TECHNICAL ADVISORY COMMITTEE (TAC)

MEETING OF TUESDAY, MARCH 5, 2024
(9:00 AM – 11:00 AM)

CITY OF TALLAHASSEE COMMISSION CHAMBERS
300 S. ADAMS STREET
TALLAHASSEE, FL 32301

AGENDA

Citizens wishing to provide input at the CMAC meeting may:

(1) Provide comments **in person** at the meeting. Speakers are requested to limit their comments to three (3) minutes; or
(2) Submit **written comments** prior to the meeting at http://crtpa.org/contact-us/ by providing comments in the "Email Us" portion of the page before 5:00 p.m. on Monday, March 4 to allow time for comments to be provided to committee members in advance of the meeting. Comments submitted after this time (up to the time of the meeting) will be accepted and included in the official record of the meeting.

1. AGENDA MODIFICATIONS

2. PUBLIC COMMENT ON ITEMS NOT APPEARING ON THE AGENDA

This portion of the agenda is provided to allow for public input on general CRTPA issues that are not included on the meeting's agenda. Those interested in addressing the Committee are requested to limit their comments to three (3) minutes.

3. CONSENT AGENDA

A. Minutes of the February 6, 2024 TAC Meeting
B. Unified Planning Work Program Amendment

4. CONSENT ITEMS PULLED FOR DISCUSSION

If you have a disability requiring accommodations, please contact the Capital Region Transportation Planning Agency at (850) 891-8630. The telephone number of the Florida Relay TDD Service is # 711.

5. PRESENTATION/DISCUSSION/ACTION

The public is welcome to comment on any discussion item after a motion has been made and seconded. Each member of the public is provided three (3) minutes to address the Committee.

A. CRTPA Regional Freight Study

This item seeks approval of the CRTPA Regional Freight Study which provides an analysis of existing conditions, future conditions, and recommended actions.

RECOMMENDED ACTION: Recommend the CRTPA approve the CRTPA Regional Freight Study.

B. Congestion Management Plan

This item seeks approval of the update to the CRTPA's Congestion Management Plan. The CMP evaluates current congestion and safety in the CRTPA region and includes an analysis of strategies to address identified issues.

RECOMMENDED ACTION: Recommend the CRTPA approve the Congestion Management Plan.

6. INFORMATION

A. Future Meeting Dates

7. ITEMS FROM COMMITTEE MEMBERS OR STAFF

8. ADJOURNMENT

March 5, 2024

COMMITTEE AGENDA ITEM 3A

MINUTES

TYPE OF ITEM: Consent

The minutes from the February 6, 2024, TAC meeting is provided as ***Attachment 1.***

RECOMMENDED ACTION

Option 1: Approve the minutes of the February 6, TAC meeting.

ATTACHMENT

Attachment 1: February 6, TAC Minutes

ATTACHMENT 1

TECHNICAL ADVISORY COMMITTEE (TAC)

MEETING OF TUESDAY, FEBRUARY 6, 2024
(9:00 AM – 11:00 AM)

CITY OF TALLAHASSEE COMMISSION CHAMBERS
300 S. ADAMS STREET
TALLAHASSEE, FL 32301

Minutes

Members Present: Melissa Corbett, Chair, Grants Research and Development Wakulla County; Charles Wu, Leon County Public Works, Transportation; Kate Daniel; City of Tallahassee Growth Management; Ronnie L. Shelly, Jr., StarMetro; Mike Alfano; Blueprint IA; Justin Baldwin, Office of Greenways & Trails; Pat Maurer, Ride-On Services; Allen Secreast City of Tallahassee Traffic Management; Ellen Andrews, Gadsden County Planning; Ryan Guffey, Leon County Growth Management

Staff Present: Greg Slay, Executive Director, CRTPA; Jack Kostrzewa, CRTPA; Greg Burke, CRTPA; Suzanne Lex, CRTPA; Yulonda Mitchell, CRTPA

1. AGENDA MODIFICATIONS

2. PUBLIC COMMENT ON ITEMS NOT APPEARING ON THE AGENDA

3. CONSENT AGENDA

A. Minutes of the November 7, 2023, TAC Meeting
B. CRTPA Transportation Improvement Program (TIP) Amendment

Committee Action: Mr. Wu made a motion to approve the consent agenda with the correction provided by Ms. Corbett, noting she is now Grants Research and Development Coordinator Wakulla County instead of the Planning Department. Mr. Shelly seconded the motion, and the motion was unanimously passed.

4. CONSENT ITEMS PULLED FOR DISCUSSION

5. PRESENTATION/DISCUSSION/ACTION

A. CRTPA Safety Targets

This item seeks adoption of the 2024 CRTPA Safety Performance Targets for safety performance measures that the CRTPA is required to annually address.

RECOMMENDED ACTION: Recommend the CRTPA adopt the draft 2024 CRTPA Safety Targets and a long-term safety goal of zero fatalities and serious injuries for the CRTPA region to be achieved by the year 2040.

Mr. Burke stated the Federal Highway Administration (FHWA) requires the CRTPA to adopt ~~the CRTPA~~ Safety Performance Targets annually. The five safety performance measures for public roads for the CRTPA region are number of fatalities; rate of fatalities; number of serious injuries; rate of serious injuries and number of non-motorized fatalities and serious injuries.

Mr. Burke provided the proposed safety targets for 2024 and noted the numbers were based off the CRTPA's 2023 safety targets with a 5% reduction and that is consistent with the direction from the Board in 2021. Mr. Burke stated, the proposed safety targets are also consistent with the Board's recommendation to continue the adoption of a long-term safety goal of zero fatalities and serious injuries for the CRTPA region, consistent with the Florida Department of Transportation (FDOT) Vision Zero initiative to eliminate all fatalities and serious injuries by the year 2040.

Mr. Burke provided historical data, adopted target analysis, and discussed the 2024 proposed safety targets. This analysis included the CRTPA trends for serious injuries and fatalities for pedestrians, bicyclist for the years 2006-2022.

Mr. Burke noted the CRTPA efforts to improve safety in the region. He stated such efforts are ongoing and include plans, projects, implementation of projects, safety programs, and coordination with partner agencies. The CRTPA coordinates helmet fitting and helmet fitter training sessions to provide properly fitted helmets to cyclist at community events. Lastly, he noted the CRTPA's safety webpage provides detailed information on these ongoing efforts.
Ms. Maurer inquired about the agency's some short-term efforts to improve safety as well as if the fatalities were analyzed. Mr. Burke stated that in reviewing the crash reports, many of the infrastructure for bicyclists and pedestrians such as sidewalks or bike lanes often were already present. Mr. Slay noted staff is working to create a safety roundtable with Patrick Merle of FSU to brainstorm different ways to get messaging campaign together to increase awareness. Mr. Alfano asked if after reviewing the crash data, were there any clustered area where fatalities are occurring. Mr. Slay noted the pedestrian fatalities are in a general area but not clustered tightly to make a recommendation to fit the area and that sometimes people won't cross at the traffic signal.

Committee Action: Mr. Alfano made a motion to recommend the CRTPA adopt by resolution the 2024 CRTPA Safety Targets and a long-term safety goal of zero fatalities and serious injuries for the CRTPA region to be achieved by the year 2040. Mr. Shelly seconded the motion, and the motion was unanimously passed.

B. Telecommute Study

This item seeks adoption of the CRTPA Telecommute Study that evaluated the impacts of Covid 19 stay-at-home orders on congestion in the CRTPA Region, assessed telecommuting trends, challenges, and opportunities, and evaluated the potential impacts to the transportation network based upon three different scenarios.

RECOMMENDED ACTION: Recommend the CRTPA adopt the Telecommute Study.

Mr. Tyrone Scorsone, Kittelson and Associates, presented the Telecommute Study.

Mr. Scorsone introduced the study. He stated the telecommute study scope of work would establish a project working group for technical input; provide a snapshot of telecommuting in the region; determine the impact of telecommuting on the transportation network and identify resources related to telecommuting and telework programs.

Transportation Demand Management (TDM)

Mr. Scorsone stated TDM was a set of strategies and options aimed at reducing congestion and providing mobility choices that influence how people travel. TDM encourages people to move away from single-occupancy vehicles and explore alternative ways to get around. He stated with the idea of teleworking, which can avoid an additional trip on the roadway during peak hours. He stated TDM was also about planning smarter communities that support multi-modal options. Mr. Scorsone discussed the benefits of TDM. He stated some of the benefits include expanding mobility choices, maximizing efficiency of the system, and promoting wellbeing and public health. Additional benefits include a reduction in congestion and lower vehicle emissions. Mr. Scorsone discussed ways employers can provide incentives to employees to use transit, vanpool, or carpooling options. TDM also delivers economic benefits and user cost savings. Mr. Scorsone stated telecommuting could include many strategies including working remotely, hybrid schedules, flex schedules and remote work hubs.

Mr. Wu noted a few problems employers encountered included difficulty reaching employees, and tracking productivity and access to all files and documents while working remotely. Ms. Maurer noted the pandemic mandated remote work and many managers did not have the best practices developed at the time. She noted there were lessons learned that can be in place to set businesses up for success and maintain employee productivity while working remotely.

Lessons Learned

Mr. Scorsone discussed the lessons learned while conducting the study of the region. The lessons were developed considering feedback from agencies that have implemented telecommuting options for employees; employers that offer the option to telecommute; and a literature review. Mr. Scorsone discussed the commute patterns for the CRTPA region. He noted most people in the region are entering Leon County for work. Mr. Scorsone reiterated the benefits to telecommuting. He stated the travel time savings for commuting employees, lower peak hour traffic congestion, savings for employees due to reduce real estate/office space, increase recruitment and retention were all benefits to having a telecommuting option for employers. Mr. Scorsone stated employers would need to identify goals and objectives, quantify potential fiscal impacts on the employer and evaluate a frame works and metrics to determine the effectiveness of the effort by the company.

Committee Action: Mr. Wu made a motion to recommend adoption of the CRTPA Telecommute Study. Mr. Guffey seconded the motion, and the motion was unanimously passed.

6. INFORMATION

A. Future Meeting Dates
B. CRTPA January 16 Retreat

7. ITEMS FROM COMMITTEE MEMBERS OR STAFF

8. ADJOURNMENT

The meeting was adjourned at 10:45 am.

March 5, 2024

COMMITTEE AGENDA ITEM 3B

CRTPA FISCAL YEAR (FY) 2023 – FY 2024 UNIFIED PLANNING WORK PROGRAM AMENDMENT

TYPE OF ITEM: Consent

STATEMENT OF ISSUE

The Unified Planning Work Program (UPWP), a federally required document, describes the work and project activities, schedule, and budget for the CRTPA operations and planning activities. The purpose of this item is to amend the CRTPA FY 2023 – FY 2024 Unified Planning Work Program (UPWP) to add Subtask, 5.7.1, Tallahassee to Havana Multi-Use Trail Public Involvement, the budget of $11,500., and the updated schedule.

BACKGROUND AND ANALYSIS

The CRTPA's UPWP is developed with a two-year budget. As with any budget or program, adjustments are necessary. Task 5 is amended to add Subtask 5.7.1, a Public Involvement component for the Tallahassee to Havana Multi-Use Trail Feasibility Study, and the associated budget ***(Attachment No. 1)***. The funding for the project, $11,500, is reallocated from Subtask 5.1, Consultant Service. Subtask 5.7.1 was previously approved by the Committees and the Board, however due to schedule delays the Task Work Order was not issued. This amendment is represented for approval with the revised project schedule.

RECOMMENDED ACTION

Option 1: Recommend the CRTPA Board approve the amendment to the CRTPA's FY 2023 – FY 2024 Unified Planning Work Program adding 5.7.1, Tallahassee to Havana Multi-Use Trail Public Involvement and the associated budget of $11,500.

ATTACHMENTS

Attachment 1: Subtask 5.7.1 Task Description and Budget

5.7.1 Public Involvement Tallahassee to Havana Multi-Use Trail

Responsible Agency: CRTPA (Consultant support will be used to complete this task.)

Purpose: Complete supplemental public engagement activity in support of Tallahassee to Havana Multi-Use Trail.

Required Activity	End Products	Completion Date
Coordination meetings with staff. Prepare meeting materials.	Power Point Presentation, Information Boards (location map, environmental, typical section, property owners), Project handouts, and web site support information.	Project Begins April 2024
Identify property owners and homeowners in subdivisions adjacent to the project corridor.	List of property owners adjacent to the corridor and homeowners in adjacent subdivisions.	April 2024
Meeting(s) Notice	Postcards mailed to identified property owners, meeting(s) notice advertised on CRTPA website and social media. Gadsden County Public Information Officer notice to the Gadsden County community.	April - May 2024
Meeting(s)	Conduct Public Meeting(s)	April -May 2024
Finalize Meeting(s) and Reporting	Summary report of public involvement activities and comments. Draft and final project report with updated project limits and results from public involvement.	May 2024
Presentation to CRTPA Committees and Board	Meeting Material and Presentation	June 2024

March 5, 2024

CRTPA COMMITTEE AGENDA ITEM 5A

REGIONAL FREIGHT STUDY

STATEMENT OF ISSUE

The Project Team for the regional Freight Study developed the Existing Conditions Report, Future Conditions Report, and a Needs and Recommendations Report. These three items constitute the efforts over the last year on the project. The presentation for the Regional Freight Study will focus on the Needs and Recommendations Report, however, the background information (Existing Conditions and Future Conditions) is outlined on the following pages.

RECOMMENDED ACTION

Option 1: Recommend the approval of the CRTPA Regional Freight Study.

BACKGROUND

The CRTPA Regional Freight Study was kicked-off at the January 2023 Board Retreat. Since that time the project team has been collecting data for the Existing Conditions Report, holding stakeholder meetings (individual and Freight Committee), and developing actions that will enhance the future of the regional freight system.

Existing Conditions Report

The following pages briefly describe the components of the Existing Conditions Report.

Relevant Study Overview

The freight study development started with building a foundation for assessing CRTPA freight mobility framework using stakeholder outreach and peer literature reviews. This collaborative approach provides the CRTPA Board members with a bottom-up assessment of demand/impact profile from an all-user perspective; and it empowers collective visioning for strategy development and needs resourcing. Through the outreach and review, general guidance and best practices were captured for CRTPA freight mobility assessment.

The documents that were reviewed for this effort included:

- Statewide Freight Mobility and Trade Plan (2020)
- Statewide Truck Parking Study (2020)

- Florida Rail System Plan (2022)
- Connections 2045 Regional Mobility Plan (2020)
- Tallahassee International Airport Master Plan Update (2019)

Existing Conditions

The transportation system is essential for efficient movement of people and goods in, out, and within CRTPA (the region); and it accounts for all modes in terms of infrastructure and related users, programs, and stakeholders. Identifying the transportation system's framework and characteristics is imperative for understanding the benefits, needs, and issues experienced by the region. This section identifies the exiting conditions for the region's transportation freight systems elements; it describes the characteristics and locations of each element while evaluating the benefits, needs, or issues experienced by the region.

Major topics covered in this section include:

- National Freight and Freight Related System Designations (PDF pages 14 – 25)
- Statewide Freight and Freight Related System Designations (PDF pages 26 – 32)
- Transportation Assets (PDF pages 33 – 77)

Stakeholder Coordination

The project team held a series of meetings with stakeholders to discuss freight infrastructure and freight movements in the Tallahassee area. The stakeholder involvement consisted of a series of targeted individual meetings and the formation of a Freight Stakeholder Committee.

Stakeholder involved in this process included:

- Freight Stakeholder Committee (PDF page 78)
- Individual Stakeholders (PDF pages 79 – 80)

Future Conditions Report

Building upon the existing conditions, the Future Conditions Report (and Data Appendix) for the freight system includes the following components.

Socioeconomic Trends

Socioeconomic factors are key indicators for characterizing growth impacts within an area. These factors account for shared cultures and norms that shape the area's social decision, activities, and policies. This section includes an analysis of:

Future Regional Populations (PDF pages 6 – 9)
Freight Labor Supply (PDF page 10)
Freight Employment (PDF pages 10 – 13)
Freight Employment Earnings (PDF pages 13 – 15)

Business Environment

Business environments directly influence freight mobility by both generating demand for goods for customers and product development, and by employing workers who generate demand for goods. Increasing in the number of establishments means an increase in demand for goods by both the industry and the general consumer. This section analyzes the changes (increases) in CRTPA's business establishments and the impacts and compares the changes with the State as a point of reference. The following areas are presented in this section.

Business Establishments (PDF pages 15 – 18)
Business Establishments by Freight Industry (PDF pages 19 – 21)

Tourism

Tourism directly influences freight mobility by both generating more vehicle traffic from attracting traveling visitors; and by generating more freight traffic from the traveling visitors demanding more goods. Therefore, increases in the number of visitors represent an increased impact on freight mobility. This section analyzes CRTPA's tourism and the expected impacts on freight mobility.

Tourism (PDF pages 22 – 23)

Network Performance

Network performance indicators help to define the network's ability to support efficient freight mobility within an area. The following assessment takes a strategic approach for defining network performance by measuring connectivity and reliability of the multimodal network. Along with safety, connectivity, and reliability are freight mobility indicators important to industry operators. This assessment defines CRTPA's highway and rail multimodal network performance through analyzing connectivity and reliability. The topics presented in this section include:

Highway Mobility (PDF pages 23 - 31)
Rail Mobility (PDF pages 32 – 48)

Freight Intensive Areas

Each of the four member counties maintain a comprehensive plan that outlines the projected growth patterns and desires of the community. As part of the comprehensive plan development, the future land use element is created to outline where growth is anticipated and desired within the community. Future Land Use Maps (FLUMs) are generated with descriptions highlighting the appropriate development within the areas and what should be considered. These FLUMs are used to identify the freight related land uses and can be found, in detail on PDF pages 41 – 43.

Additionally, there are identified freight intensive areas identified by the Florida Department of Transportation (FDOT) and are described in detail on PDF pages 43 – 48.

Lastly, this section includes details regarding the Connections 2045 Regional Mobility Plan (RMP) and associated projects that are anticipated to impact future freight movement within the CRTPA region. This information can be found of PDF pages 49 – 51.

Regional Trucks Trade and Commodity Flows

The road network within the region supports freight movements for a variety of commodities and enables connections to other regions across the national freight network. The FHWA Freight Analysis Framework (FAF5) was used to analyze the existing and projected movement of goods on roadway corridors throughout the region. Overall, data from FAF5 indicates that the region will see a substantial increase in freight movement between 2022 and 2050. Areas presented in this section include:

Florida Shipping Trends (PDF pages 52 – 53)
Florida Trading Partners (PDF Page 53 - 54)
Key Corridors – All Commodities (PDF pages 54 – 59)
Key Corridors – By Commodity (PDF Pages 60 – 61)

Regional Air Trade

Tallahassee Regional Airport (TLH) has anticipated future growth with a goal of heightening the airport as a transportation hub that will increase economic growth with increasing demand for air cargo service. Further discussion regarding TLH can be found on PDF pages 61 – 63).

Port Trade

The road network within the region supports freight movements for a variety of commodities and enables connections to other regions across the national freight network. The FHWA Freight Analysis Framework (FAF5) was used to analyze the existing and projected movement of goods on roadway corridors throughout the region. Since data is provided at the network link scale and not aggregated by corridor, the maximum values for each corridor were utilized in this analysis. Overall, data from FAF5 indicates that the region will see a substantial increase in freight movement between 2022 and 2050.

Conclusion

The future and existing conditions assessments define the freight mobility framework for the region. Over the planning horizon, it is anticipated that business development will continue to increase in the region; however, the number of freight related businesses within the area has been declining. Regional comprehensive planning efforts highlight a limited emphasis on the development of industrial and freight related businesses which may limit this growth. These limitations provide communities with the tools to guide this development into desired areas while maintaining the character of the overall region. It is anticipated that future freight related growth will largely be clustered adjacent to major corridors (especially Interstate 10).

The movement of cargo through the region is expected to increase along the major freight corridors and major freight modes in the area. The presence of Interstate 10, other major roadways, rail lines, and TLH will continue to move cargo through the region and beyond. The TLH infrastructure and policy improvements are anticipated to improve cargo modal options while having a significant and positive economic impact on the region. Likewise, the rail providers in the region have identified improvements to the corridors and are pursuing business partnerships across the state.

Needs and Recommendations Report

There are two documents associated with the final component of the CRTPA Regional Freight Study, including the Draft Needs and Recommendations Report and the associated Draft Needs and Recommendations Appendix. The results from this study are divided into several chapters relating to:

- Findings
- Performance Management
- Needs
- Recommendations

These chapters are arranged as a top down approach to illustrate the process used in the freight study from the development of the existing and future conditions reports to the final recommendations.

Findings (PDF pages 4 - 10)

This chapter summarizes the existing and future conditions of the freight network, the infrastructure in place and the potential issues related to growth of the region and the freight system. Both the Existing Conditions and Future Conditions assessments include references back to their respective report. Overall, the existing system is performing well, however, as the CRTPA develops plans such as the Long Range Transportation Plan (LRTP) freight consideration must be incorporated in the efforts to ensure future conditions aren't impeded.

Performance Management (PDF pages 11 - 13)

To assist in future assessment and conditions for evaluation of freight needs, the Performance Management chapter provides measurements to utilize for consideration. These measures could be incorporated to determine if infrastructure improvement(s) have a positive or negative affect on the freight system. Again, some of these measurements could be used in the LRTP process or individual roadway studies.

Needs (PDF pages 14 and 15)

The "Needs" for the freight system are divided into three categories, including, Land Use and Policy, System Capacity and Efficiency, and System Safety. This assessment produced quite a few project needs. This information can be found in the Draft Needs and Recommendations Appendix, under the "Needs Category" heading with the vast majority of the projects fall under the System Capacity and Efficiency area. Page 10 of the appendix includes a map with the location of the projects, for reference.

Recommendations

Finally, the report provides recommendations (short-term, mid-term, and long term) for:

- Infrastructure (Roadway, Rail, Air)
- Policy (Roadway, Air, Sea and Multi-modal)

- Technology (Roadway, Rail, Air)

All efforts outlined above require continued coordination between local, regional, and state efforts whether it is the expansion of the Tallahassee International Airport, technological upgrades through Intelligent Transportation Systems (ITS), or physical infrastructure improvements to the transportation system. All impacts to the freight system require consideration to move the Capital region forward.

March 5, 2024

COMMITTEE AGENDA ITEM 5 B

CRTPA CONGESTION MANAGEMENT PLAN (CMP)

TYPE OF ITEM: **TYPE OF ITEM**: Presentation/Discussion/Action

STATEMENT OF ISSUE

An update to the CRTPA's Congestion Management Plan (CMP), last adopted in 2018, has recently been completed. The CMP provides a process for managing congestion through an analysis of up-to-date information on transportation system performance. The update provides a focus on the identification of projects on critical corridors to address identified congestion and safety issues.

RECOMMENDED ACTION

Option 1: Recommend the CRTPA approve the Congestion Management Plan.

BACKGROUND

As a Transportation Management Area (defined as an urbanized area with a population over 200,000), the CRTPA is required to develop a Congestion Management Process. Pursuant to the Federal Highway Administration:

> "A congestion management process is a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet State and local needs. A CMP is required in metropolitan areas with population exceeding 200,000, known as Transportation Management Areas (TMAs). Federal requirements state that in all TMAs, the CMP shall be developed and implemented as an integrated part of the metropolitan transportation planning process; however, Federal regulations are not prescriptive regarding the methods and approaches that must be used to implement a CMP."

Furthermore, the FHWA's "Congestion Management Process: A Guidebook, 2011" notes that such a process includes:

- Development of congestion management objectives
- Establishment of measures of multimodal transportation system performance
- Collection of data and system performance monitoring to define the extent and duration of congestion and determine the causes of congestion
- Identification of congestion management strategies
- Implementation activities, including identification of an implementation schedule and possible funding sources for each strategy
- Evaluation of the effectiveness of implemented strategies

The CRTPA's current CMP was adopted in 2018 and although federal requirements do not mandate a schedule for updating the document, the CRTPA initiated the update to the CMP in 2022. The update was led by Halff and Associates, one of the CRTPA's general planning consultants, along with Kittelson & Associates serving as a sub-consultant.

The update to the CRTPA's CMP focused on evaluating and addressing both congestion and safety in the CRTPA region along with the identification of potential strategies designed to improve both recurring and non-recurring congestion and safety on critical corridors, as discussed below.

With regards to congestion, analyses of recurring and non-recurring congestion were conducted. Recurring congestion occurs during peak travel periods commonly known as the "rush hour". Non-recurring congestion occurs due to construction, inclement weather, accidents, and special events. Resultant from the analyses was the identification of roadways within the CRTPA region that are not meeting level-of-service standards as well as roadways having the worst travel time reliability.

In addition, the CMP analyzed safety issues within the CRTPA region. Resultant from this analysis is the identification of intersection and segments throughout the region that have identified safety issues. The analysis the identification of potential countermeasures to address identified safety concerns.

Ultimately, the CMP has identified potential issues from which further study is warranted related to addressing both congestion and safety within the CRTPA region.

The following provides a summary related to the development and findings of the CMP.

CMP DEVELOPMENT AND FINDINGS

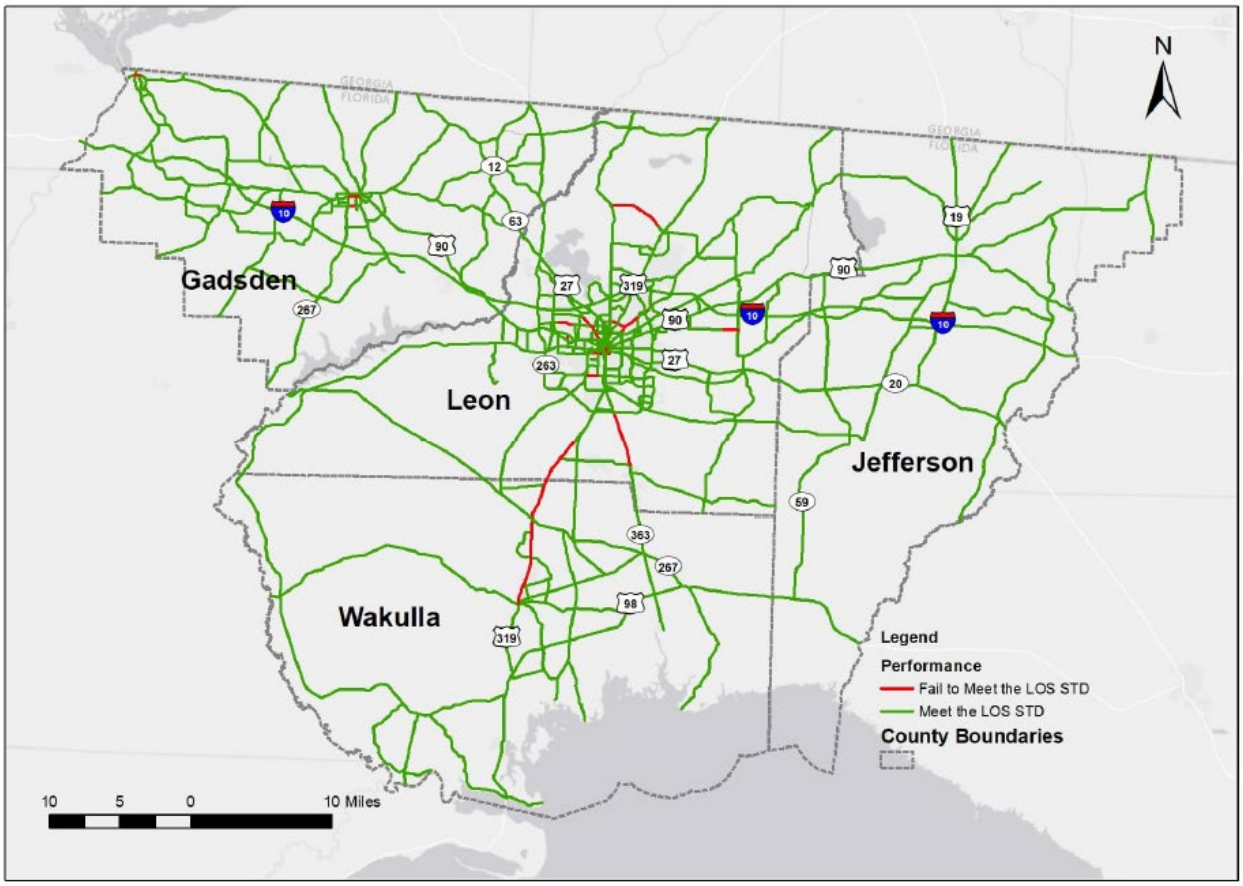
As noted above, the CMP update is focusing on an analysis of congestion and safety issues in order to identify potential improvements on the CRTPA region's roadways. The following provides a discussion related to each focus of the CMP (congestion and safety).

CONGESTION/ Congested segments in the CRTPA region were identified and analyzed using the following methods: Level of Service (LOS) analysis and Planning Time Index (PTI).

LOS ANALYSIS – Using Florida's Generalized Service Volume Tables, an assessment was conducted resulting in the identification of roadway segments within the CRTPA region that are failing. As may be expected, the region's most congested roadways are located in the urban areas of the capital region. The following provides a snapshot of the locations identified as congested segments in the CRTPA region, including an urban inset. Note: specific segments identified on the maps below are included in table format in the CMP document.

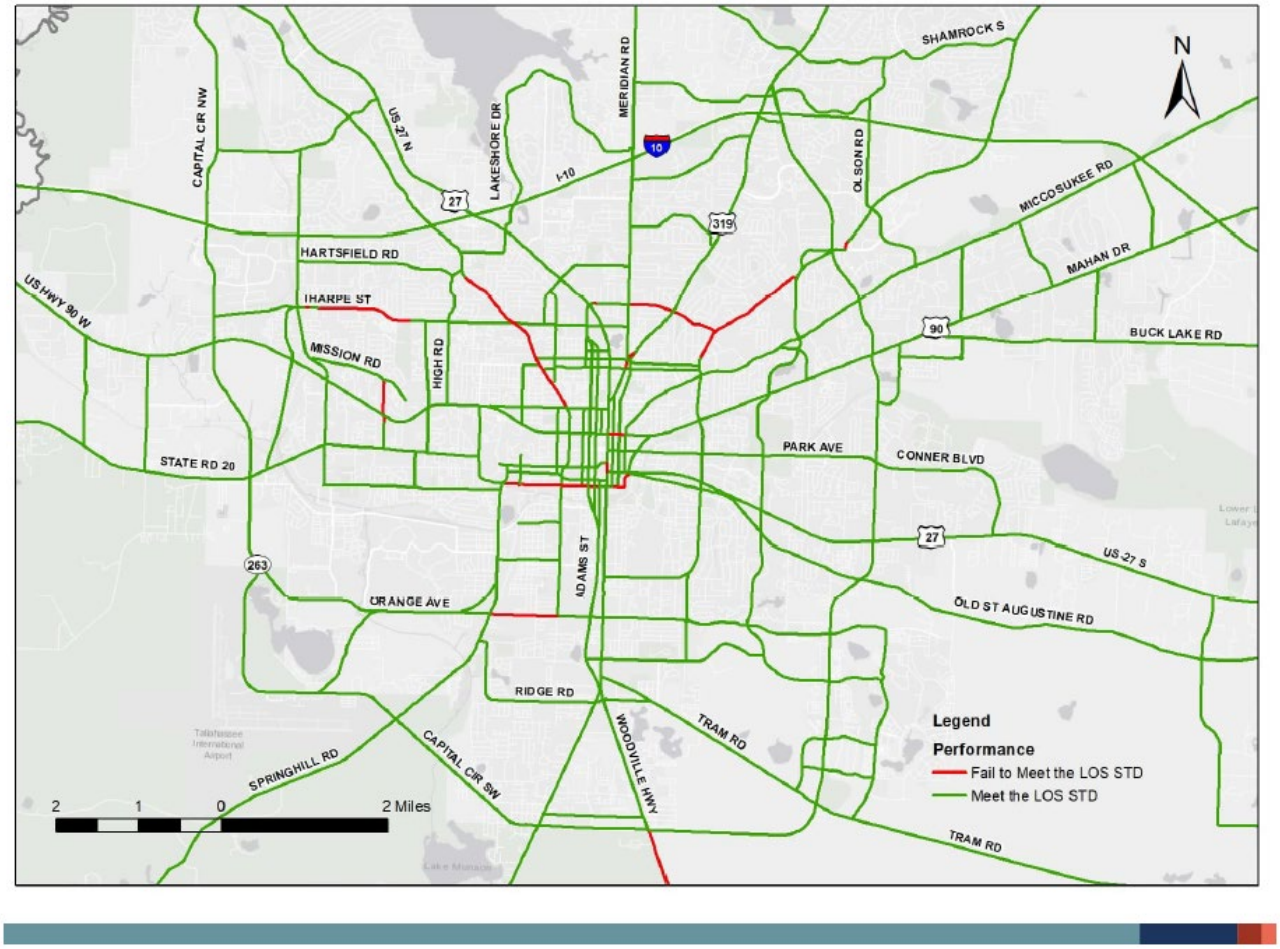
CRTPA Region/LOS Analysis

Figure 9: LOS Performance 2020 Generalized Service Volume Tables (CRTPA Area)



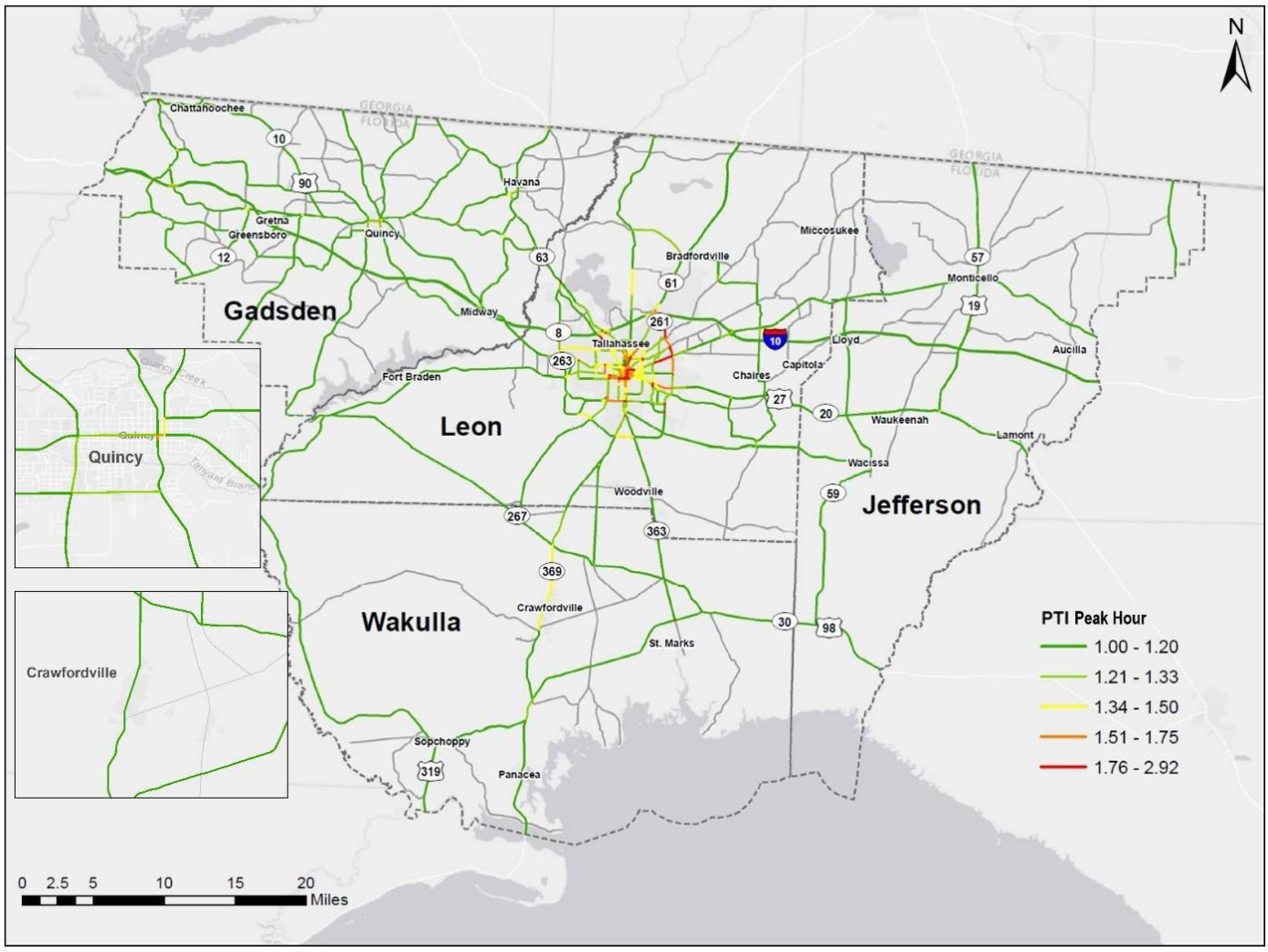
Urban Inset/LOS Analysis

Figure 10: LOS Performance 2020 Generalized Service Volume Tables (Urban Inset)

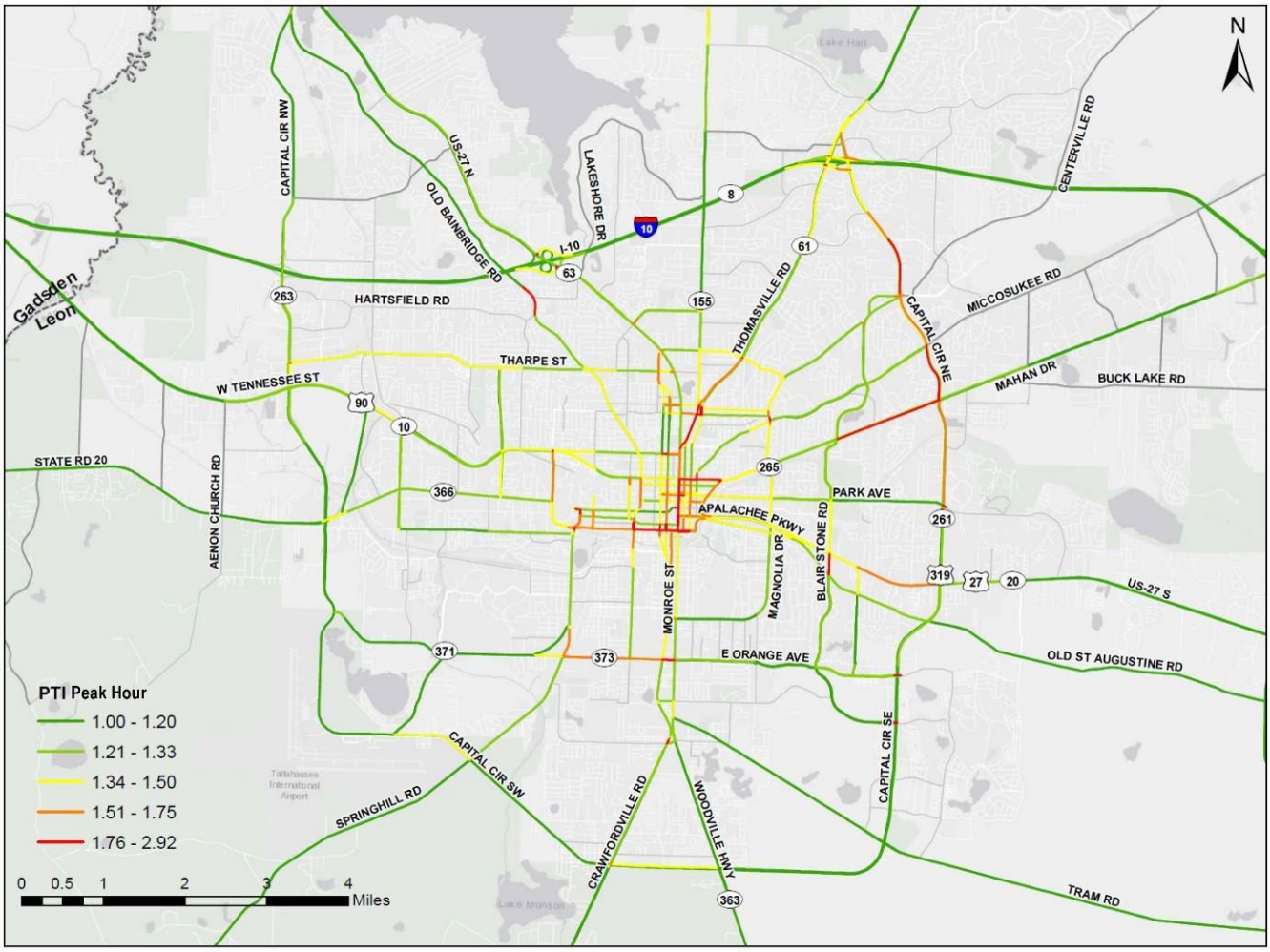


Planning Time Index – Planning time index represents the total travel time that should be planned when an adequate buffer time is included (the buffer index represents the extra buffer time that most travelers add to their average travel time when planning trips to ensure on-time arrival). PTI analysis was measured for both peak (afternoon) hour and daily. The following maps reflect PTI for peak hour in the region.

CRTPA Region/Peak Hour PTI



Urban Inset/Peak Hour PTI



The top 20 locations in the CRTPA Region with the highest Peak Hour PTI are listed below:

Table 6: Peak Hour PTI (Top 20 Locations)

Rank	County	Location	PTI	Speed (MPH)	5th Percentile Speed (MPH)
1	Leon	Northbound S Monroe St between E Madison St and E Gaines Street	2.92	8.7	3.0
2	Leon	Northbound Varsity Dr E intersecting with W Pensacola Street	2.74	5.5	2.0
3	Leon	Southbound Appleyard Dr intersecting with W Tennessee Street	2.51	14.2	5.7
4	Leon	Westbound Miccosukee Rd intersecting with Capital Circle NE	2.25	12.5	5.5
5	Leon	Southbound Railroad Ave between W Madison St and W Gaines Street	2.24	5.1	2.3
6	Leon	Northbound S Monroe St between Jefferson St and Apalachee Pkwy	2.22	9.5	4.3
7	Leon	Eastbound W Gaines St between S Monroe St and S Duval Street	2.22	8.1	3.7
8	Leon	Eastbound Betton Rd intersecting with Thomasville Road	2.18	13.0	6.0
9	Leon	Westbound Orange Ave E intersecting with Capital Circle SE	2.17	13.9	6.4
10	Leon	Northbound S Monroe St between W Tennessee St and E Jefferson Street	2.12	9.1	4.3
11	Leon	Southbound N Franklin Blvd intersecting with E Tennessee Street	2.12	12.3	5.8
12	Leon	Off-ramp from WB I-10 (SR 8) intersecting with N Monroe Street	2.12	4.1	1.9
13	Leon	Off-ramp from EB I-10 (SR 8) intersecting with N Monroe Street	2.10	6.2	2.9
14	Leon	Southbound N Meridian St between E Virginia St and E Tennessee Street	2.09	6.3	3.0
15	Leon	Westbound E Tennessee St between N Franklin Blvd and S Monroe Street	2.08	9.7	4.7
16	Leon	Northbound S Duval St between W Madison St and W Gaines Street	2.06	13.2	6.4
17	Leon	Northbound S Monroe St between E Madison St and Apalachee Pkwy	2.00	10.0	5.0
18	Leon	Northbound S Bronough St between W Gaines St and W Madison Street	2.00	8.1	4.1
19	Leon	Eastbound E 6th Ave between N Gadsden St and Thomasville Road	1.99	9.6	4.8
20	Leon	Eastbound Gaines St intersecting with S Monroe Street	1.96	12.9	6.6

SAFETY/ An evaluation of the safety of the CRTPA region's roads provided an important focus of the CMP's update. This effort included an analysis focused on emphasis areas related to bicycles, pedestrians, intersections and lane departures. Fatal and serious crashes were analyzed to locate *segment* hot spots and *intersection* hot spots in the region. The following tables provide the hot spot segments (top 10) and intersections (top 10) with the highest crash rates in the region.

Roadway Segments/Top 10 Hot Spot Locations:

Rank	Location	County	AADT	Miles	Fatal Crashes	Serious Injury Crashes	Crash Rate (per 100 million VMT)
1	Railroad Avenue between West Gaines Street and Robert and Trudie Perkins Way	Leon	6,300	0.45	0	3	57.59
2	St Augustine St between S Woodward Ave and South Copeland Street	Leon	7,400	0.44	0	3	50.66
3	Hardaway Hwy between Lincoln Dr (CR 269A) and Cochran Road	Gadsden	550	6.31	2	1	47.40
4	Duval St between W Pensacola St and W Park Avenue	Leon	8,500	0.41	0	3	47.18
5	W Pensacola St between Appleyard Drive and Mabry Street	Leon	18,800	0.59	2	5	34.40
6	Smith Creek Rd between Stoutamire Landing Rd and the County Boundary between Leon/Wakulla County	Leon	600	8.29	1	2	33.04
7	Old Lloyd Rd between US 90 and Rabon Road	Jefferson	1,200	4.51	0	3	30.39
8	Drifton-Aucilla between S Jefferson and Salt Road	Jefferson	700	8.14	0	3	28.84
9	Providence Road (CR 274) between Selman Street and Hosford Highway	Gadsden	1,500	4.25	1	2	25.80
10	Old Plank Road between Tram Road and Natural Bridge Road	Leon	1,400	6.38	2	2	24.53

Intersections/Top 10 Hot Spot Locations:

Rank	Location	County	Fatal Crashes	Serious Injury Crashes	Entering Traffic Volume
1	US 98 and Woodville Hwy	Wakulla	2	1	4,875
2	Apalachee Pkwy and WW Kelly Road	Leon	1	2	12,500
3	Orange Avenue and S. Adams Street	Leon	4	3	42,400
4	W Tennessee St and Stadium Drive	Leon	0	7	45,800
5	W Tennessee St and Geddie Road	Leon	0	3	21,900
6	North Monroe Street and Fred George Road	Leon	2	2	29,350
7	Capital Circle Southeast and Woodville Hwy.	Leon	0	4	32,350
8	North Monroe Street and John Knox Road	Leon	0	4	46,150
9	Old Bainbridge Road and W. Tharpe Street	Leon	0	3	37,750
10	North Monroe Street and Lakeshore Drive	Leon	0	3	43,000

Once identified, further analysis was conducted on the top identified hot spot segments and intersections. Specifically, a multi-step crash causation analysis occurred that identified potential countermeasures to reducing crashes at the above identified locations. Details of these analyses are included in the CMP.

Next Steps

Subsequent to adoption of the CMP, information related to congestion and safety issues will be further analyzed including the studying of identified needed improvements.

ATTACHMENT

Attachment 1: Draft CMP

ATTACHMENT 1

Capital Region Transportation Planning Agency

Congestion Management Plan

March 2024

halff

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FIGURES

APPENDICES

Introduction

The Federal Highway Administration (FHWA) requires Metropolitan Planning Organizations (MPOs) with a population exceeding 200,000 (known as a Transportation Management Area (TMA)), to develop Congestion Management Plans (CMPs) to better manage congestion. This process is defined in federal regulations and intended to produce a systemic approach to effectively integrate system management and operational strategies into both long-term improvements such as the 2045 Regional Mobility Plan (RMP) and near-term improvement plans such as the Transportation Improvement Program (TIP). The Capital Region Transportation Planning Agency (CRTPA) is the region's metropolitan planning organization (MPO) and includes all of Gadsden, Jefferson, Leon and Wakulla counties. The CRTPA is also a TMA, with a population of approximately 386,000 people. Chapter 23 of the Code of Federal Regulations, Section 450.320 states "The transportation planning process in a TMA shall address congestion management through a process that provides for safe and effective integrated management and operation of the multi modal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities". The CMP was developed to evaluate and address congestion and safety in the CRTPA region with potential mitigation strategies or countermeasures designed to improve both recurring and nonrecurring congestion and safety on critical corridors. The CMP aligns with and supports the RMP, TIP and other CRTPA planning efforts.

The previous CRTPA's CMP was completed in 2018, and while there is no mandated schedule or requirement for updates, MPOs periodically update the CMP in order to address changing conditions, as well as take advantage of updated data sources. The primary data sources utilized for this CMP were HERE Technologies and Signal 4 Analytics, as well as data provided by local governments and the Regional Traffic Management Center. The CRTPA undertook this CMP update in 2022, prior to the development of the next RMP, scheduled to begin in 2024.

This 2024 CMP is consistent with the federal framework identified in the FHWA Guidebook to evaluate the congestion and safety within the region. The CMP focuses on the identification of projects and strategies on critical corridors to address identified congestion and safety issues. Additionally, the CMP addresses requirements related to performance management that have been refined subsequent to the CRTPA's last CMP. Such requirements, documented in the joint FHWA and FTA issued Final Planning Rule, requires the CRTPA to implement a performance-based approach to planning and programming through target setting and performance reporting.

BACKGROUND AND REFERENCES

- Federal Laws
  - USDOT/FHWA Fixing America's Surface Transportation Act (FAST Act) Fact Sheet
    - FAST Act Fact Sheets
  - USDOT/FHWA Moving Ahead for the 21st Century (MAP-21) Fact Sheet
    - MAP-21 - Fact Sheets
- State Laws
  - F.S. 339.177
    - Transportation Management Programs

STUDY AREA

The traditional planning process seeks to remedy current congestion and provide strategies to address mobility needs. Infrastructure projects undergo phased programming and typically take seven to ten years from planning to implementation. This timeline needs to be factored into the development of congestion and safety strategies. The CRTPA's 2024 CMP provides a systematic approach for managing congestion and safety in the region. **Figure 1**: **Steps in the Congestion Management Plan Process** illustrates the developmental steps for the CMP document, consistent with federal guidance. This CMP addresses present-day congestion and safety locations in the network that impact the mobility of the regional transportation network. Congestion and safety were analyzed on roadways within the CRTPA four county region as its study boundary. The CMP study area encompasses the entirety of the Gadsden, Jefferson, Leon, and Wakulla counties as illustrated in **Figure 2**: **Congestion Management Plan Study Area**. Roadways within this area are included in the CMP based on coordination with agency partners and data availability. Key data sets such as vehicle volume, travel speeds, fatalities and serious injuries are available for the entire State Highway System within the CRTPA boundary and were the basis for the performance analysis.

