



MOORESVILLE
VISION ZERO ACTION PLAN

September 2023

ACKNOWLEDGMENTS

This plan is dedicated to all those who have tragically lost their lives or their loved ones in traffic crashes in Mooresville. We are committed to the ultimate vision that no one should lose their life while traveling on our roads.

TASK FORCE

- Troy Baker | Town of Mooresville Engineering
- Mychaela Brown | Iredell County Safe Kids, Iredell County Health Department
- Brittany Corl | Town of Mooresville Communications & Marketing
- Barry Cross | North Carolina Department of Transportation
- Tommy DeWeese | Town of Mooresville Board of Commissioners, Ward 3
- Jeremy Dingler | Town of Mooresville Police Department
- Kevin Elder | Bicycling Advocate
- Byron Engle | North Carolina Department of Transportation
- Elizabeth Floyd | Assistant District Attorney
- Brad Johnson | Iredell County Area Transportation System
- Travis Johnson | Charlotte Regional Transportation Planning Organization
- Seth Jones | Bicycling Advocate
- Robert Kessler | NASCAR Technical Institute
- Troy Luttman | Resident, Walk Commuter
- Erika Martin | Town of Mooresville Planning & Community Development
- Richie Naraidu | North Carolina Department of Transportation
- Will Saake | Resident, Runner
- Scott Smith | Mooresville Graded Schools
- Bill Thunberg | Lake Norman Regional Transportation Commission
- William Washam | Town of Mooresville Planning & Community Development
- Camila Weckerly | Town of Mooresville Engineering
- Sharon Weddington | National Federation of the Blind
- Jason Workman | Town of Mooresville Fire Department
- Jamie Wilkins | Town of Mooresville Planning & Community Development



Contents

INTRODUCTION 5

CURRENT CONDITIONS 11

VISION ZERO TASK FORCE 19

HIGH-INJURY NETWORK 23

ACTION PLAN..... 35



Introduction

What is Vision Zero?

Across the United States, about 40,000 people are killed every year on our roadways, including more than 1,700 people in North Carolina alone in 2021 (Sources: NCDOT and IIHS). That number has been increasing in recent years in our state and across the country. For thousands of others, serious injuries have altered their lives.

We typically call traffic crashes “accidents,” but in reality, there are many actions we can take to prevent serious and fatal crashes. We all have a role to play in crash prevention—planners, engineers, public health professionals, law enforcement, elected officials, and all who share our roads.

Vision Zero is a worldwide movement that began in Sweden in 1997. It has since spread to many countries around the globe. Vision Zero is a holistic approach to road safety that acknowledges imperfect human behavior and puts safety first.

Vision Zero is a strategy to eliminate all traffic fatalities and serious injuries, while increasing safe, healthy, equitable mobility for all.

SAFE SYSTEMS APPROACH

Vision Zero is anchored in the **Safe Systems Approach**. This approach is based on the principle that no loss of life is acceptable in our transportation system, and that we can plan with human mistakes and vulnerabilities in mind. The key principles of the Safe Systems Approach are the following:

- **Deaths and serious injuries are unacceptable.** We look specifically at crashes that result in death or serious injury because safety is our number one priority.
- **Humans make mistakes.** Mistakes can lead to crashes. We can build a transportation system that anticipates human mistakes to ensure that crashes aren’t serious or fatal.
- **Humans are vulnerable.** People can only tolerate so much force in a crash, so we must build a transportation system that is centered on human needs and vulnerabilities.
- **Responsibility is shared.** Everyone, including those who manage and use the transportation system, is responsible for preventing fatal and serious injury crashes.
- **Safety is proactive.** Instead of waiting for crashes to occur, we should anticipate risks and proactively find solutions to make these places safer.
- **Redundancy is crucial.** All parts of the transportation system must be strengthened. This way, if one part fails, the other parts still protect people.

NC VISION ZERO

NC Vision Zero is a collaborative effort to eliminate roadway deaths and injuries in North Carolina. Mooresville is among 15 communities in North Carolina who have partnered with NC Vision Zero in adopting a goal of zero traffic fatalities and serious injuries. As an NC Vision Zero partner community, Mooresville’s next step is using this Action Plan to establish data-driven strategies to eliminate fatalities and serious injuries. NC Vision Zero is grounded in the following principles:



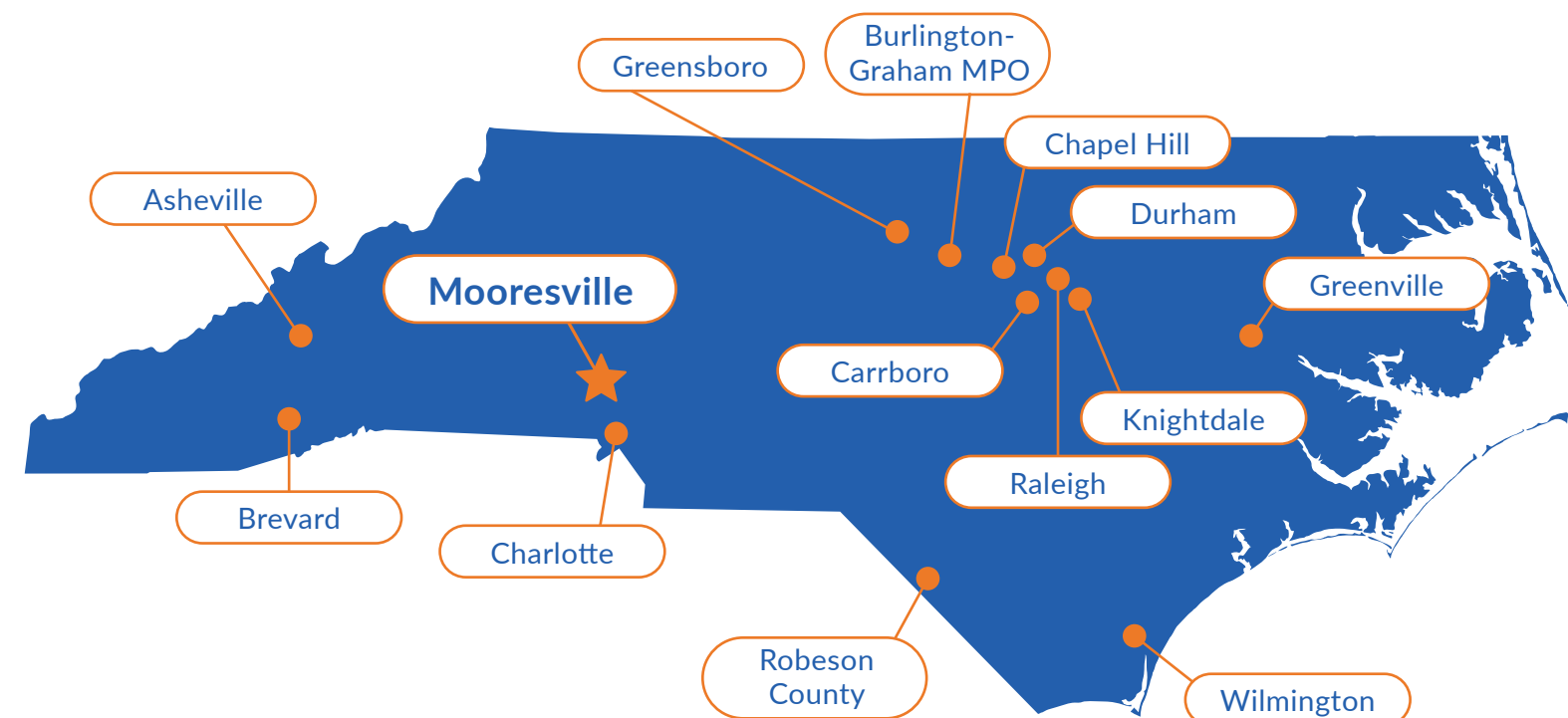
NC VISION ZERO PRINCIPLES

No loss of life on our roads is acceptable.

