



CITY OF FRANKLIN, TENNESSEE

SAFE STREETS & ROADS FOR ALL





HISTORIC
FRANKLIN
TENNESSEE

May 1, 2025

Secretary of Transportation Sean Duffy
U.S. Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

Subject: Letter of Support – USDOT Safe Streets and Roads for All (SS4A) Safety Action Plan

Mr. Secretary

Improving roadway safety has always been a priority of the City of Franklin, TN's administration. In recent years we have undertaken multiple projects to accommodate the growing number of vehicles and vulnerable road users that travel in and through our city.

To continue the ongoing effort to promote traffic safety, the leaders of the City of Franklin are proud to support this effort toward making our roadways safer for all who travel them. Between 2019 and 2023, our city experienced 8,563 reported roadway crashes, of which 79 crashes led to deaths or serious injuries. These events are tragedies for the victims, their families, and our communities. The impacts are profound and devastating.

Fatalities and serious injuries due to traffic crashes are preventable, and the City of Franklin is committed to significantly reducing and ultimately eliminating these occurrences. This Comprehensive Safety Action Plan is a crucial first step toward making this commitment a reality. As a data-driven and actionable document, this Safety Action Plan lays the groundwork for projects and strategies that can make a tangible difference on our roadways.

Access to safer roadways should not be reserved only for a select few; rather, the entire population of the City of Franklin should be able to travel safely, regardless of their income level, where they live, their race, or their age. The City of Franklin cannot achieve its goals without the support and participation of the people in our communities and our partner agencies. Every person has a role to play and a responsibility to help make our roads safer. Together, we can accomplish a great deal.

Our intent is that this Safety Action Plan will provide a roadmap of the steps that the City of Franklin will take toward improving safety on the roadways. Based on the analysis of traffic and accident data and the input of citizens during the research phase, this plan provides specific steps necessary and the progress markers allowing us the opportunity to take actions to improve the traffic safety in our city. The work has only just begun, but having a solid plan is the foundation for achieving our goals and eliminating these preventable tragedies from our roadways.



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TENNESSEE

Thank you for your commitment and support to improving roadway safety and the quality of life in the City of Franklin, Tennessee.

Sincerely,

A handwritten signature in blue ink, appearing to be 'Ken Moore', with a large initial 'K' and a long horizontal flourish.

Dr. Ken Moore
Mayor of the City of Franklin
Ken.moore@franklintn.gov

Special Thanks

We extend our sincere appreciation and gratitude to the residents of Franklin, Tennessee, the City staff, and advocacy groups, stakeholders, and the public who assisted in the public surveys, meetings, and the entire planning process. The critical input guided the development of the Safety Action Plan (SAP) and in turn will have a positive impact on the City.

Steering Committee

Adam Moser – City Traffic Engineer
David Chang – Traffic/Transportation Engineer II
Eric Conner – Principal Planner
Janey Mason – Recreational Supervisor
Derrick McCord – Senior Road Inspector
Paul Holzen – Director/City Engineer
Jared Anderson – Police Department
Joe LeCates – Police Department
Janey Mason – Recreation Supervisor
Milissa Reiersen – Communications Department
Monique McCullough – Communications Department

Stakeholders

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Stanton Higgs – TMA Group
Mindy Tate – Franklin Tomorrow
Mike Matteson – Williamson County
Daniel McDonell – Greater Nashville Regional Council (GNRC)
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- Appendix B – Project Prioritization
- Appendix C – Project Fact Sheets



CITY OF FRANKLIN, TN



SAFE STREETS & ROADS FOR ALL



Executive Summary



Executive Summary

The City of Franklin's Safety Action Plan (SAP) is a strategic initiative aimed at reducing and ultimately eliminating traffic fatalities and serious injuries on its roadways. The plan, strongly supported by Mayor Ken Moore and City leaders, emphasizes the importance of roadway safety and the commitment to addressing traffic-related tragedies. In the past, many efforts have focused on safety for higher volume roads and reactionary or "black spot" analysis of high crash locations. However, there is a growing trend across the United States to focus on proactive safety improvements for local, lower volume roads that may have been missed in the past.

The Tennessee Department of Transportation (TDOT) developed a Strategic Highway Safety Plan (SHSP) to provide technical assistance in prioritization and deployment of safety countermeasures within various jurisdictions throughout the state. The SAP concept is designed to build on the foundation established by the SHSP. The SAP provides the basis for proactive implementation of safety countermeasures specific to individual roadways across Franklin. This allows the City to leverage the road safety planning process to meet city-specific needs.

What is an SAP?

An SAP is a document that provides a basis for systemic safety improvements along roadways within a specific jurisdiction. Rather than addressing "black spots," the SAP identifies systemic safety improvements along the roadway based on a risk factor analysis of the roadway. SAPs not only assist local practitioners in understanding the types of crashes occurring on local roadways, but they also define a locally focused plan for practitioners to make informed, prioritized safety decisions.

Purpose of the SAP

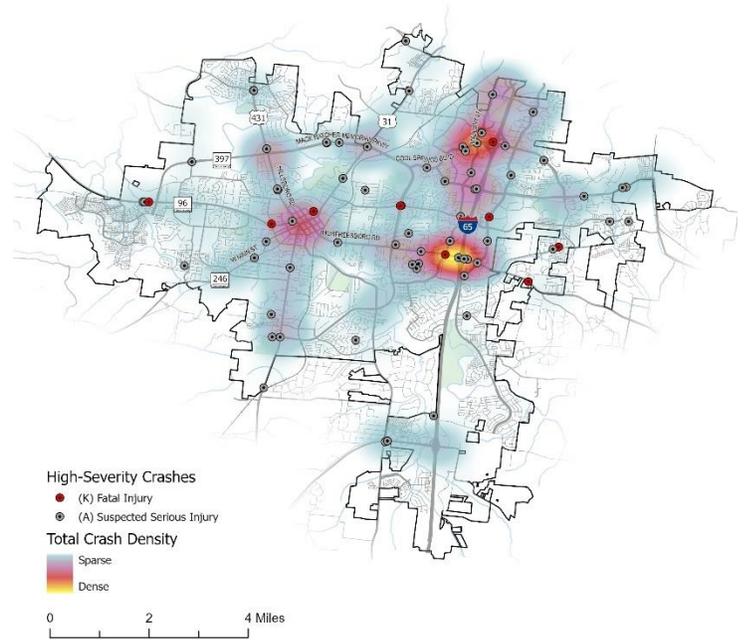
The SAP identifies a prioritized list of safety improvement projects that can be implemented within the city to address specific crash characteristics identified during the data collection portion of the project. The recommendations in this plan focus on transportation improvements with a high benefit of crash reductions by applying the principles established in the SHSP and through a systemic data analysis performed specifically for the City of Franklin. The recommended improvements take into consideration constraints within the local network and incorporate feedback from the City staff, advocacy groups, local stakeholders, and the general public.

Leadership Commitment

A Steering Committee was established to oversee the development, implementation, and monitoring of the SAP. This committee included representatives from various City departments, local agencies, and community organizations. The committee played a crucial role in guiding the project, reviewing goals and strategies, and ensuring effective communication and collaboration among all parties involved. Regular meetings and workshops facilitated the exchange of ideas and helped align the SAP with broader community goals and objectives. The project sheets, recommending countermeasures as determined by the project selection decision trees, were provided to the City Engineer for input for additional safety countermeasures. This step allowed the City Engineer to use engineering judgment and site-specific knowledge to recommend additional safety countermeasures at the identified/prioritized locations.

Safety Analysis

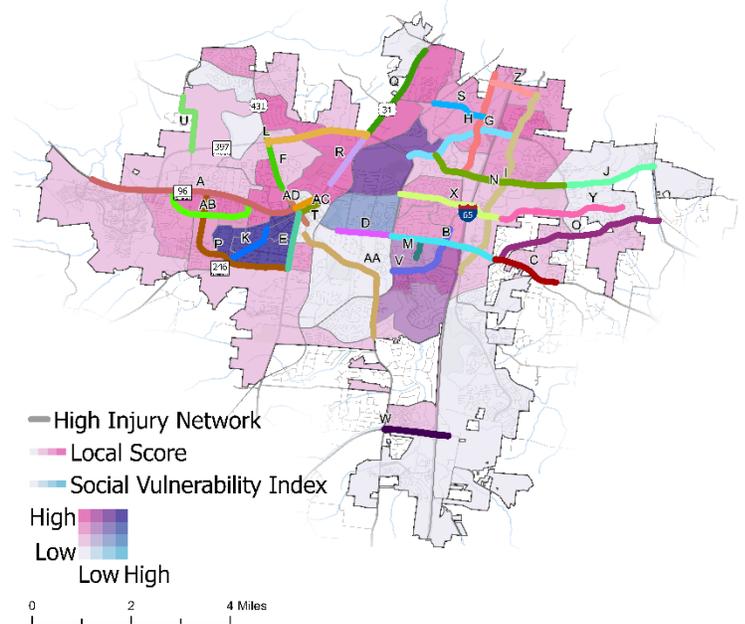
The SAP includes a detailed analysis of crash data, including crash volumes, crash rates, characteristics, and comparisons to the Tennessee Strategic Highway Safety Plan (TN SHSP) contributing factors. Between 2019 and 2023, Franklin experienced 8,563 reported roadway crashes, of which 79 resulted in deaths or serious injuries. Key findings include the prevalence of crashes involving unrestrained occupants, older drivers (65+), and aggressive driving/speeding behaviors. Additionally, the data highlights patterns related to time of day, weather conditions, and roadway surface characteristics. By pinpointing these factors, the SAP aims to develop targeted strategies to address the root causes of crashes and improve overall traffic safety.



City of Franklin Crash Map

Demographic Considerations

The plan also analyzes demographic characteristics by identifying underserved communities and analyzing the impacts of proposed projects to inform project prioritization. A demographics index specific to the City of Franklin was created using several individual characteristics, including but not limited to the Social Vulnerability Index (SVI (Source: CDC)), financial/housing variables (Source: American Census Survey (ACS)), and environmental variables (Source: EJ Screen 2.3). Census tract 508 was identified as highly disadvantaged, while other areas of Franklin were deemed to experience high levels of various vulnerabilities from the study considerations.



City of Franklin Demographic Characteristics

Engagement and Collaboration

Extensive public outreach and engagement were conducted, including surveys, community events, and a dedicated project website. The engagement process involved a variety of activities such as pop-up events, online open houses, and stakeholder listening sessions. This inclusive approach ensured that the voices of residents, stakeholders, and advocacy groups were heard and incorporated into the SAP.

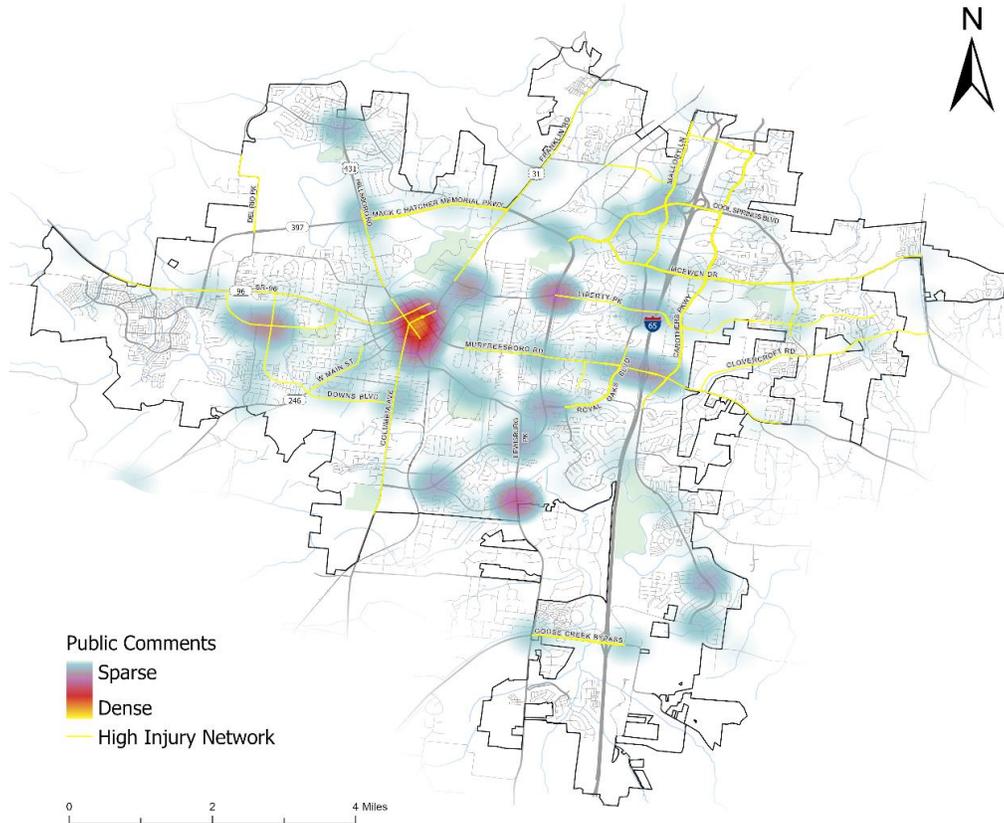


Franklin SAP Stakeholder Group Presentation



Franklin Family Day Booth

Feedback from these engagements highlighted key concerns and priorities, which were instrumental in shaping the plan's strategies and recommendations. The public responses were spread throughout the City, giving valuable feedback from all areas to include in the development of HIN recommended countermeasures.



City of Franklin Public Comment Heatmap with HIN

Policy and Process Changes

Policy and process changes are also recommended to integrate safety into existing documents and prioritize transportation safety. This includes updating city planning and zoning regulations to incorporate safety considerations, as well as establishing protocols for regular safety audits and assessments. The SAP emphasizes the importance of a holistic approach to traffic safety, recognizing that effective solutions require coordination across multiple sectors and disciplines.

Strategies

The plan outlines various strategies and recommendations, including engineering countermeasures like traffic signal upgrades, roadway design changes, and pedestrian infrastructure improvements. These measures are designed to address specific safety issues identified in the crash data analysis. Additionally, driver-related countermeasures focus on education, enforcement, and emergency medical services. Educational campaigns aim to raise awareness about safe driving practices, while targeted enforcement programs seek to deter dangerous behaviors such as speeding and impaired driving. Enhancements to emergency medical services ensure timely and effective response to traffic incidents. Typical recommendations include but are not limited to:

- Install Retroreflective Borders on Signal Backplates
- Grooved Center/Edge Line Rumble Strips
- Raised Pavement Markers (RPMs)
- Rectangular Rapid Flashing Beacons (RRFBs)
- High-Emphasis Crosswalks
- Wider Edge Lines

Benefit Summary

- Evaluating different intersection control options helps identify solutions that can reduce crash rates and improve overall safety for all road users, including pedestrians, cyclists, and drivers.
- Curve warning signage alerts drivers about the upcoming curve, encouraging reduced speeds and more cautious driving.
- High-emphasis crosswalks use patterns like bar pairs, continental, or ladder designs that are more visible to both drivers and pedestrians from a greater distance compared to traditional crosswalks.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter. This enhanced visibility and recognition can lead to a reduction in rear-end and angle crashes at signalized intersections.
- Flashing yellow arrows at intersections reduce left-turn crashes, improve driver comprehension, enhance traffic flow, and increase safety for all road users.
- Access management controls where vehicles can turn, thereby reducing unpredictable movements

ID	Countermeasure	Cost	Schedule	Project Readiness
1	Design and Construct Access Management including Driveway Closure and Consolidation	\$\$\$\$	Long-Term	●●●●
2	Install Curve Advance Warning Signage	\$	Short-Term	●●●●
3	Correct Unsafe Drainage Features (Ditch Side Slopes, Headwalls, Culverts)	\$\$\$	Long-Term	●●●●
4	Install/Upgrade Pedestrian Facilities (Sidewalks, Crosswalks, Pedestrian Signal Facilities)	\$\$\$\$	Long-Term	●●●●
5	Upgrade Transit Stop Signage & Facilities, including the Possible Relocation of Stop Locations and Dedicated Bump-Out Locations	\$\$\$	Long-Term	●●●●
6	Conduct an Intersection Control Evaluation Study at N Petway St and Natchez St	\$	Short-Term	●●●●
7	Install a Marked Crossing at Transit Stops including RRFBs	\$	Short-Term	●●●●
8	Install/Upgrade to Retroreflective Striping	\$\$	Mid-Term	●●●●
9	Install Retroreflective Borders on Existing Backplates	\$\$	Mid-Term	●●●●
10	Install Flashing Yellow Arrows (FYAs) to Replace 5-Section Left-Turn Phase Signal Heads (All Signalized Intersections)	\$\$	Mid-Term	●●●●

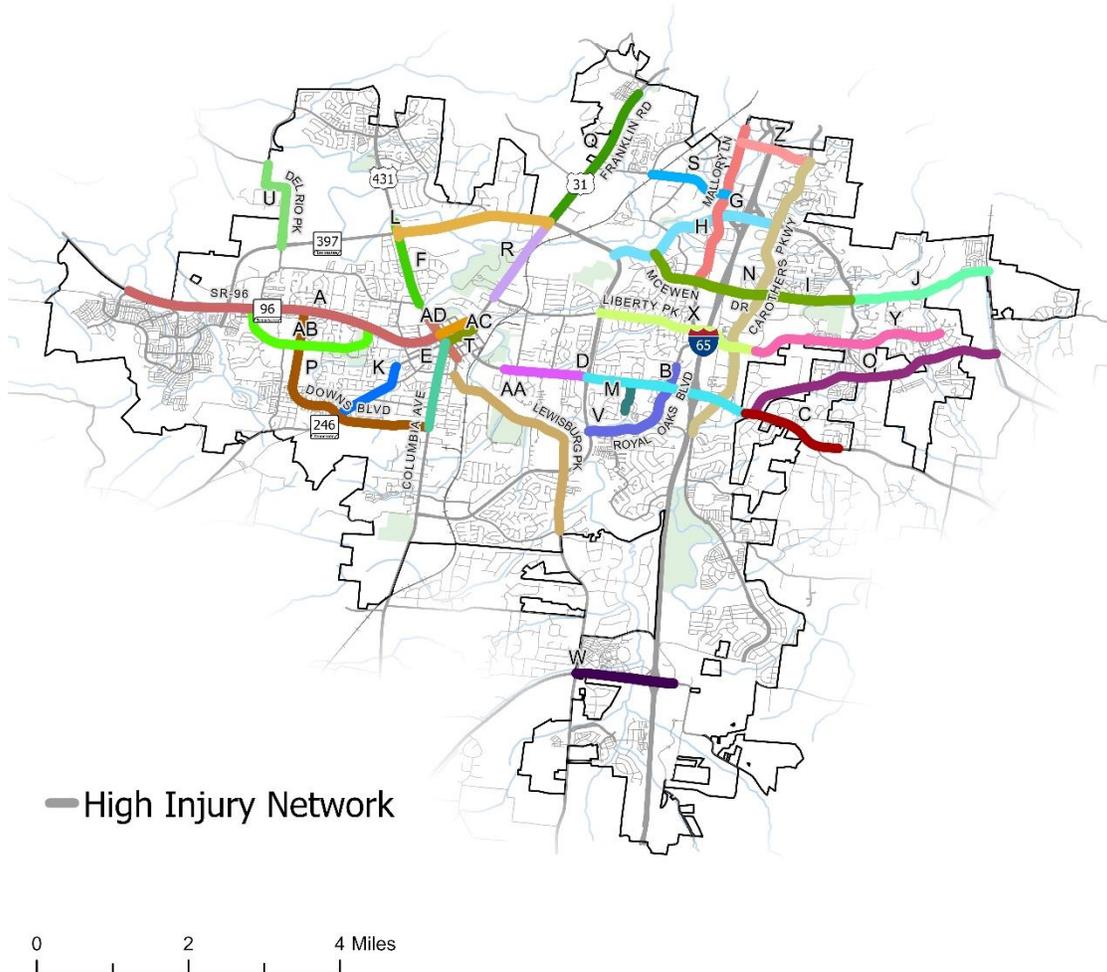
● FHWA Proven Safety Countermeasure
 ● Crash Modification Factors Countermeasure
 ● Vulnerable Road User Related Countermeasure
 ● Requires ROW Acquisition
 ● Requires Utility Relocation

Legend: Segment

Franklin SAP Fact Sheet Example

High Injury Network

The SAP includes criteria for prioritizing projects and corridors, focusing on high-crash segments and intersections. Recommended projects are detailed, including specific countermeasures and their expected benefits. For example, the plan proposes the installation of pedestrian crossing signals at key intersections, the redesign of high-risk road segments to improve visibility and reduce conflict points, and the implementation of traffic calming measures in residential areas. Each project is evaluated based on its potential impact on safety, cost-effectiveness, and feasibility.



City of Franklin HIN

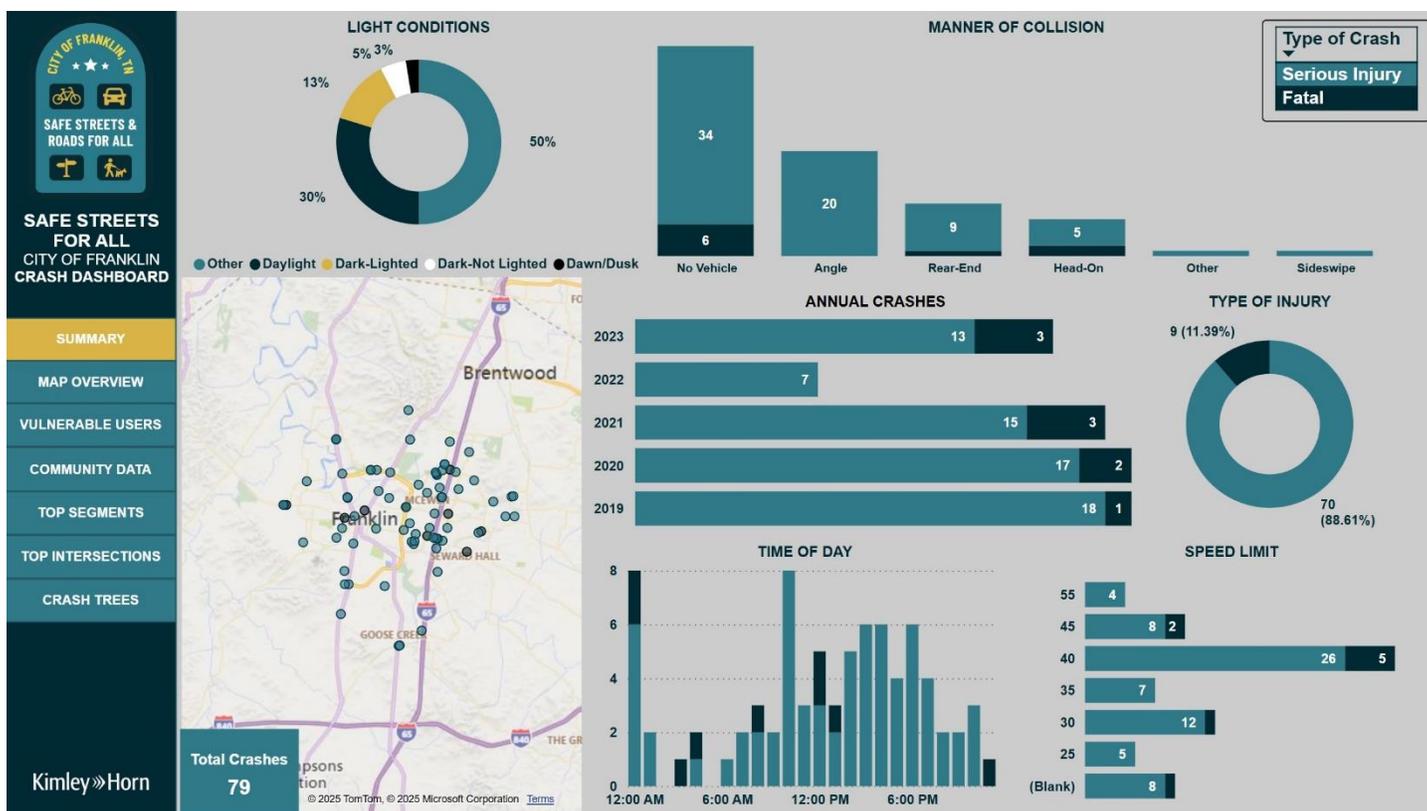
- A - New Highway 96 W
- B - Murfreesboro Road
- C - Murfreesboro Road
- D - Murfreesboro Road
- E - Columbia Avenue
- F - Hillsboro Road
- G - Cool Springs Boulevard
- H - Mallory Lane
- I - McEwen Drive
- J - McEwen Drive
- K - W Main Street
- L - Mack C Hatcher Memorial Parkway
- M - Southwinds Drive
- N - Carothers Parkway
- O - Clovercroft Road
- P - Downs Boulevard
- Q - Franklin Road
- R - Franklin Road
- S - Mallory Station Road
- T - 5th Avenue
- U - Del Rio Pike
- V - S Royal Oaks Boulevard
- W - Goose Creek Bypass
- X - Liberty Pike
- Y - Liberty Pike
- Z - Bakers Bridge Avenue
- AA - Lewisburg Pike
- AB - Boyd Mill Avenue
- AC - Main Street
- AD - Bridge Street

High-Priority Implementation Projects

While all thirty (30) HIN segments receive countermeasure recommendations, five (5) specific corridors were identified as having a high priority, in terms of implementation grants. In-depth fact sheets were created for the five (5) priority corridors, while the other twenty-five (25) corridors received high-level fact sheets. Through an iterative process of project corridor selection, the following high-priority corridors were selected to pursue prime funding: Murfreesboro Road, Columbia Avenue, Mallory Lane, W Main Street, and Carothers Parkway.

Progress and Transparency

The plan also outlines measures for ongoing monitoring and transparency, including annual reporting and public posting of the SAP. Performance metrics are established to track progress and assess the effectiveness of implemented strategies. The City of Franklin will update and report on the progress of projects and safety improvements to ensure accountability and provide opportunities for continuous improvement. The SAP encourages community involvement in the monitoring process, inviting residents to participate in safety audits and share their observations and suggestions.



Franklin SAP Project Website

Overall, the SAP is a crucial step toward making Franklin's roadways safer for all. With strong leadership commitment, data-driven analysis, and community engagement, the City of Franklin is poised to achieve its goal of zero traffic deaths and serious injuries. The plan's comprehensive approach, combining engineering, education, enforcement, and policy changes, provides a solid foundation for creating a safer and more equitable transportation system. By prioritizing safety and fostering collaboration among stakeholders, Franklin is taking proactive steps to protect its residents and enhance the quality of life in the community.



Introduction



Introduction

Alignment with Safe Streets and Roads for All (SS4A)

The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program to fund regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries involving motorists, pedestrians, cyclists, and other micro-mobility users.

One of the initiatives funded by the SS4A program is the development of a Safety Action Plan (SAP). An SAP is a planning document that prioritizes safety improvements and justifies investment decisions. Having a formal plan will help the City of Franklin communicate clearly with stakeholders and access funding opportunities under this program.

- ✓  Leadership Commitment & Goal Settingsee page 9
- ✓  Planning Structuresee pages iii and 32
- ✓  Safety Analysissee page 15
- ✓  Demographics Considerationssee page 28
- ✓  Engagement & Collaborationsee page 32
- ✓  Policy & Process Changessee page 55
- ✓  Project Selectionsee page 62
- ✓  Progress & Transparencysee page 65

Figure 1: Alignment with SS4A

Document Organization

The City of Franklin SAP is organized into the following Chapters:

- **Introduction:** Presents the project background, goals, and purpose of the SAP
- **Safety Analysis:** Provides an overview of city-wide crash trends and explains how equity informed the SAP
- **Demographics Considerations:** Identifying underserved communities through data and partner collaboration and analyzing population characteristics and impacts of proposed projects and strategies
- **Engagement and Collaboration:** Provides a summary of the City’s efforts to inform, consult, involve, collaborate with, and empower the public in the development of this plan
- **Strategies:** Describes potential engineering and driver-related countermeasures
- **Policy and Process Changes:** Includes an assessment of current policies, plans, and standards to identify opportunities for prioritizing transportation safety, with implementation through adopting revised or new policies and guidelines
- **Project Selections:** Includes criteria for prioritizing projects and corridors, indicating where improvements should be implemented first
- **Progress and Transparency:** Includes a description of measures the City will take over time to ensure transparency with stakeholders and the public, including annual reporting on progress toward reducing roadway fatalities and serious injuries, and posting the Action Plan online

Purpose of the SAP

The Franklin SAP provides a framework for identifying and prioritizing safety improvements that can be implemented. The SAP recommendations focus on transportation improvements that can be used to reduce fatal and suspected serious injury crashes guided by the principles established in the State of Tennessee Strategic Highway Safety Plan (TN SHSP) and through a systemic data analysis conducted specifically for the City of Franklin.

This report serves as an SS4A SAP, aligning with the components required to apply for SS4A Implementation Grant funding. As such, the SAP involves a community-informed and data-driven approach to roadway safety, with commitment from City leadership to reducing roadway fatalities and suspected serious injuries.

Leadership Commitment and Goal Setting

The City of Franklin’s leadership commits to making progress toward the long-term goal of zero traffic deaths and serious injuries with an interim goal of a 20-percent reduction in fatal and serious injury crash rates (expressed in crashes per 1 million vehicle miles traveled [VMT]) by 2040 from the existing rates. While the City of Franklin exhibits a sharply declining historical crash rate for the previous five-year period, it is not feasible to assume this trend will continue such a drastic decline given the recent population growth. Remaining committed to making progress toward the long-term goal of zero traffic deaths and serious injuries, the City’s interim goal of a 20-percent reduction allows for a more realistic measurement of future progress. Appendix A includes a copy of the signed resolution from the Board of Mayor and Alderman. **Figure 2** illustrates the five-year rolling averages of fatal and serious injury crash rates for the years 2019 to 2023. More detail is included in the **Crash Data Analysis** section of this document. The activities conducted during this study build upon Federal Highway Administration (FHWA) guidance, the Safe System Approach, the TN SHSP, and City-specific data analysis findings and community feedback.

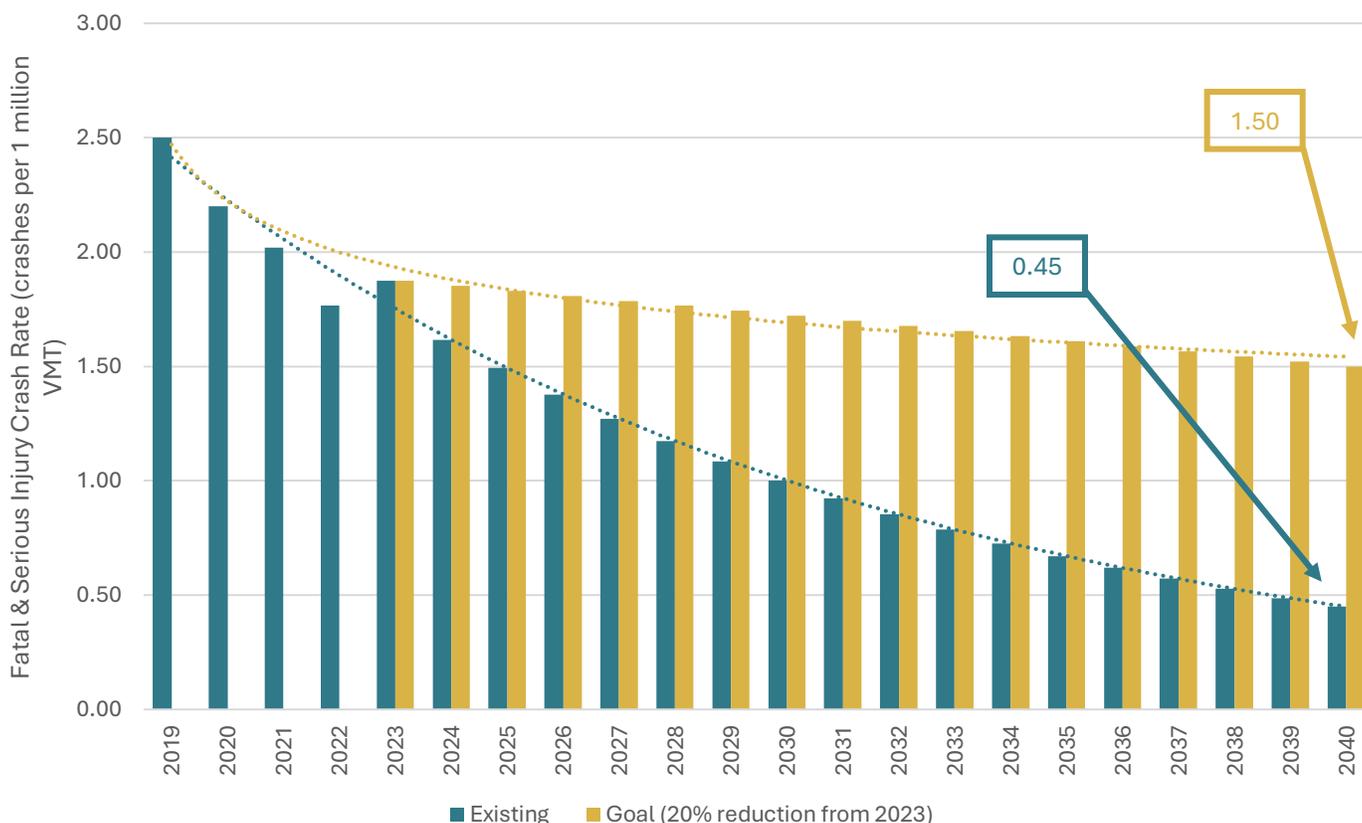


Figure 2: Franklin Fatal & Serious Injury Crash Rate Trend

The Safe System Approach is the guiding paradigm of the USDOT regarding roadway safety (see **Figure 3**). It prioritizes the elimination of crashes that result in death or serious injury. This approach is a shift from the conventional safety approach in that it focuses on both human mistakes and human vulnerability and seeks to design a system with multiple layers of protection. See **Figure 4** for a comparison between the traditional approach versus Safe System Approach. This SAP will integrate the Safe System Approach by analyzing the transportation system holistically and proposing solutions and strategies across the spectrum of principles that make up the Safe System Approach. Those principles are as follows:

- Deaths and Serious Injuries are Unacceptable
- Humans Make Mistakes
- Humans Are Vulnerable
- Responsibility is Shared
- Safety is Proactive
- Redundancy is Crucial



Figure 3: Guiding Paradigm of USDOT Safety (Source: FHWA)

Traditional Approach	vs	Safe System Approach
Traffic Deaths and Serious Injuries are Inevitable		Traffic Deaths and Serious Injuries are Preventable
Improve human behavior		Integrate human error into approach
Individual responsibility		Shared responsibility
Prevent Collisions		Prevent Fatal and Serious Injury Crashes
React based on crash history		Proactively identify and address risks
Saving lives is Expensive		Saving lives is Not Expensive

Figure 4: Traditional Approach vs Safe System Approach (Source: FHWA)

Study Area

The City of Franklin, Tennessee is located within Williamson County, in the Nashville Metropolitan area. It encompasses nearly 42 square miles of land and is home to approximately 89,000 residents. Located roughly twenty miles south of the City of Nashville, Franklin is one of the fastest growing cities in the state. An elected mayor governs the City, along with a board of eight (8) council members (also known as Aldermen), each serving four-year terms. Franklin shares its northern border with the City of Brentwood, and the City of Thompson’s Station is situated to the south.



Figure 5: City of Franklin in Nashville MPO

History

The City of Franklin was founded on October 26th, 1799, by Abram Maury Jr. The City was named after national founding father Benjamin Franklin, a close acquaintance of Dr. Hugh Williamson, a member of the Continental Congress for whom Williamson County was named after. The Battle of Franklin, fought in 1864, was one of the Civil War's most consequential battles. The City of Franklin experienced rapid growth in the early 2000's, where the population more than doubled. While the population growth in Franklin has since slowed, the City remains one of the fastest growing areas in the State. Due to the City's close proximity to Nashville, Franklin is home to a large number of celebrities and music artists.

Land Uses and Attractions

Healthcare companies, such as Community Health Systems, Fresenius Medical Care, and Williamson Health are the largest employers in Franklin, with the automotive companies Nissan and Mitsubishi also employing a large volume of residents. The City of Franklin maintains over 700 acres of parklands and structures for public use, including 16 park facilities, athletic fields, and multi-modal facilities. One of the most recognizable scenes in Franklin is the historic Franklin Theatre, first opening in 1937 and still committed to showing movies and music shows in a traditional setting. The Franklin Theatre is located in historic GAMSAs (Great American Main Street Award) winning downtown Franklin, which experiences a large volume of pedestrian and bicyclist traffic. The Factory at Franklin is one of Tennessee's most unique multi-use venues, located in an entirely refurbished 1929 stove manufacturing plant. There are four (4) major golf courses within the Franklin city limits.

Roadway Networks

The City of Franklin is settled along a segment of I-65, with the thoroughfares of US-31 and US-431 running nearby. The major downtown area of Franklin is centered around the crossings of TN-96, TN-246, and TN-397. Mack C Hatcher Memorial Parkway makes a partial ring around the City, comprised of TN-246, TN-397, and US-31. The City plans to extend Mack C Hatcher Memorial Parkway in the future, fully closing the ring around the City. Murfreesboro Road (SR-96) experiences the highest volume of daily traffic, with a consistent AADT (Average Annual Daily Traffic) of 30,000 and a corridor maximum of nearly 60,000 AADT near the I-65 interchange. All the other US and State Routes experience around 20,000 AADT. Cool Springs Boulevard experiences the highest volume of the municipal roadways, at nearly 30,000 AADT. Mallory Lane, Carothers Parkway, and McEwen Drive are all municipal roads that exhibit daily volumes of around 15,000 AADT.

Schools

The schools within the City of Franklin are facilitated by the Franklin Special School District and the Williamson County School System. While this is not a comprehensive list, schools included in the City’s GIS database that are located within Franklin city limits are listed and shown in **Figure 6** below.

- Franklin Elementary School
- Moore Elementary School
- Freedom Middle School
- Freedom Intermediate School
- Johnson Elementary School
- Liberty Elementary School
- Centennial High School
- Poplar Grove Schools
- Franklin High School
- Hunters Bend Elementary School
- New Hope Academy
- Oak View Elementary School
- Pearre Creek Elementary
- BGA High and Middle School
- BGA Lower School
- Clovercloft Elementary
- Cool Springs Montessori
- The Goddard School
- High Hopes Development Center
- Montessori School of Franklin
- Trinitas Classical Academy
- Primrose School of Cool Spring
- Holly Tree Child Care Center 7
- Smith Pre-School
- Ivy Brook Academy

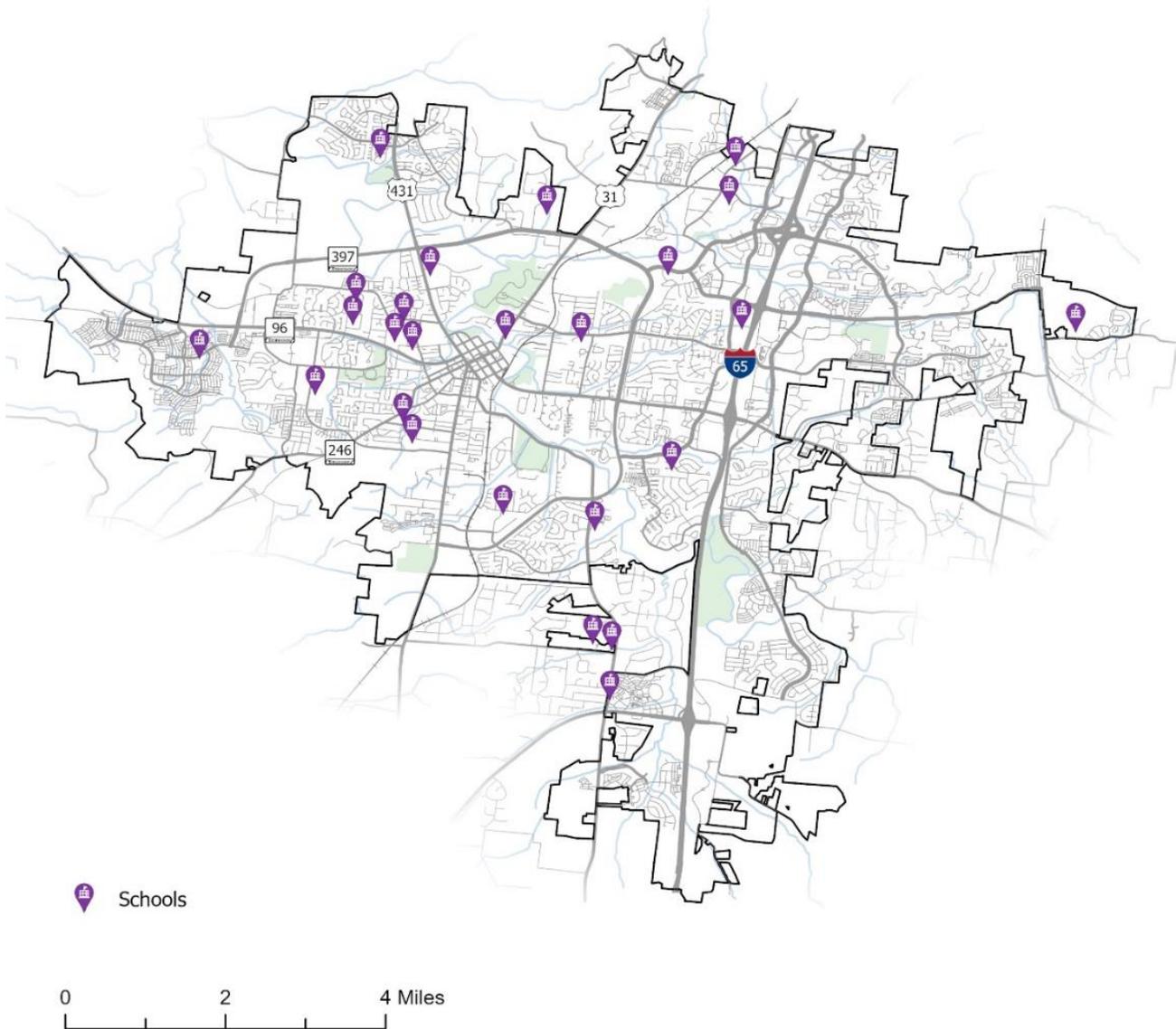


Figure 6: City of Franklin Schools



Safety Analysis



Safety Analysis

The safety analysis for the Franklin SS4A Action Plan explored city-wide historical trends to understand where crashes occurred, crash severities, and their contributing factors. This safety analysis section summarizes data sources, safety emphasis areas, city-wide crash trends, input received from the first phase of community outreach, transportation demographics considerations, and the identification of a high-injury network. The findings from this safety analysis helped inform the development of engineering projects and strategies identified later in this plan.

KABCO Crash Severity: *The KABCO scale measures the injury severity for any person involved in the crash and is defined as K for fatal injury, A for suspected serious injury, B for suspected minor injury, C for possible injury, and O for no apparent injury. From January 2019 to December 2023, there were 8,563 reported crashes on roadways in the City of Franklin, of which 79 resulted in fatalities or serious injuries.*

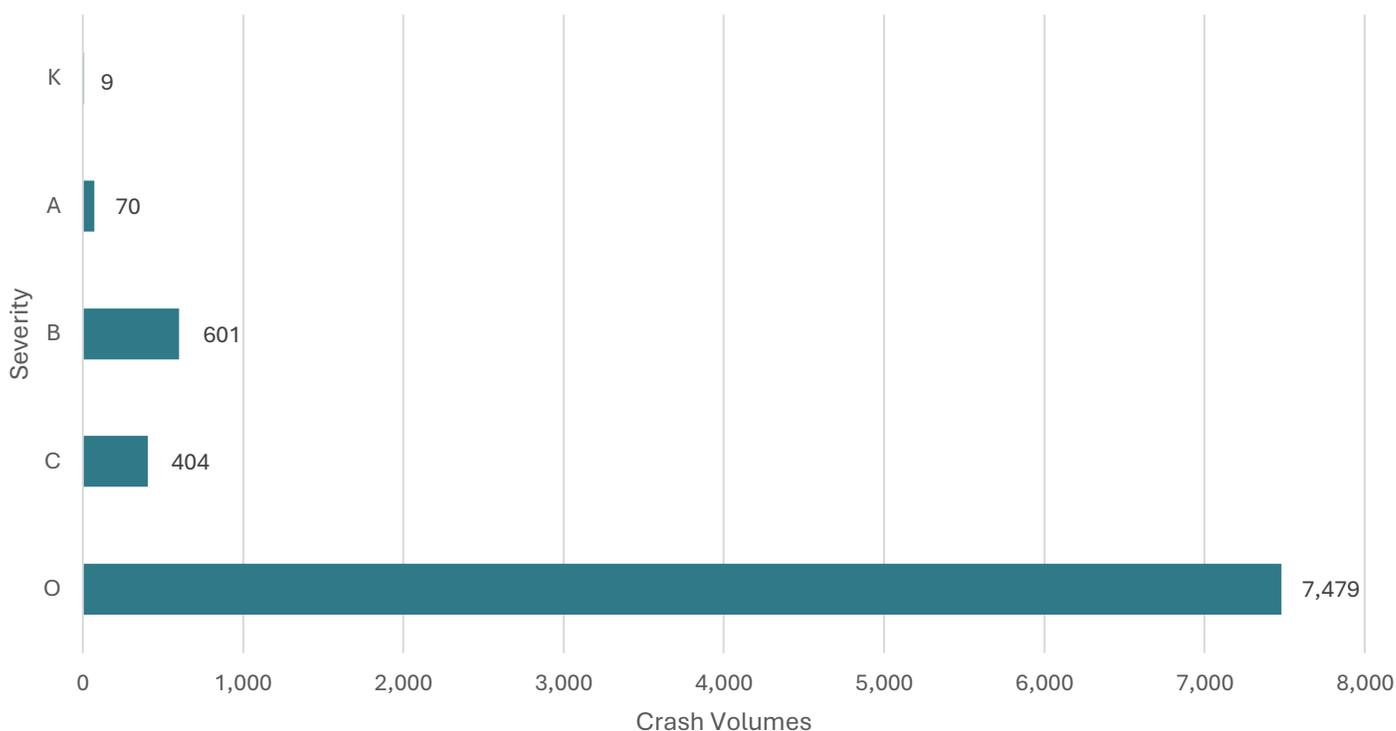


Figure 7: Crashes in Franklin by KABCO Scale (2019-2023)

Data Gathering

Historical crashes were obtained from the TDOT’s AASHTOWare Safety¹ online crash database for crashes reported from 2019 to 2023. These findings intend to represent historical trends for the study area, and absolute values may not identically match different statewide crash data reporting sources. The data was combined and cleaned at a high level to provide a more complete record of crashes within the City. This cleaning included filtering out interstate crashes, duplicate crashes, erroneous crash information, and geographically inaccurate crash data. The analysis also incorporated roadway ownership information and additional roadway characteristics (such as road type and signal locations) provided by TDOT.

¹ TDOT, AASHTOWare Safety
<https://tdot.aashtowaresafety.com/signin>

Emphasis Areas

State DOTs develop Strategic Highway Safety Plans under the Federal Highway Administration’s direction to identify safety emphasis areas based on historical crash trends and severities. Crashes resulting in fatalities and suspected serious injuries were evaluated in the 2020-2024 Tennessee Strategic Highway Safety Plan² to identify the top statewide safety emphasis areas. These analysis results help inform how transportation safety funding should be directed to reduce statewide fatal and serious injury crashes for all road users.

Table 1 shows a comparison of the City of Franklin’s fatal and serious injury crashes to statewide totals for crashes reported between 2019 and 2023. **Table 1** is formatted to emulate the emphasis areas documented in the TN SHSP and intends to highlight how the emphasis areas in Franklin compare to statewide trends. Franklin experienced higher percentages for several emphasis areas, including crashes involving Unrestrained Occupants, Older Drivers (65+), Aggressive/Speeding Drivers, Pedestrians, and Bicycles. Note, that individual crash events may be associated with more than one emphasis area. For example, a roadway departure crash could have involved an impaired young driver. As such, the values in the columns may not add to equal the exact totals. In **Table 1**, gold-shaded cells show which contributing factors were more prevalent in the City of Franklin than the statewide data over the five-year study period while the light-blue shaded cells show which contributing factors were less prevalent in the City of Franklin.

Table 1: City of Franklin Fatal and Serious Injury Crashes by Safety Emphasis Areas

Category	Emphasis Areas	City of Franklin (2019 - 2023)			State of Tennessee (2019 - 2023)	
		# of Fatal Crashes	# of Serious Injury Crashes	Total	% Fatal & Serious Injury Crashes	% Fatal & Serious Injury Crashes
All Severe Crashes		9	70	79	100.0%	100.0%
Roadway	Roadway Departure	4	16	20	25.3%	41.6%
	Intersections	2	29	31	39.2%	30.6%
Drivers	Unrestrained Occupants	5	15	20	25.3%	19.0%
	Older Drivers (65+)	4	17	21	26.6%	19.5%
	Teen Drivers (13-19)	1	12	13	16.5%	21.3%
	Impaired Drivers	4	8	12	15.2%	15.8%
	Inattentive, Distracted, and Drowsy Drivers	0	3	3	3.8%	9.5%
	Aggressive Drivers / Speeding	5	17	22	27.8%	11.9%
Vehicles	Motorcycles	0	8	8	10.1%	14.0%
	Large Trucks (Truck/Bus)	0	2	2	2.5%	5.8%
Special Users	Pedestrians	0	8	8	10.1%	8.1%
	Bicycles	1	3	4	5.1%	1.1%

² TDOT, 2020-2024 Tennessee Strategic Highway Safety Plan, <https://www.tn.gov/content/dam/tn/tdot/strategic/SHSP-2020.pdf>

Crash Data Analysis

Crashes reported between 2019-2023 in the City of Franklin are summarized by year and type in **Table 2**. The City of Franklin experienced a lower percentage of fatal and suspected serious injury crashes than the State of Tennessee (3 percent) during the same period. Over the study period, the total number of crashes in Franklin has remained relatively constant, with no apparent trend present in specific injury crashes.

Table 2: Crashes by Severity and Year

Year	Fatal Crash (K)	Suspected Serious Injury (A)	Suspected Minor Injury (B)	Possible Injury (C)	Property Damage Only (O)	Total
2019	1	18	201	48	1705	1973
2020	2	17	103	64	1214	1400
2021	3	15	91	93	1472	1674
2022	0	7	98	102	1602	1809
2023	3	13	108	97	1486	1707
Total	9	70	601	404	7479	8563
Percentage of All Crashes	0.1%	0.8%	7.0%	4.7%	87.3%	100.0%

For the purposes of this study, the data includes the total number of fatal and serious injury crashes within the analysis period. It is important to note that a single fatal crash can result in multiple fatalities, and similarly, a serious injury crash can lead to multiple serious injuries. **Figure 8** provides the vehicle miles traveled within Williamson County, expressed as millions of miles. **Figure 9**, **Figure 10**, and **Figure 11** provide the five-year rolling averages of crash rates for fatal crashes, serious injury crashes, and fatal and serious injury crashes combined for the period of 2019-2023. The historic data points fall along the projected trendline in each of the following figures. As shown in the figures, the overall trend for all three charts indicates an increase in fatal and serious injuries year over year.

Vehicle Miles Traveled

Vehicle Mile Traveled data was collected through the TDOT’s Highway Performance Monitoring System, organized by administrative systems, functional class, or county. From 2014 to 2023, Williamson County experienced approximately 24 percent growth in millions of vehicle miles traveled, as shown in **Figure 8** below.