Figure 1: Steps in the Congestion Management Plan Process

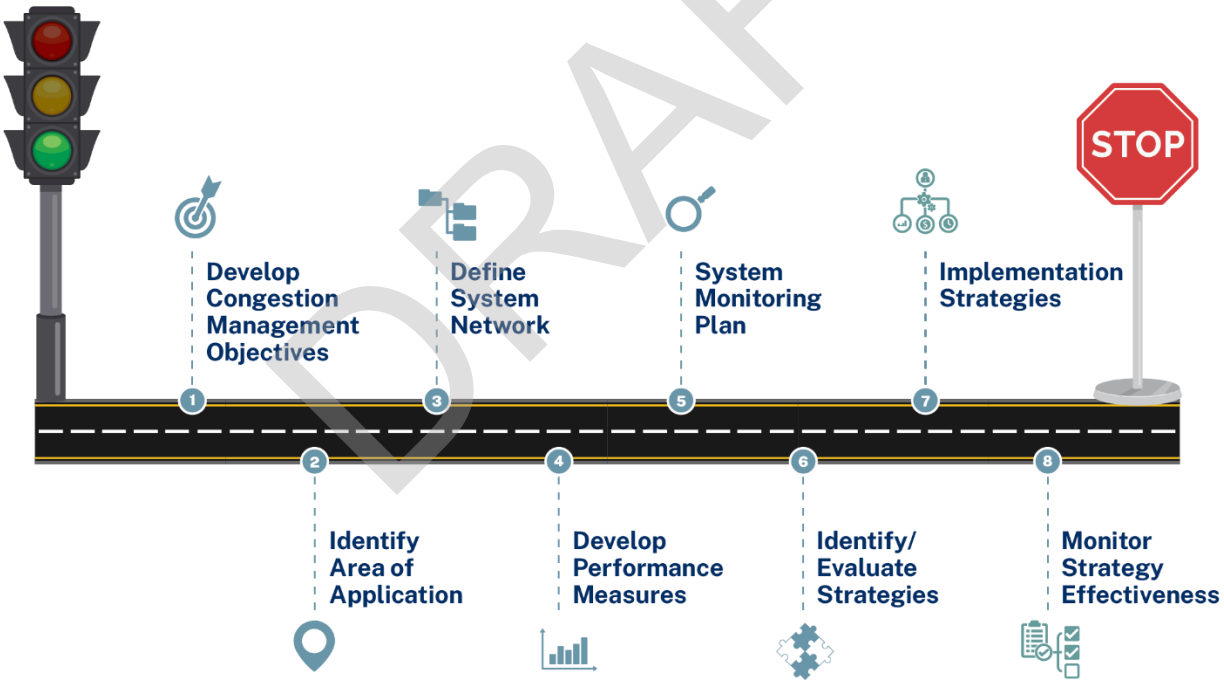
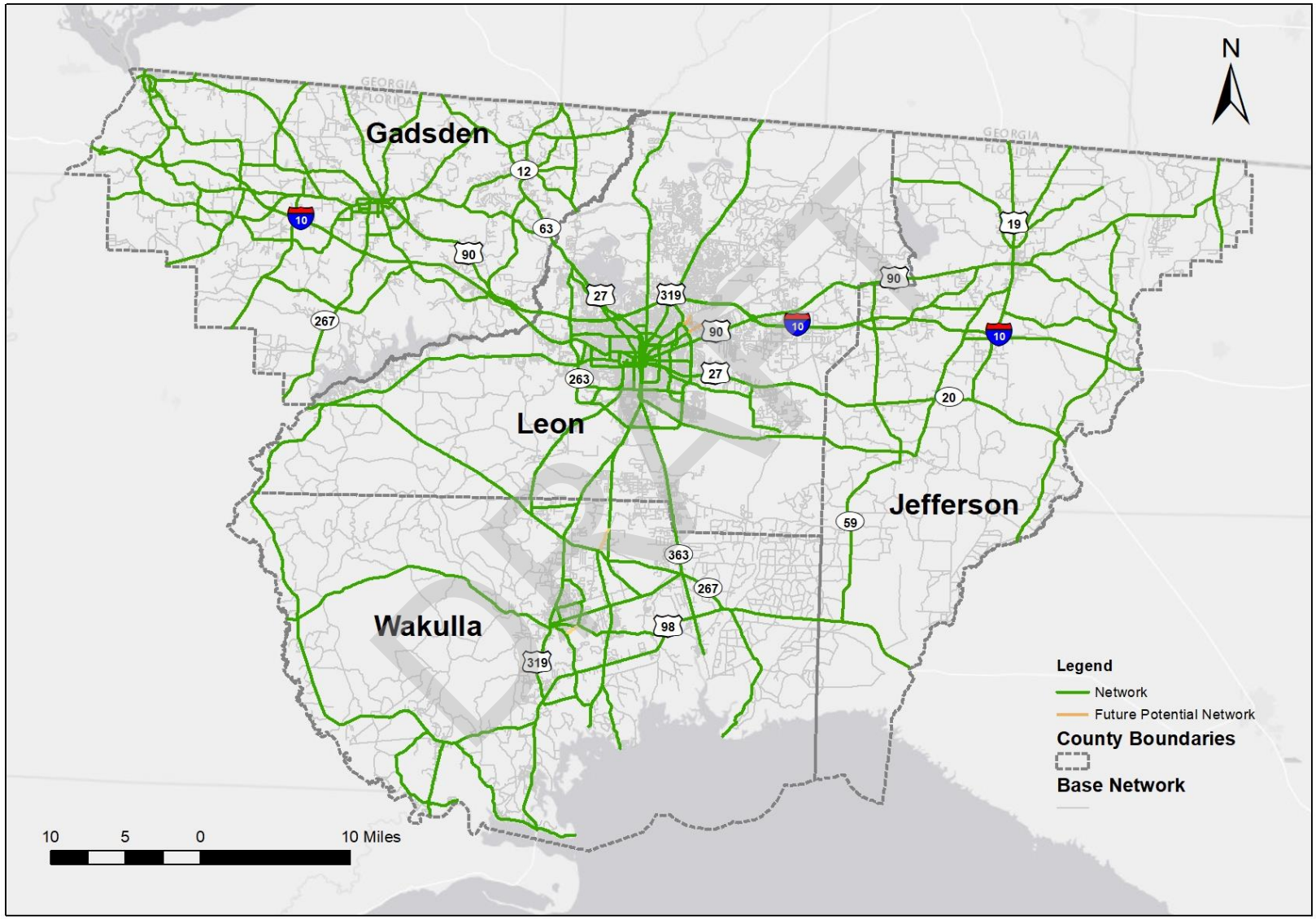


Figure 2: Congestion Management Plan Study Area



Coordination

The CMP has been developed in close coordination with agency partners and included both formal and informal communication throughout the duration of the 20-month study. This continuous coordination allowed the identification of key issues and specific project needs that directed the effort towards safety concerns, specifically locations with high fatalities and serious injuries, in addition to the recurring and nonrecurring congestion.

CMP TECHNICAL TASK FORCE

A key coordination component of this study was the creation of a CMP Technical Task Force which was formed to conduct focused meetings with each of the CRTPA's local government partners to identify potential concerns and projects.

The Technical Task Force (TTF) members were comprised of members of the CRTPA's Technical Advisory Committee. The task force served as a crucial element throughout the CMP development by providing ongoing insight and guidance.

Meetings with the TTF occurred on the following dates:

- June 6, 2022
- June 28, 2023

STAKEHOLDER INTERVIEWS

In addition to the meetings conducted with the TTF, the project team conducted individual focused partner interviews with the following agencies:

- Gadsden County Public Works Department
- Jefferson County Public Works Department
- Leon County Public Works Department
- Regional Traffic Management Center
- City of Tallahassee Underground Utilities and Public Infrastructure
- Wakulla County Public Works Department

Meeting minutes from each of these partner agency interviews are contained in **Appendix A**.

Goals, Objectives and Performance Measures

The CMP is an integral element of the CRTPA transportation planning process and, as such, must contain goals, objectives and performance measures that are established within the framework of the regional goals. In addition to the regional goals, state and federal goals must also be considered.

RELEVANT DOCUMENTS

The first step in the development of the congestion management goals, objectives and performance measures were to review the pertinent local, regional and state transportation plans, including the following documents:

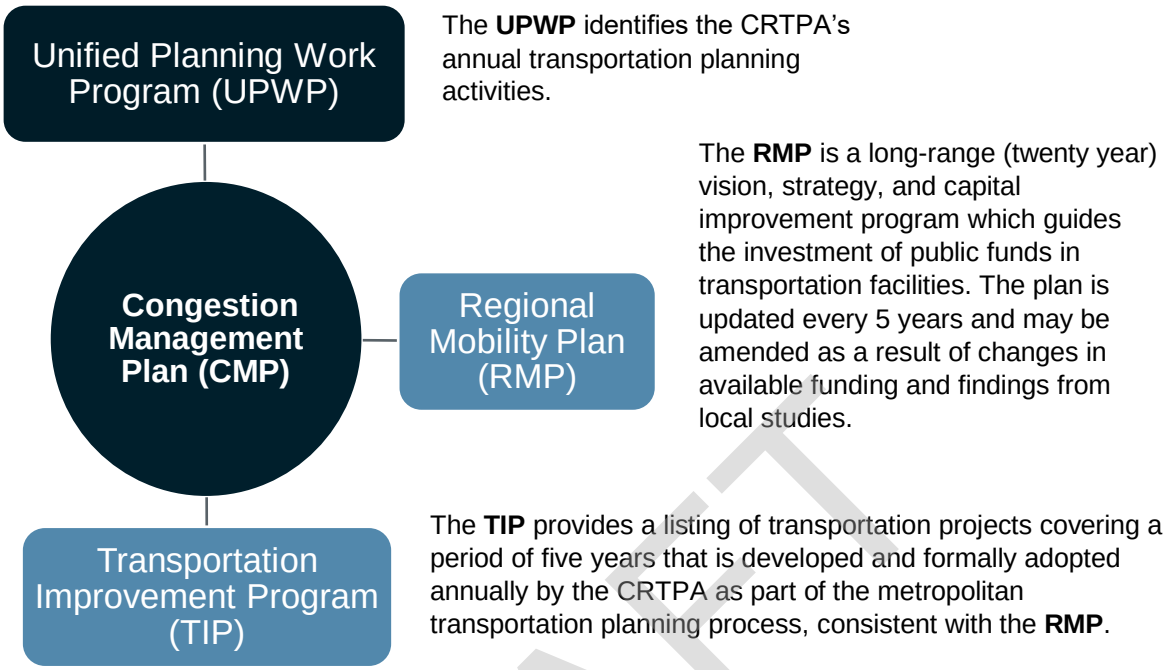
- CRTPA Congestion Management Process Report | CRTPA
- Connections 2045 Regional Mobility Plan | CRTPA
- FY 2024 – FY 2028 Transportation Improvement Program (TIP) | CRTPA
- FY 2025 – FY 2029 Transportation Project Priority Lists | CRTPA
- Fiscal Years 2022/23 – 2023/24 Unified Planning Work Program (UPWP) | CRTPA
- FDOT OWPB - WP Reports; 5 Year Work Program (state.fl.us)

In addition, CMPs are required pursuant to 23 C.F.R. 450.322 and Section 339.175 (6)(c)1, F.S. to address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for federal funding, through the use of travel demand reduction, job access projects, and operational management strategies. The end result is to develop a congestion management plan process resulting in multimodal system performance measures and strategies that are reflected in the RMP and the TIP.

The CMP Goals, Objectives and Performance Measures are intended to be continually evolving to address the results of performance measures, concerns of the community, new objectives and goals, and up-to-date information on congestion and safety issues.

Figure 3 shows the various CRTPA documents and how they relate and inform each other and the overall interconnectivity of the CMP.

Figure 3: CMP Interconnectivity



Upon reviewing the relevant documents listed above and previous goals and objectives developed in 2018 CMP, the team, in coordination with the TTF and by working through numerous iterations, identified four (4) CMP goals shown below. The four CMP goals are a subset of the ten goals contained in the RMP that relate to congestion and safety. In addition, supporting objectives and performance measures were developed for each goal and are shown on pages 7-8.

CMP Goals

- **Safety** - Improve the safety of transportation facilities for all residents and visitors in the region.
- **Multimodalism** - Promote a diversity of travel choices and facilitate movement and connections among people, jobs, goods and services, and other travel modes.
- **Connectivity** - Enhance connectivity between destinations within the region by different travel modes, such as bicycle, vehicular, and transit.
- **Access** - Provide all residents and visitors with access to different transportation options to create economic opportunities and improve quality of life throughout the region.

The relationship of the key components is shown in **Figure 4.**

Figure 4: Relationship of Key Components

GOAL #1: SAFETY

Objectives

1.1 Reduce the Number of Automobile Crashes
1.2 Reduce the Number of Non-Motorized Crashes
1.3 Reduce the Number of Fatalities

Performance Measures

1.1 Number of Fatal and Serious Injury Crashes
1.2 Serious Injury Rate
1.3 Fatality Rate

Safety analyses were completed along the same roadway facilities where mobility measures were calculated. The CRTPA carefully analyzed safety data collected within the four-county area for the five previous years (2017-2021). **Table 1 and Table 2** include the number of fatal and serious injury crashes from 2017-2021, for all modes within the CRTPA Region. *Source: Annual Safety Data for FHWA Performance Measures by MPO provided by FDOT.*

Table 1: Fatality and Serious Injury (CRTPA)

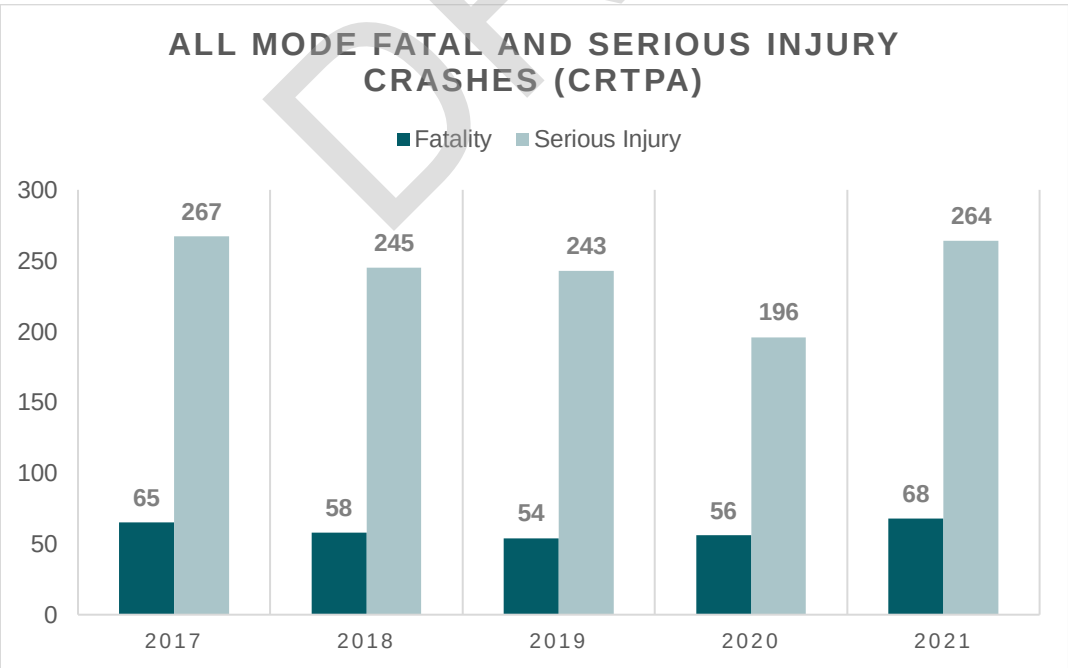
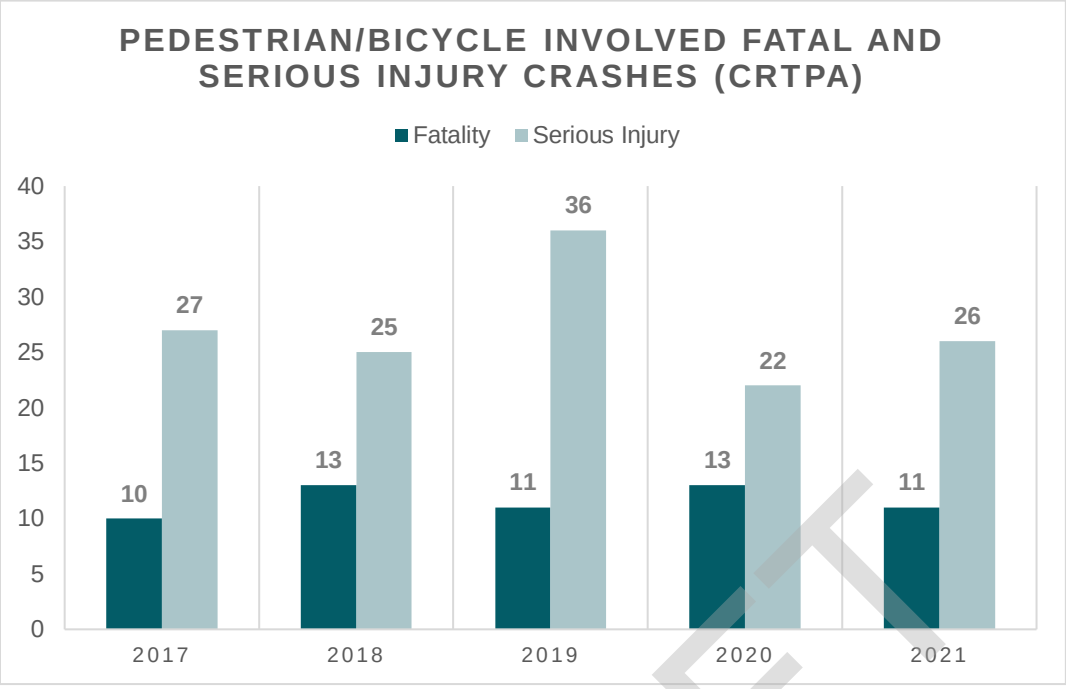


Table 2: Pedestrian/Bicycle Involved Fatality and Serious Injury (CRTPA)



GOAL #2: INCORPORATE MULTIMODAL OPTIONS

Objectives

1.1 Reduce Nonrecurring Congestion
1.2 Achieve Adopted Level of Service (LOS)
1.3 Increase percentage of Work Trips made by Transit, Bicycling, or Walking

Performance Measures

1.1 Planning Time Index (PTI)
1.2 Facilities Meeting LOS
1.3 Percent of Work Trips made by Transit, Bicycling, or Walking

GOAL #3: INCREASE NETWORK CONNECTIVITY

Objectives

1.1 Promote Multimodal Connectivity through Facility Enhancements

Performance Measures

1.1 Percent of CMP Network with Bicycle and Pedestrian Facilities

GOAL #4: INCREASE ACCESS TO KEY DESTINATIONS

Objectives

1.1 Improve Access to Areas Identified as Existing or Future Residential and/or Employment Clusters
1.2 Utilize Context Sensitive Solutions and Complete Street Strategies to Better Match Facilities with Surrounding Land Uses

Performance Measures

1.1 Percent of Population within ½ Mile of Transit
1.2 Percent of Population within ½ Mile of a Bike/Ped Facility

Network for Analysis

CMP NETWORK

The CMP calls for defining a study area where safety and mobility conditions will be assessed. As a starting place, the entire TPA boundary is considered for inclusion in the study area. Further refinement can focus on urban areas or urbanized areas to the exclusion of rural areas. The CRTPA region is comprised of both rural and urban areas and the region in its entirety was included in the CMP study area. As a result, the entirety of Gadsden, Jefferson, Leon and Wakulla counties were analyzed in the CMP.

Determining which roads will be analyzed is foundational in areawide project needs identification. Accounting for roads with the most trips is the first step in selecting the network. This exercise also includes avoiding identifying roadways that carry low volumes as such roadways can lead to investments that will only impact a small number of travelers. Functional classification segregates lower volumes roads from high volume roads and was used in the CMP's network identification. Roadways containing the following functional classifications were analyzed in the CMP:

- Urban Principal Arterials
- Urban Minor Arterial
- Urban Major Collectors
- Rural Principal Arterial
- Rural Minor Arterial
- Rural Major Collectors

Furthermore, identifying a study network for the 4-county region is reliant on data availability. A screening was conducted to identify roads with safety, volume, and speed data. Additionally, roadways with instrumentation capable of capturing those data points were evaluated. Leon County contained the highest coverage of speed data through provision of such data by the analytics company HERE. However, speed data was sparsely available on the networks in the other 3 counties. Volume is a crucial piece in analyzing congestion, therefore all roads in the study network had to have volume data. Leon County's roads have more volume coverage in comparison to the 3 more rural counties. Signal 4 Analytics provides crash data coverage wherever crashes occur. Therefore, all four counties have equal safety data coverage through Signal 4 Analytics.

The CMP study area network for Gadsden, Jefferson, Leon, and Wakulla counties are shown on **Figure 5 through Figure 8** on the following pages.

Figure 5: Gadsden County CMP Network

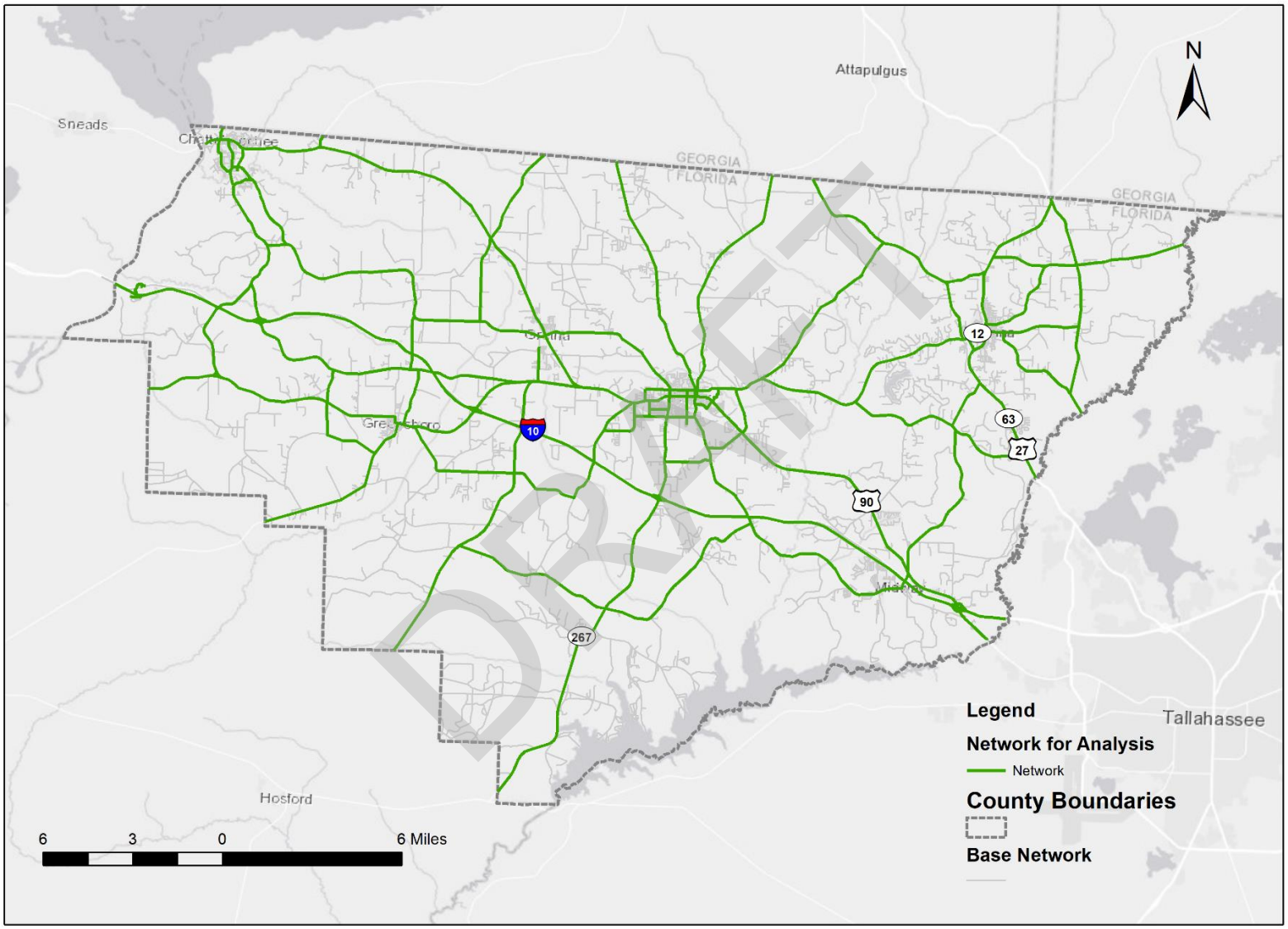


Figure 6: Jefferson County CMP Network

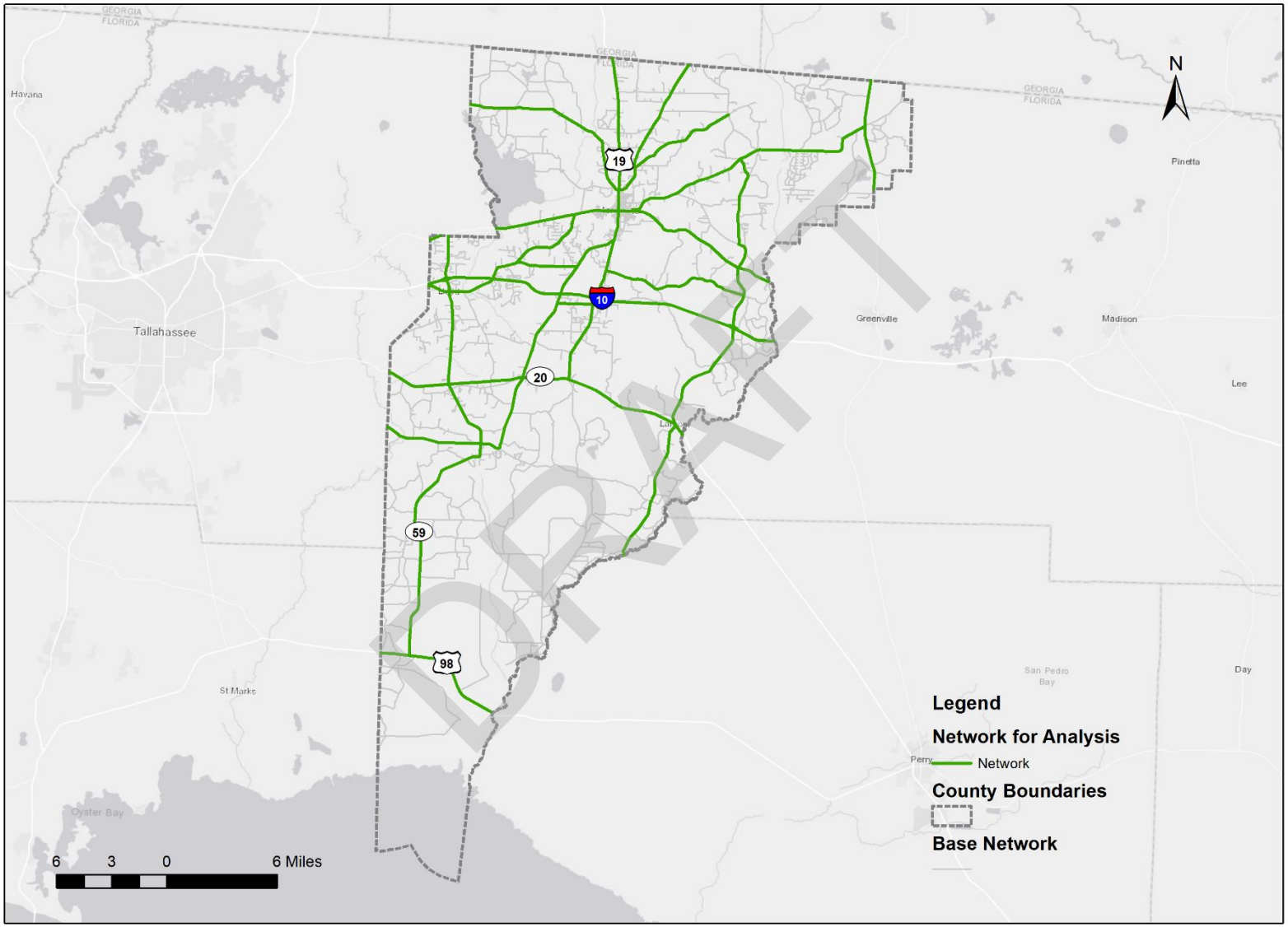


Figure 7: Leon County CMP Network

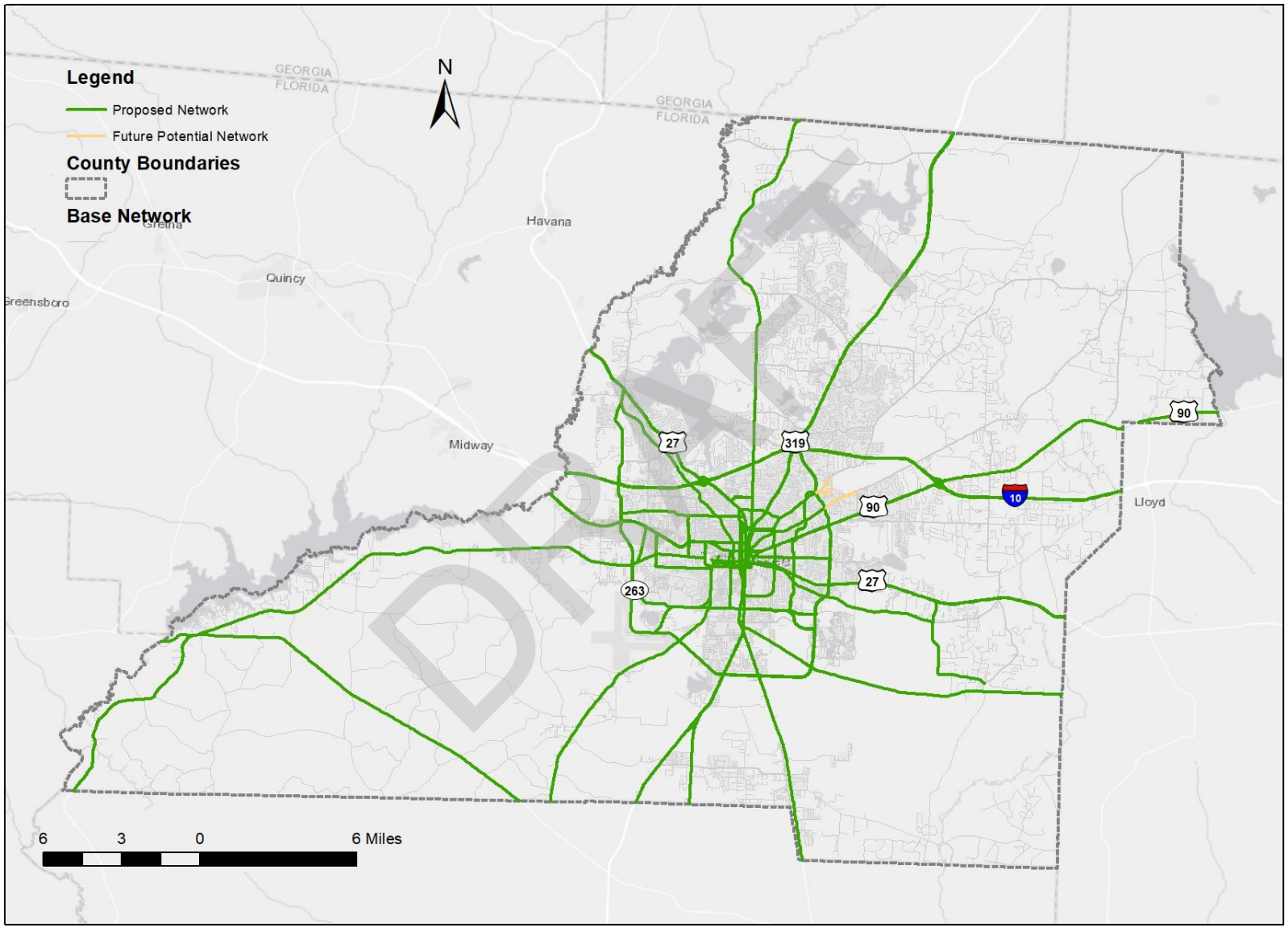
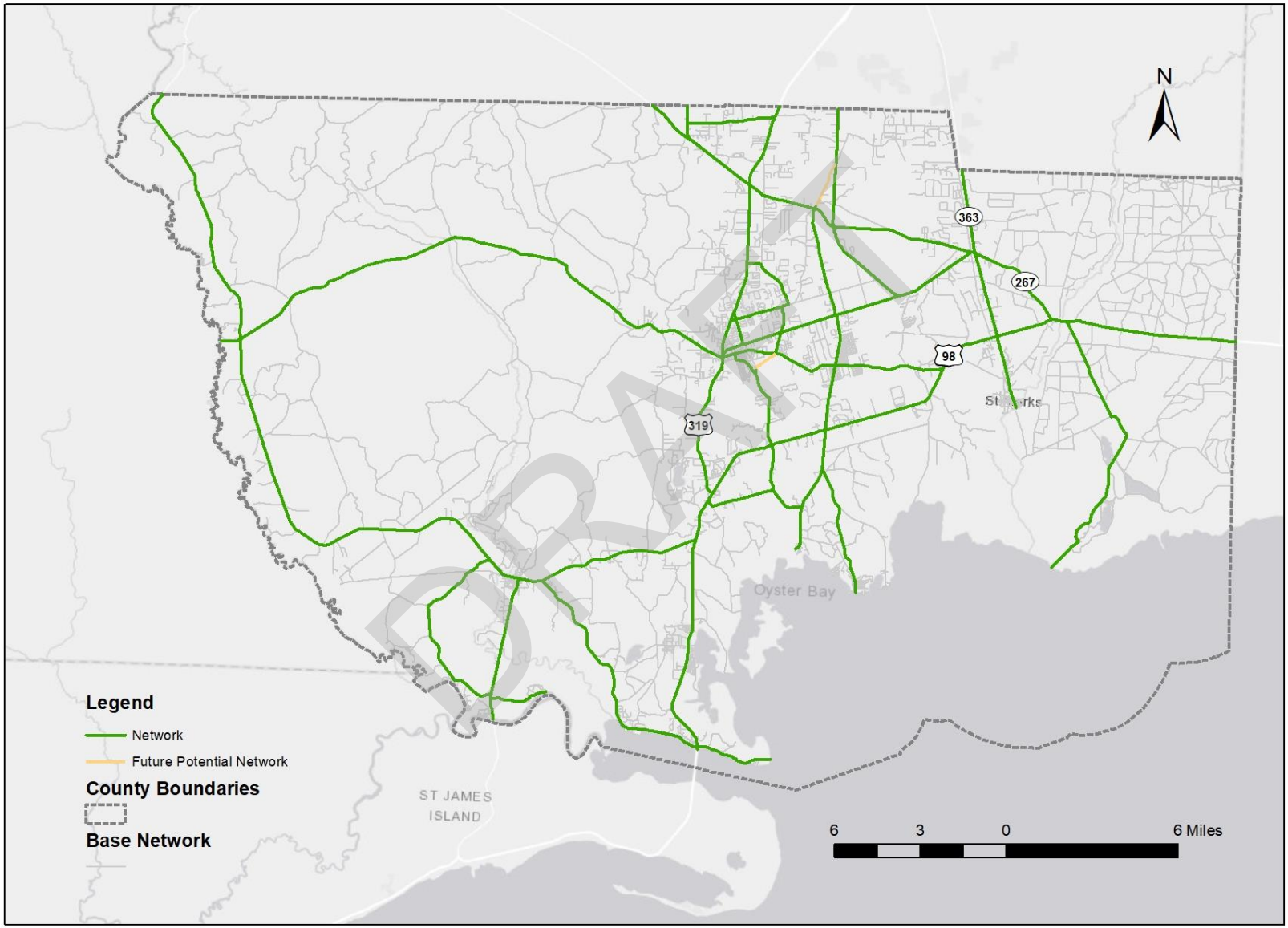


Figure 8: Wakulla County CMP Network



Recurring Congestion

A primary purpose of a CMP is to provide an updated analysis of congestion to identify problematic locations for potential mitigation. Many performance measures exist to help determine the quality of mobility on roadways. Roadway volume was extracted for the CMP network in the format of Average Annual Daily Traffic (AADTs). The AADTs were first analyzed using FDOT's Generalized Service Volume Tables to determine the LOS letter grade based on area types. FDOT's adopted the LOS targets of 'D' in urbanized areas and 'C' elsewhere. The roadway segments that did not meet the LOS target, based on 2020 Generalized Service Volume Tables, are presented in **Figure 9** for the CRTPA Area and **Figure 10** for the Urban Inset. The LOS results are also included in **Table 3**. The Generalized Tables present the maximum service volumes, which are the highest numbers of vehicles that can be accommodated while sustaining the respective letter grade travel speed.

A refined analysis was performed on selected segments that failed to meet LOS targets, using FDOT's 2023 Generalized Service Volume Tables which takes into consideration Context Classification. Several roadway segments that failed to meet the 2020 Generalized Service Volume Tables minimum LOS, met the minimum LOS standard using the 2023 Generalized Service Volume Tables. The results of the 2023 Generalized Service Volume Tables LOS analysis are presented in **Table 4**. It is recommended that potential countermeasures be conducted only on those segments that failed to meet both analyses.

Figure 9: LOS Performance 2020 Generalized Service Volume Tables (CRTPA Area)

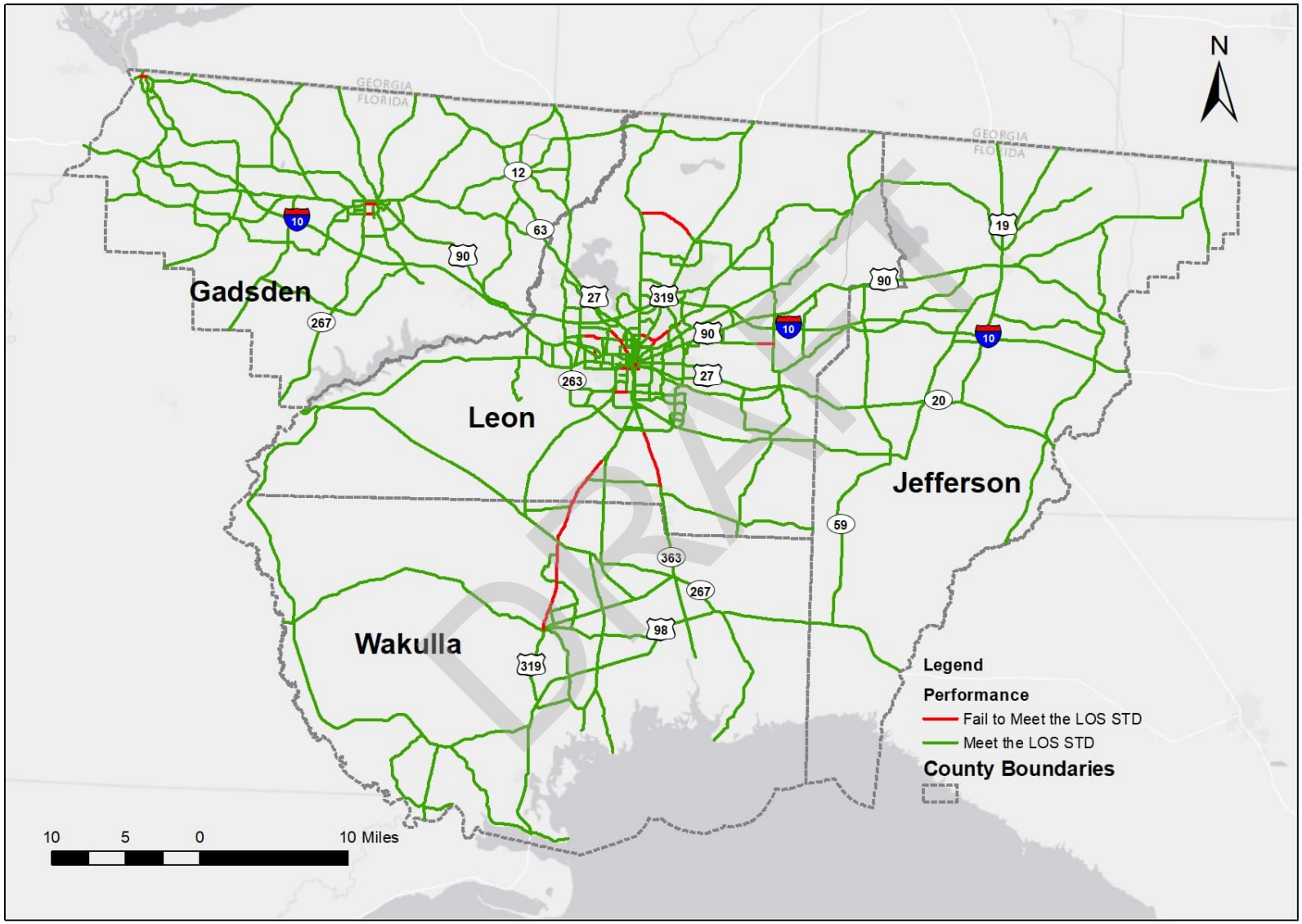


Figure 10: LOS Performance 2020 Generalized Service Volume Tables (Urban Inset)

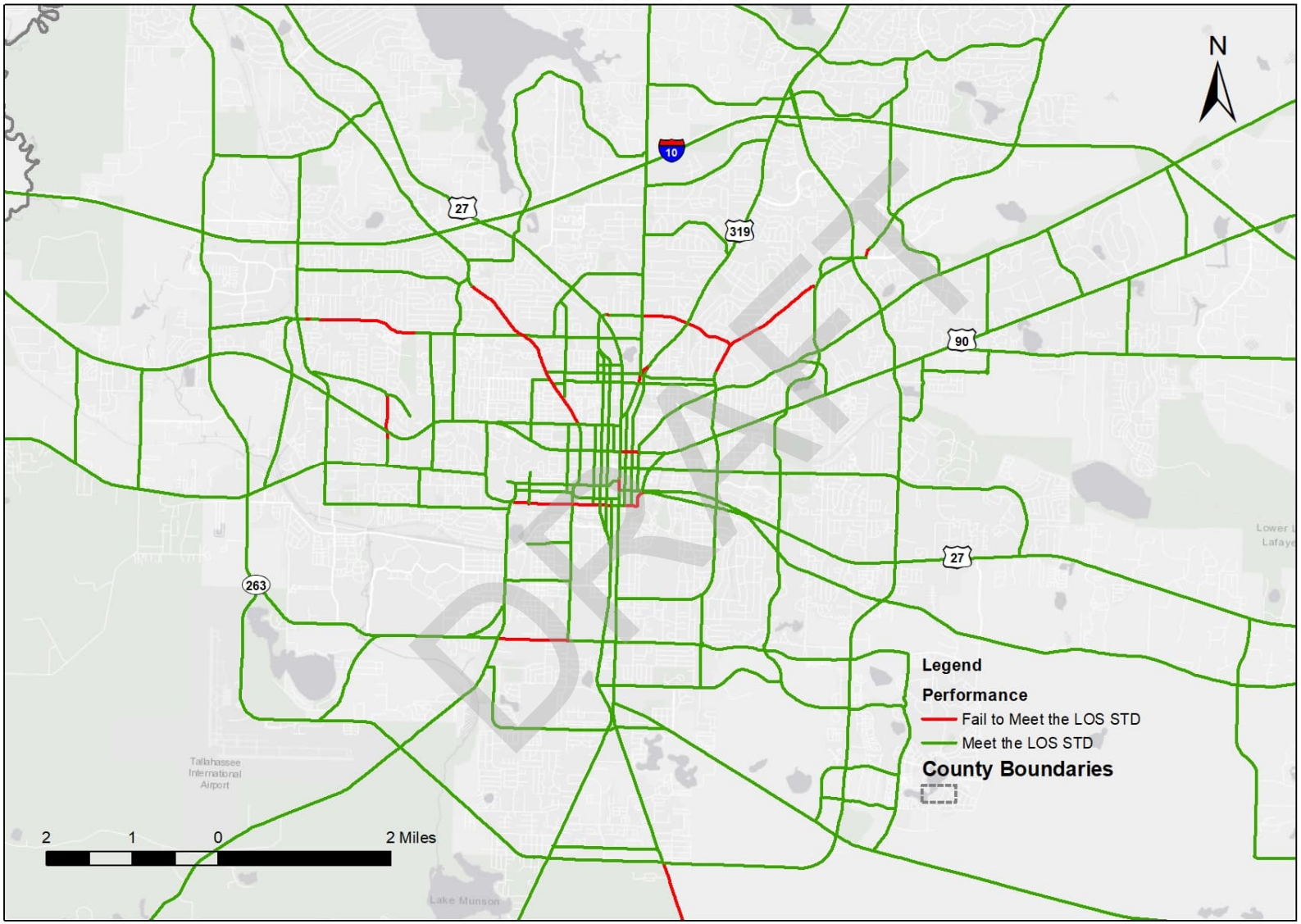


Table 3: Level of Service Failed Segments using 2020 Generalized Service Volume Tables

Location	County	Urbanized	AADT	LOS Standard	Current LOS	Performance
W. Jefferson Street between Pat Thomas Pkwy. and North Adams Street	Gadsden	No	16,400	C	D	Failed Standard
W. Washington Street between River Landing Road and Main Street	Gadsden	No	7,900	C	D	Failed Standard
Martin Luther King Blvd between Orlando Street and South Stewart Street	Gadsden	No	5,400	C	D	Failed Standard
East Gaines Street between Calhoun Street and South Meridian Street	Leon	Yes	19,800	D	F	Failed Standard
South Meridian between East Gaines Street and East Lafayette Street						
Bradford Road between N. Meridian Road and Thomasville Road	Leon	Yes	17,000	D	F	Failed Standard
Bradford Road between E. Dellview Drive and Shopping Center Entrance	Leon	Yes	10,200	D	E	Failed Standard
Betton Road between Thomasville Road and Centerville Road	Leon	Yes	18,800	D	E	Failed Standard
White Drive between South of Tennessee St and Mission Road	Leon	Yes	11,500	D	F	Failed Standard
Gaines Street between Railroad Avenue and S. Boulevard Street	Leon	Yes	16,800	D	F	Failed Standard
E. Tennessee Street between Monroe Street and N. Meridian Street	Leon	Yes	37,000	D	F	Failed Standard
Woodville Highway between Oak Ridge Road and Capital Circle	Leon	No	15,000	C	D	Failed Standard
Monroe Street between Apalachee Parkway and E. Jefferson Street	Leon	Yes	34,500	D	E	Failed Standard
Thomasville Road between 6th Avenue and N. Gadsden Street	Leon	Yes	19,000	D	F	Failed Standard
Centerville Road between North of 7th Ave and Blair Stone Road	Leon	Yes	13,500	D	E	Failed Standard
Centerville Road between Welaunee Boulevard and Glenncrest Lane	Leon	Yes	21,500	D	F	Failed Standard
Gaines Street between S. Woodward Avenue and Railroad Avenue	Leon	Yes	20,400	D	F	Failed Standard
Crawfordville Highway between MLK Road and Wakulla Springs Road	Wakulla	No	15,000	C	D	Failed Standard
Orange Avenue between Springhill Road and Wahnish Way	Leon	Yes	20,400	D	F	Failed Standard
Bannerman Road between North Meridian Road and McBride Point	Leon	No	20,200	D	F	Failed Standard
Old Bainbridge Road between West Brevard Street and Myrick Road	Leon	Yes	14,000	D	E	Failed Standard
West Tharpe Street between West of Ocala and West of Burns Drive	Leon	Yes	14,000	D	E	Failed Standard
Buck Lake Road between Buck Lake Trail and Chaires Cross Road	Leon	No	11,500	C	D	Failed Standard

Table 4: Level of Service using 2023 Generalized Service Volume Tables

Location	County	AADT	Context Classification	LOS STD	Current LOS	Performance
Woodville Highway between Oak Ridge Road and Capital Circle	Leon	15,000	C2	C	E	Failed Standard
Crawfordville Highway between County Line and north of Glover Road	Leon	13,900	C2	C	D	Failed Standard
Crawfordville Hwy. between north of Glover Road and Wakulla Springs Road	Leon	13,900	C1	C	D	Failed Standard
Bannerman Road between North Meridian Road and McBride Point	Leon	20,200	C3R	C	D	Failed Standard
Buck Lake Road between Buck Lake Trail and Chairs Crossing Road	Leon	11,500	C2	C	D	Failed Standard
Crawfordville Hwy between Shadeville Rd and Ivan Church Road	Wakulla	17,100	C3C	C	D	Failed Standard
Crawfordville Highway between Ivan Church Road and Bloxham Cutoff Road	Wakulla	15,700	C2	C	E	Failed Standard
Crawfordville Hwy between Bloxham Cutoff Road and Pixie Circle	Wakulla	15,000	C2	C	E	Failed Standard
Crawfordville Hwy between Pixie Circle and county limit	Wakulla	15,000	C1	C	E	Failed Standard
W. Jefferson Street between Pat Thomas Parkway and N. Adams Street	Gadsden	16,400	C2T	C	C	Meets Standard
W. Washington Street between River Landing Road and Main Street	Gadsden	7,900	C2T	C	C	Meets Standard
Martin Luther King Blvd between Orlando Street and South Stewart Street	Gadsden	5,400	C3R	C	C	Meets Standard
Blountstown Hwy between West of Whispering Pines Dr W and Geddie Rd	Leon	8,800	C3R	C	C	Meets Standard

Nonrecurring Congestion

In order to measure nonrecurring congestion, the Planning Time Index (PTI) was utilized which measures travel time reliability. Consistent travel times make it easier to conduct trip planning and increase the likelihood of on-time arrival. Nonrecurring congestion has a ripple effect that decreases the predictability of travel times. The planning time index represents the additional travel time that a traveler should budget for to ensure on-time arrival 95 percent of the time. Budgeting for the additional travel time should allow travelers to overcome nonrecurring congestion. **Figure 11** and **Figure 12** show the Daily PTI for the CRTPA and the Urban Inset. **Table 5** identifies the worse performing segments for daily conditions. **Figure 13** and **Figure 14** show the Peak Hour PTI for the MPO Area and the City of Tallahassee. **Table 6** identifies the worse performing segments in the peak hour. Peak hour PTI accounts for all vehicles traveling between 5PM and 6 PM. This data distribution factors in only speed observations made during that time period for everyday of the year. Daily PTI accounts for 24 hours of speed observations for all 365 days of the year. The peak observations provide anomalies in travel due to nonrecurring congestion from 5PM to 6 PM, and the daily PTI indicates nonrecurring congestion's presence at any time during the day. The average travel speed accounts for vehicles stopped as well as those moving. This metric takes into account the ratio of vehicles coming to a complete stop against vehicles moving at a free flow speed.

Methodology

Data

Speed data at 2-minute intervals covering the period between January 1, 2022, and December 31, 2022, were obtained from HERE, a traffic data analytics company. The data covers major roads in Leon, Jefferson, Gadsden, and Wakulla counties. The data are available at the Traffic Message Channel (TMC) level, which is a proprietary protocol for reporting traffic data. The first step in the process is to identify the available TMCs for the CRTPA region, after that data is downloaded to be used in travel time reliability computations.