All road users deserve **safe streets**.

Injury or death is **not an inevitable price** to pay for mobility.

The communities shown in the map below have also adopted a vision of zero traffic fatalities and serious injuries. Mooresville collaborates with NC Vision Zero partners who share our goal.



25

Fatal crashes on Mooresville's roads
between 2017 and 2022

Source: NCDOT, Mooresville Police Department

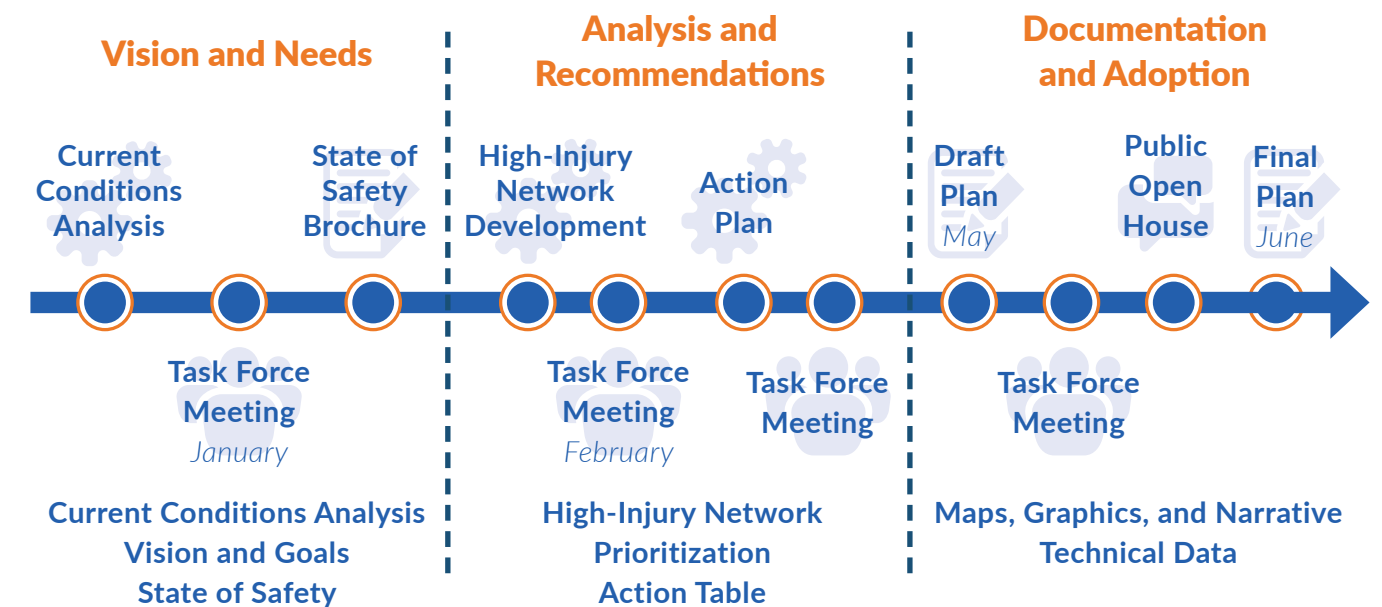
Vision Zero in Mooresville

PURPOSE

The Mooresville Vision Zero Action Plan is our vision to eliminate roadway serious injuries and deaths in Mooresville. It includes a High-Injury Network to identify our highest priority road segments for safety improvements and an Action Table to guide investments in roadway safety throughout the Town. The plan uses data to analyze where fatal and serious injury crashes occur and is tailored to Mooresville's specific needs and the community's vision. This plan is realistic and actionable, and will help Mooresville be more competitive for funding opportunities.

PROCESS

The Mooresville Vision Zero Action Plan planning process included three phases. Each phase was guided by meetings with the Vision Zero Task Force and key interim documents.



KEY ELEMENTS

Our process was structured by three key elements: the High-Injury Network (HIN), prioritization, and an Action Table to guide policy and programs that support our Vision Zero goals.



Street segments with
highest incidence of fatality
and serious injury



Guidance for how
Mooresville prioritizes
investment on the HIN



Policy and programmatic
recommendations to
support Vision Zero



2 Current Conditions

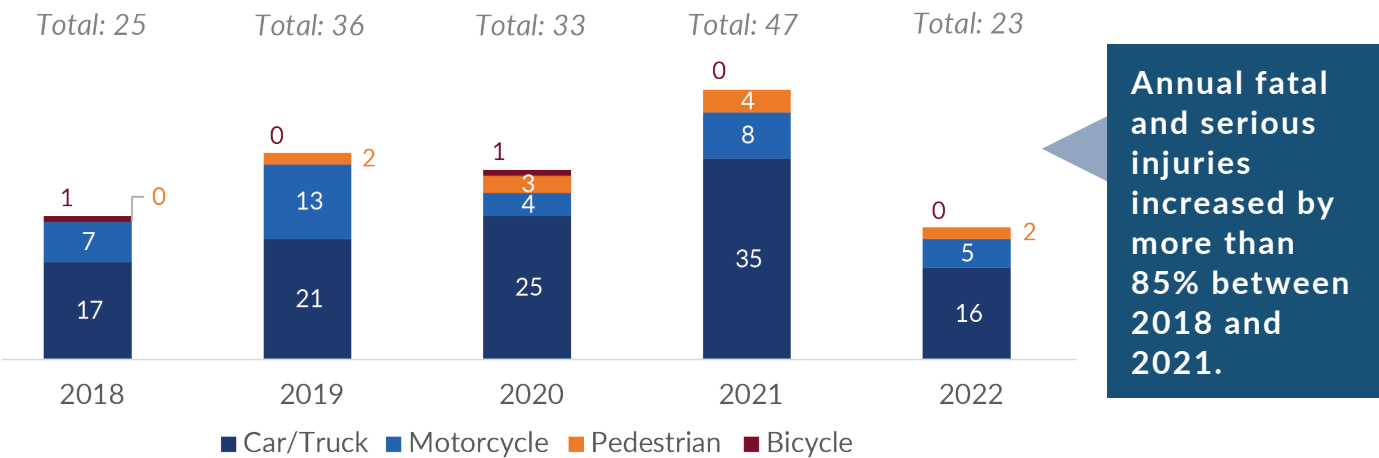
Our State of Safety

To get a clear picture of safety in Mooresville, we first conducted a thorough analysis of existing conditions data. We analyzed crash data since 2017, looking at the crash types, modes involved (vehicles, bicycles, motorcycles, and pedestrians), contributing factors, and locations. NCDOT compiles crash data from the Town of Mooresville Police Department, the NC State Highway Patrol, the Iredell County Sheriff's Office, and others. We used NCDOT data on crashes from October 1, 2017 to September 30, 2022, supplemented by data from Town staff.