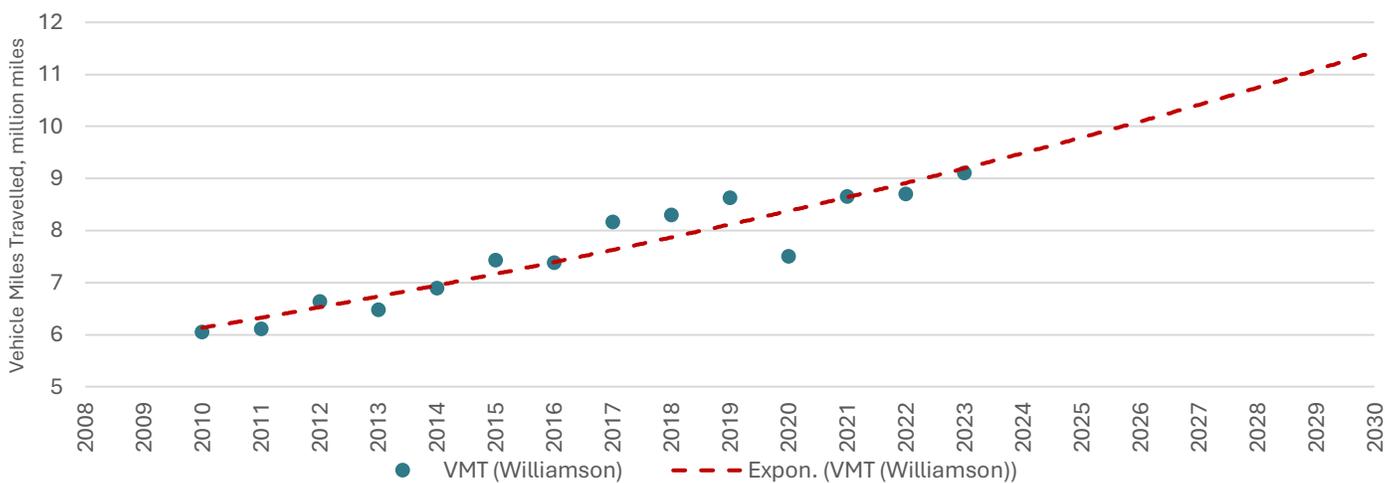


Figure 8: Vehicle Miles Traveled, Williamson County

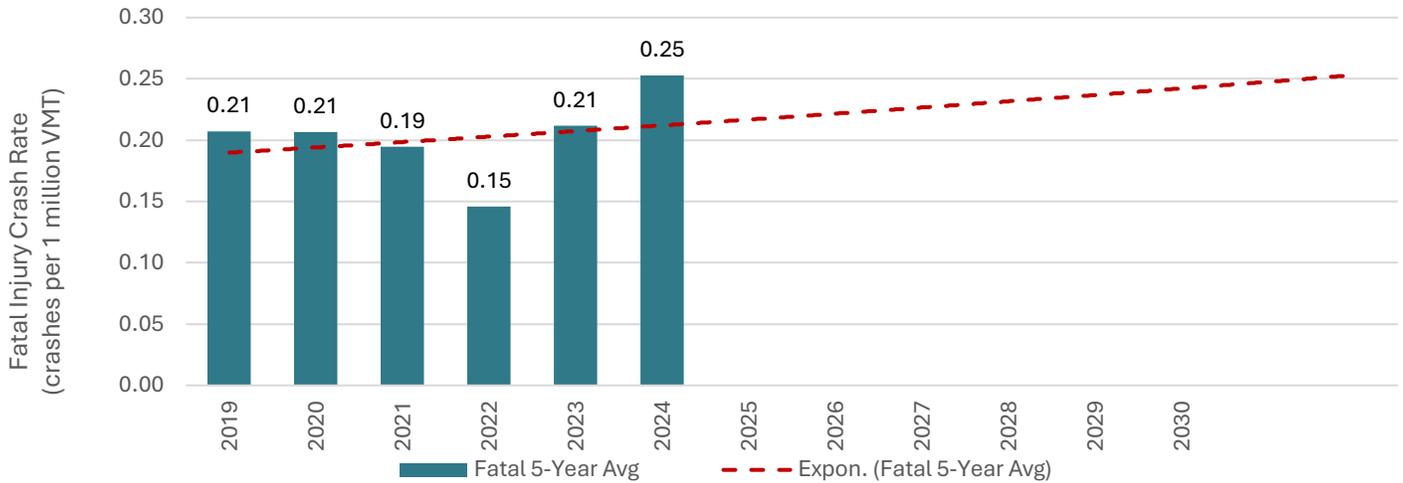


Figure 9: Five-Year Rolling Average of Fatal Crash Rates

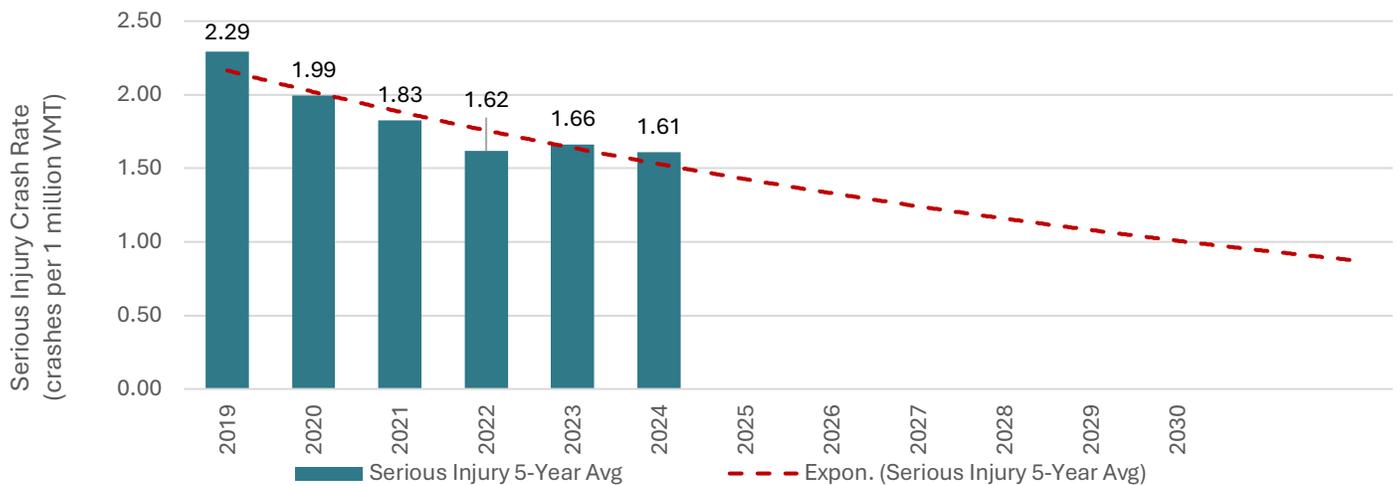


Figure 10: Five-Year Rolling Average of Serious Injury Crash Rates

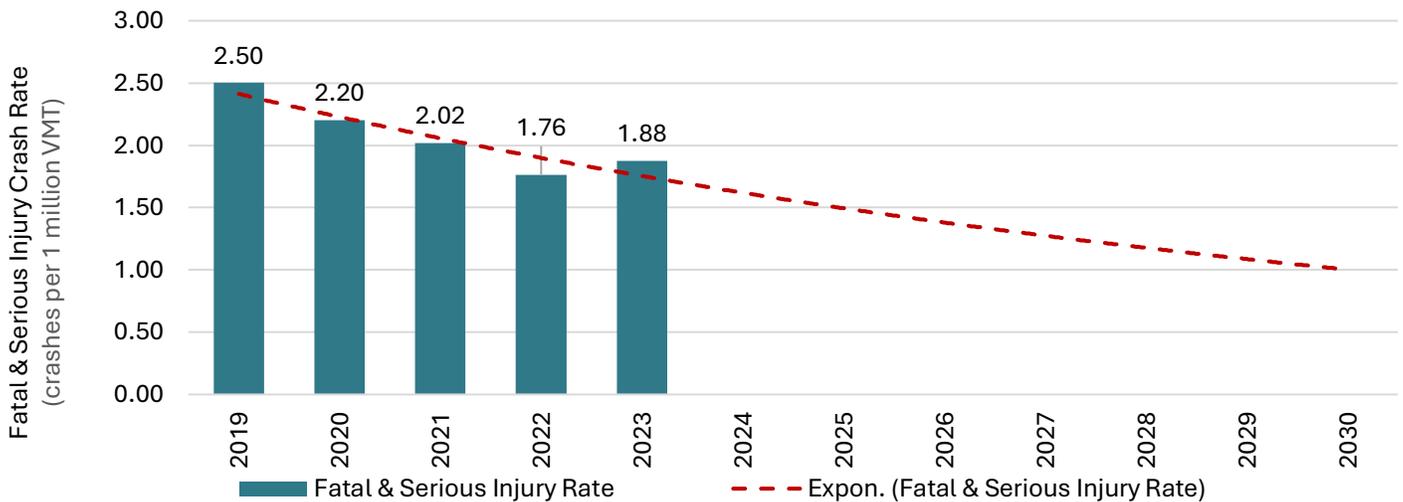


Figure 11: Five-Year Rolling Average of Combined Fatal and Serious Injury Crash Rates

Crash Density

Crash density can be defined as the total amount of crashes per unit of road length, commonly defined as crashes per mile. **Figure 12** displays a total crash density map while highlighting locations where fatal and suspected serious injury crashes occurred along the roadway network. The highest crash densities are usually observed at locations with higher traffic volumes as this translates to more exposure and potential risk for all road users. In Franklin, the highest crash density can be found along Murfreesboro Road (SR-96), Cool Springs Boulevard, and the I-65 interchanges. The high density along the Cool Springs Boulevard corridor is likely due to its large commercial presence, allowing for a multitude of access management issues and turn-movement conflicts.

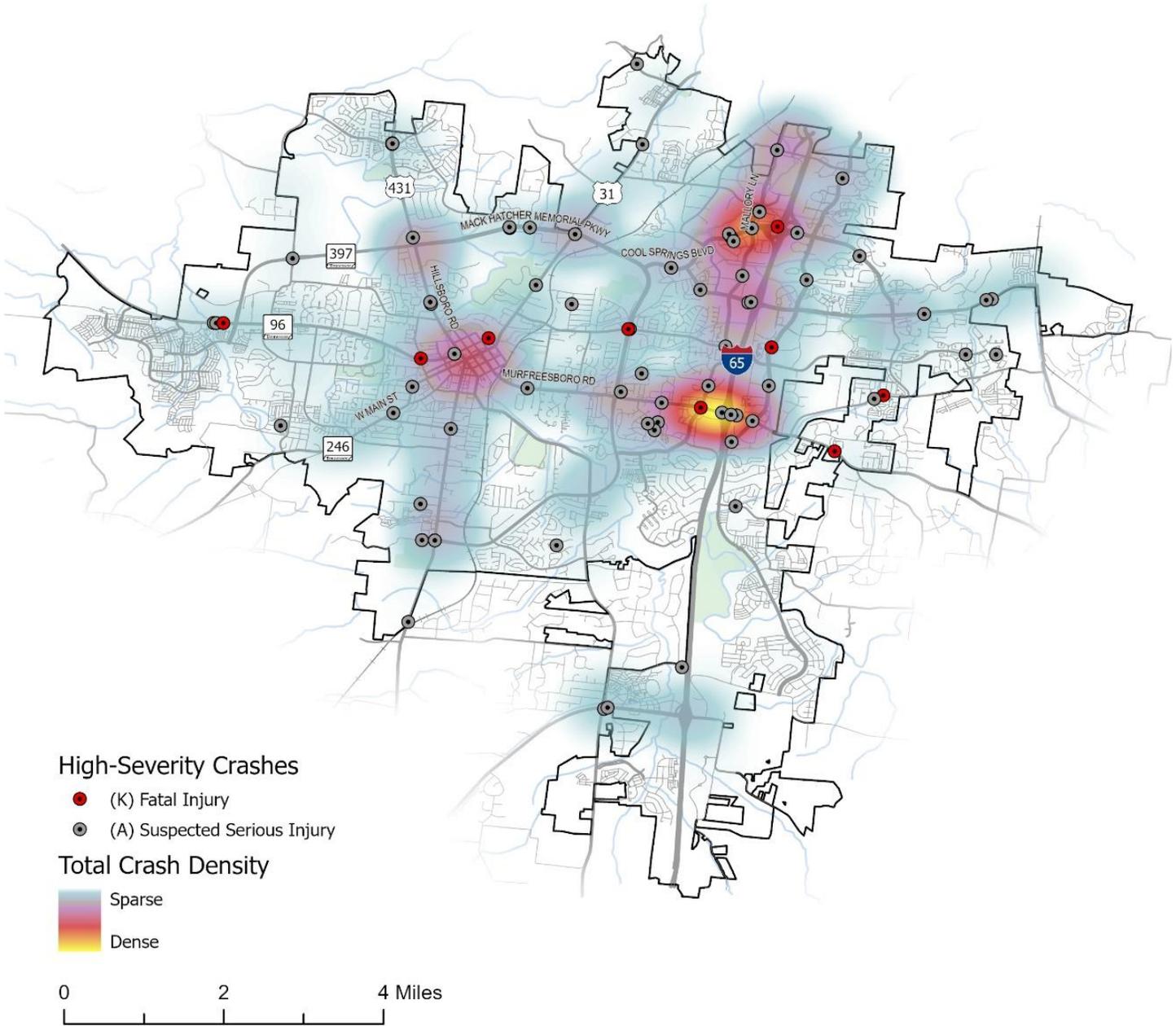


Figure 12: Overall Crash Density and Fatal/Suspected Serious Injury Crashes (2019-2023)

Crashes by Type

Crash type is indicated on crash reports submitted by law enforcement agencies. *Rear-end* crashes were the most common type of crash over the study period, often occurring in congested traffic or when drivers are distracted. These types of crashes tend to be less severe because they often occur at lower speeds with less damaging crash angles. *Angle* crashes were the second most common crash type, often occurring at roadway intersections, driveways, and roads with prominent access management issues. The entire range of crash types is listed below in **Table 3**.

Table 3: Crashes by Type

Type of Crash	2019	2020	2021	2022	2023	Total
Rear End	899	576	666	698	558	3,397
Angle	56	390	494	487	430	2,361
Sideswipe – Same Direction	210	150	196	230	170	956
No Collision w/ Vehicle	158	158	169	153	140	778
Sideswipe - Opposite Direction	42	23	26	22	25	138
Head-On	21	23	19	24	23	110
Rear to Side	14	9	11	11	6	51
Rear to Rear	6	3	5	2	4	20
Other	63	68	88	182	351	752
Total	1,973	1,400	1,674	1,809	1,707	8,563

Compared to the statewide data, the City of Franklin experienced a higher percentage of *rear-end* crashes and a much lower percentage of crashes involving a single vehicle (*no collision w/ vehicle*). This is likely due to Franklin exhibiting more urban characteristics than other areas in the state, resulting in more intersection conflicts and traffic congestion. Single vehicle crashes often occur along curves and uninterrupted rural sections of roadway, causing Franklin to not experience high volumes of these crash types.

Compared to other urban areas within the State of Tennessee, the City of Franklin experienced a higher percentage of *angle* crashes, and a lower percentage of *no collision w/ vehicle* crashes. While the causes of these trends are not overtly clear from the crash data, possible causes of the higher percentage of angle crashes include Franklin’s wide intersections, driveway and median opening density, and sight distance obstructions for permissive left turn movements at signals. Overall, the trend comparisons between the City of Franklin and the State of Tennessee are relatively consistent, with the general order of crash types remaining similar.

Crashes by Lighting Conditions

Street lighting serves as a streetscaping asset and safety countermeasure if it fits the context of the community and built environment. Approximately 21 percent of crashes in Franklin occurred during non-daylight conditions (i.e., Dark, Dark – Not Lighted, Dark-Lighted, Dusk, and Dawn) which is lower than the statewide percentage during the same period of 32 percent. Proper lighting along streets and at intersections can increase driver awareness of the roadway and decrease the probability of a crash due to low visibility and driver confusion.

Table 4: Crashes by Lighting Condition

Lighting Condition	2019	2020	2021	2022	2023	Total
Daylight	1,494	1,006	1,233	1,307	1,035	6,075
Dark - Lighted	261	220	235	212	208	1,136
Dark - Not Lighted	53	37	49	47	47	233
Dusk	83	70	63	66	58	340
Dawn	34	15	14	16	16	95
Other	48	52	80	161	343	684
Total	1,973	1,400	1,674	1,809	1,707	8,563

Crashes by Road Surface Conditions

Pavement friction affects how vehicles interact with the roadway and directly influences the frequency of crashes. Wet pavement can further reduce traction and exacerbate the frequency and severity of vehicle crashes. Approximately 13 percent of crashes in Franklin occurred during wet pavement conditions, which is considerably lower than the statewide percentage of 19 percent over the same period.

Table 5: Crashes by Road Surface Condition

Surface Condition	2019	2020	2021	2022	2023	Total
Dry	1,687	1,124	1,401	1,445	1,183	6,840
Wet	249	224	182	186	193	1,034
Snow	5	5	9	15	3	37
Ice	1	1	9	8	1	20
Unknown	31	46	73	155	327	632
Total	1,973	1,400	1674	1,809	1,707	8,563

Crashes Involving Freight

The City of Franklin experiences a high presence of freight transportation due to its large industrial uses and advantageous location in the Nashville Metropolitan Planning Organization (MPO) and international freight network. **Figure 13** displays the existing freight network with an overlay of freight-related crashes, differentiated by crash severity. Over the study period, 365 freight-related crashes occurred in Franklin, of which two (2) resulted in a suspected serious injury. While the City is not overrepresented in crashes involving large trucks/freight, these types of crashes can often result in higher severities and extended cleanup time.

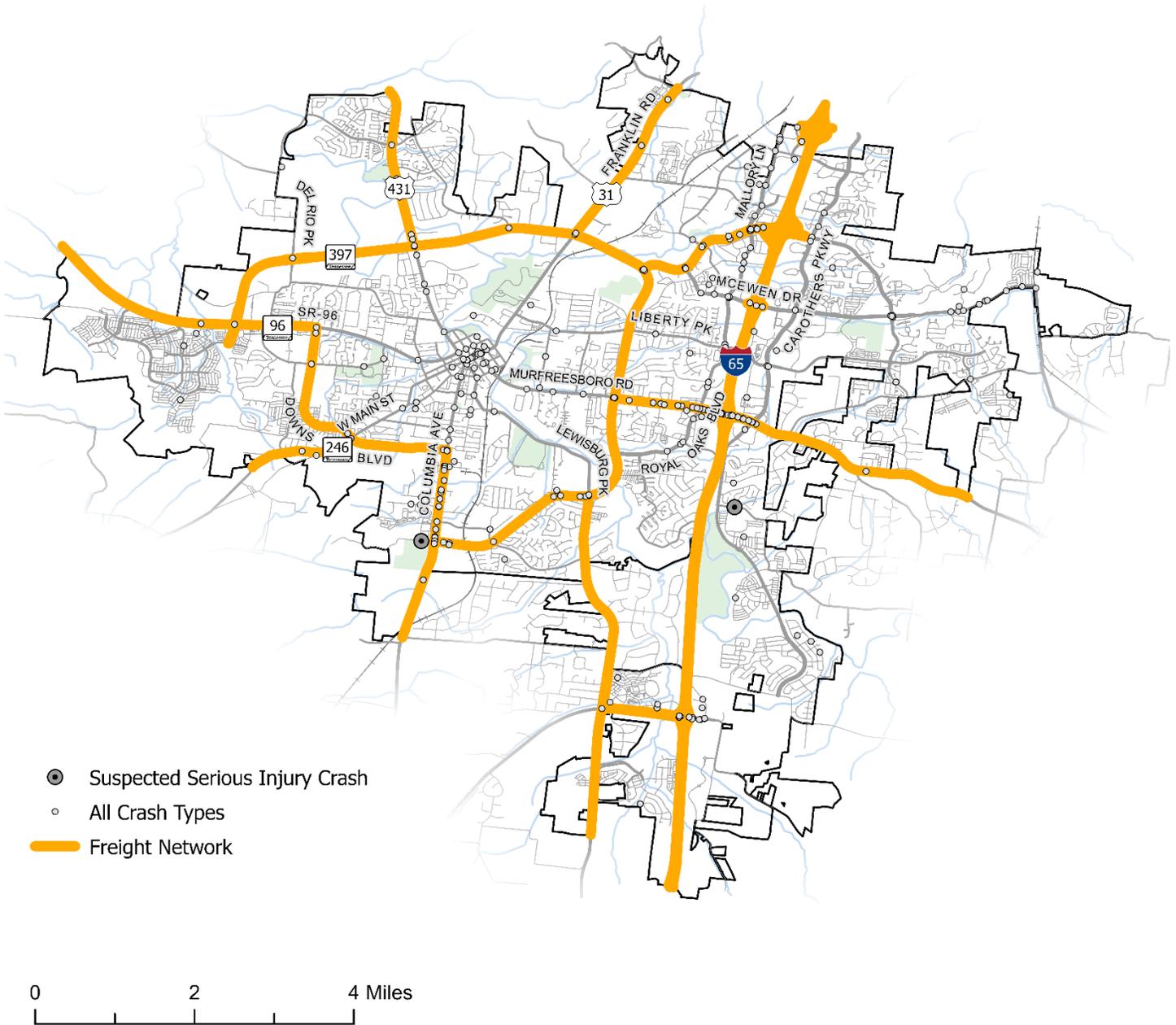


Figure 13: Freight Network and Related Crashes in Franklin (Source: GNRC Truck Route Network)

Crashes Involving VRUs

Vulnerable roadway users (VRU) include pedestrians, cyclists, mobility device users (e.g., wheelchairs), and shared micromobility riders (e.g., e-scooter). VRUs are more exposed and at-risk in the event of a crash with motorists. Over 30 percent of crashes involving VRUs resulted in serious injuries or fatalities in Tennessee between 2018 to 2022³. Furthermore, fatal and serious injury pedestrian and cyclist crashes increased by over 44 percent and 18 percent, respectively, from 2018 to 2022. The City of Franklin is well below that percentage, with roughly 16 percent of vulnerable road user crashes resulting in fatal and serious injuries (1 percent fatal and 15 percent serious injury). This means that, while the City of Franklin experiences a higher percentage of VRU crashes versus the state of Tennessee, the severity of these crashes is much less severe than the statewide data. The characteristics of roadways and their surrounding areas such as retail density, number of travel lanes, and roadway speed limits can pinpoint locations with potentially higher risk for VRUs. **Figure 14**, shown below, displays the locations where VRU crashes occurred along the roadway network.

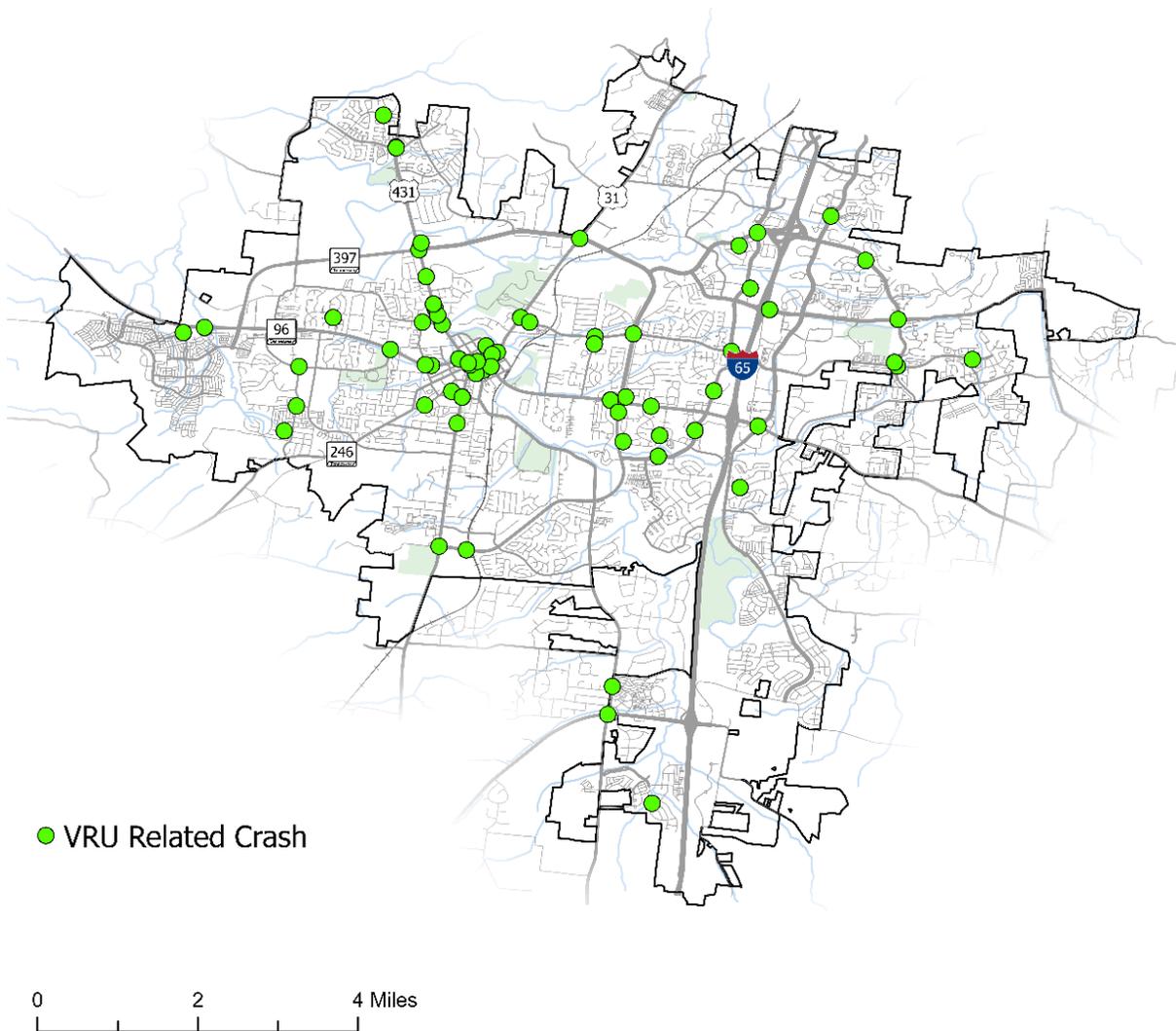


Figure 14: Crashes involving VRUs (2019-2023)

³ TDOT, Tennessee VRU Safety Assessment, 2023

<https://www.tn.gov/content/dam/tn/tdot/strategic/TDOT%202023%20VRU%20Safety%20Assessment%20Final%20w%20Appendix%2011-15-2023.pdf>

Vulnerable Road User Path Connectivity

As seen in **Figure 15**, there are several areas in Franklin that experience large gaps between sidewalks and multi-use paths. This disconnection can force VRUs into vehicle lanes with little to no shoulder, greatly increasing the risk of collisions and roadway conflicts. While there is a great volume of VRU path networks within neighborhoods and parks, there is a large absence of connections between neighborhoods and along higher speed arterial and collector roadways.

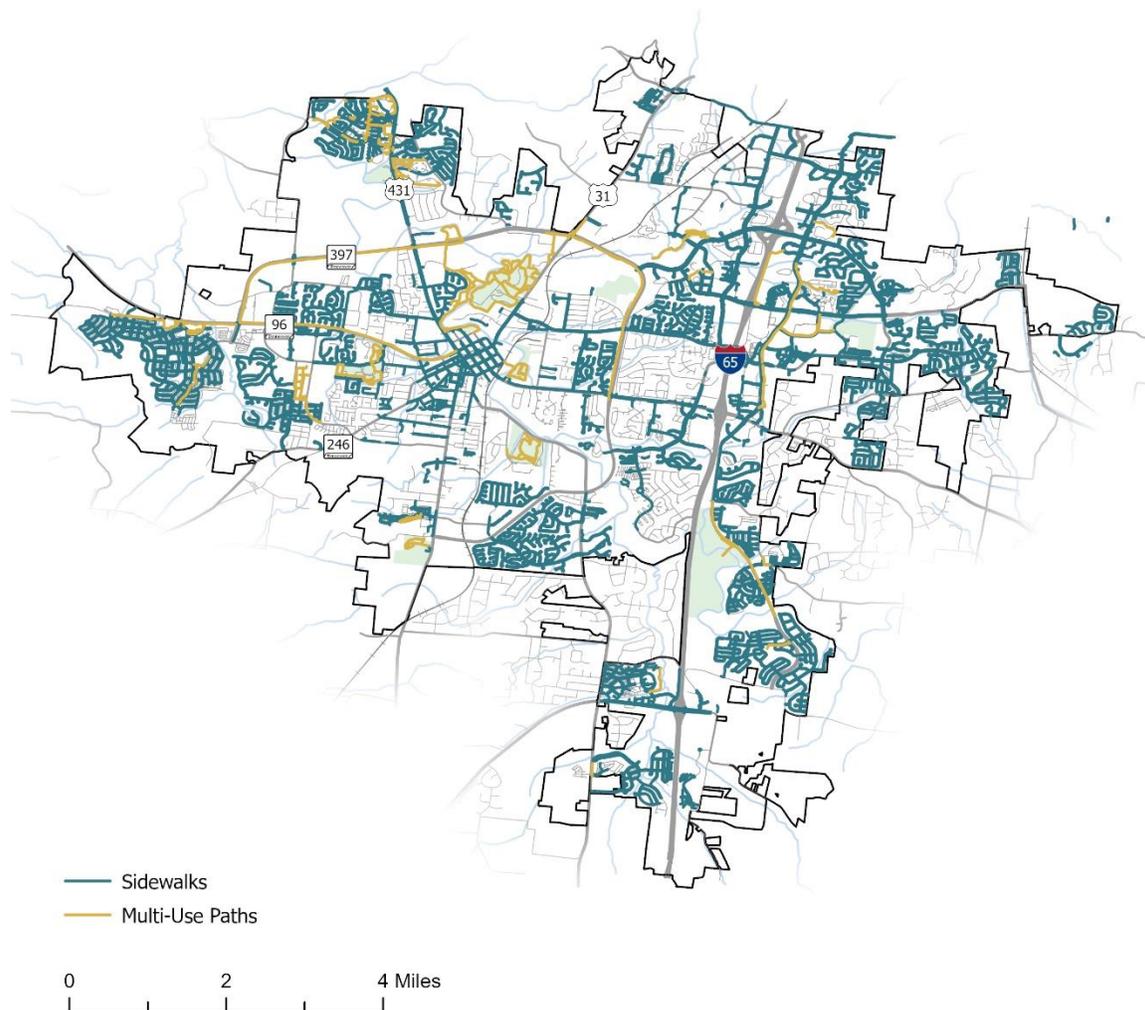


Figure 15: City of Franklin Sidewalks & Multi-Use Paths

Identifying a High Injury Network

A High Injury Network (HIN) was developed to identify the routes with the most fatal and serious injury crashes in the City of Franklin. A HIN is a collection of corridors where a disproportionate number of these crashes occurred as well as corridors that may pose higher risk for all road users. Developing a HIN allows for the proper allocation of effort and safety funds toward the areas of the City that need it most. While the HIN typically includes the major thoroughfares of a study area, the methodology used also allows for minor roads to be considered for improvements. Creating the HIN is a key step toward focusing resources in the right direction to develop projects that will help reduce fatal and serious injury crashes for all road users in the City of Franklin.

Methodology

The HIN was identified by first evaluating segments along the City of Franklin's roadway network with the highest reported crash rates during the study period (2019-2023) using TDOT's AASHTOWare Safety Network Screening platform. Thirty (30) high-crash-rate segments were identified at logical termini (i.e., municipal boundary, road name changes, or roadway characteristics such as number of lanes). **Figure 16** shows the HIN identified in the table.

While the HIN covers only 7 percent of roadway mileage in Franklin, over 80 percent of all crashes, and 76 percent of fatal and serious injury crashes are captured within the HIN segment limits. This includes 100 percent of fatal crashes (9/9) and 73 percent (51/70) serious injury crashes. The HIN also captures roughly 59 percent (44/74) of all crashes including a vulnerable road user.

- A - New Highway 96 W
- B - Murfreesboro Road
- C - Murfreesboro Road
- D - Murfreesboro Road
- E - Columbia Avenue
- F - Hillsboro Road
- G - Cool Springs Boulevard
- H - Mallory Lane
- I - McEwen Drive
- J - McEwen Drive
- K - W Main Street
- L - Mack C Hatcher Memorial Parkway
- M - Southwinds Drive
- N - Carothers Parkway
- O - Clovercroft Road
- P - Downs Boulevard
- Q - Franklin Road
- R - Franklin Road
- S - Mallory Station Road
- T - 5th Avenue
- U - Del Rio Pike
- V - S Royal Oaks Boulevard
- W - Goose Creek Bypass
- X - Liberty Pike
- Y - Liberty Pike
- Z - Bakers Bridge Avenue
- AA - Lewisburg Pike
- AB - Boyd Mill Avenue
- AC - Main Street
- AD - Bridge Street

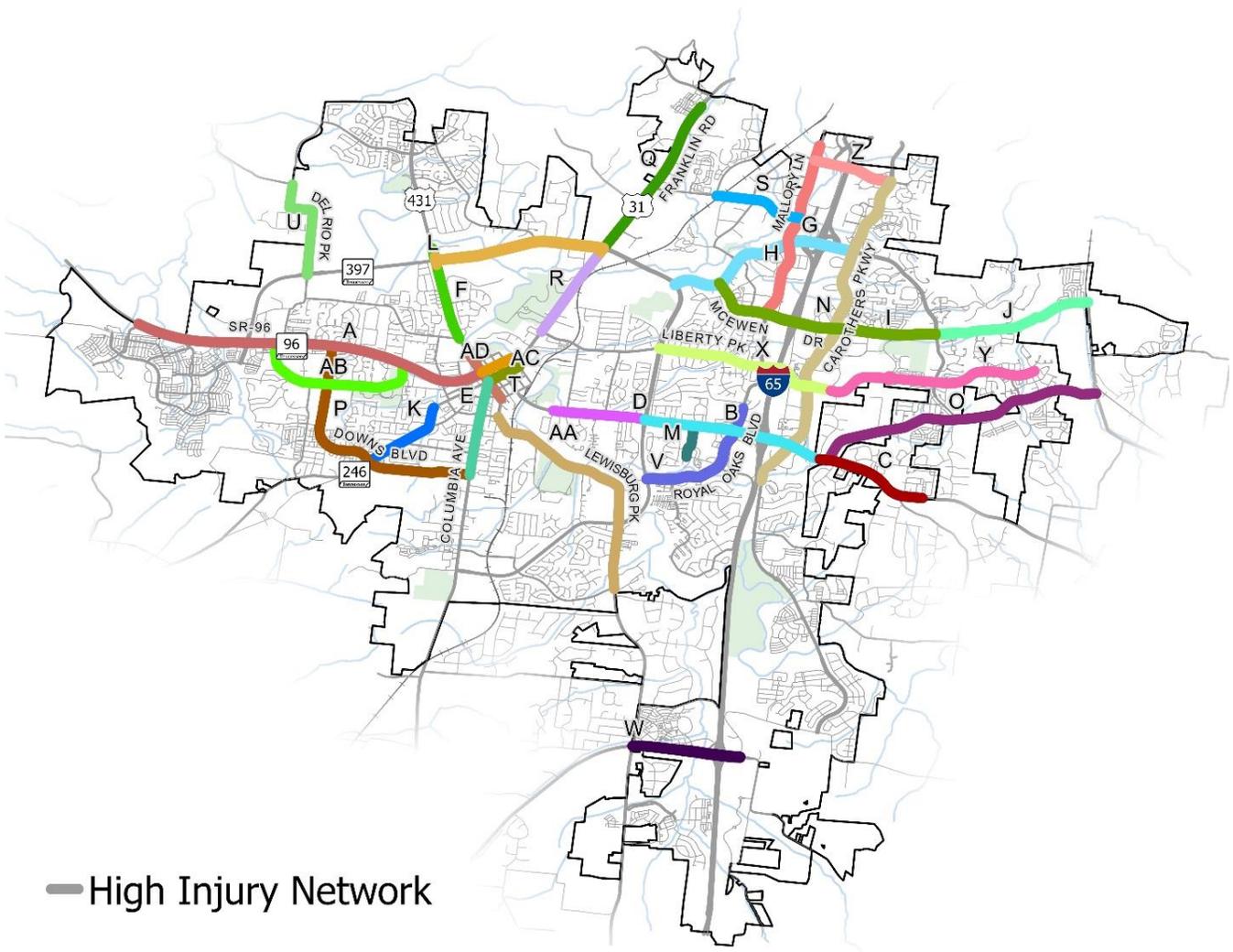


Figure 16: City of Franklin High Injury Network



Demographic Considerations



Demographics Considerations

To ensure that any underserved or more vulnerable communities were appropriately considered within this SAP, special attention was given to the demographic characteristics of Franklin. While there were no Historically Disadvantaged Communities or Areas of Persistent Poverty within the City of Franklin (as defined by the USDOT), there were areas exhibiting Social Vulnerability (as defined by the CDC). Census tract 508, shown in Figure 17 as dark blue, was identified as highly disadvantaged in both the SVI and Local Score index analyses. The City of Franklin exhibits census tracts ranking between the 80th-100th national percentile according to the U.S. Environmental Protection Agency (EPA) in categories such as Diesel Particulate Matter, Air Toxins Respiratory Hazard Index, Low Income, Low Employment Rate, Less than High School Education, and Over Age 64.

Social Vulnerability Index

The Centers for Disease Control and Prevention (CDC) developed the Social Vulnerability Index (SVI)⁴ tool that considers four overall categories of vulnerability: Socioeconomic Status, Household Characteristics, Racial & Ethnic Minority Status, and Housing Type & Transportation. Between these four categories, 16 individual variables are scaled and calculated to form an overall index score, ranging from 0 to 1 (where an index value of 1 is defined as the most socially vulnerable). Of the 79 fatal or suspected serious injury crashes occurring in Franklin, five (5) occurred within areas of high social vulnerability and ten (10) occurred within areas of upper-half (medium-high and high) social vulnerability. The SVI results, along with an overlay of the HIN, are shown below in **Figure 17**.

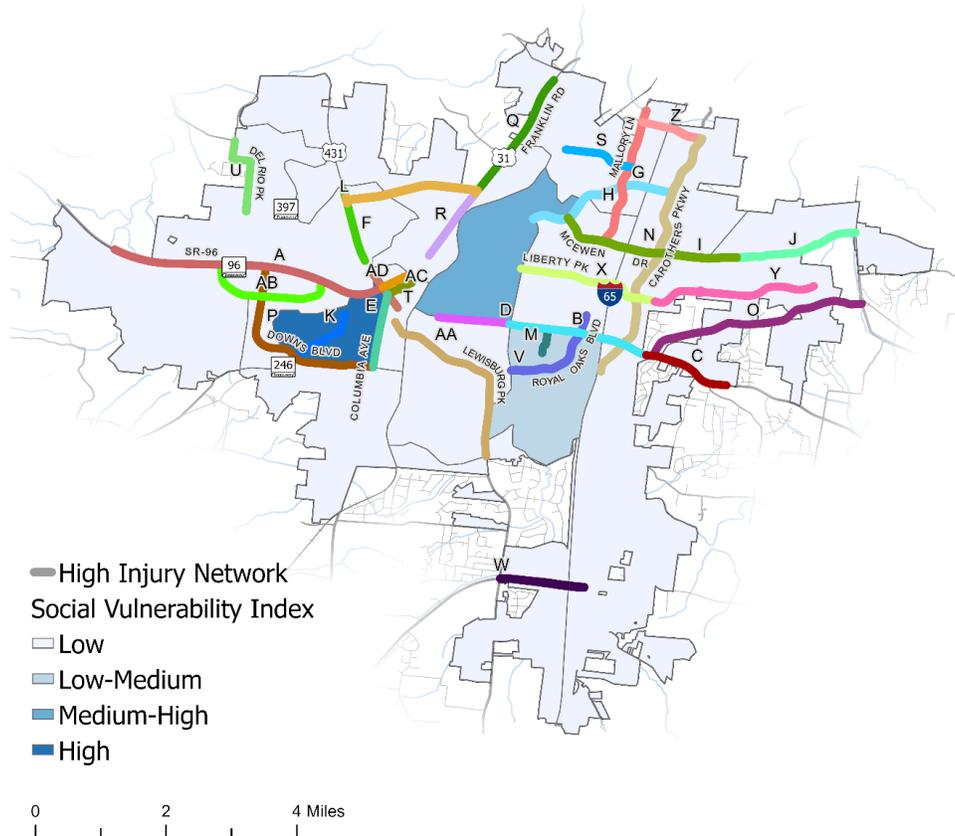


Figure 17: Social Vulnerability Index

⁴ CDC/ATSDR SVI, <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>

Local Score

To provide a more detailed context specific to the project area, additional demographic attributes were pulled between individual block groups. The additional demographic attributes include, but are not limited to:

- Low Income (American Community Survey)
- Percentage Population of Color (American Community Survey)
- Percentage Population Under 18 and Over 64 Years of Age (American Community Survey)
- Particulate Matter 2.5 (a measure of air quality (American Community Survey))
- Percentage of Households below Median Income Burdened by Housing Costs (Comprehensive Housing Affordability Strategy)
- Economic Opportunity (Opportunity Atlas)

The Local Score results, along with an overlay of the HIN, are shown below in **Figure 18**.

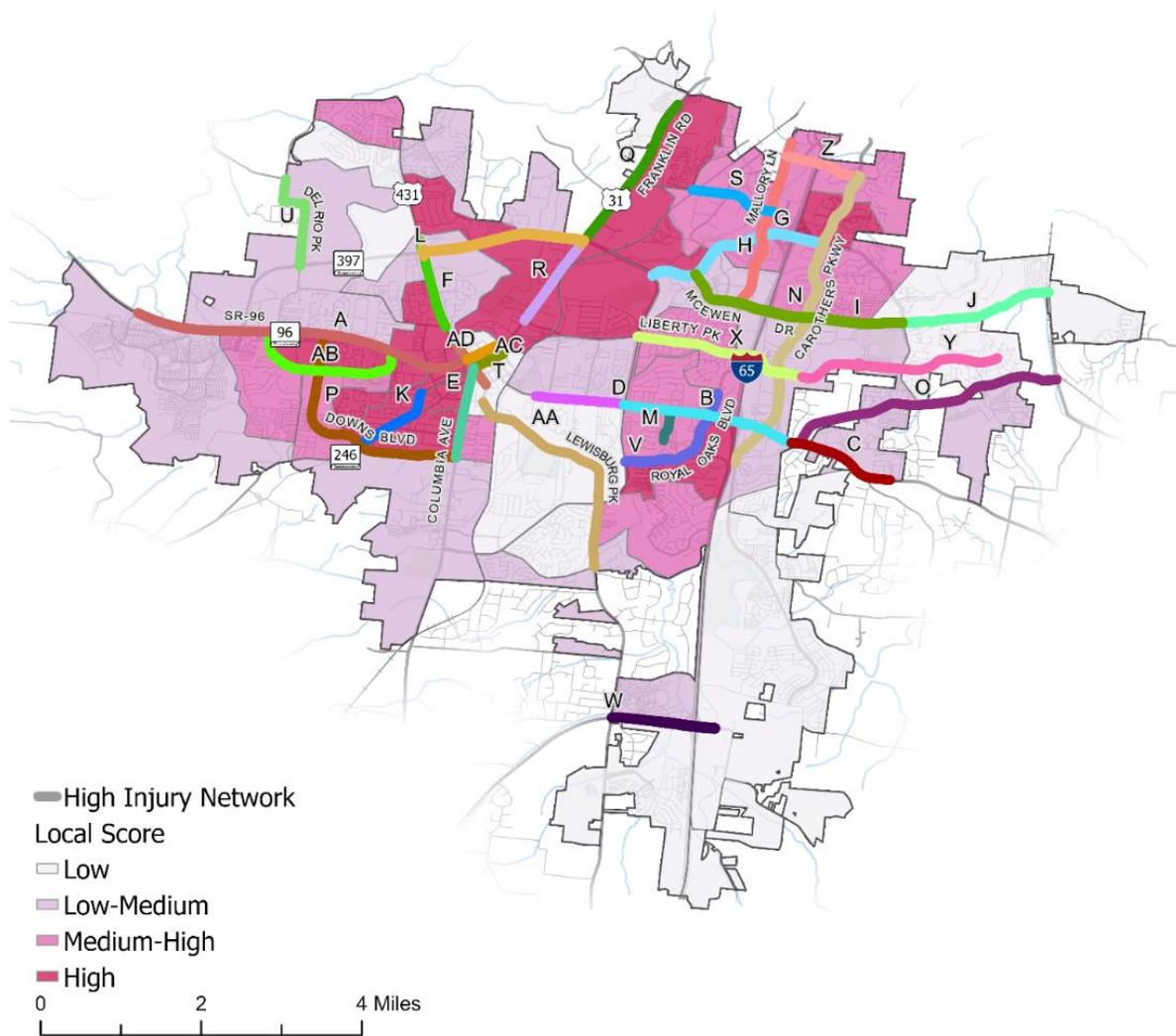


Figure 18: Local Score

Total Demographics Score

Overlaying the SVI census tracts and the *Local Score* block groups allowed for a more in-depth analysis of demographic characteristics, as shown below in **Figure 19**. The symbology present in **Figure 19** reflects a consistency from **Figure 17** and **Figure 18**, resulting in the SVI and *Local Score* symbology colors forming a matrix series. As shown in the **Figure 19** legend, areas exhibiting low scoring in both SVI and *Local Score* will display as lighter, while areas exhibiting high scoring in both SVI and *Local Score* will display as darker. As shown in **Figure 19**, the HIN corridors capture a large percentage of higher scoring areas. Demographics scoring for each individual HIN segment can be found in **Appendix B**.

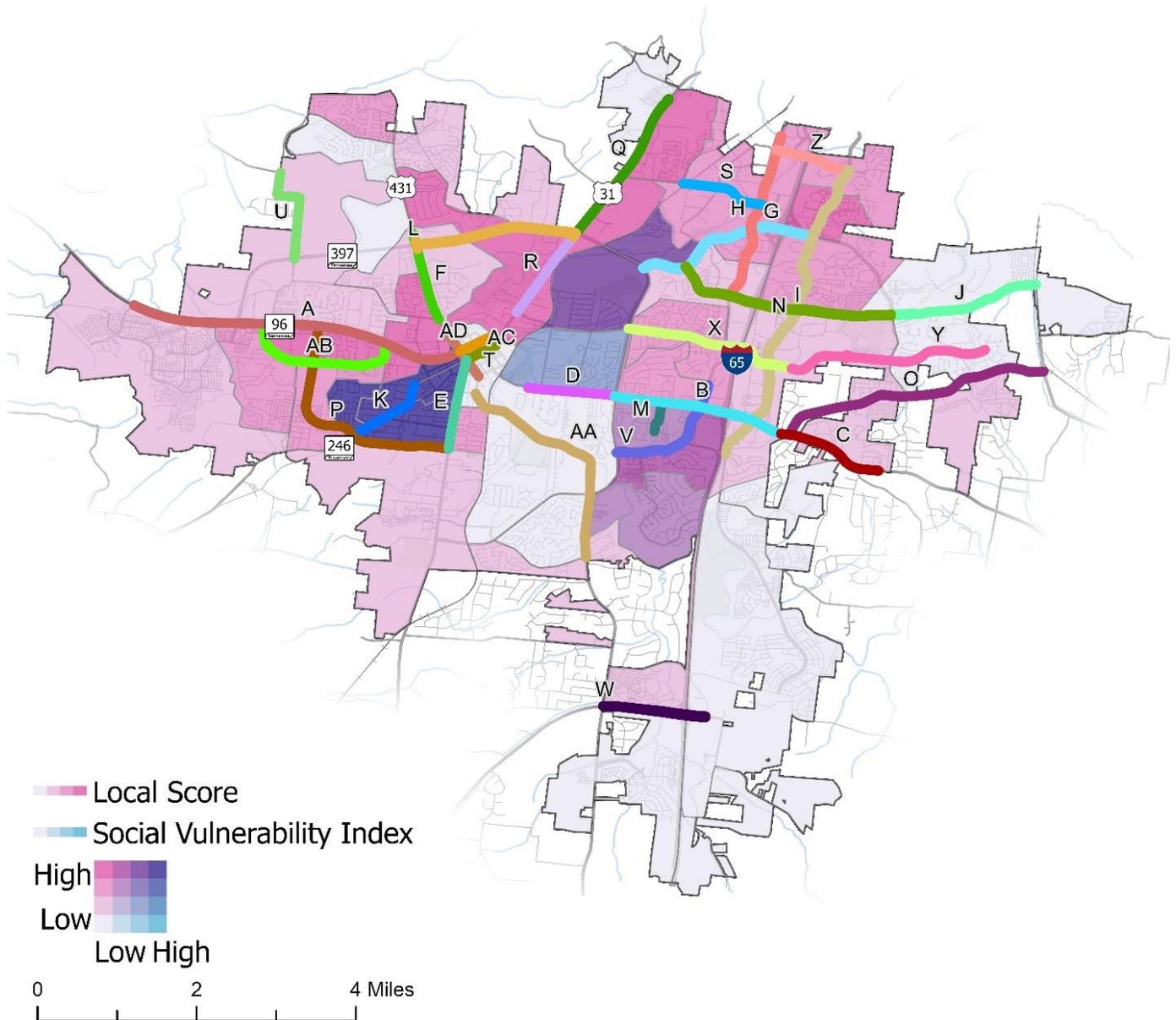


Figure 19: Total Demographics Score



Engagement and Collaboration



Engagement and Collaboration

Introduction

Public engagement and collaboration play a crucial role in collecting valuable insight into what community residents encounter daily while travelling routes in the study area, whether it is by car, bike, foot or bus. During the study, multiple opportunities for participation and input were offered to the community stakeholders. This included in-person events, targeted e-mail outreach, social media postings, and a dedicated project website to gather and record public input, as well as providing for the dissemination of information regarding the SAP.

Following the kick-off meeting in September 2024, the following engagement events took place:



Figure 20: Engagement and Collaboration Schedule

Formation of Steering Committee (Planning Structure)

To help guide the study, a Steering Committee made up of City engineering and planning staff, law enforcement representatives, communications team members, and public works staff was created. The role of the Steering Committee was two-fold. First, the steering committee was crucial in providing local, informed input regarding current conditions and opportunities for improvement in Franklin. Secondly, the members of the Steering Committee were to act as outreach conduits to the community. Multiple times during the data collection phase, the City and members of the Steering committee engaged the community through direct e-mail communications, social media blasts or direct communication to groups in the community and encouraged them to get involved and provide input. The work of this committee is in large part responsible for the success of the Public Outreach portion of this study.

Project Website

To facilitate the dissemination of crash-related information as well as to provide a portal for input and information gathering from community stakeholders, a project-specific website was created: <http://safestreetsfranklin.org>. Within the website, users could find information on what an SAP is, how it can benefit the community, and how they can participate by providing input. This site yielded 2,041 individual page views.