Calculations

The PTI is also called the 95th percentile travel time index and is the 95th percentile travel time divided by free flow travel time. For example, PTI of 1.60 refers to a trip that takes 15 minutes in light traffic, where a traveler should budget a total of 24 minutes to ensure on-time arrival 95 percent of the time.

$$PTI = \frac{95th\ Percentile\ Travel\ Time}{Free\ Flow\ Travel\ Time}$$

Where:

- **95th Percentile Travel Time** = Travel time at the 5th percentile speed.
- **Free Flow Travel Time** = Travel Time at free flow speed. The free flow speed was assumed to be equal to the 85th percentile speed.

Figure 11: PTI Daily: CRTPA Area

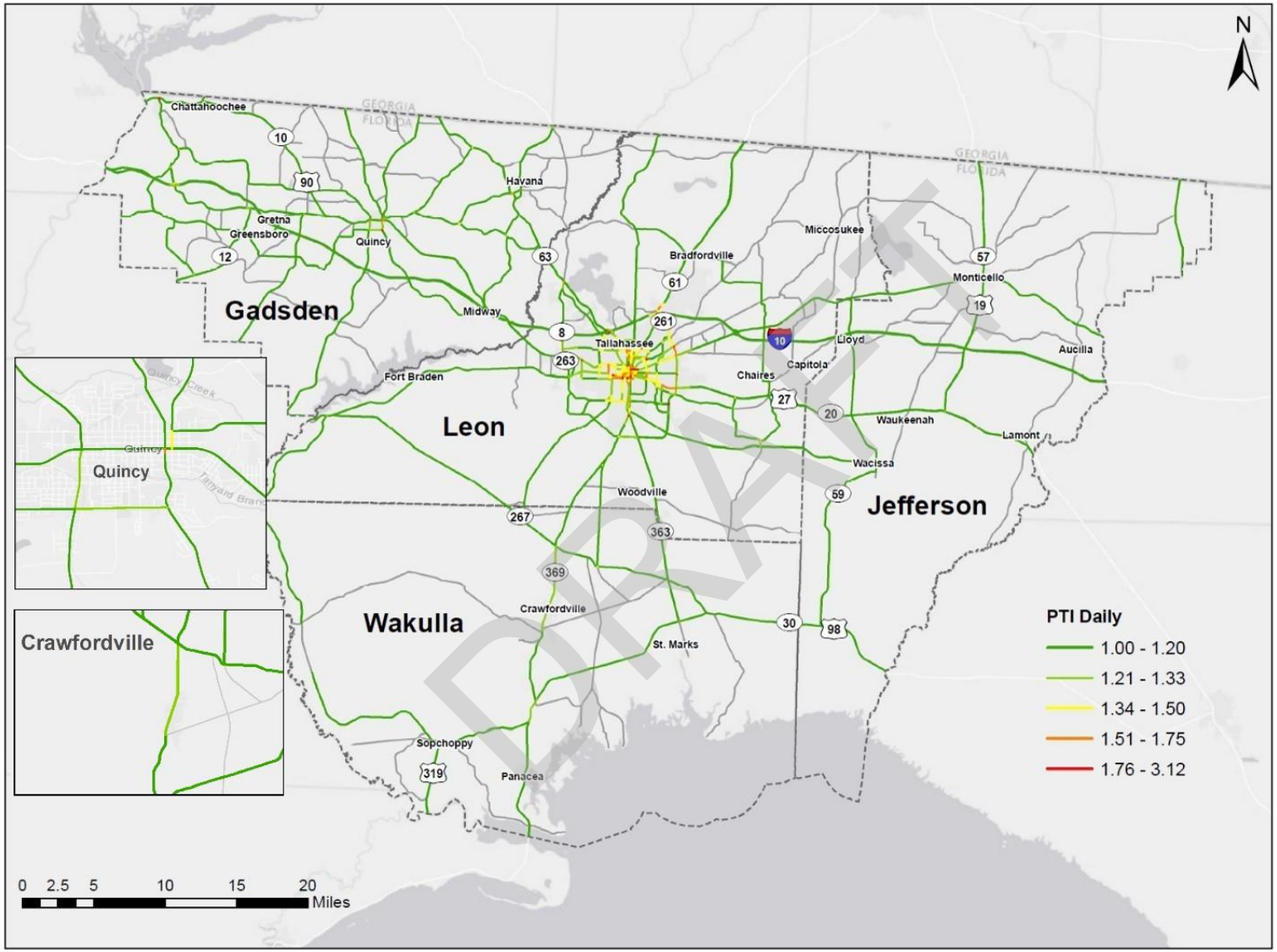


Figure 12: PTI Daily: Urban Inset

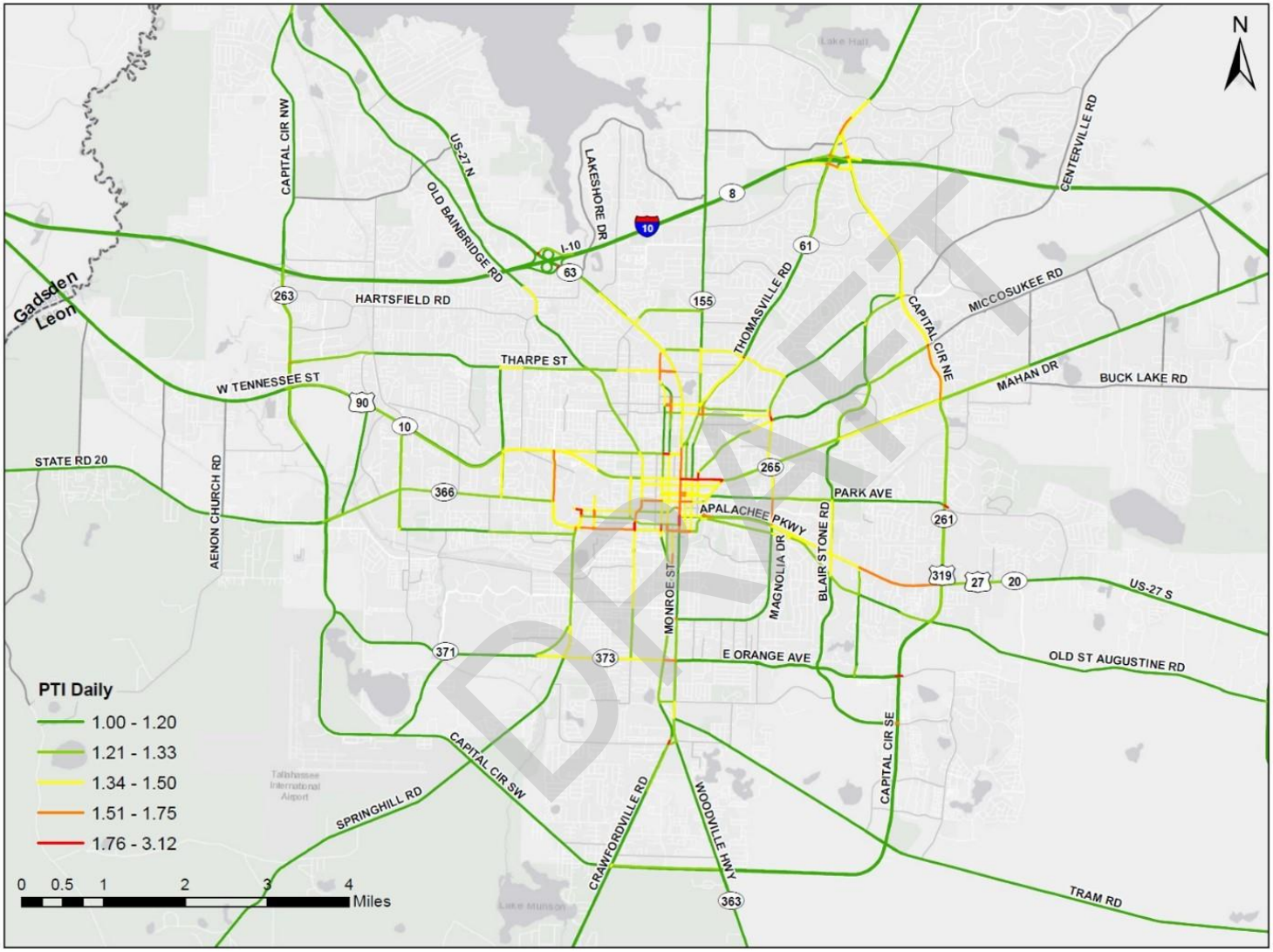


Table 5: Daily PTI (Top 20 locations)

Rank	County	Location	PTI	Speed (MPH)	5th Percentile Speed (MPH)
1	Leon	Northbound Varsity Drive intersecting with West Pensacola Street	3.12	7.3	2.4
2	Leon	Westbound Orange Avenue intersecting with Capital Circle Southeast	2.04	18.2	8.9
3	Leon	Southbound Appleyard Drive intersecting with West Tennessee Street	2.04	17.0	8.3
4	Leon	Westbound Miccosukee Rd intersecting with Capital Circle Northeast	2.01	15.7	7.8
5	Leon	Southbound Railroad Avenue between West Madison Street and West Gaines Street	2.00	8.5	4.3
6	Leon	Southbound South Monroe Street between East Madison Street and Apalachee Parkway	1.97	13.8	7.0
7	Leon	Southbound Franklin Boulevard intersecting with East Tennessee Street	1.96	15.9	8.1
8	Leon	Eastbound West Brevard Street between North Bronough Street and North Duval Street	1.90	10.8	5.7
9	Gadsden	Westbound Martin Luther King Jr. Boulevard intersecting with South Adams Street	1.90	10.1	5.3
10	Leon	Northbound South Bronough Street between West Gaines Street and West Madison Street	1.88	14.5	7.7
11	Leon	Westbound East Tennessee Street between Franklin Blvd and South Monroe Street	1.87	19.3	10.3
12	Leon	Off-ramp from Westbound I-10 (SR 8) intersecting with North Monroe Street	1.85	4.2	2.3
13	Leon	Southbound North Meridian Street between Virginia Street and Tennessee Street	1.84	9.7	5.3
14	Gadsden	Southbound South Main Street between US 90 and Crawford Street	1.83	13.3	7.2
15	Leon	Eastbound East Bradford Road and Thomasville Road	1.83	16.0	8.7
16	Leon	Eastbound West Pensacola Street intersecting with Varsity Drive	1.82	11.4	6.2
17	Leon	Westbound Conner Boulevard intersecting with Capital Circle Southeast	1.80	9.2	5.1
18	Leon	Northbound North Magnolia Drive intersecting with Miccosukee Road	1.80	19.6	10.9
19	Leon	Off-ramp from EB I-10 (SR 8) intersecting with North Monroe Street	1.78	7.8	4.4
20	Gadsden	North Pat Thomas Parkway intersecting with West Jefferson Street	1.75	13.0	7.4

Figure 13: PTI Peak Hour: CRTPA Area

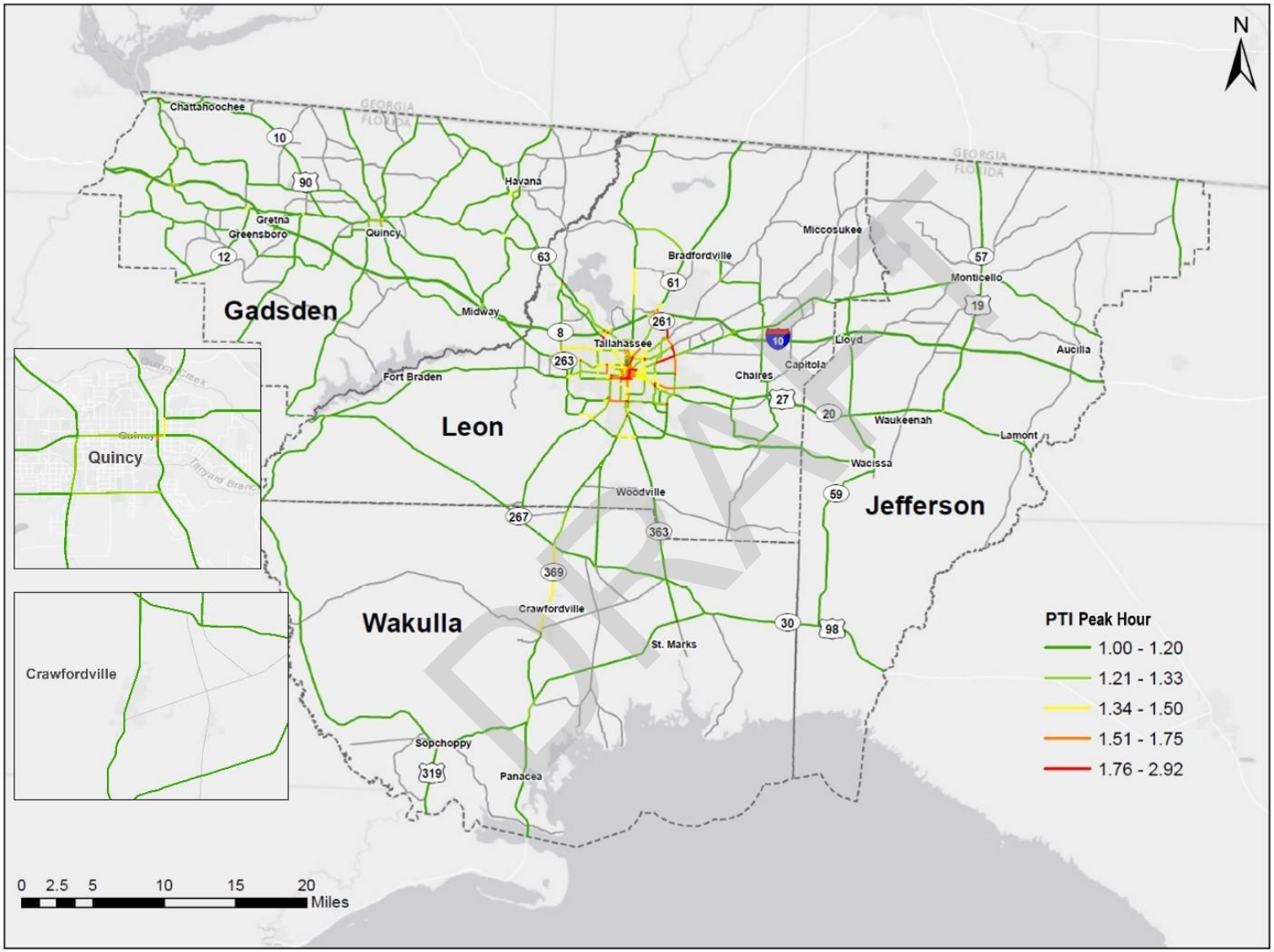


Figure 14: PTI - Peak Hour: Urban Inset

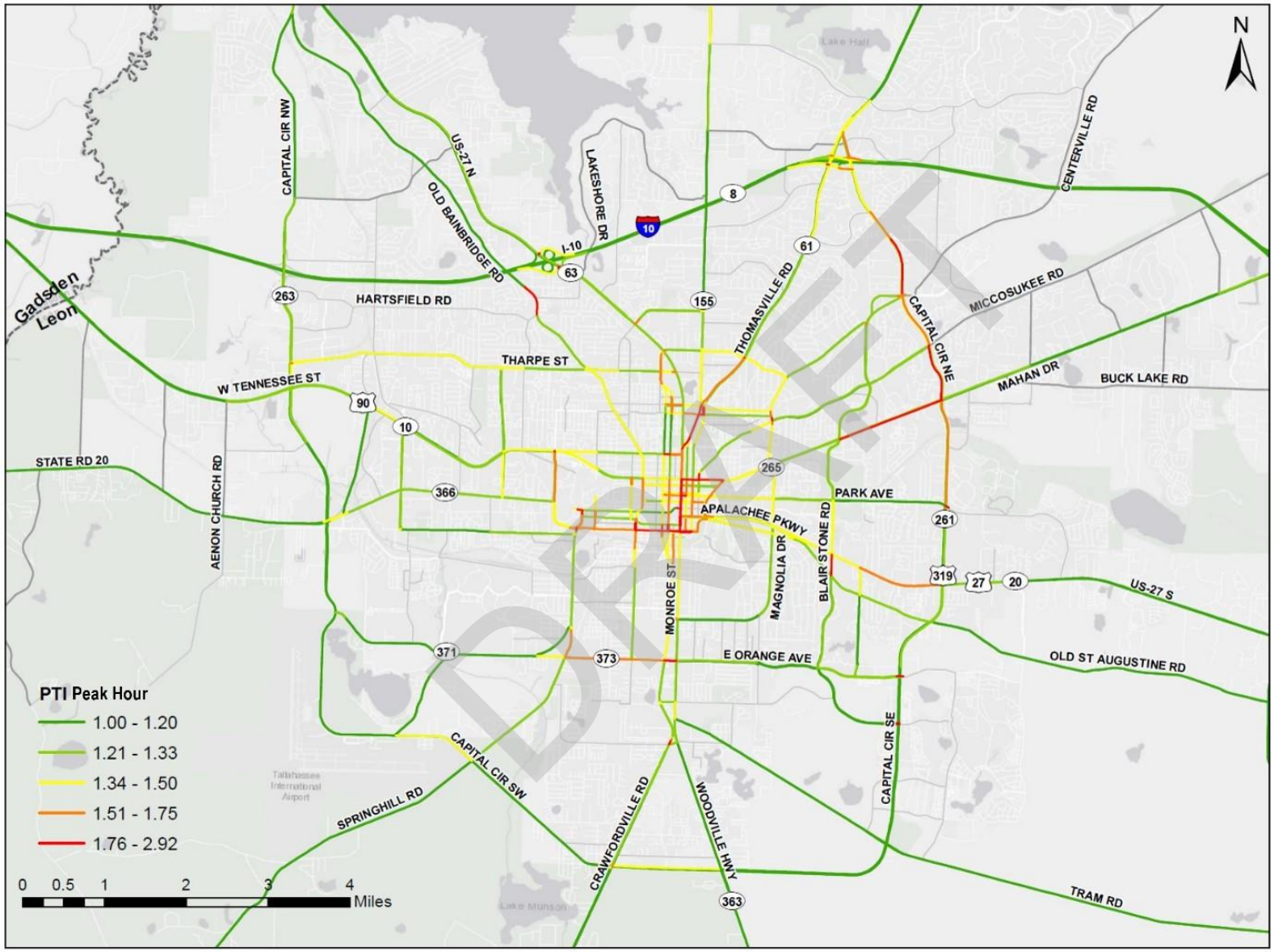


Table 6: Peak Hour PTI (Top 20 Locations)

Rank	County	Location	PTI	Speed (MPH)	5th Percentile Speed (MPH)
1	Leon	Northbound S Monroe St between E Madison St and E Gaines Street	2.92	8.7	3.0
2	Leon	Northbound Varsity Dr E intersecting with W Pensacola Street	2.74	5.5	2.0
3	Leon	Southbound Appleyard Dr intersecting with W Tennessee Street	2.51	14.2	5.7
4	Leon	Westbound Miccosukee Rd intersecting with Capital Circle NE	2.25	12.5	5.5
5	Leon	Southbound Railroad Ave between W Madison St and W Gaines Street	2.24	5.1	2.3
6	Leon	Northbound S Monroe St between Jefferson St and Apalachee Pkwy	2.22	9.5	4.3
7	Leon	Eastbound W Gaines St between S Monroe St and S Duval Street	2.22	8.1	3.7
8	Leon	Eastbound Betton Rd intersecting with Thomasville Road	2.18	13.0	6.0
9	Leon	Westbound Orange Ave E intersecting with Capital Circle SE	2.17	13.9	6.4
10	Leon	Northbound S Monroe St between W Tennessee St and E Jefferson Street	2.12	9.1	4.3
11	Leon	Southbound N Franklin Blvd intersecting with E Tennessee Street	2.12	12.3	5.8
12	Leon	Off-ramp from WB I-10 (SR 8) intersecting with N Monroe Street	2.12	4.1	1.9
13	Leon	Off-ramp from EB I-10 (SR 8) intersecting with N Monroe Street	2.10	6.2	2.9
14	Leon	Southbound N Meridian St between E Virginia St and E Tennessee Street	2.09	6.3	3.0
15	Leon	Westbound E Tennessee St between N Franklin Blvd and S Monroe Street	2.08	9.7	4.7
16	Leon	Northbound S Duval St between W Madison St and W Gaines Street	2.06	13.2	6.4
17	Leon	Northbound S Monroe St between E Madison St and Apalachee Pkwy	2.00	10.0	5.0
18	Leon	Northbound S Bronough St between W Gaines St and W Madison Street	2.00	8.1	4.1
19	Leon	Eastbound E 6th Ave between N Gadsden St and Thomasville Road	1.99	9.6	4.8
20	Leon	Eastbound Gaines St intersecting with S Monroe Street	1.96	12.9	6.6

Safety Analysis

As part of the CMP, safety hotspots are identified, these are the locations with the worst safety issues in the four-county region. To determine safety hotspots, separate crash analyses are conducted at both the segment level and intersection level. The roadways in the four counties were screened for safety issues with an emphasis on fatalities and serious injuries. Data was collected from Signal 4 Analytics for the years 2017 through 2021. Through analyzing 5 years of data any anomalies are avoided. Signal 4 Analytics is a compilation of safety data predominately obtained from crash reports and the Department of Highway Safety and Motor Vehicles. This data is provided through a website that identifies crash locations throughout Florida.

Crashes largely occur on either arterial segments or at intersections. Individual data sets were developed for the intersection and segment level analyses. Using the volume and numbers of crashes at a location, crash rates were computed. To develop a safety plan, sites with at least 3 fatal or serious injury crashes were selected.

SEGMENTAL CRASH ANALYSIS

A separate analysis was conducted for the roadway segments. All segments with AADT data were considered in the analysis. Intersections were removed from the georeferenced data. Segments with lengths less than or equal to 0.01 miles were merged with an adjoining segment. Fatalities and serious injuries occurring with 100 feet of the roadway were attributed to the roadway segment. Similar to the intersection analysis, only segments with 3 or more fatalities and/or serious injuries were identified. The crash rates for the segments were calculated using the following equation:

The crash rate for **road segments** is calculated as:

$$R = \frac{100{,}000{,}000 \times C}{365 \times N \times V \times L}$$

Where:

R = Crash rate for the road segment expressed as crashes per 100 million vehicle-miles of travel (VMT).
C = Total number of crashes in the study period.
N = Number of years of data.
V = Number of vehicles per day (both directions).[9]
L = Length of the roadway segment in miles.

Source: https://safety.fhwa.dot.gov/local_rural/training/fhwasa1210/s3.cfm

The segments were then ranked by highest crash rate. **Figure 15** identifies the top 10 urban with top 10 rural segments that were selected for further analyses listed in **Table 7**. **Figure 16** identifies the locations of the ten worst segments for safety in the Urban Inset.

Figure 15: Hot Spot Segments (CRTPA Area)

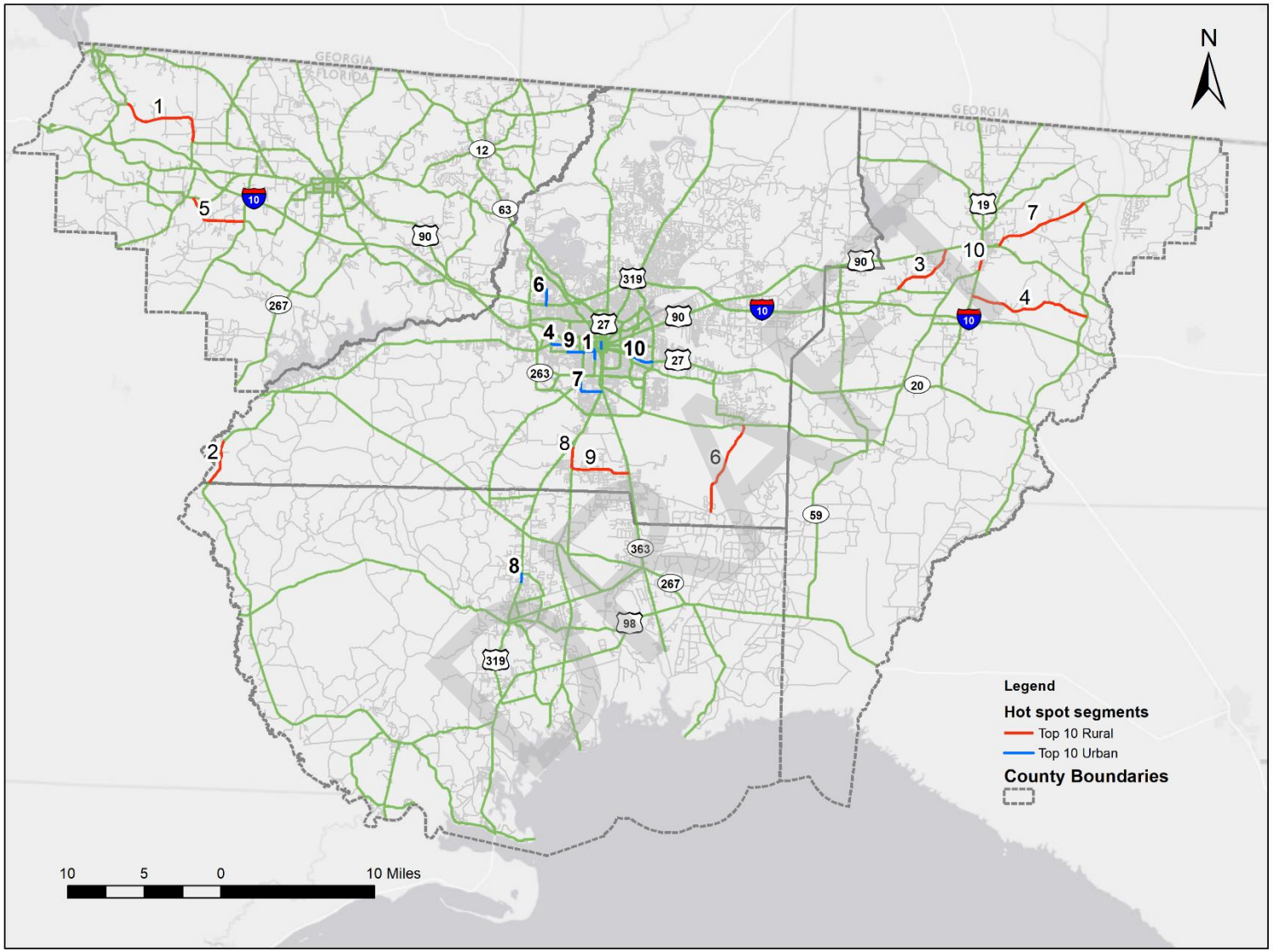


Figure 16: Hot Spot Segments (Urban Inset)

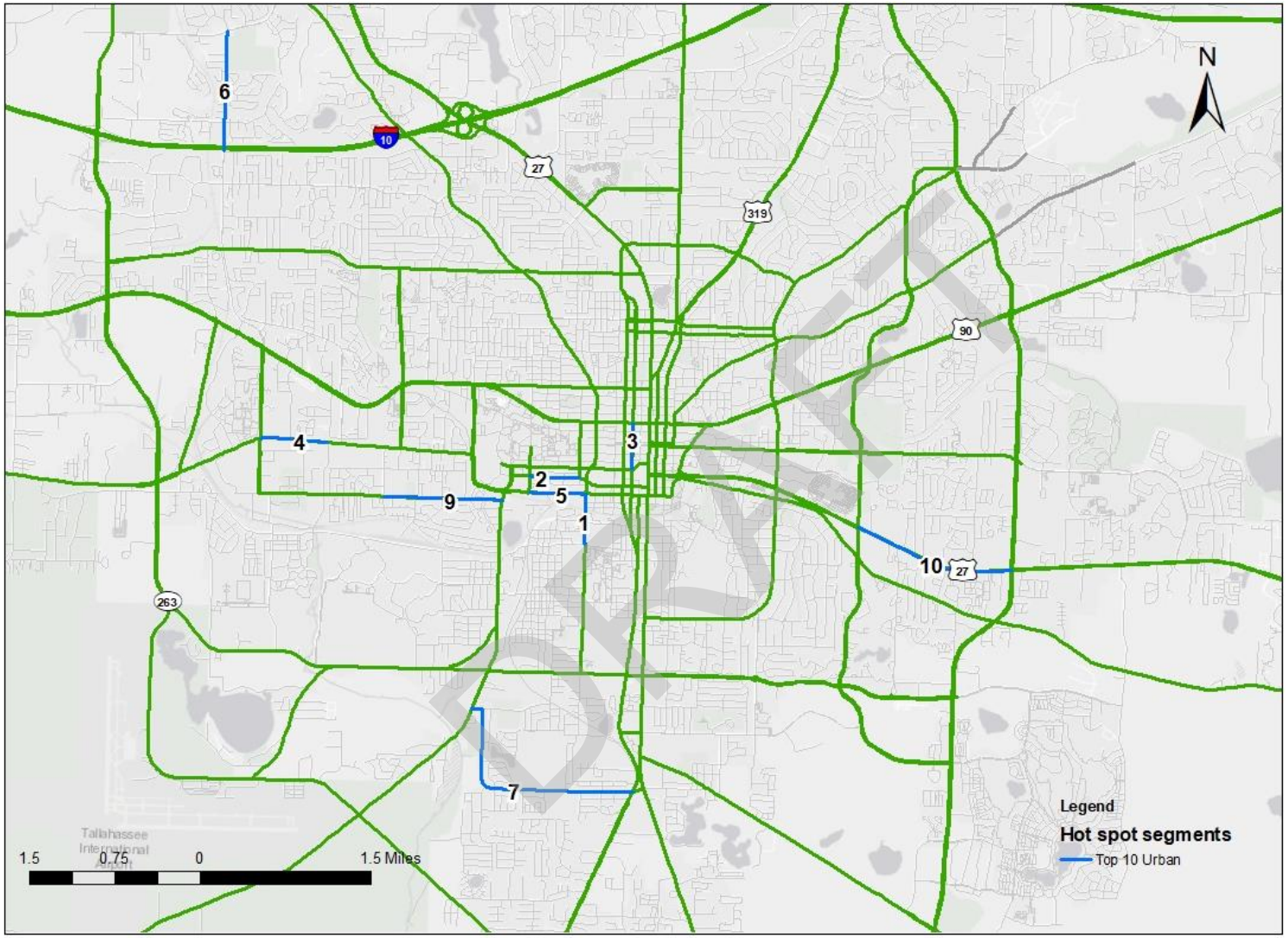


Table 7: Segment Hot Spots (Top 20)

Rank	Location	County	AADT	Miles	Fatal Crashes	Serious Injury Crashes	Crash Rate (per 100 million VMT)
1	Railroad Avenue between West Gaines Street and Robert and Trudie Perkins Way	Leon	6,300	0.45	0	3	57.59
2	St Augustine St between S Woodward Ave and South Copeland Street	Leon	7,400	0.44	0	3	50.66
3	Hardaway Hwy between Lincoln Dr (CR 269A) and Cochran Road	Gadsden	550	6.31	2	1	47.40
4	Duval St between W Pensacola St and W Park Avenue	Leon	8,500	0.41	0	3	47.18
5	W Pensacola St between Appleyard Drive and Mabry Street	Leon	18,800	0.59	2	5	34.40
6	Smith Creek Rd between Stoutamire Landing Rd and the County Boundary between Leon/Wakulla County	Leon	600	8.29	1	2	33.04
7	Old Lloyd Rd between US 90 and Rabon Road	Jefferson	1,200	4.51	0	3	30.39
8	Drifton-Aucilla between S Jefferson and Salt Road	Jefferson	700	8.14	0	3	28.84
9	Providence Road (CR 274) between Selman Street and Hosford Highway	Gadsden	1,500	4.25	1	2	25.80
10	Old Plank Road between Tram Road and Natural Bridge Road	Leon	1,400	6.38	2	2	24.53
11	Ashville Hwy between St Margaret's Church Rd St and N Salt Road	Jefferson	1800	6.40	0	5	23.78
12	West Gaines St between S Woodward Ave and Railroad Avenue	Leon	20,400	0.50	0	4	21.66
13	Mission Rd between Fred George Rd and I -10	Leon	7,600	1.05	2	1	20.60
14	Wakulla Springs Rd between Oak Ridge Rd W and US 319	Leon	7700	1.38	0	4	20.60
15	N Ridge Rd between Springsax Rd and S Adams St	Leon	6,600	2.08	1	4	19.97
16	US 319 between E Ivan Rd and Mike Steward Drive	Wakulla	15,700	0.54	1	2	19.53
17	Oak Ridge Rd W between Wakulla Springs Road and Woodville Highway	Leon	3,700	3.80	3	2	19.49

Rank	Location	County	AADT	Miles	Fatal Crashes	Serious Injury Crashes	Crash Rate (per 100 million VMT)
18	S Jefferson St between Nacoosa Rd and W Seminole Ave	Jefferson	8,000	1.11	0	3	18.52
19	Wakulla Springs Rd between Bloxham Cutoff Rd and County Line Rd	Wakulla	4,500	4.11	3	3	17.79
20	Springhill Rd between Helen Guard Station Rd and Mays Gray Dr	Leon	4,200	6.74	5	4	17.41

INTERSECTION ANALYSIS

Fatal and serious injury crashes occurring within 350 ft of an intersection were classified as intersection crashes. The crash rates for the intersections were calculated using this equation:

$$R = \frac{1{,}000{,}000 \times C}{365 \times N \times V}$$

Where:

R = Crash rate for the intersection expressed as accidents per million entering vehicles (MEV).
C = Total number of intersection crashes in the study period.
N = Number of years of data.
V = Traffic volumes entering the intersection daily.[10]

- **Source: https://safety.fhwa.dot.gov/local_rural/training/fhwasa1210/s3.cfm**

The intersections were then ranked by highest crash rate. **Figure 17** identifies the locations of the ten worst intersections for safety in the 4-county area and **Table 8** lists the ten worst intersections.

Figure 17: Intersection Crash Analysis (CRTPA Area)

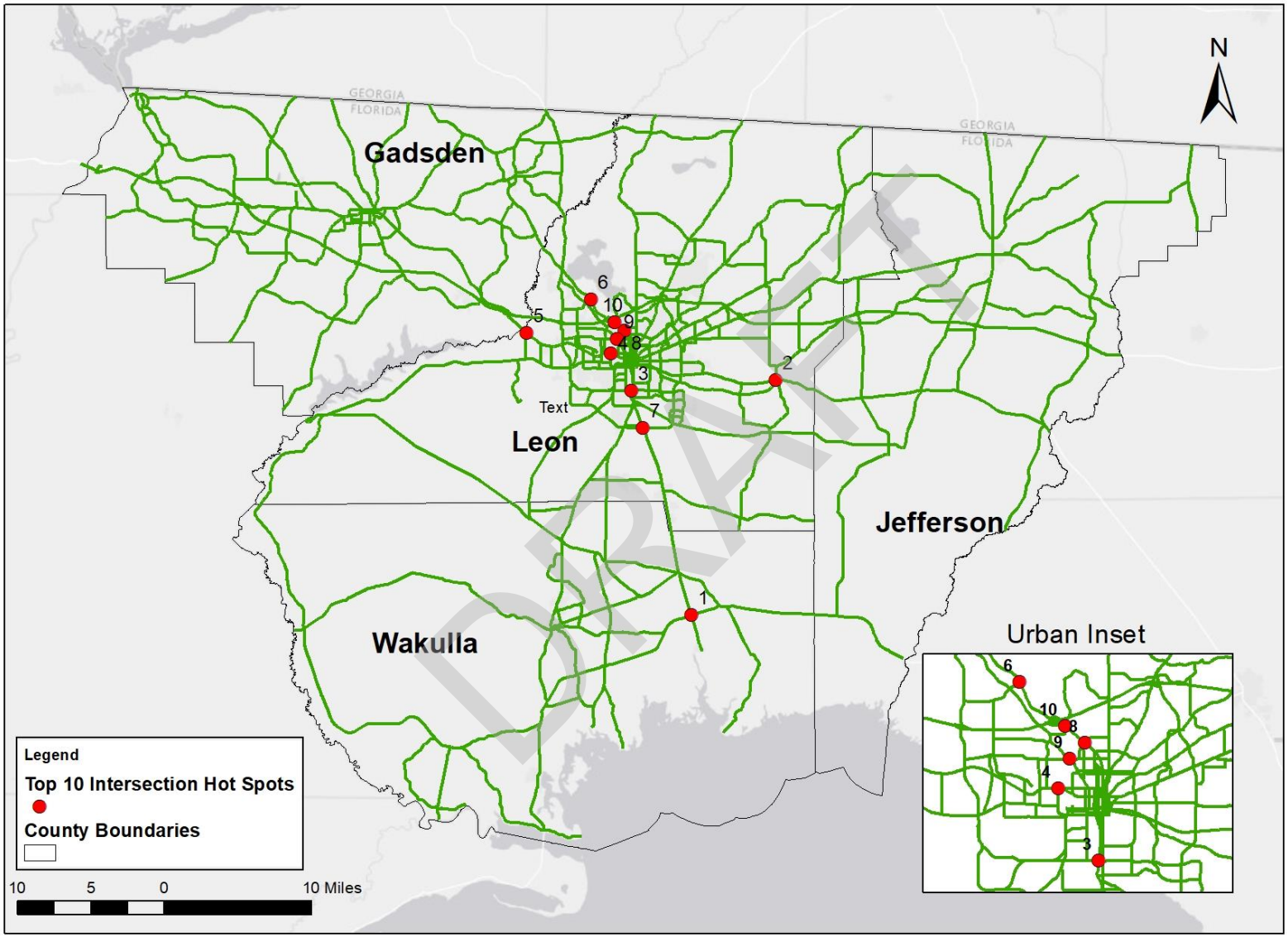


Table 8: Intersection Hot Spots (Top 10)

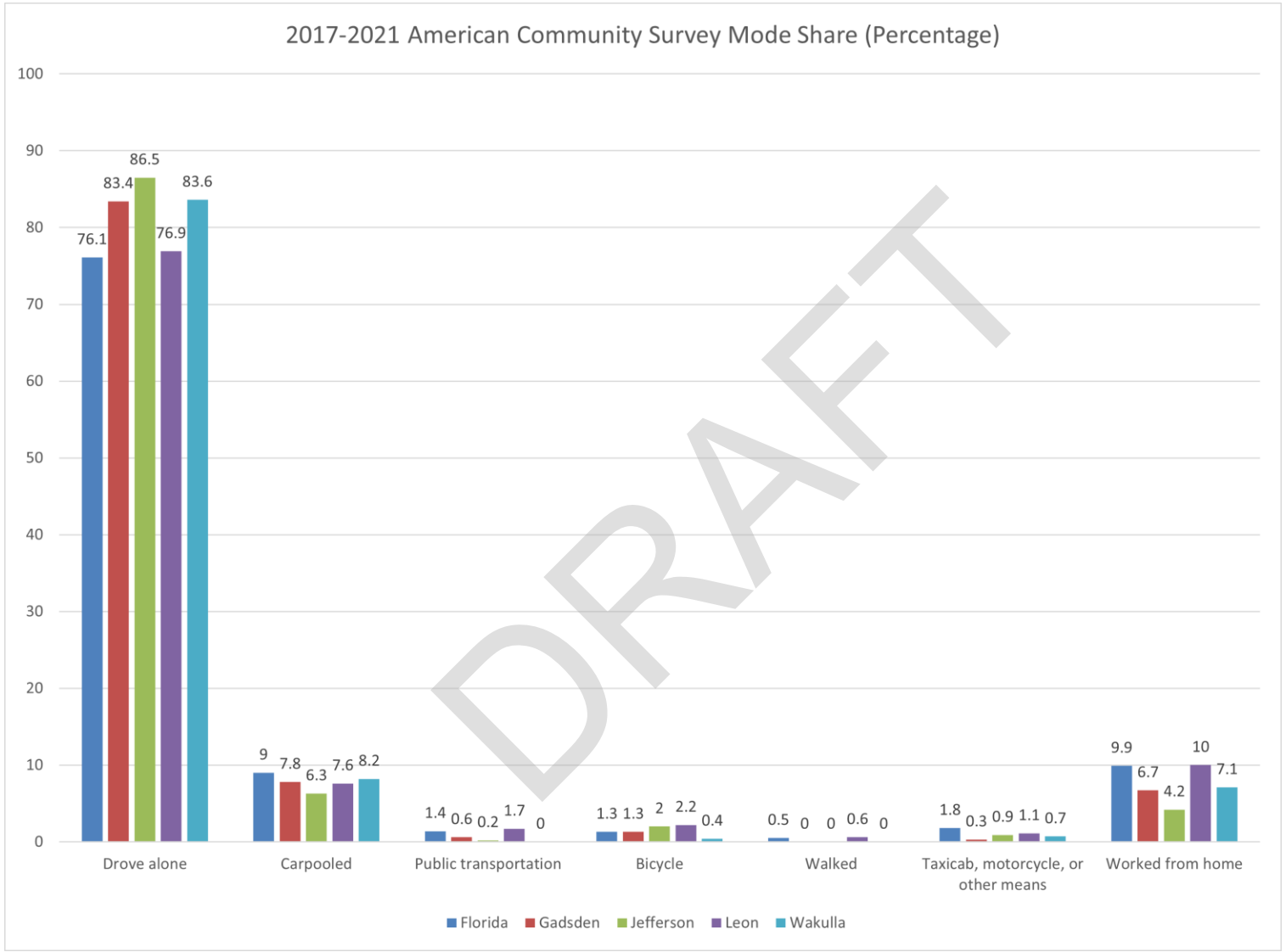
Rank	Location	County	Fatal Crashes	Serious Injury Crashes	Entering Traffic Volume
1	US 98 and Woodville Hwy	Wakulla	2	1	4,875
2	Apalachee Pkwy and WW Kelly Road	Leon	1	2	12,500
3	Orange Avenue and S. Adams Street	Leon	4	3	42,400
4	W Tennessee St and Stadium Drive	Leon	0	7	45,800
5	W Tennessee St and Geddie Road	Leon	0	3	21,900
6	North Monroe Street and Fred George Road	Leon	2	2	29,350
7	Capital Circle Southeast and Woodville Hwy.	Leon	0	4	32,350
8	North Monroe Street and John Knox Road	Leon	0	4	46,150
9	Old Bainbridge Road and W. Tharpe Street	Leon	0	3	37,750
10	North Monroe Street and Lakeshore Drive	Leon	0	3	43,000

Mode Share Data

Using the American Community Survey Mode Share Data (Census Data) from 2017-2021, mode share information for Florida and the CRTPA Counties are presented in **Figure 18** below, which includes:

- Percentage of trips drove alone.
- Percentage of trips carpooled.
- Percentage of trips using public transportation.
- Percentage of trips using bicycle.
- Percentage of trips walked.
- Percentage of trips by taxicab, motorcycle, or other means.
- Percentage working from home.

Figure 18: CRTPA Mode Share



Potential Safety Countermeasures

A key component of the CMP is to develop strategies and projects that address the system deficiencies identified in the analysis. The team analyzed thirty safety locations with the highest crash rates including ten intersections, ten rural segments and ten urban segments and prepared potential countermeasures. Potential countermeasures are solutions that are likely to resolve the crash types present at or along each location. The FHWA's Highway Safety Manual was used as a guide in determining possible contributing factors and a preliminary understanding of potential countermeasures. Field reviews were conducted for each of the network locations and engineering judgement was utilized to further determine an applicable list of potential countermeasures. Further analysis and preliminary design are required before these potential countermeasures can be advanced into specific improvements and projects.

INTERSECTIONS

The ten intersections in the four-county area with the highest crash rates were determined and are listed in **Table 9** below. The intersections vary between urban and rural and, as a result, present different safety concerns and solutions. Intersections located in urban areas typically involved crashes related to signal operations, driveway conflicts, and bicycle/pedestrian conflicts. As a result, the common potential countermeasures determined for urban intersections included items such as access management improvements, signal phasing adjustments, and pedestrian detections improvements. While intersections located in rural areas typically involved crashes related to high speeds and failure to obey traffic control. Some of the common potential countermeasures determined for rural intersections included items such as advanced intersection warning signage, intersection control improvements, and addressing issues related to sight distance. A summary of the ten (10) intersections studied are described on the following pages. The detailed intersection analysis for all ten intersections is contained in **APPENDIX B.**

Table 9: Intersection Hot Spots (Top 10)

Rank	County	Location	Fatal Crashes	Serious Injury Crashes	Entering Traffic Volume
1	Wakulla	US 98 and Woodville Highway	2	1	4,875
2	Leon	Apalachee Parkway and WW Kelly Road	1	2	12,500
3	Leon	Orange Avenue and S. Adams Street	4	3	42,400
4	Leon	West Tennessee Street and Stadium Drive	0	7	45,800
5	Leon	West Tennessee Street and Geddie Road	0	3	21,900
6	Leon	North Monroe Street and Fred George Road	2	2	29,350
7	Leon	Capital Circle Southeast and Woodville Highway	0	4	32,350
8	Leon	North Monroe Street and John Knox Road	0	4	46,150
9	Leon	Old Bainbridge Road and West Tharpe Street	0	3	37,750
10	Leon	North Monroe Street and Lakeshore Drive	0	3	43,000

US 98 and Woodville Highway

Table 10: US 98 and Woodville Highway Fatal/Serious Injury Crash Data

Year	All Crashes	Angle
2017	1	1
2018	0	0
2019	2	2
2020	0	0
2021	0	0
TOTAL	**3**	**3**

Potential Countermeasures

After review of the crashes at the intersection, the possible contributing factors, and a field review, the following countermeasures were identified as having potential for reducing crashes at the intersection of US 98 and Woodville Highway.

1. Intersection Control
    a. Install larger or enhanced “red” signal indicators.
    b. Change intersection to All-Way Stop-Control.
    c. Change intersection to roundabout.
    d. Conduct Signal Warrant Study to evaluate signalization potential.
2. Intersection Signage
    a. Re-evaluate advance warning signs on minor street approaches (to improve visibility).

Additional Notes: Lighting could be considered at the intersection to enhance visibility.

Apalachee Parkway and WW Kelley Road

Table 11: Apalachee Parkway and WW Kelley Road Fatal/Serious Injury Crash Data

Year	All Crashes	Left Turn	Right Angle	Rollover
2017	1	1	0	0
2018	0	0	0	0
2019	2	0	1	1
2020	0	0	0	0
2021	0	0	0	0
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

After review of the crashes at the intersection, the possible contributing factors, and a field review, the following countermeasures were identified as having potential for reducing crashes at the intersection of Apalachee Parkway and WW Kelley Road. The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Sight Distance
    a. Remove tree debris and relocate “Hunt’s Pizza” sign in NE quadrant (sight distance issue).

Orange Avenue and South Adams Street

Table 12: Orange Avenue and South Adams Street Fatal/Serious Injury Crash Data

Year	All Crashes	Left turn	Angle	Rear End	Other
2017	2	0	0	1	1
2018	1	1	0	0	0
2019	1	1	0	0	0
2020	3	2	1	0	0
2021	0	0	0	0	0
TOTAL	**7**	**4**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the Orange Avenue and South Adams Street intersection:

1. Driveway Conflicts (2810 S Adams Street – Two driveways)
    a. Relocate “Do Not Enter” sign to next driveway to the north.
    b. Include “Right-Turn Only” signs for vehicles exiting the driveway.
    c. Install SB “No Left Turn” signs on the south leg, right shoulder.

West Tennessee Street and Stadium Drive

Table 13:West Tennessee Street and Stadium Drive Fatal/Serious Injury Crash Data

Year	All Crashes	Left Turn	Other
2017	3	1	2
2018	0	0	0
2019	1	0	1
2020	1	1	0
2021	1	0	1
Total	**6**	**2**	**4**

Potential Countermeasures

After review of the crashes at the intersection, the possible contributing factors, and a field review, the following countermeasures were identified as having potential for reducing crashes at the intersection of W Tennessee Street and Stadium Drive:

1. Signal Phasing
    a. Change EB and WB left turn phases to “Protected Only.”

Additional Notes: Consider removing sharrows on W Tennessee Street.

West Tennessee Street and Geddie Road

Table 14: West Tennessee Street and Geddie Road Fatal/Serious Injury Crash Data

Year	All Crashes	Rear End	Left Turn
2017	0	0	0
2018	1	1	0
2019	1	0	1
2020	1	1	0
2021	0	0	0
TOTAL	**3**	**2**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Signal Phasing
    a. Change EB and WB left turn phases to “Protected Only.”

Additional Notes: Consider removing sharrows on W Tennessee Street.

North Monroe and Fred George Road

Table 15: North Monroe Street and Fred George Road Fatal/Serious Injury Crash Data

Year	All Crashes	Left Turn	Off Road
2017	1	0	1
2018	2	2	0
2019	0	0	0
2020	0	0	0
2021	0	0	0
TOTAL	**3**	**2**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Pavement Markings
    a. Provide dotted lane extensions through the intersection for left turns on all approaches.

Capital Circle Southeast and Woodville Highway

Table 16: Capital Circle SE and Woodville Highway Fatal/Serious Injury Crash Data

Year	All Crashes	Left Turn	Off Road	Rear End
2017	1	0	1	0
2018	0	0	0	0
2019	2	1	0	1
2020	1	1	0	0
2021	0	0	0	0
TOTAL	**4**	**2**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. No potential countermeasures were identified.

Additional Notes: Crashes at this intersection mostly included failure to yield right-of-way.

North Monroe and John Knox Road

Table 17: North Monroe Street and John Knox Road Fatal/Serious Injury Crash Data

Year	All Crashes	Left Turn	Rear End
2017	2	1	1
2018	0	0	0
2019	1	1	0
2020	0	0	0
2021	1	0	1
TOTAL	**4**	**2**	**2**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Roadway Improvements
    a. Consider median installation on N Monroe Street (northward) to reduce conflicting movements.
2. Signal Phasing
    a. Change NB left-turn phase to “Protected Only.

West Tharpe Street and Old Bainbridge Road

Table 18: West Tharpe Street and Old Bainbridge Road Fatal/Serious Injury Crash Data

Year	All Crashes	Left Turn	Right Angle	Head On
2017	1	1	0	0
2018	0	0	0	0
2019	1	0	0	1
2020	0	0	0	0
2021	1	0	1	0
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection of West Tharpe Street and Old Bainbridge Road:

1. Signal Phasing
    a. Change NB and SB left turn phases to “Protected Only.”
2. Pavement Markings
    a. Restripe dotted lane line extensions for left turns through the intersection.
3. Pedestrian Detection
    a. Convert pedestrian detectors to “Countdown” and/or “Audible” detection signals.
    b. Consider exclusive pedestrian phase (i.e., all traffic approaches stop when pedestrian detectors are activated)

North Monroe Street and Lake Shore Drive

Table 19: North Monroe Street and Lakeshore Drive Fatal/Serious Injury Crash Data

Year	All Crashes	Pedestrian	Bicyclist
2017	0	0	0
2018	0	0	0
2019	1	0	1
2020	1	1	0
2021	1	1	0
TOTAL	**3**	**2**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection of N Monroe Street and Lakeshore Drive:

1. No potential countermeasures were identified.

Crashes at this intersection involved excessive speeding and pedestrian failure to yield right-of-way.