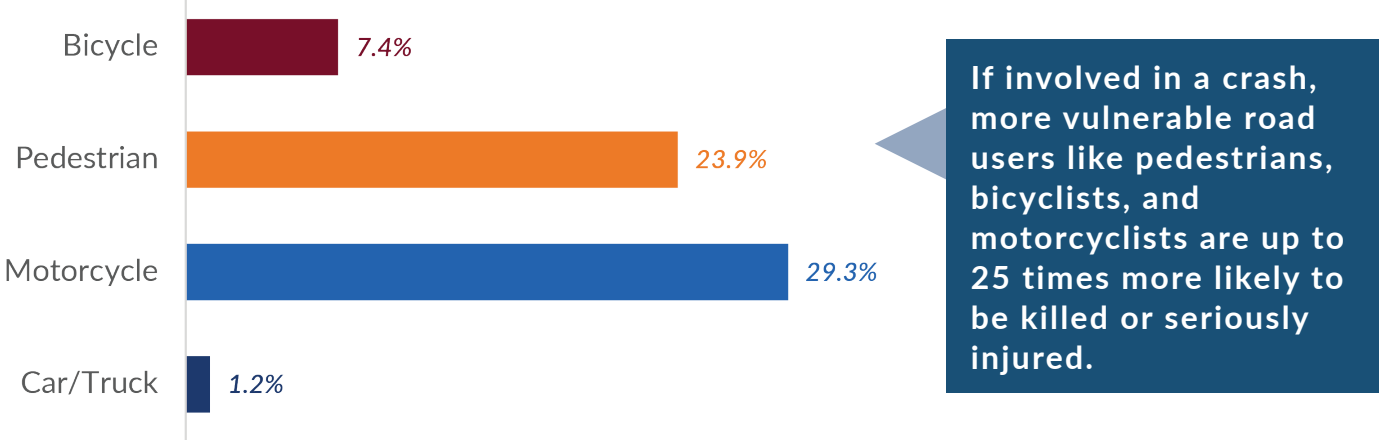
We also looked at demographic data and other transportation data (sidewalks, bike lanes, upcoming roadway projects, household income, and more) to create a more comprehensive understanding of the types of things that influence safety in the community. Unless noted, data in this section is from NCDOT, Iredell County, or from the Census American Community Survey 5-Year Estimates (2021).

WHAT DID WE LEARN?

Trend in Fatal/Severe Injury Crashes in Mooresville, 2017-2022



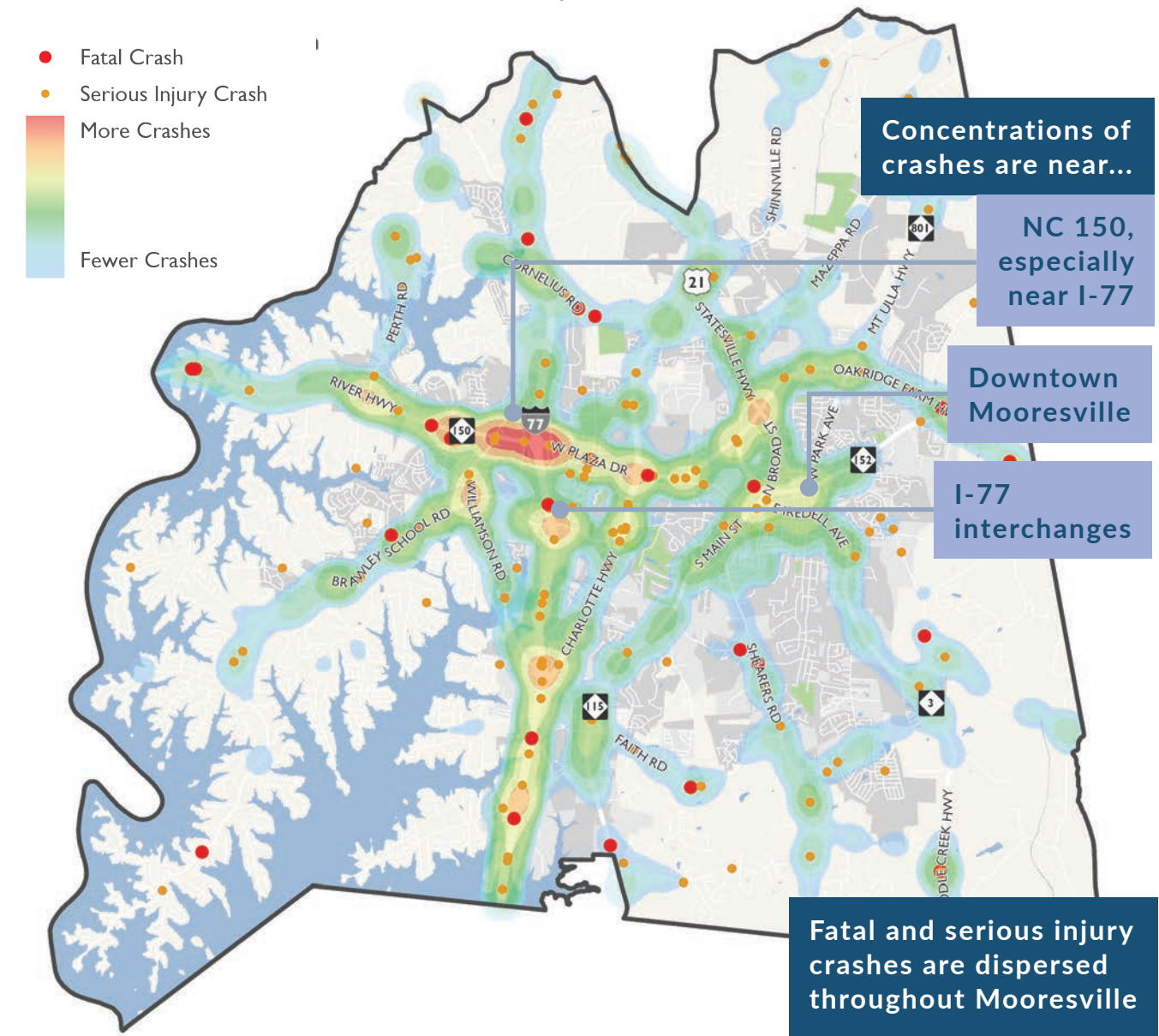
Likelihood of Fatality or Serious Injury by Mode



All Crashes and Fatal or Serious Injury Crashes

Source: NCDOT, 2017-2022

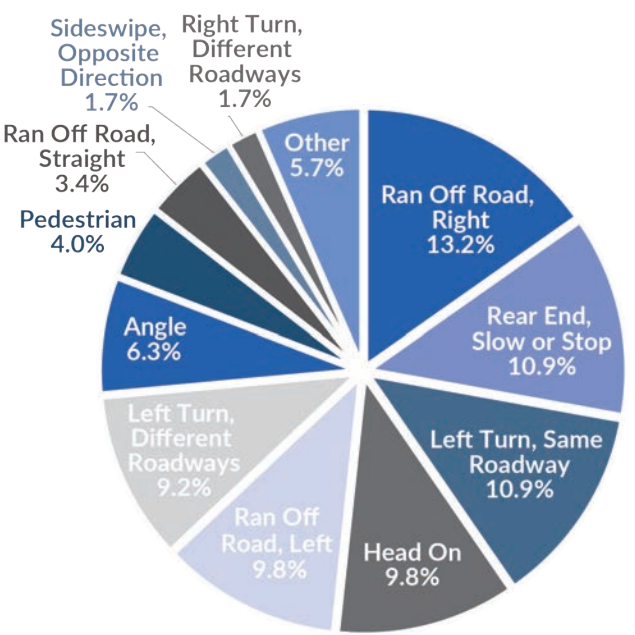
The map below shows a heatmap of the locations of crashes in Mooresville and its Planning Area*. The dots show the locations of fatal or serious injury crashes.