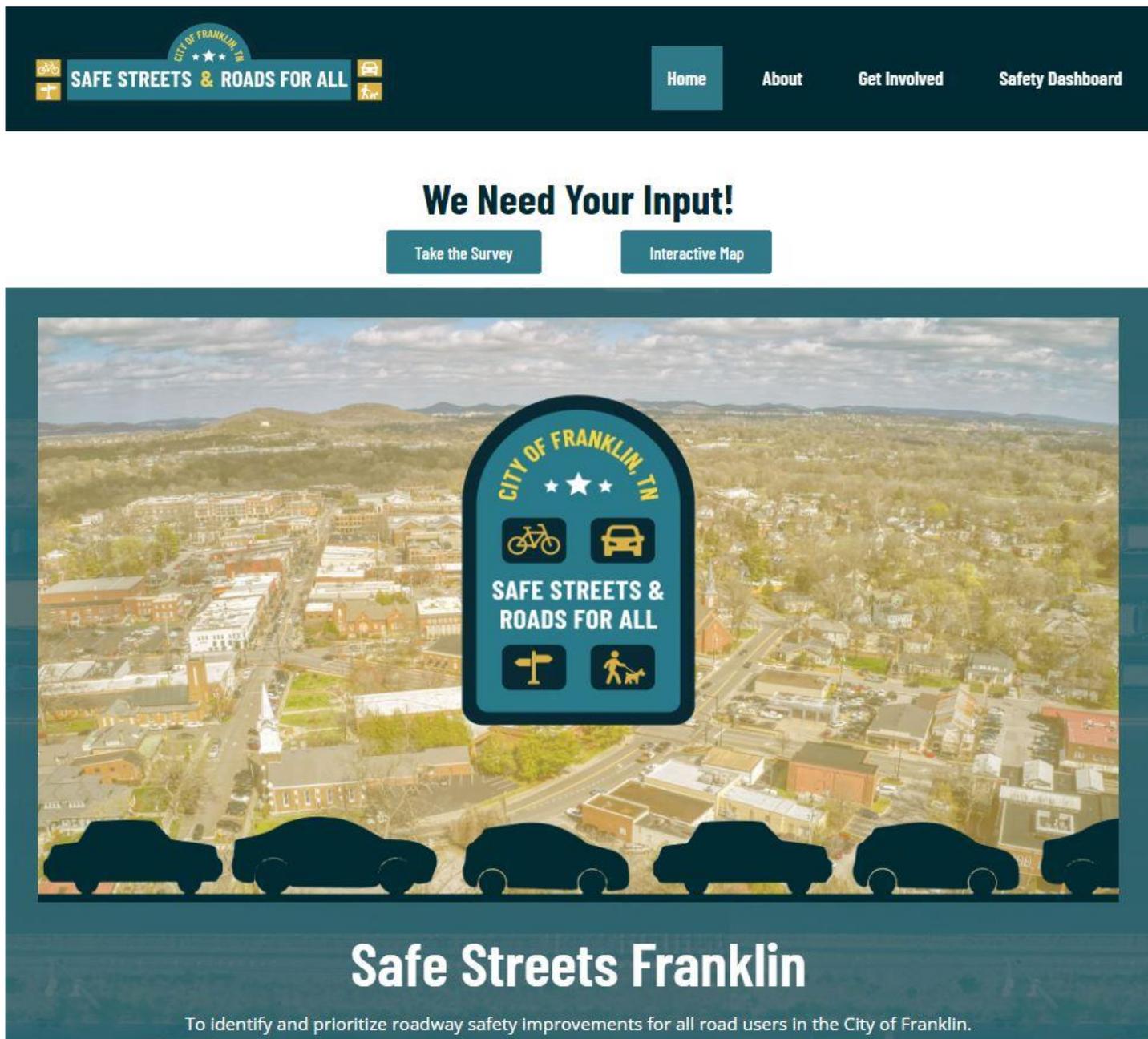


Figure 21: Franklin SS4A Website

Public Outreach Events

Starting in October 2024, a series of public outreach events were organized to inform the community about the SAP and collect feedback from various audiences. At these events, our team provided detailed information on the plan's objectives and implementation strategies. QR codes were made available, allowing attendees to easily access the plan's website and complete an online survey to share their feedback and suggestions. To ensure inclusive community engagement, written comment cards were also provided for those who preferred to give their input through this method.



Breakfast with the Mayors

In October 2024, the City of Franklin SS4A project was introduced by Mayor Ken Moore (City of Franklin) and Mayor Rogers Anderson (Williamson County) at the Breakfast with the Mayors event, located at the Rolling Hills Community Church. This was an impactful introduction for the SAP to the general public, as an estimated 350 people attended. Flyers were placed at all tables and seating locations, including a QR code that would take them to the Safe Streets Franklin website (<http://safestreetsfranklin.org>).



Franklin Family Day

In November 2024, a project information booth was set up at the Franklin Family Day to educate residents about the newly introduced SAP, designed to improve community safety. The booth provided comprehensive details about the plan's goals and how it would be implemented. To encourage active participation from all community members, QR codes were distributed, enabling attendees to conveniently visit the project's website and fill out an online survey to offer their insights and recommendations.



FrankTalks

FrankTalks is a monthly community conversation series that provides an opportunity for City of Franklin residents to learn, engage, and discuss topics that help shape the community. In November 2024, residents were introduced to the new SAP at the monthly FrankTalks lecture. Later, in February 2025, residents were updated on the progress of the SAP. Detailed information on the plan's objectives and implementation strategies was provided. To ensure inclusive community engagement, QR codes were made available, allowing attendees to easily access the plan's website and complete an online survey to share their feedback and suggestions.



Stakeholders Group

In February 2025, a stakeholder group was created, primarily made up of local and club representatives such as members from Bike/Walk Franklin, the TMA Group (Franklin Transit operator), and Franklin Tomorrow. Their involvement ensured that the SAP was comprehensive and reflective of the community's needs and priorities. Stakeholders participated in various engagement activities, such as surveys, community events, and listening sessions, providing valuable insights and feedback that shaped the plan's strategies and recommendations. This inclusive approach not only enhanced the plan's relevance and effectiveness but also built a sense of ownership and commitment to achieving the goal of zero traffic deaths and serious injuries in Franklin.



Online Engagement

Dispersion of the online survey and interactive map were achieved through a combination of tools as outlined in this section, each intended to drive traffic to and through the project website for ease of data collection and dissemination of project information.

Online Survey

In addition to providing a broad range of safety information, the website hosted two key participation avenues. The first was an online survey that focused on user demographics and concerns. A total of 773 participants completed the online survey, providing input and background data, ranging from travel-related characteristics and demographic information to specific safety concerns. Embedded within the survey were open-ended questions that served to measure participant sentiment, which resulted in a broad range of inputs as shown below in **Figure 22** and **Figure 23**.



Figure 22: Online Survey Input by Improvement Category



Figure 23: Online Survey Improvement-Related Public Comments

Improved and increased multimodal infrastructure was mentioned frequently along with desires for improved roadway visibility and signage. Additionally, people were concerned about impaired, reckless, and/or distracted driving. The data gathered from the online survey as well as individual comments provided were shared with the Steering Committee as part of their review and ranking of projects during their second committee meeting.

Interactive Map

The second avenue for input via the website was an interactive map that allowed users to identify concerns related to vehicle, pedestrian, and bike safety as well as general concerns. This map allowed the users to drop ‘pins’ at specific locations where they had or have experienced safety related concerns.

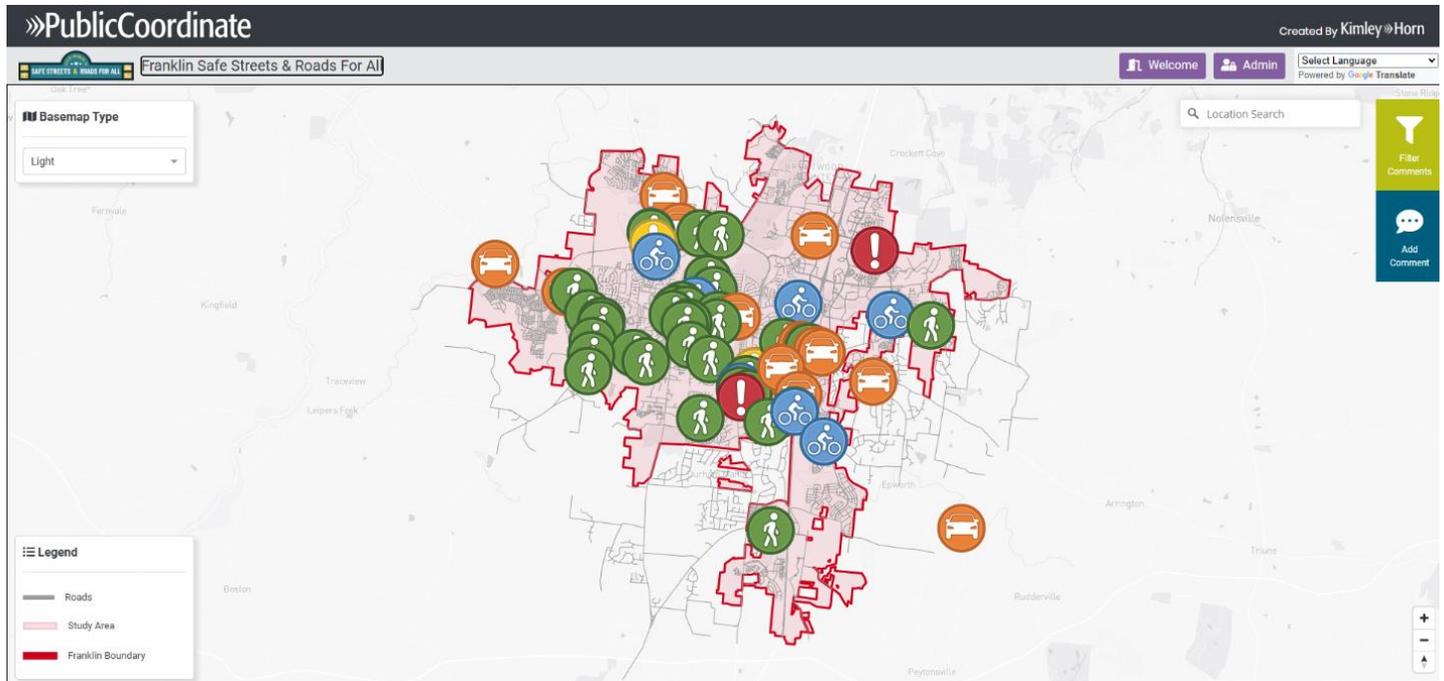


Figure 24: Results from Interactive Map

This map provided 10 separate comment types or replies to comments in the categories of pedestrian, near crash, mobility, driver, and bicyclist. Individual comments were analyzed and placed in descriptive categories for review by the Steering Committee as part of their considerations in project ranking.



Figure 25: Interactive Map Input by Improvement Category



Figure 26: Interactive Map Improvement-Related Public Comments

Public Outreach and Engagement Summary

Throughout the course of this study, thousands of community members were reached across a variety of events and platforms as described above. This resulted in a robust response with 1,414 page views being logged on the project website. Additional engagement metrics are shown below.

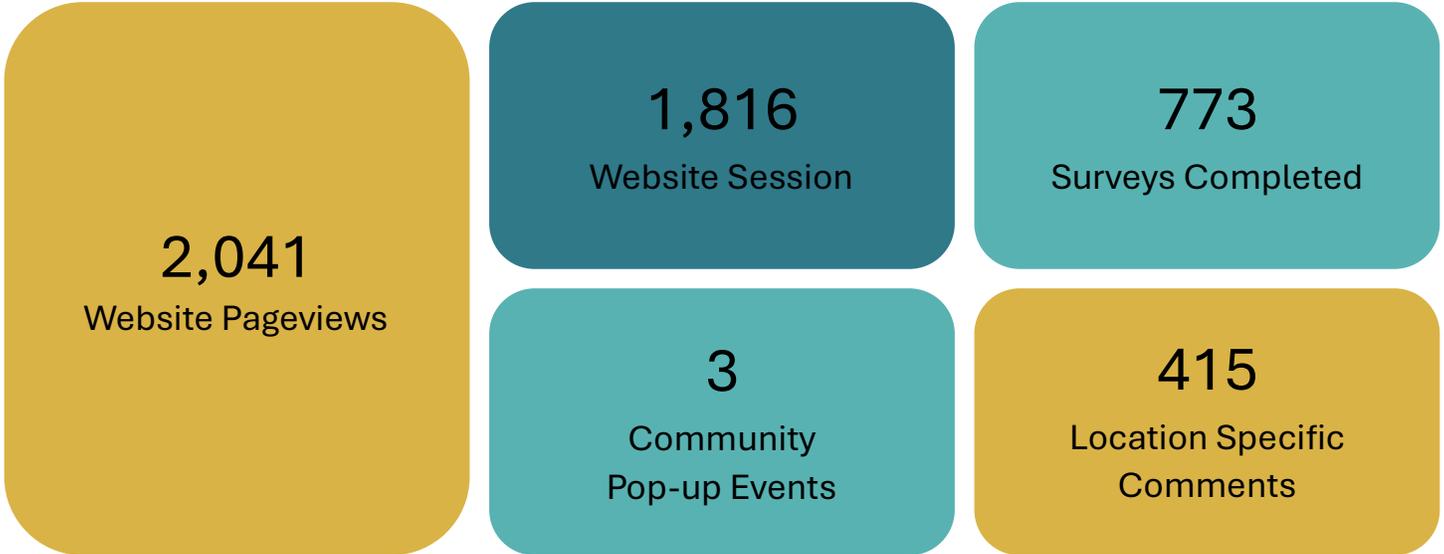
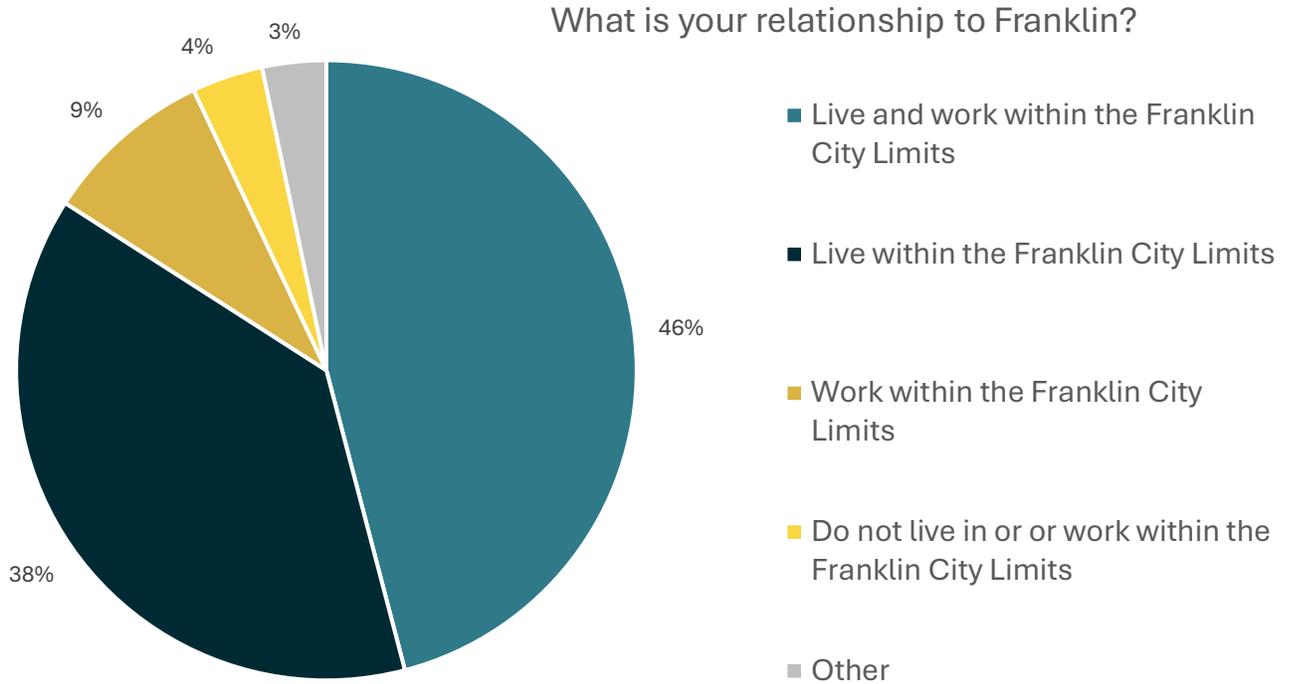


Figure 27: Engagement and Collaboration Summary

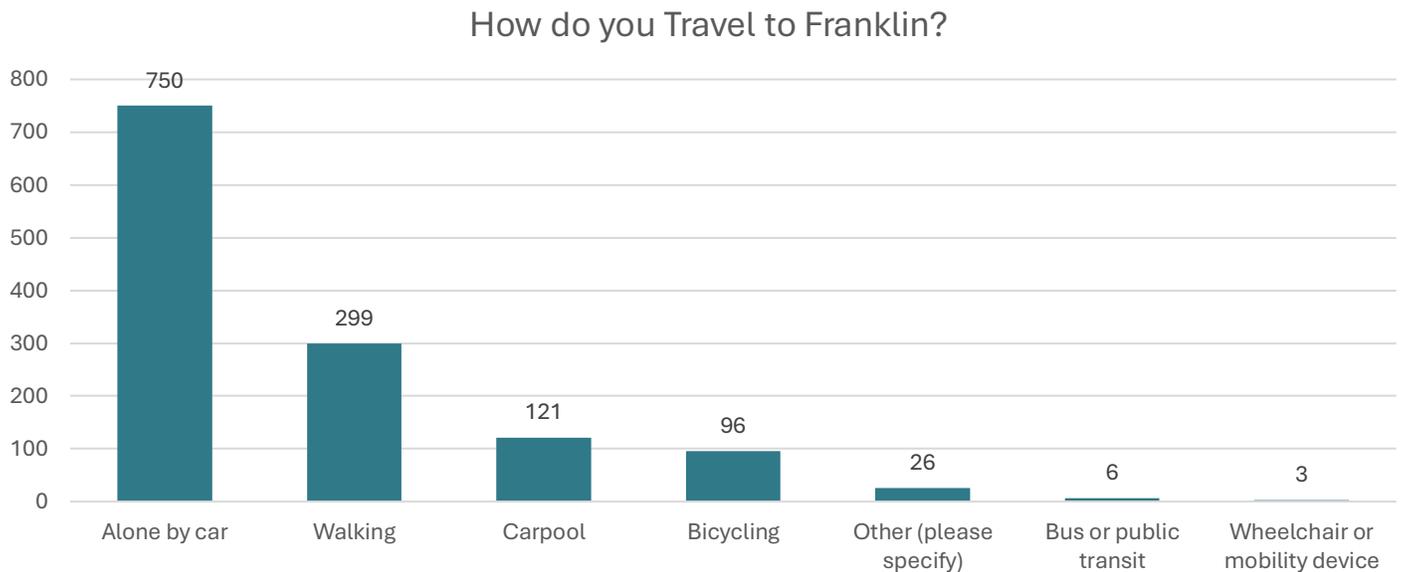
A “website pageview” refers to a single instance of a user loading the Franklin SAP website, whereas a “website session” refers to the instance of a user loading and remaining on the website.

The online survey was designed to gather feedback from people in Franklin about safety issues or concerns they may have. The survey asked a series of questions to understand trends, concerns, and improvements that the public would like to see. The first few questions were about the respondents' relationship to the area and how they usually get around. Then, the survey asked about specific improvements for driving, walking/biking, and intersections. Finally, there were optional questions about the respondents' demographics to help ensure that survey respondents generally reflect the demographics of the City as a whole. The goal of the survey was to gather a wide range of perspectives and suggestions to help improve safety in Franklin.

At the beginning of the survey, members were asked what their relationship to Franklin was and whether they live or work in the area. Roughly 93 percent of respondents live or work within the Franklin city limits, further validating that their experiences are focused on areas within the City.

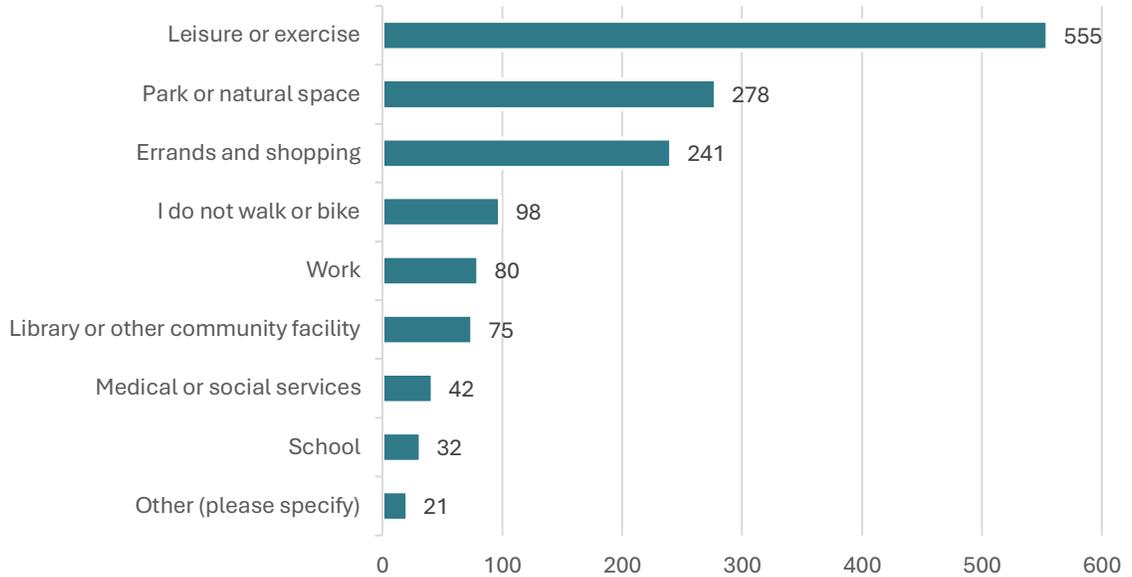


Respondents were asked to provide information on how they travel to Franklin. Since respondents were allowed to select all modes of travel that apply to them, the following results may reflect multiple mode choices by the same individuals, as many people utilize different modes for different occasions. It is inferred that while a large majority of the population travels by car, respondents have a healthy selection of travel choices. Travelling alone by car (750 responses) was the most popular response, followed by walking (299 responses), carpool (121 responses), and bicycling (96 responses).



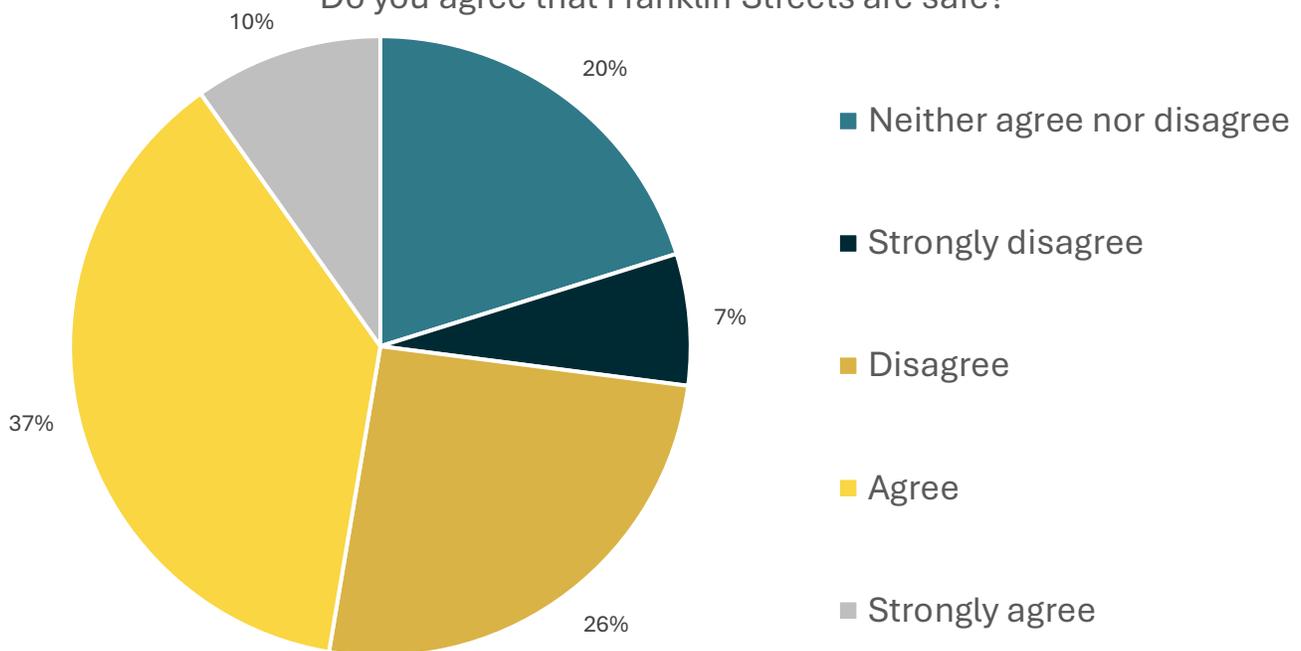
For people that walk or bike in Franklin, they were asked to select what destination they are going to. The top two responses were that they either walk or bike for leisure or exercise (555 responses), to get to a park or nature space (278 responses), or to run errands or shop (241 responses).

Destinations for Pedestrians and Bicyclists



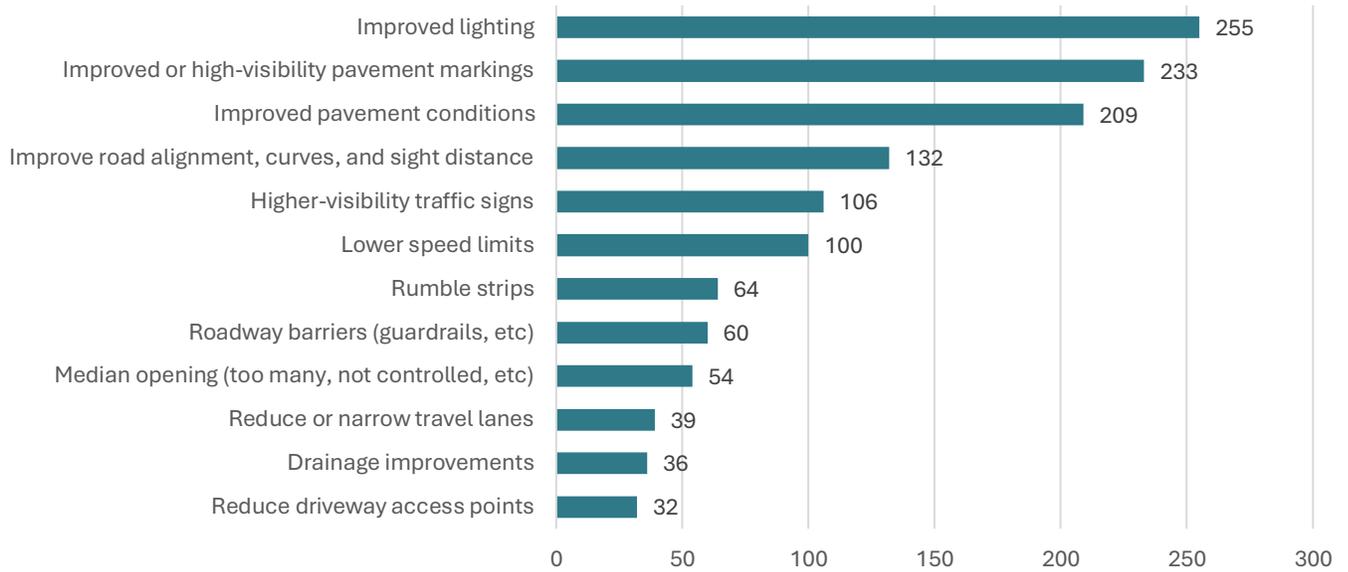
Respondents were also asked how strongly they agree that Franklin streets are safe. About 47 percent of respondents felt that Franklin streets were safe. Around 33 percent of respondents disagree however, indicating that they feel unsafe on the streets in Franklin.

Do you agree that Franklin Streets are safe?



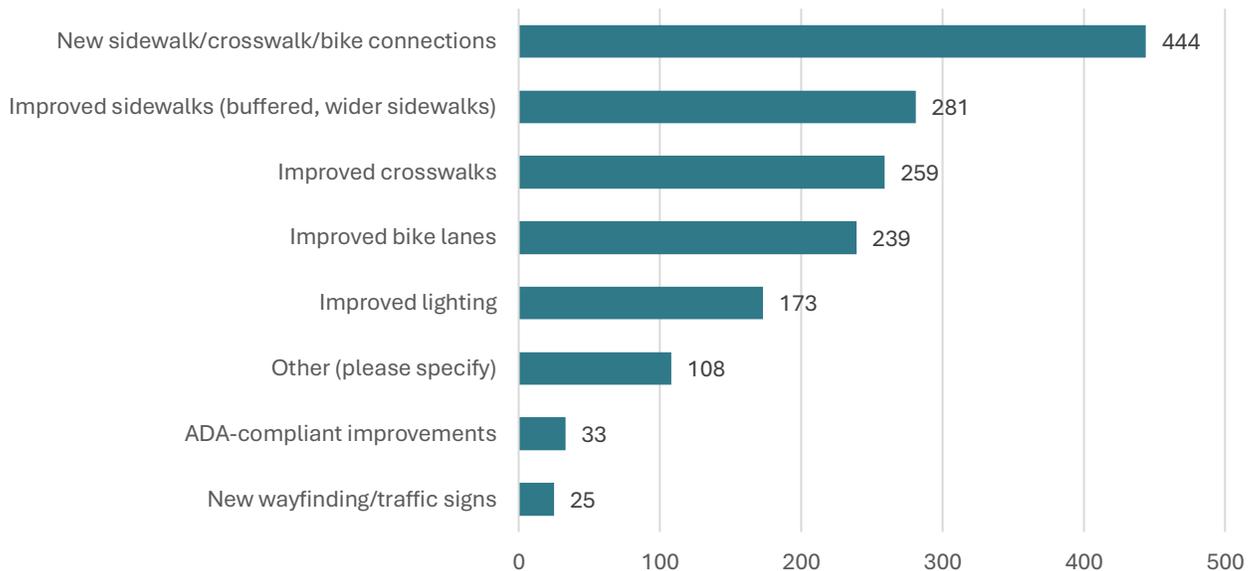
Respondents were asked to select up to three improvements that would make driving in Franklin feel safer. The top three responses were improved lighting (255 responses), improved or high-visibility pavement markings (233 responses), and improved pavement conditions (209 responses).

Improvements to make driving safer



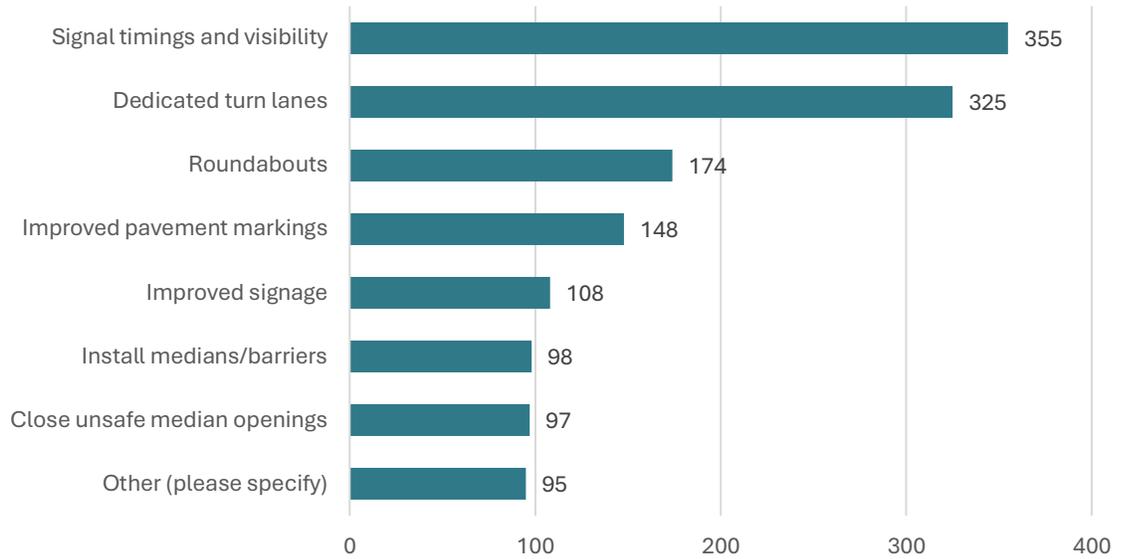
Respondents selected up to three improvements that may make walking/biking feel safer in Franklin. The top four were new sidewalk/crosswalk/bike connections (444 responses), improved sidewalks (281 responses), improved crosswalks (259 responses), and improved bike lanes (239 responses).

Improvements to make walking/biking in Franklin feel safer?



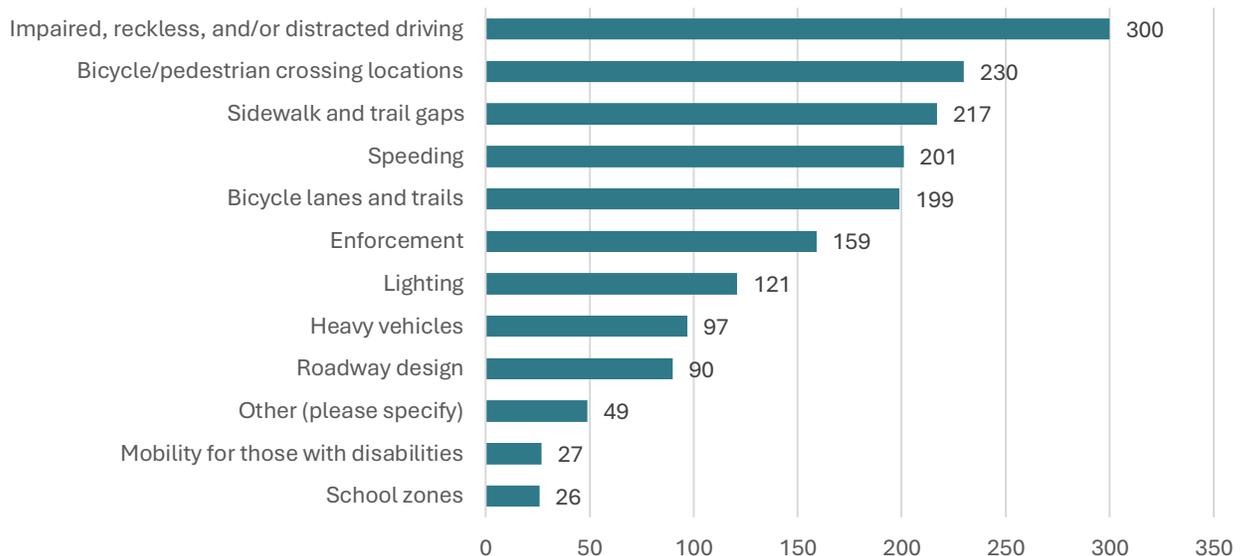
Respondents then selected up to three improvements that would make intersections feel safer. Signal timings and visibility improvements (355 responses) received the highest count followed by dedicated turn lanes (325 responses) and roundabouts (174 responses).

Improvements to make intersections feel safer



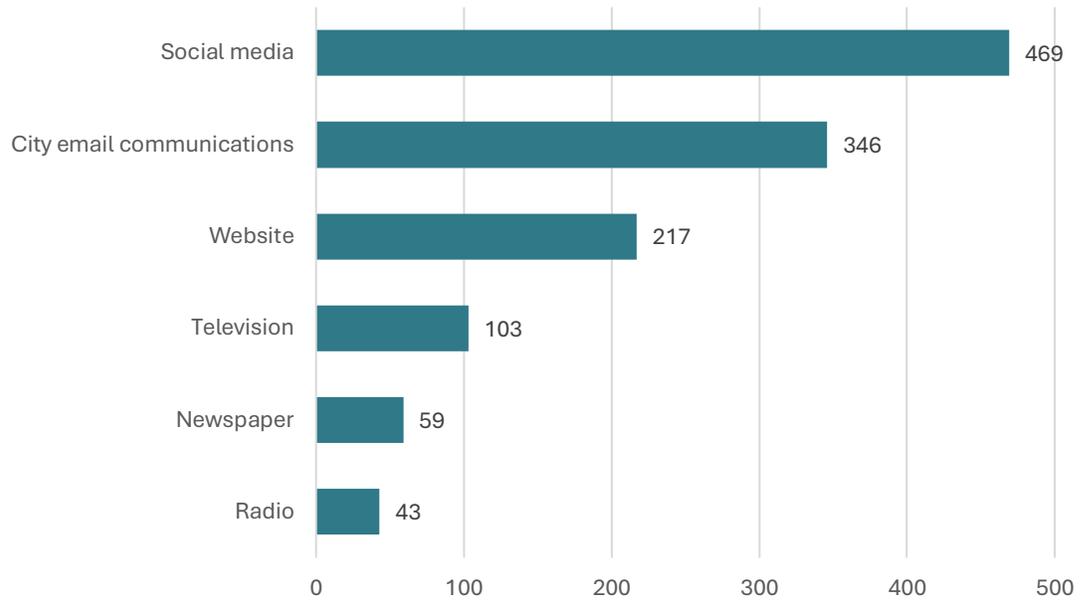
Respondents were then given the opportunity to select up to three safety issues that are most important to them. The most selected issue was impaired, reckless, and/or distracted driving (300 responses), then bicycle/pedestrian crossing locations (230 responses), and sidewalk and trail gaps (217 responses), which indicate a desire for enforcement and pedestrian improvements.

Most Important Roadway Safety Issues



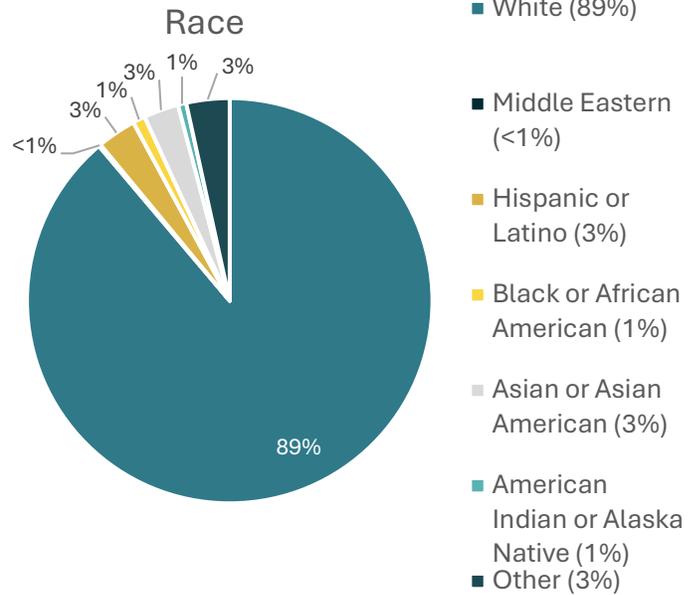
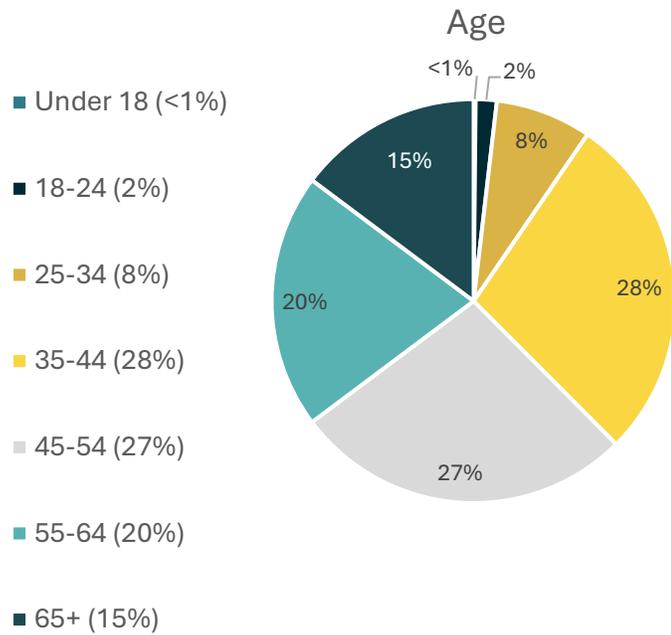
The next question asked the preferred way people want to learn about safe roadway practices. The most common response was social media (469 responses). The second and third highest were City email communications (346 responses) and by website (217 responses), both of which were significant, indicating that a broad communication approach would best serve the City.

How would you prefer to learn about safe roadway practices?

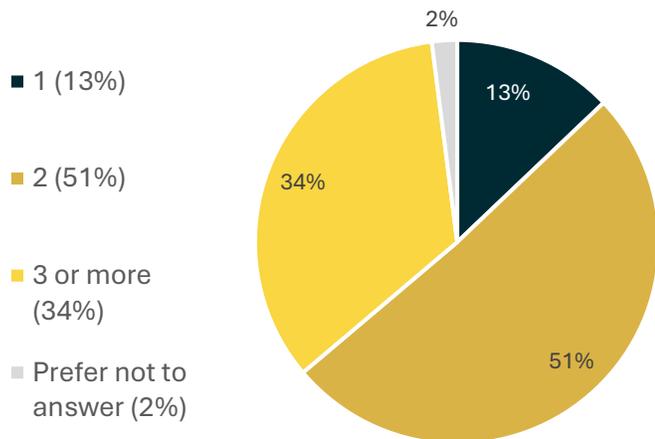


Key Demographics

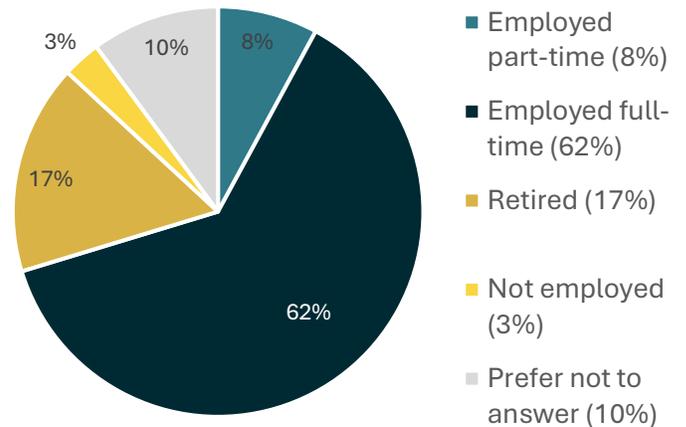
The survey concluded with demographic questions that respondents could choose to answer. Responses were representative of the community makeup.



Number of Vehicles in Household



Employment Status





Summary of Survey Results

The survey results reveal that a significant number of respondents reside and work within Franklin city Limits, primarily relying on driving alone for their transportation needs. Respondents reported mostly biking or walking for leisure purposes, while others indicated they walked or biked to run errands and shop or to go to parks and natural spaces. Though many participants felt that Franklin streets are safe, over a quarter felt they were unsafe. There was strong support for various improvements, including improved lighting, improved or high-visibility pavement markings, improved pavement conditions, improved sidewalks/crosswalks/bike connections, and improved crosswalks. The survey also highlighted that the most prominent roadway issue in Franklin is impaired, reckless, and distracted driving. Concerns were also expressed about bicycle/pedestrian crossing locations and sidewalk and trail gaps.

Public Input Heat Map

Combining the input provided in the interactive map with the location-specific comments from the survey produced the heat map that is shown below. As illustrated in the map, there is some correlation between the HIN presented earlier in the report and the areas receiving the most public comments for safety concerns. The downtown area received many public comments, highlighting the need for improvements throughout the most heavily walked area in the city. The map below shows the concentration of public input comments within the City.

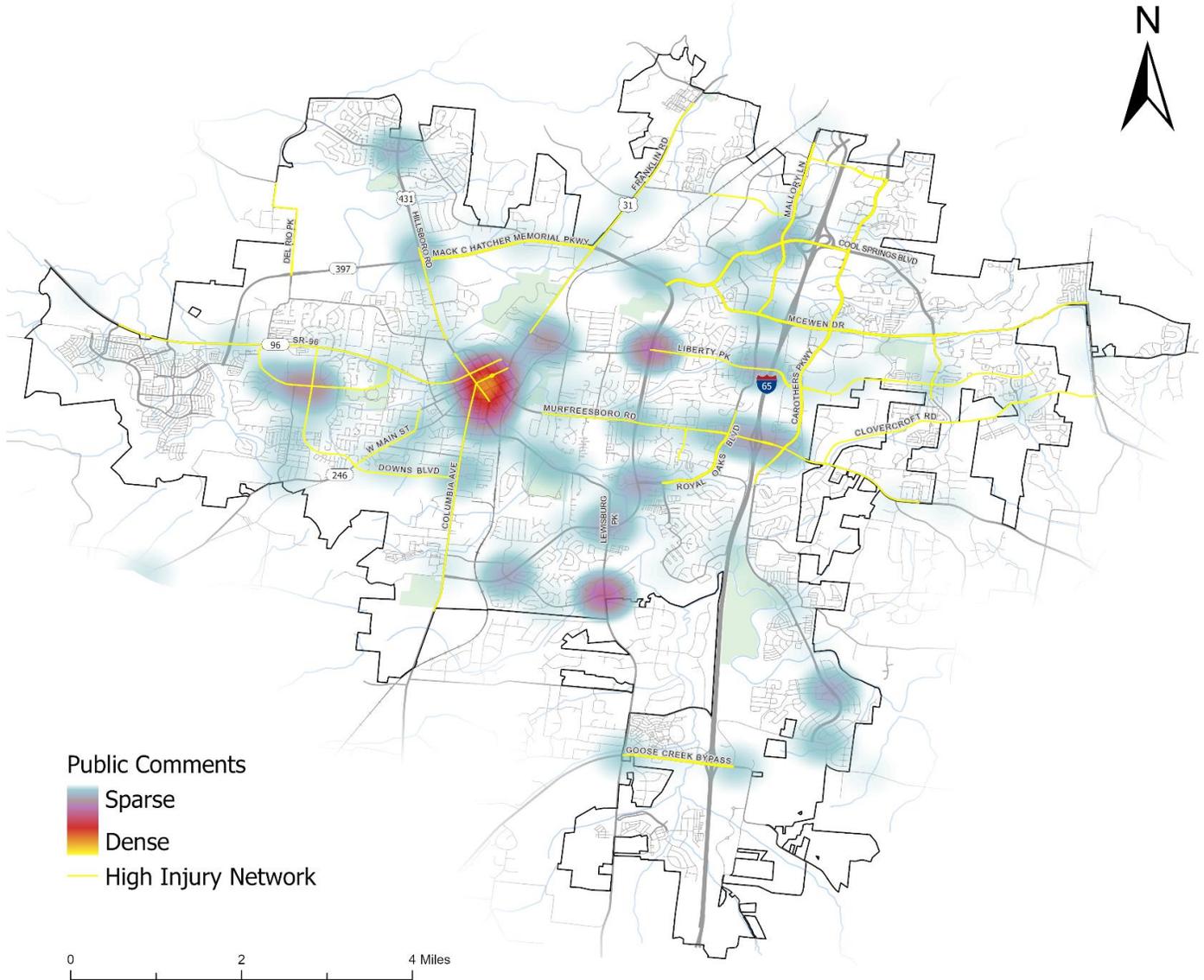


Figure 28: Concentration of Location-Specific Public Comments

Key Takeaways

Based on the comments placed on the interactive map, most of the comments are pedestrian- or driver-related concerns. Many comments call for multimodal infrastructure, such as bicycle/pedestrian crossings, along with improved roadway conditions. Furthermore, there were several comments regarding congestion in the area and the lack of pavement markings/signage.



Countermeasures and Strategies



Countermeasures and Strategies

This SAP identifies countermeasures and strategies to address the Franklin fatal and serious injury emphasis areas mentioned in the **Safety Analysis** section. The countermeasures align with the Four Es of traffic safety (Engineering, Education, Enforcement, and Emergency Medical Services) and are classified into two categories: (1) Engineering countermeasures (project recommendations) and (2) driver-related strategies (in the realms of Education, Enforcement, and Emergency Medical Services).

Engineering Countermeasures

Engineering countermeasures in an SAP refer to physical changes to the transportation infrastructure. These measures can include:

- Traffic signal upgrades: Installing or modifying traffic signals to improve safety.
- Roadway design changes: Modifying road layouts such as installing roundabouts, medians, or bike lanes.
- Pedestrian and cyclist infrastructure: Installing or Improving crosswalks, sidewalks, and bike paths.
- Speed management: Implementing measures such as road diets, bulb-outs, chicanes, or reduced lane widths.
- Visibility improvements: Installing or improving street lighting, adding retroreflective signs, and improving roadway striping.

The countermeasures used in this study were selected based on data analysis and safety studies to address specific risks and improve overall road safety

Crash Modification Factors (CMF)

Because funding for infrastructure improvements is limited, Franklin can benefit from quantifying and comparing the potential benefit of safety countermeasures and treatments. Crash Modification Factors (CMF) can be used to assess the potential safety impact of improvements. A CMF is a numerical value that indicates the proportion of crashes that would be expected at a location after implementing a safety countermeasure. A CMF with a value of less than 1.0 indicates an expected decrease in crashes. Conversely, a CMF with a value greater than 1.0 indicates an expected increase in crashes. The FHWA maintains the CMF Clearinghouse, an online repository of CMFs documented in the Highway Safety Manual (HSM) and other industry resources. The following provides guidance to be considered when selecting and applying CMFs:

- Use a minimum of three years of crash data for urban and suburban sites and five years of crash data for rural sites.
- CMFs should be selected from Part D of the HSM or FHWA's CMF Clearinghouse website (<https://www.cmfclearinghouse.org/>).
- If possible, use CMFs with star ratings of four or five. The star rating indicates the quality or confidence in the results of the study producing the CMF.

CMFs are multiplicative, meaning the individual CMFs must be multiplied to estimate the overall expected crash reduction. However, the application of multiple CMFs can overestimate the expected crash reduction. Typically, three (3) or less independent CMFs are used at a particular site.

Engineering Countermeasures Toolkit

A toolkit of engineering countermeasures was compiled based on general applicability in the Franklin study area, their level of evidence in crash reduction, and stakeholder and public feedback obtained during engagement (see the **Engagement and Collaboration** section). **Table 6** provides a summary of these countermeasures, an opinion level of cost, their crash modification factor (where available), and scheduled time to complete.

Table 6: City of Franklin Toolkit

Source	Countermeasure	Cost	CMF Range	Schedule
  	Design and Construct Access Management	\$\$\$\$	0.00 - 1.00	Long-Term
 	Install Positive Offset Left-Turn Lanes	\$\$	0.62 - 0.68	Short-Term
 	Install Raised Pavement Markers	\$\$	0.67 - 0.94	Short-Term
 	Install Retroreflective Borders on Existing Backplates	\$\$	0.85	Mid-Term
 	Upgrade to Retroreflective Striping and Signage	\$\$	0.65 - .82	Short-Term
	Install Flashing Yellow Arrows (FYAs)	\$\$	0.7 - 1.34	Mid-Term
 	Evaluate Median Openings for Closure/Minimizing	\$\$\$	0.76 - 1.13	Long-Term
 	Install Advance Curve Warning Signage	\$	0.71 - 0.89	Short-Term
 	Wider Edge Lines	\$	0.64 - 0.88	Short-Term
  	Improve Lighting	\$\$	0.62 - 0.89	Mid-Term
  	Replace Two-Way Left-Turn Lane (TWLTL) with Median (Install Left-Turn Lanes as Necessary)	\$\$\$\$	0.53 - 0.81	Long-Term
 	Convert Full-Access Approaches to Right-In Right-Out (RIRO) Movement Control	\$	0.20 - 0.55	Short-Term
	Install Transverse Pavement Markings	\$\$	0.36 - 0.51	Mid-Term
 	Install Combination Center/Edge Rumble Strips	\$\$	0.78 - 0.90	Mid-Term
 	Implement Automated Pedestrian Detection (APD)	\$\$	0.81	Mid-Term
  	Widen Shoulder (2'-6')	\$\$\$	0.91 - 0.95	Long-Term
  	Install Mid-Block Pedestrian Crossings (RRFBs)	\$\$	0.27 - 1.18	Mid-Term

	FHWA Proven Safety Countermeasure
	Crash Modification Factors Countermeasure
	Vulnerable Road User Related Countermeasure

Driver-Related Strategies

As described and presented in the **Safety Analysis** section, the data shows the City of Franklin experienced higher percentages of severe crashes involving Aggressive Drivers/Speeding, Unrestrained Occupants, and Older Drivers (65+) than the State of TN average. The following includes specific strategies to reduce crashes in these emphasis areas. These strategies incorporate the remaining three Es of traffic safety: Education, Enforcement, and Emergency Medical Services.