URBAN SEGMENTS

The ten urban segments with the highest crash rates in the four-county area are listed in **Table 20.** The urban segments analyzed typically involved crashes related to bicycle and pedestrian conflicts as well as rear-end, sideswipe, and left and right-turns. As a result, the common potential countermeasures determined included items such as improved pedestrian facilities (signage, detectors, crosswalks, etc.), median installation, and sight distance improvements. A summary of the ten (10) urban segments studied are described on the following pages. The detailed urban segment analysis for all ten locations is contained in **APPENDIX C.**

Table 20: Top Ten Urban Segments

Rank	Location	County	Fatal Crashes	Serious Injury Crashes	AADT
1	Mission Road	Leon	2	1	7,600
2	Pensacola Street	Leon	2	2	18,800
3	Jackson Bluff Road	Leon	0	3	9,600
4	St. Augustine Street	Leon	0	3	7,400
5	Gaines Street	Leon	0	4	20,400
6	Railroad Avenue	Leon	0	3	6,300
7	Duval Street	Leon	0	3	8,500
8	Ridge Road	Leon	1	4	6,600
9	Apalachee Parkway	Leon	0	13	31,000
10	Jefferson Street	Jefferson	0	3	8,000

Mission Road between Fred George Road and Moon Lane

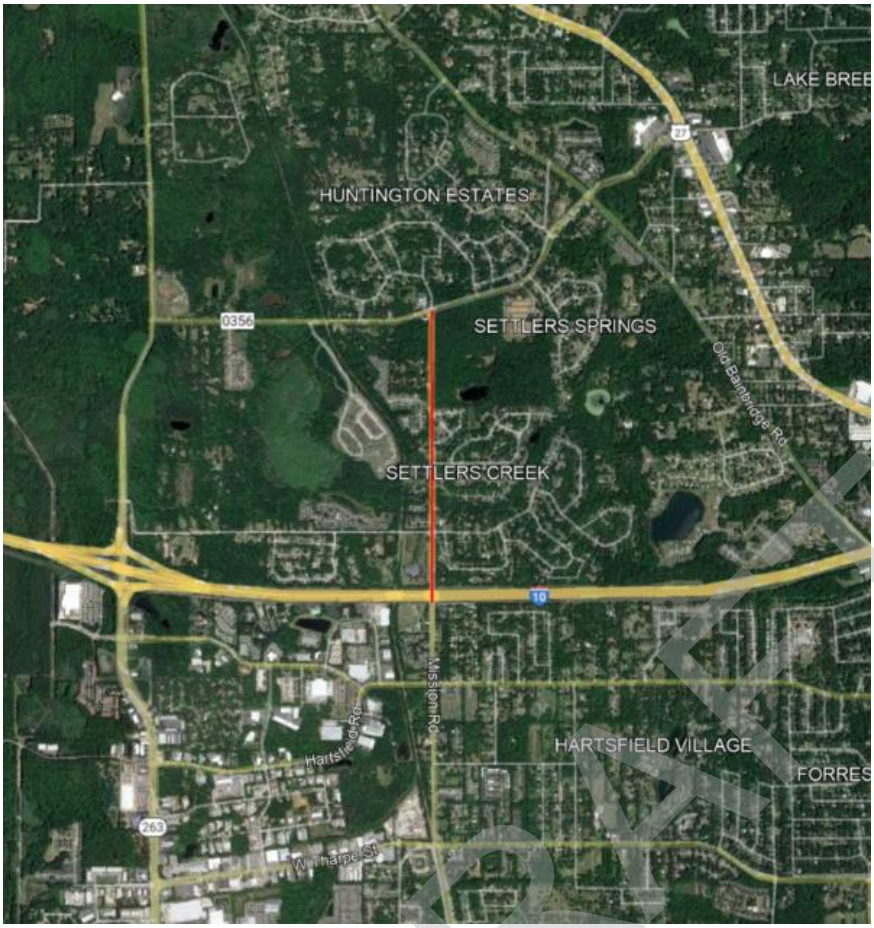


Table 21: Mission Road Fatal and Serious Injury Crash Data

Year	All Crashes	Pedestrian	Rear End
2017	1	1	0
2018	1	1	0
2019	0	0	0
2020	0	0	0
2021	1	0	1
TOTAL	**3**	**2**	**1**

Potential Countermeasures

The following countermeasures were identified as potential for reducing crashes on the segment of Mission Road from Fred George Road to Moon Lane:

1. Pavement Markings

Restripe the intersection of Mission Road and Gearhart Road.

West Pensacola Street between Appleyard Drive and Mabry Street

Table 22: Pensacola Street Fatal and Serious Injury Crash Data

Year	All Crashes	Pedestrian	Left Turn	Rear End
2017	0	0	0	0
2018	3	2	1	0
2019	2	2	0	0
2020	1	0	0	1
2021	1	1	0	0
TOTAL	**7**	**5**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as potential for reducing crashes on the segment of Pensacola Street from Appleyard Drive to Mabry Street:

1. Segment Signage
    a. Provide advanced “high pedestrian area” signage (Many pedestrians are present).
2. Segment Congestion
    a. Install a median along Pensacola Street to reduce conflicting movements between vehicles and pedestrians.
    b. Install speed feedback signs along the segment in both the eastbound and westbound directions.
3. Pensacola Street in the area near Cactus Street
    a. Relocate black fencing on NE corner of intersection to improve sight distance.
4. Pedestrian Detection
    a. Convert pedestrian detectors along the segment to “Audible” detection signals.
    b. Provide Rectangular Rapid Flashing Beacons (RRFBs) along the segment.

Jackson Bluff Road between Ausley Road and North Lake Bradford Road

Table 23: Jackson Bluff Road Fatal and Serious Injury Crash Data

Year	All Crashes	Left Turn	Off Road	Other
2017	2	1	0	1
2018	0	0	0	0
2019	1	0	1	0
2020	0	0	0	0
2021	0	0	0	0
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as potential for reducing crashes on the segment of Jackson Bluff Road from Ausley Road to North Lake Bradford Road:

1. Jackson Bluff Road in the area near Airport Drive
    a. Trim bushes on NE and SW corners of intersection (sight distance issue).

Additional Safety Notes:

- Install a median along Jackson Bluff Road (similar to the median along Mission Road).

St. Augustine Street between Woodward Way and Copeland Street

Table 24: St. Augustine Street Fatal and Serious Injury Crash Data

Year	All Crashes	Bicycle	Pedestrian	Other
2017	0	0	0	0
2018	0	0	0	0
2019	1	1	0	0
2020	2	0	1	1
2021	0	0	0	0
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of St. Augustine Street between Woodward Way and Copeland Street:

1. Pedestrian Signage
    a. Repair the Rectangular Rapid Flashing Beacon, on the south shoulder at Gay Street, which is not functioning.

Additional Notes: Sight distance on the southbound approach is limited at the intersection of St. Augustine Street and Gay Street.

Gaines Street between Woodward Avenue and Railroad Avenue

Table 25: Gaines Street Fatal and Serious Injury Crash Data

Year	All Crashes	Pedestrian	Rear End
2017	0	0	0
2018	1	1	0
2019	2	1	1
2020	1	1	0
2021	0	0	0
TOTAL	**4**	**3**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Gaines Street between Woodward Avenue and Railroad Avenue:

1. No potential countermeasures were identified.

Crashes on this segment involved alcohol, excessive speed, and failure to obey traffic control devices.

Railroad Avenue between Gaines Street and Robert and Trudie Perkins Way

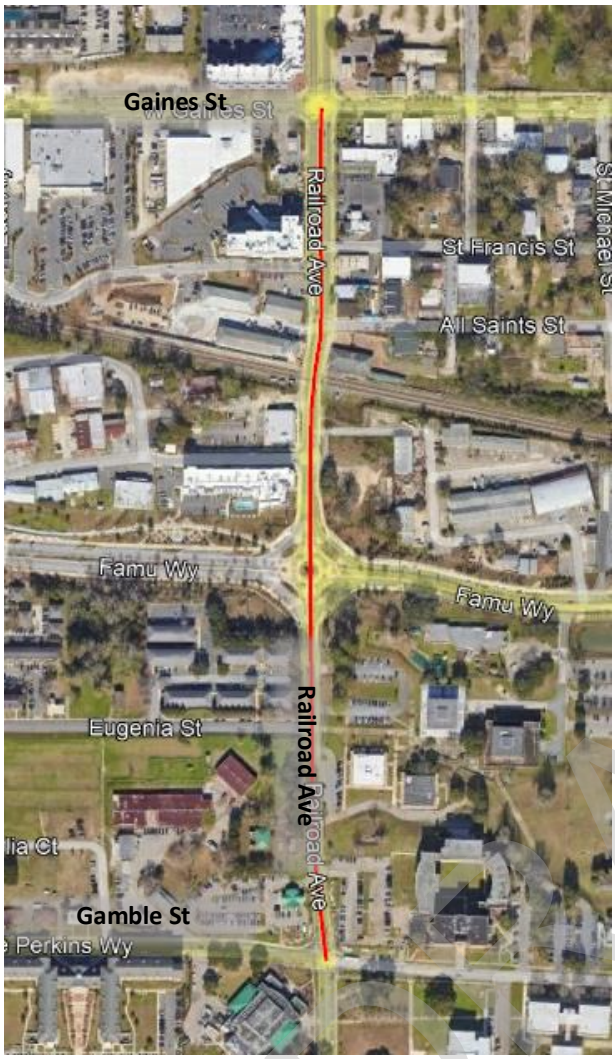


Table 26: Railroad Avenue Fatal and Serious Injury Crash Data

Year	All Crashes	Off Road	Left Turn
2017	1	0	1
2018	0	0	0
2019	0	0	0
2020	0	0	0
2021	2	2	0
TOTAL	**3**	**2**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Railroad Avenue between Gaines Street and Gamble Street:

1. Pavement Markings
    a. Restripe the stop bar and crosswalk on the eastbound approach to Railroad Avenue, south of the Hampton Inn.
2. Pavement/Railroad Condition
    a. Repair railroad crossing to eliminate uneven (i.e., rough) road conditions.

Duval Street between West Tennessee Street and Pensacola Street

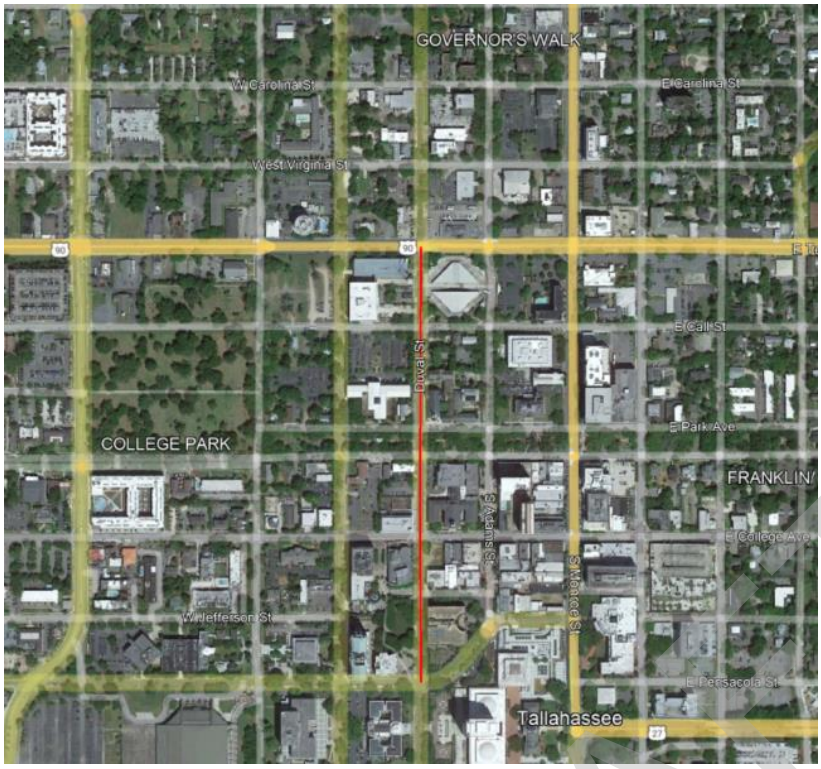


Table 27: Duval Street Fatal and Serious Injury Crash Data

Year	All Crashes	Angle	Unknown	Sideswipe
2017	1	1	0	0
2018	0	0	0	0
2019	1	0	1	0
2020	0	0	0	0
2021	1	0	0	1
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Duval Street between West Tennessee Street and Pensacola Street:

1. No potential countermeasures were identified.

Crashes on this segment involved failure to obey traffic control devices and vehicles being operated in a negligent manner.

Additional Notes: Sight distance is limited due to uphill grades on the northbound and eastbound approaches at the intersection of Duval Street and College Avenue.

North Ridge Road between Springsax Road and South Adams Street

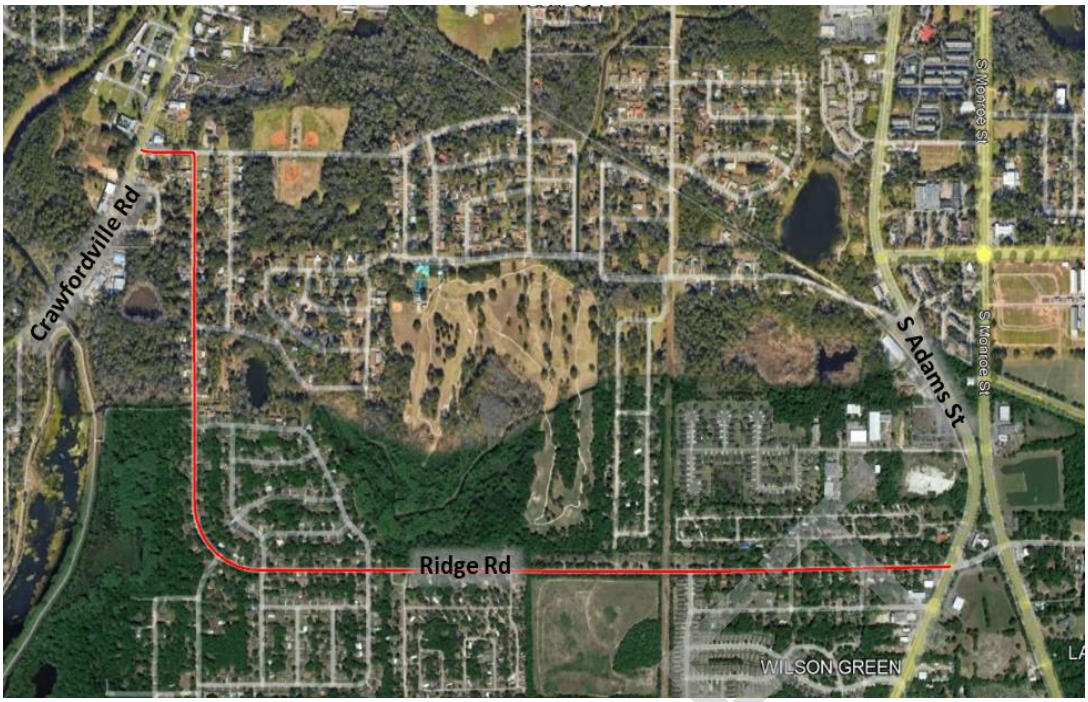


Table 28: North Ridge Road Fatal and Serious Injury Crash Data

Year	All Crashes	Pedestrian	Off Road	Angle	Sideswipe
2017	0	0	0	0	0
2018	1	1	0	0	0
2019	3	1	1	1	0
2020	1	0	0	0	1
2021	0	0	0	0	0
TOTAL	**5**	**2**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of North Ridge Road between Springsax Road and South Adams Street:

1. Ridge Road in the area of Sunnyside Drive (sight distance issue)
    a. Trim bushes on SW corner of intersection.
    b. Relocate bus stop on SW corner of intersection.
    c. Add stop bars on the NB and SB approaches.

Apalachee Parkway between Blair Stone Road and Capital Circle Southeast

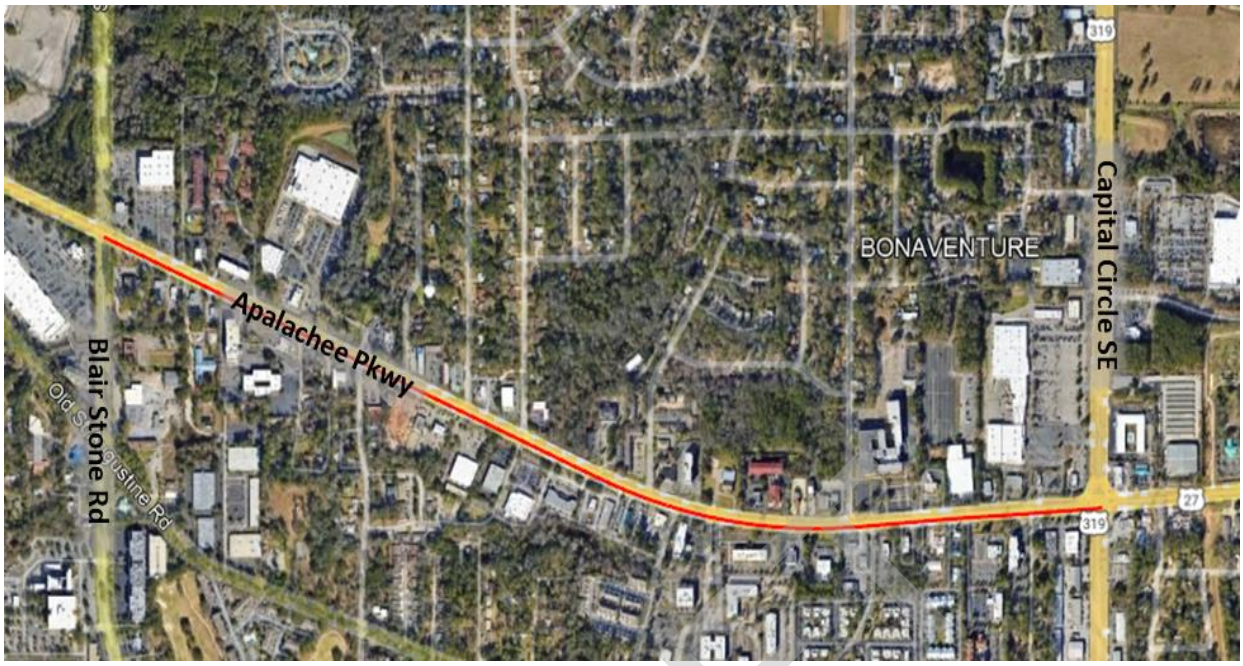


Table 29: Apalachee Parkway Fatal and Serious Injury Crash Data

Year	All Crashes	Left Turn	Right Turn	Bicycle	Angle	Pedestrian	Rear End	Off Road	Other
2017	2	1	0	0	0	0	0	0	1
2018	4	1	0	2	1	0	0	0	0
2019	3	0	0	0	1	1	1	0	0
2020	0	0	0	0	0	0	0	0	0
2021	4	1	1	0	0	0	1	1	0
TOTAL	**13**	**3**	**1**	**2**	**2**	**1**	**2**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Apalachee Parkway between Blair Stone Road and Capital Circle Southeast:

1. Segment Congestion
    a. Reduce posted speed limit on Apalachee Parkway.
2. Apalachee Parkway near Victory Garden Drive
    a. Remove approximately 6 feet of bushes on NE corner (sight distance issue).

Additional Safety Notes:

- Stop sign location at Evangeline Way should be repositioned.
- Stop sign at the Target driveway was observed to be “loose and leaning.”

Jefferson Street between Seminole Avenue and Narcoosa Road

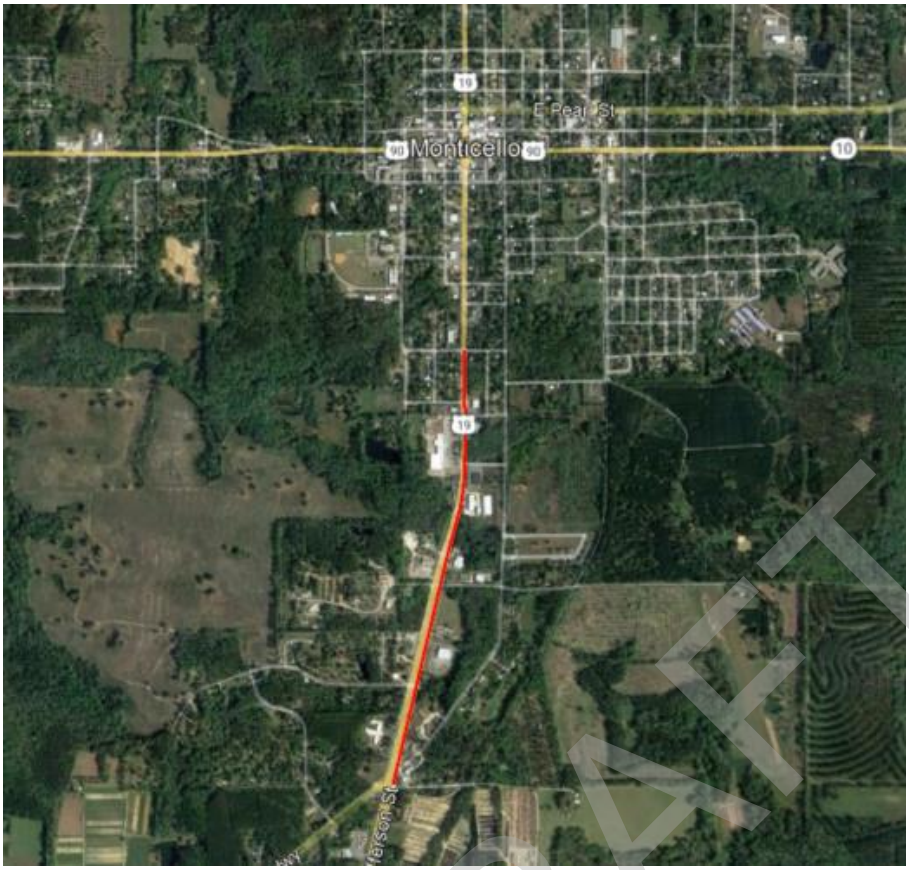


Table 30: Jefferson Street Fatal and Serious Injury Crash Data

Year	All Crashes	Pedestrian	Angle	Rear End
2017	2	1	1	0
2018	1	0	0	1
2019	0	0	0	0
2020	0	0	0	0
2021	0	0	0	0
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Jefferson Street between Seminole Avenue and Nacoosa Road:

1. Jefferson Street at Cooper's Pond Road
    a. Trim bushes and remove sign on the NW corner of the intersection (to improve sight distance on EB approach).

RURAL SEGMENTS

The ten (10) rural segments with the highest crash rates for the four-county area are listed in **Table 31.** The rural segments analyzed typically involve high-speed, horizontal curves, and off-road crashes. As a result, the common potential countermeasures determined included items such as patching shoulder ruts, horizontal alignment/speed advisory signage, and installation of longitudinal rumble strips or profiled pavement markers on the centerline and outside lane line. A summary of the ten rural segments studied are described on the following pages. The detailed rural segment analysis for all ten locations is contained in **APPENDIX D.**

Table 31: Top Ten Rural Segments

Rank	Location	County	Fatality	Serious Injury	AADT
1	Hardaway Highway	Gadsden	2	1	550
2	Providence Road	Gadsden	1	2	1,500
3	Smith Creek Road	Leon	1	2	600
4	Crawfordville Highway	Wakulla	1	2	15,700
5	Wakulla Springs Road	Leon	0	4	7,700
6	Oak Ridge Road	Leon	3	2	3,700
7	Old Plank Road	Leon	2	2	1,400
8	Old Lloyd Road	Jefferson	0	3	1,200
9	Aucilla Highway	Jefferson	0	3	700
10	Ashville Highway	Jefferson	0	5	1,800

Hardaway Highway between Lincoln Avenue and Cochran Road

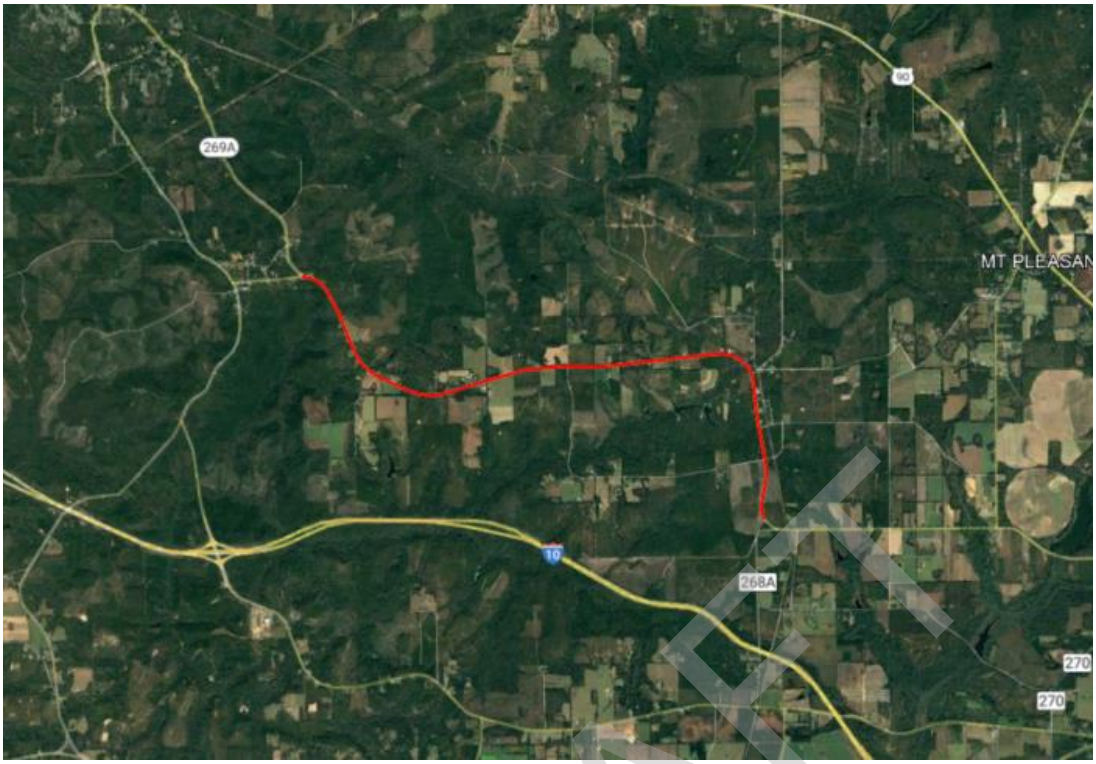


Table 32: Hardaway Highway Fatal and Serious Injury Crash Data

Year	All Crashes	Left Turn	Off Road	Other
2017	0	0	0	0
2018	0	0	0	0
2019	1	1	0	0
2020	2	0	1	1
2021	0	0	0	0
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Hardaway Highway between Lincoln Avenue and Cochran Road:

1. No potential countermeasures were identified.

Crashes on this segment were alcohol, excessive speed, and animal related.

Providence Road (Greensboro Highway to Hosford Highway)

Table 33: Providence Road Fatal and Serious Injury Crash Data

Year	All Crashes	Left Turn	Pedestrian	Rollover
2017	0	0	0	0
2018	1	1	0	0
2019	0	0	0	0
2020	1	0	1	0
2021	1	0	0	1
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Providence Road between Greensboro Highway and Hosford Highway:

1. Pavement Markings
    a. Restripe segment (Striping currently faded/not visible).
    b. Replace reflective markers on segment (90% of markers are currently missing).
2. Speed Limit Signage
    a. Install eastbound speed limit signs on the segment.
3. Providence Road and Noah Lane/Union Chapel Road
    a. Provide advance intersection warning signs.
    b. Provide striping for southbound approach stop bar on Union Chapel Road (Missing).
    c. Relocate “Precinct 7” sign (Sight Distance issue).
4. Providence Road near Juniper Creek Road
    a. Fix rutting on the inside shoulder of the horizontal curve (Shoulder drop-off).
    b. Fix flashing light on horizontal alignment signs.
    c. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Additional Safety Notes:

- There is evidence of other vehicles leaving the road on the outside of the curve near Juniper Creek Road from both east and west directions.

Smith Creek Road (Stoutamire Landing Rd to Leon/Wakulla County Line)

Table 34: Smith Creek Road Fatal and Serious Injury Crash Data

Year	All Crashes	Off Road	Other
2017	1	1	0
2018	1	0	1
2019	0	0	0
2020	1	0	1
2021	0	0	0
TOTAL	**3**	**1**	**2**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Smith Creek Road between Stoutamire Landing Road and the Leon/Wakulla County line:

1. Pavement Markings
    a. Replace reflective markers on segment (90% of markers are currently missing).
2. Smith Creek Road near Generation Gap Trail
    a. Fix rutting on shoulder (Shoulder drop-off).
    b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Crawfordville Highway between East Ivan Road and Mike Stewart Drive

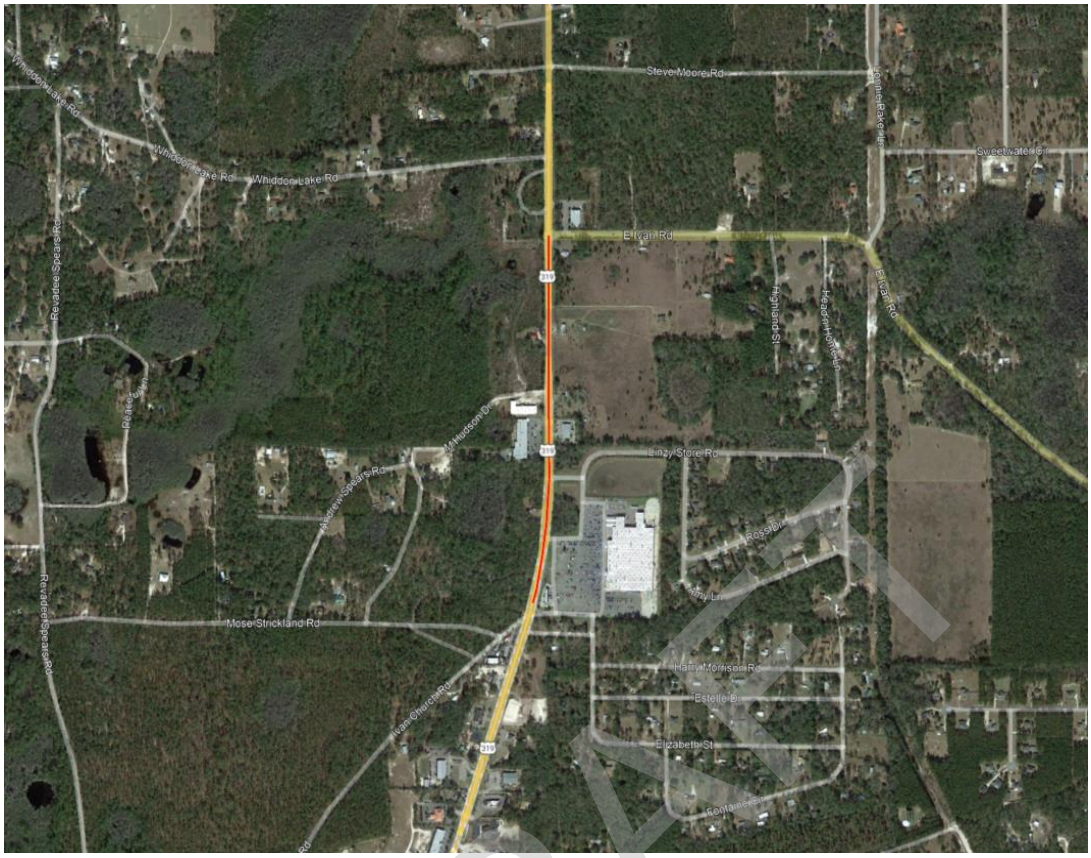


Table 35: Crawfordville Highway Fatal and Serious Injury Crash Data

Year	All Crashes	Right Turn	Rear End
2017	1	1	0
2018	0	0	0
2019	2	0	2
2020	0	0	0
2021	0	0	0
TOTAL	**3**	**1**	**2**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Crawfordville Highway between East Ivan Road and Mike Stewart Drive:

1. No potential countermeasures were identified.

Crashes on this segment involved cell phone distraction and failure to obey traffic control device.

Wakulla Springs Road between Crawfordville Road and Oak Ridge Road

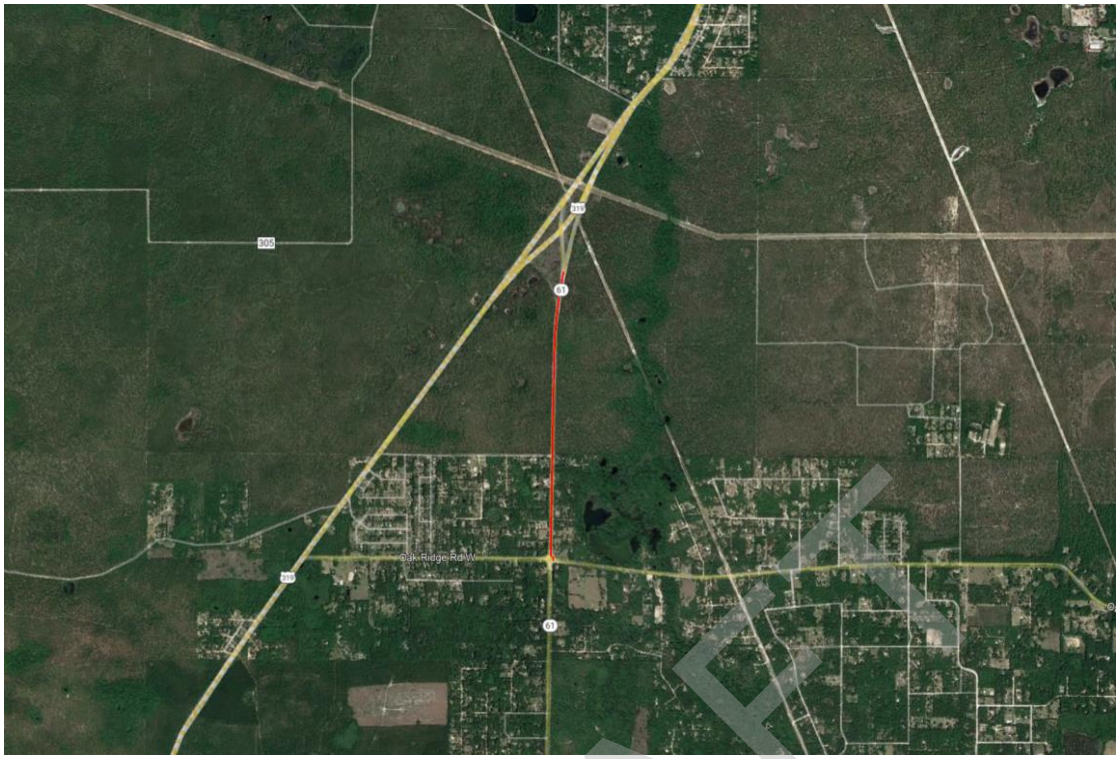


Table 36: Wakulla Springs Road Fatal and Serious Injury Crash Data

Year	All Crashes	Rear End	Head On	Off Road	Other
2017	0	0	0	0	0
2018	2	1	1	0	0
2019	0	0	0	0	0
2020	1	0	0	1	0
2021	1	0	0	0	1
TOTAL	**4**	**1**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Wakulla Springs Road between Crawfordville Road and Oak Ridge Road:

1. Pavement Markings

Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.

Oak Ridge Road (Wakulla Springs Road to Woodville Highway)

Oak Ridge Road is a two-lane undivided major collector.

Table 37: Oak Ridge Road Fatal and Serious Injury Crash Data

Year	All Crashes	Bicycle	Rollover	Off Road	Pedestrian	Other
2017	1	1	0	0	0	0
2018	1	0	0	0	0	1
2019	2	0	1	0	1	0
2020	1	0	0	1	0	0
2021	0	0	0	0	0	0
TOTAL	**5**	**1**	**1**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Oak Ridge Road from Wakulla Springs Road to Woodville Highway:

1. Pavement Markings
    b. Restripe the St. Marks Trail Crossing (Crosswalk faded/not visible).
    c. Restripe segment (Striping currently faded/not visible).
    d. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.
2. Trail Crossing Sign Improvements
    a. Improve existing trail crossing signage.
    b. Install Rectangular Rapid Flashing Beacons (RRFBs) for trail crossing.
    c. Change intersection of Oak Ridge Rd and Old Woodville Rd to All-Way Stop-Controlled.
3. Oak Ridge Road near the curve just west of Henry Jones Road
    a. Fix rutting on shoulder (Shoulder drop-off).
    b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Old Plank Road between Tram Road and Natural Bridge Road

Table 38: Old Plank Road Fatal and Serious Injury Crash Data

Year	All Crashes	Off Road	Head On
2017	3	2	1
2018	1	0	1
2019	0	0	0
2020	0	0	0
2021	0	0	0
TOTAL	**4**	**2**	**2**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Old Plank Road between Tram Road and Natural Bridge Road:

1. Pavement Condition
    a. Fix rutting on shoulder as needed (Shoulder drop-offs).
2. Pavement Markings

Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.

Old Lloyd Road between Washington Street and Rabon Road

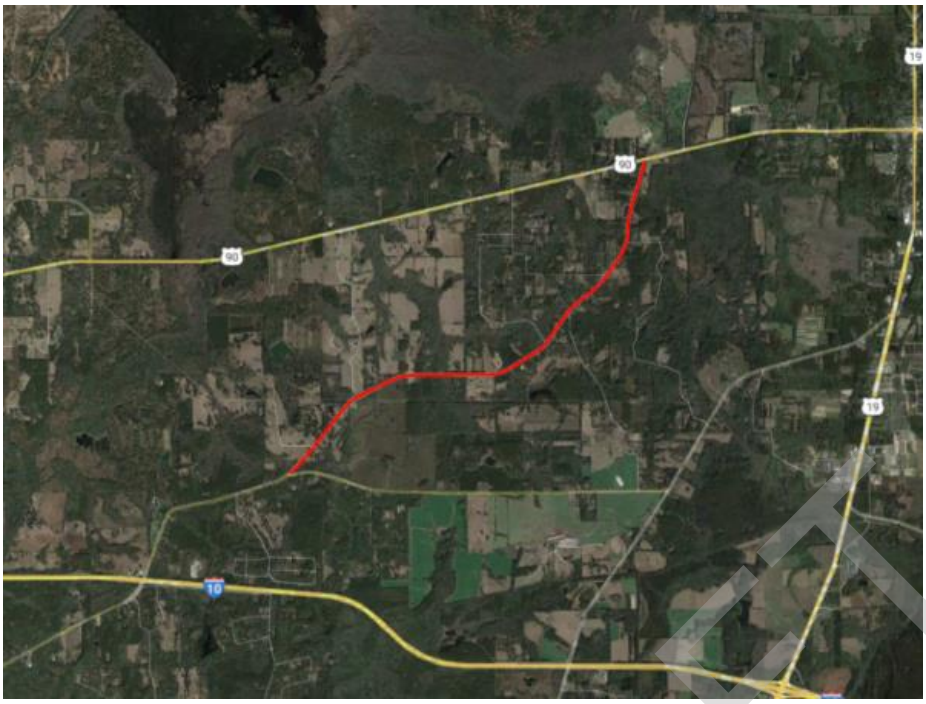


Table 39:Old Lloyd Road Fatal and Serious Injury Crash Data

Year	All Crashes	Sideswipe	Pedestrian	Off Road
2017	1	1	0	0
2018	0	0	0	0
2019	0	0	0	0
2020	2	0	1	1
2021	0	0	0	0
TOTAL	**3**	**1**	**1**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Old Lloyd Road between Washington Street and Rabon Road:

1. Pavement Condition
    a. Fix rutting on shoulder as needed (Shoulder drop-offs).
2. Pavement Markings
    a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.

Aucilla Highway between Jefferson Street and Salt Road

Table 40: Aucilla Highway Fatal and Serious Injury Crash Data

Year	All Crashes	Off Road	Other
2017	0	0	0
2018	0	0	0
2019	0	0	0
2020	2	2	0
2021	1	1	0
TOTAL	**3**	**3**	**0**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Aucilla Highway from Jefferson Street to Salt Road:

1. Speed Limit Signage
    a. Install eastbound speed limit sign on the west end of segment, near US 19.
2. Advanced Warning Signs
    a. Change horizontal alignment/speed advisory signage to 40 mph instead of 30 mph (30 mph is too slow).
3. Pavement Condition
    a. Fix rutting on shoulder as needed (Shoulder drop-offs).
4. Aucilla Highway near Turkey Scratch Road
    a. Provide horizontal alignment/speed advisory signage (Not currently provided).
    b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Additional Safety Notes:

- There is evidence of other vehicles leaving the road on the outside of the curve near Turkey Scratch Road from both east and west directions.

Ashville Highway between St. Margaret's Church Road and Salt Road

Table 41: Ashville Highway Fatal and Serious Injury Crash Data

Year	All Crashes	Off Road	Head On
2017	2	2	0
2018	0	0	0
2019	1	1	0
2020	0	0	0
2021	2	1	1
TOTAL	**5**	**4**	**1**

Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment of Ashville Highway between St. Margaret's Church Road and Salt Road:

1. Pavement Condition
    a. Fix rutting on shoulder as needed (Shoulder drop-offs).
2. Pavement Markings
    a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.

Additional Safety Notes:

- Overall pavement condition has degraded (poor to satisfactory).

Implementation Plan

PROJECTS AND STRATEGIES

Based on the congestion and safety analysis, a list of potential projects to address safety and congestion was developed. The categories for the identified projects and strategies include the following:

- Safety: Intersections: Potential Countermeasures **(Table 42)**
- Safety: Urban Segments: Potential Countermeasures **(Table 43)**
- Safety: Rural Segments: Potential Countermeasures **(Table 44)**
- Recurring Congestion: Project/Strategy **(Table 45)**
- Nonrecurring Congestion: Project/Strategy **(Table 46)**

Table 42: Safety: Intersections: Potential Countermeasures

County	Location	Potential Countermeasures	AADT/Crash Data
Wakulla	*US 98 and Woodville Highway	**1. Intersection Control** a. Install Larger or enhanced "red" signal. b. Change Intersection to All Way Stop Control. c. Change intersection to roundabout. d. Conduct Signal Warrant Study. **2. Intersection Signage** a. Reevaluate advance warning signs on minor street approaches. **3. Bicycle Lanes** a. Provide designated bicycle lanes on each intersection approach. **Additional Safety Note**: • Lighting could be considered at intersection to enhance visibility.	**4,875**/Three Crashes: Two Fatalities and One Serious Injury **(One Bicycle Fatality)**
Leon	*Apalachee Parkway and WW Kelly Road	**1. Sight Distance** a. Remove tree debris and relocate "Hunt Pizza" sign in NE quadrant (Sight distance issue).	**12,500**/Two Crashes; One Fatality and One Serious Injury
Leon	*Orange Avenue and South Adams Street	**1. Driveway Conflicts** a. Relocate "Do Not Enter" sign to next driveway to the north. b. Include "Right-Turn Only" signs for vehicles exiting the driveway. c. Install SB "No Left Turn" signs on the south leg, right shoulder. **2. Access Management** a. Construct new median on the south leg b. redesign northern Post Office driveway to eliminate northbound and eastbound left turning movements.	**42,400**/Seven Crashes: Four Fatalities and Three Serious Injuries **(One Bicycle Related Crash)**
Leon	*West Tennessee and Stadium Drive	**1. Signal Phasing** a. Change EB and WB Left turn Phases to "Protected Only". **Additional Safety Note:** • Consider removing sharrows on West Tennessee Street.	**45,800**/Six Crashes: Zero Fatalities, and Six Serious Injuries **(One Pedestrian Related Crash)**

County	Location	Potential Countermeasures	AADT/Crash Data
Leon	*West Tennessee Street and Geddie Road	**1. Signal Phasing** a. Change EB and WB left turn phases to "Protected Only." **Additional Note:** • Consider removing sharrows on West Tennessee Street.	**21,900**/Two Crashes: Zero Fatalities and Two Serious Injuries
Leon	*North Monroe Street and Fred George Road	**1.Pavement Markings** a. Provide dotted lane extension through the intersection for left turns on all approaches. **2. Signal Phasing** a. Change NB and SB turn phases to "Protected Only".	**29.300**/Three Crashes: One Fatality and Two Serious Injuries
Leon	*North Monroe Street and John Knox Road	**1. Roadway Improvement** a. Consider median installation on N. Monroe to reduce conflicting movements. **2. Signal Phasing** a. Change NB Left turn Phase to "Protected Only".	**46,150**/Four Crashes: Zero Fatalities and Four Serious Injuries
Leon	*Old Bainbridge Road and West Tharpe Street	**1. Signal Phasing** a. Change NB and SB left turn Phase to "Protected Only" **2. Pavement Markings** a. Restripe dotted lane line extension for left turns through the intersection. **3. Pedestrian Detection** a. Convert pedestrian detectors to "Countdown" and/or "audible detection signals. b. Consider exclusive pedestrian phase (i.e., all traffic approaches stop when pedestrian detectors are activated.)	**37,750**/Three Crashes: Zero Fatalities and Three Serious Injuries

*Click Location for Detailed Analysis

Table 43: Safety: Urban Segments: Potential Countermeasures

County	Location	Project/Strategy	AADT/Crash Data
Leon	*Mission Road	**1. Pavement Markings** a. Restripe the intersection of Mission Road and Gearhart Road	**7,600**/Three Crashes: Two Fatalities and One Serious Injury
Leon	*Pensacola Street	**1. Segment Signage** a. Provide advanced "high pedestrian area" signage **2. Segment Congestion** a. Install a median along Pedestrian to reduce conflicting movements between vehicles and pedestrians b. Install speed feedback signs along the segment in both the eastbound and westbound directions **3. Pensacola Street in the area near Cactus Street** a. Relocate black fencing on NE corner of intersection to improve sight distance **4. Pedestrian Detection** a. Convert pedestrian detectors along the segment to "Audible" detection signals b. Provide Rectangular Rapid Flashing Beacon (RRFBs) along the segment	**18,800**/Seven Crashes: Two Fatalities and Five Serious Injuries (Three Pedestrian Related Crashes)
Leon	*Jackson Bluff Road	**1. In area near Bluff Road** a. Trim bushes an NE and SDW corners of intersection **2. Additional Safety Notes** a. Install a median along Jackson Bluff Road (similar to the median along Mission Road)	**9,600**/Three Crashes: Zero Fatalities and Three Serious Injuries
Leon	*St. Augustine Street	**1. Pedestrian Signage** a. Repair the RRFB, on the south shoulder at Gay Street **2. Additional Safety Notes** a. Sight Distance on the southbound approach is limited	**7,400**/Three Crashes: Zero Fatalities and Three Serious Injuries
Leon	*Railroad Avenue	**1. Pavement Markings** a. Restripe the stop bar and crosswalk on the eastbound approach to Railroad Avenue, south of the Hampton Inn **2. Pavement/Railroad Crossing Condition** a. Repair railroad crossing to eliminate uneven road conditions	**6,300**/Three Crashes: Zero Fatalities and Three Serious Injuries (One Pedestrian Related Crash)
Leon	*Ridge Road	**1. In Area of Sunnyside Drive** a. Trim bushes on SW corner of intersection b. Relocated bus stop on SW corner of Intersection c. Add stop bars on the NB and SB approaches	**6,600**/Five Crashes: One Fatality and Four Serious Injuries (Two Pedestrian Related Crashes)

County	Location	Project/Strategy	AADT/Crash Data
Leon	*Apalachee Parkway	**1. Segment Congestion** a. Reduce Posted Speed on Apalachee Parkway 2. Near Victory Garden Drive Area a. Remove approximately 6 feet of bushes in NE corner	**31,000**/Thirteen Crashes: Zero Fatalities and Thirteen Serious Injuries (Two Bicycle and One Pedestrian Related Crashes)
Jefferson	*Jefferson Street	**1. Jefferson Street at Cooper's Pond Road** a. Trim bushes and remove sign on the NW corner of the intersection, to improve EB approach sight distance	**8,000**/Three Crashes: Zero Fatalities and Three Serious Injuries (One Pedestrian Related Crash)

*Click Location for Detailed Analysis

Table 44: Safety: Rural Segments: Potential Countermeasures

County	Location	Potential Countermeasures	AADT/Crash Data
Gadsden	*Providence Road	**1. Pavement Markings** a. Restripe segment (Striping currently faded/not visible). b. Replace reflective markers on segment (90% of markers are currently missing). **2. Speed Limit Signage** a. Install eastbound speed limit signs on the segment. **3. Providence Road and Noah Lane/Union Chapel Road** a. Provide advance intersection warning signs. b. Provide striping for southbound approach stop bar on Union Chapel Road (Missing). c. Relocate "Precinct 7" sign (Sight Distance issue). **4. Providence Road near Juniper Creek Road** a. Fix rutting on the inside shoulder of the horizontal curve (Shoulder drop-off). b. Fix flashing light on horizontal alignment signs. c. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post). Additional Notes: There is evidence of other vehicles leaving the road on the outside of the curve near Juniper Creek Road	**1,500**/Three Crashes: One Fatality and Two Serious Injury
Leon	*Smith Creek Road	**1. Pavement Markings** a. Replace reflective markers on segment (90% of markers are currently missing). **2. Smith Creek Road near Generation Gap Trail** a. Fix rutting on shoulder (Shoulder drop-off). b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post)	**600**/Three Crashes: One Fatality and Two Serious Injury
Leon	*Wakulla Springs Road	**1. Pavement Markings** a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line	**7,700**/Four Crashes: Zero Fatalities and Four Serious Injury (One Bicycle Related Crash)

*Click Location for Detailed Analysis

County	Location	Project/Strategy	AADT/Crash Data
Leon	*Oak Ridge Road	**1. Pavement Markings** a. Restripe the St. Marks Trail Crossing (Crosswalk faded/not visible). b. Restripe segment (Striping currently faded/not visible). c. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line. **2. Trail Crossing Sign Improvements** a. Improve existing trail crossing signage. b. Install Rectangular Rapid Flashing Beacons (RRFBs) for trail crossing. c. Change intersection of Oak Ridge Rd and Old Woodville Rd to All-Way Stop-Controlled. **3. Oak Ridge Road near the curve just west of Henry Jones Road** a. Fix rutting on shoulder (Shoulder drop-off). b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).	**3,700**/Five Crashes: Three Fatalities and Two Serious Injury **(One Bicycle Related Crash and One Pedestrian Related Crash)**
Leon	*Old Plank Road	**1. Pavement Condition** a. Fix rutting on shoulder as needed (shoulder drop-offs). **2. Pavement Markings** a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line	**1,400**/Four Crashes: Two Fatalities and Two Serious Injury
Jefferson	*Old Lloyd Road	**1. Pavement Condition** a. Fix rutting on shoulder as needed (Shoulder drop-offs). **2. Pavement Markings** a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.	**1,200**/Three Crashes: Zero Fatalities and Three Serious Injury (One Pedestrian Related Crash)
Jefferson	*Ashville Highway	**1. Pavement Condition** a. Fix rutting on shoulder as needed (Shoulder drop-offs). **2. Pavement Markings** a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.	**1,800**/Five Crashes: Zero Fatalities and Five Serious Injury
Jefferson	*Aucilla Highway	**1. Speed Limit Signage** a. Install eastbound speed limit sign on the west end of segment, near US 19. **2. Advanced Warning Signs** a. Change horizontal alignment/speed advisory signage to 40 mph instead of 30 mph (30 mph is too slow). **3. Pavement Condition** a. Fix rutting on shoulder as needed (Shoulder drop-offs). **4. Aucilla Highway near Turkey Scratch Road** a. Provide horizontal alignment/speed advisory signage (Not currently provided). b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).	**700**/Three Crashes: Zero Fatalities and Three Serious Injury

*Click Location for Detailed Analysis

Table 45: Recurring Congestion: Project/Strategy

County	Location	Project/Strategy	AADT	LOS
Leon	Betton Road between Thomasville Road and Centerville Road	Study to evaluate complete street improvements.	18,800	LOS E
Leon	East Tennessee Street between Monroe Street and Meridian Street	Study to evaluate complete street improvements.	37,000	LOS F
Leon	Thomasville Road between 6th Avenue and North Gadsden Street	Operational Improvements currently in design phase by FDOT.	19,000	LOS F
Leon	Orange Avenue between Springhill Road and Wahnish Way	Capacity Improvement Project is currently in design phase by FDOT.	20,400	LOS F
Leon	Bannerman Road between North Meridian Road and McBride Point	Capacity Improvement Project currently in design by Blueprint IA from Preservation Road to Quail Commons Drive.	20,200	LOS F
Leon	West Tharpe Street between Ocala to West Burns Drive	Blueprint IA currently preparing PD&E Study to identify preferred alternative.	14,000	LOS E
Wakulla	Crawfordville Highway between MLK Road and Wakulla Springs Rd.	Widening programmed in LRTP.	15,000	LOS D
Leon	Bradford Road between N. Meridian Road and Thomasville Road	Study to evaluate complete street improvements	17,000	LOS F
Leon	Woodville Hwy between Oak Ridge Rd and Capital Circle	Study to evaluate complete street improvements.	15,000	LOS F
Leon	Old Bainbridge Road between West Brevard St. and Myrick Road	Study to evaluate complete street improvements.	14,000	LOS F
Leon	Centerville Road between Welaunee Boulevard and Glenncrest Lane	Study to evaluate capacity and operational improvements.	21,500	LOS F
Leon	Monroe Street between Apalachee Pkwy and E. Jefferson Street	Study to evaluate operational improvements.	34,500	LOS E
Leon	South Meridian between East Gaines Street and East Lafayette Street	Study to evaluate operational improvements.	19,800	LOS F
Leon	White Drive between South of Tennessee St and Mission Road	Study to evaluate complete street improvements	11,500	LOS F
Leon	Bradford Road between E. Dellview Dr. and Shopping Center Entrance	Study to evaluate complete street improvements	10,200	LOS E
Leon	Centerville Road between North of 7th Ave and Blair Stone Road	Study to evaluate complete street improvements	13,500	LOS E
Leon	Buck Lake Road between Buck Lake Trail and Chairs Cross Rd	Study to evaluate complete street improvements	11,500	LOS D
Leon	Centerville Road between Bradfordville Rd and SR 59	Study to evaluate complete street improvements	10,200	LOS D

Table 46: Nonrecurring Congestion: Project/Strategy

County	Location	Project/Strategy
Leon	Northbound South Monroe between East Madison and East Gaines	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Northbound Varsity Dr E intersecting with West Pensacola Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Southbound Appleyard Drive intersecting with West Tennessee	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Westbound Miccosukee Road at Capital Circle SE	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Southbound Railroad Avenue between East Madison and West Gaines Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Northbound Monroe Street between Jefferson Street and Apalachee Parkway	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Eastbound West Gaines Street between S. Monroe and Duval Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Eastbound Betton Rd intersecting with Thomasville Road	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Westbound Orange Avenue intersecting with Capital Circle SE	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Northbound S Monroe St. between W Tennessee St. and E. Jefferson Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Southbound N Franklin Blvd intersecting with E. Tennessee Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Off-ramp from WB I-10 (SR 8) intersecting with N. Monroe St.	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Off-ramp from EB I-10 (SR 8) intersecting with N. Monroe St.	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Southbound N Meridian St between E. Virginia St and E. Tennessee Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems

Leon	Westbound E Tennessee St between N Franklin Blvd and S. Monroe Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Northbound S Duval St between W Madison St and W Gaines Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Northbound S Monroe St between E Madison St and Apalachee Pkwy	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Northbound S Bronough St between W Gaines St and W Madison Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Eastbound E 6th Ave between N Gadsden St and Thomasville Road	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Eastbound Gaines St intersecting with S Monroe Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Southbound South Monroe Street between East Madison Street and Apalachee Parkway	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Eastbound West Brevard Street between North Bronough Street and North Duval Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Westbound Martin Luther King Jr. Boulevard intersecting with South Adams Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Southbound South Main Street between US 90 and Crawford Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Eastbound East Bradford Road and Thomasville Road	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Eastbound West Pensacola Street intersecting with Varsity Drive	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Westbound Conner Boulevard intersecting with Capital Circle Southeast	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	Northbound North Magnolia Drive intersecting with Miccosukee Road	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems
Leon	North Pat Thomas Parkway intersecting with West Jefferson Street	Evaluate accessibility issues and queue length problems; signal timing optimization; integration of traffic information systems

Next Steps

CMP Actions & Recommendations

The recurring congestion analysis identified twenty-two (22) roadway segments in the CRTPA Region that currently do not meet the required LOS standard using the FDOT's 2020 Generalized Service Volume Tables. Fifteen of the twenty-two segments are located within Tallahassee's City Limit with a LOS standard of D. The remaining eight segments are outside the City Limit and have a LOS standard of C. Eleven of the twenty-two segments are currently operating a LOS F based on the AADT analysis. The team also completed a refined analysis on selected segments that failed to meet the LOS target using FDOT's 2023 Generalized Service Volume Tables, which takes into consideration Context Classification. Four roadway segments that failed to meet the LOS standard using the 2020 Generalized Service Volume Tables met the 2023 Generalized Service Volume Tables which reduced the total number of segments failing to meet LOS standards to eighteen.