As a whole, crashes are concentrated in high-volume areas like River Highway (NC 150) near I-77. However, we notice that fatal and serious injury crashes are more dispersed throughout Mooresville, including on many smaller neighborhood streets and rural roads. Later in this document, the High-Injury Network represents where these serious crashes occur most often.

*The maps and crash analysis in this plan include the Planning Area established in the OneMooresville Comprehensive Plan, the Pedal Mooresville Bicycle Plan, and other previous plans. Analyzing beyond Town or ETJ limits is good practice for consistency as our community grows and changes.

Fatal and Serious Injury Crashes by Type



20

crashes killed or seriously injured someone on Mooresville roads in 2022.

The most common types of fatal or serious injury crashes on Mooresville's roads included running off the road to the right, rear endings, left turn crashes, and head-on collisions

Crash Factors Most Likely to Result in Fatality of Serious Injury

Unbelted Driver/Passenger	10.6%
Drugs	9.3%
Alcohol	8.6%
Drowsy Driver	6.0%
Speeding	5.8%

Distracted driving also contributes to many of these crashes, but often is not reported.

Existing Plans and Projects

As part of our analysis of current conditions related to Vision Zero, we reviewed many existing plans in Mooresville, including projects already planned by the Town and NCDOT. Many of these plans support Vision Zero, or could be updated to reflect Vision Zero goals and strategies. Plans included:

- Mooreville Neighborhood Traffic Calming and Control Device Policy
- Pedal Mooreville Bicycle Plan
- OneMooreville Comprehensive Plan
- Mooreville Land Development Standards
- Mooreville Unified Development Ordinance
- Mooreville Traffic Impact Analysis Procedures Manual
- Mooreville Downtown Transportation Study
- Mooreville Comprehensive Transportation Plan Amendments Addendum Report
- Mooreville Safe Routes to School
- Iredell County Transportation Master Plan
- CRTPO 2050 Metropolitan Transportation Plan
- Beyond 77 Corridor Study

Traffic Volumes

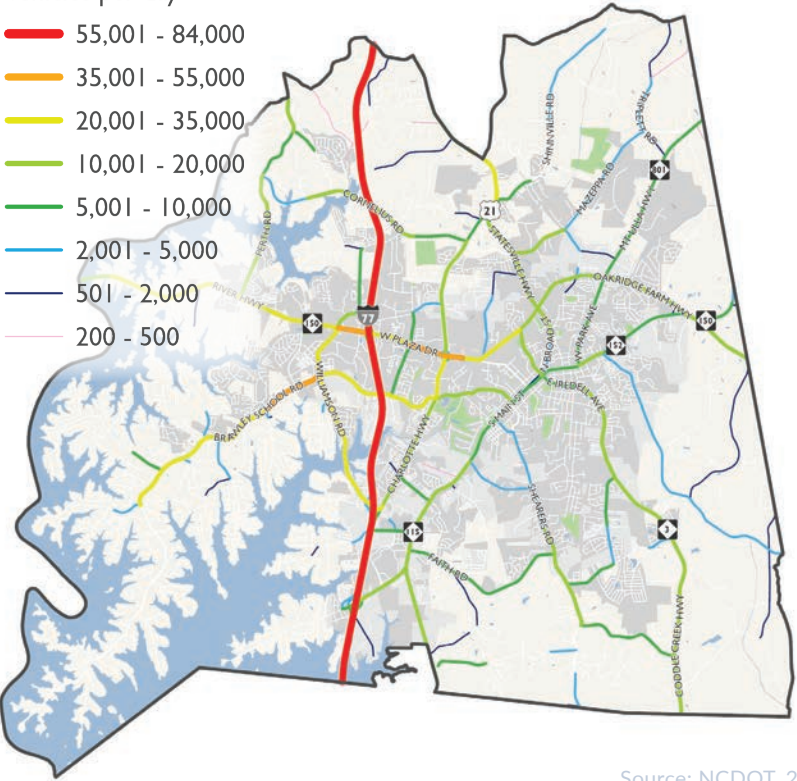
This map shows the average daily traffic on many of Mooresville's roads in 2019. Although 2020 data is the newest available, 2019 data is generally more representative of typical travel patterns due to COVID-19 impacts.

The busiest corridors in Mooresville include I-77, NC 150, Brawley School Road, and Williamson Road. As the region grows, volumes are projected to increase on most roads.

Higher-volume roads are often dangerous. However, congestion can cause vehicles to travel more slowly, limiting the severity of crashes.

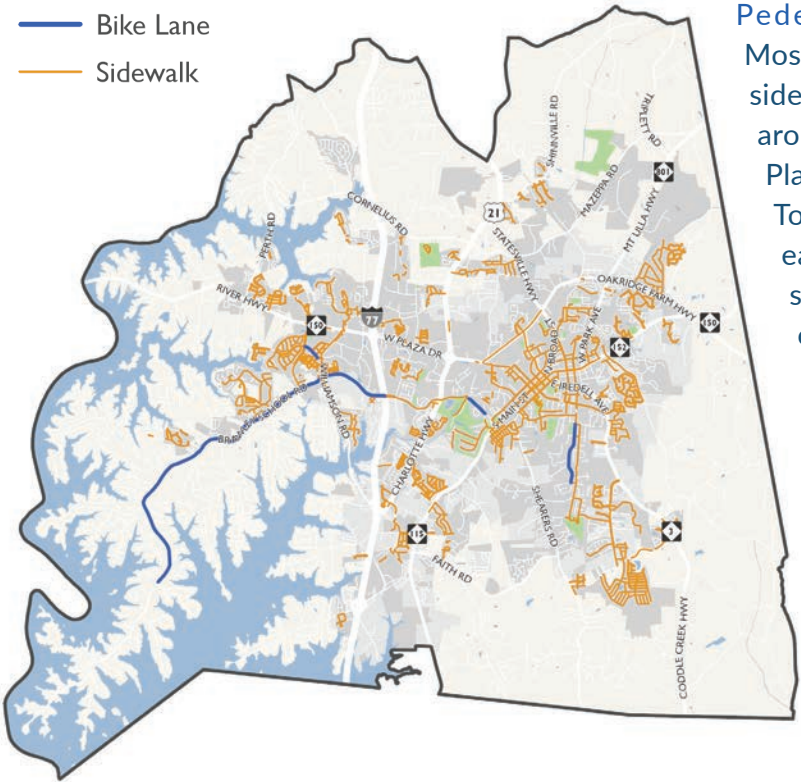
Vehicles per day

- 55,001 - 84,000
- 35,001 - 55,000
- 20,001 - 35,000
- 10,001 - 20,000
- 5,001 - 10,000
- 2,001 - 5,000
- 501 - 2,000
- 200 - 500