Aggressive Drivers/Speeding

Aggressive Drivers refer to individuals who engage in unsafe driving behaviors with deliberate disregard for safety. These behaviors can include speeding, tailgating, weaving in and out of traffic, running red lights, and other actions that endanger other road users. The data shows that 28 percent (22 crashes) of all fatal and serious injury crashes between 2019 and 2023 in the City of Franklin involved aggressive drivers and/or speeding. This is 16 percent higher than the TN State average of 12 percent. The following are recommended strategies that should be implemented to reduce fatal and serious injury crashes involving aggressive drivers and or speeding:

Table 7: Aggressive Drivers/Speeding Countermeasures

Countermeasure	Strategy
Enforcement at High-Frequency Areas	Develop and implement enforcement program aimed at aggressive driving in high frequency areas.
Continue to Invest in the City-wide Traffic Calming Program	Develop an initiative designed to implement various measures across the City to reduce vehicle speeds, involving physical changes to the roadway environment, such as roundabouts, curb extensions, and improved pedestrian crossings, to alter driver behavior and create safer conditions for all road users.
Aggressive Driving/Speeding Campaigns	Conduct a city-wide campaign highlighting the local consequences of aggressive drivers or speeding, using testimonials, local crash statistics, or interactive digital media.
Explore New Technologies	Explore implementing Automated Speed Enforcement (ASE) cameras in high-risk or repeated speeding zones, emphasizing their role in reducing aggressive driving or speed-related incidents.

Unrestrained Occupants

Unrestrained Occupants refer to individuals in a vehicle who are not using seat belts or other safety restraints at the time of a crash. This term typically includes drivers and passengers who are not wearing seat belts, as well as children who are not properly secured in car seats or booster seats. As shown earlier in the Safety Analysis Section, 25.3 percent (20 crashes) of all fatal and serious injury crashes between 2019 and 2023 in the City of Franklin involved unrestrained occupants as a contributing factor. This is 6.3 percent higher than the TN State Average of 19 percent.

In Tennessee, the Child Passenger Restraint Law requires that:

- Children under 1 year old or weighing 20 pounds or less must be secured in a rear-facing child passenger restraint system in the rear seat, if available.
- Children aged 1 to 3 years and weighing more than 20 pounds must be secured in a forward-facing child passenger restraint system in the rear seat, if available.
- Children aged 4 to 8 years and measuring less than 4 feet 9 inches must be secured in a belt positioning booster seat system in the rear seat, if available.
- Children aged 9 to 12 years or any child through 12 years of age measuring 4 feet 9 inches or more must be secured in a seat belt system.
- Children aged 13 to 15 years must be secured using a passenger restraint system, including safety belts.

The law also provides for the use of medically prescribed modified child restraints for children who cannot be safely transported in conventional systems.

The following are recommended strategies that should be implemented to reduce fatal and serious injury crashes with unrestrained occupants:

Table 8: Unrestrained Occupants Countermeasures

Countermeasure	Strategy
Conduct High-Visibility Enforcement	Continue to collaborate with Franklin’s police department to conduct high-visibility enforcement in targeted areas for occupant protection compliance.
Seatbelt Campaigns & Demonstrations at Schools	Collaborate with Franklin Special School District and Williamson County School System to promote & demonstrate proper occupant safety compliance.
Conduct Social Media Campaigns	Promote high-risk driver-education programs and defensive driving programs targeting drivers aged 15-21 focusing on seatbelt usage such as Buckle Up in your Truck Campaign and Click-it-or-Ticket
Enforce the Child Passenger Restraint Law	Participate in conference and training programs for law enforcement officers to be aware of and implement the Child Passenger Restraint Law.
Community-Based Engagement	Conduct outreach programs at community centers or events to educate families about occupant safety, especially targeting communities with historically lower restraint use rates.

Older Drivers (65+)

Older Drivers refers to drivers aged 65 and older. This group is often given special consideration due to age-related changes in vision, physical fitness, and cognitive abilities, which can affect driving performance and increase crash risk. As shown earlier in the Safety Analysis Section, 27 percent (21 crashes) of all fatal and serious injury crashes between 2019 and 2023 in the City of Franklin involved older drivers. This is 7 percent higher than the TN State Average of 20 percent. The following are recommended strategies that should be implemented to reduce fatal and serious injury crashes involving older drivers:

Table 9: Older Drivers (65+) Countermeasures

Countermeasures	Strategy
Educational Programs	Support education programs for older drivers including Yellow Dot, AAA Driver Improvement Program, and Car Fit check events.
Encourage Alternative Transportation Options	Encourage efforts to link older drivers (65+) to the Franklin Transit Authority, and other ride-share options and increase awareness of public and private transportation alternatives to driving.
License Renewal Process	Support the pursuit of legislation to require in-person driver license renewal and vision testing for older drivers every five years starting at age 75.
Engage with Senior Centers/Communities	Collaborate with senior centers, retirement communities, and medical providers to increase the reach and adoption of alternative transportation methods. Assess the feasibility of expanding transit and rideshare
Expand the Transit/Rideshare Network	Assess the feasibility of expanding transit and rideshare networks to reach a higher population of older or non-licensed drivers.
Enhanced Roadway Signage	Consider improved roadway signage with larger fonts, enhanced reflectivity, and simplified information to support older drivers (65+) comprehension and reaction times.



Policy Process and Change



Policy and Process Changes

Documents Reviewed

Existing City of Franklin plans and policies were reviewed as part of the SAP process to gain perspective on the existing efforts for transportation and safety-related goals, policies, and actions. Key findings within these plans and policies were identified to inform the SAP. This section also includes summarized recommendations for plan and policy changes aimed at enhancing transportation safety. **Table 10**, shown below, summarizes the key findings within the existing documents.

Table 10. Existing Plans Summary

Document Name	Summary of Document & How Safety is Currently Addressed
Neighborhood Traffic Calming Program, Franklin, Tennessee	<ul style="list-style-type: none"> • The Neighborhood Traffic Calming Program was created to provide an appropriate and consistent treatment for traffic calming requests from a citizen group of HOA. • The policy applies to local streets. The program outlines the steps in the traffic calming request process. • City Engineer may allow Traffic Calming Devices on Minor Collector roads, if appropriate. • Exceptions apply to local streets, if they serve a traffic generating area (park, school, large venue or business). • In order to be eligible, a study must find that: ADT is between 150-2,000 vehicles per 24 hours, and 85th percentile speed is at least 4 mph faster than the posted speed limit.
Greenway Master Plan Map	<ul style="list-style-type: none"> • The Greenway Master Plan map displays the Franklin Greenway Network along with surrounding elements, including parks and recreation, historic places, access points, and proposed components. • Master Plan is a guide for incorporation of new and existing pedestrian facilities as vacant property is developed and current plans are implemented. • Determines appropriate placement, alignment and design for new trails, bike routes, greenways and open space based on new development requests and funding availability • Identifies a comprehensive list of considerations for trail, green way & bicycle route implementation. • City of Franklin has a goal to become one of the top 25 sustainable cities in the country.
Standard Drawings	<ul style="list-style-type: none"> • The Standard Drawings contain detailed diagrams for roadway components and structures, including pavement sections, trench repairs, safety features, drainage systems, parking and signage. • No detailed standard drawings for bicycle lanes or crossings.
City of Franklin – ADA Self-Evaluation & Transition Plan	<ul style="list-style-type: none"> • The City of Franklin reviewed its transportation infrastructure for ADA compliance to ensure accessibility. • The City evaluated 350 miles of sidewalks, 1,829 curb ramps, 117 traffic signals, 100 bus stops, structures, trails and parking lots for ADA standards.

<p>Traffic Impact Analysis (TIA) Requirements, 2021</p>	<ul style="list-style-type: none"> • TIA shall provide any recommendations to improve the safety and efficiency for the pedestrian, bike, and transit facilities • Safety analysis - crash history, hot spots, recommendations and mitigation measures • Development shall not add trips to a high-risk area unless mitigation measures are proposed to mitigate the safety issue • Under certain conditions, an internal circulation analysis shall be done and look at safety elements (i.e. sight distance, acceleration/deceleration lanes, access spacing/corner clearances) • Study boundaries for a TIA is within ½ or 1 mile of the proposed development, depending on the expected number of trips generated. If a LOS E or F intersection is outside but adjacent to the study area, it will be added to the TIA.
<p>Connect Franklin: A Comprehensive Transportation Network Plan, 2022</p>	<ul style="list-style-type: none"> • Amended in 2022, the Connect Franklin CTNP updated the 2010 Major Thoroughfare Plan to create a comprehensive transportation network of roadway components, bicycle and pedestrian facilities, and linkages with land use. • The Plan can be utilized as a guide for maintaining and improving the current transportation system and identified transportation investments. • The Plan’s Vision has 4 goals: <ul style="list-style-type: none"> ○ Safe, clean, and livable city ○ Effective and fiscally sound city government ○ Quality of life experiences ○ Sustainable growth and economic prosperity
<p>Envision Franklin, 2024</p>	<ul style="list-style-type: none"> • Envision Franklin, updated in 2024, provides guidance on the future growth and development of the community. The plan establishes a framework with direction in making land-use decisions, managing quality of development, determining the timing and location of future growth, and directing investment and development activity. • The Plan includes recommendations for physical development and identifies areas that are lacking services. • Goals of the Plan: <ul style="list-style-type: none"> ○ Strategically locate neighborhood commercial and mixed-use nodes to serve surrounding residential neighborhoods and help reduce traffic and trip length. ○ Emphasize active transportation for both destinations and recreation by connecting land uses through multi-use paths, sidewalks, and trails. <p>Infill development should be used to re-establish the pedestrian scale and activity along automobile-oriented corridors. This includes moving parking areas to the side or rear of buildings, shallow setbacks, incorporating pedestrian-scale signage and lighting, orienting the main building entrances to the street-side sidewalk.</p>
<p>Transportation & Mobility Policy Guide</p>	<ul style="list-style-type: none"> • Policy Statements include: <ul style="list-style-type: none"> ○ Provide safe and effective multimodal options for transportation ○ Provide safe pedestrian and bicycle connections between residential areas and local destinations. • Action Items include: <ul style="list-style-type: none"> • Increase youth engagement City-wide and encourage local schools to establish a Safe Routes to School program to ease peak pick-up and drop-off traffic.

Plan Checklist

To ensure the safety and well-being of all individuals, it is imperative for agencies to have a set of plans and guidelines in place. A set of plans and guidelines have been identified to serve as a roadmap for addressing safety concerns and implementing appropriate measures. The plans include Complete Street Policy Guidelines, the ADA Transition Plan, a Multi-Modal Plan, Traffic Impact Study Guidelines, and a Comprehensive Plan. These plans provide strategies for designing and managing streets that prioritize safety, address accessibility needs, promote various transportation modes, assess traffic impacts of new developments, and outline a long-term vision for land use, transportation, and community development with a focus on safety considerations. **Table 11** contains the list of plans and the corresponding plan in the City of Franklin.

Table 11. Alignment of Safety Roadmap with Existing Plans

Checklist	Plan	Corresponding City of Franklin Plan
	Complete Street Policy Guidelines	
	ADA Transition Plan	City of Franklin – ADA Self-Evaluation & Transition Plan
	Multi-Modal Plan	Greenway Master Plan Map Connect Franklin: A Comprehensive Transportation Network Plan, 2022 Transportation & Mobility Policy Guide
	Traffic Impact Study Guidelines (with Safety)	Traffic Impact Analysis (TIA) Requirements, 2021
	Comprehensive Plan	Envision Franklin, 2024
 = Has Plan  = Mentioned in Other Plans  = Does Not Have Plan		

Recommendations

The following recommendations are made in order to help the City better address and incorporate transportation safety through their existing plans, policies, and processes. The recommendations are provided alongside the related documents to which they apply, as well as the applicable element(s) of the “Four Es” of transportation safety (Engineering, Enforcement, Education, and Emergency Response).

Table 12: Recommended Policy and Process Changes

No.	Recommended Action	Related Document(s)	Applicable "Four E's" Element(s)
1	<p>Integrate unifying safety policy into all existing documents as it relates to the leadership commitments from this plan. The safety policy should reference these leadership commitments, as well as the involvement of the Safety Team (recommendation 10) and Safety Champion (recommendation 13). An example of the text for this safety policy is outlined below.</p> <p>Sample Safety Policy: As part of the SS4A developed in 2025, Franklin has made a strong leadership commitment to improving safety. This commitment impacts how the city plans, designs, constructs, operates, maintains, and enforces its transportation system. To ensure alignment with this leadership commitment, this safety policy recommends the integration of Action Plan objectives into all relevant City plans, programs and policies.</p> <p>To further support this commitment, if applicable, the Safety Team and Safety Champion should be actively involved in the development and updates of all related City documents. Their expertise and guidance will help ensure that safety principles are consistently applied across all initiatives, reinforcing the City’s efforts to improve safety and preventing inadvertent hindrance to progress. This collaborative approach is essential to maintaining the City’s focus on safety.</p>	All reviewed plans	Education
2	Franklin Municipal Planning Commission currently approves the Transportation Plans. This Commission can have a representative in the recommended Safety Team (see previous recommendation) to keep the Commission abreast of crash trends and safety priorities.	Connect Franklin	Education/ Enforcement
3	Create a “Safety Champion” position/role within the City to organize educational campaigns/ provide information through community outreach. Topics include driving behavior, speed awareness, seatbelt usage, safe practices, for bicyclists and pedestrians.	Transportation & Mobility Policy Guide; this SS4A effort	Education
4	Create increased awareness within agency departments, promoting the City’s alignment on safety values.	This SS4A effort	Education
5	Continue to promote Safe Routes to School partnership, coordinating with School Districts, law enforcement, and Bike Walk Franklin to organize and promote Bike, Walk, or Ride to School Days. Use Bike, Walk, or Ride to School Days as educational events to promote safety projects. Partner with parents’ associations, homeowners’ associations, and local businesses to build a ‘route’ to school and promote event days.	Transportation & Mobility Policy Guide; Greenway Master Plan Map	Education
6	Involve businesses on or near trails to increase awareness of active transportation infrastructure.	Transportation & Mobility Policy Guide	Education
7	Have schools provide students and parents with multi-modal infrastructure information at the start of the year.	Transportation & Mobility Policy Guide	Education

8	Continue partnering with Bike Walk Franklin to promote VRU safety in areas where VRU crashes are common.	Transportation & Mobility Policy Guide; this SS4A effort	Education
9	Encourage businesses and special event permit holders to promote mobility alternatives for patrons through the permit process by identifying things such as bike parking areas or bike/ped connectors from parking areas to the event(s).	Transportation & Mobility Policy Guide	Education
10	Continue to utilize the neighborhood traffic calming program and update it at least every three (3) years.	Neighborhood Traffic Calming Program	Enforcement/Engineering
11	Establish a targeted enforcement program (for aggressive driving and high speeds) and coordinate with local law enforcement. In areas found to have significant speeding (85th percentile speeds over 4 mph above the limit), automated speed camera enforcement can be considered.	Connect Franklin; Neighborhood Traffic Calming Program	Enforcement
12	Consider access for emergency vehicles on off-road trails during design. (See page 23 of Rails to Trails 2023 Trails in Emergency Response Report .)	Greenway Master Plan Map	Enforcement
13	Incorporate proposed safety projects from this plan into future developments and transportation projects.	All future plans	Engineering
14	Update roadway and intersection design standards to promote safety for all roadway users and address deficiencies, particularly by incorporating detailed construction specifications for crossings and bicycle lanes, into the city’s standard drawings. The City should consider adopting NACTO design guides as its standard.	Standard Drawings	Engineering
15	Continue to use devices such as speed cameras, speed cushions, and offset speed tables can be added as traffic calming devices such as traffic calming devices for emergency routes, to mitigate emergency vehicle delays while providing a traffic calming effect.	Neighborhood Traffic Calming Program	Engineering/Emergency Response
16	Prepare and adopt a Complete Streets Policy. Ensure the policy dictates how to include Complete Streets at every stage of the life cycle (construction, repaving, maintenance) and that the policy accommodates the needs of emergency response vehicles. (See City of Fort Lauderdale’s Complete Streets Manual and City of Boca Raton’s Complete Streets Policy .)	Standalone policy	Engineering/Emergency Response
17	Integrate a multi-modal plan with the next update of Connect Franklin to prioritize design and construction of projects for future funding allocations.	Connect Franklin/ Standalone policy	Engineering
18	Develop details related to design requirements for each zoning district, like desired street connectivity, width of sidewalk, goals for ADT, and limits on road widening.	Standalone policy	Engineering
19	Establish a “Safety Team” that would meet regularly to review all fatal and serious injury crashes and identify/evaluate mitigation measures such as signage, pavement markings, and roadway/sidewalk modifications.	Connect Franklin	Engineering/Education
20	Celebrate projects that improve safety and positive movements toward the City’s SAP’s goal annually. Celebrate through the City’s communication department with press releases and social media posts, or with ribbon cuttings for major milestones.	This SS4A effort	Engineering/Education
21	Conduct detailed studies on crash hotspots and regularly update the High Injury Network (HIN) with future crash data and update project priorities as needed.	Transportation & Mobility Policy Guide; this SS4A effort	Engineering
22	Implement a City-wide streetscaping toolkit to help improve speed limit compliance and reduce distracted driving. Streetscape guidance from existing corridor plans can be used to inform the toolkit based on functional classification and land use context.	Connect Franklin	Engineering
23	Reprioritize future projects that achieve safety goals for future funding allocations, giving first priority to projects located on the high-injury network.	This SS4A effort	Engineering

24	Continue providing off-road alternatives/greenway bypasses near HIN segments. Crossings may require road improvements in order to increase pedestrian and cyclist safety and comfort.	Greenway Master Plan Map	Engineering
25	Create wayfinding within biking or walking distance for key destinations in Franklin.	Greenway Master Plan Map	Engineering/ Education
26	Update the City’s development code to reflect NACTO Design Guidelines and use these in the TIA requirements. Special attention is needed toward access management in TIA reports, to minimize conflict points and prioritize non-motorized circulation.	Traffic Impact Analysis (TIA) Requirements, 2021; Land Development Regulations	Engineering
27	<p>Adjust language in the Safety Analysis section of the TIA requirements to include and incorporate the following:</p> <ul style="list-style-type: none"> o Crash data from the last 3 years for urban and suburban areas shall be analyzed. o The safety analysis should include an evaluation of the expected safety impacts (whether positive or negative) of the proposed development. o If a proposed project is impacting a HIN segment identified in the SAP, developers must include safety improvements based on the countermeasures proposed in the SAP to mitigate the known safety issues. o If a proposed project is not impacting a HIN segment, but the TIA safety analysis shows that the development is projected to negatively impact safety, developers must include safety improvements based on the countermeasures proposed in the SAP to mitigate the projected safety issues. o Crash modification factors (CMFs) associated with the proposed safety countermeasures shall be listed. Countermeasures selected should have a demonstrated CMF less than 1, indicating a positive impact on safety. CMFs should be obtained from the CMF Clearinghouse or latest version of the Highway Safety Manual. o It is the responsibility of the developer to identify and incorporate the safety improvements into their design. Developers can utilize the Impact Fee Reimbursement Process if the safety improvements are addressing existing, known conditions. o Failing the achievement of these requirements, the development project may be subject to further review and restrictions, or potentially prohibited, to ensure that the safety objectives as outlined in the SAP are met. 	Traffic Impact Analysis (TIA) Requirements, 2021	Engineering



Project Selection



Project Selection and Prioritization

Corridor Prioritization

After the review and validation of the HIN by the Steering Committee, six (6) transportation safety factors were assigned individual weights to be used in the corridor prioritization. The weightings were determined through an iterative process involving members of the steering committee, the stakeholder group, and City staff. This exercise resulted in a methodology that is uniquely aligned with the priorities of the City. The six (6) factors are described below.

Fatal & Serious Injury Crashes

This is the number of fatal & serious injury crashes occurring along a segment. These crash types are defined using the KABCO scale referenced in the **Safety Analysis** section. Preventing these fatal and serious injury crashes is the highest priority of the SS4A program and of the City of Franklin.

Total Crash rate

The total number of crashes at a location does not tell the whole story, as areas with a higher traffic volume are more likely to experience a greater absolute number of crashes. Furthermore, locations with high crash volumes often experience congestion which may result in lower crash severities. Crash rate calculations account for the traffic volumes at specific locations to allow for a more effective comparison between similar locations with safety concerns. The crash rates shown in **Appendix B** are expressed as crashes per million vehicle miles of travel and were calculated in AASHTOWare Safety using the FHWA Roadway Departure Safety manual methodology.

Risky Driving Behaviors

Risky Driving Behaviors is calculated by the Replica Safe Streets Planner Risk Index, which considers roadway characteristics, suspected collisions, phone handling, sudden braking/acceleration, and speeding activity. This safety variable allows for the estimation of how likely a crash may occur along a specific roadway segment, including events such as near-misses and potential for increased severity in crashes.

Bike & Pedestrian Crashes

This is the number of vulnerable road user crashes along a segment, including pedestrians, bicyclists, and micromobility users. This is essential in an area with characteristics similar to The City of Franklin, where there is a large percentage of the population that utilize alternate modes of travel.

Demographic Considerations

Demographic characteristics of the areas surrounding the roadway segment were considered in the prioritization process. This helps ensure that underserved communities are accounted for and prioritized for safety improvements.

Public Input

The public comments, referred to in the **Engagement and Collaboration** section, played a key role in the prioritization of the HIN segments.

Figure 29 shows the results of the prioritization weighting process. The 'Fatal & Serious Injury Crashes' and 'Total Crash Rate' categories were deemed to be the two most important criteria. Appendix B provides a summary of the HIN prioritization exercise. These weightings were applied to the criteria for all of the HIN segments to help identify the highest priority corridor projects.

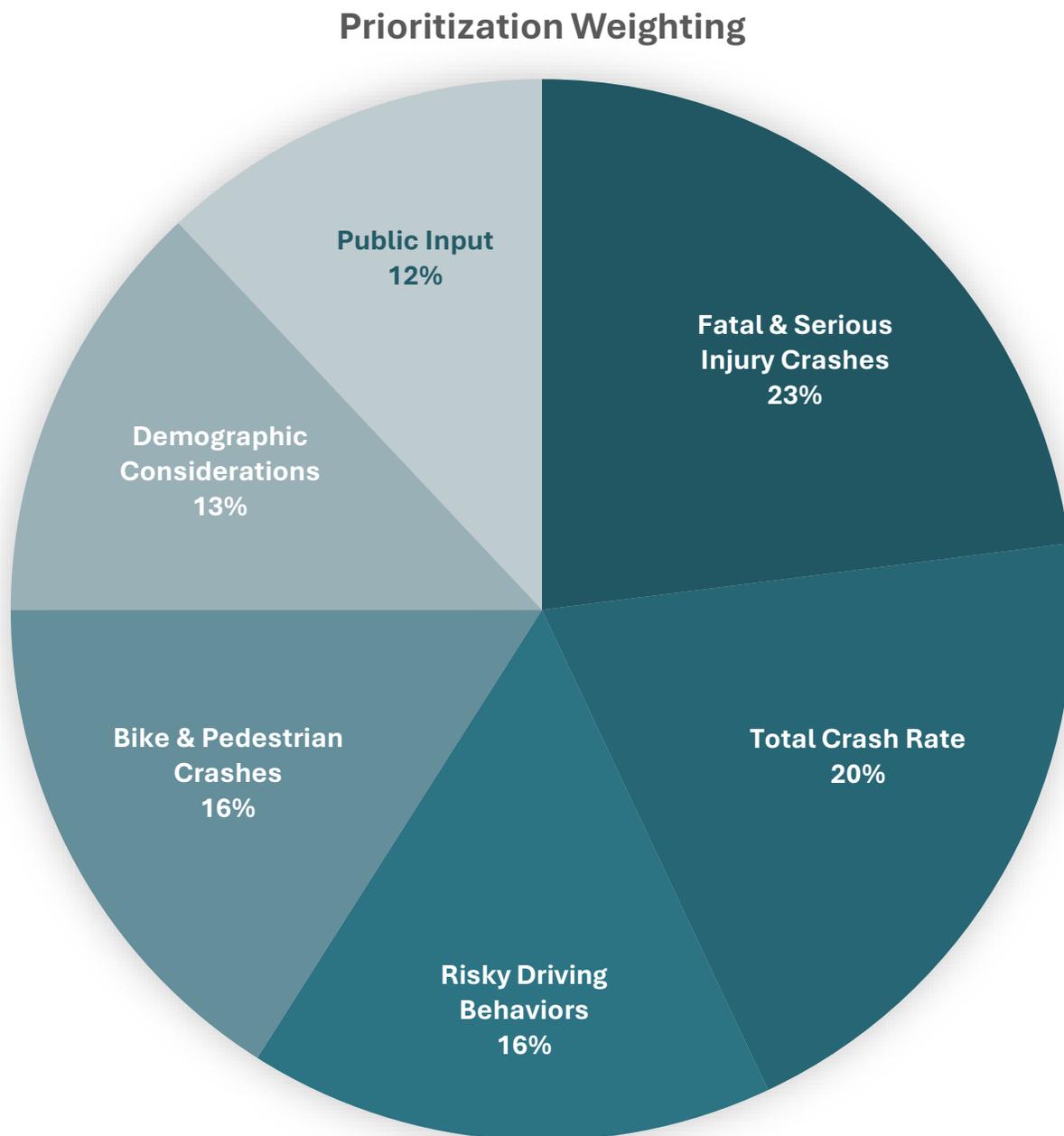


Figure 29: Project Prioritization Weighting

Priority Projects

Following the initial assessment, a list of highest-scoring city-maintained and State Route roadway segments and intersections was reviewed with City staff. Locations with known programmed capital improvements were removed from the list and replaced with subsequent high-ranking locations. City staff provided feedback on the highest-scoring segments and intersections to identify five (5) HIN corridors to be priority candidates for recommended improvements.

- Murfreesboro Road from Mack C Hatcher Memorial Parkway to Breckenridge Road
- Columbia Avenue from Downs Boulevard to 5th Avenue
- Mallory Lane from Seaboard Lane to McEwen Drive
- W Main Street from N Petway Street to Downs Boulevard
- Carothers Parkway from Bakers Bridge Avenue to Monte Bella Place

Project Fact Sheets

Safety improvement recommendations were developed for each HIN corridor using the Engineering Countermeasures Toolkit presented earlier in the SAP.

Project fact sheets were developed for the five (5) top priority segments and are included in **Appendix C**. The fact sheets summarize the crash data analysis, public input, and selected engineering countermeasures with their benefits. The draft project sheets were reviewed by City staff for input related to engineering judgment and site-specific knowledge. The fact sheets provide a concise summary of each priority project location for ease of reference in future funding and project programming opportunities.

Project recommendation maps were also developed for the HIN segments that were outside of the five (5) top priority corridors. These mapped pages include the specific recommendations and locations for each of the remaining segments of the HIN, and can also be found in **Appendix C**.

City-Wide Recommendations

The following is a brief description of some of the recommendations that appear throughout multiple project fact sheets and recommendation maps for corridors across the City.

Retroreflective Backplates

Retroreflective backplates are enhancements added to traffic signal heads. They consist of a controlled-contrast background with a 1- to 3-inch yellow retroreflective border. These borders are designed to improve the visibility and conspicuity of traffic signals, making them more noticeable to drivers in various conditions, including daytime, nighttime, and during power outages.

Rumble Strips

Rumble strips are a highly effective traffic safety measure designed to prevent roadway departure crashes. They are typically installed along the centerline, edge line, or shoulder of the road and create both noise and vibration when a vehicle crosses them.

Raised Pavement Markers (RPMs)

Raised Pavement Markers (RPMs) are small devices installed on road surfaces to enhance lane visibility and improve traffic safety. By delineating lanes more effectively, RPMs can reduce lane departure crashes and improve overall road safety. They are particularly effective in low-light conditions and during adverse weather.

High-Emphasis Crosswalks

High emphasis crosswalks are designed to improve pedestrian safety by making crosswalks more visible to drivers. These crosswalks use high-visibility markings such as bar pairs, continental, or ladder patterns, which are more noticeable than traditional transverse lines.

Targeted Enforcement

Targeted enforcement is where law enforcement focuses on specific violations or high-risk behaviors in designated areas. This approach aims to deter dangerous driving behaviors and improve overall road safety. Law enforcement targets specific violations such as speeding, DUI, seatbelt use, or distracted driving in areas known for high crash rates or risky behaviors.

Downtown Franklin Recommendations

The following descriptions are for recommendations that appear in multiple project fact sheets and recommendation maps for corridors located in Downtown Franklin.

Mid-Block Crossings (RRFBs)

Mid-block crossings, especially those equipped with Rectangular Rapid Flashing Beacons (RRFBs), are designed to enhance pedestrian safety by making crossings more visible and alerting drivers to the presence of pedestrians.

Sidewalk Connectivity

Continuous sidewalks provide safe and accessible routes for pedestrians, reducing the need for them to walk on the road or navigate unsafe areas. Enhanced safety is a primary benefit, as continuous sidewalks reduce pedestrian-vehicle conflicts by providing a dedicated space for walking, away from traffic. Improved accessibility ensures that all pedestrians, including those with disabilities, have a smooth and unobstructed path. Additionally, a connected sidewalk network promotes walking as a viable mode of transportation, supporting healthier lifestyles and reducing traffic congestion. It also facilitates easier access to important destinations like schools, businesses, healthcare facilities, and transit stops.

Strategic On-Street Parking

Removing or adding on-street parking can have significant impacts on traffic safety, mobility, and the overall urban environment.

Removing on-street parking can improve traffic flow and safety by reducing obstacles and enhancing visibility. Without parked cars, drivers have better sightlines, which helps them see pedestrians and cyclists more clearly. Additionally, removing on-street parking can free up space for bike lanes, wider sidewalks, or additional driving lanes, further improving safety and mobility.

Adding on-street parking can slow down traffic, which may enhance safety for pedestrians and cyclists by reducing vehicle speeds. Implementing time limits ensures turnover, making spaces more available for short-term use and improving traffic flow. Advanced payment systems streamline parking management and reduce congestion caused by drivers searching for parking. Integrating on-street parking with traffic calming measures, like curb extensions, enhances pedestrian safety and reduces vehicle speeds.

Complete Streets

Complete Streets involves designing and operating roadways to ensure safe and accessible travel for all users, including pedestrians, cyclists, motorists, and transit riders.



CITY OF FRANKLIN, TN



SAFE STREETS & ROADS FOR ALL



Progress and Transparency



Progress and Transparency

The City of Franklin SAP recommends a set of actions that will support the successful implementation and monitoring of the recommended projects and strategies. The City of Franklin must work alongside related departments and agencies to implement the projects and policy changes described in this SAP and assume joint responsibility for the complete fulfillment of the Plan. The City and the task force described in the following section will continue to update the general public on the progress of project, policy, and process change implementation.

Implementation Process

To successfully implement an SS4A grant-funded project, the City must undertake several key steps. The first step is the preparation and adoption of a comprehensive safety action plan, which is accomplished by the City of Franklin through this document. Once the plan has been approved, the City must engage in project-level planning, design, and development activities directly connected to the completion of the identified projects. This includes infrastructural improvements as well as behavioral and operational activities. The City must also ensure proper coordination among various stakeholders, including local government agencies, community organizations, and the public, to gather input and support for the project. Additionally, the City must adhere to the timelines and funding requirements specified in the grant agreement, ensuring that all activities are completed within the stipulated period. Regular monitoring and evaluation of the project's progress are essential to ensure that the safety goals are being met and to make any necessary adjustments.

Task Force Implementation and Monitoring

It is recommended that a subset of the Steering Committee reconvene in the future as a Franklin Safety Task Force to direct the SAP implementation, monitoring, and future progress. The Task Force can consist of Public Works staff, other City of Franklin departments, Franklin Police Department, other local emergency service providers, key TDOT staff, and other stakeholders as needed. It is recommended that this group convene annually after the adoption of the Franklin SAP to review the latest available crash data trends (crash volumes, crash rates, reduction goals), engineering project completion progress, and driver-related strategy performance measures. The Task Force will discuss opportunities to build upon the plan to address any changing crash trends alongside community needs, new technologies, and additional resources available to assist in implementation.

Public Posting of the Franklin SAP

Upon completion and adoption, this plan will be made public on a dedicated project website and the City's website. It is recommended the project website be maintained to update the public with new crash data trends and the implementation status of accomplishments.

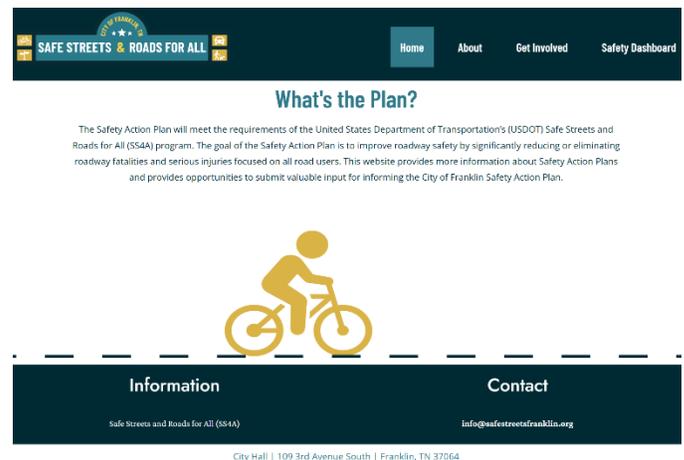


Figure 30: Franklin SAP Website

Safety Dashboard Maintenance

The Franklin Safety Task Force should periodically update the safety dashboard using TDOT's AASHTOWare Safety online crash database in order to inform the public of the progress toward the City's interim reduction goal and the long-term goal of zero traffic deaths and serious injuries.

Supplemental Visual Progress Indicators

These indicators can take various forms, such as maps and infographics, which visually represent the progress and impact of safety initiatives. Interactive maps can show the locations of ongoing and completed projects, allowing residents to see how their neighborhoods are being affected. Infographics can summarize key statistics and achievements in a visually appealing manner, helping to communicate the benefits of the projects effectively.

By using these visual tools, the City of Franklin can foster a sense of transparency and accountability, ensuring that the public remains informed and engaged throughout the implementation process. Additionally, these indicators can serve as valuable feedback mechanisms, allowing residents to provide input and express concerns, which can be addressed in future project phases.

Future Engagement

To keep the public informed about how projects and policy changes are enhancing safety, the City of Franklin will adopt several effective communication strategies. First, a mix of traditional and digital media channels will be utilized to reach a broad audience. This includes press releases, social media updates, newsletters, and community meetings. Regular updates on project milestones, safety improvements, and success stories can help maintain public interest and support.

It is vital to measure and evaluate the effectiveness of these communication efforts, adjusting strategies as needed to ensure they resonate with the community. By maintaining open and consistent communication, the City can demonstrate their commitment to safety and encourage public participation in ongoing initiatives.

Audits of Safety Progress

Before-and-after studies for safety projects are essential for demonstrating progress and ensuring transparency. These studies involve a comparative analysis of roadway safety conditions both before and after a project has been implemented. By systematically collecting and analyzing data from both periods, project stakeholders are able to accurately assess the improvements of safety and identify areas requiring further enhancement. This process of project auditing not only validates the effectiveness of the projects, but also creates a strengthened form of trust among the community and clients. Ensuring all parties involved are informed and focused on improving safety further reinforces the commitment to creating safer environments.



CITY OF FRANKLIN, TN



SAFE STREETS & ROADS FOR ALL



Appendix A



RESOLUTION 2025-32

A RESOLUTION TO RECOMMEND APPROVAL OF THE SAFE STREETS AND ROADS FOR ALL (SS4A) TRANSPORTATION SAFETY ACTION PLAN INCLUDING A COMMITMENT TO REDUCE SERIOUS INJURY AND FATALITY CRASHES BY 20% BY THE YEAR 2040.

WHEREAS, the City of Franklin entered into an agreement in May 2024 with the USDOT for a Safe Streets and Roads For All (SS4A) Planning grant to develop a transportation Safety Action Plan; and

WHEREAS, the Board of Mayor and Aldermen (BOMA) recognizes the importance of transportation safety for citizens traversing City of Franklin roadways, multi-use paths, and sidewalks; and

WHEREAS, the Safety Action Plan was completed and presented to the BOMA on March 25, 2025, to serve as a guide for improving safety on priority transportation projects on the High Injury Network (HIN); and

WHEREAS, the Safety Action Plan recommended a commitment by the BOMA to work to reduce serious injury and fatality crashes by 20% by the year 2040; and

WHEREAS, the Board of Mayor and Aldermen believes it is in the best interest of the City of Franklin to adopt the City of Franklin Safety Action Plan and to commit to reduction of serious injury and fatality crashes by 20% by the year 2040 .

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS:

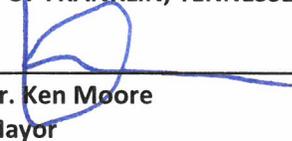
The SS4A transportation Safety Action Plan with its recommendations and findings is adopted into City of Franklin record as a guiding document and resource for future transportation projects.

IT IS SO RESOLVED AND DONE on this 10th day of June, 2025

ATTEST:

By: 
Angie Skarp
City Recorder

CITY OF FRANKLIN, TENNESSEE:

By: 
Dr. Ken Moore
Mayor

Approved as to Form:

By: 
William E. Squires
Assistant City Attorney



CITY OF FRANKLIN, TN



SAFE STREETS & ROADS FOR ALL



Appendix B



City of Franklin High Injury Network - Project Prioritization							Scoring (percentile)					
HIN ID	Road Name	From	To	Ownership	AADT	Length (miles)	K & A Crashes	Observed Crash Rate	Replica Risk Index	Demographics & Community Characteristics	VRU Crashes	Public Input
A	SR-96	Stonewater Blvd	5th Ave N	State Route	15,000	2.99	71%	10%	98%	16%	86%	0%
B	Murfreesboro Rd (1)	Mack C Hatcher MP	Breckenridge Rd	State Route	26,000	1.75	86%	46%	98%	12%	43%	0%
C	Murfreesboro Rd (2)	Breckenridge Rd	Hurstbourne Park Blvd	State Route	24,000	1.19	14%	2%	98%	2%	0%	0%
D	Murfreesboro Rd (3)	Ewingville Dr	Mack C Hatcher MP	State Route	18,000	0.88	14%	23%	98%	10%	14%	0%
E	Columbia Ave	Downs Blvd	5th Ave S	US Bus Route	10,000	1.12	14%	26%	94%	37%	71%	100%
F	Hillsboro Rd	Del Rio Pk	Fulton Greer Ln	US Bus Route	20,000	1.12	43%	22%	97%	13%	100%	0%
G	Cool Springs Blvd	Mack C Hatcher MP	Carothers Pkwy	Municipal	22,000	1.98	71%	30%	100%	19%	14%	0%
H	Mallory Ln	Seaboard Ln	McEwen Dr	Municipal	20,000	2.11	71%	38%	98%	9%	14%	0%
I	McEwen Dr	Cool Springs Blvd	Cool Springs Blvd	Municipal	12,500	2.38	43%	30%	99%	6%	29%	0%
J	McEwen Dr	Cool Springs Blvd	Wilson Pk	Municipal	15,000	1.52	43%	18%	99%	0%	14%	0%
K	W Main St	N Petway St	Downs Blvd	State Route	7,000	0.94	29%	25%	88%	100%	0%	0%
L	Mack C Hatcher MP	Hillsboro Rd	Franklin Rd	US Route	29,000	1.69	57%	13%	93%	9%	29%	0%
M	Southwinds Dr	Murfreesboro Rd	End	Municipal	4,000	0.43	43%	56%	93%	23%	14%	0%
N	Carothers Pkwy	Bakers Bridge Aven	Monte Bella Pl	Municipal	18,000	4.00	100%	13%	92%	13%	29%	0%
O	Clovercroft Rd	Murfreesboro Rd	Wilson Pk	Municipal	4,000	0.40	29%	16%	61%	1%	0%	0%
P	Downs Blvd	Columbia Ave	SR-96	Municipal	8,000	2.75	0%	11%	87%	27%	0%	100%
Q	Franklin Rd	Mack C Hatcher MP	Davenport Blvd	US Route	15,000	2.00	29%	14%	96%	6%	14%	0%
R	Franklin Rd	Liberty Pk	Mack C Hatcher MP	US Route	12,000	1.12	29%	25%	96%	9%	29%	0%
S	Mallory Station Rd	General George Patton Dr	Mallory Ln	US Route	12,000	0.88	0%	28%	88%	16%	0%	0%
T	5th Ave	3rd Ave	S Margin St	State Route	11,000	0.64	0%	35%	100%	15%	57%	100%
U	Del Rio Pike	Mack C Hatcher MP	Cotton Ln	Municipal	9,000	0.34	14%	24%	92%	4%	0%	0%
V	S Royal Oaks	Forest Crossing Blvd	Lakeview Dr	Municipal	16,000	1.48	29%	29%	99%	22%	43%	0%
W	Goose Creek Bypass	US-431	Long Ln	State Route	19,000	1.00	29%	17%	97%	2%	14%	0%
X	Liberty Pike	Mack C Hatcher MP	Knolltop Ln	Municipal	13,500	1.82	43%	18%	90%	8%	29%	100%
Y	Liberty Pike	Knoll top Ln	Waverly Pl/Broadgate Dr	Municipal	5,000	2.13	29%	7%	90%	5%	29%	0%
Z	Bakers Bridge Ave	Mallory Ln	Carothers Pkwy	Municipal	10,000	0.78	14%	46%	93%	14%	0%	0%
AA	Lewisburg Pk	W Fowlkes St	Donnelson Pkwy	US Route	10,000	2.71	0%	8%	99%	2%	0%	100%
AB	Boyd Mill Ave	SR-96	SR-96	Municipal	8,000	1.75	0%	9%	99%	11%	29%	100%
AC	Main St	1st Ave	5th Ave	US Bus Route	7,000	0.35	0%	76%	100%	4%	86%	100%
AD	Bridge St	9th Ave	1st Ave	Municipal	5,000	0.34	14%	100%	98%	5%	14%	100%

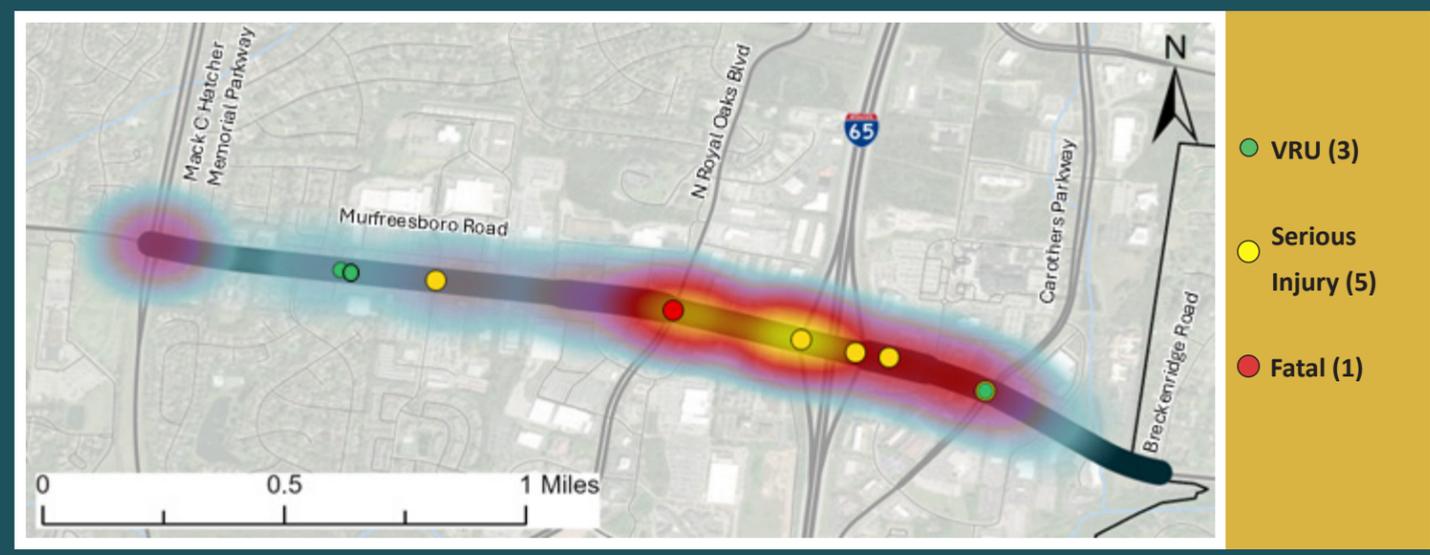


Appendix C



MURFREESBORO ROAD (SR-96)

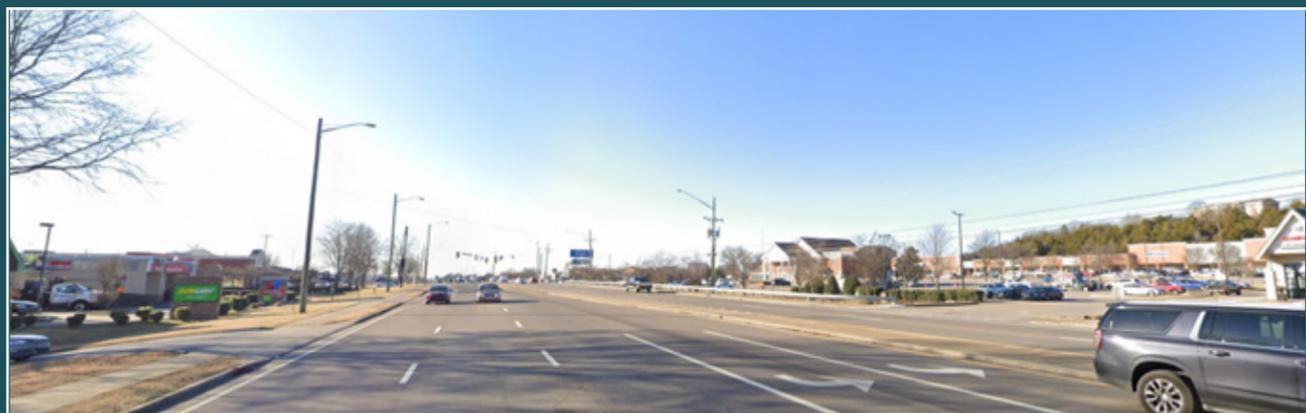
from Mack Hatcher Memorial Parkway to Breckenridge Road



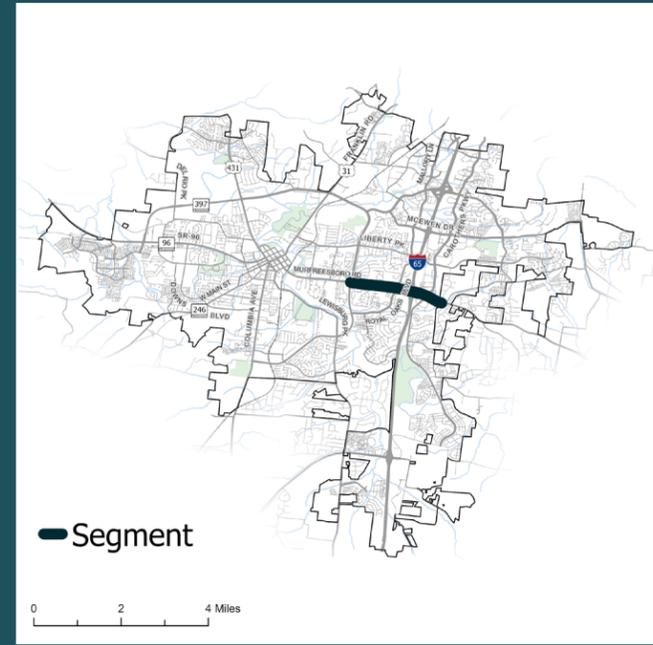
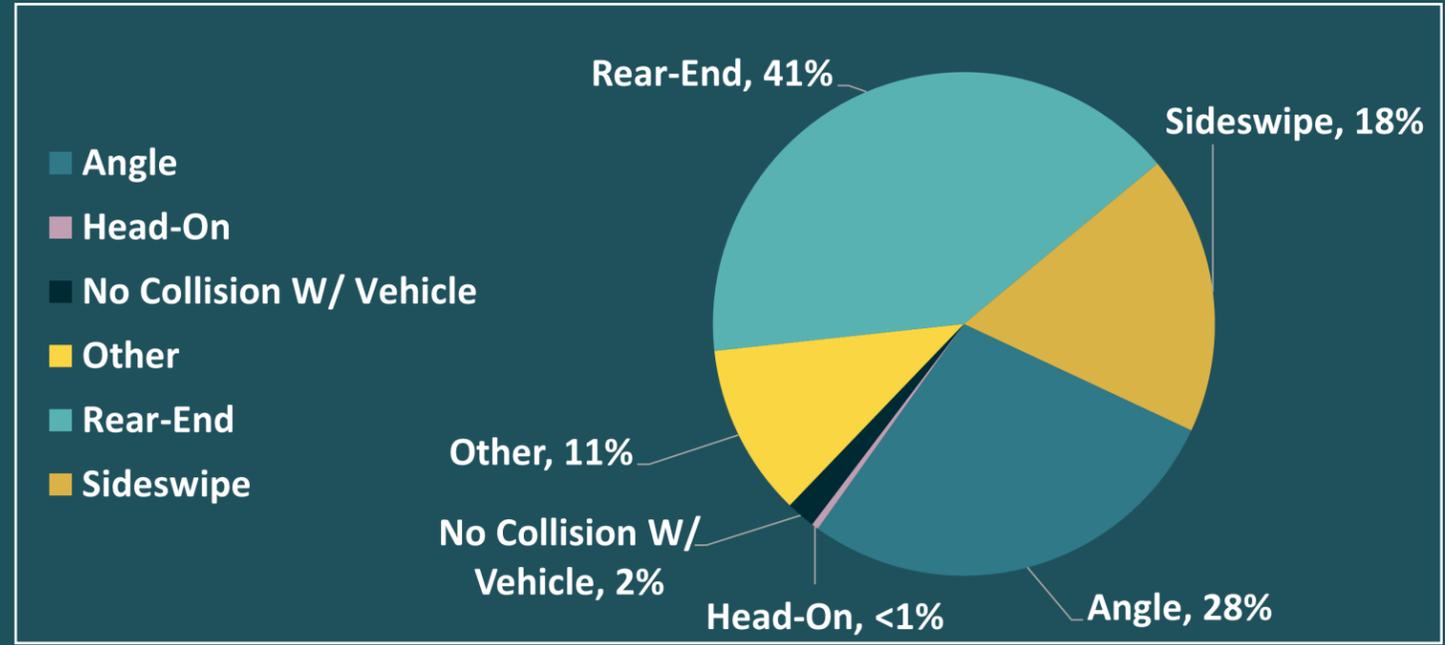
State Route	
Speed Limit	40 mph
Lanes	4
Vehicles/Day*	26,000
Total Crashes	1,263
HIN Intersections	5

Characteristics

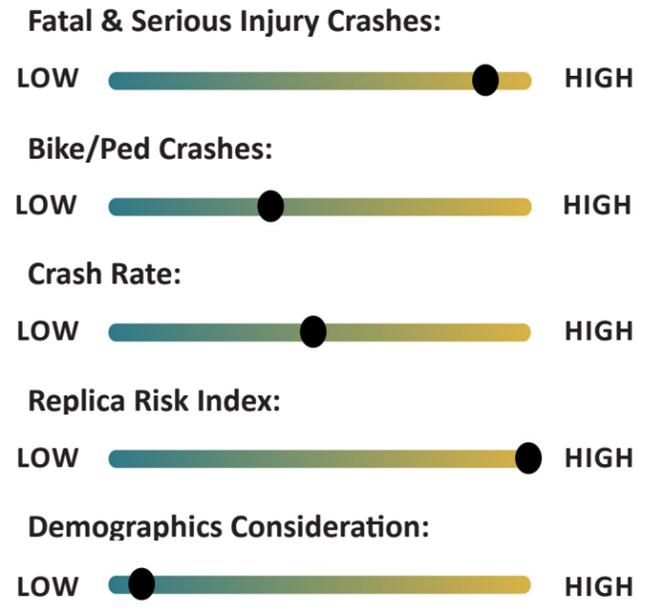
This section of Murfreesboro Road is a two-way roadway with two through lanes in each direction, divided by a two-way left-turn lane (TWLTL). The segment follows a straight alignment, with rolling terrain (per TN.gov GIS data). Sidewalks are partially present throughout the segment.