The nonrecurring congestion analysis identified twenty (20) roadway directional locations with the highest Daily Planning Time Index (PTI) which represents the additional travel time that a traveler should budget for to ensure on-time arrival 95 percent of the time. The nonrecurring congestion analysis identified twenty (20) roadway directional locations with the highest Peak Hour Planning Time Index. Cross referencing the Daily and Peak Hour PTI roadway locations, there are twenty-nine (29) unique locations with the highest Daily and Peak Hour nonrecurring congestion.

As part of the Regional Mobility Plan (RMP) update (2050), which will begin in late 2024, the roadway segments that fail to meet LOS standards identified in both the recurring and nonrecurring congestion, should be considered for further analysis and improvements programmed accordingly within the RMP.

The CMP analysis also identified safety hotspots which are locations with the highest safety concerns in the CRTPA region. The thirty (30) locations including ten intersections, ten rural segments and ten urban segments with the highest crash rates, related to serious injuries and fatalities. Field reviews were conducted at each location and potential countermeasures were identified.

It is recommended that additional, more detailed analyses be completed for the thirty locations identified in the safety analysis. Working with CRTPA agency partners, develop specific safety improvement plans for each of the thirty locations and include potential funding sources. These safety projects should be considered for programming within the Five-Year Transportation Improvement Program.

As part of the CMP process, four goals were identified, along with specific objectives and performance measures. The CRTPA, along with its agency partners, should periodically collect system data to evaluate the CMP performance measures and to determine the network congestion and safety trends and make necessary adjustments and recommendations.

The CRTPA should monitor the effectiveness, in concert with local partners, the strategies and projects contained in the CMP. An assessment of the efficiency and effectiveness of proposed strategies should take place concurrently with the development and update of the Regional Mobility Plan (RMP), scheduled to begin in 2024. The evaluation of the projects simultaneously with the adopted RMP enables decision-makers and agencies the opportunity to select the most effective strategies for future implementation. The results of the evaluation will provide information that will allow the CRTPA to make necessary changes or modifications to the CMP.

Evaluation of the CMP projects after their initial implementation will be completed by the sponsoring agency. As with most management systems and processes, the CMP is data intensive. It is anticipated that the sponsoring agency will be responsible for compiling the necessary data, conducting the performance evaluations and producing a user-friendly performance-based report.

APPENDIX A

STAKEHOLDER INTERVIEWS

CONGESTION MANAGEMENT PROCESS (CMP) REPORT UPDATE
Stakeholder Interview – City of Tallahassee

July 14, 2022

Attendees

Greg Burke	CRTPA	Planning Manager
Joshua Hollingsworth	City of Tallahassee	Traffic Engineer, TMC
Steve Shafer	Not in attendance	City Engineer
Allen Secreast	City of Tallahassee	Traffic Operation Manager
Eric Gooch	City of Tallahassee	Public Infrastructure Manager
Greg Slay	CRTPA	Executive Director
Jack Kostrzewa	CRTPA	Assistant Director
Suzanne Lex	CRTPA	Programs Manager
Wayne Bryan	Not in attendance	Manager, TMC
Gary Phillips	Halff Associates	Project Manager
Tyrone Scorsone	Kittelson Associates	Technical Lead
Tim Smith	Halff Associates	Senior Planner

1. Introduction

Greg Burke led meeting with discussion of the CMP process update effort.

Gary Phillips provided an overview of the meeting agenda that includes the Final Draft Network, Local Data, Key Issues and Projects and Next Steps.

2. Draft Network

Tyrone Scorsone reviewed the process for developing the draft network.

The project team utilized the 4-county area base map as a starting point. Key inputs to the CMP process include volumes, speed, and crashes. ITS instruments will be key in providing data useful in measuring network performance. This important step is to identify the network and any data or instrumentation gaps. Volume is a necessary consideration for determining network. If volume data is not available on a roadway it is excluded from the CMP as the data will not be available to conduct performance measure evaluation.

The 40-80k cohort is a large spread and we might need to create additional categories.

Overall roadway volumes are not ideal for providing the information needed to make decisions, directional volumes are preferred. We may also want to use v/c ratios in addition to volume.

FHWA's Functional Classification was used to capture anything that is a major collector or above. Additional roads that have been added to the Network even though they are not major collectors or above include:

- Blair Stone Rd.
- Miccosukee Rd.
- Orange Ave.

3. Probe Speed Data

Detailed discussion on the use of probe speed data and its availability. It can be very useful as speed is an important performance measure.

There is a desire to compare the Blue Toad Data obtained by the TMC with the available INRIX or HERE data. The team would like to pull the local data and compare with the other two data sets? This will allow us to see how consistent or accurate we think they are and know if they are useful for filing data gaps. We have not yet compared the data sources; however, experience shows that local data is almost always superior to the commercial data sets.

Using Blue Toad Data compared to the others on a corridor or segment basis may give a good idea of how close they are or what factors we might use to calibrate commercial data on corridors where we don't have Blue Toad Data. The City has data in most locations going back 2 years or so. There is an issue with trying to do a mass data pull at one time. The City has pulled data for most locations in the last year. Anything prior to that would require an individual data pull which is time consuming.

There is no commercial data on Blair Stone, Miccosukee and Centerville roads. Do we want to go beyond Capital Circle on these roadways? Using local Blue Toad Data, they will be added into the study network. We will also look at adding Welaunee Boulevard with the development going on out there. The study team agreed these roadways would be added to the network.

4. Safety and Projects

The CMP Report update did not conduct a detailed analysis on causality of the crashes. It is notable that many of the locations of concern from the 2018 CMP are one-way pairs. It would be nice in this update to be able to identify crash types when creating crash rates based on data availability.

We may be able to obtain crash reports from TPD worked crashes relatively soon as they are in the City system. Most other crash reports take about 60 days to show up in the system (FHP, Leon Co.).

Using the V/C ratio may not be an ideal performance measure as it tends to lend to capacity increasing projects where the CMP process is more focused on shorter term operational type improvements. The CMP is not where we want to be adding lanes to large corridors, that is the LRTP's responsibility.

The CMP process should identify projects and strategies that we can show progress on in a year or two.

5. Bottlenecks

These is some concern with using the NPMRDS data because some intersections that we expected to see did not show up on the list during the 2018 process.

Monroe at Gaines is obvious but it's pretty much optimized. There's not a lot we can do to improve it. We need to look for or identify locations that we can actually improve. What locations would function better with a turn lane or signal optimization for example?

6. Action Items:

- City of Tallahassee staff will review and mark up the draft network for editing.
- Consultant team to make edits to draft network for final review and provide shapefile.
- City of Tallahassee will compile local traffic data and provide to consultant team.
- Consultant team plans on having someone visit the TMC (likely Dave Muntean).
- Greg B. stated he would be sharing the Final Draft Goals and Objectives with the Technical Task Force. Once those are final, we can move forward with identifying performance measures in detail.

CONGESTION MANAGEMENT PROCESS (CMP) REPORT UPDATE
Stakeholder Interview – Leon County

July 19, 2022

Attendees

Greg Burke	CRTPA	Planning Manager
Chris Muehlemann	Leon County	Senior Design Engineer
Charles Wu	Leon County	Engineering Services Director
Greg Slay	CRTPA	Executive Director
Jack Kostrzewa	CRTPA	Assistant Director
Suzanne Lex	CRTPA	Programs Manager
Gary Phillips	Halff Associates	Project Manager
Tyrone Scorsone	Kittelson Associates	Technical Lead
Tim Smith	Halff Associates	Senior Planner

1. Introduction

Greg Burke led meeting with discussion of the CMP process update effort.

Gary Phillips provided an overview of the meeting agenda with discussion on the Final Draft Network, Local Data, Key Issues and Projects in Leon County and Next Steps.

2. Draft Network

Tyrone provided an overview of the draft network and the data sets available to help determine which facilities should be included. The following data sets were reviewed:

- Roadway ownership.
- Locations where data was available such as Bluetooth and roadway volumes (FDOT).
- Crash data for all of Leon County. One strategy to organize all this crash data is to create a high injury network where we weight crashes based on injury severity and highlight the worst performing segments.
- The location of ITS instruments. Not all of the instruments are connected to the fiber network they still provide data, however.
- Functional classification.
- Probe speed data. Speed is an important input in determining congestion and travel time delay.

Discussion on the Functional Classification map and how there are mismatches between the FHWA and local government classifications of certain roadways. This is a known issue and there are future efforts planned to address these inconsistencies on these segments, but it's not believed to be an issue for this CMP update.

All the reviewed data inputs were used to develop the draft proposed network. There are also other segments where data exists such as Miccosukee Road beyond capital circle that may be included.

Discussion on the addition of Miccosukee Road beyond Capital Circle and how TMC data is available. The ITS instrument sites are however further apart than ideal. The instrument sites on Centerville are fine and the data should be usable.

3. Local Data Availability

Leon County has roadway volumes in their concurrency system up to 2019. This data could be compiled or provided as needed. One downside is the data is in tabular format and not georeferenced. If the data was georeferenced (X,Y coordinates, Lat/Long) it would make mapping the data in GIS possible. Many of the data points identify the location as on a side of an intersection but without actual point location data. Leon County can compile and provide data for any specific road as needed from the concurrency system and will also ask their contractor about adding georeferencing to the data.

Leon County can provide any data obtained from traffic studies in the last several years. Most of these will be 72-hour counts.

4. Projects

Intersection improvements

1. Capital Circle northwest and old Bainbridge Road (realignment of old Bainbridge)
2. Old St. Augustine and Blair Stone Road, extending the turn lane eastbound and westbound and adding an additional turn lane. Currently in ROW acquisition.

Other projects

- Bannerman Road Capacity Improvements from Meridian Road to Quail Commons Drive. Improvements are planned at Meridian, Bannerman and Orchard Pond intersection, currently evaluating a roundabout option.
- There are sight distance problems at Meridian and Maclay Roads due to high banks on the shoulders and you can't turn right on red.
- Orange Avenue capacity improvements – South Lake Bradford to South Monroe.
- Northeast Gateway Extension up to Roberts Rd.
- The County has an active sidewalk construction program. Monroe (meridian) Dr Pontiac to Diamond Dr and then Diamond to Apalachee Parkway. This will create an entire loop all the way to Adams.
- Leon County just completed a safety analysis on Springhill Road from Capital Circle to the County Line and they are recommending enhanced visibility through chevrons, RPMs, and striping and reduction of speed limit through some of the curves.

5. Other Discussion

Concern was raised regarding the NE Gateway / Welaunee Blvd Extension as the project may increase traffic on Bradfordville Road which does not have good shoulders. This type of project is more suited for inclusion in the Long-Range Transportation Plan and can be addressed during that plan update process.

The new FHWA Safe Streets for All program was mentioned as a potential new funding source. It appears there may be some money available through that program but probably not enough to make a material difference.

The plan is to take these early plan deliverables Goals, Objectives, Performance Measures and Projects to the board and committees in September with ultimate completion about a year from then.

6. Action Items:

- Consultant team to make edits to draft network for final review.
- Leon County to compile local traffic data and provide to consultant team.
- Leon County to discuss potential for georeferencing count data locations with contractor.

CONGESTION MANAGEMENT PROCESS (CMP) REPORT UPDATE
Stakeholder Interview – Wakulla County

July 20, 2022

Attendees

Greg Burke	CRTPA	Planning Manager
Mike King	Wakulla County	Road and Bridge Director
Somer Pell	Wakulla County	Planning & Community Development Director
David Edwards	Wakulla County	County Administrator
Greg Slay	CRTPA	Executive Director
Jack Kostrzewa	CRTPA	Assistant Director
Suzanne Lex	CRTPA	Programs Manager
Gary Phillips	Halff Associates	Project Manager
Tyrone Scorsone	Kittelson Associates	Technical Lead
Tim Smith	Halff Associates	Senior Planner

1. Introduction

Greg Burke led the meeting with a discussion of the CMP process update effort.

Gary Phillips provided an overview of the meeting agenda that includes the Final Draft Network, Local Data, Key Issues and Projects in Wakulla County and Next Steps.

2. Draft Network

Tyrone Scorsone reviewed the process for developing the draft network.

The project team utilized the 4-county area base map as a starting point. Key inputs to the CMP process include volumes, speed, and crashes. ITS instruments will be key in providing data useful in measuring network performance. One of the key data points is volume. We have roadway volumes for most of the key travel corridors in Wakulla County (Map). We also have probe speed data available on primary corridors in Wakulla County including Highways 319, 61, 30, 369, 267, and 363. This data is obtained from cell phones or in car GPS units.

The study will evaluate safety in addition to roadway volumes. Detailed crash data is available from Signal 4 analytics. The project team will use this data to develop crash rates to identify locations of high concern. US 319 shows up as a corridor of high safety interest.

The project scope also calls for an investigation into functional classification. We used FHWA's functional classification designation to focus the analysis on major collectors and above. However, we are proposing the addition of several roadways that are not major collectors. Roadways to be added to the network include:

- East Ivan Rd. from US 319 to Wakulla Arran Rd.
- Alexander Rd. from Rehwinkel Rd to MLK Jr Blvd.
- Old Shell Point Rd. from Bloxham Cutoff and Wakulla Springs Rd.

In addition, there is a segment of Whidden Lake Rd. that is shown on the network but it's a dirt road and has very little ROW or room for improvements. The County recommends it be removed from the network.

There is no traffic data available for Alexander Rd. Traffic data will be collected by Wakulla County and provided to the study team. The County will look to see if they have a map or location data on where their devices are located and provide to the study team.

Wakulla County has requested that FDOT break up the US 319 widening project into two segments. FDOT has approved the request and there are now two separate projects. That project will be a major improvement to congestion and safety. They have also funded an update to the US 319 project in Leon County. East Ivan to Wakulla Arran. It's up to D3 as to when the projects get funded. ROW is needed first at about 30M.

Wakulla County is looking at ways to get US 319 designated as a SIS facility. CRTPA has a meeting with FDOT to talk about SIS designation in the near future. The lack of SIS designated facilities is one of the big issues in the region as most FDOT capacity funding is used on SIS facilities. Interstate 10 and US 319 North are the only SIS roadways in the CRTPA region.

Wakulla County gets about 1.2M a year out of the road tax for resurfacings, other improvements and new roadways.

The creation of alternative north-south routes to US 319 is the County's primary strategy for supporting that corridor.

3. Intersection Safety Projects

The following intersections and locations were identified as either being of concern or having projects already identified for implementation:

- US 98 and Spring Creek was identified as having safety concerns. There are still crashes at that location. FDOT has put in Flashing stop signs and wants to install a signal as last resort. The vertical curve needs to be lowered in order to open the line of sight to the East.
- Woodville Hwy and US 98 also has crashes
- Sopchoppy Highway and US 98 is also experiencing more crashes with the higher traffic volumes from people heading to Franklin Co.
- The light at US 319 and US 98 seems to have fixed most of the issues at that intersection.
- Wakulla Springs Hwy and SR 267 is an intersection of concern. There are two new flashing LED stop signs that were just installed. This location usually sees high speed crashes and is dangerous. This location may be a good candidate for a roundabout.
- MLK Rd. and Spring Creek Hwy is another intersection where the County has installed flashing caution lights and are watching to see when a full traffic signal may be needed.
- MLK Rd. and US 319 is an odd intersection that has accidents due to the shared turn and thru lane on the east side of MLK. A new separate turn lane is needed and currently under design.
- Bloxham and Shell Point Hwy is another big concern area.

4. Action Items:

- Consultant team to make edits to draft network for final review.
- Wakulla County to compile local traffic data and provide to consultant team.
- Halff Associates to provide latest update on US 319 and MLK intersection design solution.

CONGESTION MANAGEMENT PROCESS (CMP) REPORT UPDATE
Stakeholder Interview – Gadsden County

July 21, 2022

Attendees

Greg Burke	CRTPA	Planning Manager
Justin Stiell	Gadsden County	Growth Management Director
Agnes Denson	Gadsden County	Contracting Officer
Jack Kostrzewa	CRTPA	Assistant Director
Suzanne Lex	CRTPA	Programs Manager
Gary Phillips	Halff Associates	Project Manager
Tyrone Scorsone	Kittelson Associates	Technical Lead
Tim Smith	Halff Associates	Senior Planner

1. Introduction

Greg Burke led meeting with discussion of the CMP process update effort.

Gary Phillips provided an overview of the meeting agenda that includes the Final Draft Network, Local Data, Key Issues and Projects in Gadsden County and Next Steps.

2. Draft Network

Tyrone Scorsone reviewed the process for developing the draft network.

The project team utilized the 4-county area base map as a starting point. Key inputs to the CMP process include volumes, speed, and crashes. ITS instruments will be key in providing data useful in measuring network performance. One of the key data points is volume.

3. Local Data Availability

Any device deployment data in addition to what we've shown available from Gadsden County would also be good to account for. It will help account for gaps in the network and provide better data coverage.

Detailed crash data is available from Signal 4 analytics. The project team will use this data to develop crash rates to identify locations of high concern.

4. Projects

There are no immediate projects that county planning staff are aware of. They will check with Gadsden County Public Works to see if they have any intersection or safety projects scheduled.

5. Action Items:

- Consultant team to provide a copy of the draft network to Gadsden County for review.
- Consultant team to provide copy of 2018 CMP Report for their review.
- Gadsden County project staff to meet with public works and provide comments to project team.

CONGESTION MANAGEMENT PROCESS (CMP) REPORT UPDATE
Stakeholder Interview – Jefferson County/City of Monticello

August 09, 2022

Attendees

Greg Burke	CRTPA	Planning Manager
Emily Anderson	City of Monticello	City Clerk
Shannon Metty	Jefferson County	Planning Official
Greg Slay	CRTPA	Executive Director
Jack Kostrzewa	CRTPA	Assistant Director
Gary Phillips	Halff Associates	Project Manager
Tyrone Scorsone	Kittelson Associates	Technical Lead
Tim Smith	Halff Associates	Senior Planner

1. Introduction

Greg Burke led meeting with discussion of the CMP process update effort and reviewed conversation with Shannon from December 2020 when intersection issues were discussed.

Gary Phillips provided an overview of the meeting agenda with discussion on the Draft Network, available Data, Key issues and projects in Jefferson County and next steps.

2. Draft Network

Tyrone provided discussion on the draft network and needed information to help identify hot spots and safety needs.

- Volume data
- There is not a lot of speed data coverage in Jefferson County. There was detailed discussion on probe speed data, how it's calculated, analyzed and the value it provides. It relies on triangulation of vehicle probe data, GPS units and cell phones. Once data is compiled is used to identify percentiles over the calendar year and develop travel time reliability metrics. For example, you may find out that a specific trip will take twice as long as normal at a specific frequency over a set period of time.
- We have crash data showing crashes and their severity. Will be used to determine high crash severity network.
- Functional classification is another variable used to determine the study area network. We are focusing on major collectors and above.

All of these data sources have been used to create the draft proposed network. We do have ITS instrument data in other counties but don't know of any in Jefferson County. If the County is collecting any data of their own this would be useful to know and obtain.

3. Areas/Issues of Concern

There was question on the proposed toll roads and their impacts on the highway corridors in Jefferson County. FDOT has not moved forward with any more projects related to those toll roads. It is assumed that they are on hold for now or not going to happen at all.

Most of Jefferson County's congestion or traffic is from through traffic on I10, US90, or US27.

There is increasing congestion on US90 at the west side of town from the new Crooked Creek subdivision. Residents have requested reduced speed limits around crooked creek lane.

There are increasing traffic levels on US19 coming in and out of Georgia. GDOT has made recent improvements to US19 on the Georgia side and it appears travelers are using it as an alternative to I75. There may also be a need for traffic calming on US19 due to high speed traffic coming in and out of town. It's a growing commercial area with a lot of driveways.

The intersection of US27 and SR59 (Gamble Rd.) is an area of concern. SR59 is seeing more traffic and a traffic signal was recently installed at the intersection. More out of town through traffic is using SR59 that is impacted by the hill and limited visibility.

There is a new Golf Cart Ordinance that limits golf carts to local streets. This has created some safety concerns as users are driving golf carts on the sidewalks along US 90.

Commissioner Hall has requested some a safety modification for the roundabout. The concern is for pedestrians crossing the roadway to access the Courthouse. Bulb outs have been installed on US90 and have helped. They have also added 4 more with the repaving of US19 at the intersections of US19 and West Pearl St. and US19 and West Dogwood St. These have helped slow traffic down.

Is there an update on the Waukeenah Hwy and US19 intersection? CRTPA looked at the crash data a month or so ago and there did not seem to be many crashes over a five-year period (3 or so). Signal 4 data was pulled during the meeting and showed 11 crashes since January 2017, most with no injuries. It is believed FHP conducts most if not all of the crash investigations in Jefferson County. Jefferson County staff will follow up to see if the Sheriffs Dept. has any additional crash information.

Truelieve may need a turn lane on US 27. The City may try and require an additional traffic study and turn lane. They may stagger the work shifts. Traffic does back up there on some mornings.

Aucilla Christian Academy off Aucilla Hwy is a location of concern. Rubber speed humps have been installed to slow traffic at the school and have been met with mixed review. They are narrow and tall leading to complaints. There is a need for a better traffic calming strategy there. It may be most effective to approach this as a small local project.

4. **Action Items:**

- Consultant team to provide a copy of the draft network to Jefferson County for review.
- Jefferson County project staff to reach out to Sheriffs Dept to inquire about availability of crash data.

APPENDIX B

DETAILED CRASH CAUSATION ANALYSIS

Congestion Management Plan
Crash Causation Analysis

Table of Contents

Identifying Crash Causes at Intersections

Location	County	KA Crash Count	Fatality	Serious Injury	Entering traffic volume
US 98 and Woodville Hwy	Wakulla	3	2	1	4,875
Apalachee Pkwy and WW Kelly Rd	Leon	2	1	1	12,500
Orange Ave and S. Adams St	Leon	7	4	3	42,400
W Tennessee St and Stadium Dr	Leon	6	0	6	45,800
W Tennessee St and Geddie Rd	Leon	2	0	2	21,900
N Monroe St and Fred George Rd	Leon	3	1	2	29,350
Capital Cir SE and Woodville Hwy	Leon	4	0	4	32,350
N Monroe St and John Knox Rd	Leon	4	0	4	46,150
Old Bainbridge Rd and W Tharpe St	Leon	3	0	3	37,750
N Monroe St and Lakeshore Dr	Leon	3	0	3	43,000

US 98 and Woodville Hwy (SR 363)

Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Angle
2017	1	1
2018	0	0
2019	2	2
2020	0	0
2021	0	0
Total	3	3

Crash Details

Report Number	85603259	88074742	88099939
Severity	Serious injury	Fatality	Fatality
Crash Time	10/30/2017	3/23/2019	5/12/2019
	7:29 AM	4:00 PM	2:23 PM
First Harmful Event	Bicycle	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Dawn	Daylight	Daylight
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Cloudy
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicycle Related	N	N	N
Narrative	V1 was traveling west on US 98, approaching Woodville Hwy. D1 made turn into a driveway west of Woodville Hwy. As D1 turned into the driveway, V1 entered the path of BC1. BC1 struck the right side of V1	V1 was traveling south on Woodville Hwy, north of US 98. V2 was traveling west on US 98, east of Woodville Hwy. D1 ran the stop sign on the SB approach and entered the intersection. The front of V2 impacted the left side of V1.	V1 was traveling south on Woodville Hwy, north of US 98. V2 was traveling west on US 98, east of Woodville Hwy. D1 ran the stop sign on the SB approach and entered the intersection. The front of V2 impacted the left side of V1.
Note	**Bicycle Related Crash (BC1)**		

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (EB)	Major road (WB)	Minor road (NB)	Minor road (SB)
Road Name	US 98	US 98	Woodville Hwy	Woodville Hwy
AADT	3,100	1,250	1,700	3,100
Speed Limit	45 mph	45 mph	45 mph	45 mph
Signal Control	Flashing yellow	Flashing yellow	Stop sign and flashing red	Stop sign and flashing red
Exclusive Left-Turn Lane	N	N	N	N
Exclusive Right-Turn Lane	N	Y	N	Y
Channelized Right-Turn Lane	N	N	N	N
Lane Width	13 feet	13 feet	13 feet	13 feet
Number of Lanes	2	2	2	2
Presence of Bike Lanes	N	N	N	N
Presence of Crosswalks	N	N	N	N
Presence of Median	N	N	N	N
Presence of Lighting	N	N	N	N
Advanced static warning signs and beacons (990 ft buffer)	N	N	Y	Y

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Angle	Restricted sight distance
	High traffic volume
	High approach speed
	Unexpected crossing traffic
	Drivers running “stop” sign
	Slippery pavement
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed
	Limited sight distance
Motor vehicle-bicyclist	Inadequate signs
	Inadequate pavement markings
	Inadequate lighting
	Excessive speed
	Bicycles on roadway
	Bicycle path too close to roadway
	Narrow lanes for bicyclists

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Angle	Restricted sight distance
	Drivers running "stop" sign
Collisions at driveways	Left-turning vehicles
	Excessive speed
	Improperly located driveway
	Large volume of driveway traffic
Motor vehicle-bicyclist	Absence of bicycle lane
	Inadequate lighting
	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Intersection Control
    a. Install larger or enhanced "red" signal indicators.
    b. Change intersection to All-Way Stop-Control.
    c. Change intersection to roundabout.
    d. Conduct Signal Warrant Study to evaluate signalization potential.
2. Intersection Signage
    a. Re-evaluate advance warning signs on minor street approaches (to improve visibility).
3. Bicycle Lanes
    a. Provide designated bicycle lanes on each intersection approach (currently provided only on the southbound approach).

Additional Safety Notes:

- Lighting could be considered at the intersection to enhance visibility.

Apalachee Parkway and WW Kelley Rd

Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left turn	Right angle
2017	1	1	0
2018	0	0	0
2019	1	0	1
2020	0	0	0
2021	0	0	0
Total	2	1	1

Crash Details

Report Number	87502608	87270822
Severity	Serious Injury	Fatality
Crash Time	9/13/2017	4/12/2019
	7:15 AM	11:14 PM
First Harmful Event	Left turn	Right angle
Light Condition	Daylight	Dark - Not Lighted
Road Surface Condition	Dry	Dry
Weather	Clear	Clear
Alcohol Related	N	N
Drug Related	N	N
Pedestrian Related	N	N
Bicycle Relate	N	N
Narrative	V1 was traveling west on Apalachee Parkway, attempting to turn left onto southbound WW Kelley Rd. V2 was traveling east Apalachee Parkway, approaching WW Kelley Rd. As V2 entered the intersection, V1 made a left turn into the path of V2. V1 failed to yield the right-of-way.	V1 was traveling on south Chaires Cross Rd, approaching Apalachee Parkway. V2 was traveling east on Apalachee Parkway, approaching WW Kelley Rd. As V1 and V2 both arrived at the intersection, V1 ran the flashing red light. The front of V1 impacted the left side of V2.
Note		

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (EB)	Major road (WB)	Minor road (NB)	Minor road (SB)
Road Name	Apalachee Pkwy	Apalachee Pkwy	WW Kelly Rd	Chaires Cross Rd
AADT	10,500	5,500	3,100	5,900
Speed Limit	45 mph	55 mph	35 mph	35 mph
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	Y	N	N
Exclusive Right-Turn Lane	N	Y	N	Y
Channelized Right-Turn Lane	N	N	N	Y
Left Turn Phasing	Protected/ Permissive	Protected/ Permissive	Permitted	Permitted
Lane Width	12 feet	12 feet	10 feet	10 feet
Number of Lanes	4	4	2	2
Presence of Bike Lanes	N	N	N	N
Presence of Crosswalks	N	N	N	N
Presence of Median	Y	Y	N	N
Presence of Lighting	Y	Y	Y	Y
"Prepare to Stop When Flashing" Advance Warning Sign (990 ft buffer)	Y	Y	N	N
Advanced static warning signs and beacons (990 ft buffer)	N	N	Y	Y

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Right-angle	Poor visibility of signals
	Inadequate signal timing
	Excessive speed
	Slippery pavement
	Inadequate sight distance
	Drivers running red light
Nighttime	Poor nighttime visibility or lighting
	Poor sign visibility
	Inadequate channelization or delineation
	Inadequate maintenance
	Excessive speed
	Inadequate sight distance
Left movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Vehicle rollover	Roadside design (e.g., non-traversable side slopes, pavement edge drop off)
	Inadequate shoulder width
	Excessive speed
	Pavement design

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

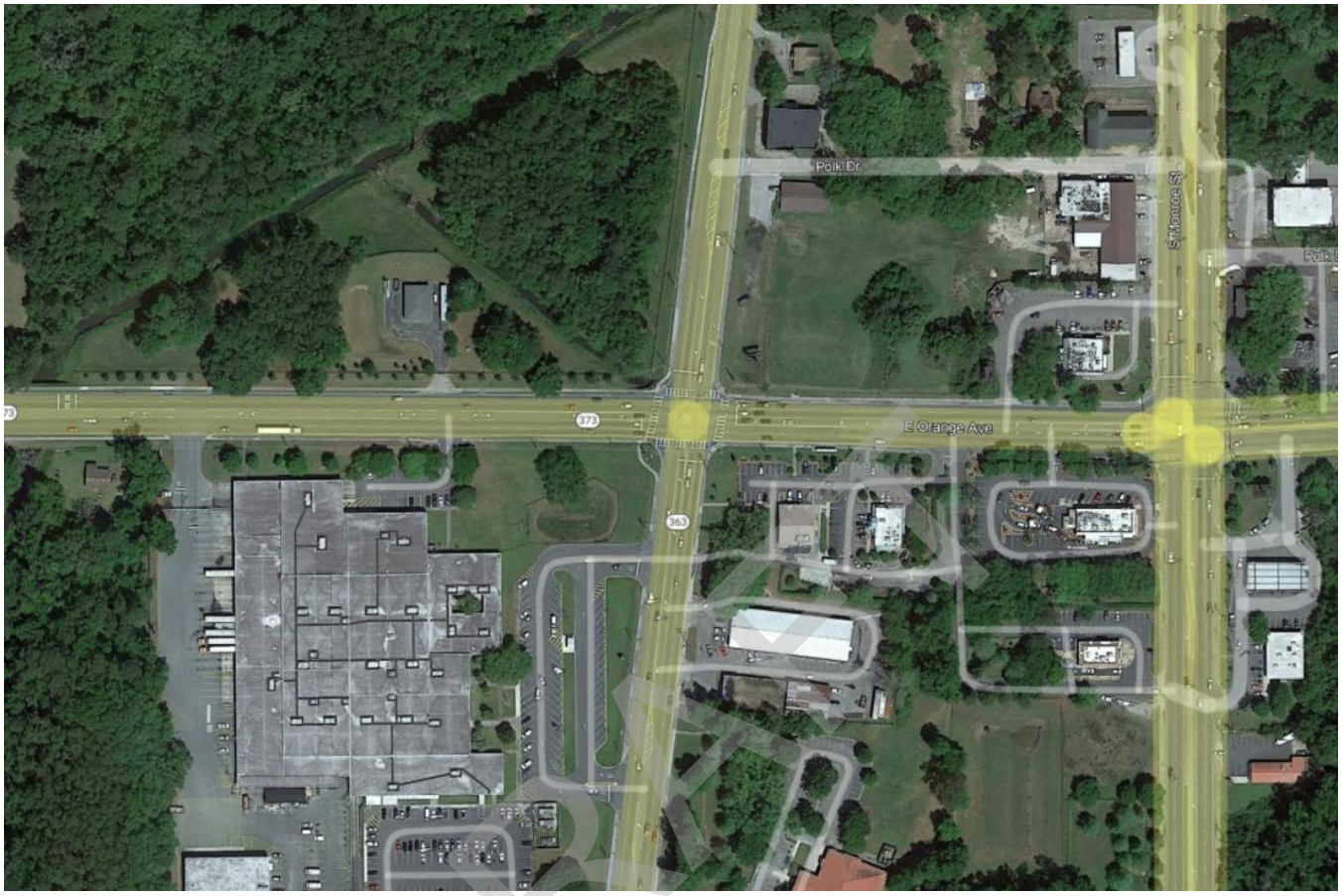
Crash Type	Possible Contributing Factor(s)
Right-angle	Poor visibility of signals
	Drivers running red light
	Poor sign visibility
Left turn movement	Misjudge speed of on-coming traffic
	Inadequate signal timing
	Inadequate sight distance
Nighttime	Poor nighttime visibility or lighting
	Poor sign visibility
	Inadequate maintenance
	Excessive speed
	Inadequate sight distance

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Sight Distance
    a. Remove tree debris and relocate "Hunt's Pizza" sign in NE quadrant (sight distance issue).

Orange Avenue and S Adams Street



Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left turn	Angle	Rear End	Other
2017	2	0	0	1	1
2018	1	1	0	0	0
2019	1	1	0	0	0
2020	3	2	1	0	0
2021	0	0	0	0	0
Total	7	4	1	1	1

Crash Details

Report Number	86962879	86959532	87842329
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	11/29/2017	8/1/2017	11/26/2018
	6:35 PM	6:55 PM	2:15 PM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Dark - Lighted	Daylight	Daylight
Road Surface Condition	Dry	Dry	Wet
Weather	Clear	Clear	Cloudy
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	N	Y	N
Narrative	V2 was facing south, stopped in traffic, at the intersection of S Adams St and Orange Ave. V1 was traveling south on S Adams St, approaching Orange Avenue. V1 began to travel into the left turn lane. While merging, the front right of V1 struck the left rear of V2.	V1 was facing north on S Adams St, at Orange Ave. V1 had a green light and was traveling north (in the merge lane) through intersection at Orange Ave. BC1 was traveling east on Orange Ave in the crosswalk. BC1 failed to obey the traffic signal and yield to oncoming traffic. The front of V1 struck the right side of BC1.	V1 was traveling south on S Adams St, south of Orange Ave. V2 was traveling north on S Adams St, south of Orange Ave. V1 was attempting to make a left turn, through stopped northbound traffic, into a private driveway south of Orange Ave. V1 entered the path of V2 and the front left of V2 impacted the front of V1.
Note		**Bicycle Related Crash (BC1)**	

Report Number	89144311	90109496	90111548	90112101
Severity	Fatality	Fatality	Fatality	Fatality
Crash Time	9/24/2019	6/26/2020	10/17/2020	11/13/2020
	12:09 AM	1:56 AM	8:46 PM	11:14 AM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Dark - Lighted	Dark - Lighted	Dark - Lighted	Daylight
Road Surface Condition	Dry	Dry	Dry	Dry
Weather	Clear	Clear	Clear	Clear
Alcohol Related	Y	N	N	N
Drug Related	N	N	N	N
Pedestrian Related	N	N	N	N
Bicycle Related	N	N	N	N
Narrative	V1, a motorcycle, was traveling east on Orange Ave, west of S Adams St at approximately 70 mph. V2 was traveling west on Orange Ave, attempting to make a left turn onto S Adams St. As V2 entered the intersection on a green arrow, V1 ran the red light. The front of V1 impacted the right front of V2. D1 suffered fatal injuries.	V1 was traveling south on S Adams St, north of Orange Ave at approximately 50 mph. V2 was traveling west on Orange Ave, east of S Adams St. As V1 and V2 approached the intersection, V1 ran the red light and struck the right side of V2. V2 then struck a utility pole on the SW corner of the intersection. D2 suffered fatal injuries.	V1 was facing north on S Adams St, attempting to make a left turn onto Orange Ave. V2 was traveling south on S Adams St, north of Orange Ave. V1 and V2 both had a green light, V1 did not have a green arrow. As V2 entered the intersection, V1 made a left turn into the path of V2. The front of V1 impacted the left rear of V2. D2 suffered fatal injuries.	V1 was traveling south on S Adams St, south of Orange Ave. V2 was traveling north on S Adams St, south of Orange Ave. V1 was attempting to make a left turn, through stopped northbound traffic, into the driveway at 2810 S Adams St, south of Orange Ave. V1 entered the path of V2 and the front of V2 impacted the right side of V1.
Note				

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (EB)	Major road (WB)	Minor road (NB)	Minor road (SB)
Road Name	Orange Ave	Orange Ave	S. Adam St	S. Adam St
AADT	26,000	26,000	14,500	14,500
Speed Limit	40 mph	40 mph	35 mph	35 mph
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	Y	Y	Y
Exclusive Right-Turn Lane	N	N	N	N
Channelized Right-Turn Lane	N	N	N	N
Left Turn Phasing	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive
Lane Width	12 feet	12 feet	12 feet	12 feet
Number of Lanes	4	4	4	4
Presence of Bike Lanes	N	N	N	N
Presence of Crosswalks	Y	Y	Y	Y
Presence of Median	N	N	N	N
Presence of Lighting	Y	Y	Y	Y
Pedestrian Signal Heads	Y	Y	Y	Y

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Right-angle	Poor visibility of signals
	Inadequate signal timing
	Excessive speed
	Slippery pavement
	Inadequate sight distance
	Drivers running red light
Rear-end	Inappropriate approach speeds
	Poor visibility of signals
	Unexpected lane changes on approach
	Narrow lanes
	Unexpected stops on approach
	Slippery pavement
	Excessive speed
Left-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Nighttime	Poor nighttime visibility or lighting
	Poor sign visibility
	Inadequate channelization or delineation
	Inadequate maintenance
	Excessive speed
	Inadequate sight distance
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings
	Inadequate lighting
	Excessive speed
	Bicycles on roadway
	Bicycle path too close to roadway
	Narrow lanes for bicyclists

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

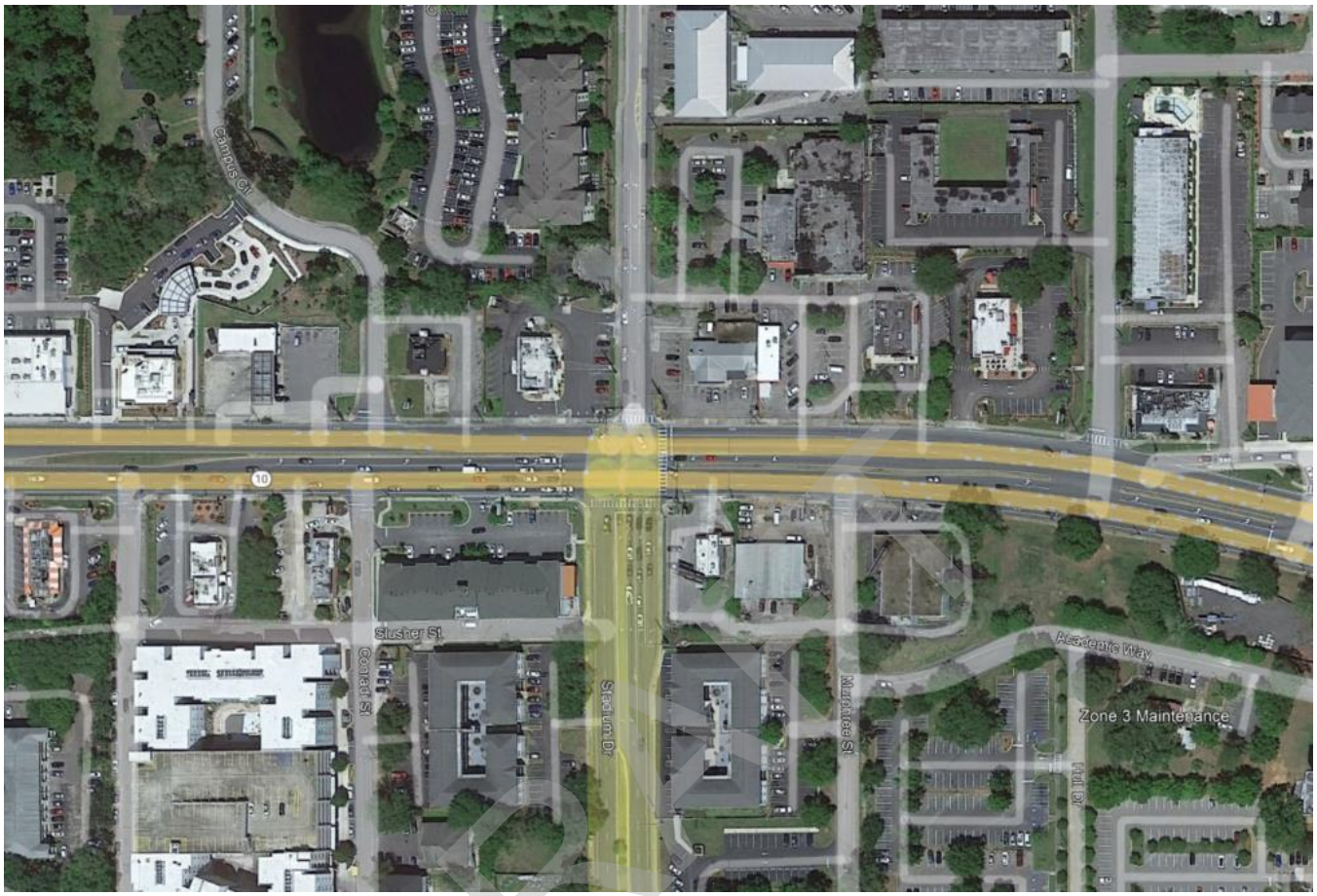
Crash Type	Possible Contributing Factor(s)
Right-angle	Poor visibility of signals
	Inadequate signal timing
	Drivers running red light
Left-turn movement	Misjudge speed of on-coming traffic
	Inadequate signal timing
	Inadequate sight distance
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Large volume of through traffic
	Restricted sight distance
	Excessive speed
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Driveway Conflicts (2810 S Adams Street – Two driveways)
    a. Relocate “Do Not Enter” sign to next driveway to the north.
    b. Include “Right-Turn Only” signs for vehicles exiting the driveway.
    c. Install SB “No Left Turn” signs on the south leg, right shoulder.
2. Access Management
    a. Construct new median on the south leg.
    b. Redesign northern Post Office driveway to eliminate northbound and eastbound left turning movements.

W Tennessee Street and Stadium Drive



Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left turn	Other
2017	3	1	2
2018	0	0	0
2019	1	0	1
2020	1	1	0
2021	1	0	1
Total	6	2	4

Crash Details

Report Number	86457788	86959331	86959611
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	1/25/2017	7/23/2017	8/3/2017
	4:17 PM	8:47 PM	9:51 PM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Dark - Lighted	Dark - Lighted
Road Surface Condition	Dry	Dry	Wet
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	Y
Bicycle Related	N	N	N
Narrative	V1 was facing east on W Tennessee St, attempting to make a u-turn to travel west on W Tennessee St. V2 was traveling west on W Tennessee St, approaching Stadium Dr at approximately 50 mph. As V2 entered the intersection, V1 made a u-turn into the path of V2. The front of V2 struck the right side of V1. V1 was found to be at fault for failure to yield.	V1 was facing west on W Tennessee St, attempting to make a left turn onto Stadium Dr. V2 was traveling east on W Tennessee St, west of Stadium Dr. V1 and V2 both had yellow lights and attempted to "beat" the red light. As V2 entered the intersection, V1 made a left turn into the path of V2. The front of V2 impacted the right side of V1. V1 was found to be at fault for failure to yield.	V1 was traveling westbound in the outside lane on W Tennessee St, east of Campus Cir. P1 was walking west in the crosswalk at Campus Cir as V1 attempted to make a right turn onto Campus Circle. As a result, the front bumper of V1 struck P1.
Note			**Pedestrian Related Crash (P1)**

Report Number	89146409	90109386	24809845
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	12/6/2019	6/18/2020	11/16/2021
	11:55 PM	2:44 PM	3:30 PM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Dark - Lighted	Daylight	Daylight
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicycle Related	N	N	N
Narrative	V1 was facing east on W Tennessee St, attempting to make a u-turn to travel west on W Tennessee St. V2, a motorcycle, was traveling west on W Tennessee St, east of Stadium Dr. As V2 entered the intersection, V1 made a u-turn into the path of V2. The front of V2 struck the right side of V1. V1 was found to be at fault for failure to yield.	V1 was facing east on W Tennessee St, attempting to make a u-turn to travel west on W Tennessee St. V2, a motorcycle, was traveling west on W Tennessee St, east of Stadium Dr. As V2 entered the intersection, V1 made a u-turn into the path of V2. The front of V2 struck the right side of V1. V2 then struck a utility pole on the NW corner of the intersection. V1 was found to be at fault for failure to yield.	V1 was facing east on W Tennessee St, attempting to make a left turn onto Basin St. V2 was traveling west on W Tennessee St, approaching Stadium Dr. As V2 entered the intersection, V1 made a left turn into the path of V2. The left front of V2 struck the right front of V1. V1 was found to be at fault for failure to yield.
Note			

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (EB)	Major road (WB)	Minor road (NB)	Minor road (SB)
Road Name	W Tennessee St	W Tennessee St	Stadium Dr	Basin St
AADT	38,000	38,000	15,600	-
Speed Limit	35 mph	35 mph	35 mph	30 mph
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	Y	Y	Y
Exclusive Right-Turn Lane	N	N	Y	N
Channelized Right-Turn Lane	N	N	N	N
Left Turn Phasing	Protected/ Permissive, Flashing Yellow	Protected/ Permissive, Flashing Yellow	Protected	Protected
Lane Width	12 feet	12 feet	12 feet	12 feet
Number of Lanes	6	6	3	2
Presence of Bike Lanes	N	N	N	N
Presence of Crosswalks	N	Y	Y	Y
Presence of Median	Y	Y	Y	N
Presence of Lighting	Y	Y	Y	Y

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Nighttime	Poor nighttime visibility or lighting
	Poor sign visibility
	Inadequate channelization or delineation
	Inadequate maintenance
	Excessive speed
	Inadequate sight distance
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Collisions at driveways	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Excessive speed
Motor vehicle-pedestrian	Inadequate signals/signs
	Inadequate pavement markings
	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Signal Phasing
    a. Change EB and WB left-turn phases to "Protected Only."