Source: NCDOT, 2019

- Bike Lane
- Sidewalk



Pedestrian and Bicycle Facilities

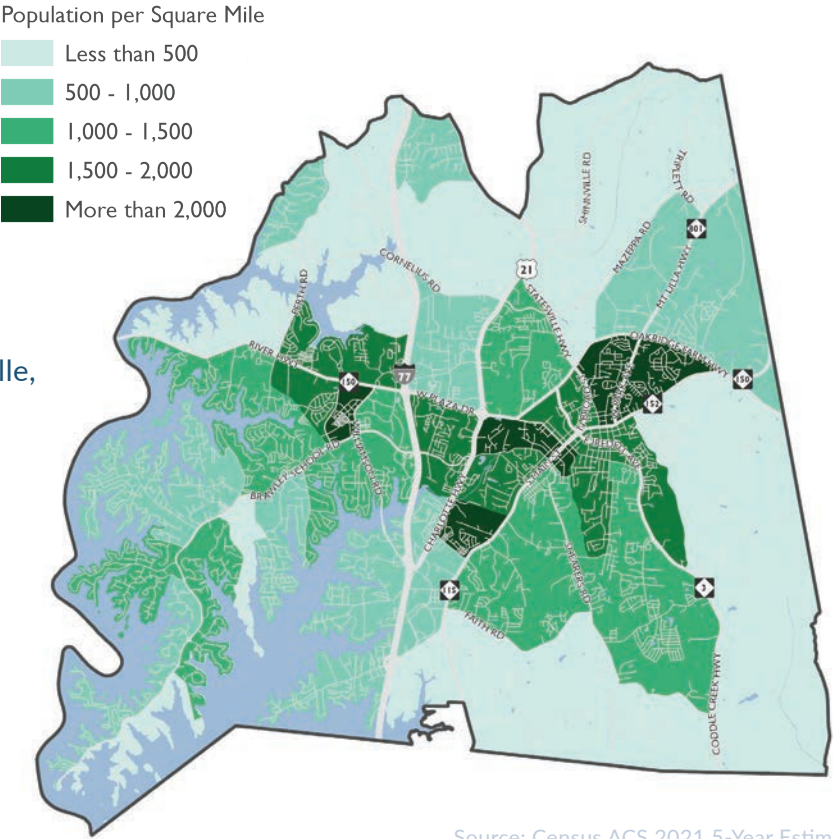
Most connected parts of Mooresville's sidewalk network are either located around Downtown or in the Morrison Plantation area in the west part of the Town. Other newer subdivisions in the eastern part of the Town have internal sidewalk networks, but are not well connected to other areas of the Town. Notably, several areas with shopping and other destinations, such as most of NC 150 and Norman Station Boulevard, lack sidewalks.

Bike lanes primarily exist along Center Avenue/Magnolia Street south of Downtown and along Brawley School Road out towards Lake Norman. Small segments also exist along Plantation Ridge Drive and Lowrance Avenue.

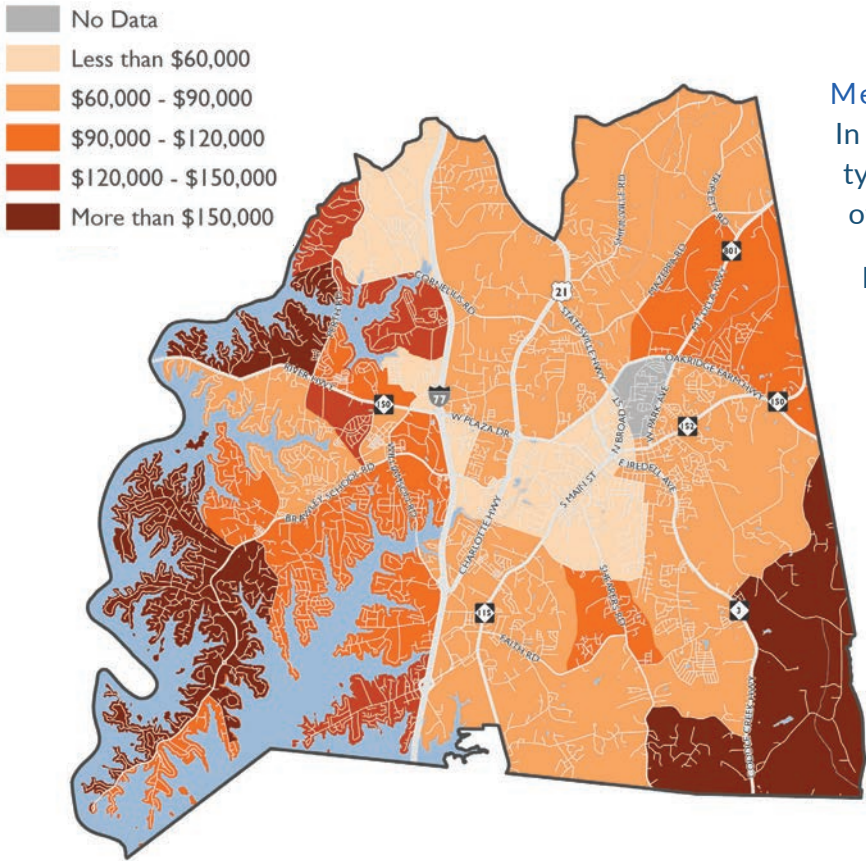
Population Density

Areas with a higher density of residents mean greater volume and unpredictability of vehicle movements as people move around their neighborhoods. In Mooresville, the highest-density areas include Downtown Mooresville, neighborhoods just east and south of Downtown, and along Morrison Plantation Parkway. Lower-density areas include the semirural areas just outside of Mooresville.

Density is an important factor to consider as we prioritize our High-Injury Network. Investments in higher-density areas typically impact more people.



Source: Census ACS 2021 5-Year Estimates



Source: Census ACS 2021 5-Year Estimates

Median Household Income

In Mooresville, lower-income areas are typically in the older, more central parts of Town.

In block groups Downtown and north of Cornelius Road in the northwestern planning area, median household income is under \$60,000 per year.

Along the Lake Norman waterfront and in the semirural areas along NC 3, median household income exceeds \$120,000 per year.

Mooresville Vision Zero is committed to equity in our community. Lower-income families should not be disproportionately affected by serious and fatal traffic crashes.

KEY TAKEAWAYS

Based on the analysis of current conditions, these are some of the things that stood out as we plan the projects and actions that get us to Vision Zero:

- 1 Crashes occur throughout Mooresville. **However, a greater concentration of crashes occur near major interchanges and intersections and in Downtown Mooresville.**
- 2 Less than 2% of crashes kill or seriously injure someone involved. **However, fatal and serious injury crashes have been on an upward trend in Mooresville. In 2021, nearly twice as many people were seriously hurt or killed in Mooresville crashes compared to 2018.**
- 3 Most crashes in Mooresville involve motorists only. **However, vulnerable road users such as bicyclists, pedestrians, and motorcyclists are up to 25 times more likely to be seriously hurt or killed if involved in a crash.**
- 4 Many crashes occur on the busy NC 150 through Mooresville. **However, when adjusted for traffic volume, other less heavily trafficked corridors stand out as high-injury corridors.**





Vision Zero Task Force

Vision Zero Task Force

To help guide the planning process and act as a conduit to the residents in Mooresville, a Vision Zero Action Plan Task Force was formed. Our four meetings with the Task Force were key in shaping this plan to ensure it reflects Mooresville’s priorities. Task Force members included Town staff from various departments, elected officials, educators, community leaders, residents, NCDOT staff, and more. See page 2 for a full list of Task Force members. This section details each meeting and how the Task Force shaped this plan.

MEETING 1

During our first Task Force Meeting, we introduced the planning process, the role of the Task Force, and presented takeaways from the analysis of current conditions. We also conducted a **polling activity** about the importance and challenges of Vision Zero in Mooresville.