Along Murfreesboro Road, Facing West, Just West of S Royal Oaks Boulevard



Ranking Index



Community Input

“ Cars often run the red lights and are constantly driving way too fast. ”

“ Murfreesboro Rd is horrible for pedestrians and cyclists, including the bridge over the interstate. ”

“ Chick-fil-a and Watson Glen shopping center driveways are areas of concern. ”

“ The traffic signal pattern makes it very difficult and dangerous to pull out of the Buckingham Park neighborhood. ”

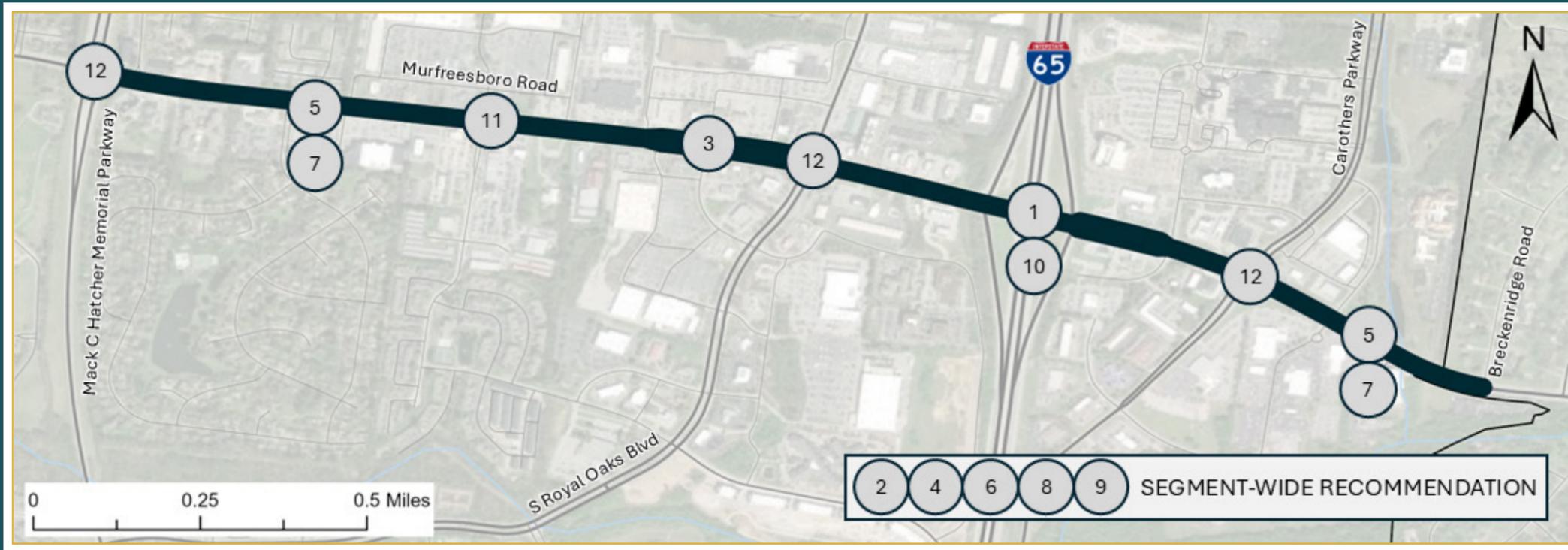
“ Drivers often block the intersection of Murfreesboro Rd at Carothers Pkwy, leaving northbound traffic turning west to sit through multiple red lights. ”

*Annual Average Daily Traffic (AADT) Varies Greatly Throughout Segment
DISCLAIMER - 23 United States Code Section 407 - Discovery and admission as evidence of certain reports and surveys - Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

MURFREESBORO ROAD (SR-96)

from Mack Hatcher Memorial Parkway to Breckenridge Road

RECOMMENDED COUNTERMEASURES

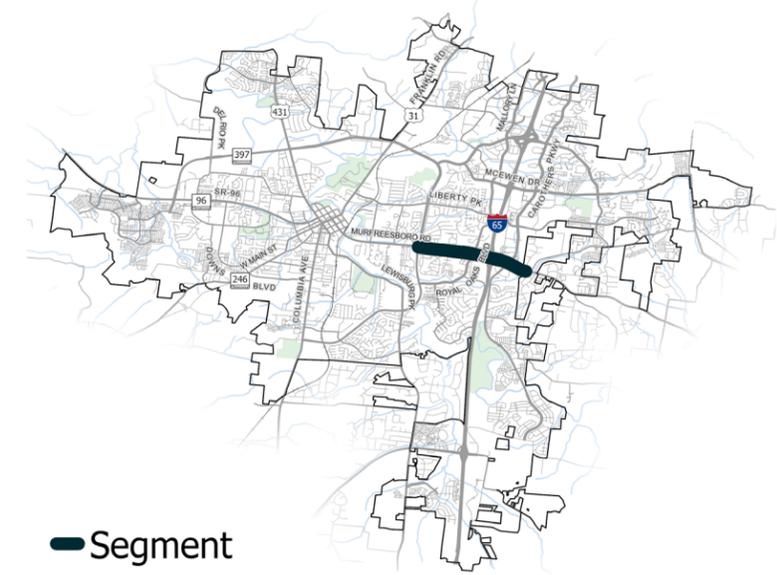


ID	Countermeasure	Cost	Schedule	Project Readiness
1	Conduct an Intersection Control Evaluation Study and/or an Interchange Modification Study	\$\$\$	Mid-Term	Ready
2	Design and Construct Access Management	\$\$\$\$	Long-Term	Requires ROW Acquisition
3	Install Positive Offset Left-Turn Lanes at Center Point PI Intersection	\$\$\$	Short-Term	Requires Utility Relocation
4	Install Raised Pavement Markers (RPMs)	\$\$	Short-Term	Ready
5	Replace Two-Way Left-Turn Lane (TWLTL) with Median (Install Turn Lanes as Necessary) from Mack Hatcher Pkwy to S Royal Oaks Blvd & from Carothers Pkwy to Breckenridge Rd	\$\$\$\$	Long-Term	Requires ROW Acquisition
6	Install Right-Turn Lanes, as necessary (at signals at a minimum)	\$\$	Mid-Term	Requires Utility Relocation
7	Install Speed Feedback Signage on Eastern & Western Ends of Segment	\$\$	Short-Term	Ready
8	Targeted Speed Enforcement (in Partnership with Franklin Police Department)	\$	Short-Term	Ready
9	Install Retroreflective Borders on Existing Backplates	\$\$	Mid-Term	Ready
10	Potential Restriping on Interstate-65 Bridge Concrete, including Raised Pavement Markers (RPMs)	\$\$	Mid-Term	Ready
11	Install Buffered Bike Lane from Mack Hatcher Pkwy to Center Point PI	\$\$	Mid-Term	Requires ROW Acquisition
12	Implement Automated Pedestrian Detection	\$\$	Mid-Term	Ready

● FHWA Proven Safety Countermeasure
 ● Crash Modification Factors Countermeasure
 ● Vulnerable Road User Related Countermeasure
 ● Requires ROW Acquisition
 ● Requires Utility Relocation

Benefit Summary

- Evaluating different intersection control options helps identify solutions that can reduce crash rates and improve overall safety for all road users, including pedestrians, cyclists, and drivers.
- By offsetting the left-turn lanes, drivers have a clearer view of oncoming traffic, reducing the likelihood of collisions when making left turns.
- Managing speeds through enforcement, along with road design and education, contributes to a safer transportation system by reducing the frequency and severity of crashes.
- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- RPMs enhance visibility in low-light and adverse weather conditions, such as fog and rain, making it easier for drivers to see lane markings and road edges.
- Access management controls where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.



0 2 4 Miles

COLUMBIA AVENUE (US-31 BUSINESS)

from Downs Boulevard to 5th Avenue

US Business Route

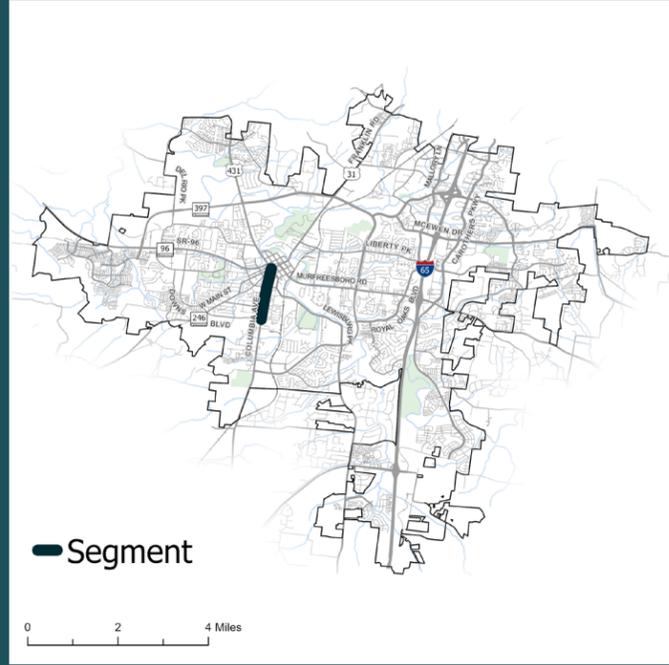
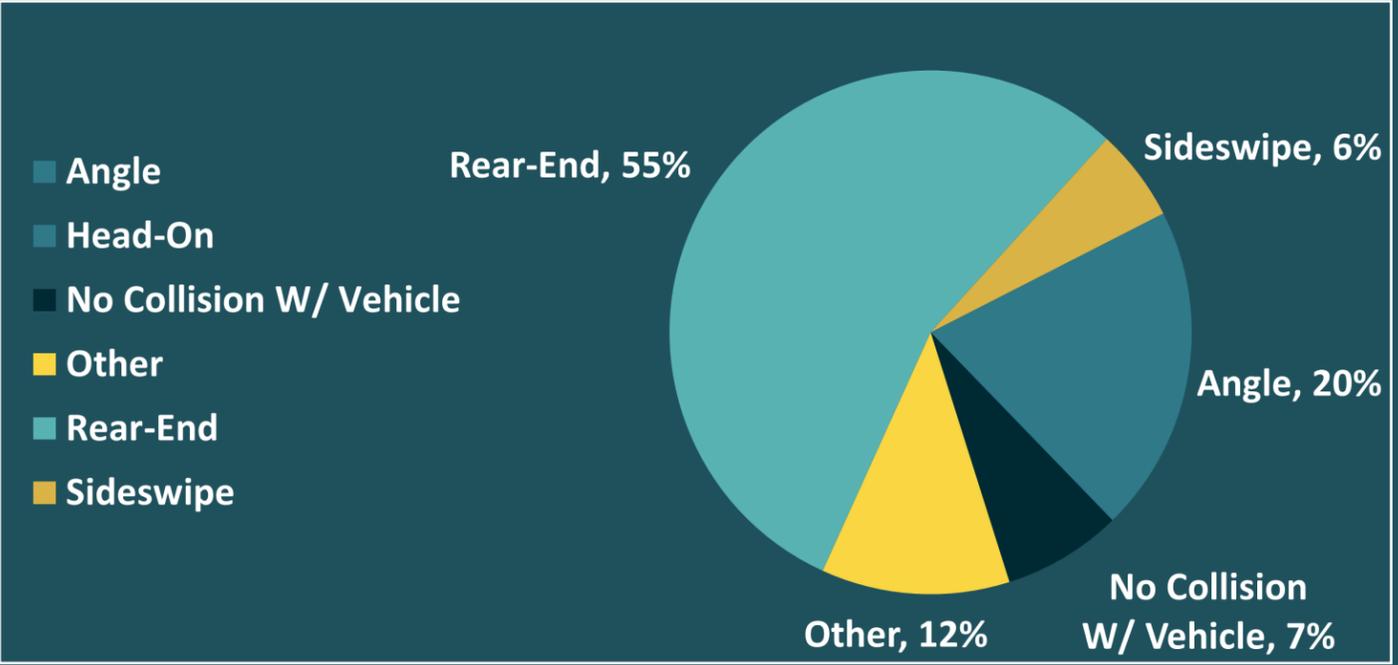
Speed Limit	30 mph
Lanes	2
Vehicles/Day	10,000
Total Crashes	465
HIN Intersections	2

Characteristics
 This section of Columbia Avenue is a two-way roadway with one through lane in each direction. Parts of the segment are divided by a two-way left-turn lane (TWLTL), and other parts have no separation between opposing travel lanes. The segment follows a straight alignment, with rolling terrain (per TN.gov GIS data). Sidewalks are partially present along both sides of this segment along both sides of this corridor.

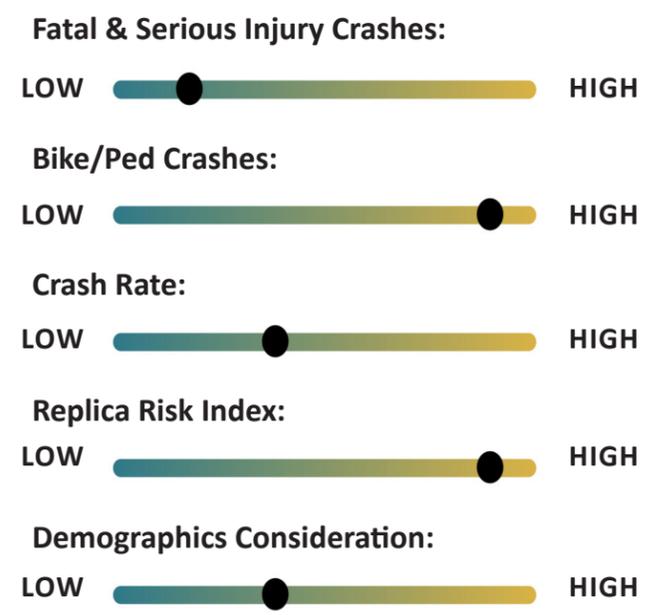


Along Columbia Avenue, Facing North, Just South of Blackburn Street

● VRU (5) ● Serious Injury (1) ● Fatal (0)



Ranking Index



Community Input

“ We need a specific traffic enforcement group to address some of the aggressive drivers. Also, for racing up and down Downs Blvd with motorcycles and loud vehicles. ”

“ Columbia Ave at the intersection of Granbury St & Cleburne St is a concern. ”

“ Severely warped pavement near the intersection of Columbia Ave and Main St. ”

“ Pedestrians are not traffic-aware downtown. People stand in the street for business openings. ”

COLUMBIA AVENUE (US-31 BUSINESS)

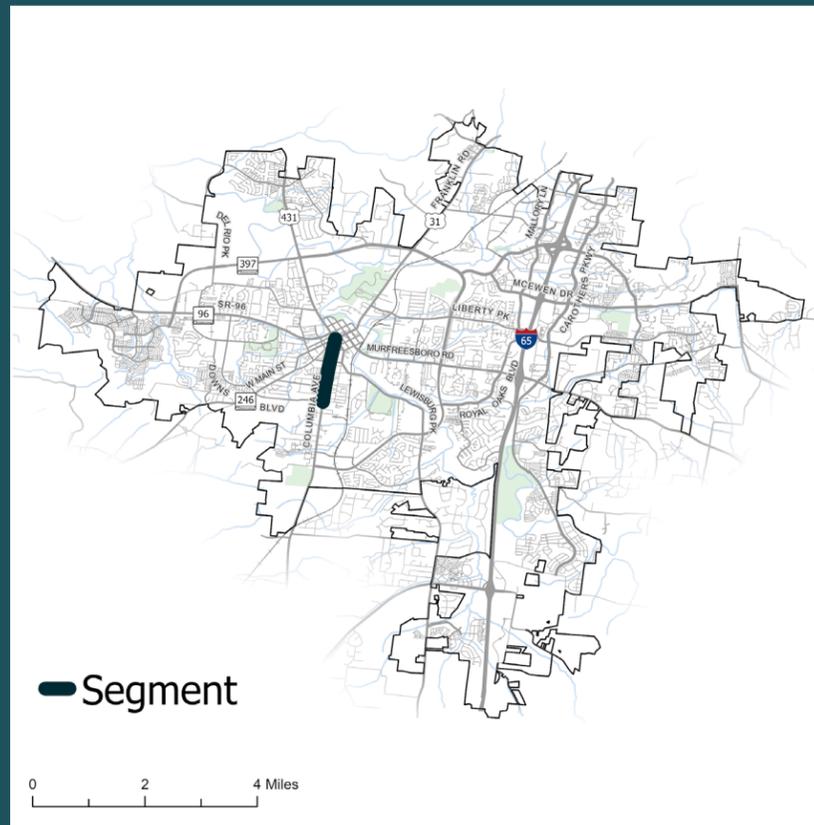
from Downs Boulevard to 5th Avenue

	ID	Countermeasure	Cost	Schedule	Project Readiness
● ● ●	1	Between Fowlkes Ave and 5th Ave, Install Raised Concrete Medians in Strategic Locations to Provide Opportunity for Future Mid-Block Crossings and Reduce Left-Turn Conflicts	\$\$	Mid-Term	Ready
● ● ●	2	Design and Construct Access Management North of Fowlkes St to Consolidate Driveways and Reduce Conflict Points	\$\$\$	Long-Term	● ●
● ●	3	Install Retroreflective Borders on Existing Backplates	\$	Short-Term	Ready
● ● ●	4	Install/Extend Sidewalks for Entire Corridor & Install Ped Facilities at Signals South of Jennings St	\$\$\$	Long-Term	● ●
● ●	5	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	\$\$	Short-Term	Ready
● ●	6	Install Raised Pavement Markers (RPMs)	\$\$	Short-Term	Ready
●	7	Install Flashing Yellow Arrows (FYAs) to Replace 5-Section Left-Turn Phase Signal Heads (All Signalized Intersections)	\$\$	Mid-Term	Ready
● ● ●	8	Evaluate Appropriate Speed Limit for All Road Users	\$	Short-Term	Ready

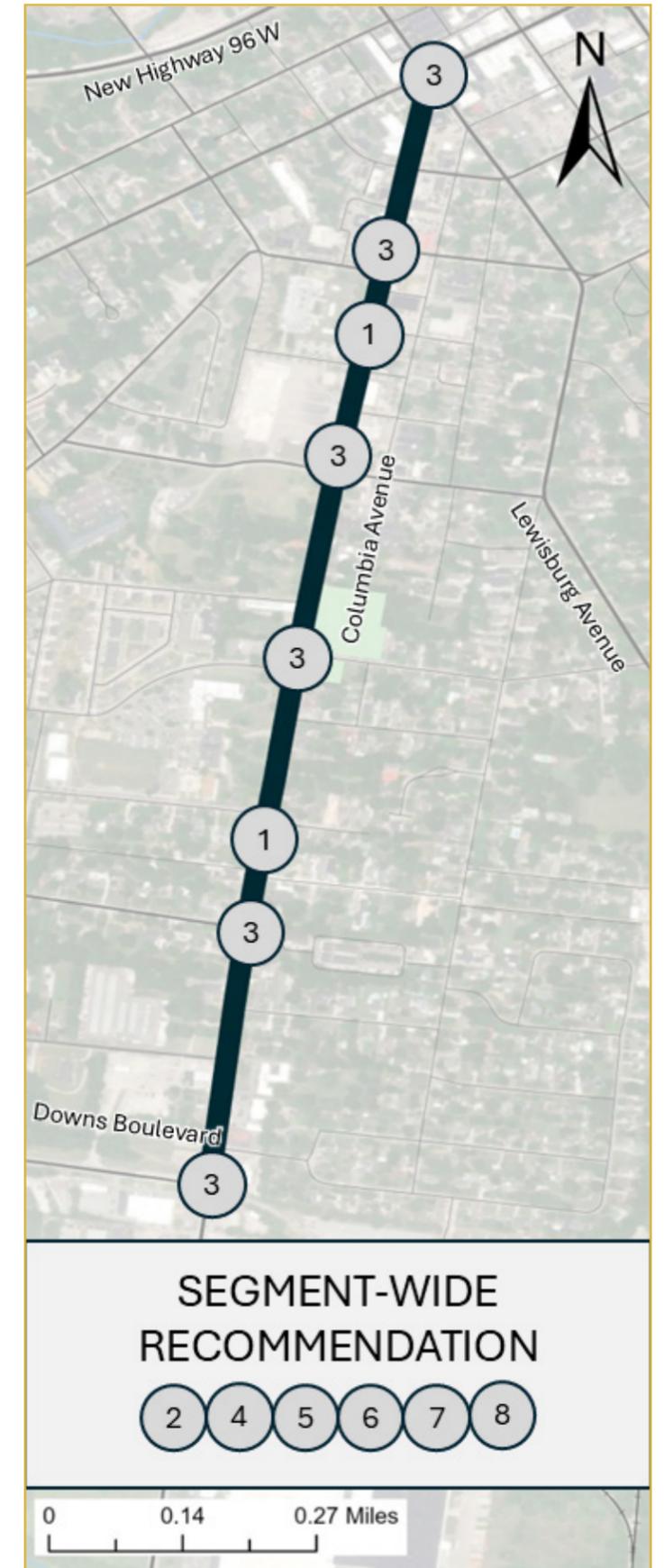
● FHWA Proven Safety Countermeasure
 ● Crash Modification Factors Countermeasure
 ● Vulnerable Road User Related Countermeasure
 ● Requires ROW Acquisition
 ● Requires Utility Relocation

Benefit Summary

- Flashing yellow arrows at intersections reduce left-turn crashes, improve driver comprehension, enhance traffic flow, and increase safety for all road users.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter. This enhanced visibility and recognition can lead to a reduction in rear-end and angle crashes at signalized intersections.
- RPMs enhance visibility in low-light and adverse weather conditions, such as fog and rain, making it easier for drivers to see lane markings and road edges.
- Raised medians provide a safe refuge for pedestrians crossing the road, allowing them to focus on one direction of traffic at a time. This reduces the complexity of crossing and enhances pedestrian safety. Medians help streamline traffic flow by limiting left-turn movements to designated locations, reducing congestion and the likelihood of rear-end collisions.
- Sidewalks and additional pedestrian crossings across Columbia Avenue offer a dedicated walking space and provide pedestrians with access to destinations along the corridor, decreasing the likelihood of vehicle/pedestrian conflicts within the roadway.
- Access management controls where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.



RECOMMENDED COUNTERMEASURES



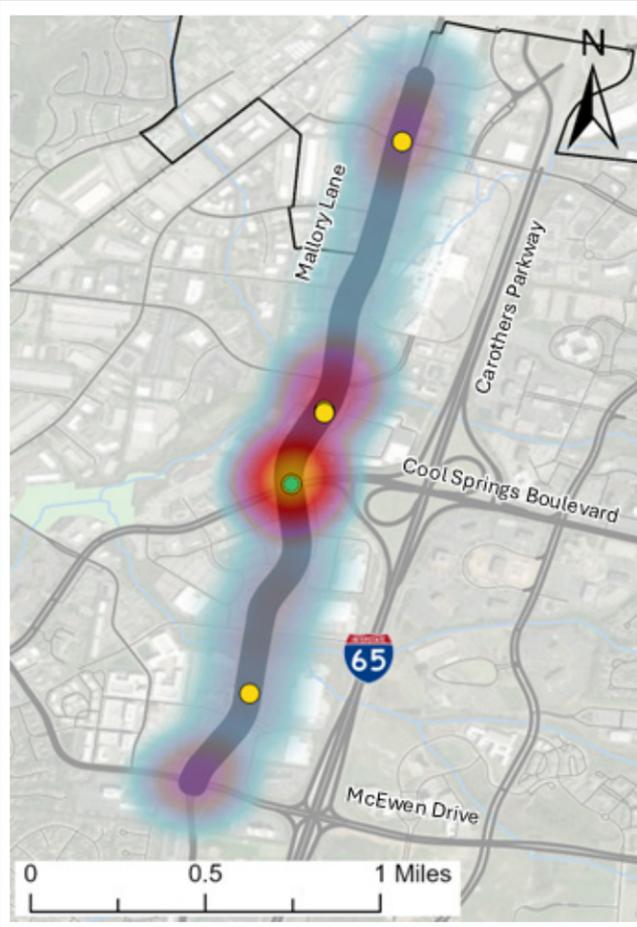
MALLORY LANE

from Seaboard Lane to McEwen Drive

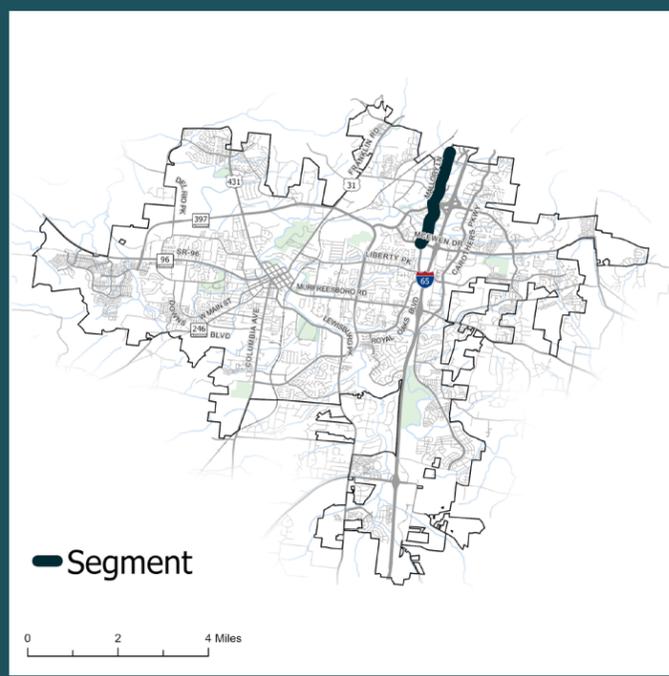
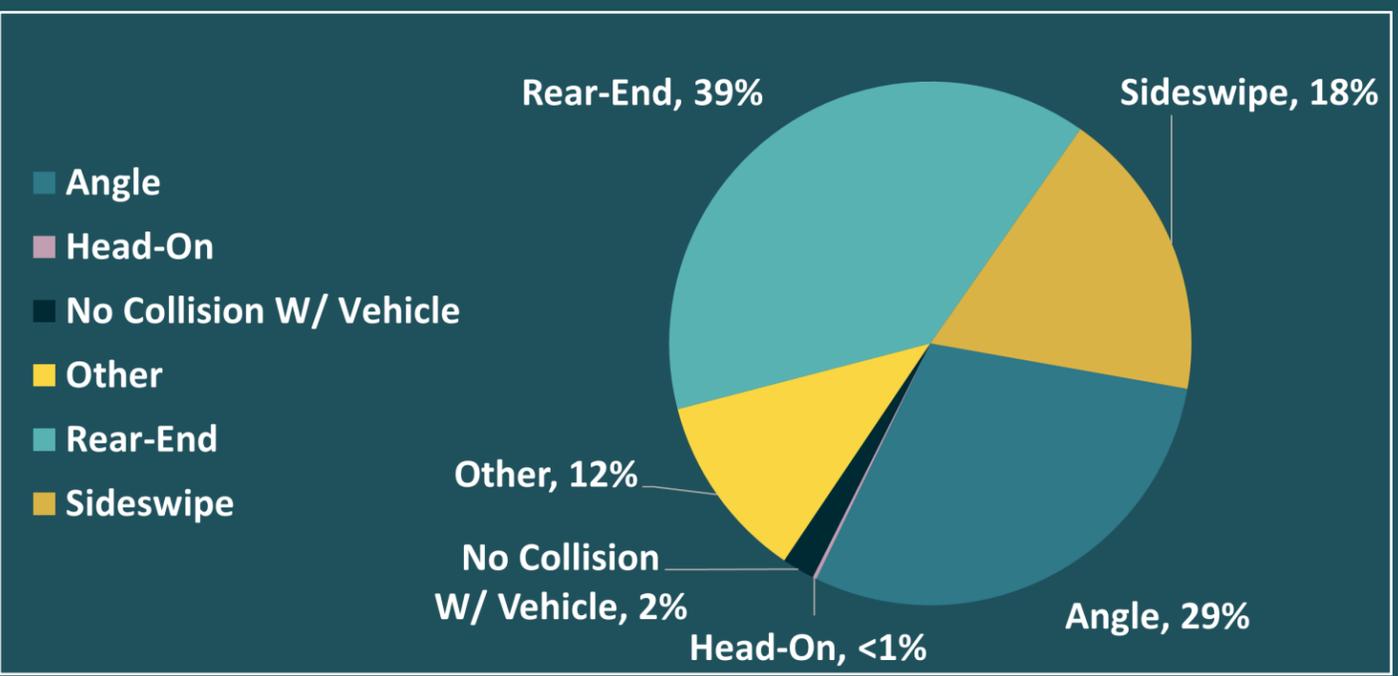
Municipal

Speed Limit	40 mph
Lanes	4
Vehicles/Day*	18,000
Total Crashes	972
HIN Intersections	4

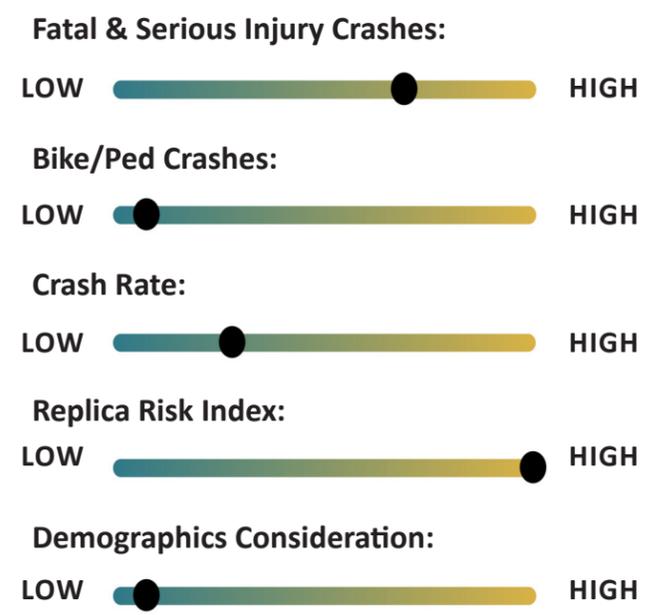
Characteristics
 This section of Mallory Lane is a two-way roadway with two through lanes in each direction, divided by wide grass medians. The segment follows a curved alignment with rolling terrain (per TN.gov GIS data). Sidewalks are present along both sides throughout the entire segment.



Along Mallory Lane, Facing North, Just North of Mallory Station Road



Ranking Index



Community Input

“ Turning left across oncoming traffic is dangerous at the intersection of Mallory Ln and McEwen Dr. ”

“ I love the thought of running around but I often do not feel safe due to the speed and aggressiveness of drivers. ”

“ Drivers speeding and running red-lights are issues along this corridor. ”

“ The wide median openings are dangerous: People cut across opposing traffic and visibility isn't good at several places. ”

*Annual Average Daily Traffic (AADT) Varies Greatly Throughout Segment
 DISCLAIMER - 23 United States Code Section 407 - Discovery and admission as evidence of certain reports and surveys - Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

MALLORY LANE

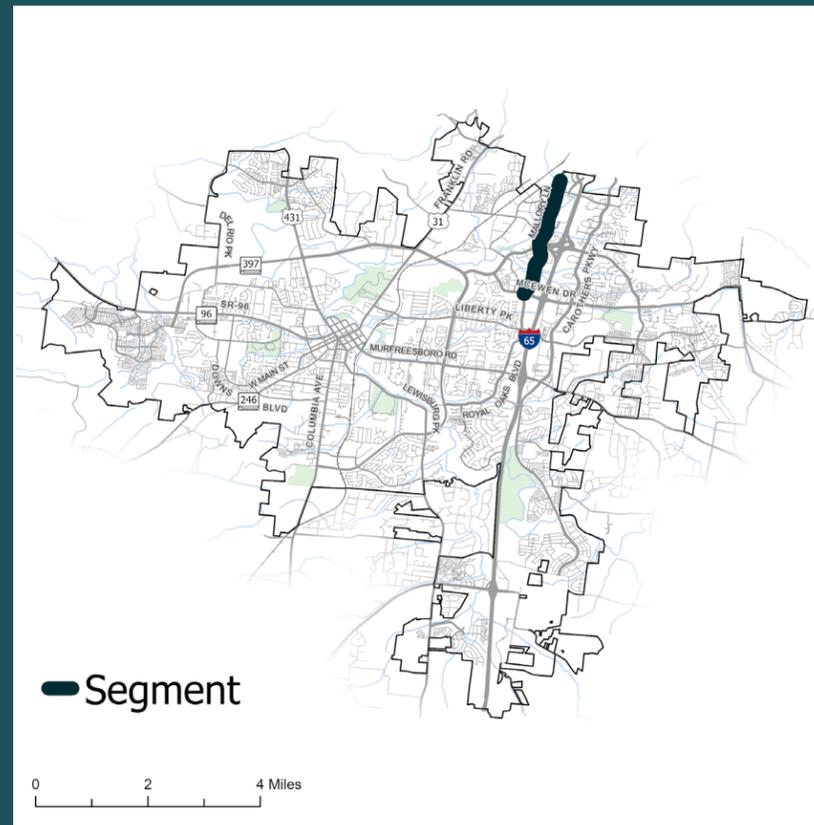
from Seaboard Lane to McEwen Drive

ID	Countermeasure	Cost	Schedule	Project Readiness
1	Evaluate Median Openings for Closure/Minimizing at Northern Walmart Driveway and Old Nichol Mill Ln	\$\$\$	Long-Term	Ready
2	Restrict Thru/Left-Turn Movements from Side Streets at Unsignalized Median Openings	\$\$\$	Mid-Term	Ready
3	Install Positive Offset Left-Turn Lanes at Seaboard Ln, Bakers Bridge Ave, Crossroads Blvd, Nichol Mill Ln, Mallory Station Rd, Cool Springs Market, Frazier Dr, and Jordan Rd	\$\$\$	Long-Term	●
4	Evaluate Left-Turn Phases for Double-Serve or Retiming	\$	Short-Term	Ready
5	Upgrade Transit Stop Signage & Facilities, including the Possible Relocation of Stop Locations and Dedicated Bump-Out Locations	\$\$\$	Mid-Term	● ●
6	Install Retroreflective Borders on Existing Backplates	\$\$	Short-Term	Ready
7	Install Flashing Yellow Arrows (FYAs) to Replace 5-Section Left-Turn Phase Signal Heads (All Signalized Intersections)	\$\$	Short-Term	Ready
8	Implement Automated Pedestrian Detection	\$\$	Mid-Term	Ready
9	Install Sidewalks to Connect Throughout Corridor	\$\$\$	Mid-Term	● ●
10	Install Sidewalk Buffer	\$\$	Mid-Term	Ready

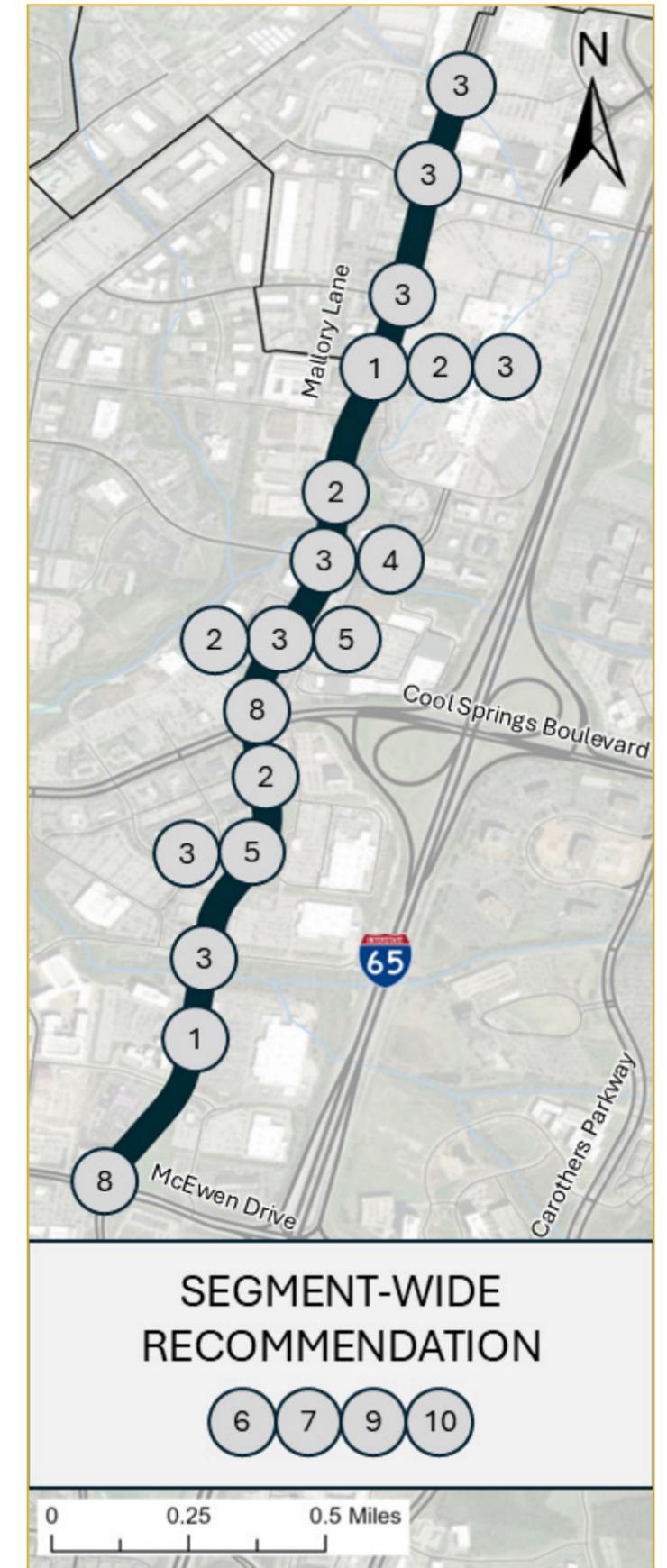
● FHWA Proven Safety Countermeasure
 ● Crash Modification Factors Countermeasure
 ● Vulnerable Road User Related Countermeasure
 ● Requires ROW Acquisition
 ● Requires Utility Relocation

Benefit Summary

- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter. This enhanced visibility and recognition can lead to a reduction in rear-end and angle crashes at signalized intersections.
- Drivers have fewer decisions to make at intersections when side street movements are restricted, which reduces confusion and the potential for errors that can lead to accidents.
- Wide median openings can create multiple conflict points where vehicles cross paths. Closing these openings reduces the number of potential collision points, thereby enhancing safety. By limiting the number of median openings, traffic flow becomes more predictable and orderly, reducing the likelihood of sudden stops or lane changes that can lead to accidents.
- By offsetting the left-turn lanes, drivers have a clearer view of oncoming traffic, reducing the likelihood of collisions when making left turns.
- By providing designated areas for buses and other transit vehicles to stop, dedicated transit stops help minimize conflicts with other road users, reducing the risk of accidents.
- Flashing yellow arrows at intersections reduce left-turn crashes, improve driver comprehension, enhance traffic flow, and increase safety for all road users.



RECOMMENDED COUNTERMEASURES



W MAIN STREET (SR-246)

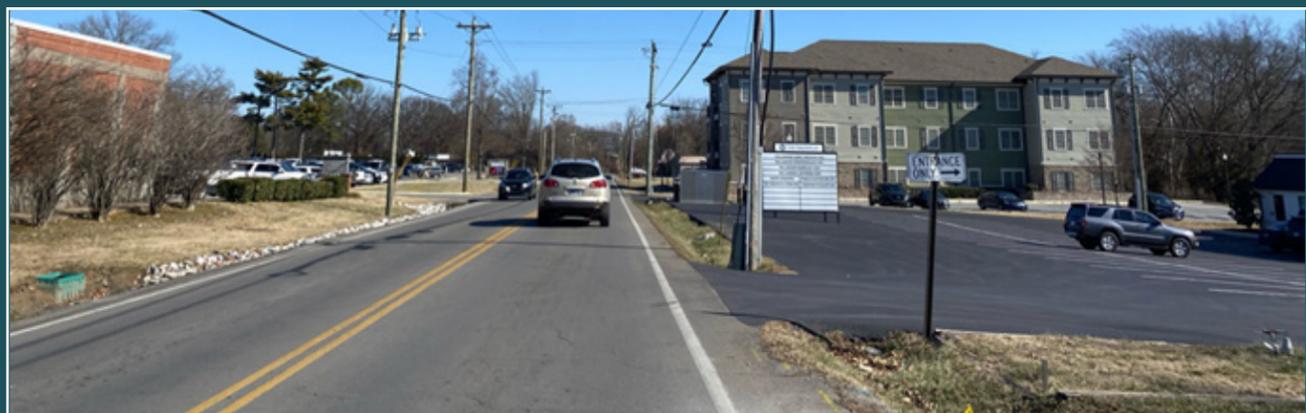
from N Petway Street to Downs Boulevard



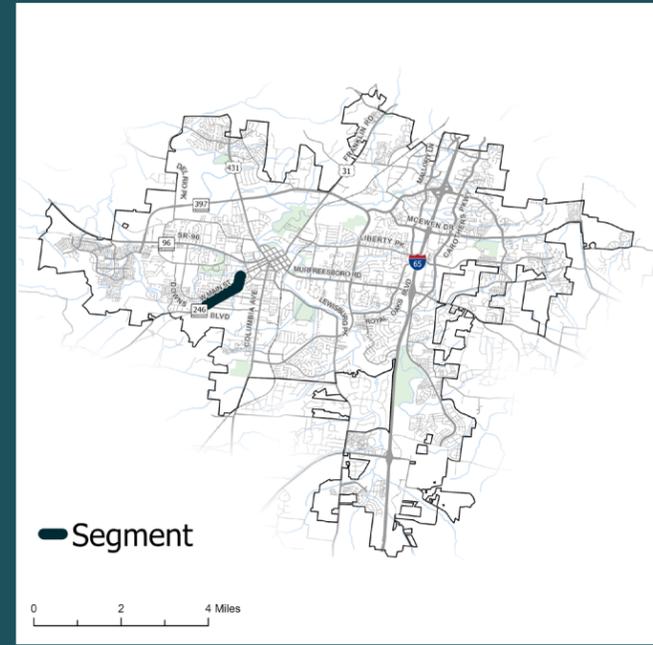
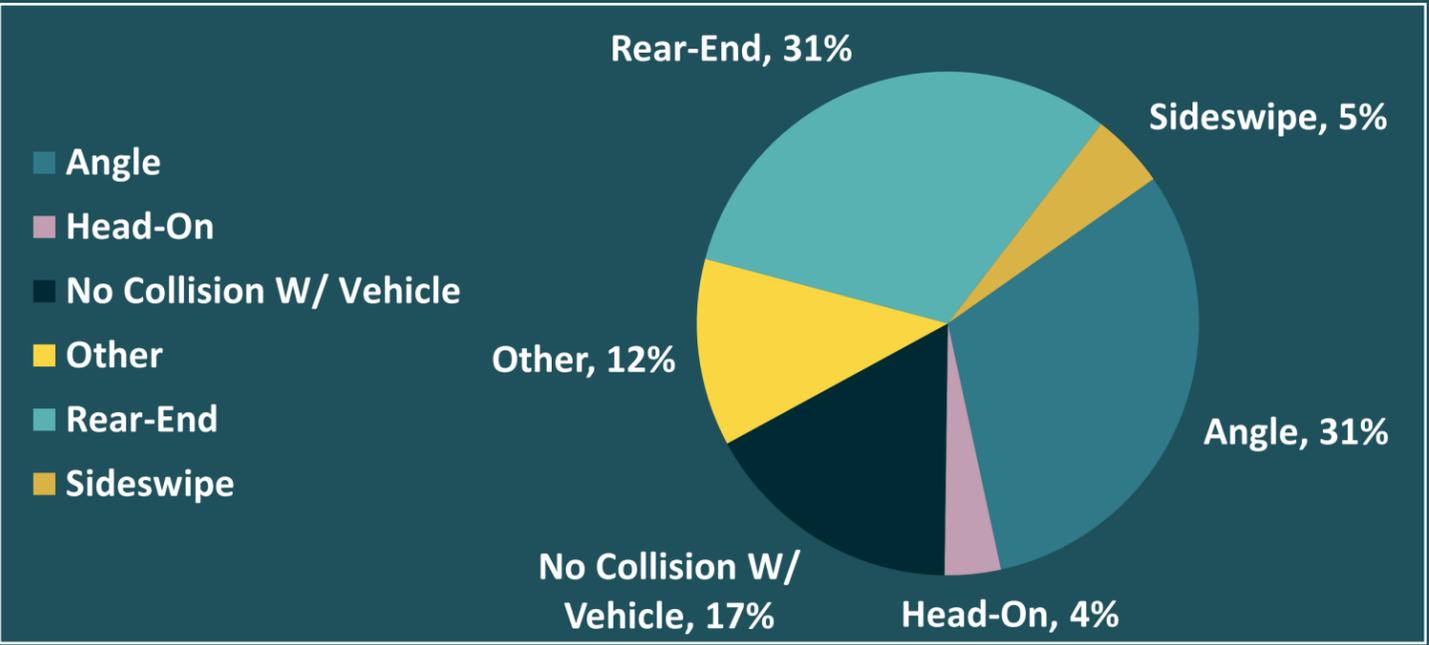
State Route	
Speed Limit	30 mph
Lanes	2
Vehicles/Day	8,000
Total Crashes	99
HIN Intersections	1

Characteristics

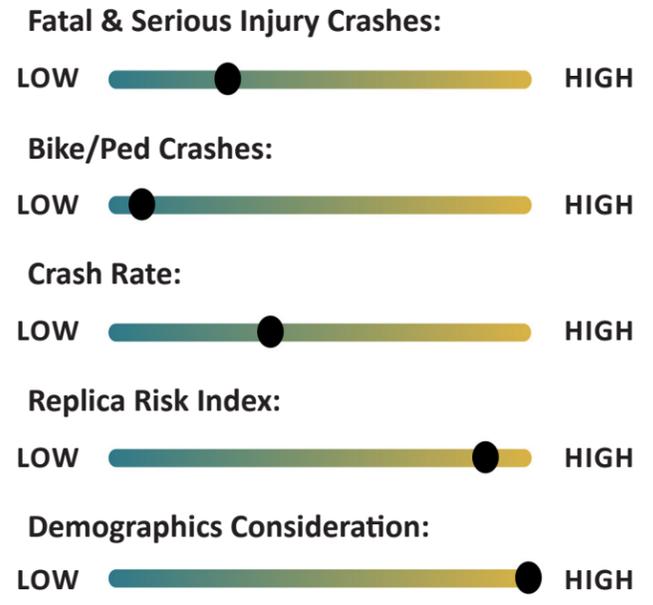
This section of W Main Street is a two-way roadway with one through lane in each direction and no separation between opposing travel lanes. The segment follows a largely straight alignment, with sharp curves along the eastern end, and has rolling terrain (per TN.gov GIS data). Sidewalks are partially present throughout this segment.