Additional Safety Notes:

- Consider removing sharrows on W Tennessee Street.

W Tennessee Street and Geddie Road

Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Rear end	Left turn
2017	0	0	0
2018	0	0	0
2019	1	0	1
2020	1	1	0
2021	0	0	0
Total	2	1	1

Crash Details

Report Number	88027218	88187151
Severity	Serious Injury	Serious Injury
Crash Time	5/10/2019	4/18/2020
	1:50 PM	5:07 PM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Daylight
Road Surface Condition	Dry	Dry
Weather	Cloudy	Clear
Alcohol Related	N	N
Drug Related	N	N
Pedestrian Related	N	N
Bicycle Related	N	N
Narrative	V1 was traveling west on W Tennessee St, attempting to make a left turn onto Geddie Rd. V2 was traveling east on W Tennessee St, west of Geddie Rd. As V2 entered the intersection, V1 made a left turn into the intersection. The front left of V1 struck the left side of V2.	V1, was traveling east on W Tennessee St, west of Geddie Rd. V2 was facing east on W Tennessee St, waiting on the red light at Geddie Rd. As V1 approached Geddie Rd, the front of V1 struck the rear of V2.
Note		

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (NB)	Major road (SB)	Minor road (EB)	Minor road (WB)
Road Name	W Tennessee St	W Tennessee St	Geddie Rd	Sassy Tree Ln
AADT	19,000	19,000	5,800	-
Speed Limit	55 mph	55 mph	45 mph	-
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	N	Y	N
Exclusive Right-Turn Lane	N	Y	Y	N
Channelized Right-Turn Lane	N	N	Y	N
Left Turn Phasing	Permissive	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive
Lane Width	12 feet	12 feet	11 feet	-
Number of Lanes	4	4	2	1
Presence of Bike Lanes	Y	Y	N	N
Presence of Crosswalks	N	N	N	N
Presence of Median	Y	Y	N	N
Presence of Lighting	Y	Y	Y	Y
Advanced static warning signs and beacons (990 ft buffer)	N	N	N	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Rear-end	Inappropriate approach speeds
	Poor visibility of signals
	Unexpected lane changes on approach
	Narrow lanes
	Unexpected stops on approach
	Slippery pavement
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Inadequate signal timing
	Inadequate sight distance
Rear-end	Inappropriate approach speeds
	Driver inattention
	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Advance Signage
    a. Install advance Traffic Signal Ahead Warning signs on the NB, SB, and EB approaches to the intersection.

N Monroe Street and Fred George Road

Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left turn	Off road
2017	1	0	1
2018	2	2	0
2019	0	0	0
2020	0	0	0
2021	0	0	0
Total	3	2	1

Crash Details

Report Number	86505132	85562820	87504854
Severity	Fatality	Serious Injury	Serious Injury
Crash Time	3/6/2017	3/4/2018	12/23/2018
	6:02 PM	1:20 PM	8:33 PM
First Harmful Event	Other Post, Pole, or Support	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Daylight	Dark - Lighted
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicycle Related	N	N	N
Narrative	V1 was traveling east on Fred George Rd, attempting to make a left turn onto N Monroe St. As V1 approached the intersection, D1 ran the red light. V1 swerved to avoid oncoming traffic, traveled onto the NE curb before striking a concrete utility pole.	V1 was traveling north on N Monroe St, attempting to make a left turn onto Fred George Rd. V2 was traveling south on N Monroe St, north of Fred George Rd. As the traffic light changed to amber, V1 entered the intersection in the path of V2. The front of V1 struck the front left of V2. V1 was found to be at fault for failure to yield.	V1 was traveling south on N Monroe St, attempting to make a left turn onto Crowder Rd. V2 was traveling north on N Monroe St, south of Fred George Rd. As V2 approached, V1 entered the intersection in the path of V2. The front of V1 struck the front left of V2. V1 was found to be at fault for failure to yield.
Note			

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (NB)	Major road (SB)	Minor road (EB)	Minor road (WB)
Road Name	N Monroe St	N Monroe St	Fred George Rd	Crowder Road
AADT	19,600	33,000	6,100	-
Speed Limit	45 mph	45 mph	25 mph	30 mph
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	Y	Y	Y
Exclusive Right-Turn Lane	Y	Y	Y	N
Channelized Right-Turn Lane	N	N	N	N
Left Turn Phasing	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive
Lane Width	12 feet	12 feet	12 feet	11 feet
Number of Lanes	4	4	3	2
Presence of Median	Y	Y	Y	N
Presence of Lighting	Y	Y	Y	Y
Advanced static warning signs and beacons (990 ft buffer)	N	N	N	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Inadequate signal timing
	Inadequate sight distance
Run-off-road	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Pavement Markings
    a. Provide dotted lane extensions through the intersection for left turns on all approaches.
2. Signal Phasing
    a. Change NB and SB left-turn phases to “Protected Only.”

Capital Circle SE and Woodville Highway (SR 363)

Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left turn	Off road	Rear end
2017	1	0	1	0
2018	0	0	0	0
2019	2	1	0	1
2020	1	1	0	0
2021	0	0	0	0
Total	4	2	1	1

Crash Details

Report Number	85465247	88092913	88111372	88203024
Severity	Serious Injury	Serious Injury	Serious Injury	Serious Injury
Crash Time	6/28/2017	5/18/2019	6/15/2019	3/14/2020
	11:01 AM	7:35 PM	2:55 PM	2:15 PM
First Harmful Event	Utility Pole/Light Support	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Daylight	Daylight	Daylight
Road Surface Condition	Dry	Dry	Dry	Dry
Weather	Cloudy	Clear	Cloudy	Clear
Alcohol Related	N	N	N	N
Drug Related	N	N	N	N
Pedestrian Related	N	N	N	N
Bicycle Related	N	N	N	N
Narrative	V1 was traveling north on Woodville Hwy, south of Capital Circle SE. As V1 approached the intersection, D1 had a medical emergency and passed out. V1 then travel across the raised median, into the southbound travel lanes, before finally hitting the utility pole on the SW corner of the intersection.	V1 was traveling west on Capital Circle SE, east of Woodville Hwy. V2 and V3 were facing west on Capital Circle SE, waiting on the red light at Woodville Hwy. As V1 approached V2 and V3, D1 failed to stop. As a result, the front of V1 struck the rear of V2 causing the front of V2 to impact the rear of V3. Prior to the crash, V1 had swerved off the road, as noted by witnesses.	V2 was traveling west on Capital Circle SE, approximately 1 mile west of Woodville Hwy. V1 was facing east on Capital Circle SE, attempting to make a u-turn in the median break. As V2 approached, V1 made a u-turn into the path of V2. The front of V2 struck the right side of V1. D1 was found to be at fault for failure to yield.	V1 was traveling south on Woodville Hwy, north of Capital Circle SE, attempting to make a left turn onto Capital Circle SE. V2 was traveling north on Woodville Hwy, south of Capital Circle SE. As V1 and V2 approached the intersection, V1 made a left turn into the path of V1. D1 stated she had a yellow light while D2 stated she had a green light.
Note				

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (EB)	Major road (WB)	Minor road (NB)	Minor road (SB)
Road Name	Capital Cir SE	Capital Cir SE	Woodville Hwy	Woodville Hwy
AADT	19,100	20,000	15,000	10,600
Speed Limit	45 mph	45 mph	45 mph	45 mph
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	Y	Y	Y
Exclusive Right-Turn Lane	Y	Y	Y	Y
Channelized Right-Turn Lane	Y	N	Y	Y
Left Turn Phasing	Protected	Protected	Protected	Protected
Lane Width	12 feet	12 feet	11 feet	11 feet
Number of Lanes	6	6	4	4
Presence of Bike Lanes	Y	Y	Y	Y
Presence of Crosswalks	Y	Y	Y	Y
Presence of Median	Y	Y	Y	Y
Presence of Lighting	Y	Y	Y	Y
Advanced static warning signs and beacons (990 ft buffer)	N	N	N	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Rear-end	Inappropriate approach speeds
	Poor visibility of signals
	Unexpected lane changes on approach
	Narrow lanes
	Unexpected stops on approach
	Slippery pavement
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Inadequate signal timing
	Inadequate sight distance
Rear-end	Inappropriate approach speeds
	Driver inattention
	Excessive speed

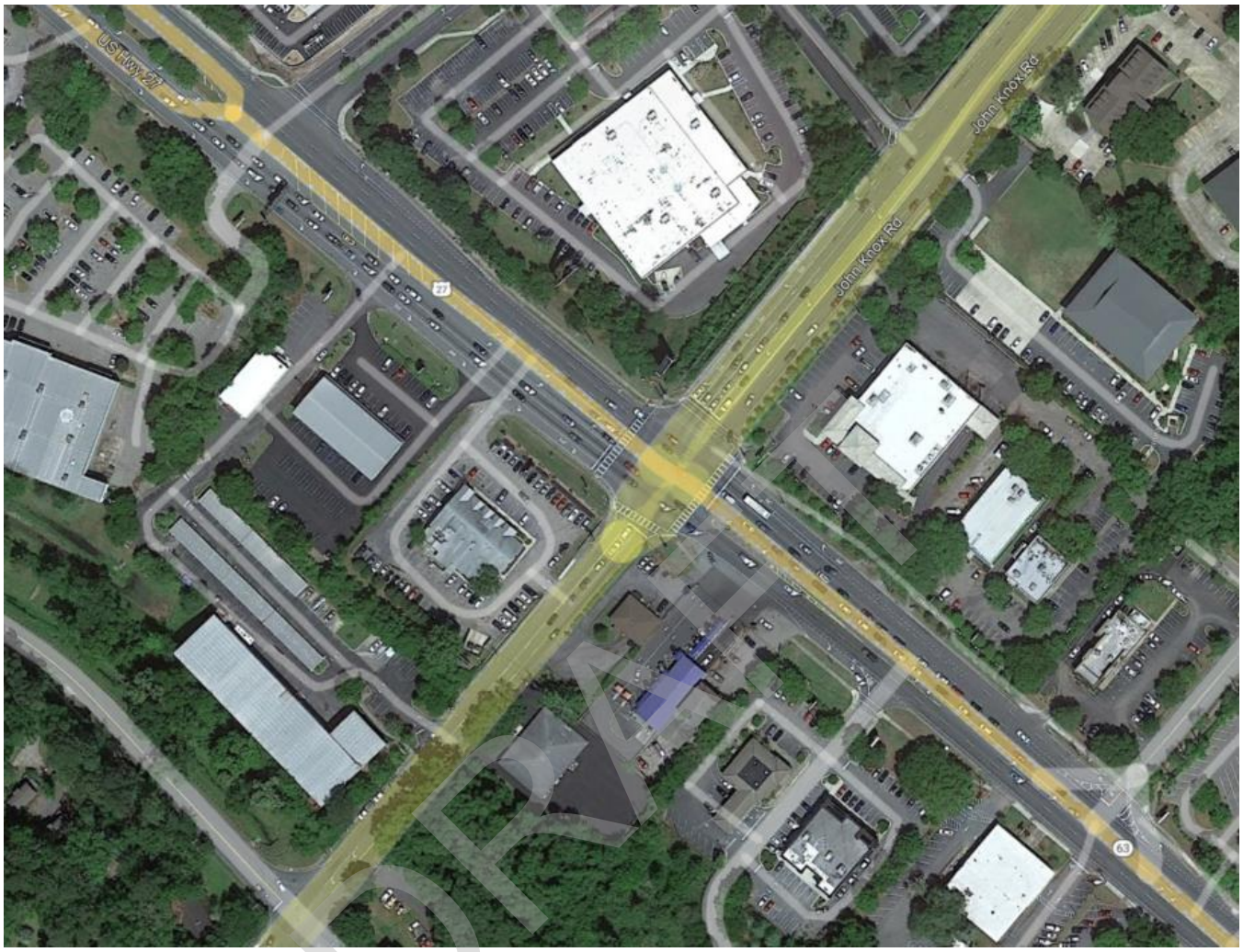
Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. No potential countermeasures were identified.

Crashes at this intersection mostly included failure to yield right-of-way.

N Monroe Street and John Knox Road



Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left turn	Rear end
2017	2	1	1
2018	0	0	0
2019	1	1	0
2020	0	0	0
2021	1	0	1
Total	4	2	2

Crash Details

Report Number	86956648	86961670	89142444	90116870
Severity	Serious Injury	Serious Injury	Serious Injury	Serious Injury
Crash Time	4/2/2017	10/16/2017	7/13/2019	7/28/2021
	1:33 PM	12:48 AM	6:15 AM	10:56 AM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Dark - Lighted	Dawn	Daylight
Road Surface Condition	Dry	Dry	Dry	Dry
Weather	Clear	Clear	Clear	Clear
Alcohol Related	N	Y	N	N
Drug Related	N	N	N	N
Pedestrian Related	N	N	N	N
Bicycle Related	N	N	N	N
Narrative	V1 was traveling north on N Monroe St, north of John Knox Rd, attempting to make a left turn into a driveway. V2 was traveling south on N Monroe St, north of John Knox Rd. As V2 approached, V1 made a left turn into the path of V2. As a result, the front of V2 struck the right front of V1. V1 was found to be at fault for failure to yield.	V1 and V2 were traveling south on N Monroe St, north of John Knox Rd. V2 was stopped at the red light at John Knox Rd, in front of V1. As V1 approached John Knox Rd, D1 believed the light to be green. V1 continued towards the intersection before D1 realized traffic was stopped. As a result, the front of V1 struck the rear of V2. D1 was suspected of alcohol impairment.	V2 was facing north on N Monroe St, stopped at John Knox Rd. V1, a motorcycle, was facing south on N Monroe St, attempting to make a left turn onto John Knox Rd. When the traffic light turned green, V1 and V2 entered the intersection, with V1 entering the path of V2. The left front of V2 struck the right front of V1. V1 was found to be at fault for failure to yield.	V1 was traveling south on N Monroe St, north of John Knox Rd. V2 was facing south, waiting on the red light, and attempting to make a left turn onto John Knox Rd. As V1 approached V2 from the rear, V1 failed to stop. As a result, the front of V1 struck the rear of V2.
Note				

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (NB)	Major road (SB)	Minor road (EB)	Minor road (WB)
Road Name	N Monroe St	N Monroe St	John Knox Rd	John Knox Rd
AADT	31,500	37,000	8,800	15,000
Speed Limit	35 mph	35 mph	30 mph	40 mph
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	Y	Y	Y
Exclusive Right-Turn Lane	Y	Y	N	Y
Channelized Right-Turn Lane	N	N	N	N
Left Turn Phasing	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive
Lane Width	13 feet	12 feet	11 feet	11 feet
Number of Lanes	5	5	2	3
Presence of Bike Lanes	N	N	N	N
Presence of Crosswalks	Y	Y	Y	Y
Presence of Lighting	Y	Y	Y	Y
Pedestrian Signal Heads				
Advanced static warning signs and beacons (990 ft buffer)	N	N	N	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed
Rear-end	Inappropriate approach speeds
	Poor visibility of signals
	Unexpected lane changes on approach
	Narrow lanes
	Unexpected stops on approach
	Slippery pavement
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Left-turn movement	Misjudge speed of on-coming traffic
	Inadequate signal timing
	Inadequate sight distance
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Large volume of through traffic
	Restricted sight distance
	Excessive speed
Rear-end	Inappropriate approach speeds
	Driver inattention
	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Roadway Improvements
    a. Consider median installation on N Monroe Street (northward) to reduce conflicting movements.
2. Signal Phasing
    a. Change NB left-turn phase to "Protected Only."

Old Bainbridge Road and W Tharpe Street

Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left turn	Right angle	Head on
2017	1	1	0	0
2018	0	0	0	0
2019	1	0	0	1
2020	0	0	0	0
2021	1	0	1	0
Total	3	1	1	1

Crash Details

Report Number	86957514	89143566	90116524
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	5/3/2017	8/28/2019	7/11/2021
	11:50 PM	3:24 PM	2:15 AM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Dark - Lighted	Daylight	Dark - Lighted
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Cloudy	Clear
Alcohol Related	N	Y	Y
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicycle Related	N	N	N
Narrative	V1 was traveling south on Old Bainbridge Rd, attempting to make a left turn onto W Tharpe St. V2 was traveling north on Old Bainbridge Rd, south of W Tharpe St. As V1 and V2 approached the intersection, they both entered the intersection. V1 made a left turn into the path of V2. As a result, the front of V1 struck the front of V2. Both D1 and D2 stated they had the right-of-way.	V1 was traveling west on W Tharpe St, attempting to make a right turn onto Old Bainbridge Rd from the middle lane. V3 was traveling west on W Tharpe St, attempting to make a right turn onto Old Bainbridge Rd from the turn lane. V2 was facing south on Old Bainbridge Rd, behind one vehicle at the red light. V1 made a wide right turn in front of V3. The left side of V1 struck the left side of V2, causing V1 to overturn. V3 was behind V1 as V1 began to overturn and land on the hood of V3. D1 was found to be at fault for careless driving.	V2 was facing east on W Tharpe St, attempting to make a right turn onto Old Bainbridge Rd. V1 was traveling through the intersection. The right front of V1 struck the left front of V2. D1 was found to be at fault for careless driving. Both D1 and D2 were suspected to be impaired by alcohol.
Note			

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (EB)	Major road (WB)	Minor road (NB)	Minor road (SB)
Road Name	W Tharpe St	W Tharpe St	Old Bainbridge Rd	Old Bainbridge Rd
AADT	18,500	27,500	14,000	15,500
Speed Limit	35 mph	35 mph	30 mph	30 mph
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	Y	Y	Y
Exclusive Right-Turn Lane	N	Y	Y	N
Channelized Right-Turn Lane	N	N	Y	N
Left Turn Phasing	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive
Lane Width	12 feet	12 feet	11 feet	12 feet
Number of Lanes	4	4	2	2
Presence of Bike Lanes	N	N	N	N
Presence of Crosswalks	Y	N	N	Y
Presence of Median	N	N	N	N
Presence of Lighting	Y	Y	Y	Y
Advanced static warning signs and beacons (990 ft buffer)	N	N	N	N
Centerline Rumble Strips	Y	Y	Y	Y

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Right-angle	Poor visibility of signals
	Inadequate signal timing
	Excessive speed
	Slippery pavement
	Inadequate sight distance
	Drivers running red light
Rear-end	Inappropriate approach speeds
	Poor visibility of signals
	Unexpected lane changes on approach
	Narrow lanes
	Unexpected stops on approach
	Slippery pavement
	Excessive speed
Left-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Right-angle	Poor visibility of signals
	Inadequate signal timing
	Excessive speed
	Inadequate sight distance
	Drivers running red light
Rear-end	Inappropriate approach speeds
	Narrow lanes
	Excessive speed
Left-turn movement	Inadequate signal timing
	Inadequate sight distance

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. Signal Phasing
    a. Change NB and SB left-turn phases to “Protected Only.”
2. Pavement Markings
    a. Restripe dotted lane line extensions for left turns through the intersection.
3. Pedestrian Detection
    a. Convert pedestrian detectors to “Countdown” and/or “Audible” detection signals.
    b. Consider exclusive pedestrian phase (i.e., all traffic approaches stop when pedestrian detectors are activated).

N Monroe Street and Lakeshore Drive

Step 1: Crash Data Review

The review describes crash statistics conditions and crash details.

Descriptive Crash Statistics

Year	All Crashes	Pedestrian involved	Bicyclist involved
2017	0	0	0
2018	0	0	0
2019	1	0	1
2020	1	1	0
2021	1	1	0
Total	3	2	1

Crash Details

Report Number	87843310	90110232	90113235
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	1/2/2019	8/11/2020	1/18/2021
	11:49 PM	5:12 PM	7:35 PM
First Harmful Event	Pedal cycle	Pedestrian	Pedestrian
Light Condition	Dark - Lighted	Daylight	Dark - Lighted
Road Surface Condition	Dry	Wet	Dry
Weather	Clear	Rain	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	Y	Y
Bicycle Related	Y	N	N
Narrative	V1 was traveling north on N Monroe Street, north of Lakeshore Dr at approximately 60 mph. BC1 was riding a bicycle north in the bicycle lane on N Monroe Street. The front of V1 struck BC1 in the rear. V1 fled the scene V1 continued north bound without stopping. This crash occurred approximately 360 feet south of the intersection.	V1 was traveling north on N Monroe St, south of Lakeshore Dr. P1 entered traffic and run from east to west crossing traffic. P1 entered the path of V1. The front of V1 struck P1.	V1 was traveling north on N. Monroe St, south of Lakeshore Dr. P1 was attempting to cross N Monroe St, from east to west, in the crosswalk. As V1 entered the intersection on a green light, the front of V1 collided with P1, who was in the crosswalk using a walker.
Note	**Bicycle Related Crash (BC1)**	**Pedestrian Related Crash (P1)**	**Pedestrian Related Crash (P1)**

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Major road (NB)	Major road (SB)	Minor road (EB)	Minor road (WB)
Road Name	N Monroe St	N Monroe St	Lakeshore Dr	Lakeshore Dr
AADT	39,000	37,000	6,900	3,100
Speed Limit	45 mph	45 mph	30 mph	15 mph
Signal Control	Signalized	Signalized	Signalized	Signalized
Exclusive Left-Turn Lane	Y	Y	Y	N
Exclusive Right-Turn Lane	Y	Y	Y	Y
Channelized Right-Turn Lane	N	N	Y	Y
Left Turn Phasing	Protected	Protected/ Permissive	Permissive	Permissive
Lane Width	11 feet	11 feet	11 feet	11 feet
Number of Lanes	6	6	2	2
Presence of Bike Lanes	Y	Y	N	N
Presence of Crosswalks	Y	Y	Y	Y
Presence of Median	Y	Y	N	N
Presence of Lighting	Y	Y	Y	Y
Pedestrian Signal Heads	Y	Y	Y	Y

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors at Intersections

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings
	Inadequate lighting
	Excessive speed
	Bicycles on roadway
	Bicycle path too close to roadway
	Narrow lanes for bicyclists

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Limited sight distance
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Long distance to nearest crosswalk
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings
	Excessive speed
	Bicycle path too close to roadway
	Narrow lanes for bicyclists

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

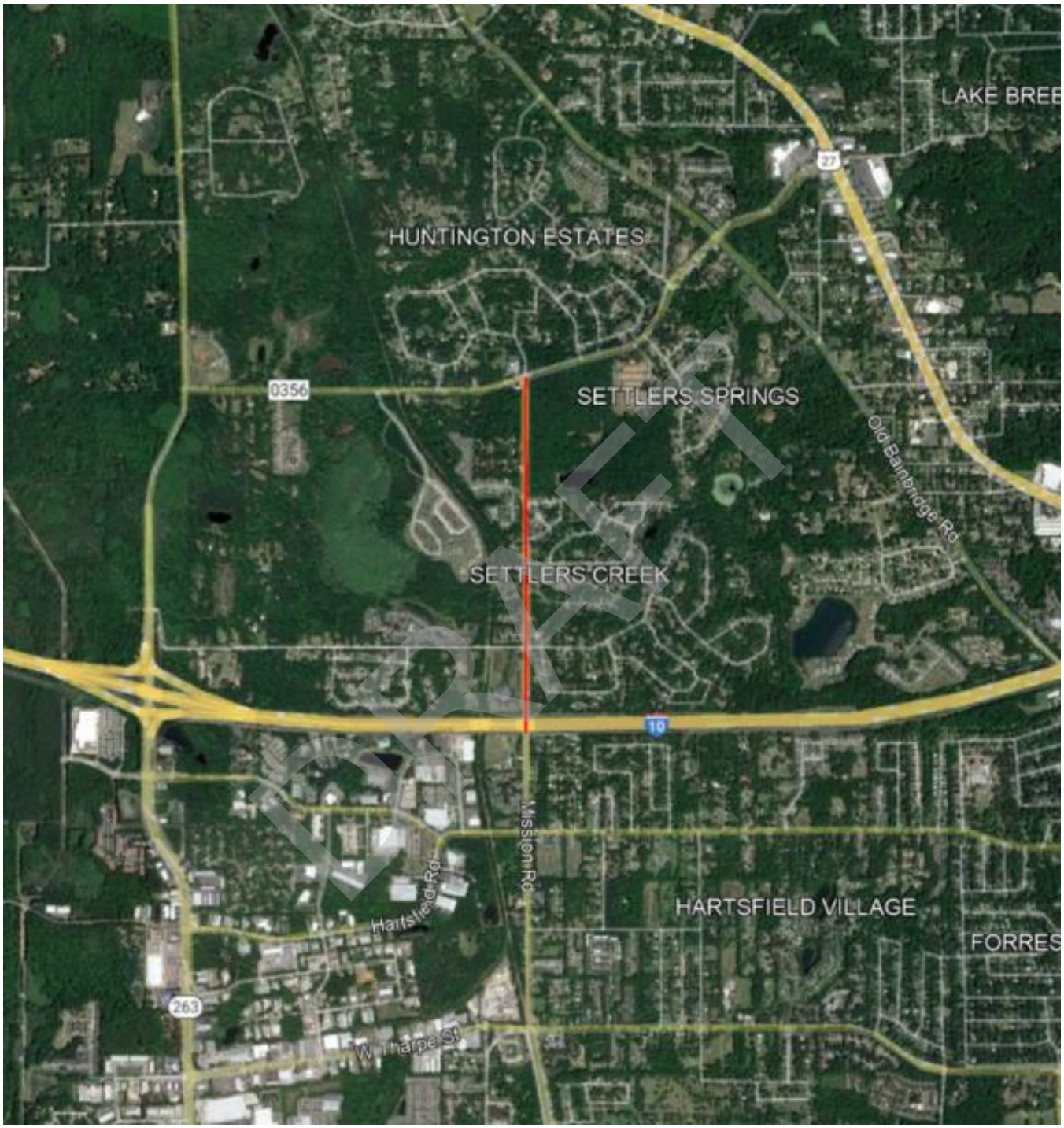
1. No potential countermeasures were identified.

Crashes at this intersection involved excessive speeding and pedestrian failure to yield right-of-way.

Identifying Crash Causes on Urban Segments

Location	County	KA Crash Count	Fatality	Serious Injury	AADT
Mission Road	Leon	3	2	1	7,600
Pensacola Street	Leon	7	2	5	18,800
Jackson Bluff Road	Leon	3	0	3	9,600
St. Augustine Street	Leon	3	0	3	7,400
Gaines Street	Leon	4	0	4	20,400
Railroad Avenue	Leon	3	0	3	6,300
Duval Street	Leon	3	0	3	8,500
Ridge Road	Leon	5	1	4	6,600
Apalachee Parkway	Leon	13	0	13	31,000
Jefferson Street	Jefferson	3	0	3	8,000

Mission Road between Fred George Road and Moon Lane



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Pedestrian	Rear End
2017	1	1	0
2018	1	1	0
2019	0	0	0
2020	0	0	0
2021	1	0	1
Total	3	2	1

Crash Details

Report Number	86960853	86964487	90115036
Severity	Fatality	Serious Injury	Fatality
Crash Time	9/20/2017	2/2/2018	4/21/2021
	8:46 PM	8:36 AM	12:25 AM
First Harmful Event	Pedestrian	Pedestrian	Motor Vehicle in Transport
Light Condition	Dark - Lighted	Daylight	Dark - Not Lighted
Road Surface Condition	Dry	Wet	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	Y
Drug Related	N	N	Y
Pedestrian Related	Y	Y	N
Bicyclist Related	N	N	N
Narrative	P1 entered the southbound lane of Mission Rd at the intersection of Gaffney Loop. P1, wearing all black clothes knelt down in the southbound lane. V1, traveling south on Mission Rd crashed into P1.	V1 was traveling south on Mission Road, approaching the intersection with Gearhart Rd. P1 was standing on the NW corner of the Mission/Gearhart intersection. As V1 entered the intersection, P1 ran, southeast, across the intersection. The front end of V1 impacted the left side of P1.	V1 and V2 were traveling north on Mission Rd. After passing under the I-10 over pass, V1 rear ended V2. D1 stated she knew there was an accident but complained that she was tired and wanted to be transported home. V2 had three occupants, P1 (passenger 1) was unresponsive and pronounced deceased. Both D2 and P2 suffered injuries as well.
Note	**Pedestrian Related Crash (P1)**	**Pedestrian Related Crash (P1)**	

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	7,600
Speed Limit	35 mph
Length	1.05 miles
Presence of Median	Y
Median Width	14 feet
Lane Width	11 feet
Number of Lanes	2
Presence of Bike Lanes	Y
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Curb
Shoulder Width	2 feet
Roadside Hazard Rating	3/4
Driveways Density	~15 per mile
Presence of Horizontal Curve	N
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N/A
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	Y
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Rear-end	Pedestrian crossing
	Driver inattention
	Slippery pavement
	Large number of turning vehicles
	Unexpected lane change
	Narrow lanes
	Restricted sight distance
	Inadequate gaps in traffic
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Pedestrians on roadway

Step 4: Select Potential Countermeasures

The following countermeasures were identified as potential for reducing crashes on the segment:

1. Pavement Markings
    a. Restripe the intersection of Mission Road and Gearhart Road.

Pensacola Street between Appleyard Drive and Mabry Street

Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Pedestrian	Left Turn	Rear End
2017	0	0	0	0
2018	3	2	1	0
2019	2	2	0	0
2020	1	0	0	1
2021	1	1	0	0
Total	7	5	1	1

Crash Details

Report Number	87503946	87836268	87844317	90112172
Severity	Serious Injury	Serious Injury	Fatality	Fatality
Crash Time	7/25/2018	4/17/2018	2/9/2018	11/17/2020
	12:57 PM	11:13 AM	6:40 PM	8:36 PM
First Harmful Event	Pedestrian	Motor Vehicle in Transport	Pedestrian	Motor Vehicle in Transport
Light Condition	Daylight	Daylight	Dusk	Dark - Lighted
Road Surface Condition	Dry	Dry	Dry	Dry
Weather	Clear	Clear	Cloudy	Clear
Alcohol Related	N	N	N	N
Drug Related	N	N	N	N
Pedestrian Related	Y	N	Y	N
Bicyclist Related	N	N	N	N
Narrative	V1 had just turned west onto Pensacola St from 2700 W. Pensacola St. P1 was crossing Pensacola St between intersections, with no mid-block crossing. V1 struck P1.	V1 was turning left from Cactus St to head east on Pensacola St. V2, a moped, was traveling west on Pensacola St. V1 stopped at the stop sign on Cactus St, waiting to turn left. V3, was traveling west on Pensacola St in front of V2. V3 slowed to turn right onto Cactus St. V1 turned left on Pensacola St, in front of V3. V2 impacted the left rear fender of V1 as V2 emerged from behind V3.	V1 was traveling east on Pensacola St at a high rate of speed. P1 attempted to the cross Pensacola St southbound. V1 struck P1. V1 failed to stop and fled the scene.	V1 was traveling west on Pensacola St, approaching White Dr. An unknown vehicle, in front of V1, turned north onto White Dr. As this vehicle turned, V1 accelerated hard approaching the intersection of Mabry St. V2, a motorcycle, was making a northbound left from Mabry St onto westbound Pensacola St. It is believed V2 turned into the outside lane of westbound traffic, in front of V1. V1 impacted the rear of V2 causing D2 to be thrown onto the windshield of V1. V1 fled the scene.
Note	**Pedestrian Related Crash (P1)**		**Pedestrian Related Crash (P1)**	

Report Number	89140308	89144413	90117050
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	4/17/2019	9/27/2019	8/5/2021
	8:30 PM	3:16 PM	5:14 PM
First Harmful Event	Pedestrian	Pedestrian	Pedestrian
Light Condition	Dark - Not Lighted	Daylight	Daylight
Road Surface Condition	Dry	Dry	Wet
Weather	Clear	Cloudy	Cloudy
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	Y	Y	Y
Bicyclist Related	N	N	N
Narrative	V1 was traveling westbound on Pensacola St, just east of Cactus St. P1, standing on the north sidewalk, stepped into oncoming traffic to cross Pensacola St to the south. V1 OR an unknown truck, struck P1 causing P1 to be thrown onto the hood and windshield of V1. Field Observation revealed this area to be currently lighted.	V1 was traveling east on Pensacola St, just west of Dupree St. P1, who was standing on the south sidewalk, stepped into the eastbound travel lane. P1 impacted the right rear tire of the vehicle being towed by V1.	V1 was traveling westbound on Pensacola St, approaching 2550 W. Pensacola St. P1 was standing on the north sidewalk and attempted to run, southbound, across Pensacola St in front of V1. The front of V1 struck the left side of P1.
Note	**Pedestrian Related Crash (P1)**	**Pedestrian Related Crash (P1)**	**Pedestrian Related Crash (P1)**

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	18,800
Speed Limit	40/45 mph
Length	0.59 miles
Presence of Median	Yes, paved
Median Width	10 feet
Lane Width	11 feet
Number of Lanes	5
Presence of Bike Lanes	Y
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Paved/Curb
Shoulder Width	6 feet
Roadside Hazard Rating	4/5
Driveways Density	~22 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	Y
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed
Rear-end	Pedestrian crossing
	Driver inattention
	Slippery pavement
	Large number of turning vehicles
	Unexpected lane change
	Narrow lanes
	Restricted sight distance
	Inadequate gaps in traffic
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

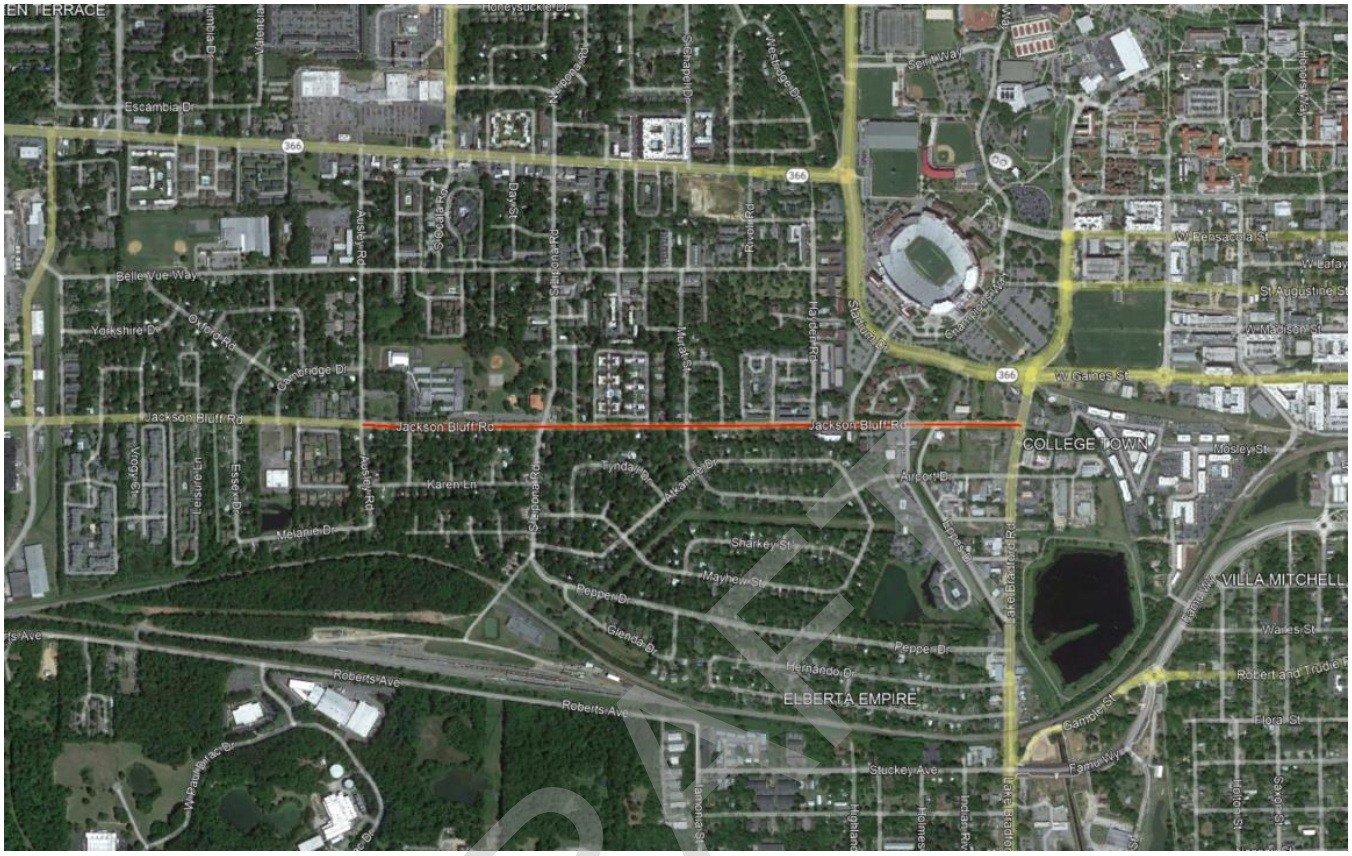
Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
Collisions at driveways	Left-turning vehicles
Rear-end	Driver inattention
	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as potential for reducing crashes on the segment:

1. Segment Signage
    a. Provide advanced “high pedestrian area” signage (Many pedestrians are present).
2. Segment Congestion
    a. Install a median along Pensacola Street to reduce conflicting movements between vehicles and pedestrians.
    b. Install speed feedback signs along the segment in both the eastbound and westbound directions.
3. Pensacola Street in the area near Cactus Street
    a. Relocate black fencing on NE corner of intersection to improve sight distance.
4. Pedestrian Detection
    a. Convert pedestrian detectors along the segment to “Audible” detection signals.
    b. Provide Rectangular Rapid Flashing Beacons (RRFBs) along the segment.

Jackson Bluff Road between Ausley Road and N Lake Bradford Road



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left Turn	Off Road	Other
2017	2	1	0	1
2018	0	0	0	0
2019	1	0	1	0
2020	0	0	0	0
2021	0	0	0	0
Total	3	1	1	1

Crash Details

Report Number	86961251	87302341	87835837
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	10/4/2017	6/6/2017	4/1/2018
	2:45 AM	11:46 AM	7:17 PM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Curb
Light Condition	Dark - Not Lighted	Daylight	Daylight
Road Surface Condition	Dry	Wet	Dry
Weather	Clear	Rain	Clear
Alcohol Related	Y	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	N	N	N
Narrative	V2 was traveling southbound on Lipona Rd, through the intersection with Jackson Bluff Rd. V1 was traveling east on Jackson Bluff Rd, when it ran the red light at the intersection with Lipona Rd. The front of V1 impacted the left front of V2. D1 was believed to be impaired.	V1 was facing north on Airport Dr, stopped at the intersection with Jackson Bluff Rd. As V2, traveling eastbound on Jackson Bluff Rd, approached Airport Dr, V1 attempted to make a left turn in front of V2. The front of V2 impacted the front left fender of V1.	V1, a motorcycle, was traveling east on Jackson Bluff Rd, just east of Hayden Rd. V1 accelerated causing its front wheel to come off the ground. V1 lost control, went onto the sidewalk, hit an embankment which caused V1 to go airborne for approximately 196 feet. D1 had a suspended license.
Note			

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	9,600
Speed Limit	30 mph
Length	1.05 miles
Presence of Median	Yes, paved
Median Width	11 feet
Lane Width	12 feet
Number of Lanes	3
Presence of Bike Lanes	N
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Curb
Shoulder Width	2 feet
Roadside Hazard Rating	4/5
Driveways Density	~67 per mile
Presence of Horizontal Curve	N
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N/A
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	Y
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Right-angle	Poor visibility of signals
	Inadequate signal timing
	Excessive speed
	Slippery pavement
	Inadequate sight distance
	Drivers running red light
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Right-angle	Drivers running red light
Run-off-road	Excessive speed
Collisions at driveways	Left-turning vehicles

Step 4: Select Potential Countermeasures

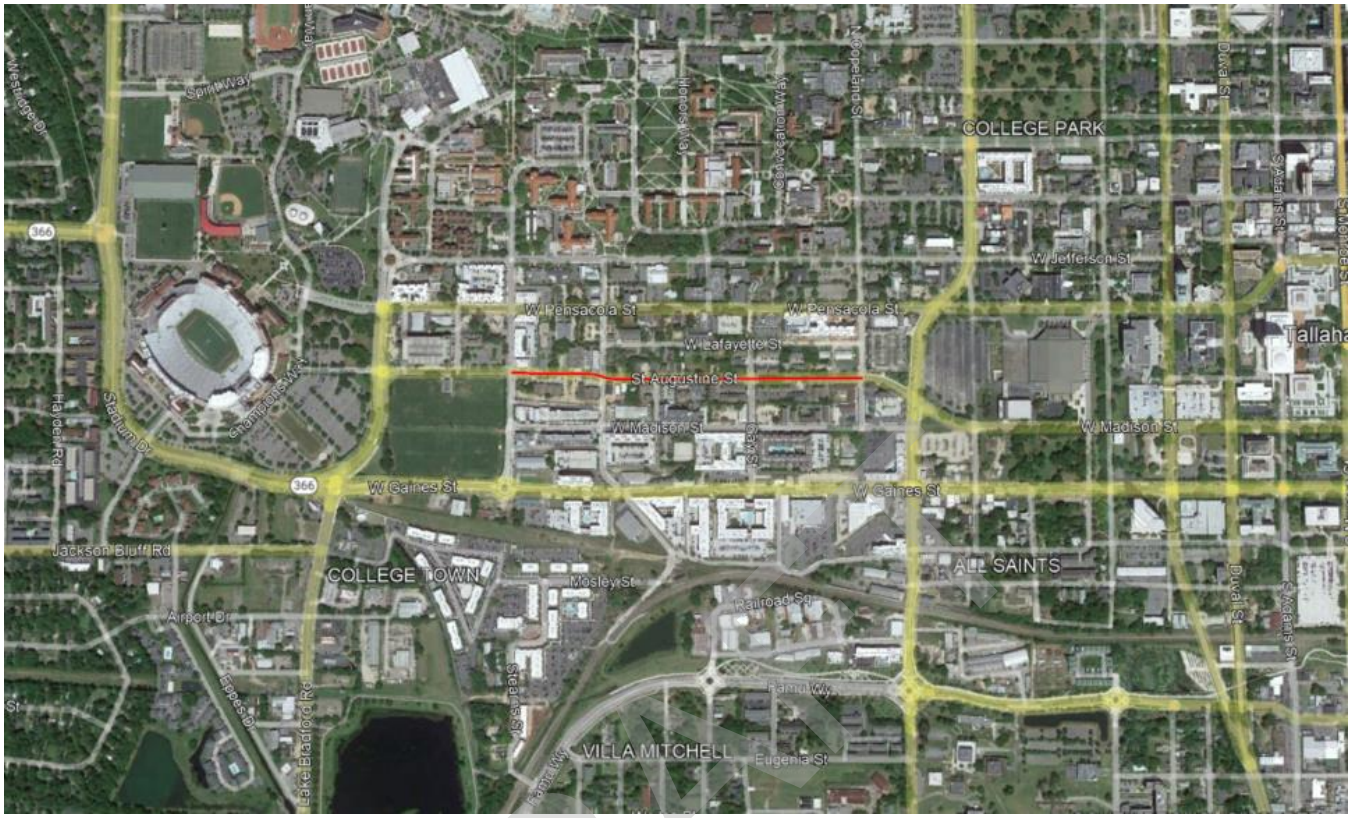
The following countermeasures were identified as potential for reducing crashes on the segment:

1. Jackson Bluff Road in the area near Airport Drive
    a. Trim bushes on NE and SW corners of intersection (sight distance issue).

Additional Safety Notes:

- Install a median along Jackson Bluff Road (similar to the median along Mission Road).

St. Augustine Street between Woodward Way and Copeland Street



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Bicycle	Pedestrian	Other
2017	0	0	0	0
2018	1	1	0	0
2019	0	0	0	0
2020	2	0	1	1
2021	0	0	0	0
Total	3	1	1	1

Crash Details

Report Number	89143716	89147722	90110369
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	9/3/2018	2/3/2020	8/19/2020
	11:41 AM	2:37 PM	8:41 AM
First Harmful Event	Pedalcycle	Pedestrian	Motor Vehicle in Transport
Light Condition	Daylight	Daylight	Daylight
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	Y	N
Bicyclist Related	Y	N	N
Narrative	V1 was traveling east on St. Augustine St, approaching the intersection of Gay St. A bicyclist was traveling south on Gay St., failed to stop at the stop sign, and came into the path of V1. The front of V1 impacted the right side of the bicyclist.	V1 was traveling east on St. Augustine St when P1 walked into the crosswalk, south across St. Augustine St. The front of V1 impacted the right side of P1. D1 stated she was not familiar with the area and that the flashing crosswalk signs "were not flashing".	V1 and V2, a motorcycle, were both traveling east on St. Augustine St. V1 was in the south lane. As they approached Lorene St, V1 attempted to make a left turn from the outside lane onto Lorene St. V1 turned in front of V2. The front of V2 impacted the front left fender of V1.
Note		**Pedestrian Related Crash (P1)**	

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	7,400
Speed Limit	30 mph
Length	0.44 miles
Presence of Median	N
Median Width	N/A
Lane Width	10 feet
Number of Lanes	2
Presence of Bike Lanes	Y
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Curb
Shoulder Width	2 feet
Roadside Hazard Rating	5/6
Driveways Density	~52 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	Y
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings
	Inadequate lighting
	Excessive speed
	Bicycles on roadway
	Bicycle path too close to roadway
	Narrow lanes for bicyclists
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Motor vehicle-bicyclist	Bicycles on roadway
Motor vehicle-pedestrian	Inadequate signals/signs
	Driver has inadequate warning of mid-block crossings
	Pedestrians on roadway

Step 4: Select Potential Countermeasures

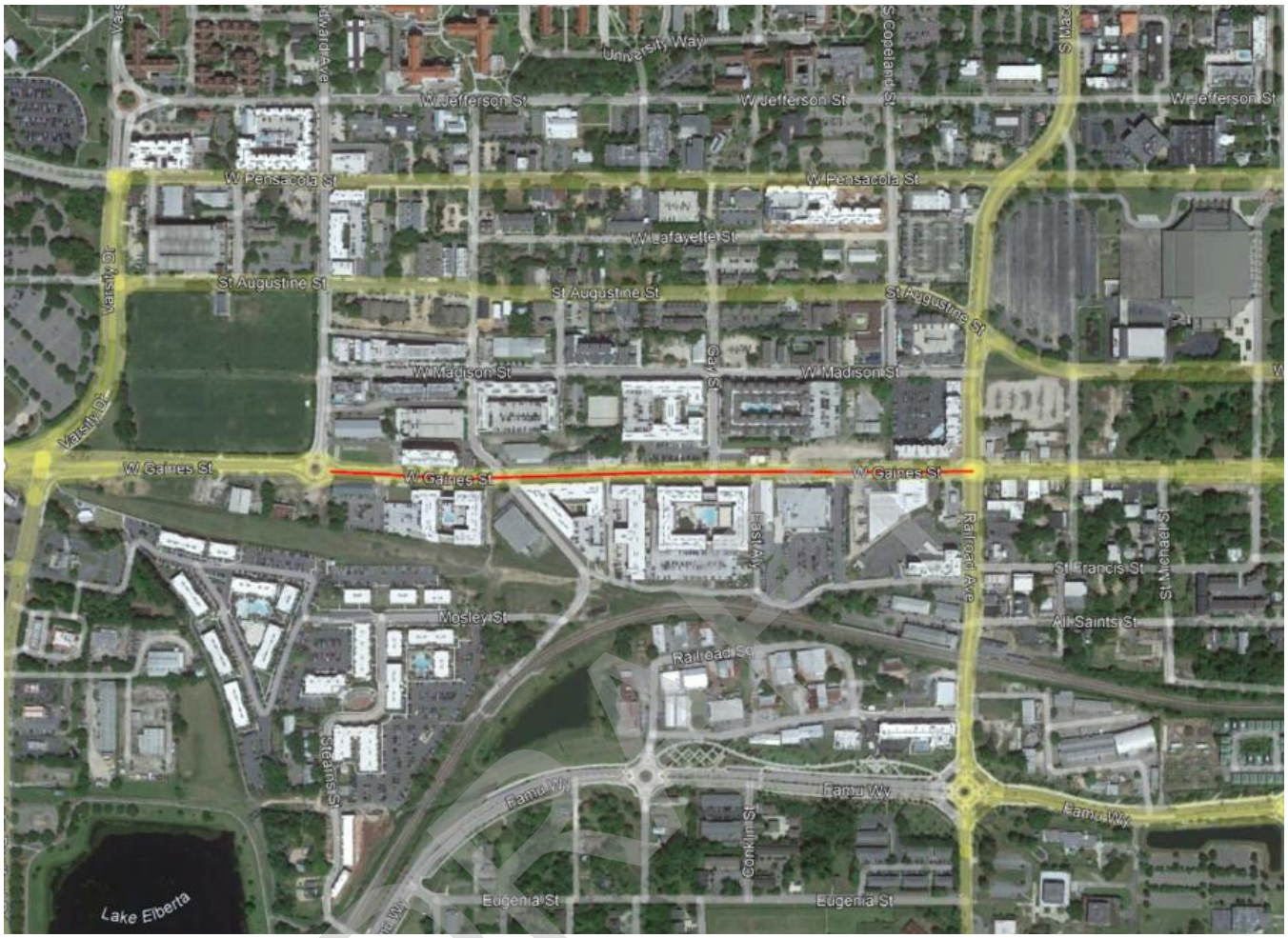
The following countermeasures were identified as having potential for reducing crashes on the segment:

1. Pedestrian Signage
    a. Repair the Rectangular Rapid Flashing Beacon, on the south shoulder at Gay Street, which is not functioning.

Additional Safety Notes:

- Sight distance on the southbound approach is limited at the intersection of St. Augustine Street and Gay Street.