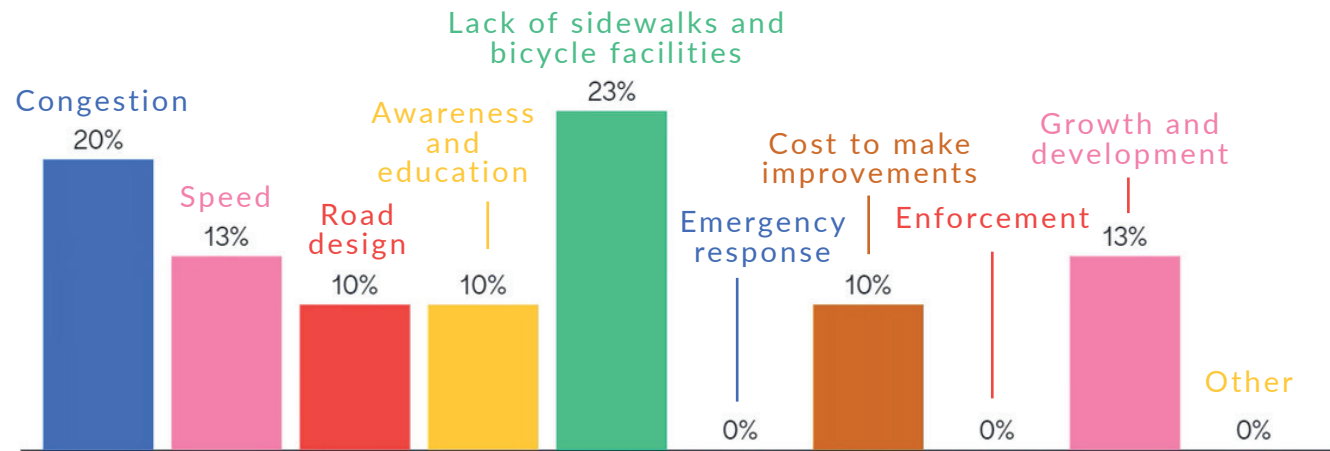
What we learned:

- Lack of multimodal facilities and congestion are key safety challenges
- The importance of improving safety is critical as Mooresville continues to grow

How this meeting influenced the plan:

- Identified key challenges and goals for achieving Vision Zero

What are the biggest challenges to Mooresville achieving Vision Zero? Pick three.



MEETING 2

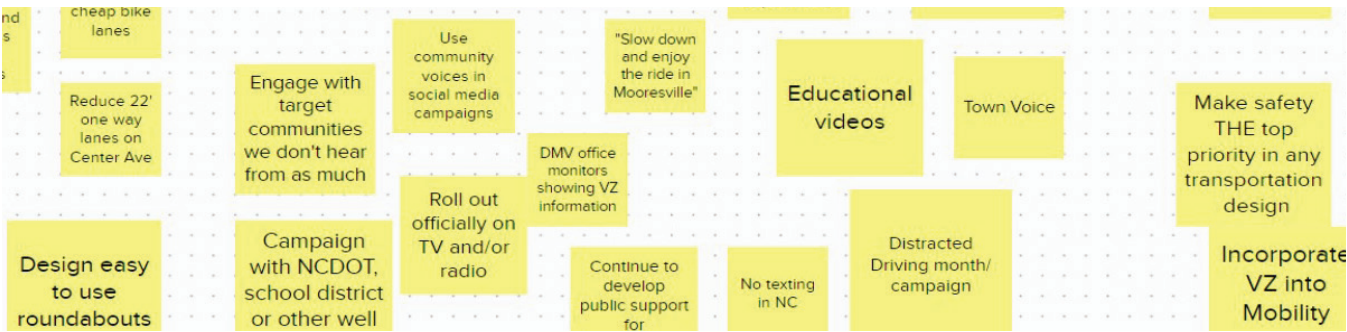
At our second meeting, we gave an overview of the draft High-Injury Network methodology and map. Task Force members weighed in on the HIN and then helped us brainstorm, refine, and prioritize criteria that we would use to prioritize the network.

What we learned:

- Prioritization criteria should include crash characteristics, road characteristics, area context, demographics, and measures of opportunity

How this meeting influenced the plan:

- Task Force members’ category rankings were averaged to establish the weights for each category of prioritization criteria



MEETING 3

At our third meeting, we presented the revised and prioritized High-Injury Network based on the criteria established at the previous meeting. Then, the Task Force **brainstormed possible actions and strategies** to advance Vision Zero.

What we learned:

- Our actions should focus on designing safer streets, creating a culture of safety, and bettering our implementation of safety improvements

How this meeting influenced the plan:

- Established our Goal Statements and directly informed the contents of the Action Plan (see Chapter 5)

MEETING 4

At our final meeting of the Vision Zero Action Plan Task Force, members had a chance to preview the plan. They then had the opportunity to read the draft and provide comments.

What we learned:

- The Task Force resonated with the draft Action Plan with some comments

How this meeting influenced the plan:

- Comments from Task Force members were incorporated into the final plan

Why is Vision Zero important to Mooresville? What we heard...

“Make roads safer for the next generation”

“Empower residents to know what they can do to improve safety”

“People want to live, visit, and work in a place where they feel safe and have a sense of belonging”

“Provide safe alternatives to driving a car for every destination”

“Use Vision Zero goals to promote equity in the community”

“Bring community members together around a positive cause”



4 High-Injury Network

High-Injury Network

METHODOLOGY

After analyzing where and how crashes occur in Mooresville, we took a closer look at what segments of our road network have had fatal and serious injury crashes. The outcome of this exercise gives us a clear picture of where these crashes happen and how frequently. This section describes how we overlaid our crash data on the road network to generate Mooresville’s first High-Injury Network (HIN). This network will help guide us to make strategic investments in road safety.

1. SEGMENTING THE NETWORK

The first step to create the High-Injury Network was to generate road segments that would logically group related crashes. We generated a network of segments approximately 0.5 to 1 mile in length. This way, if crashes occurred near each other, this segment would stand out on the map.

2. JOINING THE CRASHES

In the next step, we joined each fatal or serious injury crash to one or more neighboring street segments. Crashes marked as occurring along a road were joined to the nearest road, while crashes marked as occurring at an intersection were joined to all road segments within 150 feet. Interstates are solely owned, operated, and maintained by the state, meaning that Mooresville has very little opportunity to influence design and construction along them. As such, crashes that occurred along I-77 were not included in this exercise or on the High-Injury Network.

3. CALCULATING SCORES

The final step was to assign a Fatality or Serious Injury (FSI) score to all segments where fatal or serious injury crashes occurred. Because bicyclists and pedestrians are more vulnerable to the same crash impact level, we more heavily weighted these segments. We used the following formula to calculate each segment’s FSI score:

Fatal/Serious Injury Crash Type	Crash Weight
Vehicular only	1
Pedestrian	3
Bicycle	3