Along W Main Street, Facing Northeast, Just Northeast of Brookwood Avenue



Ranking Index



Community Input

“ Signal timing along W Main St needs to be changed due to heavy volume. ”

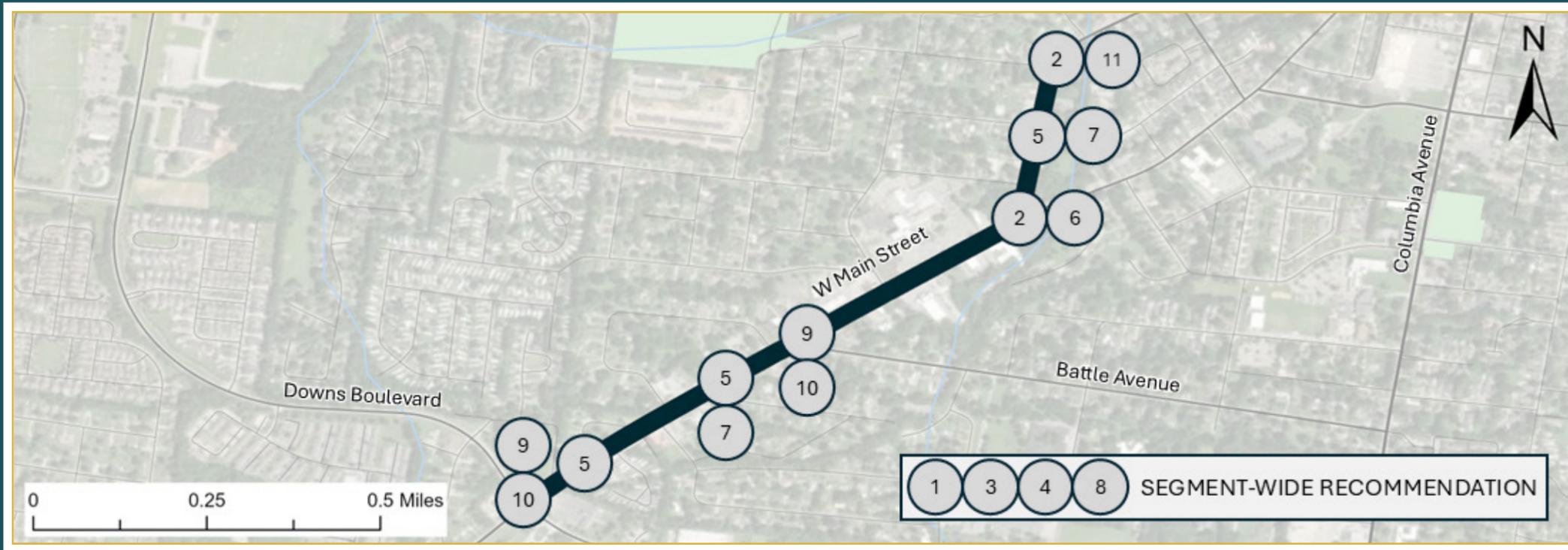
“ W Main St at Natchez St, especially turning left from Natchez St is dangerous. ”

“ W Main St at Downs Blvd is especially dangerous during business hours. Additional lighting along W Main St is also needed. ”

W MAIN STREET (SR-246)

from N Petway Street to Downs Boulevard

RECOMMENDED COUNTERMEASURES

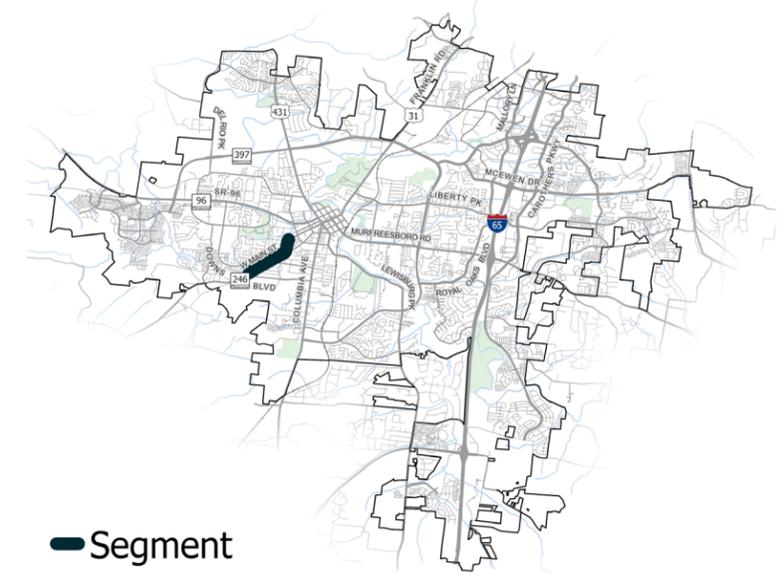


	ID	Countermeasure	Cost	Schedule	Project Readiness
● ● ●	1	Design and Construct Access Management including Driveway Closure and Consolidation	\$\$\$\$	Long-Term	● ●
● ●	2	Install Curve Advance Warning Signage	\$	Short-Term	Ready
● ● ●	3	Modify Drainage Features, Providing Adequate Space for Sidewalks and Safe Drainage Structures	\$\$\$\$	Long-Term	● ●
● ● ●	4	Install/Upgrade Pedestrian Facilities (Sidewalks, Crosswalks, Pedestrian Signal Facilities)	\$\$\$\$	Long-Term	● ●
● ● ●	5	Upgrade Transit Stop Signage & Facilities, including the Possible Relocation of Stop Locations and Dedicated Bump-Out Locations	\$\$\$	Long-Term	● ●
● ● ●	6	Install a Single-Lane Roundabout	\$\$\$\$	Long-Term	● ●
● ● ●	7	Install Marked Crossings at Transit Stops with RRFBs	\$\$	Mid-Term	●
● ●	8	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	\$\$	Mid-Term	Ready
● ●	9	Install Retroreflective Borders on Existing Backplates	\$\$	Mid-Term	Ready
●	10	Install Flashing Yellow Arrows (FYAs) to Replace 5-Section Left-Turn Phase Signal Heads (All Signalized Intersections)	\$\$	Mid-Term	Ready
● ● ●	11	Package of Low-Cost Improvements	\$\$\$	Long-Term	● ●

● FHWA Proven Safety Countermeasure
● Crash Modification Factors Countermeasure
● Vulnerable Road User Related Countermeasure
● Requires ROW Acquisition
● Requires Utility Relocation

Benefit Summary

- Curve warning signage alerts drivers about the upcoming curve, encouraging reduced speeds and more cautious driving.
- High-emphasis crosswalks use patterns like bar pairs, continental, or ladder designs that are more visible to both drivers and pedestrians from a greater distance compared to traditional crosswalks.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter. This enhanced visibility and recognition can lead to a reduction in rear-end and angle crashes at signalized intersections.
- Flashing yellow arrows at intersections reduce left-turn crashes, improve driver comprehension, enhance traffic flow, and increase safety for all road users.
- Access management controls where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.



● Segment

0 2 4 Miles

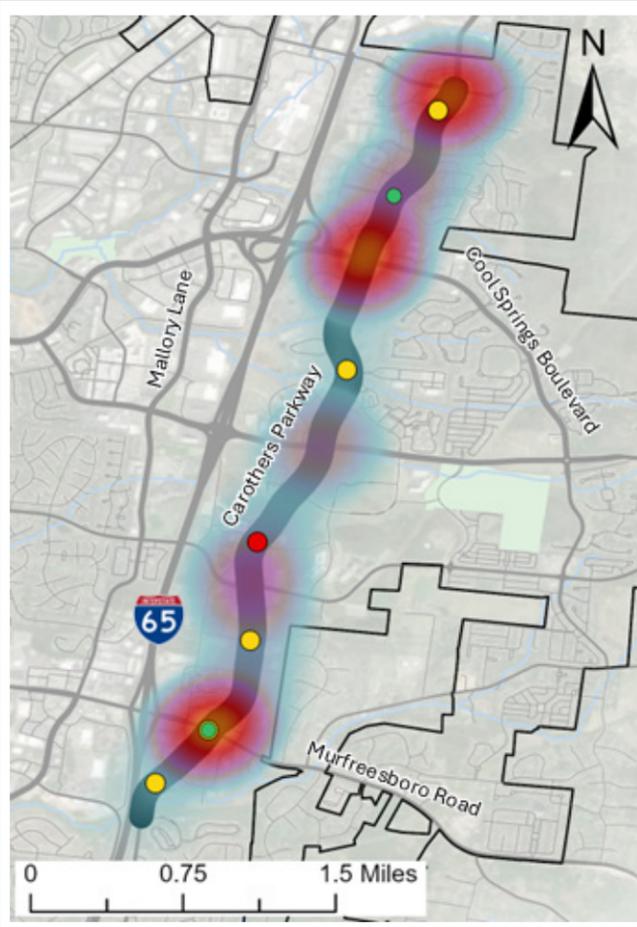
CAROTHERS PARKWAY

from Bakers Bridge Avenue to Monte Bella Place

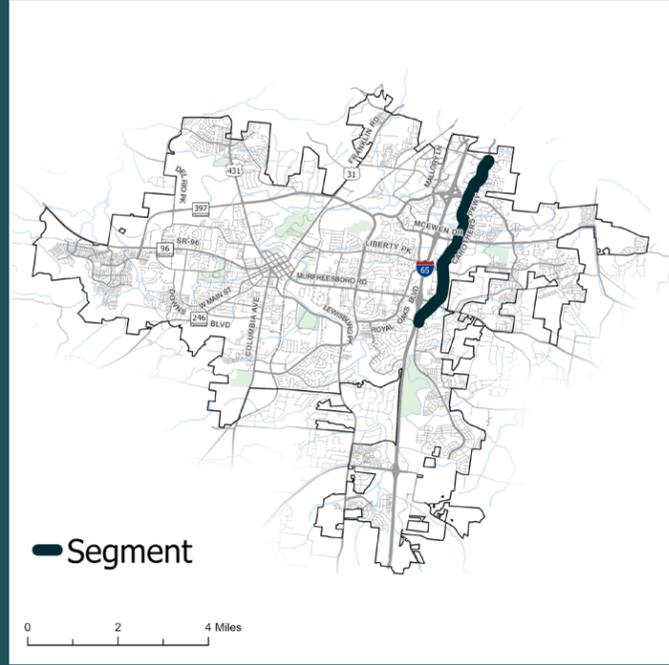
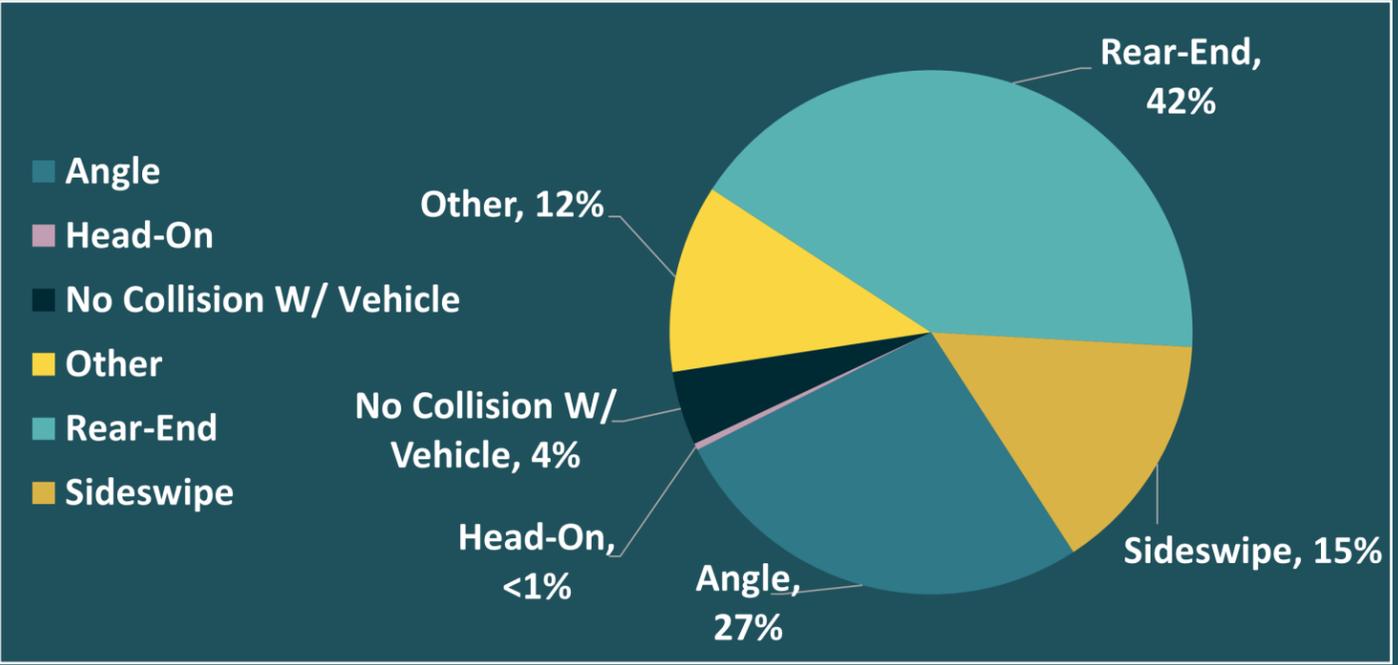
Municipal

Speed Limit	40 mph
Lanes	4
Vehicles/Day	15,000
Total Crashes	564
HIN Intersections	6

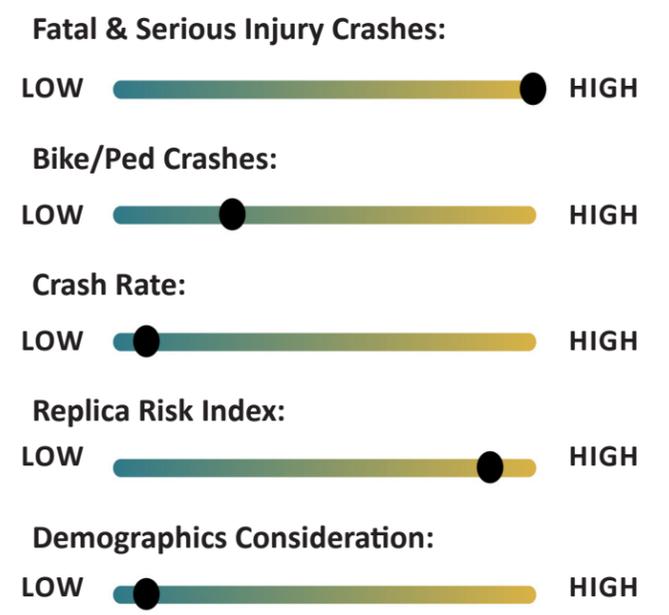
Characteristics
 This section of Carothers Parkway is a two-way road-way with two through lanes in each direction, divided by wide grass medians. The segment follows a curved alignment, with rolling terrain (per TN.gov GIS data). Sidewalks are present along both sides throughout this segment.



Along Carothers Parkway, Facing South, Just North of Innovation Drive



Ranking Index



Community Input

“ Red-light running is a major issue along this roadway. ”

“ Carothers Pkwy has a great path and sidewalk, but crossing Murfreesboro Rd is a pain. ”

“ Drivers often block the intersection of Murfreesboro Rd at Carothers Pkwy, leaving northbound traffic turning west to sit through multiple red lights. ”

*Annual Average Daily Traffic (AADT) Varies Greatly Throughout Segment
 DISCLAIMER - 23 United States Code Section 407 - Discovery and admission as evidence of certain reports and surveys - Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

CAROTHERS PARKWAY

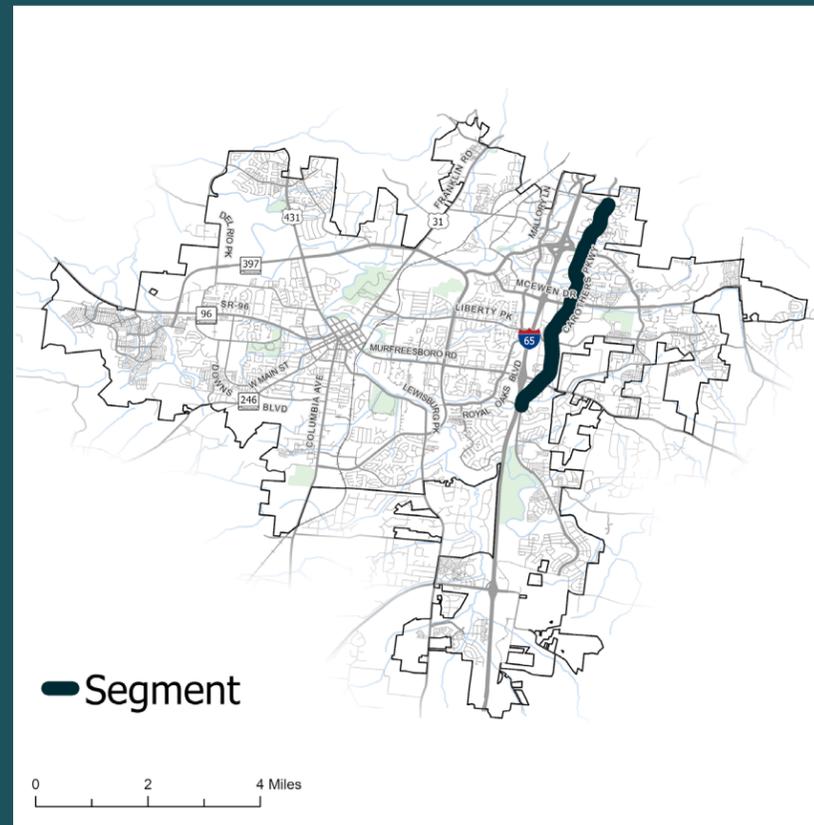
from Bakers Bridge Avenue to Monte Bella Place

	ID	Countermeasure	Cost	Schedule	Project Readiness
●●	1	Install Retroreflective Borders on Existing Backplates	\$\$	Short-Term	Ready
●●	2	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	\$\$	Short-Term	Ready
●●	3	Evaluate Median Openings for Closure/Minimizing	\$\$\$	Short-Term	Ready
●●	4	Install Positive Offset Left-Turn Lanes at Walker Chevrolet Northern Driveway, Williamson Medical Center Driveway, Liberty Pk, Southstar Dr, Tower Cir, Resource Pkwy, Innovation Dr, Nissan Way, Nissan Northern Driveway, Crescent Centre Dr Northern & Southern Driveways, Corporate Centre Dr, The Carothers Building Driveway, Mayfield Dr, Fourth Capital Bank Driveway, International Dr, and Bakers Bridge Ave	\$\$\$	Long-Term	●
●	5	Install Flashing Yellow Arrows (FYAs) to Replace 5-Section Left-Turn Phase Signal Heads (All Signalized Intersections)	\$\$	Short-Term	Ready
●	6	Install Raised Pavement Markers (RPMs)	\$\$	Short-Term	Ready
●●●	7	Conduct Targeted Speed Enforcement	\$	Short-Term	Ready
●	8	Install an Additional Signal Head for the Third Through Lane on the Westbound Approach	\$\$	Mid-Term	Ready
●	9	Convert Covey Dr to Right-In Right-Out (RIRO)	\$	Short-Term	Ready
●●●	10	Install Curb Extensions on Intersection Corners to Shorten Crosswalk Lengths	\$\$	Mid-Term	Ready
●●●	11	Implement Automated Pedestrian Detection	\$\$	Mid-Term	Ready

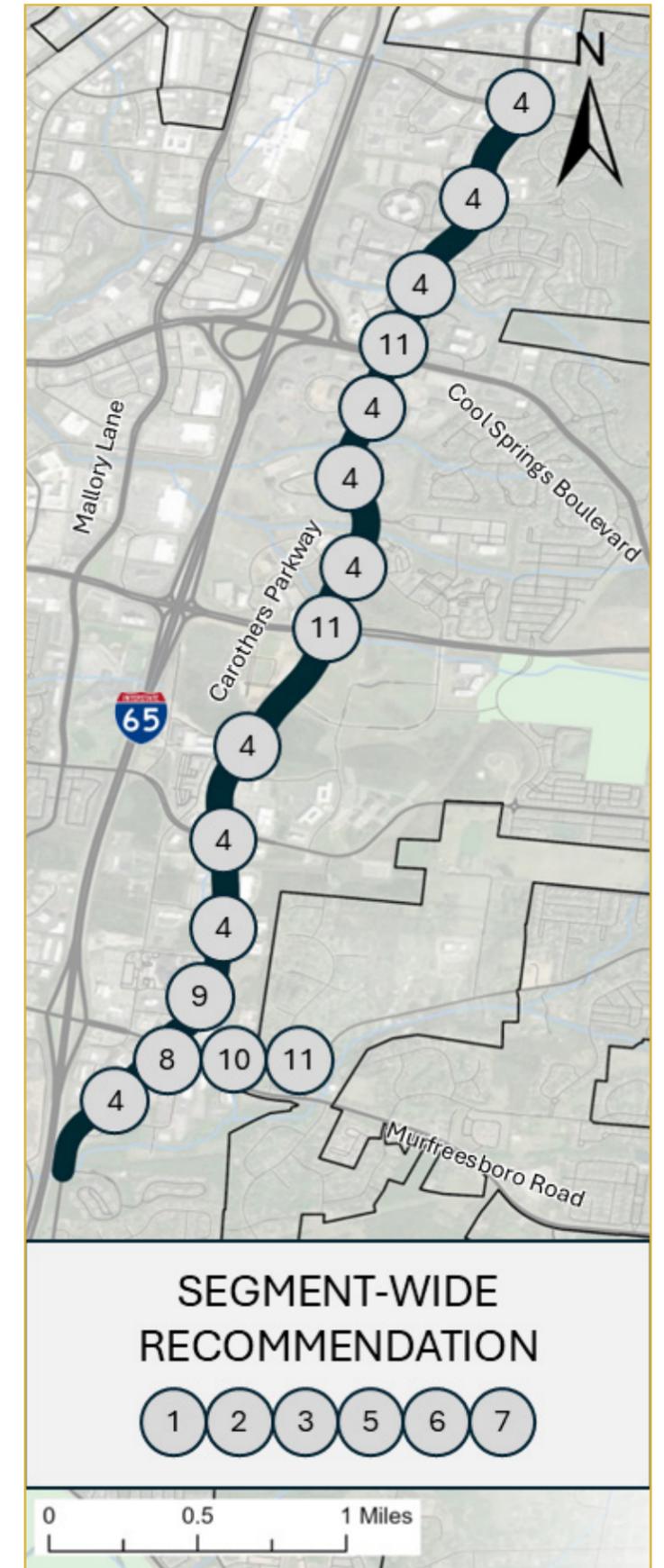
● FHWA Proven Safety Countermeasure
● Crash Modification Factors Countermeasure
● Vulnerable Road User Related Countermeasure
● Requires ROW Acquisition
● Requires Utility Relocation

Benefit Summary

- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter. This enhanced visibility and recognition can lead to a reduction in rear-end and angle crashes at signalized intersections.
- Countermeasures that successfully deter high speeds and red-light running, such as the use of red-light cameras, signal timing adjustments, and targeted enforcement, can offer substantial safety benefits through the reduction in frequency and severity of crashes at signalized intersections.
- RPMs enhance visibility in low-light and adverse weather conditions, such as fog and rain, making it easier for drivers to see lane markings and road edges.
- By offsetting the left-turn lanes, drivers have a clearer view of oncoming traffic, reducing the likelihood of collisions when making left turns.
- Signals placed directly above each lane improve visibility for drivers, reducing confusion and ensuring that each driver can clearly see the signal intended for their lane. Adding a traffic signal further increases the conspicuity of the intersection, leading to higher driver awareness and safety.
- Flashing yellow arrows at intersections reduce left-turn crashes, improve driver comprehension, enhance traffic flow, and increase safety for all road users.



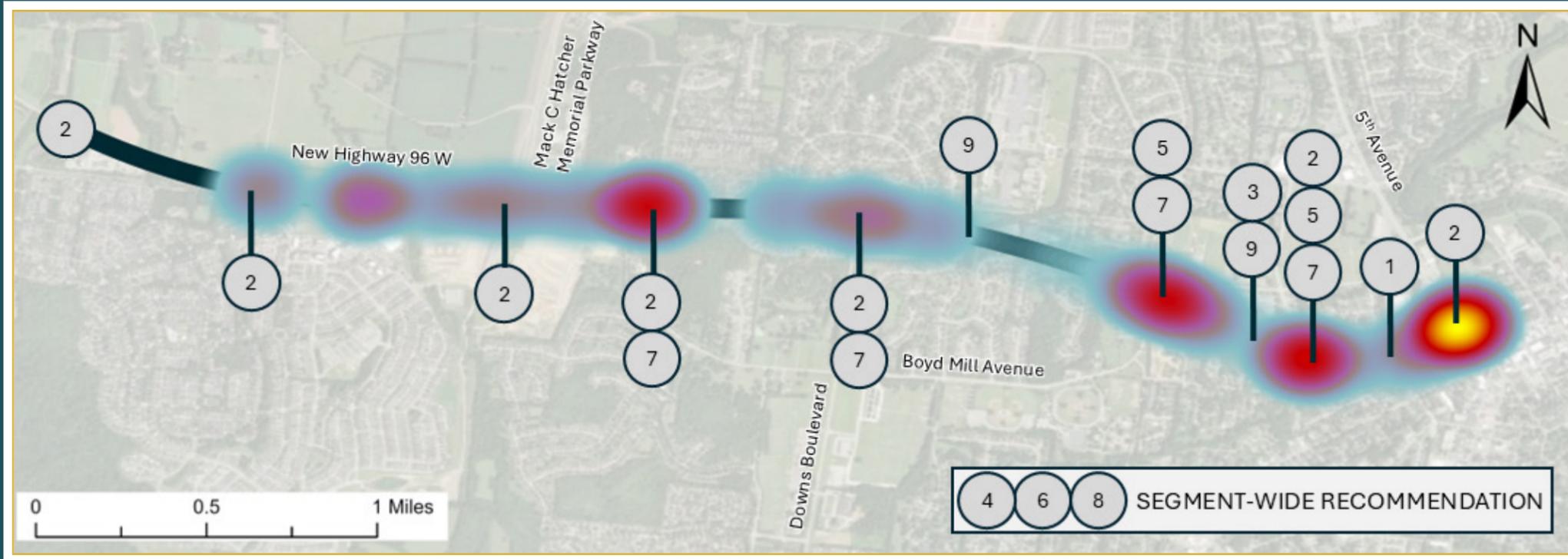
RECOMMENDED COUNTERMEASURES



NEW HIGHWAY 96 W

from Stonewater Boulevard to 5th Avenue N

RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Replace TWLTL with Median (Install Left-Turn Lanes as Necessary), from 11th Avenue N to 7th Avenue	Long-Term
2	Install Retroreflective Borders on Existing Backplates	Short-Term
3	Upgrade School Zone Signage	Mid-Term
4	Install Raised Pavement Markers (RPMs)	Short-Term
5	Install High-Emphasis Crosswalks	Short-Term
6	Conduct High-Visibility Speed Enforcement	Short-Term
7	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
8	Install Wider Edge Lines	Short-Term
9	Implement Targeted School Zone Enforcement	Short-Term

Benefit Summary

- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- Wider edge lines enhance visibility, reduce roadway departures, lower crash rates, and support automated vehicle navigation.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.
- High-Visibility Enforcement creates a strong deterrent effect against dangerous driving behaviors such as speeding, impaired driving, and distracted driving. The visible presence of law enforcement encourages drivers to comply with traffic laws.



MURFREESBORO ROAD

from Breckenridge Road to Hurstbourne Park Boulevard

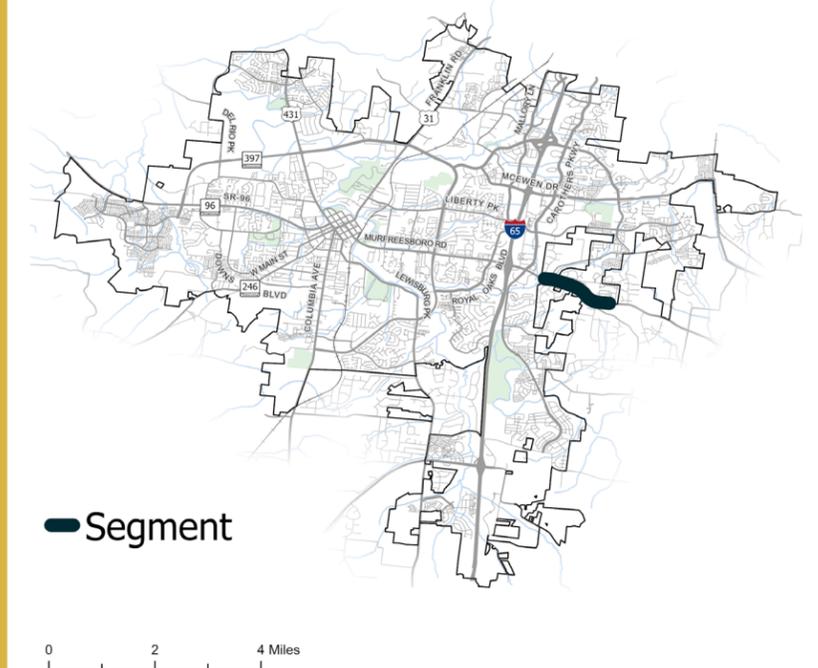
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Evaluate Right-Turn Lane Warrants, and Install as Warranted	Short-Term
2	Replace TWLTL with Median (Install Left-Turn Lanes as Necessary)	Long-Term
3	Conduct High-Visibility Speed Enforcement	Short-Term
4	Install Raised Pavement Markers (RPMs)	Short-Term
5	Conduct Targeted Red-Light Running Enforcement	Short-Term
6	Install Retroreflective Borders on Existing Backplates	Short-Term
7	Improve Roadway Lighting	Mid-Term
8	Evaluate Right-Turn Lane Warrants	Short-Term

Benefit Summary

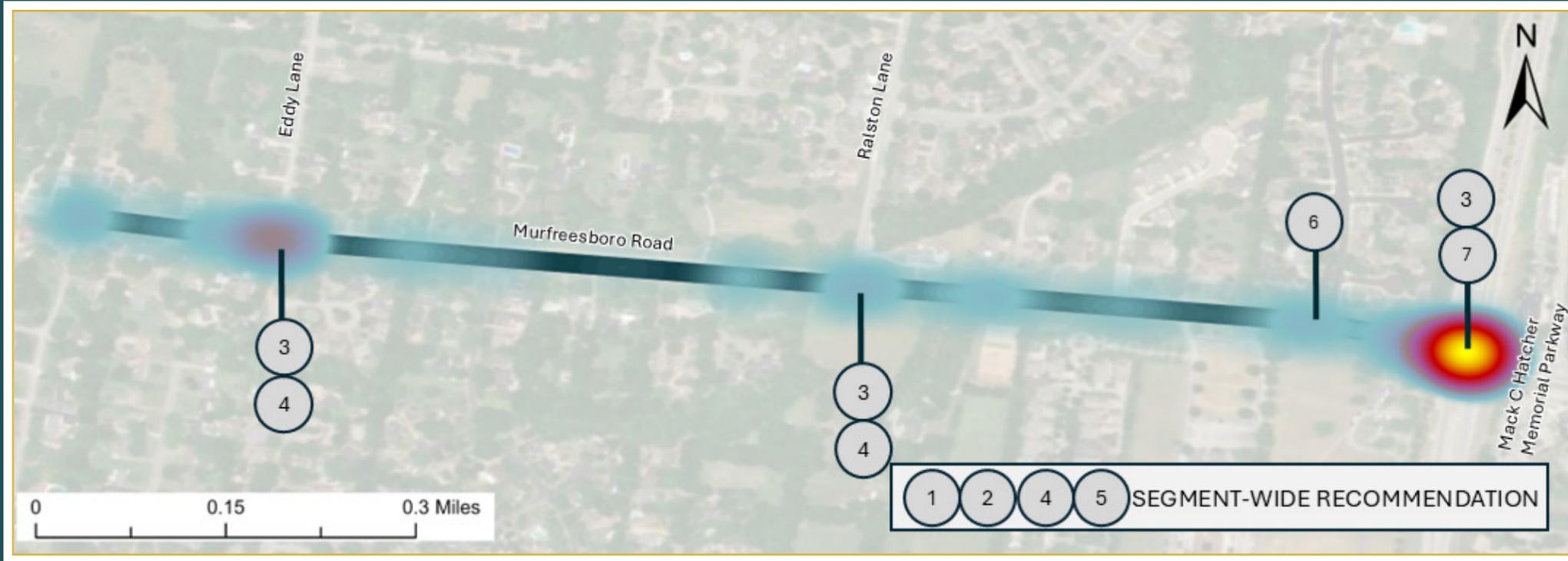
- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Roadway lighting helps drivers, cyclists, and pedestrians see each other more clearly, especially during nighttime and low-visibility conditions, reducing the likelihood of crashes.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.
- Countermeasures that successfully deter red-light running, such as the use of red-light cameras and targeted enforcement, can offer substantial safety benefits through the reduction in frequency and severity of crashes at signalized intersections.



MURFREESBORO ROAD

from Ewingville Drive to Mack C Hatcher Memorial Parkway

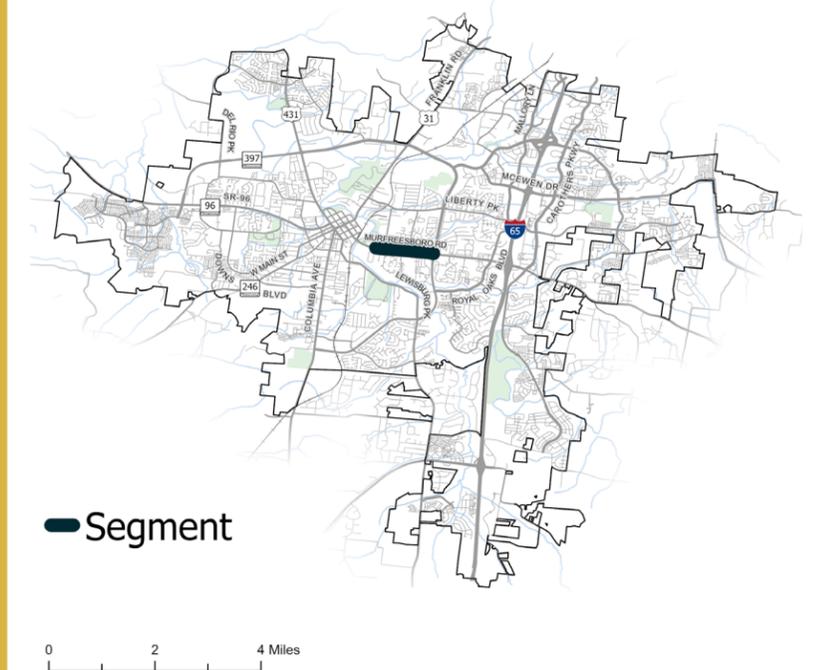
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Replace Two-Way Left-Turn Lane (TWLTL) with Median (Install Turn Lanes as Necessary), from Eddy Ln to Buckingham Cir	Long-Term
2	Design and Construct Access Management Plan	Long-Term
3	Install Retroreflective Borders on Existing Backplates	Short-Term
4	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
5	Install Wider Edge Lines	Short-Term
6	Clear Vegetation to Optimize Driver Sight Triangles	Short-Term
7	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- Wider edge lines enhance visibility, reduce roadway departures, lower crash rates, and support automated vehicle navigation.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.



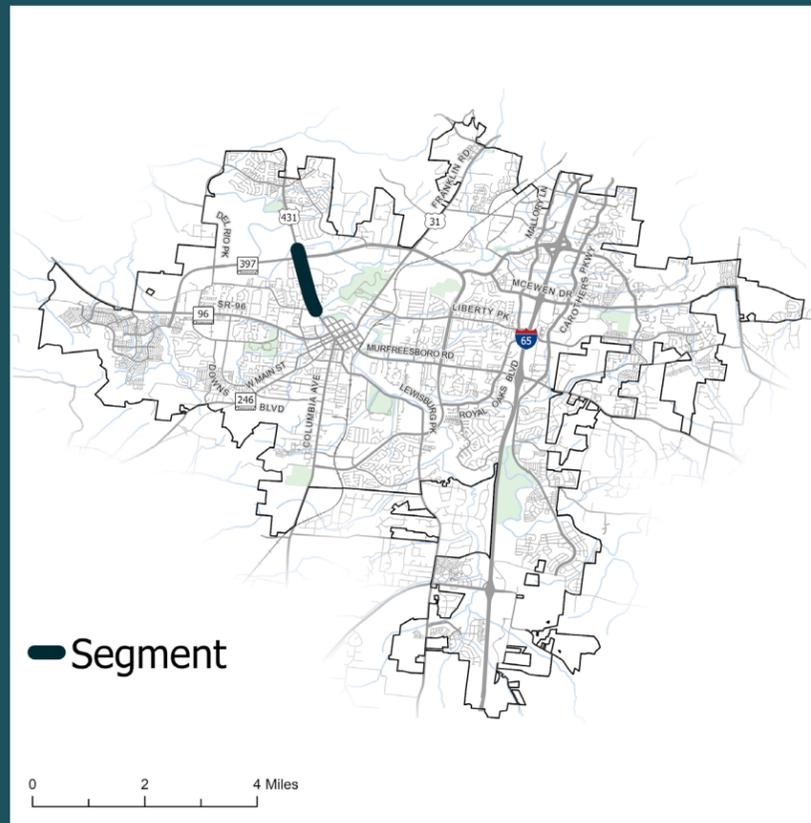
HILLSBORO ROAD

from Del Rio Pike to Fulton Greer Lane

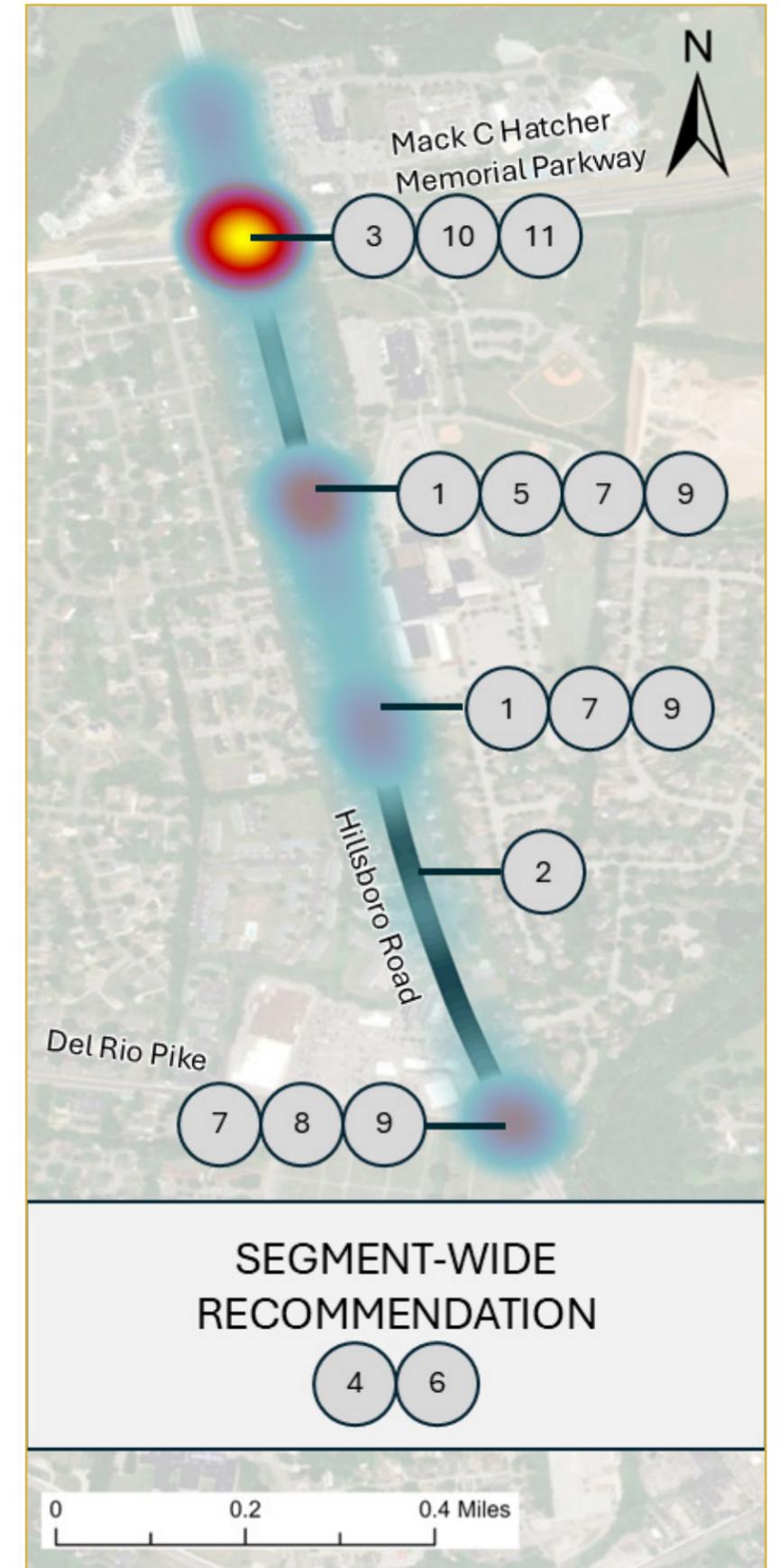
ID	Countermeasure	Schedule
1	Install High-Emphasis Crosswalks	Short-Term
2	Replace TWLTL with Median (Install Left-Turn Lanes as Necessary), from Claude Yates Drive to Del Rio Pike	Long-Term
3	Shorten Pedestrian Crossing Distances at Mack C Hatcher Memorial Parkway	Mid-Term
4	Install Right-Turn Lanes, as warranted	Long-Term
5	Install Bike Detection Facilities at Claude Yates Drive	Long-Term
6	Install Raised Pavement Markers (RPMs)	Short-Term
7	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
8	Relocate Eastbound Left-Turn Bicycle Lane to Cross at Pedestrian Crosswalk at Del Rio Pike	Short-Term
9	Install Retroreflective Borders on Existing Backplates	Short-Term
10	Conduct Targeted Red-Light Running Enforcement	Short-Term
11	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.
- Bike detection ensures that cyclists are recognized and given appropriate signal phases, minimizing cyclists from running red lights and reducing potential conflicts between cyclists and motorized vehicles.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.



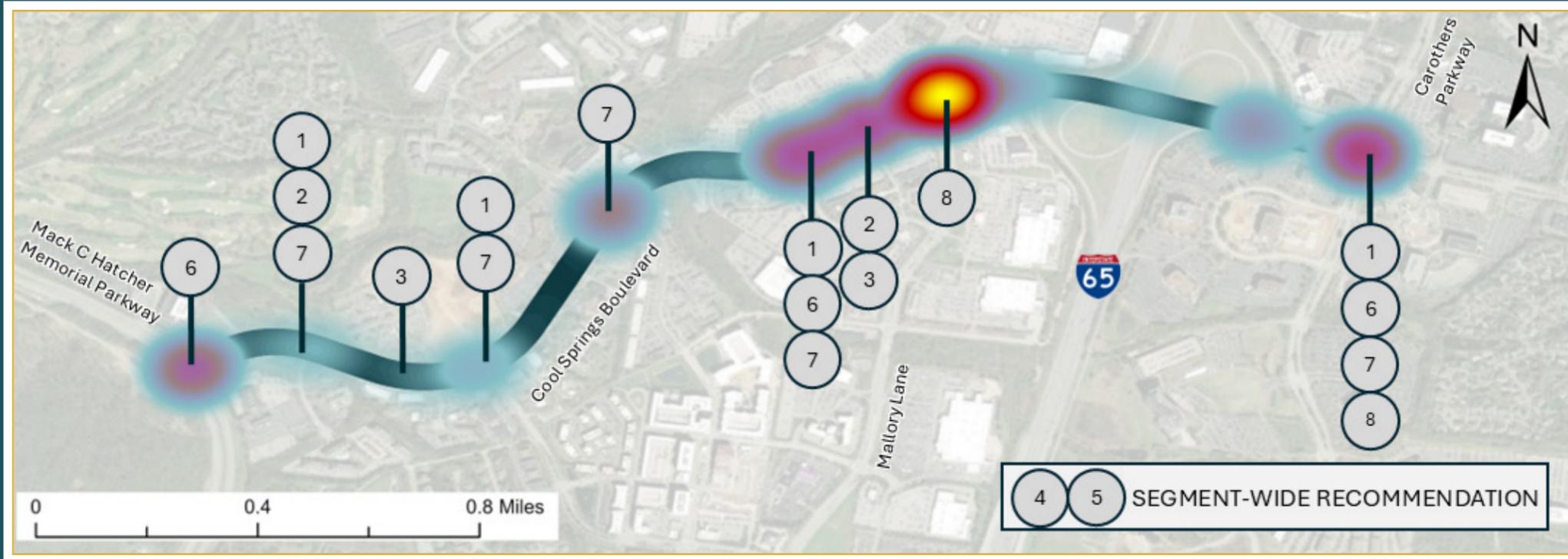
RECOMMENDED COUNTERMEASURES



COOL SPRINGS BOULEVARD

from Mack C Hatcher Memorial Parkway to Carothers Parkway

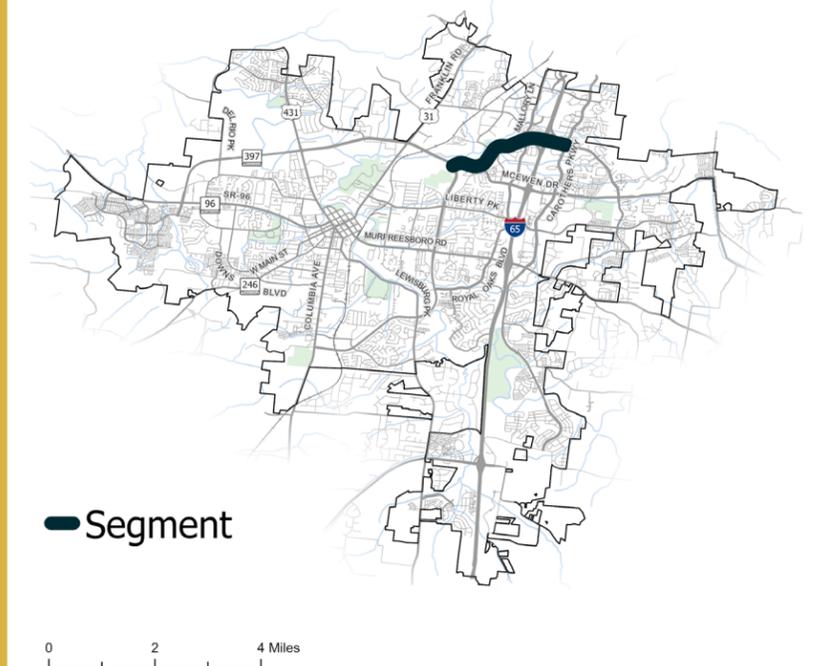
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Install Positive Offset Left-Turn Lane	Long-Term
2	Evaluate Median Openings for Closure/Minimizing	Short-Term
3	Convert Full-Access Approaches to Right-In Right-Out (RIRO) Movements	Mid-Term
4	Install Raised Pavement Markers (RPMs)	Short-Term
5	Conduct Targeted Red-Light Running Enforcement	Short-Term
6	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
7	Install Retroreflective Borders on Existing Backplates	Short-Term
8	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

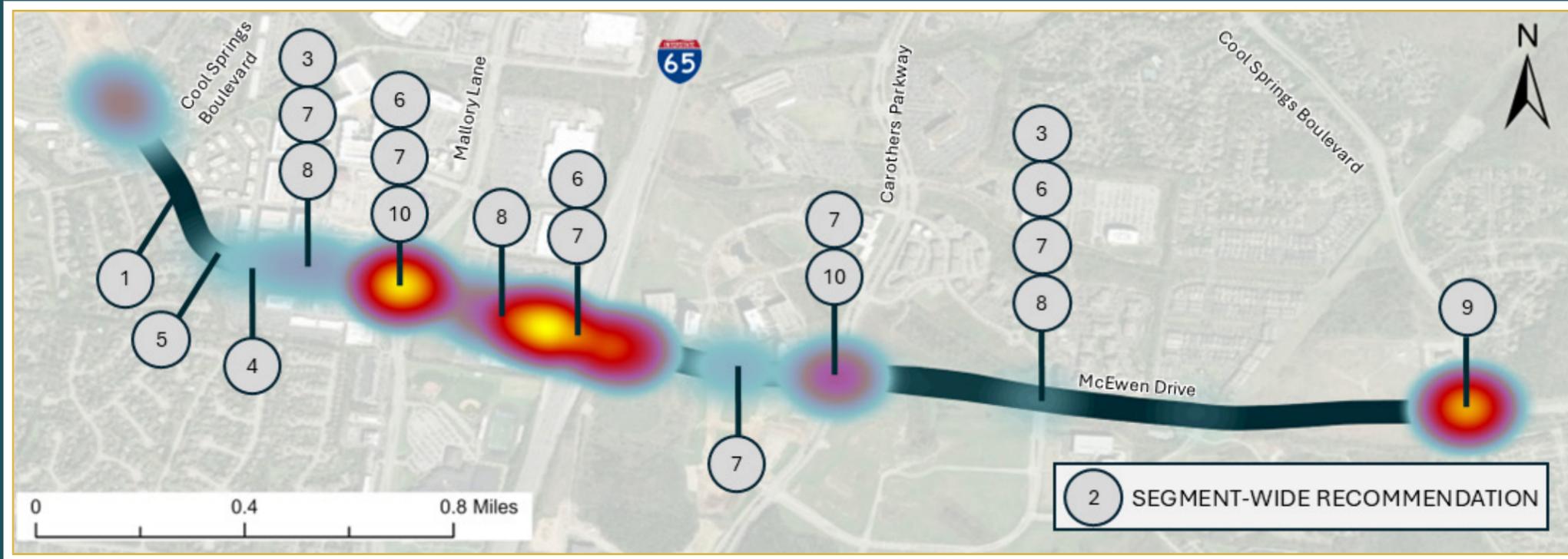
- Realigning left-turn lanes with positive offset improves sight lines for left turning vehicles, allowing drivers to see oncoming traffic more clearly and make safer left-turn maneuvers.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- Countermeasures that successfully deter red-light running, such as the use of red-light cameras and targeted enforcement, can offer substantial safety benefits through the reduction in frequency and severity of crashes at signalized intersections.



MCEWEN DRIVE

from Cool Springs Boulevard to Cool Springs Boulevard

RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Replace Two-Way Left-Turn Lane (TWLTL) with Median (Install Turn Lanes as Necessary) from Cool Springs Blvd to Jordan Rd	Long-Term
2	Evaluate Median Openings for Closure/Minimizing	Short-Term
3	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
4	Restrict Thru/Left-Turn Movements from Side Streets	Mid-Term
5	Design and Construct Access Management Plan	Long-Term
6	Conduct Targeted Red-Light Running Enforcement	Short-Term
7	Install Retroreflective Borders on Existing Backplates	Short-Term
8	Install Positive Offset Left-Turn Lanes	Long-Term
9	Install Transverse Pavement Markings	Short-Term
10	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

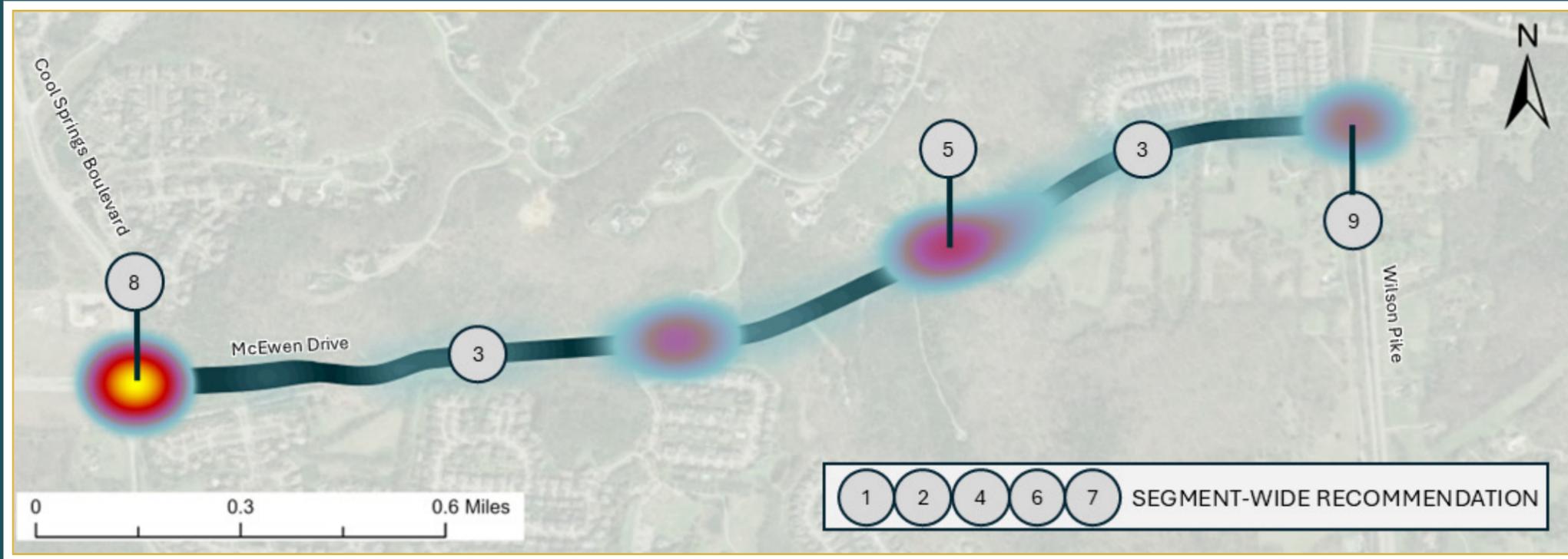
- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Countermeasures that successfully deter high speeds and red-light running, such as the use of red-light cameras, signal timing adjustments, and targeted enforcement, can offer substantial safety benefits through the reduction in frequency and severity of crashes at signalized intersections.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter. This enhanced visibility and recognition can lead to a reduction in rear-end and angle crashes at signalized intersections.
- By positively offsetting left-turn lanes, drivers have a clearer view of oncoming traffic, reducing the likelihood of collisions when making left turns.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.