Gaines Street between Woodward Avenue and Railroad Avenue



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Pedestrian	Rear End
2017	0	0	0
2018	1	1	0
2019	2	1	1
2020	1	1	0
2021	0	0	0
Total	4	3	1

Crash Details

Report Number	87839428	87844457	89145376	89148449
Severity	Serious Injury	Serious Injury	Serious Injury	Serious Injury
Crash Time	8/26/2018	2/14/2019	10/29/2019	3/1/2020
	12:42 AM	1:13 AM	3:43 PM	1:46 AM
First Harmful Event	Pedestrian	Pedestrian	Motor Vehicle in Transport	Pedestrian
Light Condition	Dark - Lighted	Dark - Lighted	Daylight	Dark - Lighted
Road Surface Condition	Dry	Dry	Wet	Dry
Weather	Clear	Clear	Cloudy	Clear
Alcohol Related	N	Y	N	N
Drug Related	N	Y	N	N
Pedestrian Related	Y	Y	N	Y
Bicyclist Related	N	N	N	N
Narrative	V1 was traveling east on Gaines St., approaching the intersection with Stone Valley Way. As V1 approached, P1, who was standing on the north sidewalk, ran south, into the path of V1. The front of V1 impacted the right side of P1.	V1, a tow truck, was traveling west on Gaines St, approaching the intersection with Gay St. P1 was on the north side walk. After V1 had moved past P1, P1 was seen laying on the ground. It is unknown if V1 impacted P1. It was suspected that P1 had been using both drugs and alcohol.	V1, a moped, was traveling east on Gaines St, just east of the intersection with Gay Street. V2 was also eastbound on Gaines Street. V2 had backed out of a slant parking space and established control of the lane. The front of V1 impacted the rear of V2. V1 was believed to be at fault for traveling at a speed too fast for the present weather and traffic conditions.	V1 was traveling east on Gaines St, approaching Lorene St. V1 attempted to make a left turn onto Lorene St, as he had a green light. P1, who was on an electric scooter was traveling west on the north sidewalk of Gaines St, was crossing Lorene St while he had a “stop, don’t walk” sign. The front of V1 impacted the left side of P1.
Note	**Pedestrian Related Crash (P1)**	**Pedestrian Related Crash (P1)**		**Pedestrian Related Crash (P1)**

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	20,400
Speed Limit	25 mph
Length	0.496 miles
Presence of Median	Y
Median Width	10 feet
Lane Width	9/10 feet
Number of Lanes	2
Presence of Bike Lanes	N
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Curb
Shoulder Width	2 feet
Roadside Hazard Rating	5/6
Driveways Density	~38 per mile
Presence of Horizontal Curve	N
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Rear-end	Pedestrian crossing
	Driver inattention
	Slippery pavement
	Large number of turning vehicles
	Unexpected lane change
	Narrow lanes
	Restricted sight distance
	Inadequate gaps in traffic
	Excessive speed
Left- or right-turn movement	Pedestrian or bicycle conflicts

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Inadequate barrier between pedestrian and vehicle facilities
	Pedestrians on roadway
	Sidewalk too close to travel way
Rear-end	Driver inattention
Left- or right-turn movement	Pedestrian or bicycle conflicts

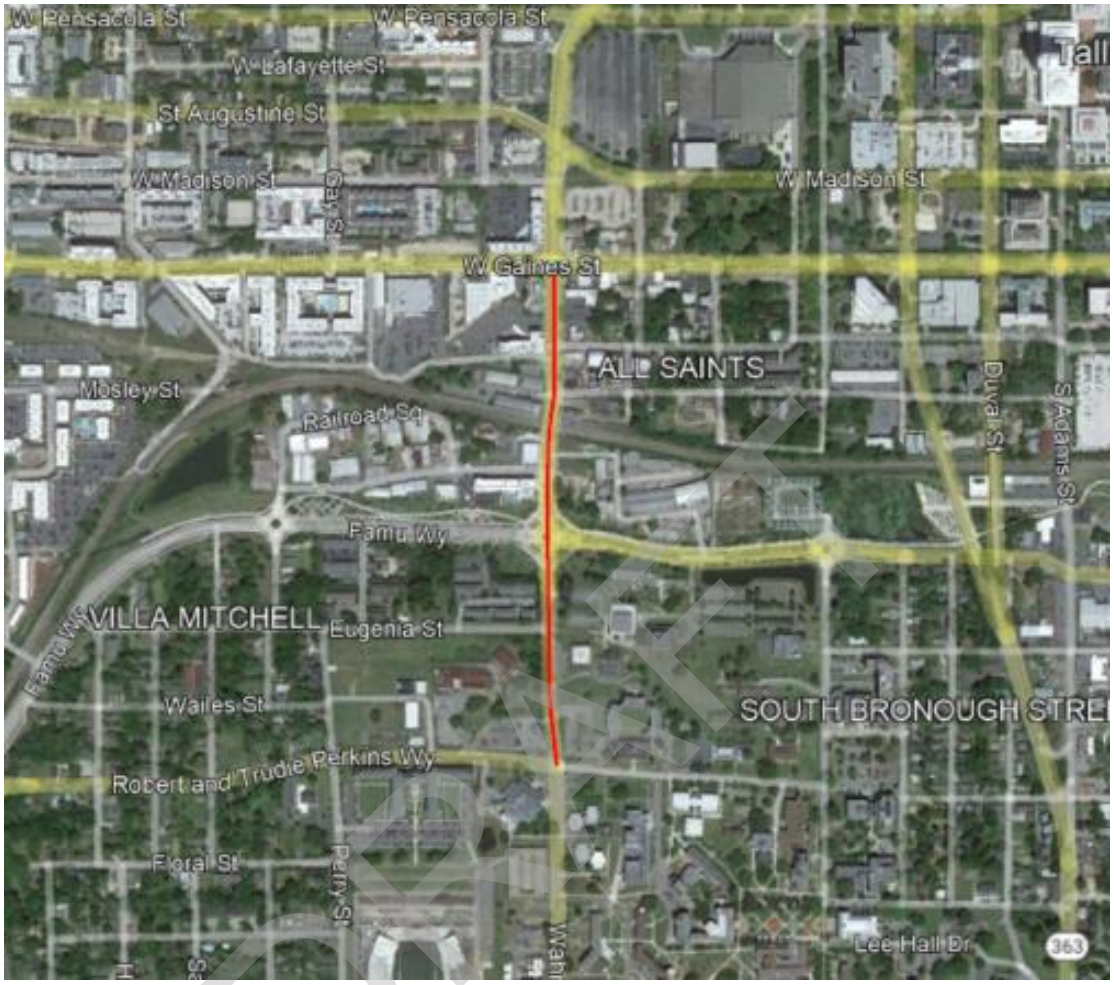
Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

1. No potential countermeasures were identified.

Crashes on this segment involved alcohol, excessive speed, and failure to obey traffic control devices.

Railroad Avenue between Gaines Street and Gamble Street



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Off Road	Left Turn
2017	1	0	1
2018	0	0	0
2019	0	0	0
2020	0	0	0
2021	2	2	0
Total	3	2	1

Crash Details

Report Number	24809792	86962290	90115872
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	11/14/2021	11/4/2017	6/6/2021
	12:24 PM	10:15 PM	1:44 AM
First Harmful Event	Utility Pole/Light Support	Motor Vehicle in Transport	Other Fixed Object
Light Condition	Daylight	Dark - Lighted	Dark - Lighted
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	Y	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	N	N	N
Narrative	V1 was traveling north on Wahnish Way, approaching the intersection with Eugenia St. V1 left the roadway to the east, again on the west side, and then a third time to the east again. V1 struck the roundabout sign and the support wire of a utility pole.	V1 was facing east on the drive just south of the Hampton hotel. V2 was traveling south on Railroad Ave, approaching. V1 was turning left onto northbound Railroad Ave. V1's sight distance was obstructed by a crane on the northwest corner of the intersection. V1 turned in front of V2. The front of V2 impacted the left side of V1. D2 was suspected of alcohol use.	P1 was traveling north on Railroad Ave using an electric scooter, approaching the railroad. As P1 approached the railroad, the front wheel of the scooter became lodged on the railroad, throwing P1 from the scooter.
Note			**Pedestrian Related Crash (P1)**

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	6,300
Speed Limit	25 mph
Length	0.45 miles
Presence of Median	Yes/No
Median Width	12 feet
Lane Width	10/11 feet
Number of Lanes	2/3/5
Presence of Bike Lanes	Y
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Curb
Shoulder Width	2 feet
Roadside Hazard Rating	4/5/6
Driveways Density	~47 per mile
Presence of Horizontal Curve	N
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	N
Rail Crossover	Y

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

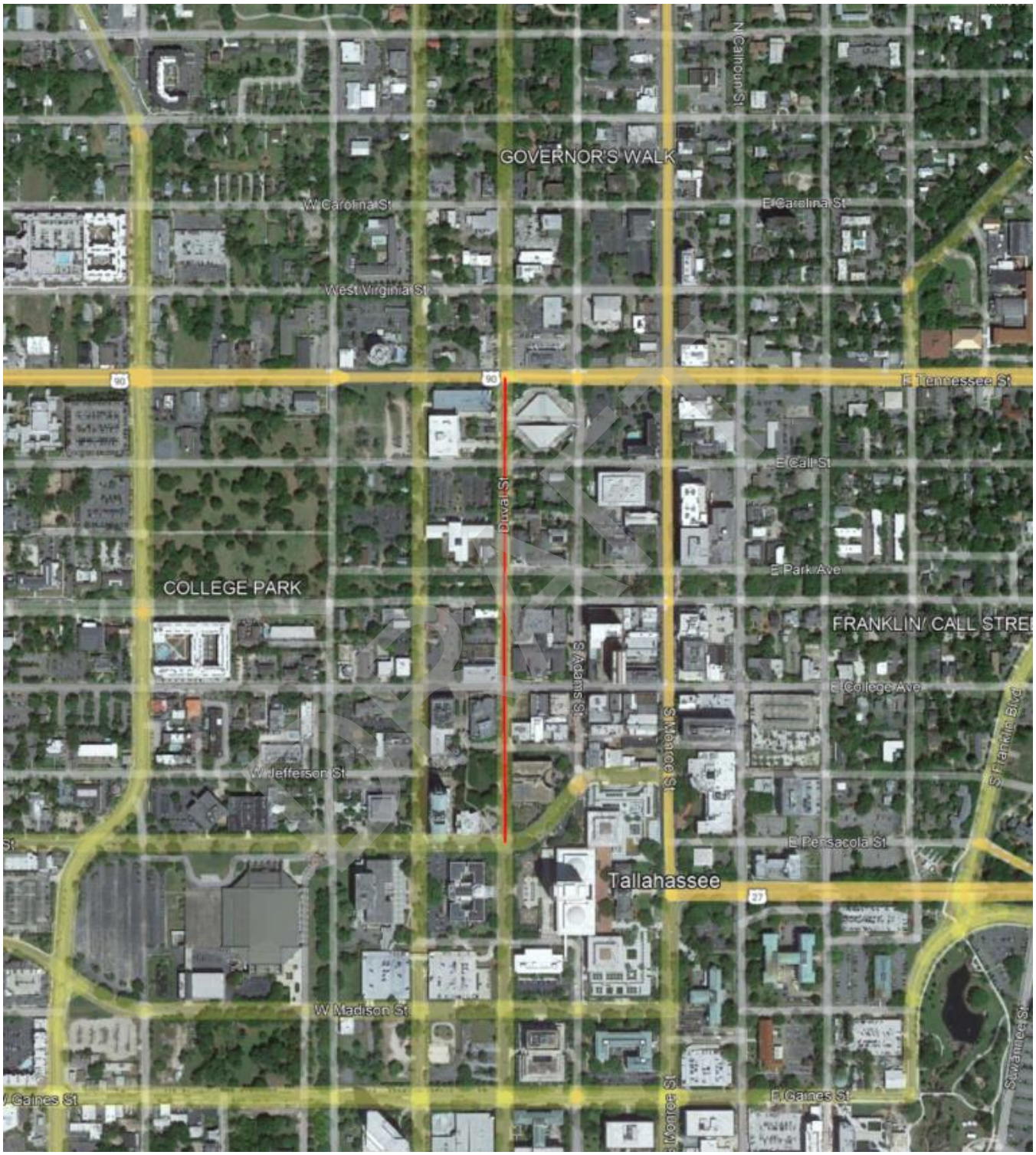
Crash Type	Possible Contributing Factor(s)
Run-off-road	Excessive speed
Collisions at driveways	Left-turning vehicles

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

1. Pavement Markings
    a. Restripe the stop bar and crosswalk on the eastbound approach to Railroad Avenue, south of the Hampton Inn.
2. Pavement/Railroad Condition
    a. Repair railroad crossing to eliminate uneven (i.e., rough) road conditions.

Duval Street between W Tennessee Street and Pensacola Street



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Angle	Unknown	Sideswipe
2017	1	1	0	0
2018	0	0	0	0
2019	1	0	1	0
2020	0	0	0	0
2021	1	0	0	1
Total	3	1	1	1

Crash Details

Report Number	86958219	87844508	90119185
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	6/3/2017	2/16/2019	10/28/2021
	9:51 AM	12:51 AM	10:40 PM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Dark - Lighted	Dark - Not Lighted
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	N	N	N
Narrative	V2 was traveling east on Call St, approaching the intersection with Duval St. V1 was traveling north on Duval St approaching the intersection with Call St. V1 ran the red light, entered the intersection, and impacted the right side of V2.	V2 was traveling eastbound on College Ave, approaching the intersection with Duval St. V1 was traveling northbound on Duval St, approaching the intersection with College Ave. V1 ran the red light and the front of V2 impacted the front left of V1. V1 fled from the scene.	V1 and V2 were traveling northbound on Duval St, near the intersection with College Ave when the right rear side of V1 impacted the left front of V2. Multiple conflicting statements were provided. As a result, the crash narrative is inconclusive.
Note			

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	8,500
Speed Limit	30 mph
Length	0.41 miles
Presence of Median	N
Median Width	N/A
Lane Width	11 feet
Number of Lanes	3
Presence of Bike Lanes	Not Striped as such
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Curb
Shoulder Width	2 feet
Roadside Hazard Rating	4/5
Driveways Density	~54 per mile
Presence of Horizontal Curve	N
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Left- or right-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Rear-end or Sideswipe	Inappropriate approach speeds
	Poor visibility of signals
	Unexpected lane changes on approach
	Narrow lanes
	Unexpected stops on approach
	Slippery pavement
	Excessive speed
Right-angle	Poor visibility of signals
	Inadequate signal timing
	Excessive speed
	Slippery pavement
	Inadequate sight distance
	Drivers running red light

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Left- or right-turn movements	Conflict with right-turn-on-red vehicles
Rear-end or Sideswipe	Excessive speed
Right-angle	Drivers running red light

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

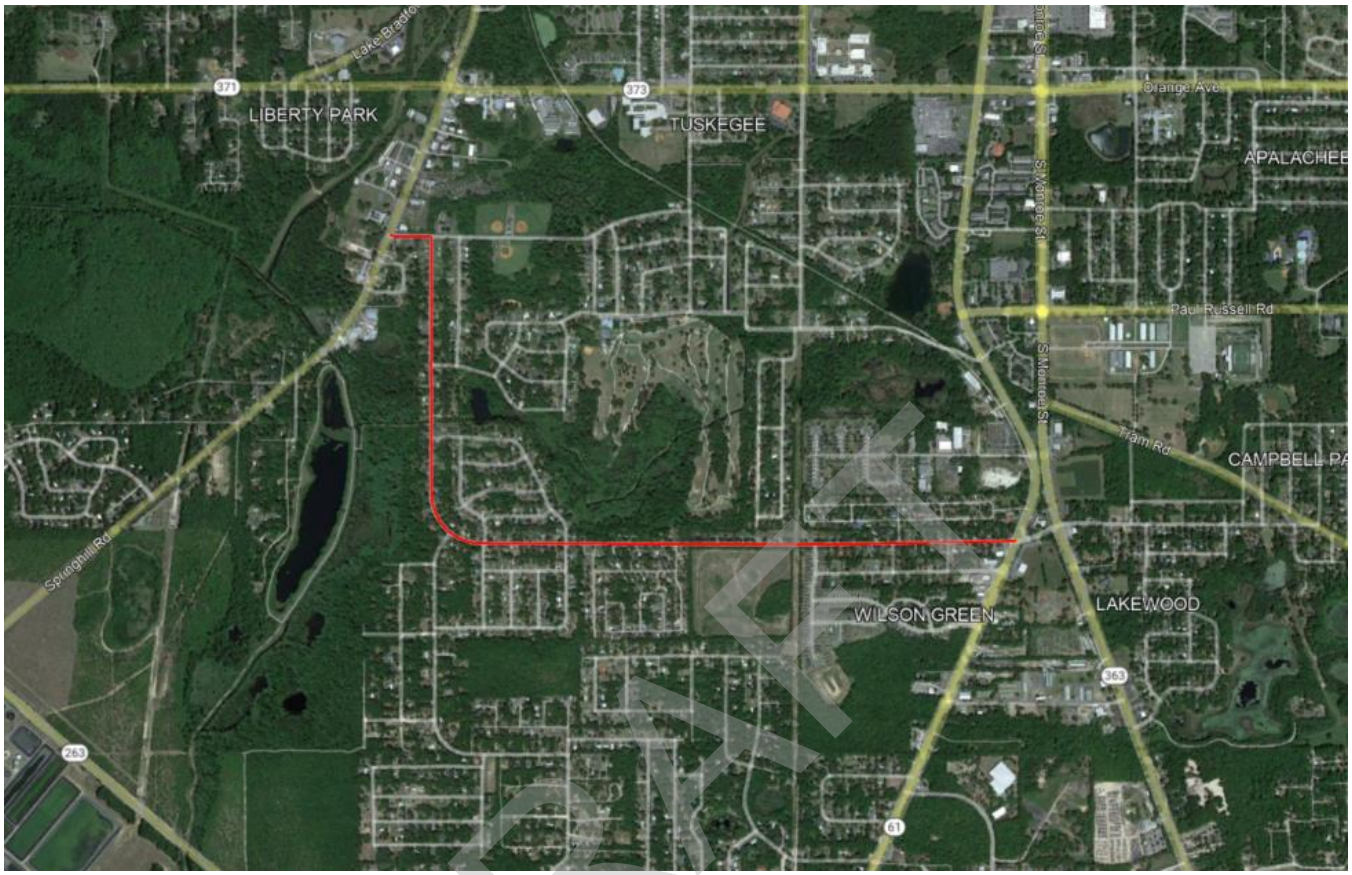
1. No potential countermeasures were identified.

Crashes on this segment involved failure to obey traffic control devices and vehicles being operated in a negligent manner.

Additional Safety Notes:

- Sight distance is limited due to uphill grades on the northbound and eastbound approaches at the intersection of Duval Street and College Avenue.

Ridge Road between Springhill Road and Crawfordville Road



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Pedestrian	Off Road	Angle	Sideswipe
2017	0	0	0	0	0
2018	1	1	0	0	0
2019	3	1	1	1	0
2020	1	0	0	0	1
2021	0	0	0	0	0
Total	5	2	1	1	1

Crash Details

Report Number	86965112	89142147	89143967
Severity	Serious Injury	Fatality	Serious Injury
Crash Time	2/24/2018	6/30/2019	9/11/2019
	5:34 PM	9:45 PM	6:26 PM
First Harmful Event	Pedestrian	Utility Pole/Light Support	Motor Vehicle in Transport
Light Condition	Daylight	Dark - Lighted	Daylight
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	Y	N	N
Narrative	V1 was traveling southbound on Ridge Road. V1 began to slow as he approached a yard with many children playing in the yard. P1, a child, darted into the road as V1 approached. V1 was unable to evade and struck P1 with the right front fender of V1.	V1 was traveling eastbound on Ridge Rd at a high rate of speed. V1 left the road for unknown reasons and impacted a tree.	V1 was traveling north on Sunnyside Dr, approaching the intersection of Ridge Rd. V2 was traveling east on Ridge Rd, approaching the intersection with Sunnyside Dr. V1 did not stop at the stop sign located at the intersection and continued into the intersection. The left front of V1 impacted the right front of V2.
Note	**Pedestrian Related Crash (P1)**		

Report Number	89144735	90112796
Severity	Serious Injury	Serious Injury
Crash Time	10/6/2019	12/22/2020
	8:13 PM	6:01 PM
First Harmful Event	Pedestrian	Motor Vehicle in Transport
Light Condition	Dark - Not Lighted	Daylight
Road Surface Condition	Dry	Dry
Weather	Clear	Clear
Alcohol Related	N	Y
Drug Related	N	N
Pedestrian Related	Y	N
Bicyclist Related	N	N
Narrative	V1 was traveling west on Ridge Rd. P1 was in the westbound lane also traveling west. P1 was wearing all black when V1 impacted P1. D1 stated she did not see P1 until the collision was unavoidable. P1 was found to be at fault.	V1 was traveling eastbound on Ridge Rd at a high rate of speed, near the intersection with State St. V2 was traveling westbound on Ridge Rd, near the intersection with State St. V3 was traveling eastbound, east of the intersection with State St. V1 entered the westbound lane and sideswiped V2. V1 then ran off the road on the south side of Ridge Rd, impacting the mailboxes at 119 and 117 Ridge Rd. V1 then struck a concrete drainpipe just east of 117 Ridge Rd, causing it to impact the rear end of V3. D1 was found to be at fault.
Note	**Pedestrian Related Crash (P1)**	

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	6,600
Speed Limit	35 mph
Length	2.08 miles
Presence of Median	N
Median Width	N/A
Lane Width	11 feet
Number of Lanes	2
Presence of Bike Lanes	N
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Lawn and Curb
Shoulder Width	4 and 2 feet, respectively
Roadside Hazard Rating	4/5/6
Driveways Density	~87 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed
Opposite-direction Sideswipe or Head-on	Inadequate roadway geometry
	Inadequate shoulder
	Excessive speed
	Inadequate pavement markings
	Inadequate signing

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

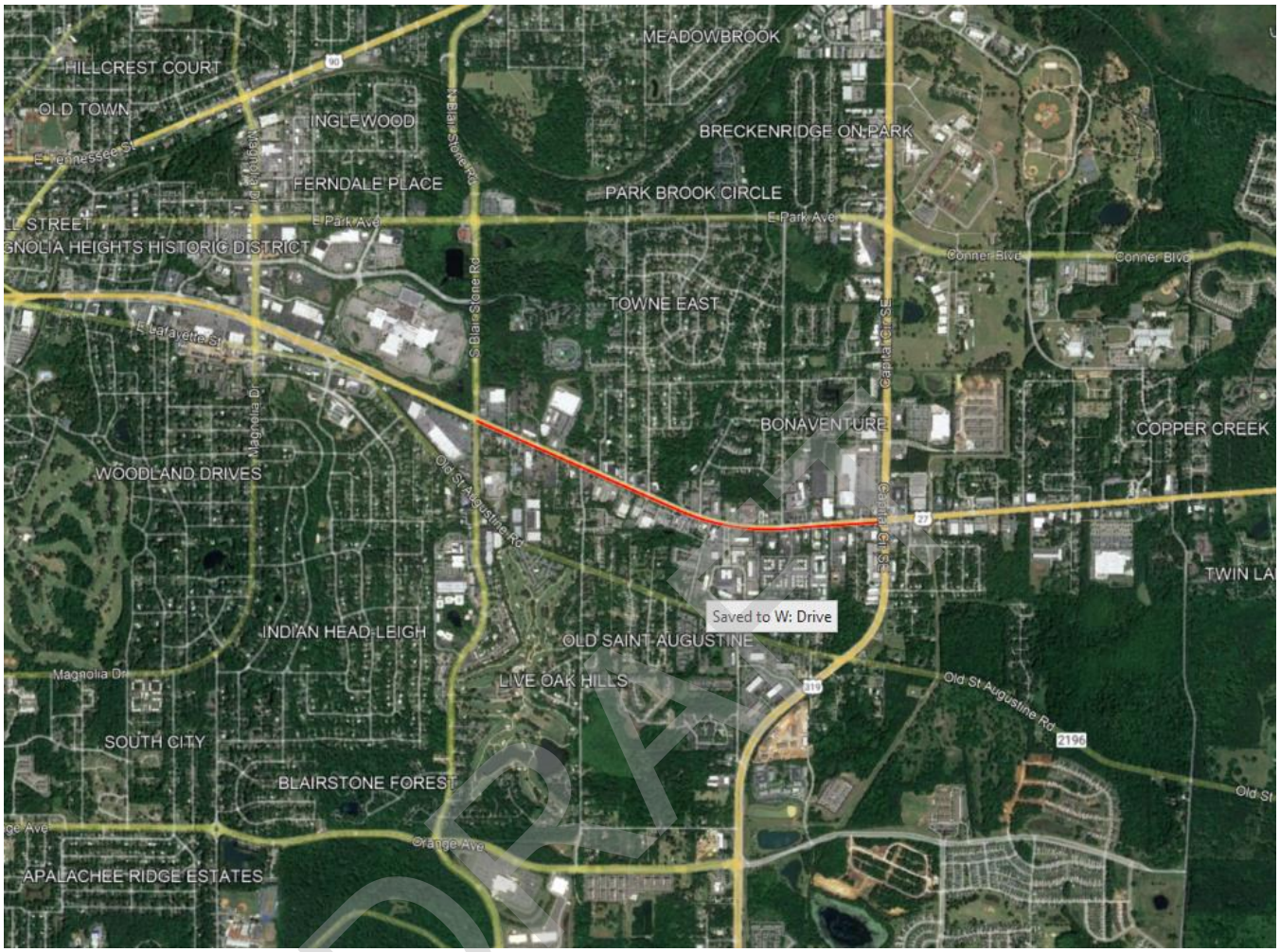
Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Pedestrians on roadway
Run-off-road	Excessive speed
Opposite-direction sideswipe	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

1. Ridge Road in the area of Sunnyside Drive (sight distance issue)
    a. Trim bushes on SW corner of intersection.
    b. Relocate bus stop on SW corner of intersection.
    c. Add stop bars on the NB and SB approaches.

Apalachee Parkway between Blair Stone Road and Capital Circle SE



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left Turn	Right Turn	Bicycle	Angle	Pedestrian	Rear End	Off Road	Other
2017	2	1	0	0	0	0	0	0	1
2018	4	1	0	2	1	0	0	0	0
2019	3	0	0	0	1	1	1	0	0
2020	0	0	0	0	0	0	0	0	0
2021	4	1	1	0	0	0	1	1	0
Total	13	3	1	2	2	1	2	1	1

Crash Details

Report Number	24809635	86956413	86956667
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	11/8/2021	3/25/2017	4/3/2017
	8:23 AM	12:23 AM	1:40 PM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Dark - Lighted	Daylight
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Cloudy
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	Y
Bicyclist Related	N	N	N
Narrative	V2 was traveling west on Apalachee Pkwy, approaching the intersection with Richardson Rd. V1 was traveling east on Apalachee Pkwy and attempting to make a left turn onto Richardson Rd. V1 turned in front of V2. The front of V2 impacted the right rear of V1.	V2, a motorcycle, was traveling east on Apalachee Pkwy, approaching the intersection with Richview Dr. V1 was traveling west on Apalachee Pkwy, attempting to make a left turn on Richview Dr. V1 turned in front of V2. The front of V2 impacted the right rear of V1.	V1 was exiting the Target located at 2120 Apalachee Pkwy. P1 was walking east on the sidewalk, approaching the driveway. D1 stated he was looking east towards oncoming traffic and did not see P1 using the crosswalk at the driveway. The right front side of V1 struck P1. D1 was found to be at fault.
Note			**Pedestrian Related Crash (P1)**

Report Number	87503618	87837562	87838121
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	4/30/2018	6/7/2018	6/29/2018
	12:41 PM	5:59 PM	8:29 AM
First Harmful Event	Pedalcycle	Pedalcycle	Motor Vehicle in Transport
Light Condition	Daylight	Daylight	Daylight
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	Y	Y	N
Narrative	V1 was existing the driveway located at 2511 Apalachee Pkwy, to make a right turn onto Apalachee Pkwy, heading east. A bicyclist (BC1) was traveling west on Apalachee Pkwy in the outside eastbound travel lane. The front of V1 impacted the front of BC1, causing the bicyclist to be thrown onto V1.	V1 was traveling north on Paul Russel Rd, at the intersection with Apalachee Pkwy, attempting to make a right turn on red. V2 was traveling eastbound on Apalachee Pkwy, approaching the intersection with Paul Russel Rd. BC1 was traveling west on the southern sidewalk, attempting to cross Paul Russel Rd. As V1 made a right turn, its right front struck BC1. The bicyclist was ejected from BC1 and BC1 landed in the path of V2 and was run over. Fault was not established as BC1 was traveling on the sidewalk and in the wrong direction. V1 failed to yield the right-of-way.	V2 was traveling south on Richardson Rd, approaching the intersection with Apalachee Pkwy where he had a green light. V1 was traveling west on Apalachee Pkwy, approaching the intersection with Richardson Rd. V1 ran the red light and its front impacted the right side of V2.
Note	**Bicycle Related Crash (BC1)**	**Bicycle Related Crash (BC1)**	

Report Number	87838251	89140593	89141466
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	7/6/2018	4/27/2019	6/1/2019
	4:26 PM	11:45 AM	9:33 AM
First Harmful Event	Motor Vehicle in Transport	Pedestrian	Motor Vehicle in Transport
Light Condition	Daylight	Daylight	Daylight
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	Y	N
Bicyclist Related	N	N	N
Narrative	V2 was traveling north on Paul Russel Rd, approaching the intersection with Apalachee Pkwy. V1 was traveling east on Apalachee Pkwy, approaching the intersection with Paul Russel Rd. V3 was traveling west on Apalachee Pkwy, approaching the intersection with Paul Russel Rd. As V2 entered the intersection, V1 ran the right light, and its front impacted the left side of V2. This caused V2 to overturn and impact V3.	V1 was traveling east on Apalachee Pkwy. P1 was on the south sidewalk and attempted to cross Apalachee Pkwy to the north. As P1 entered the road, the front of V1 impacted the left side of P1. D1 had no fault in the crash.	V1, a motorcycle, was traveling west on Apalachee Pkwy behind another vehicle, approaching the intersection with Richview Rd. V2 was traveling east on Apalachee Pkwy, attempting to make a u-turn at the intersection with Richview Rd. As V2 made a u-turn, V1 changed passed the vehicle in front of them, that was stopping at the right light. V1 moved back into the outside lane and ran the red light at Richview Rd. The front of V1 impacted the right front of V2.
Note		**Pedestrian Related Crash (P1)**	

Report Number	89141705	90113107	90113711	90114571
Severity	Serious Injury	Serious Injury	Serious Injury	Serious Injury
Crash Time	6/12/2019	1/10/2021	2/13/2021	3/30/2021
	7:50 AM	2:45 AM	9:12 AM	6:26 PM
First Harmful Event	Motor Vehicle in Transport	Utility Pole/Light Support	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Dark - Lighted	Daylight	Daylight
Road Surface Condition	Wet	Dry	Wet	Dry
Weather	Cloudy	Clear	Fog, Smog, Smoke	Clear
Alcohol Related	N	N	N	N
Drug Related	N	N	N	N
Pedestrian Related	N	N	N	N
Bicyclist Related	N	N	N	N
Narrative	V2 and V3 were traveling westbound on Apalachee Pkwy, west of the intersection with Evangeline Way. V2 and V3 were stopping. V1 was traveling west just behind V2 and V3. D1 stated she did not see V2 and V3 stopping and the front of V1 impacted the rear of both V2 and V3.	V1 was traveling eastbound on Apalachee Pkwy at a high rate of speed (80 mph), west of the intersection with Hendrix Rd. V1 ran off the road, struck a utility pole, a “Papa’s Diner” sign, a tree east of Hendrix Rd, and then came to final rest after striking another tree.	V1 was stopped southbound on Victory Garden Dr, attempting to make a right turn onto westbound Apalachee Parkway. V2 was traveling west on Apalachee Pkwy, approaching the intersection with Victory Garden Dr. As V1 made a right turn, it turned into the inside lane, in the line of travel of V2. The front of V2 impacted the rear of V1. D1 was found to be at fault.	V1 and V2 were traveling west on Apalachee Pkwy. V2 was in front of V1 and began to stop as they approached traffic. D1 was using her cell phone GPS for directions and did not see V2 stopping. The front of V1 impacted the rear of V2. D1 was found to be at fault.
Note				

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	31,000
Speed Limit	45 mph
Length	1.44 miles
Presence of Median	Y
Median Width	16 - 30 feet
Lane Width	12 & 13 feet
Number of Lanes	4
Presence of Bike Lanes	N
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Paved & Lawn/Curb
Shoulder Width	~2 - 15 feet
Roadside Hazard Rating	3/4
Driveways Density	~60 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Left- or right-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
	Inadequate signal timing
	Inadequate sight distance
	Conflict with right-turn-on-red vehicles
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings
	Inadequate lighting
	Excessive speed
	Bicycles on roadway
	Bicycle path too close to roadway
	Narrow lanes for bicyclists
Rear-end	Inappropriate approach speeds
	Poor visibility of signals
	Unexpected lane changes on approach
	Narrow lanes
	Unexpected stops on approach
	Slippery pavement
	Excessive speed
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Left- or right-turn movement	Misjudge speed of on-coming traffic
	Pedestrian or bicycle conflicts
Motor vehicle-pedestrian	Excessive speed
	Pedestrians on roadway
Motor vehicle-bicycle	Excessive speed
	Bicycles on roadway
Rear-end	Excessive speed
Run-off-road	Excessive speed

Step 4: Select Potential Countermeasures

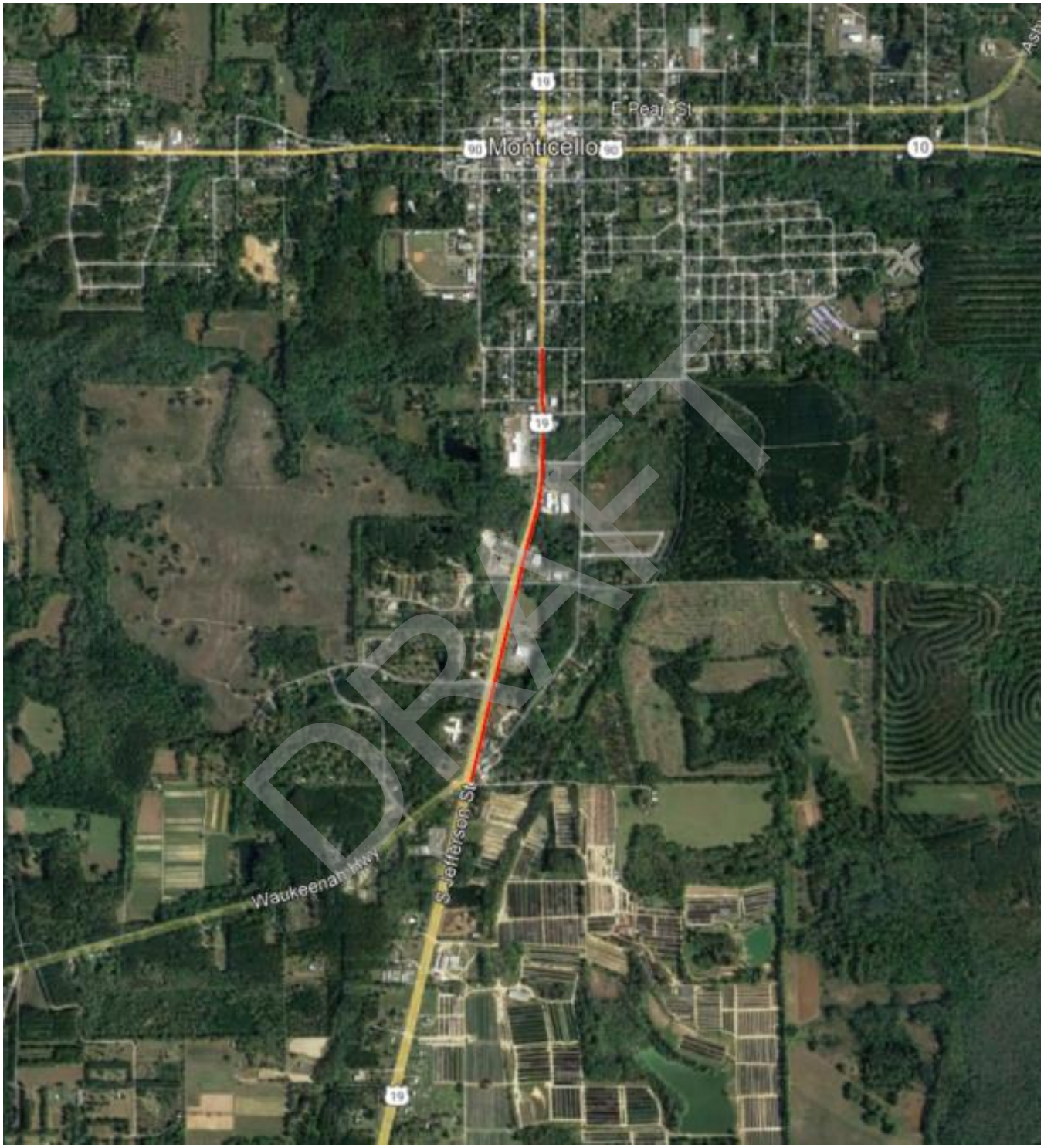
The following countermeasures were identified as having potential for reducing crashes on the segment:

1. Segment Congestion
    a. Reduce posted speed limit on Apalachee Parkway.
2. Apalachee Parkway near Victory Garden Drive
    a. Remove approximately 6 feet of bushes on NE corner (sight distance issue).

Additional Safety Notes:

- Stop sign location at Evangeline Way should be repositioned.
- Stop sign at the Target driveway was observed to be “loose and leaning.”

Jefferson Street between Seminole Avenue and Nacoosa Road



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Pedestrian	Angle	Rear End
2017	2	1	1	0
2018	1	0	0	1
2019	0	0	0	0
2020	0	0	0	0
2021	0	0	0	0
Total	3	1	1	1

Crash Details

Report Number	85396015	85403870	85601390
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	3/11/2017	2/13/2017	2/11/2018
	11:35 AM	7:23 AM	6:00 PM
First Harmful Event	Pedestrian	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Daylight	Daylight	Dusk
Road Surface Condition	Dry	Dry	Wet
Weather	Cloudy	Clear	Rain
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	Y	N	N
Bicyclist Related	N	N	N
Narrative	V1 was traveling south on Jefferson St, just south of Seminole Ave. P1 was on the west sidewalk and attempted to cross Jefferson St eastward. P1 stepped into the roadway in front of V1. The front of V1 impacted the left side of P1.	V1 was stopped eastbound on Cooper's Pond Rd at the intersection with Jefferson St. V2 and V3 were traveling south on Jefferson St, approaching the intersection with Cooper's Pond Rd. V2 was in front of V3. V1 made a left turn in front of V2. The right front of V2 and the left front of V1 impacted causing V2 to overturn. The passenger of V2 was ejected. As V2 overturned, debris from the bed of V2 was thrown on the roadway. V3 ran over the debris and the passenger from V2. The front of V3 then impacted the read of V2.	V1 and V2 were traveling north on Jefferson St in the inside lane. V2 was changing lanes into the northbound left turn lane. V1 was traveling behind V2 and looking at her cell phone and did not see V2 slowing. The front of V1 impacted the rear of V2.
Note	**Pedestrian Related Crash (P1)**		

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	8,000
Speed Limit	35/45/55 mph
Length	1.11 miles
Presence of Median	Y
Median Width	13 feet & 44 feet
Lane Width	12 feet
Number of Lanes	4
Presence of Bike Lanes	N
Presence of Sidewalk	Y
Presence of Lighting	Y
Shoulder Type	Paved/Lawn/Curb
Shoulder Width	~2 - 13 feet
Roadside Hazard Rating	2/3/4
Driveways Density	~34 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	Y
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Angle	Restricted sight distance
	High traffic volume
	High approach speed
	Unexpected crossing traffic
	Drivers running "stop" sign
	Slippery pavement

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Motor vehicle-pedestrian	Lack of crossing opportunity
	Pedestrians on roadway
Angle	Drivers running "stop" sign

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

1. Jefferson Street at Cooper's Pond Road
    a. Trim bushes and remove sign on the NW corner of the intersection (to improve sight distance on EB approach).

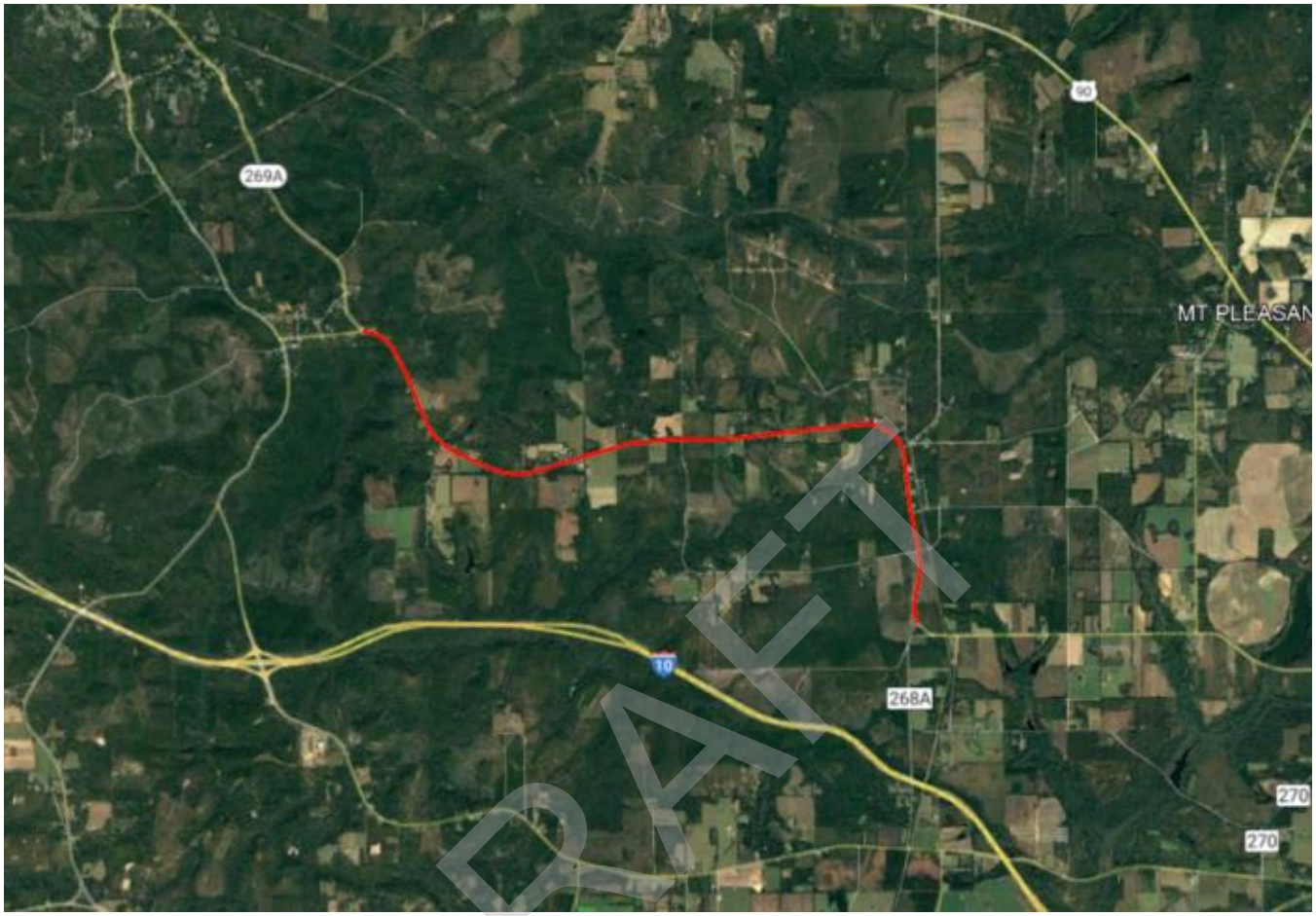
Identifying Crash Causes on Rural Segments

Location	County	KA Crash Count	Fatality	Serious Injury	AADT
Hardaway Highway	Gadsden	3	2	1	550
Providence Road	Gadsden	3	1	2	1,500
Smith Creek Road	Leon	3	1	2	600
Crawfordville Highway	Wakulla	3	1	2	15,700
Wakulla Springs Road	Leon	4	0	4	7,700
Oak Ridge Road	Leon	5	3	2	3,700
Old Plank Road	Leon	4	2	2	1,400
Old Lloyd Road	Jefferson	3	0	3	1,200
Aucilla Highway	Jefferson	3	0	3	700
Ashville Highway	Jefferson	5	0	5	1,800

Potential Countermeasures for all rural segments:

- Add Paved shoulders/Cold patches to fix rutting on shoulder drop-offs.
- Install Longitudinal rumble strips or profiled pavement markings along centerline and outside lane line. With many distractions to drivers, these rumble strips should be considered as a design feature for new or resurfacing projects.
- Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Hardaway Highway between Lincoln Avenue and Cochran Road



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left Turn	Off Road	Other
2017	0	0	0	0
2018	0	0	0	0
2019	1	1	0	0
2020	2	0	1	1
2021	0	0	0	0
Total	3	1	1	1

Crash Details

Report Number	88070185	882279319	88348763
Severity	Fatality	Fatality	Serious Injury
Crash Time	4/21/2019	5/57/2020	6/15/2020
	7:33 PM	11:45 AM	8:57 AM
First Harmful Event	Motor Vehicle in Transport	Tree (standing)	Other, Non-Fixed Object
Light Condition	Dusk	Daylight	Daylight
Road Surface Condition	Dry	Wet	Dry
Weather	Clear	Rain	Clear
Alcohol Related	Y	N	N
Drug Related	N	Y	N
Pedestrian Related	N	N	N
Bicyclist Related	N	N	N
Narrative	V1 was traveling east on Hardaway Hwy, just east of Woodrow Butler Road. V2, a motorcycle, was traveling west on Hardaway Hwy, just east of Woodrow Butler Road. V1 was making a left turn into the driveway at 2059 Hardaway Hwy. D2, trying to evade, braked causing V2 to rotate clockwise and overturn onto its left side. The right side of V2 impacted the right side of V1. D2 was suspected of alcohol use. D1 was cited for failure to yield.	V1 was traveling east on Hardaway Hwy, just west of Faircloth Rd, at approximately 80 mph. V1, traversing a right-hand curve, entered the westbound travel lane and passed two vehicles. In doing so, D1 lost control of the vehicle, drove off the north shoulder, traveled through the yard at 3477 Hardaway Hwy, and collided into a tree. D1 tested positive for drug use. Person 2, a passenger, was pronounced deceased on scene.	V1 was traveling north on Hardaway Hwy, south of Max Herrin Rd. D1 steered to the right to avoid an unknown animal in the roadway. In doing so, V1 exited onto the east shoulder for approximately 215 feet before striking a fallen tree, continuing for 117 feet, and striking a group of smaller trees.
Note			

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	550
Speed Limit	35/45/55 mph
Length	6.31 miles
Presence of Median	N
Median Width	N/A
Lane Width	10 feet
Number of Lanes	2
Presence of Bike Lanes	Not Striped as such
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	9 feet
Roadside Hazard Rating	1/2
Driveways Density	~9 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	Y
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Fixed Object	Obstruction in or near roadway
	Inadequate lighting
	Inadequate pavement markings
	Inadequate signs, delineators, guardrail
	Slippery pavement
	Roadside design (e.g., inadequate clear distance)
	Inadequate roadway geometry
	Excessive Speed
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed
Head-on or sideswipe	Inadequate pavement markings
	Narrow lanes

Identify Factors Contributing to The Cause of Crashes at the Subject Site

There are no apparent trends within the crash data. As a result, no particular contributing factors were identified as specific reasons/causes of these crashes.

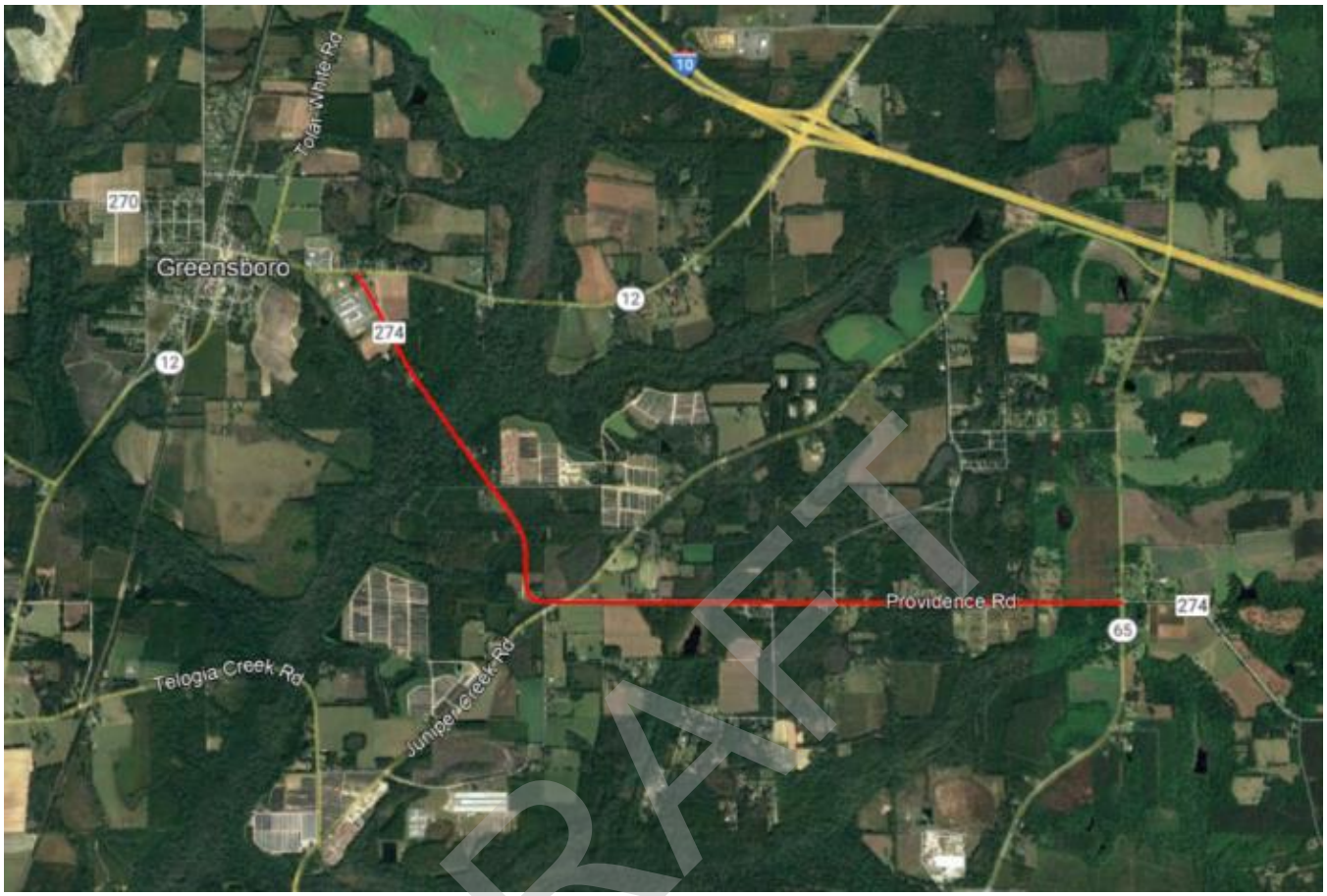
Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the intersection:

1. No potential countermeasures were identified.

Crashes on this segment were alcohol, excessive speed, and animal related.