FSI Score =

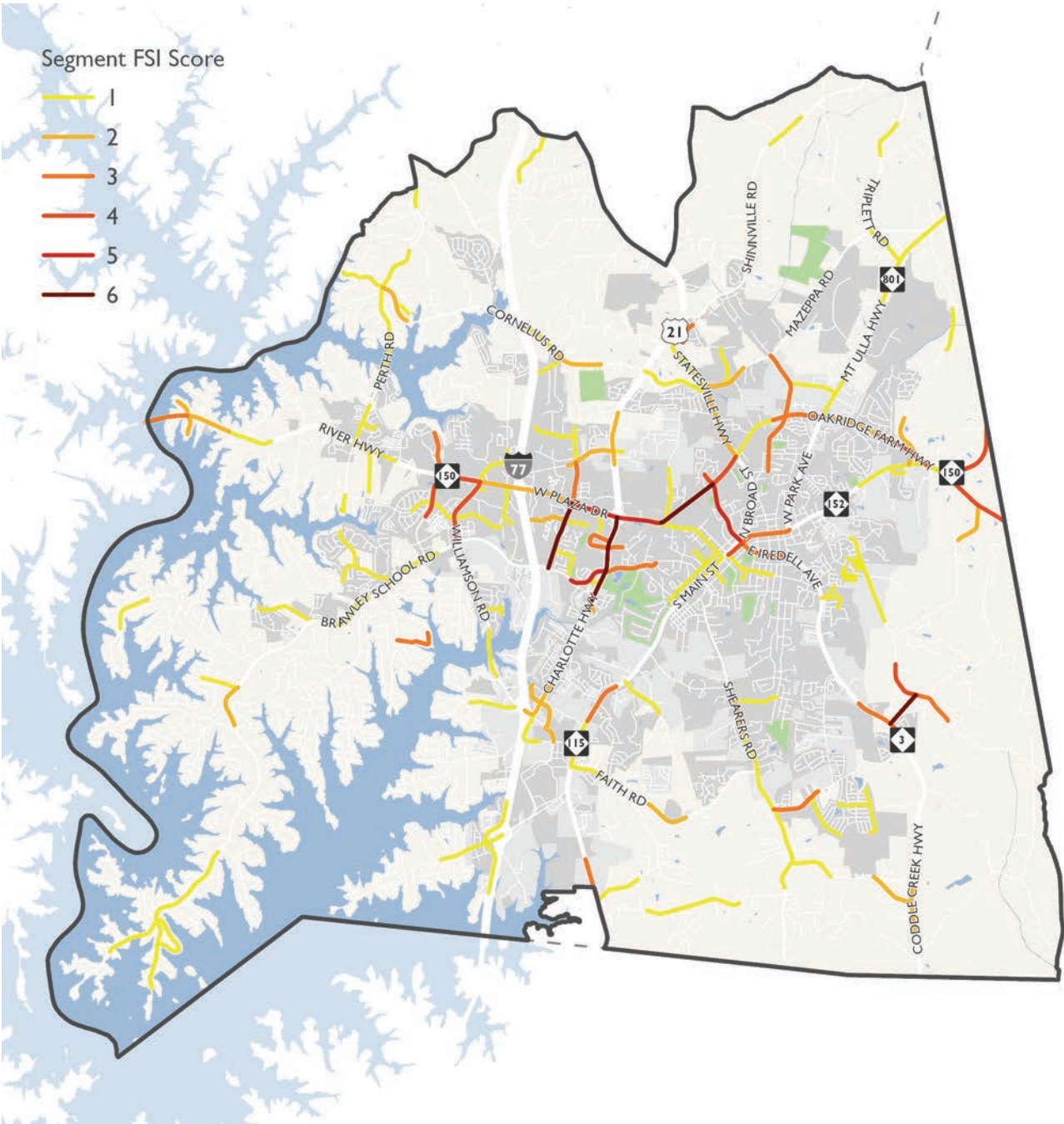
Number of vehicle-only FSI crashes (x1) +

Number of pedestrian FSI crashes (x3) +

Number of bicycle FSI crashes (x3)

MAP: HIGH-INJURY NETWORK BY FSI SCORE

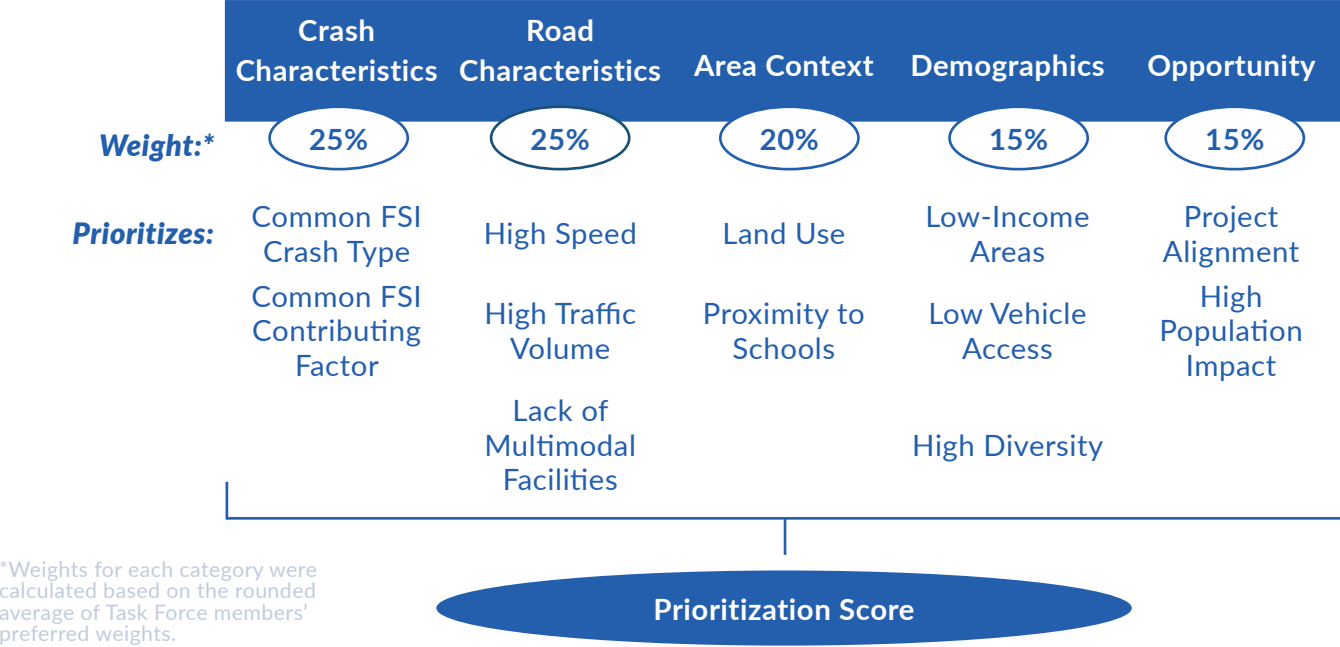
The map below shows the High-Injury Network and the FSI Score for each segment. Segments in yellow with a FSI Score of 1 had one vehicle-only fatal or serious crash in the last five years. Segments in dark red with a FSI score of 6 may have had many fatal or serious vehicle-only crashes as well as one or more fatal or serious bicycle- or pedestrian-involved crashes.



Prioritization

CALCULATING THE PRIORITIZATION SCORE

To prioritize the High-Injury Network, the Task Force helped us develop a context-sensitive **Prioritization Score** that is indicative of what is most important is Mooresville and emphasizes projects consistent with other plans. This prioritization provides the Town with the guidance necessary to understand where resources are most needed for improving safety in our community.