MCEWEN DRIVE

from Cool Springs Boulevard to Wilson Pike

RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Install Raised Pavement Markers (RPMs)	Short-Term
2	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	Short-Term
3	Install Guardrail, as warranted	Mid-Term
4	Install/Upgrade Pavement Friction Applications	Mid-Term
5	Install Curve Warning Signage	Short-Term
6	Install Combination Center/Edge Line Rumble Strips	Short-Term
7	Widen Shoulder (2' Minimum)	Long-Term
8	Install Transverse Pavement Markings	Short-Term
9	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term

Benefit Summary

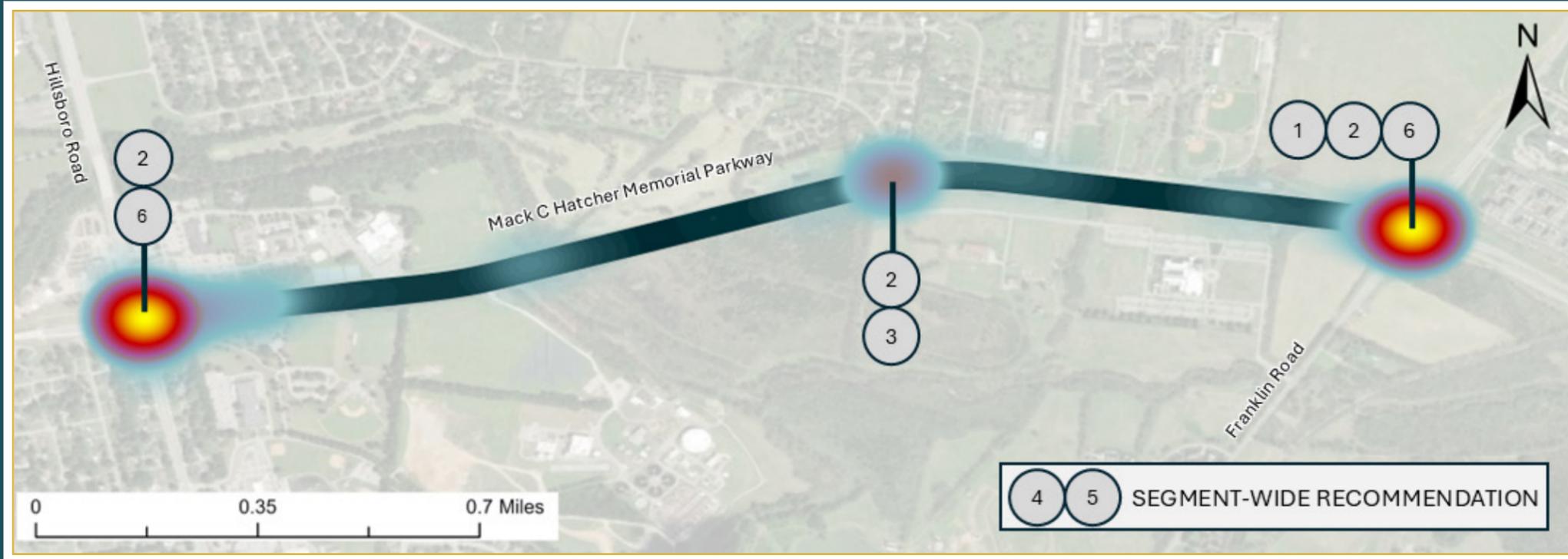
- Rumble striping along edge/centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for roadway departure crashes and head-on collisions.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.
- Retroreflective materials reflect light back to its source, making signs and road markings highly visible in all conditions. This helps drivers see and read signs more easily, reducing the risk of accidents and lowering crash rates.
- Transverse pavement markings create a visual cue that encourages drivers to slow down as they approach intersections or crossings.
- Wider shoulders provide additional space for vehicles to maneuver, reducing the likelihood of head-on, sideswipe, and fixed-object crashes.
- Guardrails are designed to absorb and dissipate the energy of a crash, reducing the impact force on the vehicle and its occupants. This can significantly lower the risk of serious injuries or fatalities.



MACK C HATCHER MEMORIAL PARKWAY

from Hillsboro Road to Franklin Road

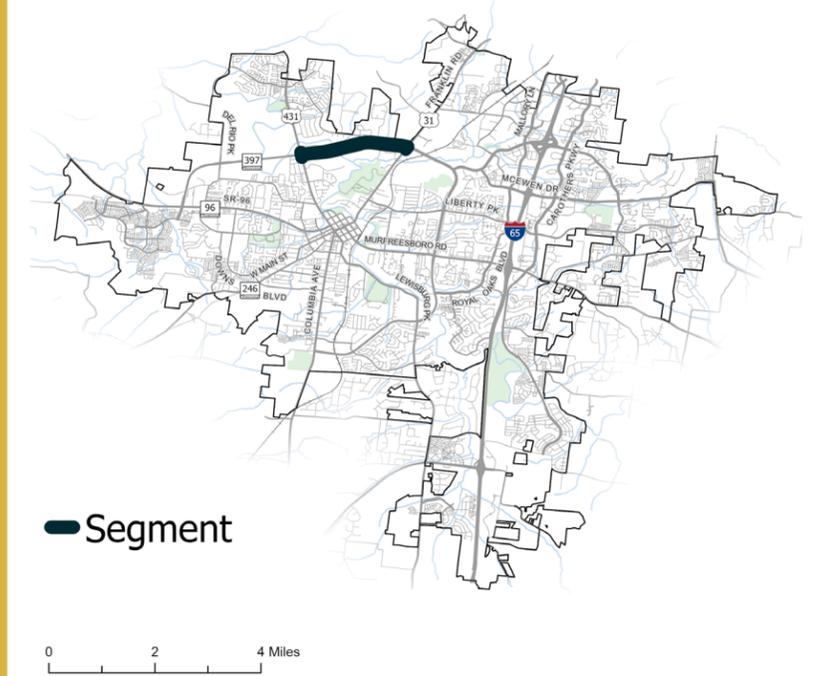
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Upgrade All Approaches to include High-Emphasis Crosswalks	Short-Term
2	Install Retroreflective Borders on Existing Backplates	Short-Term
3	Conduct High-Visibility Cell-Phone Use Enforcement	Short-Term
4	Extend Multi-Use Path	Long-Term
5	Upgrade Striping & Signage to Mitigate Sun Glare Issues	Short-Term
6	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

- High-emphasis crosswalks use patterns like bar pairs, continental, or ladder designs that are more visible to both drivers and pedestrians from a greater distance compared to traditional crosswalks.
- Multi-use paths provide a dedicated space for pedestrians, cyclists, and other non-motorized users, reducing the risk of collisions with motor vehicles.
- Young drivers are more prone to distractions, most notably cell phone use. Consistent enforcement and the perceived risk of getting caught can lead to long-term behavioral changes among drivers, encouraging them to avoid using their phones while driving. Implementing and enforcing cell phone bans near schools can instill good driving habits in young drivers early on.
- Enhanced striping and signage are designed to be more reflective and visible even in bright sunlight. This helps drivers see road markings and signs more clearly, especially along roadways known for having sun glare issues.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of



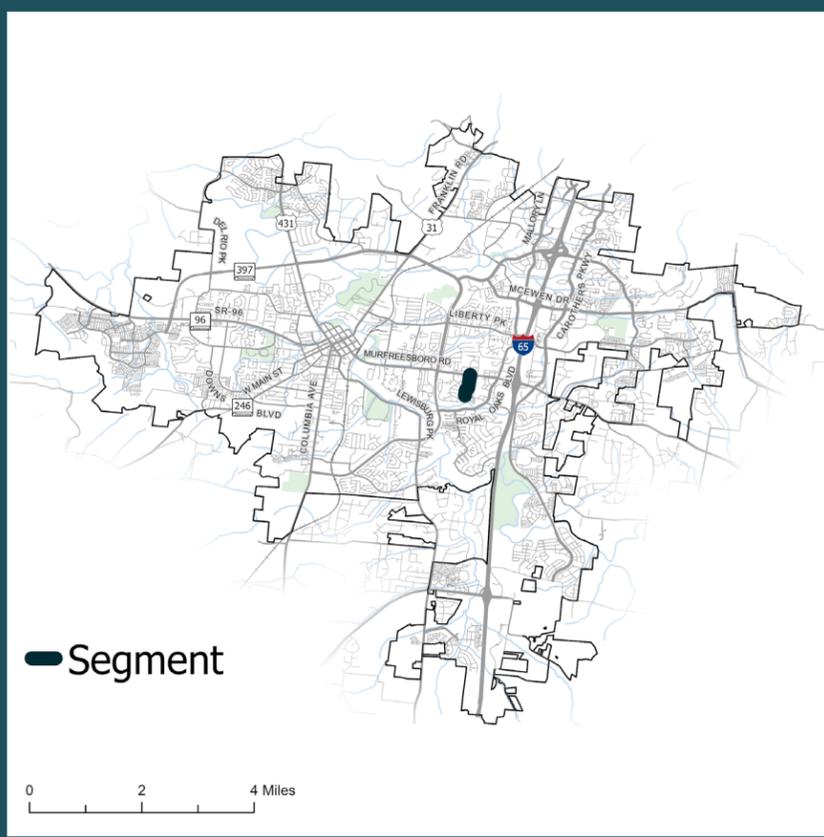
SOUTHWINDS DRIVE

from Murfreesboro Road to End of Segment

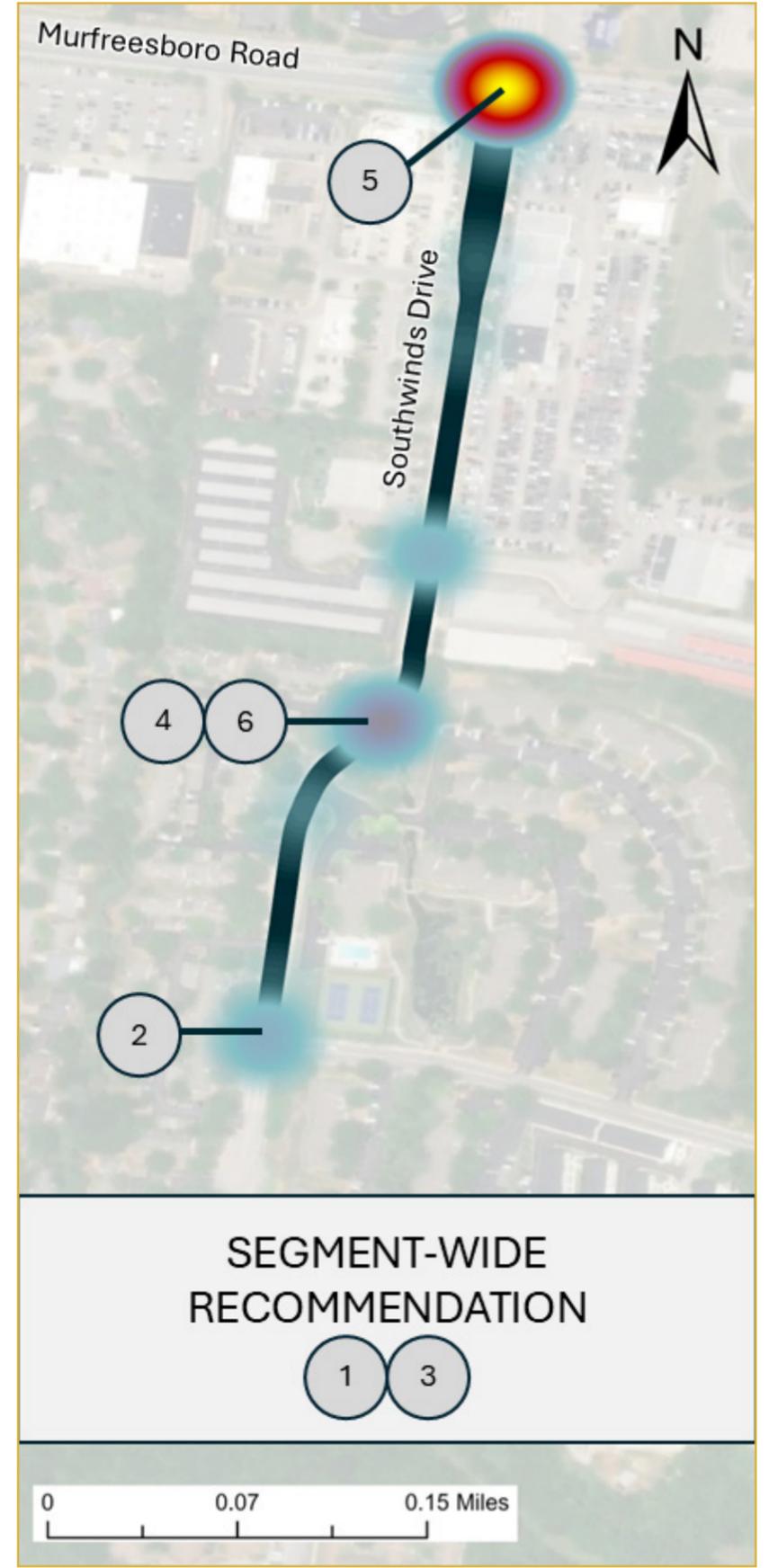
ID	Countermeasure	Schedule
1	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	Short-Term
2	Install High-Emphasis Crosswalks at Oak Meadow Drive	Short-Term
3	Install Centerline Rumble Strips	Short-Term
4	Convert Northern Driveway to Right-In Right-Out (RIRO)	Mid-Term
5	Conduct Targeted Red-Light Running Enforcement	Short-Term
6	Clear Vegetation to Optimize Driver Sight Triangles	Short-Term

Benefit Summary

- Rumble strips along centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for head-on collisions.
- Hidden driveways often lead to unexpected vehicle entries and exits, increasing the risk of collisions. Closing these driveways reduces the number of conflict points, thereby lowering the likelihood of accidents.
- High-emphasis crosswalks use bold patterns like bar pairs, continental, or ladder designs, which are more visible to drivers from a greater distance compared to traditional crosswalks. This increased visibility helps drivers notice the crosswalk and anticipate pedestrian activity.



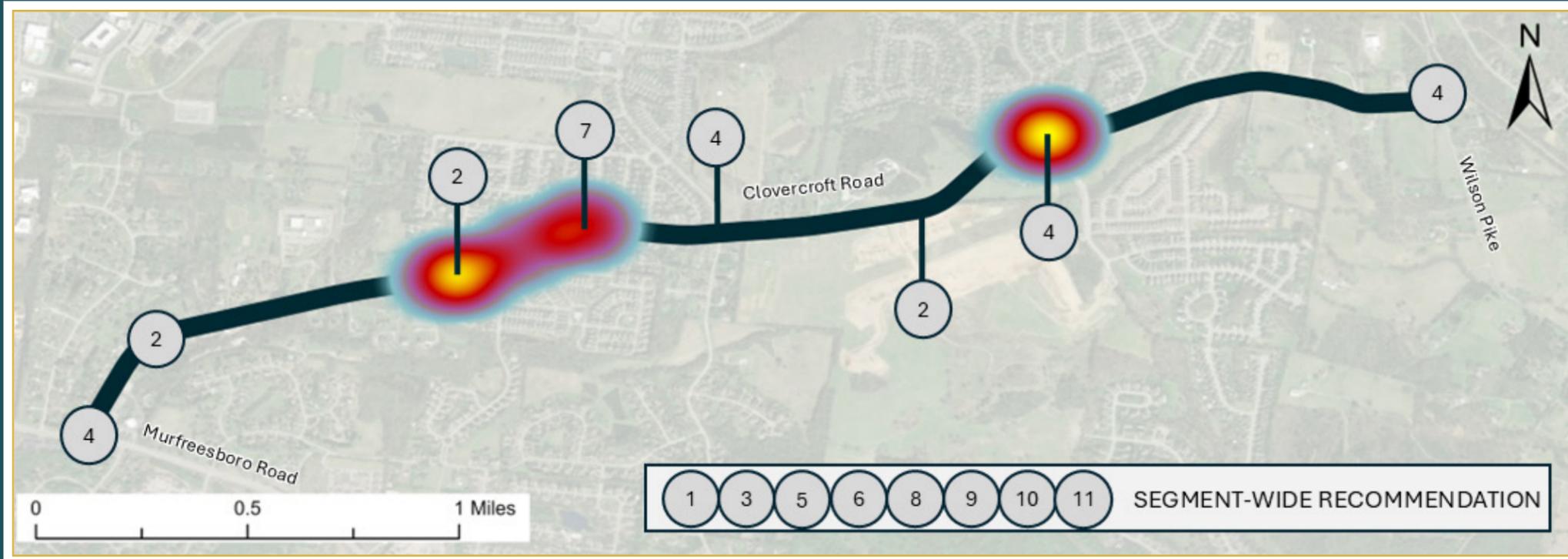
RECOMMENDED COUNTERMEASURES



CLOVERCROFT ROAD

from Murfreesboro Road to Wilson Pike

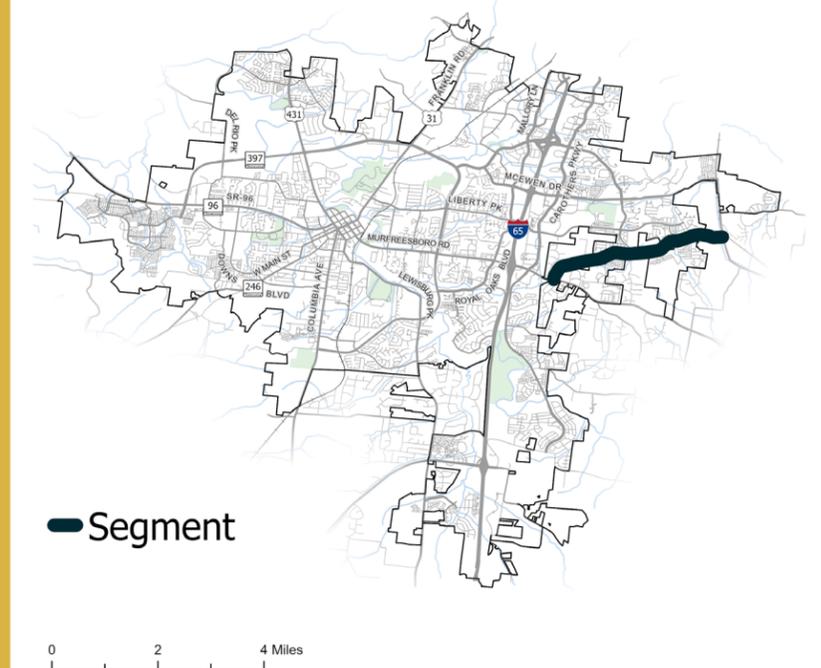
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Widen Shoulder (2' Minimum)	Long-Term
2	Install Curve Advance Warning Signage	Short-Term
3	Install Combination Center/Edge Line Rumble Strips	Short-Term
4	Install Retroreflective Borders on Existing Backplates	Short-Term
5	Install Guardrail, as warranted	Mid-Term
6	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	Short-Term
7	Relocate Crosswalk to Other Side of Intersection	Mid-Term
8	Install Wider Edge Lines	Short-Term
9	Pull Mailboxes back from Roadway or Angle Mailboxes to Reduce Extent into Roadway	Short-Term
10	Correct Unsafe Drainage Features (Ditch Side Slopes, Headwalls, Culverts)	Long-Term
11	Improve Roadway Lighting	Mid-Term

Benefit Summary

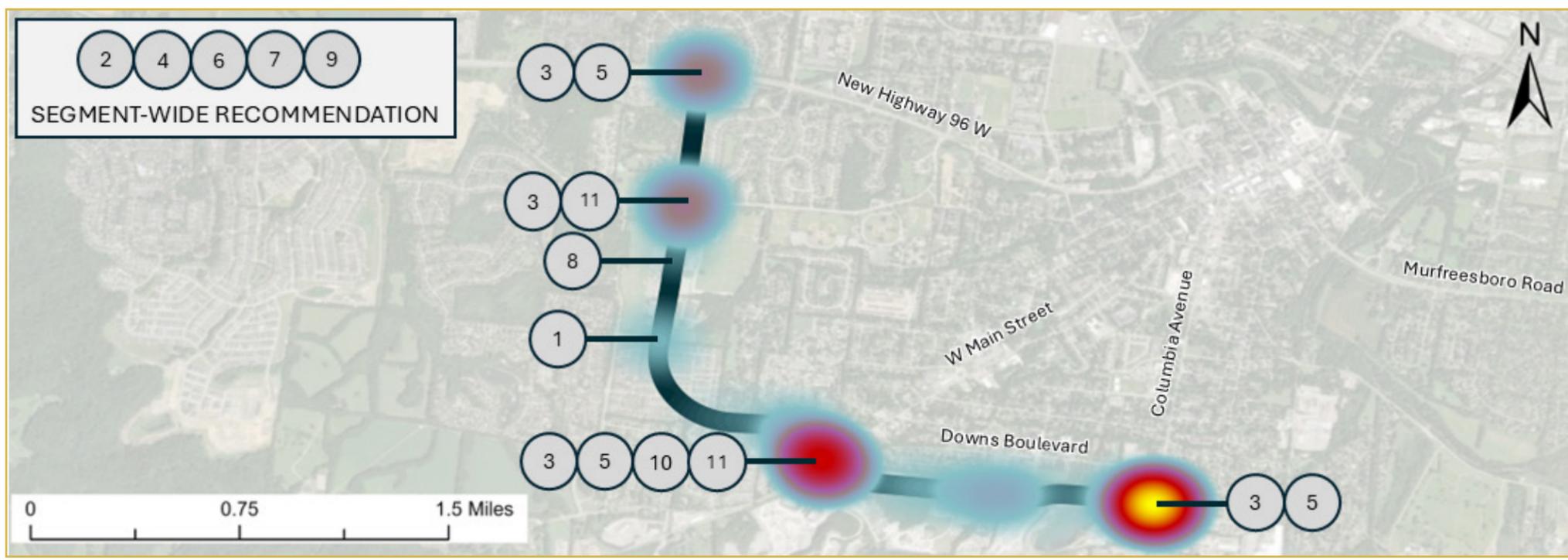
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- Rumble striping along edge/centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for roadway departure crashes and head-on collisions.
- Wider shoulders provide an increased recovery area for errant vehicles and offer a safer space for nonmotorized roadway users.
- Roadway lighting helps drivers, cyclists, and pedestrians see each other more clearly, especially during nighttime and low-visibility conditions, reducing the likelihood of crashes.
- Wider edge lines enhance visibility, reduce roadway departures, lower crash rates, and support automated vehicle navigation.
- Guardrails are designed to absorb and dissipate the energy of a crash, reducing the impact force on the vehicle and its occupants. This can significantly lower the risk of serious injuries or fatalities.



DOWNNS BOULEVARD

from New Highway 96 W to Columbia Avenue

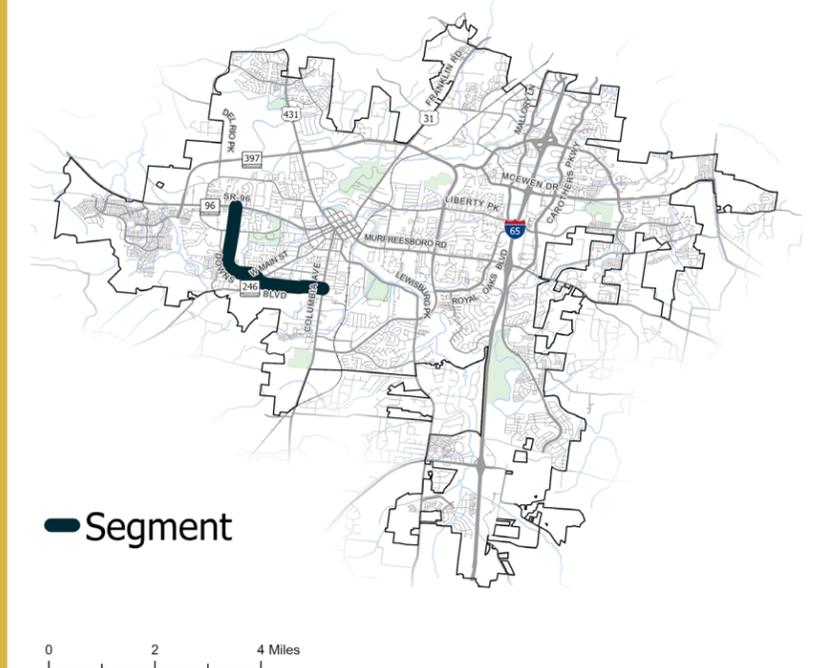
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Install Two-Direction Arrow Signage at T-Intersection at Willowsprings Boulevard	Short-Term
2	Install Combination Center/Edge Line Rumble Strips	Short-Term
3	Install Retroreflective Borders on Existing Backplates	Short-Term
4	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	Short-Term
5	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
6	Install Raised Pavement Markers (RPMs)	Short-Term
7	Install Wider Edge Lines	Short-Term
8	Install High-Emphasis Crosswalk near Williamson County Soccer Outdoor Complex	Short-Term
9	Install Sidewalk / Side Path along Entire Corridor	Long-Term
10	Provide Dedicated Turn Lanes	Long-Term
11	Provide Turn Lanes (Right & Left)	Long-Term

Benefit Summary

- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- Rumble striping along edge/centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for roadway departure crashes and head-on collisions.
- Wider edge lines enhance visibility, reduce roadway departures, lower crash rates, and support automated vehicle navigation.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.



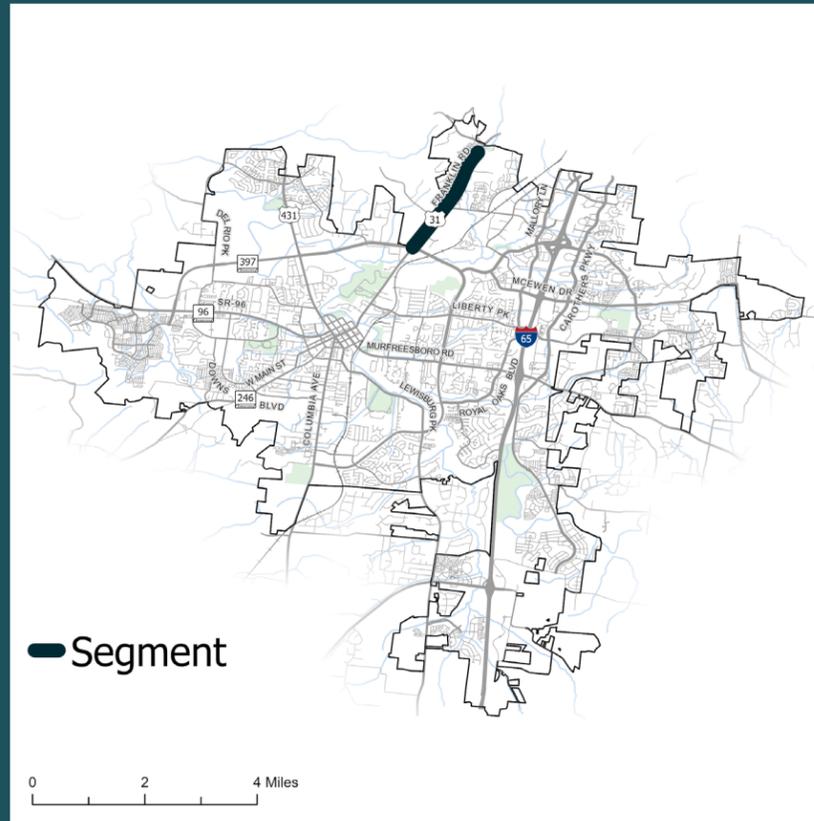
FRANKLIN ROAD

from Mack C Hatcher Memorial Parkway to Davenport Boulevard

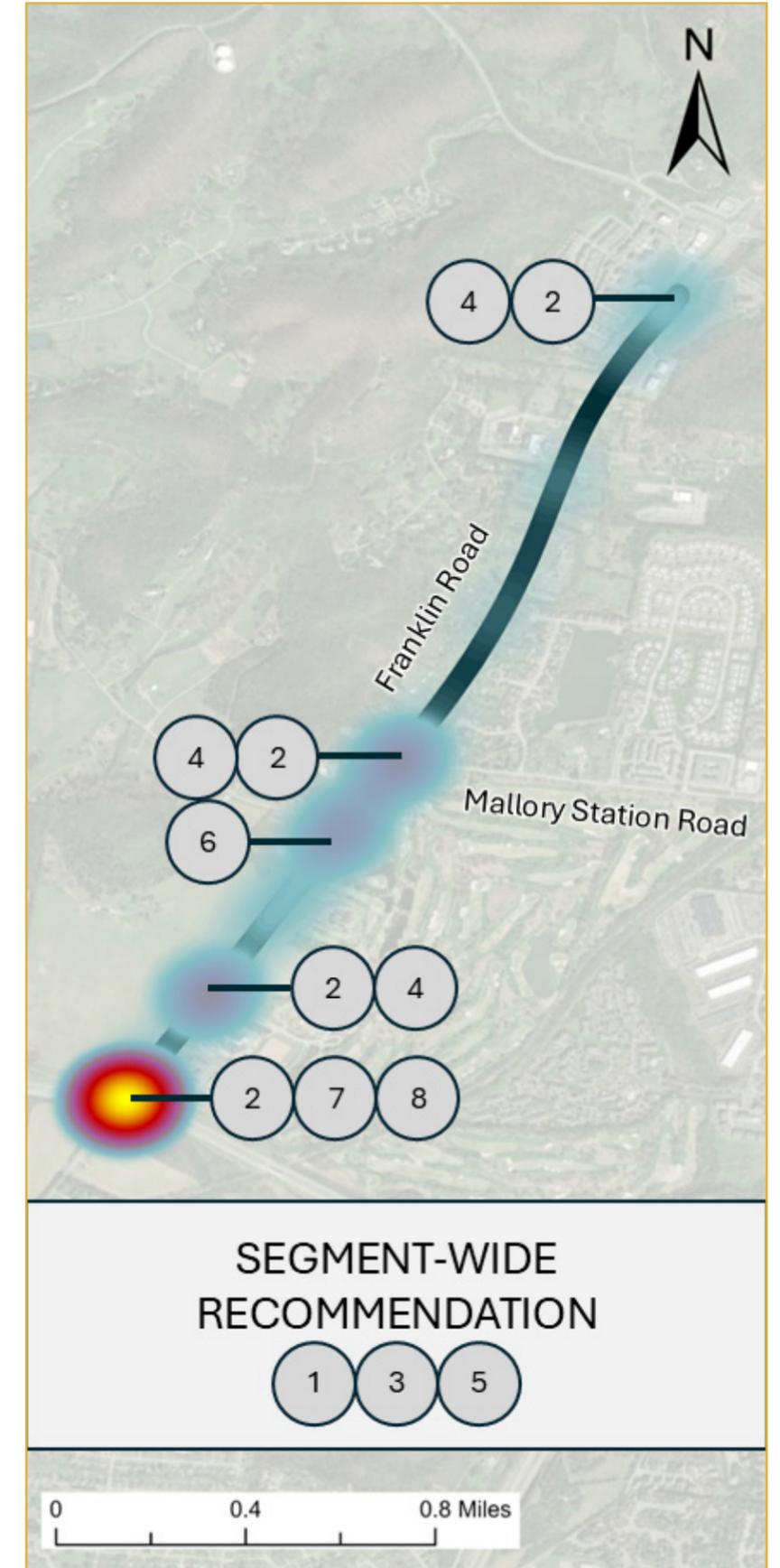
ID	Countermeasure	Schedule
1	Install Combination Center/Edge Line Rumble Strips	Short-Term
2	Install Retroreflective Borders on Existing Backplates	Short-Term
3	Install Raised Pavement Markers (RPMs)	Short-Term
4	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
5	Widen Shoulder (2' Minimum)	Long-Term
6	Install Transverse Pavement Markings at S Berrys Chapel Rd Approach	Short-Term
7	Conduct Targeted Red-Light Running Enforcement	Short-Term
8	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.
- Transverse pavement markings create a visual cue that encourages drivers to slow down as they approach intersections or crossings.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.
- Rumble strips along edge/centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for roadway departure crashes and head-on collisions.



RECOMMENDED COUNTERMEASURES





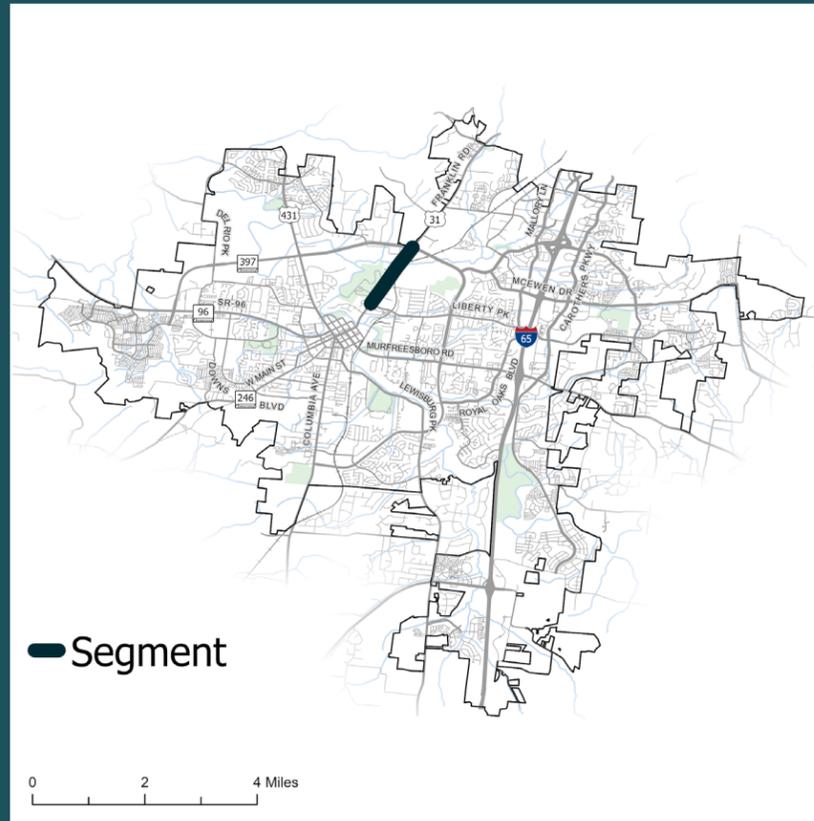
FRANKLIN ROAD

from Liberty Pike to Mack C Hatcher Memorial Parkway

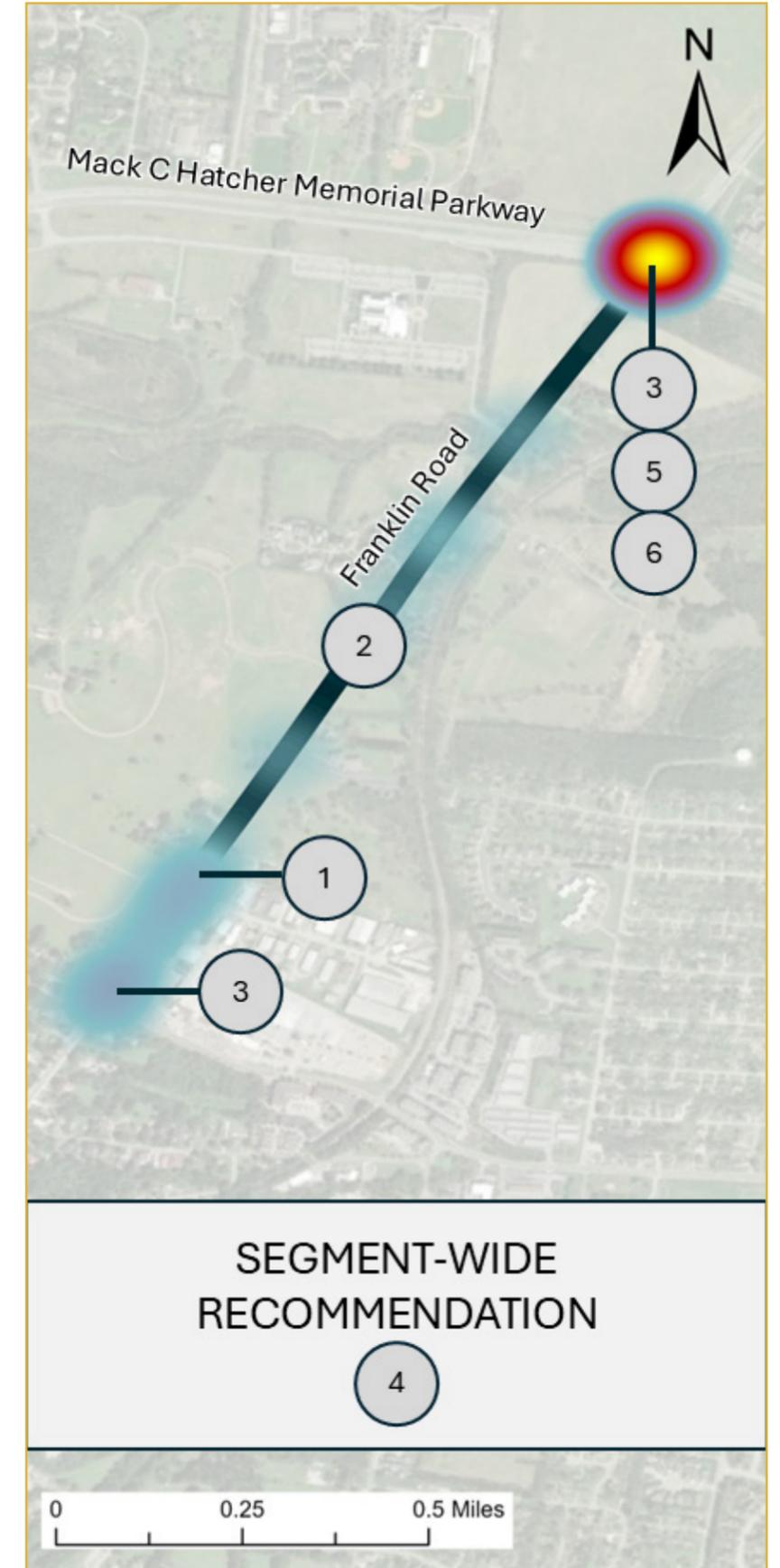
ID	Countermeasure	Schedule
1	Replace TWLTL with Median (Install Left-Turn Lanes as Necessary), from Liberty Pk to Morningside Dr	Long-Term
2	Install Guardrail near The Park at Harlinsdale Farm Northern Driveway	Mid-Term
3	Install Retroreflective Borders on Existing Backplates	Short-Term
4	Evaluate Turn Lane Warrants, as Needed Throughout Corridor	Short-Term
5	Conduct Targeted Red-Light Running Enforcement	Short-Term
6	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.
- Guardrails are designed to absorb and dissipate the energy of a crash, reducing the impact force on the vehicle and its occupants. This can significantly lower the risk of serious injuries or fatalities.



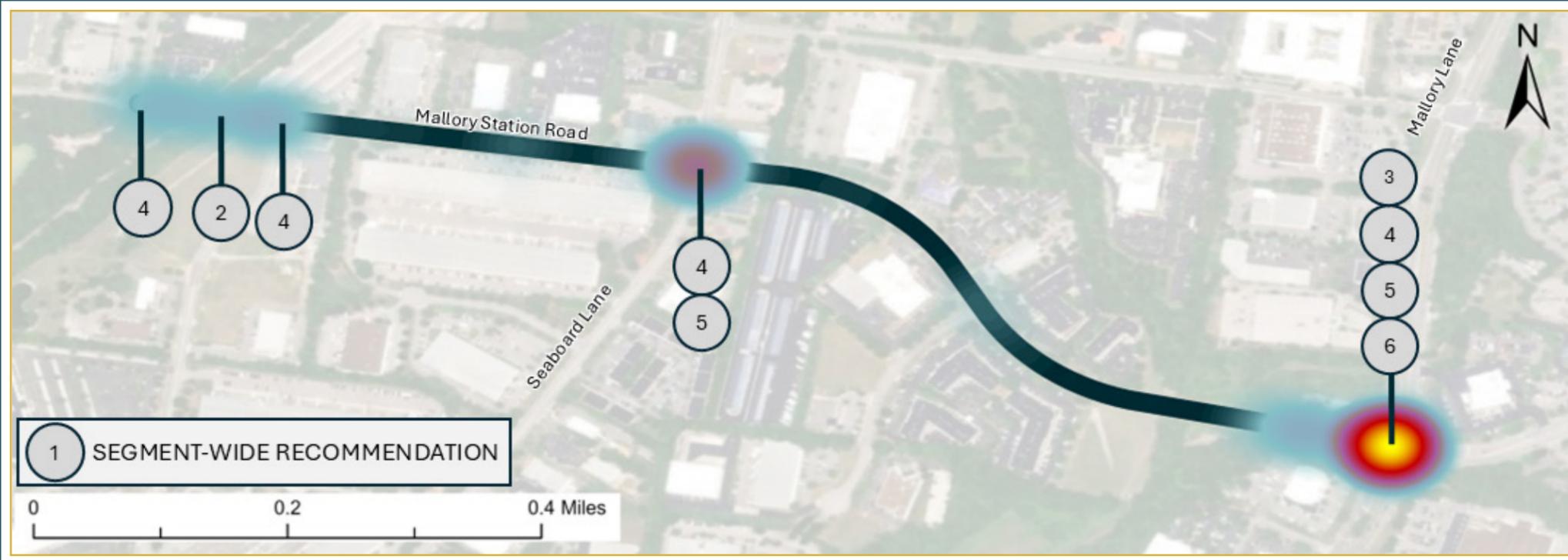
RECOMMENDED COUNTERMEASURES



MALLORY STATION ROAD

from General George Patton Drive to Mallory Lane

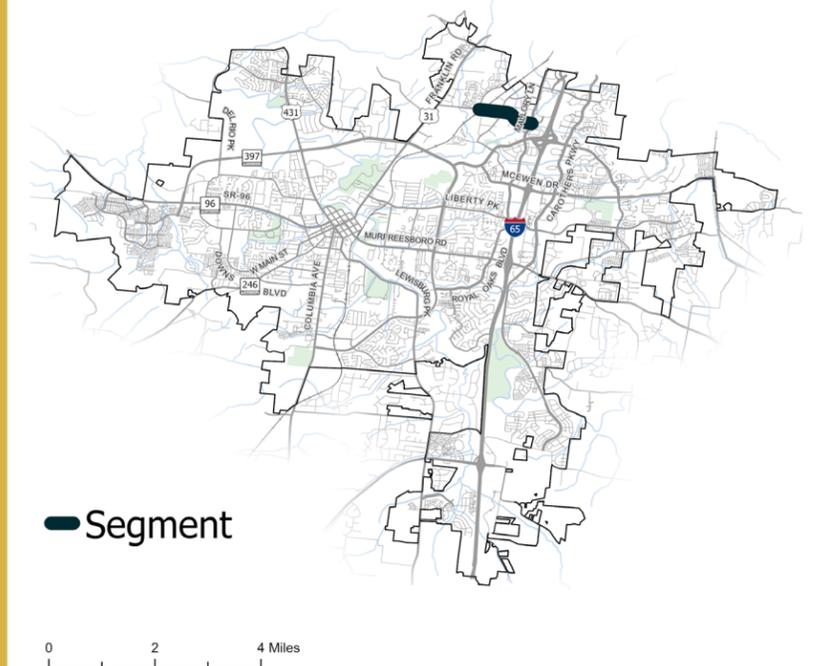
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Replace TWLTL with Median (Install Left-Turn Lanes as Necessary)	Long-Term
2	Install Rail Crossing Gate Arms, Upgrade Rail Facilities	Mid-Term
3	Realign Pedestrian Crossings, Pull Back Crossing to Provide Pedestrian Refuge at Mallory Lane	Short-Term
4	Install Retroreflective Borders on Existing Backplates	Short-Term
5	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
6	Install Positive Offset Left-Turn Lanes	Long-Term

Benefit Summary

- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- Gate arms provide a physical barrier that prevents vehicles from crossing the tracks when a train is approaching. These facilities, accompanied by flashing lights and warning bells, alerts drivers to the approaching train, increasing their awareness and encouraging them to stop.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.



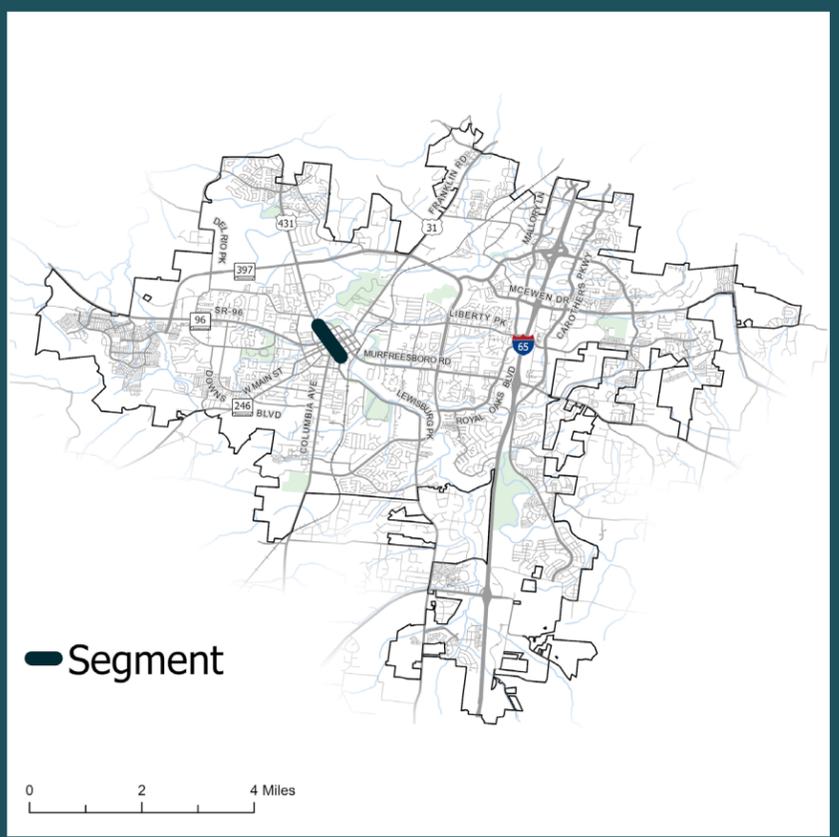
5TH AVENUE

from 3rd Avenue to S Margin Street

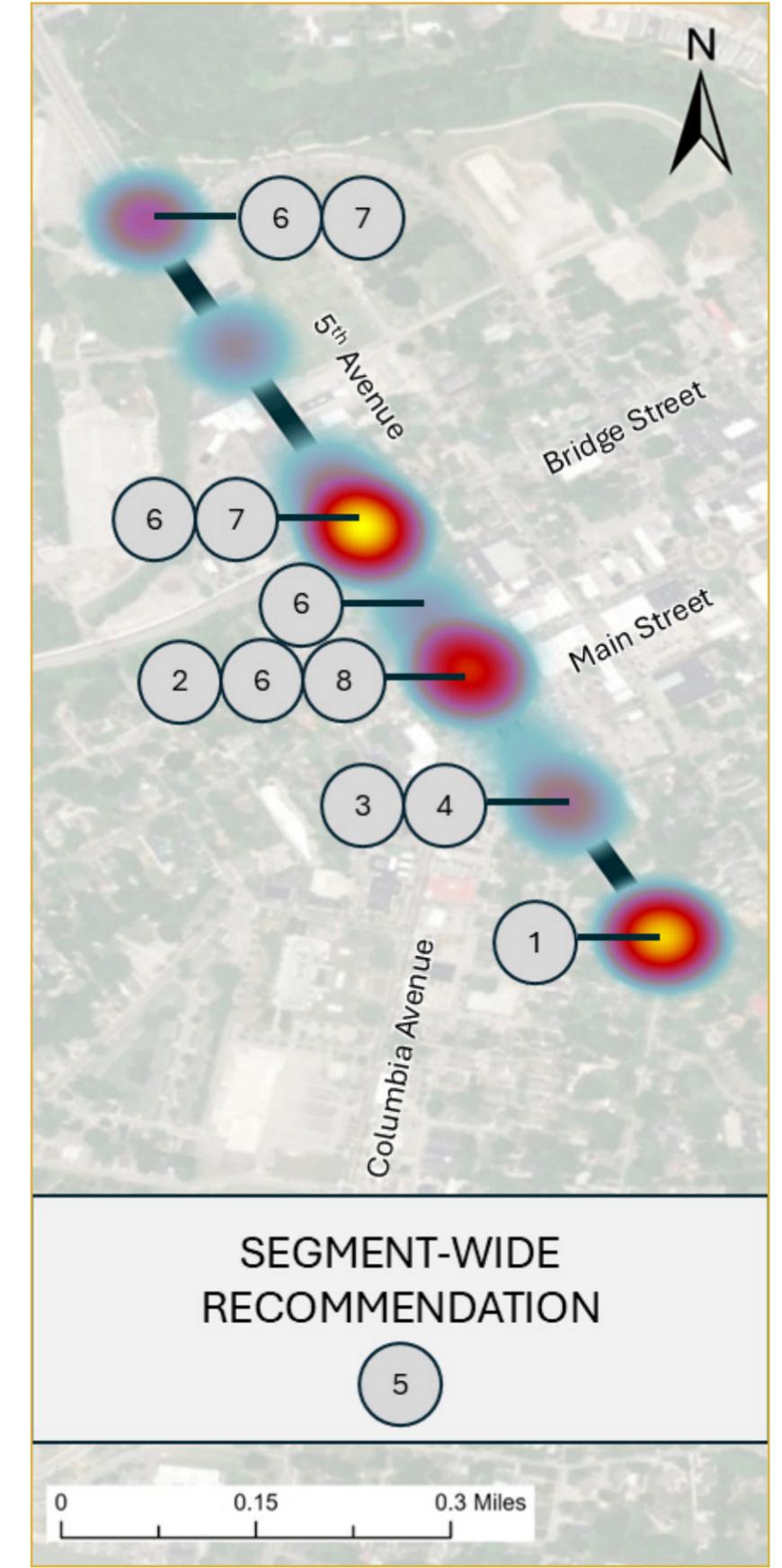
ID	Countermeasure	Schedule
1	Convert from Two-Way Stop Control (TWSC) to a Signalized Intersection	Long-Term
2	Install High-Emphasis Crosswalks at Main Street	Short-Term
3	Install Raised Intersection at Church Street	Long-Term
4	Install Rectangular Rapid Flashing Beacon (RRFB) at Church Crosswalk	Mid-Term
5	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	Short-Term
6	Install Retroreflective Borders on Existing Backplates	Short-Term
7	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
8	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- High-emphasis crosswalks use bold patterns like bar pairs, continental, or ladder designs, which are more visible to drivers from a greater distance compared to traditional crosswalks. This increased visibility helps drivers notice the crosswalk and anticipate pedestrian activity.
- By elevating the crosswalk to the same level as the sidewalk, raised intersections make pedestrians more visible to drivers. This design encourages drivers to yield to pedestrians, enhancing pedestrian safety.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.



