board approval December 13, 2024.

**CONSIDERATIONS:** The MPO's draft 2025 Meeting Schedule is shown in **Attachment 1**. The schedule follows established meeting locations, dates and times except for the MPO Board falling on December 11. It would normally be December 12, but due to requirements for the Long Range Transportation Plan (LRTP), it must be held earlier.

**STAFF RECOMMENDATION:** That the committee receive a copy of the draft 2025 Meeting Schedule.

Prepared By: Sean Kingston, AICP, PMP, Principal Planner

**ATTACHMENTS:**

1. Draft 2025 MPO Meeting Schedule

# 2025 Meeting Schedule

Collier Metropolitan Planning Organization (MPO)
2885 S. Horseshoe Drive, Naples, FL 34104
(239) 252-5814 | www.CollierMPO.org

DRAFT 1

~~RED STRIKETHROUGH~~ = CANCELLED MEETING
DATES IN GREEN = ADDED MEETING

## Metropolitan Planning Organization (MPO) – Monthly at 9:30 a.m.

**MPO Board Meetings are held on the second Friday of the month at the Board of County Commissioners Chambers, Admin. Bldg. F, 3299 Tamiami Trail East, Naples, FL, 34112, unless otherwise noted.**

| | | | |
|---|---|---|---|
| February 14, 2025 | March 14, 2025 | April 11, 2025 | May 9, 2025 |
| June 13, 2025 | September 12, 2025 | October 10, 2025 | November 14, 2025 |
| December 11, 2025 | | | |

## Technical Advisory Committee (TAC) – Monthly at 9:30 a.m.

**TAC Meetings are held on the fourth Monday of the month at the County Transportation Management Services Bldg., South Conference Room, 2885 South Horseshoe Drive, Naples, FL, 34104, unless otherwise noted.**

| | | | |
|---|---|---|---|
| January 27, 2025 | February 24, 2025 | March 24, 2025 | April 28, 2025 |
| *May 19, 2025 *due to holiday* | August 25, 2025 | September 22, 2025 | October 27, 2025 |
| November 24, 2025 | | | |

## Citizens Advisory Committee (CAC) – Monthly at 2:00 p.m.

**CAC Meetings are held on the fourth Monday of the month at the County Transportation Management Services Bldg., South Conference Room, 2885 South Horseshoe Drive, Naples, FL, 34104, unless otherwise noted.**

| | | | |
|---|---|---|---|
| January 27, 2025 | February 24, 2025 | March 24, 2025 | April 28, 2025 |
| *May 19, 2025 *due to holiday* | August 25, 2025 | September 22, 2025 | October 27, 2025 |
| November 24, 2025 | | | |

## Bicycle/Pedestrian Advisory Committee (BPAC) – Monthly at 9:00 a.m.

**BPAC Meetings are held on the third Tuesday of the month at the Collier County Government Center, Admin. Bldg. F, IT Training Room, 5th Floor, 3299 Tamiami Trail East, Naples, 34112, unless otherwise noted.**

| | | | |
|---|---|---|---|
| January 21, 2025 | February 18, 2025 | March 18, 2025 | April 15, 2025 |
| May 20, 2025 | August 19, 2025 | September 16, 2025 | October 21, 2025 |
| November 18, 2025 | | | |

## Congestion Management Committee (CMC) – Bi-Monthly at 2:00 p.m.

**CMC Meetings are held on the third Wednesday of every other month at the Collier County Transportation Management Services Bldg., South Conference Room, 2885 South Horseshoe Drive, Naples, FL, 34104, unless otherwise noted.**

| | | | |
|---|---|---|---|
| January 15, 2025 | March 19, 2025 | May 21, 2025 | July 16, 2025 |
| September 17, 2025 | November 19, 2025 | | |

## Local Coordinating Board (LCB) for the Transportation Disadvantaged – Quarterly at 1:30 p.m.

**LCB Meetings are held quarterly on the first Wednesday of the corresponding month at the Collier County Government Center, Admin. Bldg. F, IT Training Room, 5th Floor, 3299 Tamiami Trail East, Naples, 34112, unless otherwise noted.**

| | | | |
|---|---|---|---|
| March 5, 2025 | May 7, 2025 | September 3, 2025 | December 3, 2025 |