Providence Road between Greensboro Highway and Hosford Highway



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Left Turn	Pedestrian	Rollover
2017	0	0	0	0
2018	1	1	0	0
2019	0	0	0	0
2020	1	0	1	0
2021	1	0	0	1
Total	3	1	1	1

Crash Details

Report Number	87153302	88282019	88479426
Severity	Fatality	Serious Injury	Serious Injury
Crash Time	4/29/2018	5/8/2020	11/6/2021
	6:35 PM	9:17 PM	9:50 PM
First Harmful Event	Motor Vehicle in Transport	Pedestrian	Overturn/Rollover
Light Condition	Daylight	Dark - Not Lighted	Dark - Not Lighted
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	Y	N
Bicyclist Related	N	N	N
Narrative	V1 was traveling south on Union Chapel Rd, approaching Providence Rd. V2, a motorcycle, was traveling east on Providence Rd, west of Union Chapel Rd, exceeding the posted speed limit. V1 attempted to turn left onto Providence Rd and then turn right onto Noah Ln. V1 turned in front of V2. D2 braked in an attempt to avoid a collision. The front of V2 collided with the right side of V1. D2 was pronounced deceased at the scene.	V1 was traveling east on Providence Rd, west of Union Chapel Rd. Other vehicles were lining each side of the roadway with people standing outside of their vehicles. As V1 approached the area, P1 entered the eastbound travel lane. The front of V1 impacted P1.	V1 was traveling west on Providence Rd, near the intersection of Juniper Creek Rd, at approximately 80 mph. As V1 entered the right-hand curve, the vehicle ran off the road onto the south shoulder. V1 then collided with an arrow sign, began to overturn before striking a tree. Passenger 1 was ejected from V1.
Note		**Pedestrian Related Crash (P1)**	

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	1500
Speed Limit	45 mph
Length	4.25 Miles
Presence of Median	N
Median Width	N/A
Lane Width	11 feet
Number of Lanes	2
Presence of bike lane	N
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	5 feet
Roadside Hazard Rating	2/3
Driveways Density	~12 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	Y
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Vehicle Rollover	Roadside design (e.g., non-traversable side slopes, pavement edge drop off)
	Inadequate shoulder width
	Excessive speed
	Pavement design
Left- or right-turn	Inadequate gaps in traffic
	Restricted sight distance
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Vehicle Rollover	Inadequate shoulder width
	Excessive speed
Motor Vehicle-pedestrian	Inadequate lighting
Collisions at driveways	Left-turning vehicles
	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the segment:

1. Pavement Markings
    a. Restripe segment (Striping currently faded/not visible).
    b. Replace reflective markers on segment (90% of markers are currently missing).
2. Speed Limit Signage
    a. Install eastbound speed limit signs on the segment.
3. Providence Road and Noah Lane/Union Chapel Road
    a. Provide advance intersection warning signs.
    b. Provide striping for southbound approach stop bar on Union Chapel Road (Missing).
    c. Relocate “Precinct 7” sign (Sight Distance issue).
4. Providence Road near Juniper Creek Road
    a. Fix rutting on the inside shoulder of the horizontal curve (Shoulder drop-off).
    b. Fix flashing light on horizontal alignment signs.
    c. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Additional Safety Notes:

- There is evidence of other vehicles leaving the road on the outside of the curve near Juniper Creek Road from both east and west directions.

Smith Creek Road between Stoutamire Landing Road and Leon/Wakulla County Line

Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Off Road	Other
2017	1	1	0
2018	1	0	1
2019	0	0	0
2020	1	0	1
2021	0	0	0
Total	3	1	2

Crash Details

Report Number	86504820	87126068	88205487
Severity	Serious Injury	Fatality	Serious Injury
Crash Time	1/18/2017	1/24/2018	10/14/2020
	7:11 AM	6:08 PM	4:24 PM
First Harmful Event	Ditch	Other Non-Collision	Motor Vehicle in Transport
Light Condition	Dark - Not Lighted	Dusk	Daylight
Road Surface Condition	Wet	Dry	Dry
Weather	Fog, Smog, Smoke	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	N	N	Y
Narrative	V1 was traveling north on Smith Creek Rd, approximately 1.2 miles north of the Leon/Wakulla County Line. V1 traversed a left-hand curve. The rear tires of V1 lost traction causing V1 to rotate counterclockwise while traveling onto the west shoulder. V1 overturned on the west shoulder and struck a small tree.	V1 was traveling north on Smith Creek Rd, south of the intersection with Log Landing Rd. D1 was distracted by his cell phone. V1 traveling into the southbound travel lane. D1 over corrected causing V1 to travel onto the east shoulder.	V1 was traveling north on Smith Creek Rd, south of the intersection with Stoutamire Landing Rd. BC1 was traveling north on Smith Creek Rd, in front of V1. V1 began to pass BC1 in a double yellow line no passing zone. As V1 traveled around BC1, BC1 began to make a left turn. The front of V1 impacted the left side of BC1.
Note			**Bicycle Related Crash (BC1)**

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	600
Speed Limit	45 mph
Length	8.29 miles
Presence of Median	N
Median Width	N/A
Lane Width	11 feet
Number of Lanes	2
Presence of bike lane	N
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	5 feet
Roadside Hazard Rating	1/2
Driveways Density	~3 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	Y
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Wet Pavement	Pavement design (e.g., drainage, permeability)
	Inadequate pavement markings
	Inadequate maintenance
	Excessive speed
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed
Nighttime	Poor nighttime visibility or lighting
	Poor sign visibility
	Inadequate channelization or delineation
	Excessive speed
	Inadequate sight distance
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings
	Inadequate lighting
	Excessive speed
	Bicycles on roadway
	Bicycle path too close to roadway
	Narrow lanes for bicyclists

Identify Factors Contributing to The Cause of Crashes at the Subject Site

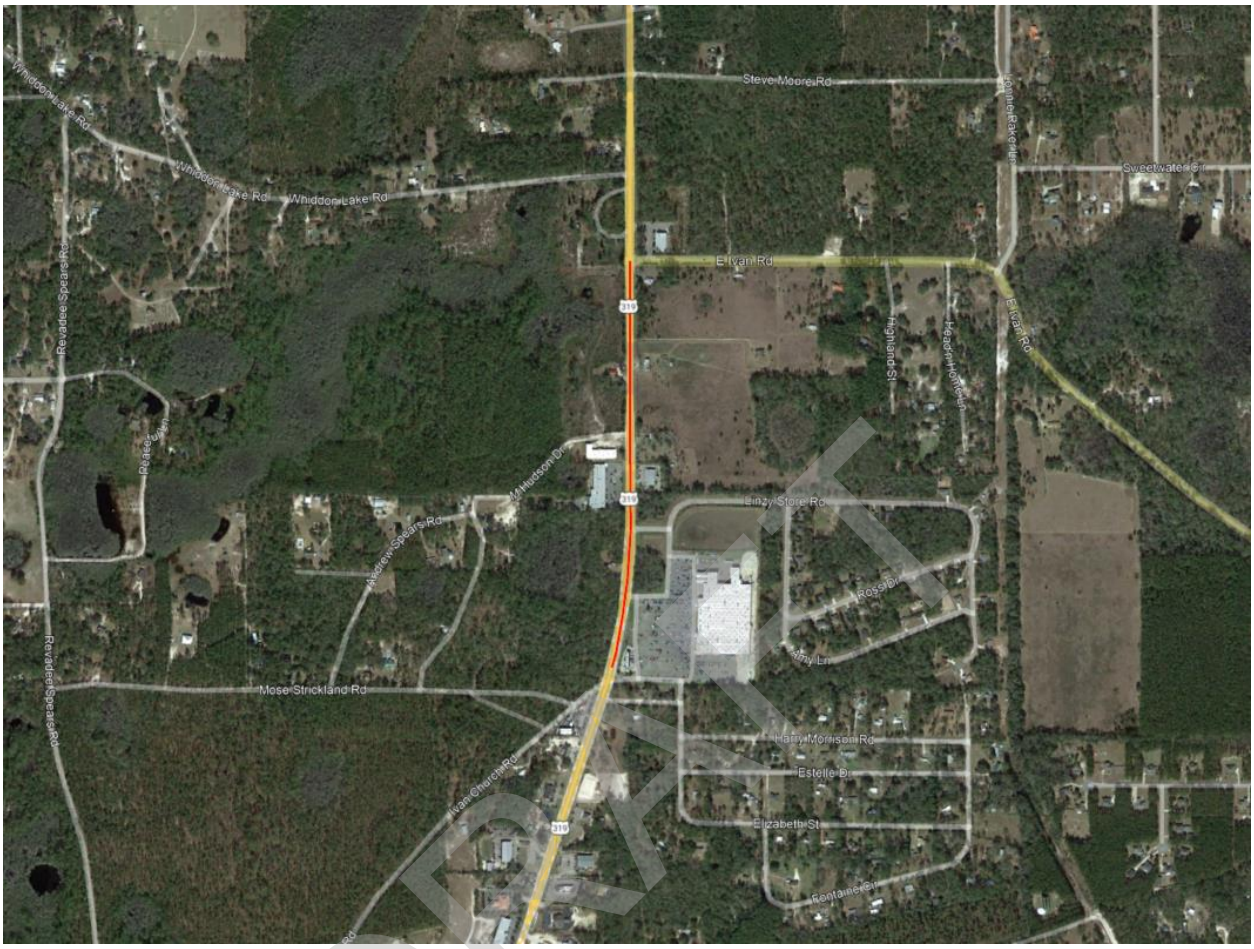
There are no apparent trends within the crash data. As a result, no particular contributing factors were identified as specific reasons/causes of these crashes.

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the segment:

1. Pavement Markings
    a. Replace reflective markers on segment (90% of markers are currently missing).
2. Smith Creek Road near Generation Gap Trail
    a. Fix rutting on shoulder (Shoulder drop-off).
    b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Crawfordville Highway between East Ivan Road and Mike Stewart Drive



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Right Turn	Rear End
2017	1	1	0
2018	0	0	0
2019	2	0	2
2020	0	0	0
2021	0	0	0
Total	3	1	2

Crash Details

Report Number	85430228	88070214	88273477
Severity	Fatality	Serious Injury	Serious Injury
Crash Time	8/13/2017	8/4/2019	12/19/2019
	11:06 PM	1:25 PM	8:30 PM
First Harmful Event	Motor Vehicle in Transport	Motor Vehicle in Transport	Motor Vehicle in Transport
Light Condition	Dark - Not Lighted	Daylight	Dark - Lighted
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	Y	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	N	N	N
Narrative	V1 was traveling west on Linzy Store Road, just east of Crawfordville Hwy. V2, a motorcycle, was traveling north on Crawfordville Hwy, just south of Linzy Store Rd. V1 failed to stop at the stop sign and made a right-turn onto Crawfordville Hwy in front of V2. The front of V2 impacted the left side of V1. D2 was suspected of alcohol impairment. D2 was pronounced deceased.	V1 and V2 were traveling north on Crawfordville Hwy, approaching the intersection with Mike Stewart Dr. V2 was stopped at the red light in front of V1. As V1 approached, D1 became distracted by his cell phone and failed to see V2 stopped. The front of V1 impacted the rear end of V2.	V1, V2, and V3 were traveling southbound on Crawfordville Hwy, just north of Mike Stewart Drive. V2 and V3 were stopped due to other traffic being stopped. As V1 approached V2 and V3, D1 became distracted by his cell phone and failed to see V2 and V3 stopped. The front of V1 impacted the rear end of V2, causing the front of V2 to impact the rear of V3.
Note			

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	15700
Speed Limit	45/55 mph
Length	0.54 miles
Presence of Median	Yes, paved
Median Width	12 feet
Lane Width	12
Number of Lanes	3
Presence of bike lane	Y
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	9 feet
Roadside Hazard Rating	1/2
Driveways Density	~3 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Y
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	N
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Angle	Restricted sight distance
	High traffic volume
	High approach speed
	Unexpected crossing traffic
	Drivers running "stop" sign
	Slippery pavement
Rear-end or Sideswipe	Inappropriate approach speeds
	Poor visibility of signals
	Unexpected lane changes on approach
	Narrow lanes
	Unexpected stops on approach
	Slippery pavement
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

There are no apparent trends within the crash data. As a result, no particular contributing factors were identified as specific reasons/causes of these crashes.

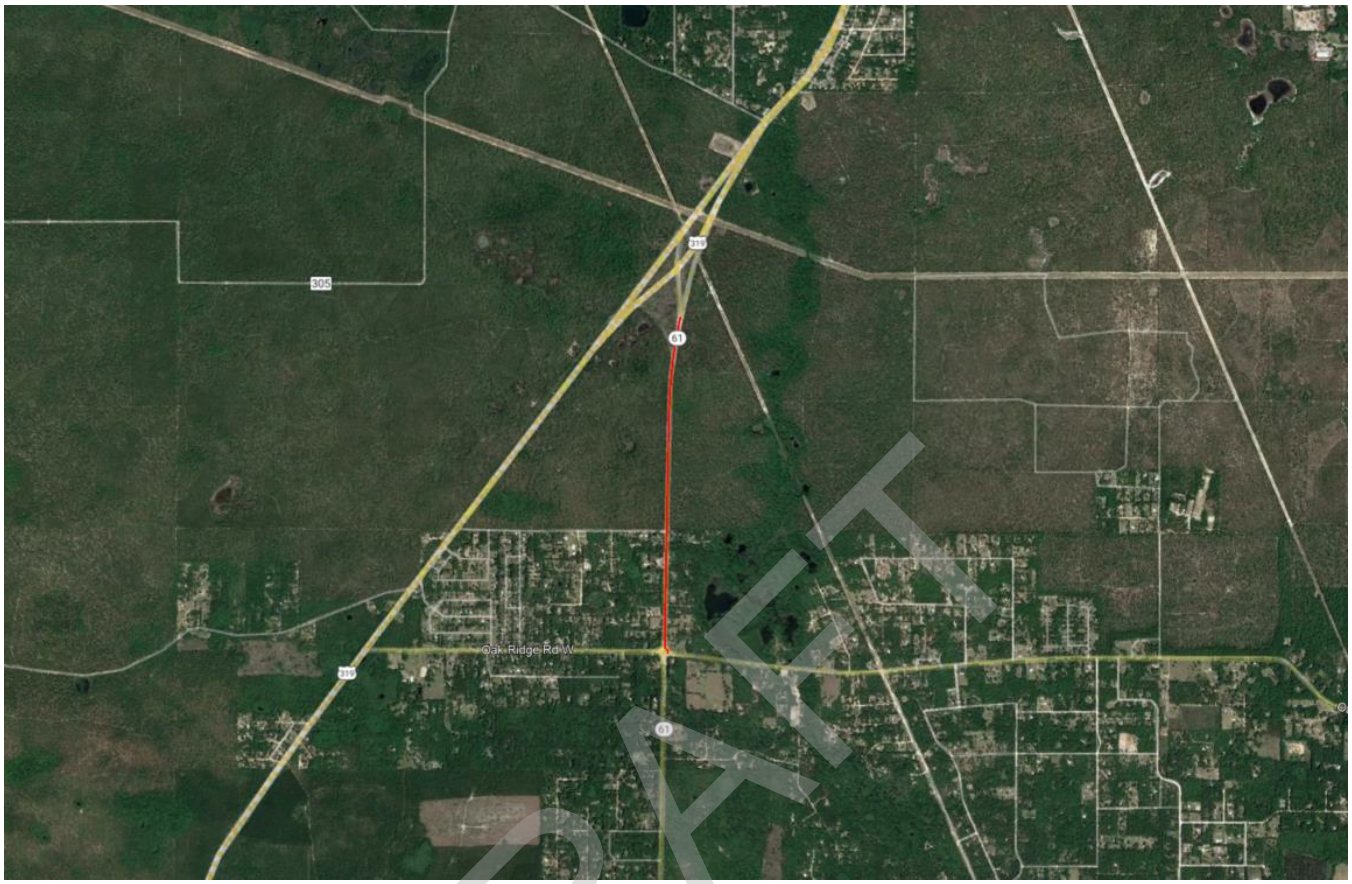
Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

1. No potential countermeasures were identified.

Crashes on this segment involved cell phone distraction and failure to obey traffic control device.

Wakulla Springs Road between Crawfordville Road and Oak Ridge Road



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Rear End	Head On	Off Road	Other
2017	0	0	0	0	0
2018	2	1	1	0	0
2019	0	0	0	0	0
2020	1	0	0	1	0
2021	1	0	0	0	1
Total	4	1	1	1	1

Crash Details

Report Number	87503980	88027190	88178497	88301183
Severity	Serious Injury	Serious Injury	Serious Injury	Serious Injury
Crash Time	8/1/2018	12/9/2018	4/11/2020	6/15/2021
	6:27 PM	2:55 PM	6:02 PM	1:44 PM
First Harmful Event	Other Non-Fixed Object	Motor Vehicle in Transport	Culvert	Motor Vehicle in Transport
Light Condition	Daylight	Daylight	Daylight	Daylight
Road Surface Condition	Dry	Dry	Dry	Dry
Weather	Clear	Cloudy	Clear	Clear
Alcohol Related	N	N	N	N
Drug Related	N	N	N	N
Pedestrian Related	N	N	N	N
Bicyclist Related	N	N	N	Y
Narrative	V1 and V2 were traveling north on Wakulla Springs Rd, just south of Glover Rd. V2 was stopped, waiting for a gap in southbound traffic to be able to make a left turn onto Glover Rd. D1 did not realize V2 was stopped. The front of V1 impacted the rear of V2.	V1 was traveling south on Wakulla Springs Rd, south of Forget Me Not Trail. V2 was traveling north on Wakulla Springs Rd, south of Forget Me Not Trail. Road construction was taking place and traffic was being redirected. As such, V1 failed to maintain their lane and the front of V1 impacted the front of V2. D1 and D2 are local residents and were familiar with the posted construction zone.	V1 was facing west, making a left turn from the driveway at 8059 Wakulla Springs Rd onto Wakulla Springs Rd. V2 was traveling south on Wakulla Springs Rd. V1 turned in front of V2. D2 attempted to evade, causing V2 to travel onto the west shoulder and strike a culvert.	V1 was traveling south on Wakulla Springs Rd, north of Glover Rd. BC1 was traveling south on Wakulla Springs Rd, north of Glover Rd and in front of V1. V1 left the roadway onto the west shoulder before the front of V1 impacted the rear of BC1. V1 fled the scene.
Note				**Bicycle Related Crash (BC1)**

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	7700
Speed Limit	45/55 mph
Length	1.38 miles
Presence of Median	N
Median Width	N/A
Lane Width	11 feet
Number of Lanes	2
Presence of bike lane	Not marked as such
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Paved
Shoulder Width	4 feet
Roadside Hazard Rating	1/2/3
Driveways Density	~11 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	N
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Rear-end	Pedestrian crossing
	Driver inattention
	Slippery pavement
	Large number of turning vehicles
	Unexpected lane change
	Narrow lanes
	Restricted sight distance
	Inadequate gaps in traffic
	Excessive speed
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed
Head-on or sideswipe	Inadequate pavement markings
	Narrow lanes
Left- or right-turn	Inadequate gaps in traffic
	Restricted sight distance
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings
	Inadequate lighting
	Excessive speed
	Bicycles on roadway
	Bicycle path too close to roadway
	Narrow lanes for bicyclists

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

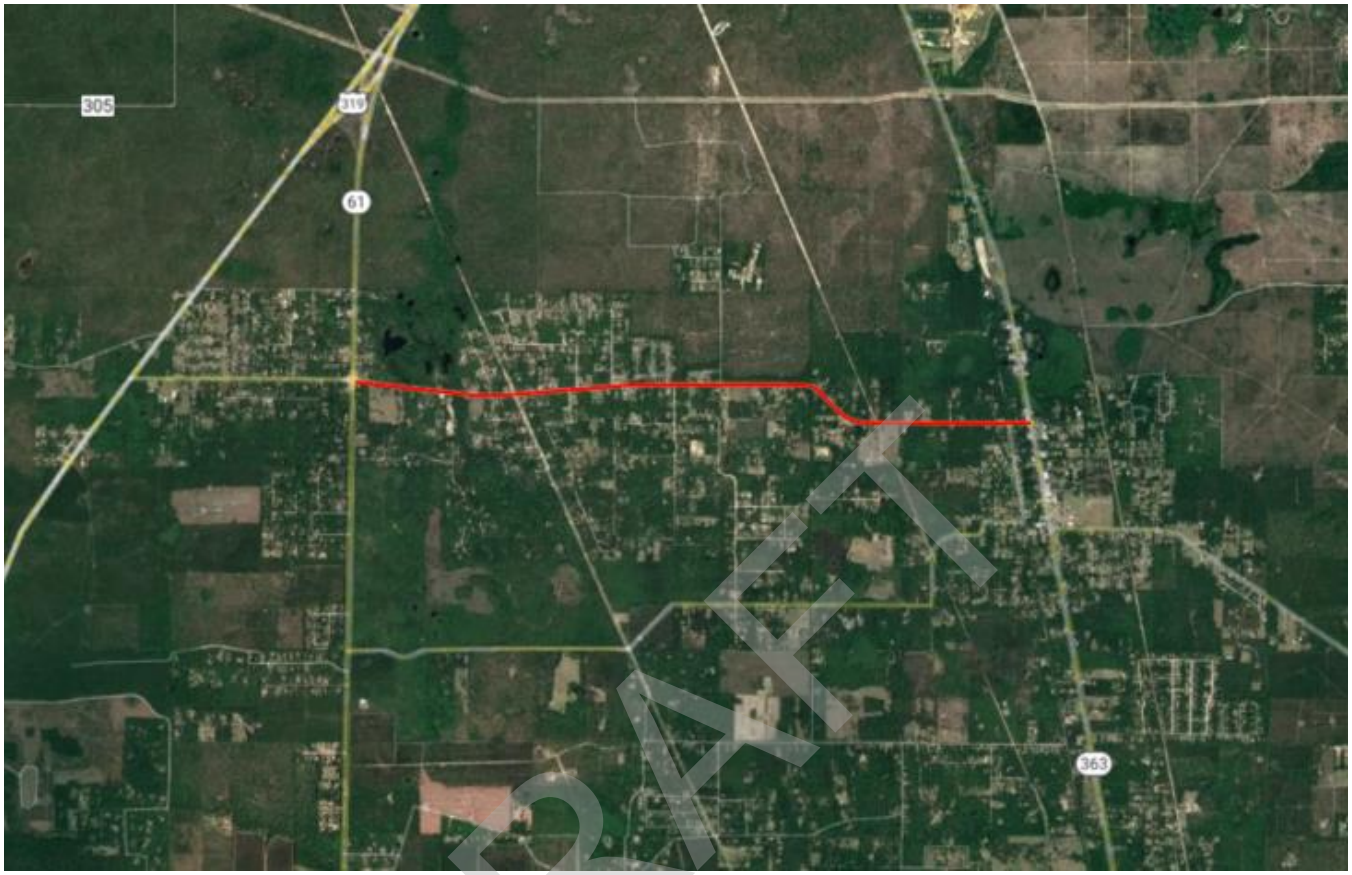
Crash Type	Possible Contributing Factor(s)
Rear-end	Driver inattention
Collisions at driveways	Left-turning vehicles
	Large volume of through traffic
Motor vehicle-bicyclist	Inadequate pavement markings
	Inadequate lighting
	Narrow lanes for bicyclists

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the segment:

1. Pavement Markings
    a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.

Oak Ridge Road between Wakulla Springs Road and Woodville Highway



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Bicycle	Rollover	Off Road	Pedestrian	Other
2017	1	1	0	0	0	0
2018	1	0	0	0	0	1
2019	2	0	1	0	1	0
2020	1	0	0	1	0	0
2021	0	0	0	0	0	0
Total	5	1	1	1	1	1

Crash Details

Report Number	85465213	87219234	88068970
Severity	Fatality	Fatality	Fatality
Crash Time	4/1/2017	10/13/2018	12/28/2019
	11:00 AM	7:40 PM	7:45 PM
First Harmful Event	Pedalcycle	Motor Vehicle in Transport	Overturn/Rollover
Light Condition	Daylight	Dark - Not Lighted	Dark - Not Lighted
Road Surface Condition	Dry	Dry	Wet
Weather	Clear	Cloudy	Clear
Alcohol Related	N	Y	Y
Drug Related	N	N	Y
Pedestrian Related	N	N	N
Bicyclist Related	Y	N	N
Narrative	V1 was traveling east on Oak Ridge Rd, west of Old Woodville Rd. BC1 was traveling north on the St. Marks Trail, south of Oak Ridge Rd. As V1 approached the St. Marks Trail crossing, BC1 ran the stop sign and pulled into the path of V1. The front of BC1 impacted the right front of V1. Approximately 8 days after the crash, the driver of BC1 was pronounced deceased.	V1 was traveling west on Oak Ridge Rd, west of Henry Jones Rd. V2 was traveling east on Oak Ridge Rd, west of Henry Jones Rd. As V1 and V2 approached each other, V1 began to rotate counterclockwise. V1 traveled across the centerline and into the eastbound travel lane. This caused the right side of V1 to impact the front of V2. V1 was suspected to be alcohol impaired and was pronounced deceased on scene.	V1 was traveling west on Oak Ridge Rd, east of Winterberry Way at approximately 55 mph. V1 traveled off the roadway onto the unpaved north shoulder, came back onto the roadway, began to rotate counterclockwise and travel onto the south shoulder. V1 struck a dirt embankment, causing it to overturn and land on its roof. D1 was suspected to be impaired by drugs and alcohol. D1 was pronounced deceased 4 days later.
Note	**Bicycle Related Crash (BC1)**		

Report Number	88205469	89298438
Severity	Serious Injury	Serious Injury
Crash Time	7/30/2020	11/23/2019
	2:30 PM	5:51 PM
First Harmful Event	Tree (standing)	Pedestrian
Light Condition	Daylight	Dark - Not Lighted
Road Surface Condition	Wet	Wet
Weather	Rain	Rain
Alcohol Related	N	N
Drug Related	N	N
Pedestrian Related	N	Y
Bicyclist Related	N	N
Narrative	V1 was traveling west on Oak Ridge Rd, west of DL Crosby Ln. The tires of V1 lost traction while traversing a left-hand curve. V1 traveled onto the north shoulder and began to rotate clockwise. The left side of V1 collided with a tree and overturn.	P1 was standing on the north shoulder of Oak Ridge, east of Wakulla Springs Rd. P1 had stopped his bicycle to put on his rain jacket. An unknown vehicle, V1, was traveling east, approaching P1. V1 struck P1. V1 fled the scene.
Note		**Pedestrian Related Crash (P1)**

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	3700
Speed Limit	35/45 mph
Length	3.80 miles
Presence of Median	N
Median Width	N/A
Lane Width	11 feet
Number of Lanes	2
Presence of bike lane	N
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	5 feet
Roadside Hazard Rating	2/3
Driveways Density	~20 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Motor vehicle-bicyclist	Limited sight distance
	Inadequate signs
	Inadequate pavement markings
	Inadequate lighting
	Excessive speed
	Bicycles on roadway
	Bicycle path too close to roadway
	Narrow lanes for bicyclists
Vehicle Rollover	Roadside design (e.g., non-traversable side slopes, pavement edge drop off)
	Inadequate shoulder width
	Excessive speed
	Pavement design
Nighttime	Poor nighttime visibility or lighting
	Poor sign visibility
	Inadequate channelization or delineation
	Excessive speed
	Inadequate sight distance
Opposite-direction Sideswipe or Head-on	Inadequate roadway geometry
	Inadequate shoulder
	Excessive speed
	Inadequate pavement markings
	Inadequate signing
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

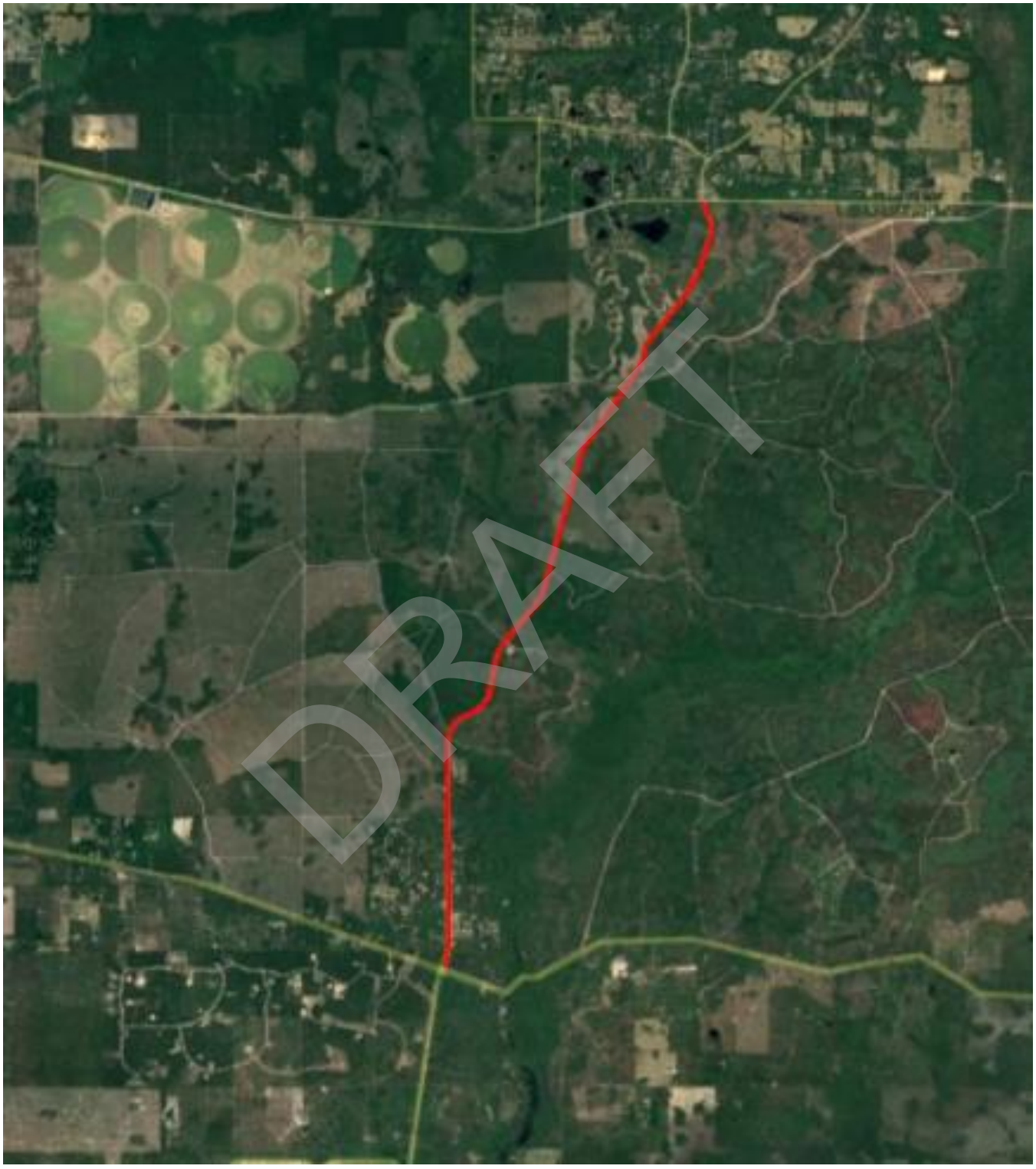
Crash Type	Possible Contributing Factor(s)
Motor vehicle-bicyclist	Bicycles on roadway
Vehicle Rollover	Excessive speed
	Pavement design
Nighttime	Excessive speed
Head-on	Excessive speed
Motor vehicle-pedestrian	Pedestrians on roadway

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the segment:

1. Pavement Markings
    b. Restripe the St. Marks Trail Crossing (Crosswalk faded/not visible).
    c. Restripe segment (Striping currently faded/not visible).
    d. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.
3. Trail Crossing Sign Improvements
    a. Improve existing trail crossing signage.
    b. Install Rectangular Rapid Flashing Beacons (RRFBs) for trail crossing.
    c. Change intersection of Oak Ridge Rd and Old Woodville Rd to All-Way Stop-Controlled.
4. Oak Ridge Road near the curve just west of Henry Jones Road
    a. Fix rutting on shoulder (Shoulder drop-off).
    b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Old Plank Road between Tram Road and Natural Bridge Road



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Off Road	Head On
2017	2	1	1
2018	2	1	1
2019	0	0	0
2020	0	0	0
2021	0	0	0
Total	4	2	2

Crash Details

Report Number	83774078	85529206	85562800	88047520
Severity	Fatality	Serious Injury	Serious Injury	Fatality
Crash Time	7/17/2017	3/23/2018	11/26/2017	12/27/2018
	5:00 PM	12:35 AM	6:20 AM	7:05 AM
First Harmful Event	Tree (standing)	Tree (standing)	Tree (standing)	Motor Vehicle in Transport
Light Condition	Daylight	Dark - Not Lighted	Dark - Not Lighted	Dawn
Road Surface Condition	Dry	Dry	Dry	Dry
Weather	Cloudy	Cloudy	Clear	Clear
Alcohol Related	Y	N	N	N
Drug Related	Y	N	N	N
Pedestrian Related	N	N	N	N
Bicyclist Related	N	N	N	N
Narrative	V1 was traveling south on Old Plank Rd, south of Tram Rd at approximately 100 mph. While traversing a left-hand curve, V1 exited the roadway onto the west shoulder where V1 collided with several large trees, causing V1 to become separated in half and catch fire. D1 was suspected to be impaired by drugs and alcohol and was pronounced deceased on scene.	V1 was traveling south on Old Plank Rd, north of Regiment Loop. V1 , traversing a right-hand curve, ran off the east shoulder. V1 collided with a standing tree.	V1 was traveling north on Old Plank Rd, south of Regiment Loop SW. V1, traversing a left-hand curve, ran off the west shoulder, hitting a sign, a small tree, and finally a large tree after going airborne.	V1 was traveling north on Old Plank Rd, north of Natural Bridge Rd. V2 was traveling south on Old Plank Rd, north of Natural Bridge Rd. As V1 and V2 approached each other, V1 traveled across the centerline and into the southbound travel lane. The front left of V1 impacted the front left of V2. D2 was pronounced deceased on scene.
Note				

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	1400
Speed Limit	55 mph
Length	6.38 miles
Presence of Median	N
Median Width	N/A
Lane Width	10 feet
Number of Lanes	2
Presence of bike lane	N
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	5 feet
Roadside Hazard Rating	2/3
Driveways Density	~5 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	Y
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Opposite-direction Sideswipe or Head-on	Inadequate roadway geometry
	Inadequate shoulder
	Excessive speed
	Inadequate pavement markings
	Inadequate signing
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

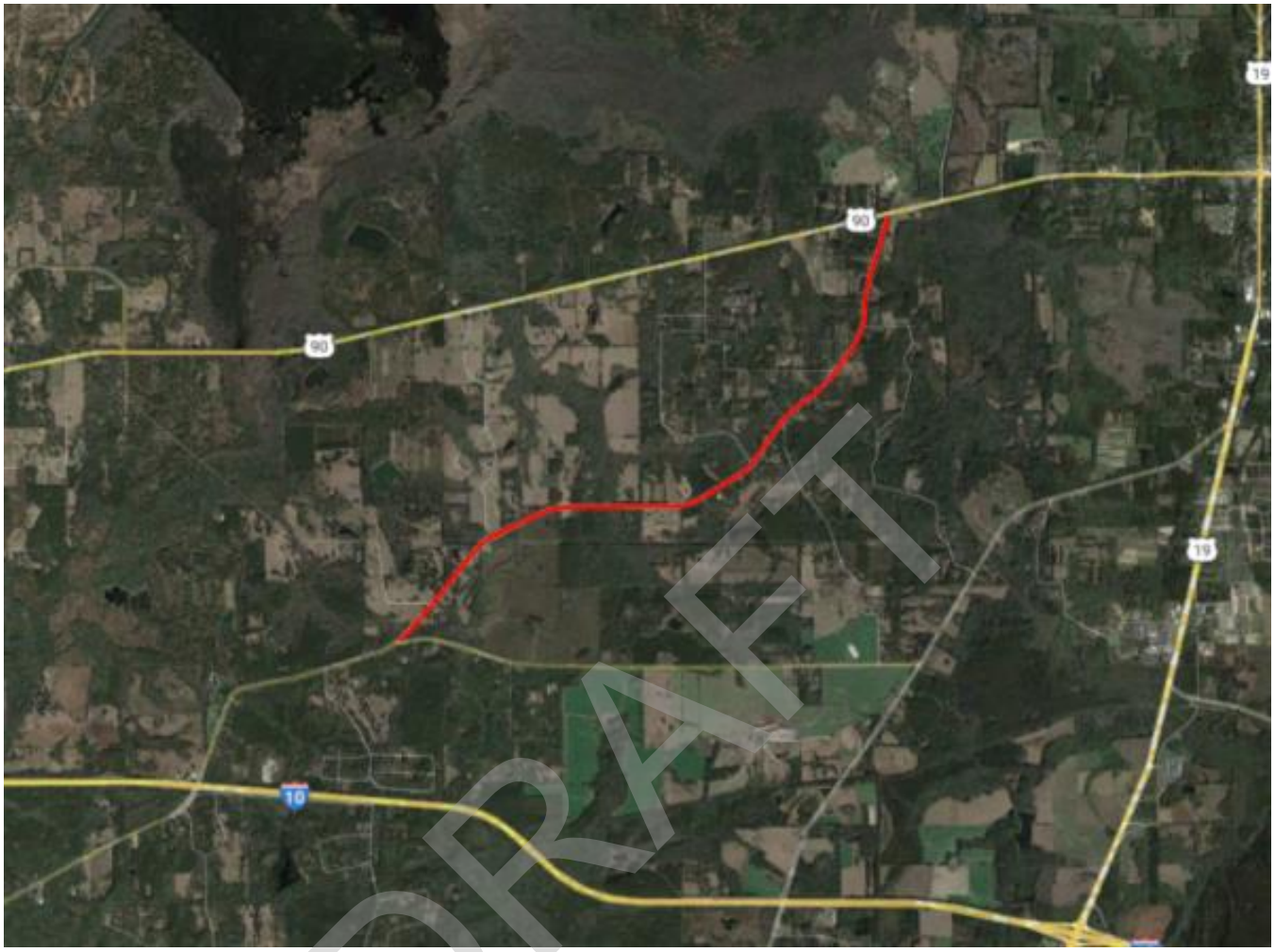
Crash Type	Possible Contributing Factor(s)
Head-on	Inadequate shoulder
Run-off-road	Inadequate lane width
	Inadequate roadway shoulders

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes at the segment:

1. Pavement Condition
    a. Fix rutting on shoulder as needed (Shoulder drop-offs).
2. Pavement Markings
    a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.

Old Lloyd Road between Washington Street and Rabon Road



Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Sideswipe	Pedestrian	Off Road
2017	1	1	0	0
2018	0	0	0	0
2019	0	0	0	0
2020	2	0	1	1
2021	0	0	0	0
Total	3	1	1	1

Crash Details

Report Number	85401025	88249549	88307735
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	4/23/2017	5/17/2020	6/5/2020
	8:25 AM	9:30 PM	4:40 PM
First Harmful Event	Motor Vehicle in Transport	Pedestrian	Culvert
Light Condition	Daylight	Dark - Not Lighted	Daylight
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	Y	N
Bicyclist Related	N	N	N
Narrative	V1 was traveling north on Old Lloyd Rd, near Casa Bianca Rd at approximately 70 mph. V2 was making a left turn from the driveway at 630 Old Lloyd Rd. V1 traveled off the east shoulder, rotated counterclockwise, hit the culvert at Casa Bianca Rd and went airborne. This caused V1 to hit the mailbox at 627 Old Lloyd Rd, the right side of V2, and then overturn.	P1, a skateboarder, was traveling north on Old Lloyd Rd, south of Azalea Ave. V1 was traveling north on Old Lloyd Rd, south of Azalea Ave. P1 was skateboarding in the northbound travel lane when V1 approached from behind. P1 was unable to move from the path of V1. The front of V1 struck P1 from behind. V1 attempted to evade, traveling onto the west shoulder, and then beginning to rotate clockwise while traveling onto the east shoulder before entering the northbound travel lane again. V1 then fled the scene.	V1 was traveling north on Old Lloyd Rd, south of Casa Bianca Rd, at approximately 70 mph. D1 was distracted by her cell phone which caused V1 to drift onto the east shoulder. D1 overcorrected, causing V1 to move back across the road onto the west shoulder and begin rotating counterclockwise. V1 hit the culvert at 704 Old Lloyd Rd, went airborne before hitting a tree, overturning, and coming to final rest. D1 was partially ejected while V1 was overturning.
Note		**Pedestrian Related Crash (P1)**	

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	1200
Speed Limit	55 mph
Length	4.5 miles
Presence of Median	N
Median Width	N/A
Lane Width	11 feet
Number of Lanes	2
Presence of bike lane	N
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	5 feet
Roadside Hazard Rating	1/2
Driveways Density	~11 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Collisions at driveways	Left-turning vehicles
	Improperly located driveway
	Right-turning vehicles
	Large volume of through traffic
	Large volume of driveway traffic
	Restricted sight distance
	Excessive speed
Motor vehicle-pedestrian	Limited sight distance
	Inadequate barrier between pedestrian and vehicle facilities
	Inadequate signals/signs
	Inadequate signal phasing
	Inadequate pavement markings
	Inadequate lighting
	Driver has inadequate warning of mid-block crossings
	Lack of crossing opportunity
	Excessive speed
	Pedestrians on roadway
	Long distance to nearest crosswalk
	Sidewalk too close to travel way
	School crossing area
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Collisions at driveways	Left-turning vehicles
Motor vehicle-pedestrian	Pedestrians on roadway

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

1. Pavement Condition
    a. Fix rutting on shoulder as needed (Shoulder drop-offs).
2. Pavement Markings
    a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.

Aucilla Highway between Jefferson Street and Salt Road

Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Off Road	Other
2017	0	0	0
2018	0	0	0
2019	0	0	0
2020	2	2	0
2021	1	1	0
Total	3	3	0

Crash Details

Report Number	88190992	88307769	88342948
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	6/15/2020	10/7/2020	1/7/2021
	6:20 AM	6:25 PM	5:39 AM
First Harmful Event	Utility Pole/Light Support	Utility Pole/Light Support	Utility Pole/Light Support
Light Condition	Daylight	Daylight	Dark - Not Lighted
Road Surface Condition	Dry	Dry	Dry
Weather	Clear	Clear	Clear
Alcohol Related	N	N	N
Drug Related	N	N	N
Pedestrian Related	N	N	N
Bicyclist Related	N	N	N
Narrative	V1 was traveling west on Aucilla Rd, west of Curtis Mill Rd at approximately 65 mph. D1 stated there were several animals in the roadway. D1 braked and steered V1 to the left, crossing the double yellow line and entering the eastbound travel lane. V1 began to rotate counterclockwise before traveling onto the south shoulder before hitting a utility pole and a junction box. V1 continued west onto private property at 1660 Aucilla Rd where V1 hit a palm tree and came to final rest.	V1 was traveling east on Aucilla Rd, east of Turkey Scratch Rd at approximately 70 mph. V1 traversed a left-hand curve when V1 ran off the road onto the south shoulder. V1 hit a utility pole and two trees before traveling back into the eastbound travel lane. After coming to final rest, V1 caught fire.	V1 was traveling east on Aucilla Rd, west of Turkey Scratch Rd at approximately 70 mph. V1 traversed a left-hand curve when V1 ran off the road onto the south shoulder. V1 hit a utility pole and then a tree, which caused V1 to being rotating clockwise before coming to final rest.
Note			

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	700
Speed Limit	35/55 mph
Length	8.14 miles
Presence of Median	N
Median Width	N/A
Lane Width	11 feet
Number of Lanes	2
Presence of Bike Lanes	N
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	5 feet
Roadside Hazard Rating	2/3
Driveways Density	~6 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	In some locations
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Run-off-road	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

1. Speed Limit Signage
    a. Install eastbound speed limit sign on the west end of segment, near US 19.
2. Advanced Warning Signs
    a. Change horizontal alignment/speed advisory signage to 40 mph instead of 30 mph (30 mph is too slow).
3. Pavement Condition
    a. Fix rutting on shoulder as needed (Shoulder drop-offs).
4. Aucilla Highway near Turkey Scratch Road
    a. Provide horizontal alignment/speed advisory signage (Not currently provided).
    b. Install high visibility horizontal curve advisory features such as reflective pavement markers and chevron alignment signs (including reflective post).

Additional Safety Notes:

- There is evidence of other vehicles leaving the road on the outside of the curve near Turkey Scratch Road from both east and west directions.

Ashville Highway between St. Margaret's Church Road and Salt Road

Step 1: Crash Data Review

The review describes crash statistics, conditions, and crash details.

Descriptive Crash Statistics

Year	All Crashes	Off Road	Head On
2017	2	2	0
2018	0	0	0
2019	1	1	0
2020	0	0	0
2021	2	1	1
Total	5	4	1

Crash Details

Report Number	85400451	85559073	87191036
Severity	Serious Injury	Serious Injury	Serious Injury
Crash Time	3/12/2017	9/11/2017	3/4/2019
	5:15 AM	8:05 AM	4:50 PM
First Harmful Event	Culvert	Other Fixed Object	Culvert
Light Condition	Dark - Not Lighted	Daylight	Daylight
Road Surface Condition	Dry	Wet	Dry
Weather	Cloudy	Rain	Clear
Alcohol Related	Y	N	N
Drug Related	Y	N	N
Pedestrian Related	N	N	N
Bicyclist Related	N	N	N
Narrative	V1 was traveling west on Ashville Hwy, east of John Collins Rd. V1 traversed a right curve when V1 ran off the road onto the south shoulder. V1 hit a culvert and a mailbox at 1778 Ashville Hwy. V1 went airborne and hit a large oak tree approximately 4 feet up the tree. D1 was suspected to be drug and alcohol impaired.	V1 was traveling west on Ashville Hwy during Hurricane Irma. A large tree fell into the roadway in front of V1. V1 was unable to stop and the front of V1 impacted the tree.	V1 was traveling west on Ashville Hwy, near Bassett Dairy Rd when V1 began to drift onto the north shoulder. D1 over corrected causing V1 to begin rotating counterclockwise and to travel onto the south shoulder. D1 overcorrected once again, causing V1 to continue rotating and travel onto the north shoulder. V1 drove into the ditch before hitting a culvert and going airborne. While in the air, V1 hit a guidewire for a utility pole causing V1 to land on its roof partially submerged in a creek.
Note			

Report Number	88349031	88485390
Severity	Serious Injury	Serious Injury
Crash Time	6/19/2021	6/23/2021
	12:47 PM	9:35 PM
First Harmful Event	Motor Vehicle in Transport	Ditch
Light Condition	Daylight	Dark - Not Lighted
Road Surface Condition	Dry	Dry
Weather	Clear	Cloudy
Alcohol Related	Y	Y
Drug Related	Y	N
Pedestrian Related	N	N
Bicyclist Related	N	N
Narrative	V1 was traveling east on Ashville Hwy, west of Luther Fountain Rd. V2 was traveling west on Ashville Hwy, west of Luther Fountain Rd. As V1 and V2 approached each other, V1 drifted into the westbound travel lane. The front of V1 impacted the front of V2.	V1 was traveling east on Ashville Hwy, east of Bassett Dairy Rd at approximately 65 mph. D1 stated there were animals in the road. D1 steered V1 to the left, crossing the westbound travel lane and running off the road onto the north shoulder. V1 entered the ditch and then struck a fence post causing V1 to overturn before coming to final rest on its side.
Note		

Step 2: Traffic and Roadway Characteristics

First-hand site information is gathered through Google Earth Street View. Observations can serve to validate safety concerns identified by a review of crash data or supporting documentation.

Traffic and Roadway Characteristics

Attributes	Value
AADT 2021	1800
Speed Limit	40/55 mph
Length	6.40 miles
Presence of Median	N
Median Width	N/A
Lane Width	10 feet
Number of Lanes	2
Presence of Bike Lanes	N
Presence of Sidewalk	N
Presence of Lighting	N
Shoulder Type	Lawn
Shoulder Width	5 feet
Roadside Hazard Rating	1/2
Driveways Density	~11 per mile
Presence of Horizontal Curve	Y
Presence of Combination Horizontal Alignment/Advisory Speed Signs (990 ft buffer)	N
Presence of Vertical Curve	Not able to be collected
Centerline Rumble Strips	N
Continuous Shoulder Rumble Strips	N
Passing Lanes	Y
Two-Way Left-Turn Lanes	N
Rail Crossover	N

Step 3: Condition Assessment

The intent is to assist in identification of a broad range of possible contributing factors in order to minimize the probability that a major contributing factor will be overlooked.

Possible Crash Contributing Factors along Roadway Segments (HSM Exhibit 6-3)

Crash Type	Possible Contributing Factor(s)
Run-off-road	Inadequate lane width
	Slippery pavement
	Inadequate median width
	Inadequate maintenance
	Inadequate roadway shoulders
	Poor delineation
	Poor visibility
	Excessive speed

Identify Factors Contributing to The Cause of Crashes at the Subject Site

The risk factors below are identified based on the information collected from steps 1 and 2.

Crash Type	Possible Contributing Factor(s)
Run-off-road	Excessive speed

Step 4: Select Potential Countermeasures

The following countermeasures were identified as having potential for reducing crashes on the segment:

1. Pavement Condition
    a. Fix rutting on shoulder as needed (Shoulder drop-offs).
2. Pavement Markings
    a. Install longitudinal rumble strips or profiled pavement markings on centerline and edge of travel lane line.

Additional Safety Notes:

- Overall pavement condition has degraded (poor to satisfactory).

March 5, 2024

COMMITTEE AGENDA ITEM 6A

FUTURE MEETING DATES

TYPE OF ITEM: Information

Committee Dates	TAC Time	Location	CMAC Time	Location
April 2	9 AM – 11 AM	Commission Chambers	11:30 AM-1:30 PM	Tallahassee Room
May 7	9 AM – 11 AM	Commission Chambers	11:30 AM-1:30 PM	Tallahassee Room
June 4	9 AM – 11 AM	Commission Chambers	11:30 AM-1:30 PM	Tallahassee Room
September 3	9 AM – 11 AM	Commission Chambers	11:30 AM-1:30 PM	Tallahassee Room
October 1	9 AM – 11 AM	Commission Chambers	11:30 AM-1:30 PM	Tallahassee Room
November 5	9 AM – 11 AM	Commission Chambers	11:30 AM-1:30 PM	Tallahassee Room
December 3	9 AM – 11 AM	Commission Chambers	11:30 AM-1:30 PM	Tallahassee Room