RECOMMENDED COUNTERMEASURES





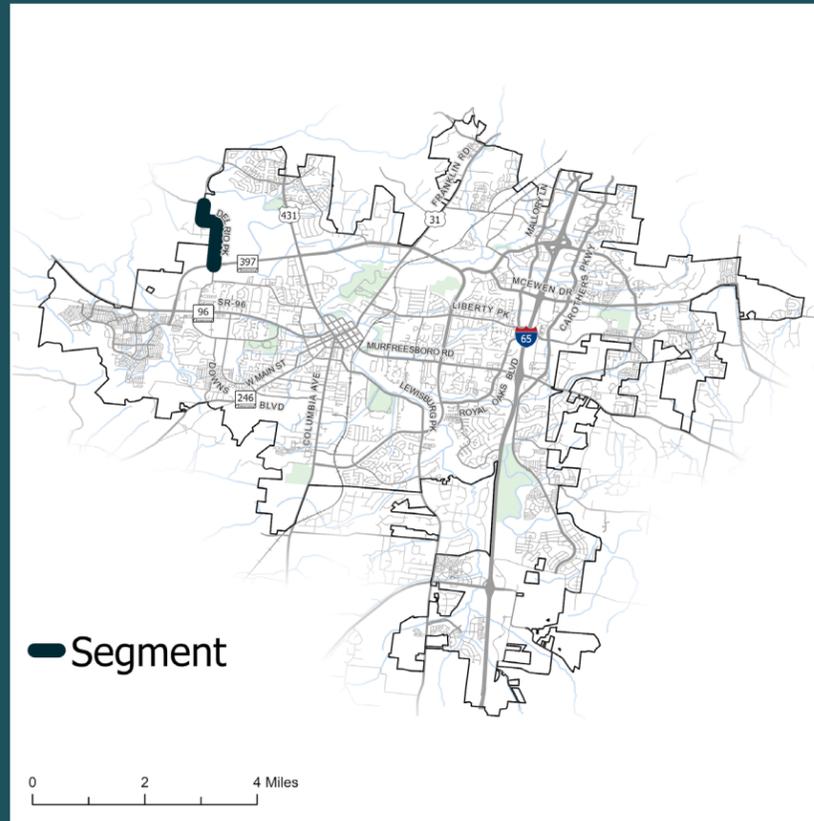
DEL RIO PIKE

from Mack C Hatcher Memorial Parkway to Cotton Lane

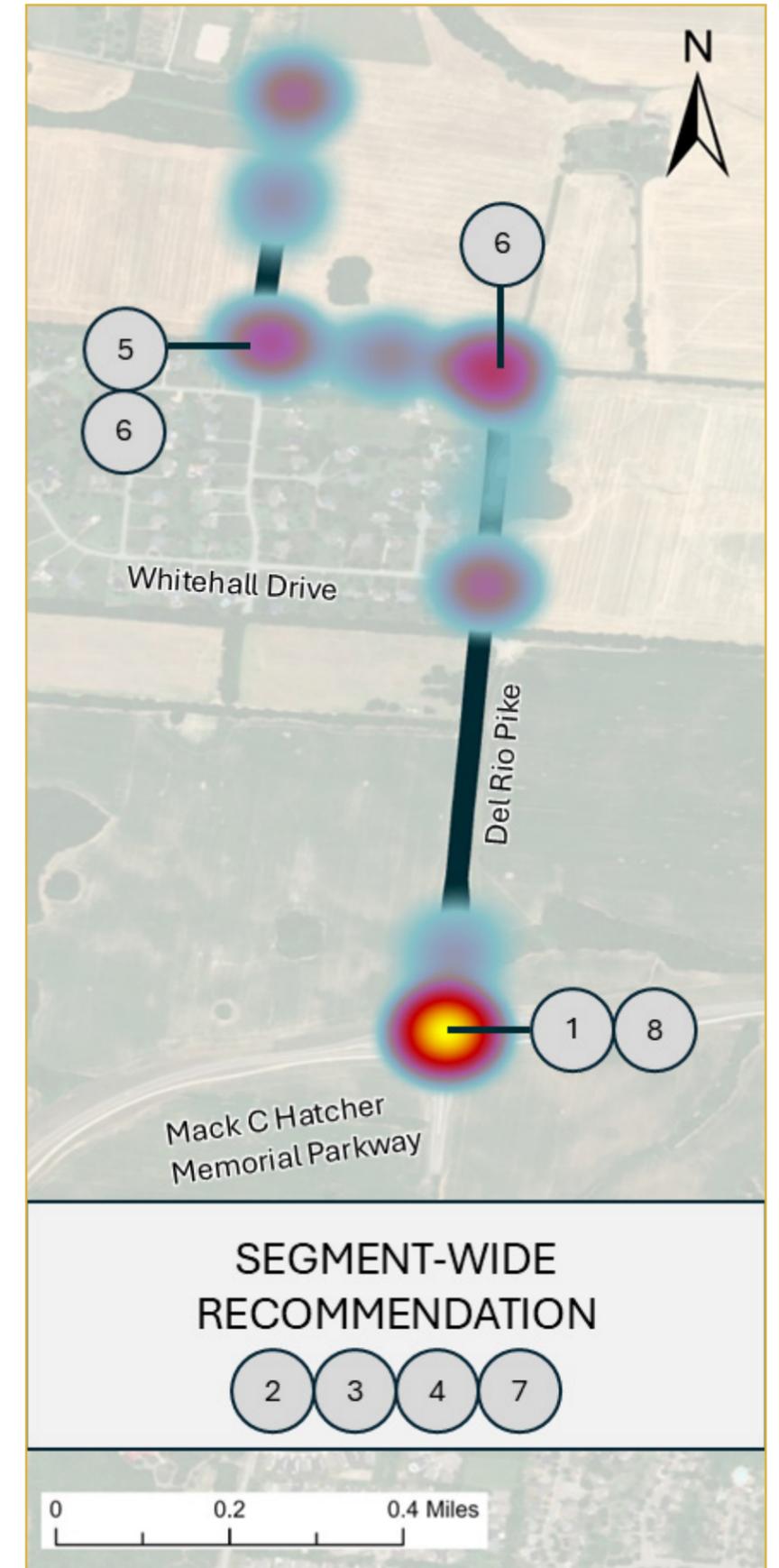
ID	Countermeasure	Schedule
1	Install Positive Offset Left-Turn Lanes	Long-Term
2	Widen Shoulder (2' Minimum)	Long-Term
3	Improve Roadway Lighting	Mid-Term
4	Install Combination Center/Edge Line Rumble Strips	Short-Term
5	Convert to All-Way Stop-Control (AWSC)	Mid-Term
6	Install Advance Warning Signage for 90-Degree Turn	Mid-Term
7	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	Short-Term
8	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

- Rumble strips along edge/centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for roadway departure crashes and head-on collisions.
- Wider shoulders provide an increased recovery area for errant vehicles and offer a safer space for nonmotorized roadway users.
- Roadway lighting helps drivers, cyclists, and pedestrians see each other more clearly, especially during nighttime and low-visibility conditions, reducing the likelihood of crashes.
- With AWSC, drivers at all approaches must stop and check for other vehicles, pedestrians, and cyclists before proceeding. This increases overall awareness and visibility at the intersection.
- Guardrails are designed to absorb and dissipate the energy of a crash, reducing the impact force on the vehicle and its occupants. This can significantly lower the risk of serious injuries or fatalities.



RECOMMENDED COUNTERMEASURES



SEGMENT-WIDE RECOMMENDATION



S ROYAL OAKS BOULEVARD

from Forest Crossing Boulevard to Lakeview Drive

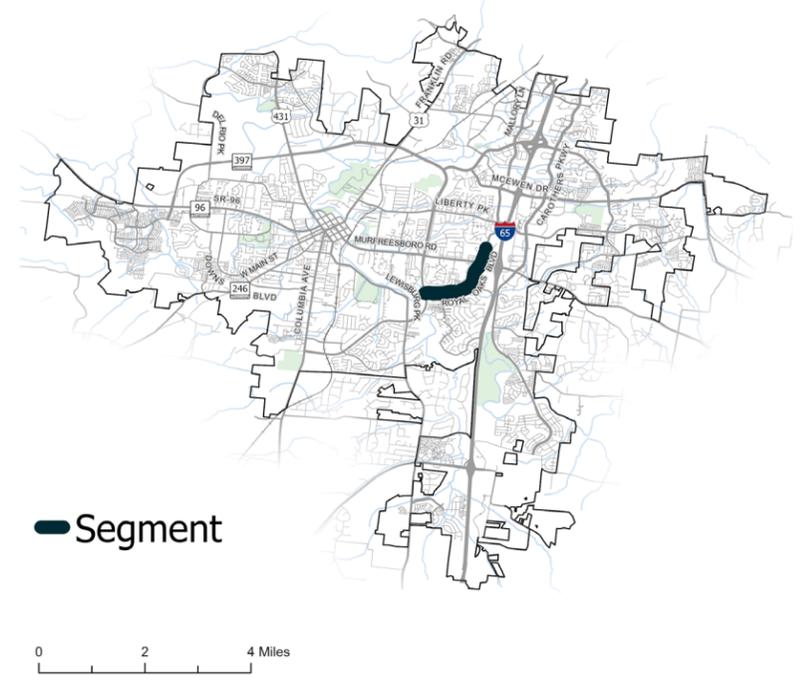
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Install Raised Pavement Markers (RPMs)	Short-Term
2	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
3	Install Dual Westbound Left-Turn Lanes	Long-Term
4	Pull Crosswalk Back to Install Pedestrian Refuge Island	Short-Term
5	Install Positive Offset Left-Turn Lanes	Long-Term
6	Convert Full Access Driveway to Directional Median, Disallowing Left-Turns out of Kroger Shopping Center	Mid-Term

Benefit Summary

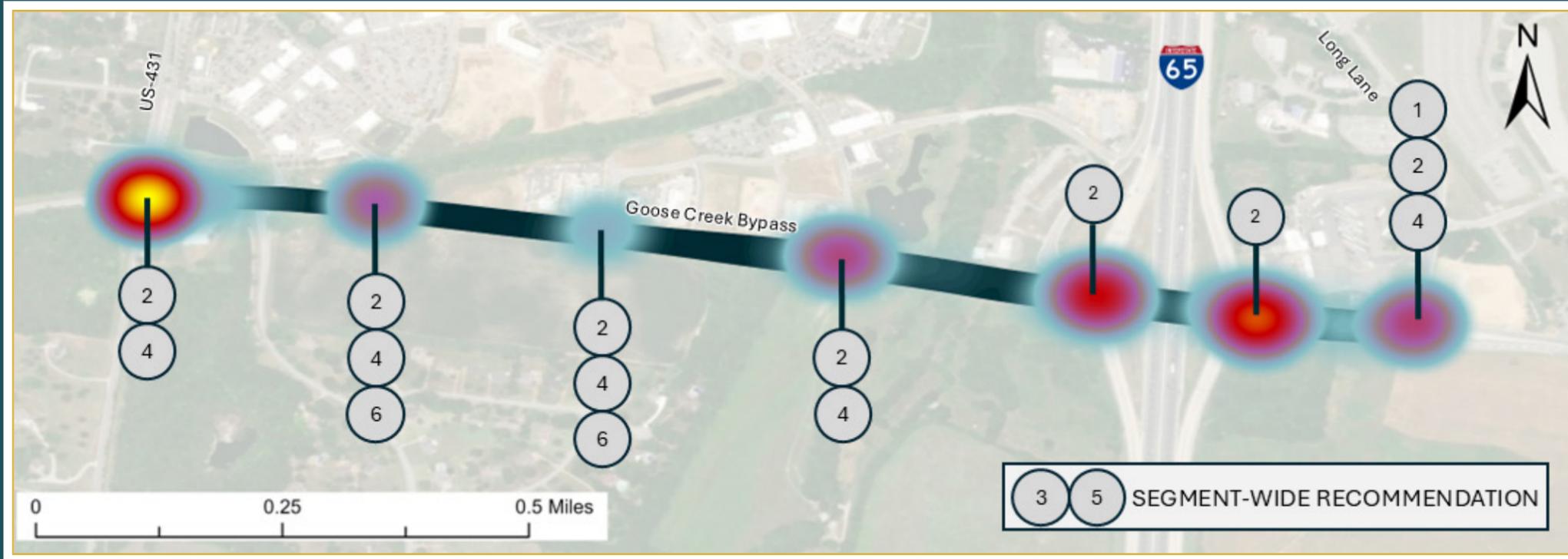
- Realigning left-turn lanes with positive offset improves sight lines for leftturning vehicles, allowing drivers to see oncoming traffic more clearly and make safer left-turn maneuvers.
- Raised medians provide a safe refuge for pedestrians crossing the road, allowing them to focus on one direction of traffic at a time. This reduces the complexity of crossing and enhances pedestrian safety. Medians help streamline traffic flow by limiting left-turn movements to designated locations, reducing congestion and the likelihood of rear-end collisions.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.



GOOSE CREEK BYPASS

from Lewisburg Pike to Long Lane

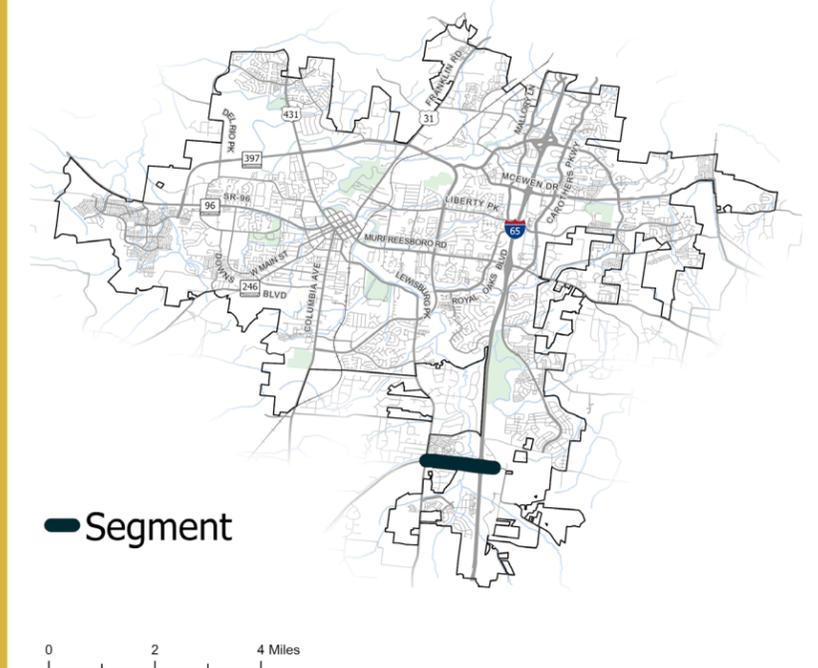
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Install Positive Offset Left-Turn Lanes	Long-Term
2	Install Retroreflective Borders on Existing Backplates	Short-Term
3	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	Short-Term
4	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
5	Upgrade Bicycle Lane Visibility & Buffer	Mid-Term
6	Evaluate Right-Turn Lane Warrants	Short-Term

Benefit Summary

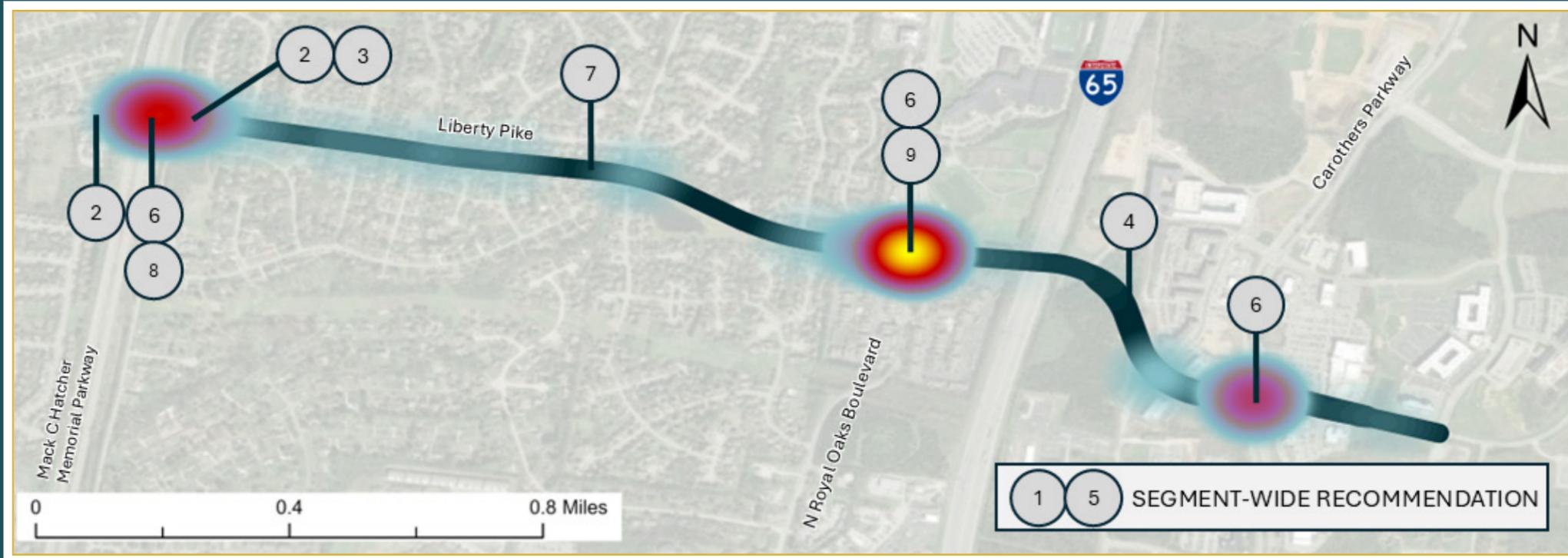
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- Realigning left-turn lanes with positive offset improves sight lines for leftturning vehicles, allowing drivers to see oncoming traffic more clearly and make safer left-turn maneuvers.
- Retroreflective materials reflect light back to its source, making signs and road markings highly visible in all conditions. This helps drivers see and read signs more easily, reducing the risk of accidents and lowering crash rates.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.



LIBERTY PIKE

from Mack C Hatcher Memorial Parkway to Knolltop Lane

RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Replace TWLTL with Median (Install Left-Turn Lanes as Necessary), from Eagles Glen Dr to N Royal Oaks Blvd	Long-Term
2	Convert Full-Access Approaches to Right-In Right-Out Movements at Hillhaven Lane and Jordan Road	Mid-Term
3	Evaluate for Alternative Side Street Access	Short-Term
4	Evaluate Median Openings for Closure/Minimizing	Short-Term
5	Install Raised Pavement Markers (RPMs)	Short-Term
6	Install Retroreflective Borders on Existing Backplates	Short-Term
7	Install Mid-Block Crossing across the Mainline (RRFB)	Mid-Term
8	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
9	Construct a Multi-Lane Roundabout	Long-Term

Benefit Summary

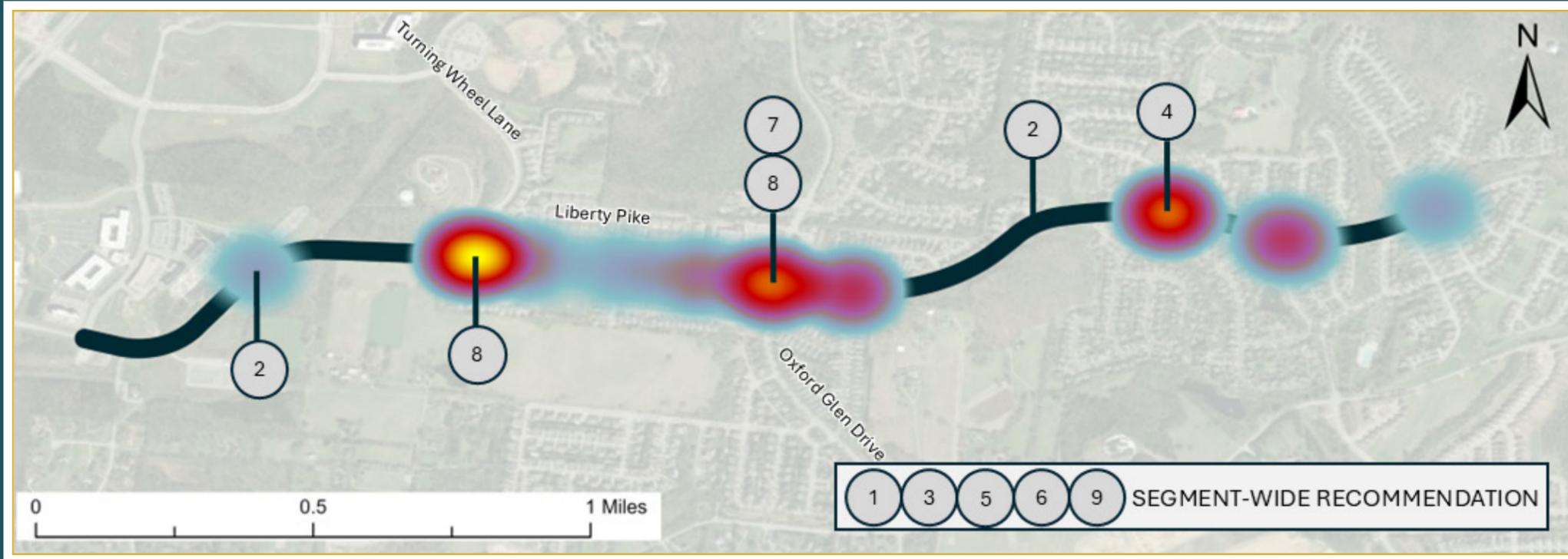
- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- By alerting drivers to the presence of pedestrians, RRFBs help reduce the likelihood of vehicle-pedestrian conflicts. This is particularly important at mid-block crossings where drivers might not expect pedestrians.
- Wide median openings can create multiple conflict points where vehicles cross paths. Closing these openings reduces the number of potential collision points, causing traffic flow to become more predictable and orderly.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.



LIBERTY PIKE

from Knoll Top Lane to Waverly Place/Broadgate Drive

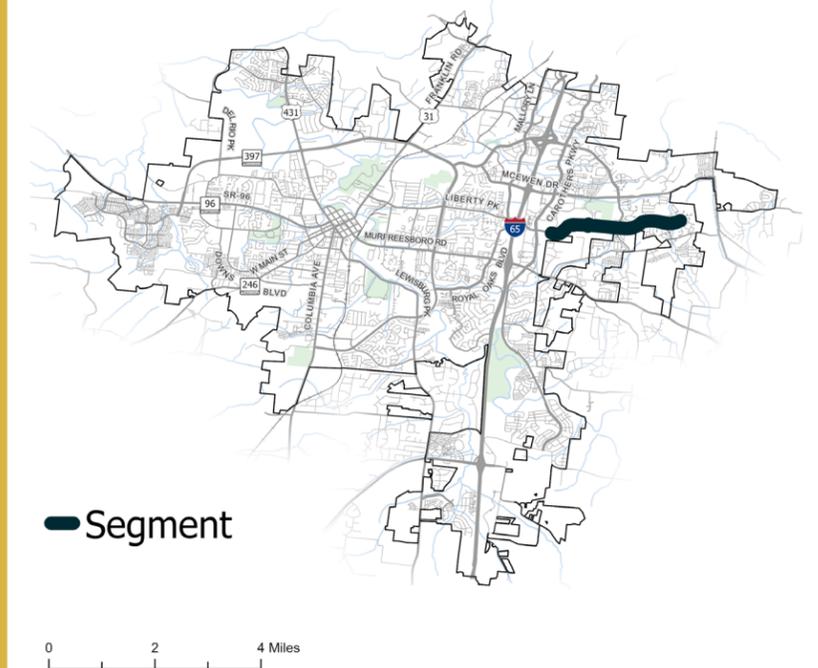
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Install Combination Center/Edge Line Rumble Strips	Short-Term
2	Install Curve Advance Warning Signage	Short-Term
3	Conduct High-Visibility Speed Enforcement	Short-Term
4	Install Mid-Block Crossing (RRFBs)	Mid-Term
5	Prohibit Parking on Roadside Shoulder & Install Bike Lane Striping	Short-Term
6	Install Raised Pavement Markers (RPMs)	Short-Term
7	Upgrade to High-Emphasis Crosswalks at Oxford Glen Drive	Short-Term
8	Upgrade Transverse Pavement Markings at Turning Wheel Lane and Oxford Glen Drive	Short-Term
9	Install Bike Lane Striping and Signage Thoroughout Segment	Short-Term

Benefit Summary

- Rumble strips along edge/centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for roadway departure crashes and head-on collisions.
- By alerting drivers to the presence of pedestrians, RRFBs help reduce the likelihood of vehicle-pedestrian conflicts. This is particularly important at mid-block crossings where drivers might not expect pedestrians.
- Curve warning signage alerts drivers about the upcoming curve, encouraging reduced speeds and more cautious driving.
- High-emphasis crosswalks use patterns like bar pairs, continental, or ladder designs that are more visible to both drivers and pedestrians from a greater distance compared to traditional crosswalks.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.



BAKERS BRIDGE AVENUE

from Mallory Lane to Carothers Parkway

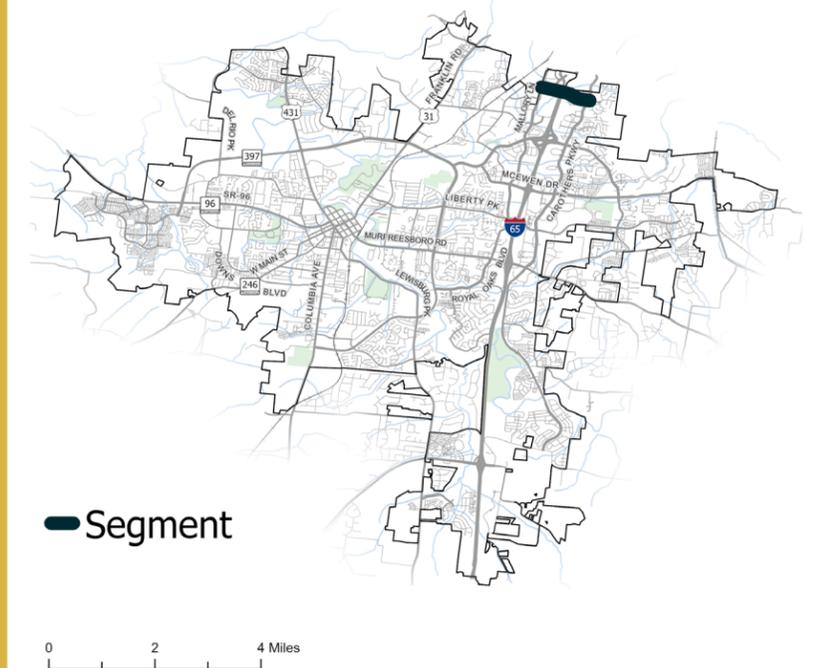
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Install Positive Offset Left-Turn Lanes	Long-Term
2	Install Retroreflective Borders on Existing Backplates	Short-Term
3	Replace Two-Way Left-Turn Lane (TWLTL) with Median (Install Left-Turn Lanes as Necessary), from Mallory Ln to Galleria Blvd	Long-Term
4	Restrict Thru/Left-Turn Movements from Side Streets	Mid-Term
5	Install Eastbound Right-Turn Smart Channel	Mid-Term
6	Install Raised Pavement Markers (RPMs)	Short-Term
7	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term

Benefit Summary

- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- By promoting slower turning speeds and better visibility, Smart-Channel right turns help reduce the likelihood of collisions at intersections.
- Realigning left-turn lanes with positive offset improves sight lines for leftturning vehicles, allowing drivers to see oncoming traffic more clearly and make safer left-turn maneuvers.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.





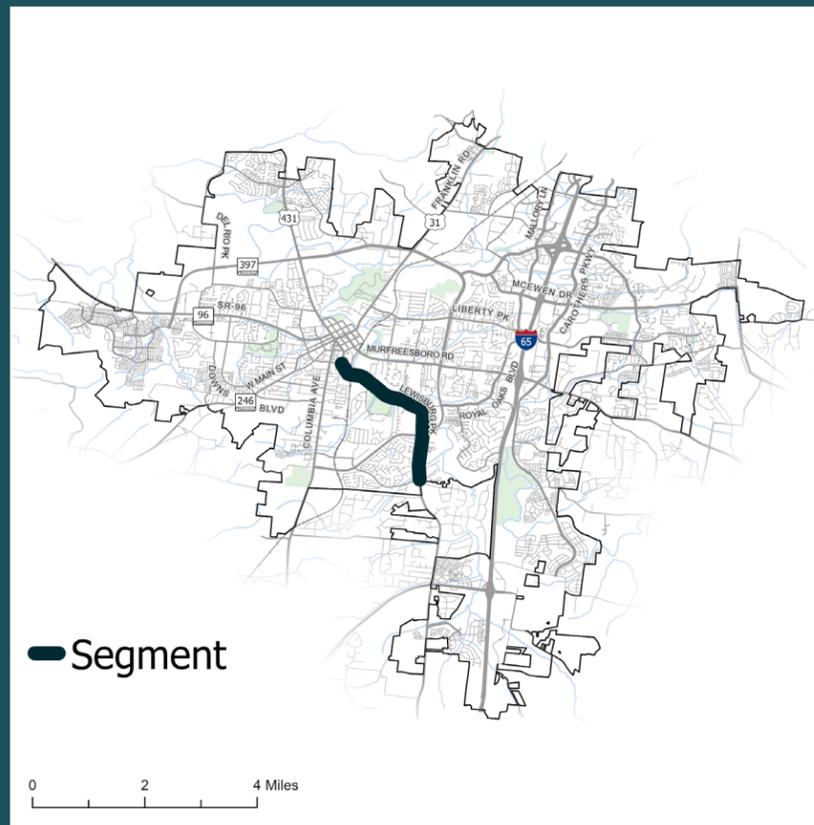
LEWISBURG PIKE

from W Fowlkes Street to Donnelson Parkway

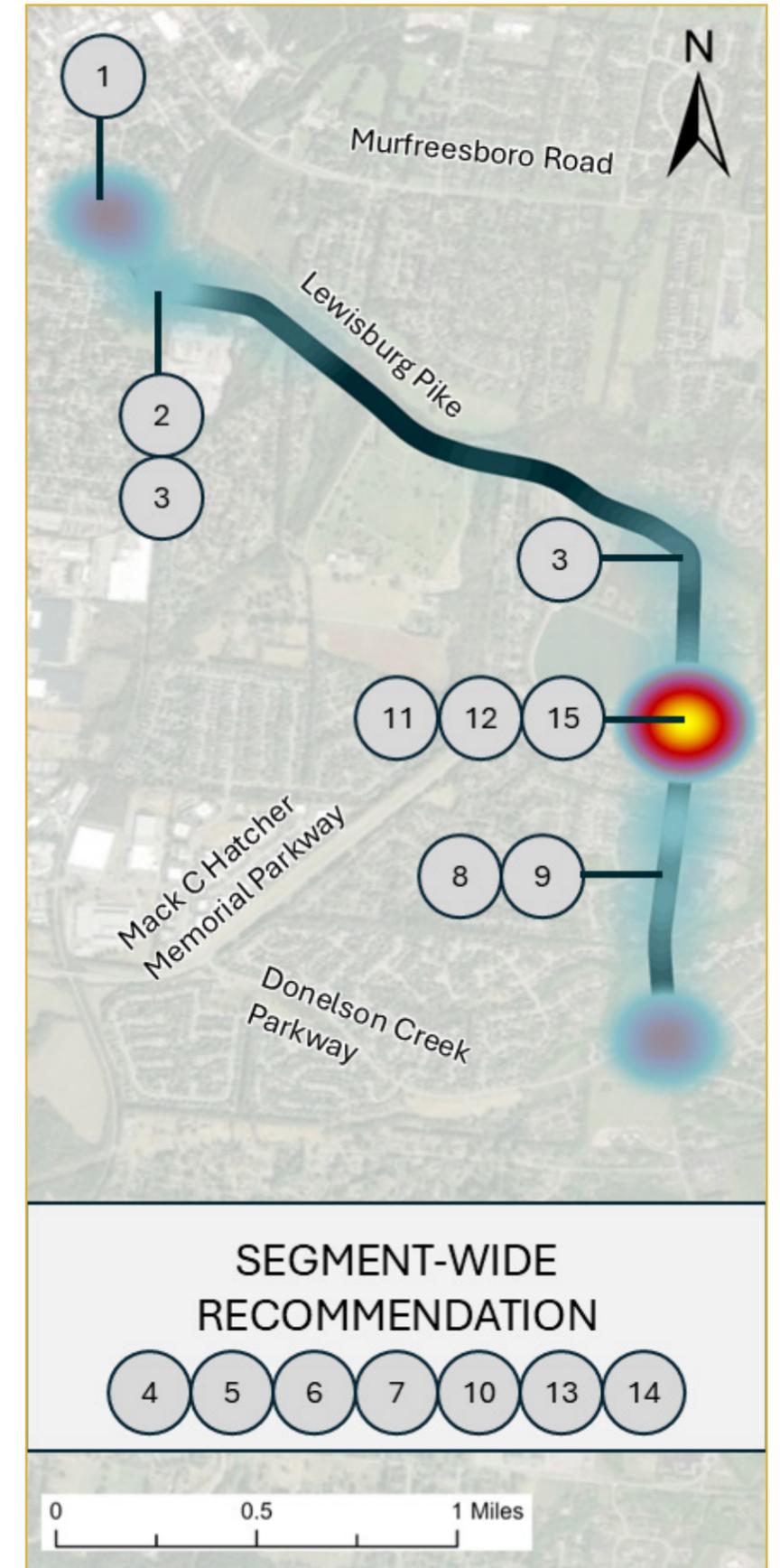
ID	Countermeasure	Schedule
1	Realign Intersection Skew / Consider Closing Adams Street Approach	Long-Term
2	Install Rail Crossing Gate Arms, Upgrade Rail Facilities	Mid-Term
3	Install Curve Advance Warning Signage	Short-Term
4	Install Combination Center/Edge Line Rumble Strips	Short-Term
5	Install Wider Edge Lines	Short-Term
6	Install Raised Pavement Markers (RPMs)	Short-Term
7	Upgrade/Replace Striping and Signage as needed to Ensure Proper Retroreflectivity	Short-Term
8	Upgrade School Zone Signage near Moore Elementary School	Mid-Term
9	Replace Two-Way Left-Turn Lane (TWLTL) with Median (Install Left-Turn Lanes as Necessary), from Gardner Drive to Dallas Boulevard	Long-Term
10	Upgrade Bicycle Lane Visibility & Buffer	Mid-Term
11	Install Retroreflective Borders on Existing Backplates	Short-Term
12	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
13	Widen Shoulder (6' Minimum)	Long-Term
14	Implement Targeted Speed Enforcement	Short-Term
15	Install Smart-Channelized Right Turn Lanes	Mid-Term

Benefit Summary

- Medians can prevent left-turn and head-on crashes by separating opposing traffic flows. They also facilitate better access management by controlling where vehicles can turn, thereby reducing unpredictable movements that can lead to crashes.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- Rumble strips along edge/centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for roadway departure crashes and head-on collisions.
- Wider shoulders provide an increased recovery area for errant vehicles and offer a safer space for nonmotorized roadway users.
- Wider edge lines enhance visibility, reduce roadway departures, lower crash rates, and support automated vehicle navigation.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.



RECOMMENDED COUNTERMEASURES



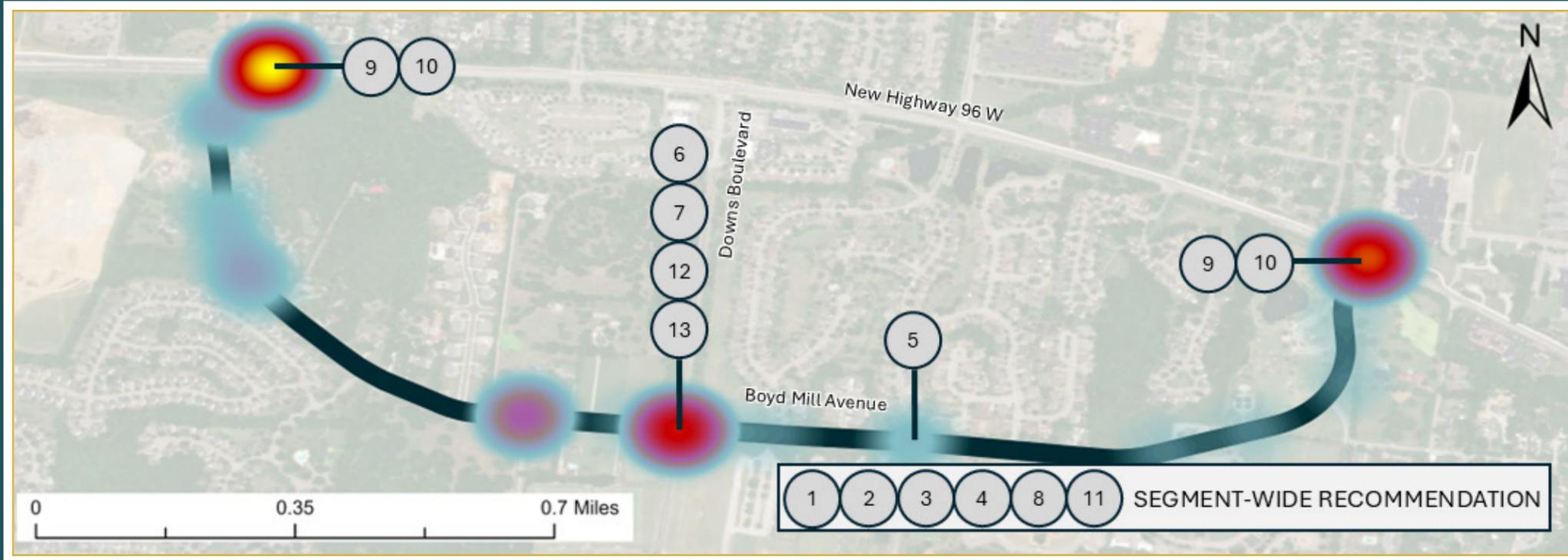
SEGMENT-WIDE RECOMMENDATION



BOYD MILL AVENUE

from New Highway 96 W to New Highway 96 W

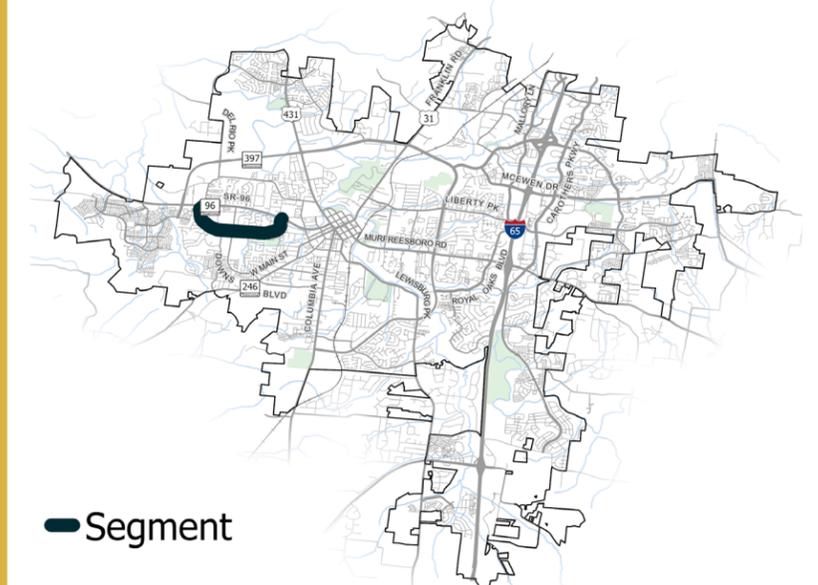
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Widen Shoulder (6' Minimum)	Long-Term
2	Install 4' Bicycle Lanes with Horizontal Buffer	Long-Term
3	Install Combination Center/Edge Line Rumble Strips	Short-Term
4	Install Wider Edge Lines	Short-Term
5	Install Mid-Block Crossing (RRFBs)	Mid-Term
6	Install High-Emphasis Crosswalks & Upgrade Pedestrian/Bicyclist Facilities	Mid-Term
7	Improve Roadway & Pedestrian Lighting	Mid-Term
8	Install Raised Pavement Markers (RPMs)	Short-Term
9	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
10	Install Retroreflective Borders on Existing Backplates	Short-Term
11	Install Sidewalk / Side Path along Entire Corridor	Long-Term
12	Provide Turn Lanes	Long-Term
13	Implement Left-Turn Phasing	Short-Term

Benefit Summary

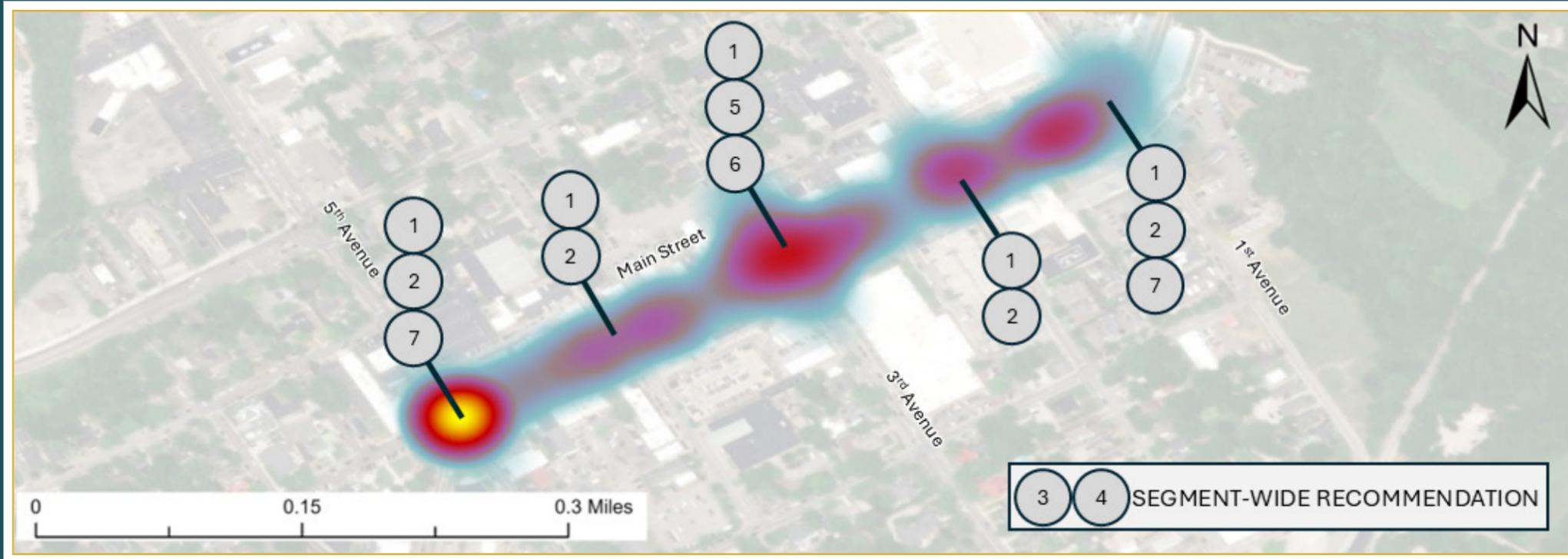
- Rumble strips along edge/centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for roadway departure crashes and head-on collisions.
- Wider shoulders provide an increased recovery area for errant vehicles and offer a safer space for nonmotorized roadway users.
- Roadway lighting helps drivers, cyclists, and pedestrians see each other more clearly, especially during nighttime and low-visibility conditions, reducing the likelihood of crashes.
- Wider edge lines enhance visibility, reduce roadway departures, lower crash rates, and support automated vehicle navigation.
- RPMs provide continuous lane guidance, which is particularly useful in navigating curves and complex intersections. The reflective properties of RPMs make them highly visible at night, reducing the risk of accidents by guiding drivers safely along the road.



MAIN STREET

from 1st Avenue to 5th Avenue

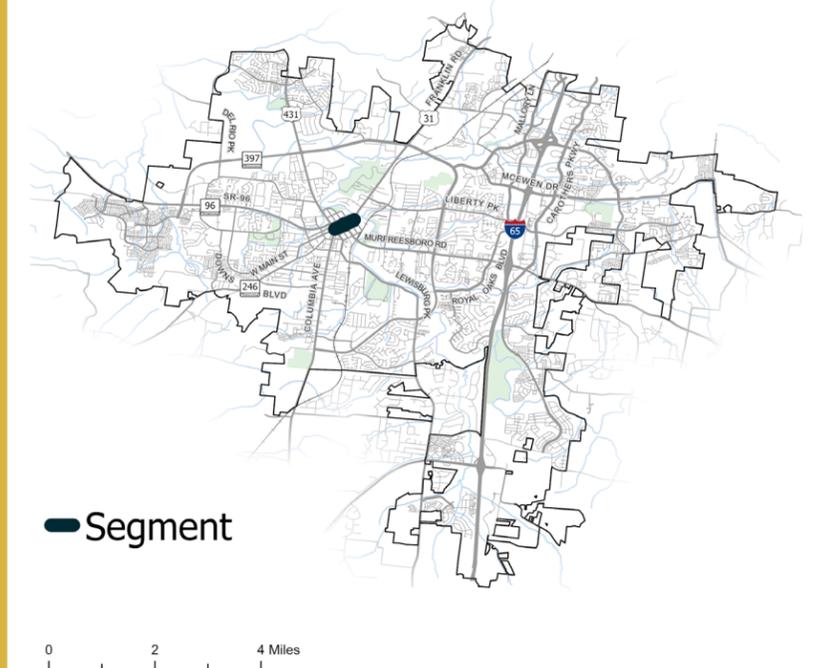
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Install High-Emphasis Crosswalks at 1st Avenue, 2nd Avenue, 3rd Avenue, 4th Avenue, and 5th Avenue	Short-Term
2	Install Retroreflective Borders on Existing Backplates	Short-Term
3	Install Bicycle Lane Visibility & Buffer	Mid-Term
4	Install Centerline Rumble Strips	Short-Term
5	Install Pedestrian Warning Signage Facing Vehicles Exiting Roundabout	Short-Term
6	Install Raised Crosswalks	Mid-Term
7	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

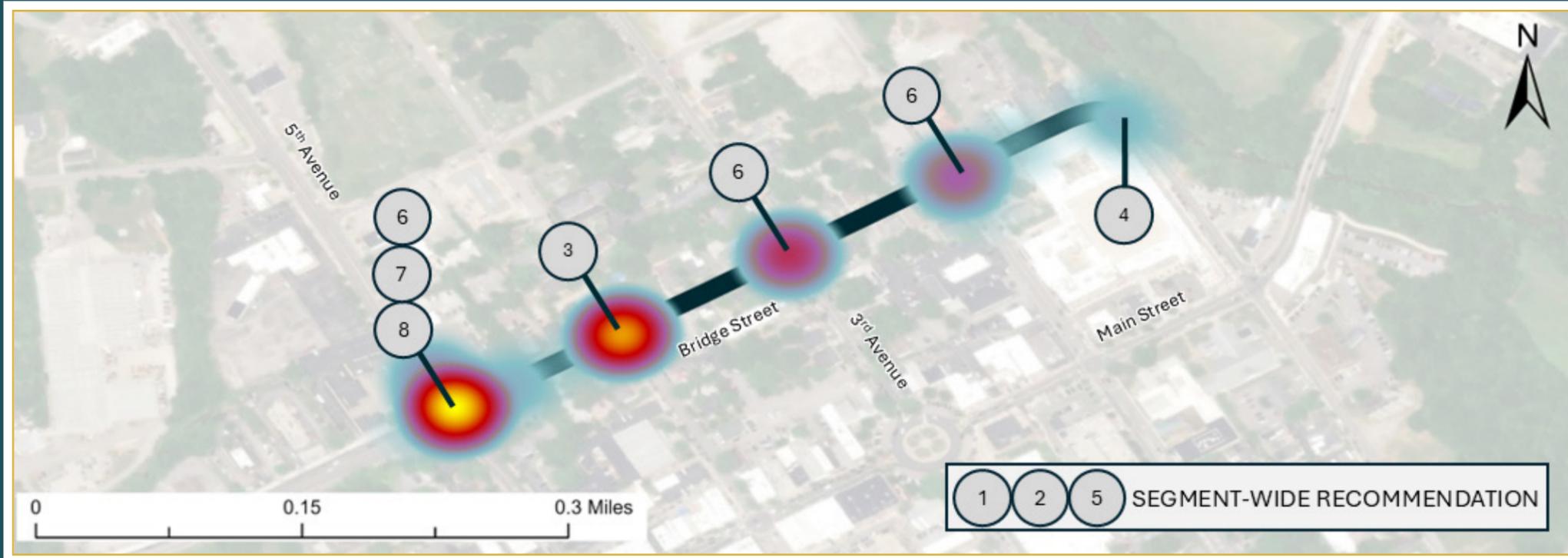
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- High-emphasis crosswalks use patterns like bar pairs, continental, or ladder designs that are more visible to both drivers and pedestrians from a greater distance compared to traditional crosswalks.
- Pedestrian signage for exiting vehicles ensures that drivers remain aware of pedestrians and mobility device users while exiting the roundabout.
- Rumble strips along centerlines provide tactile and auditory feedback to drivers when their vehicle strays from the lane, helping to reduce the risk for head-on collisions.



BRIDGE STREET

from 9th Avenue to 1st Avenue

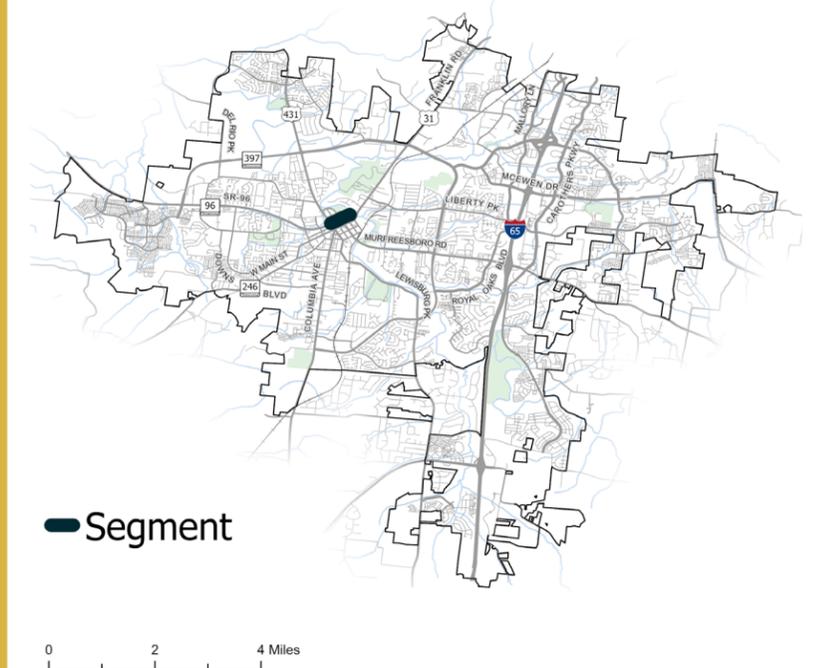
RECOMMENDED COUNTERMEASURES



ID	Countermeasure	Schedule
1	Conduct High-Visibility Speed Enforcement	Short-Term
2	Conduct High-Visibility Cell-Phone Use Enforcement	Short-Term
3	Pull Back On-Street Parking & Install Curb Extensions at 4th Avenue	Long-Term
4	Extend Sidewalk to Connect near Main Street	Mid-Term
5	Extend / Upgrade Sidewalks & Pedestrian Facilities along Corridor as needed	Mid-Term
6	Install Retroreflective Borders on Existing Backplates	Short-Term
7	Install Flashing Yellow Arrow (FYA) Signal Heads to Replace 5-Section Heads	Short-Term
8	Implement Automated Pedestrian Detection	Mid-Term

Benefit Summary

- Consistent enforcement and the perceived risk of getting caught can lead to long-term behavioral changes among drivers, encouraging them to avoid using their phones while driving.
- Managing speeds through enforcement, along with road design and education, contributes to a safer transportation system by reducing the frequency and severity of crashes.
- FYAs significantly reduce the number of left-turn crashes by providing a more distinct indication that drivers are required to yield during the permissive phase.
- Backplates with retroreflective borders increase the conspicuity of traffic signal heads, especially under low-light conditions. They also help drivers quickly and easily identify traffic signals in the presence of visual clutter.
- High-emphasis crosswalks use patterns like bar pairs, continental, or ladder designs that are more visible to both drivers and pedestrians from a greater distance compared to traditional crosswalks.



CITY OF FRANKLIN, TN



SAFE STREETS &
ROADS FOR ALL