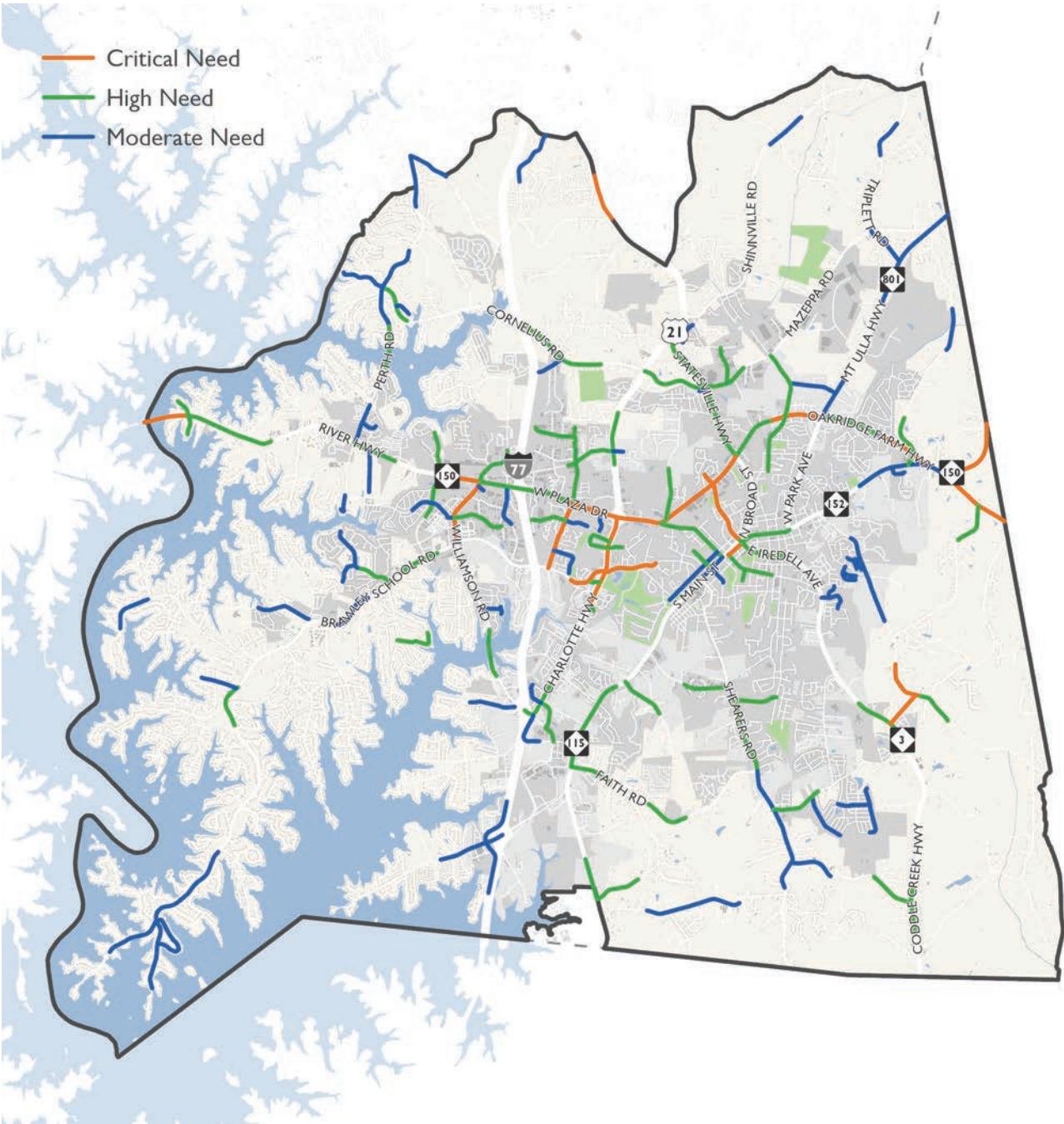
CALCULATING THE FINAL SCORE

To calculate a final score for each High-Injury Network segment, we equally weighted the FSI Score and the Prioritization Score. Segments were then separated into three tiers.



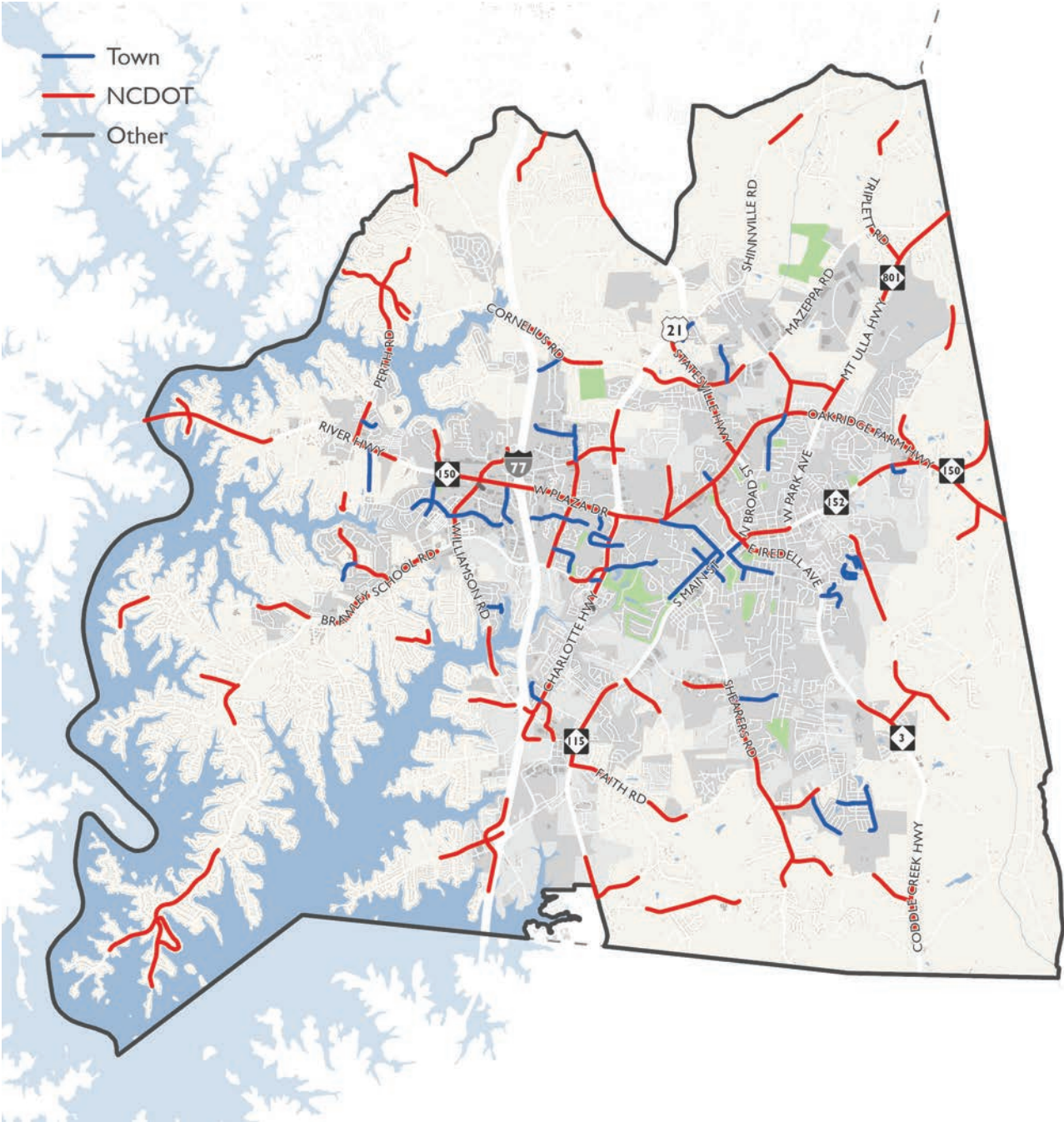
MAP: PRIORITIZED HIGH-INJURY NETWORK

The map below shows the High-Injury Network prioritized into three tiers based on the total score. Critical Need segments comprise the top third of segments, High Need segments comprise the middle third, and Moderate Need segments comprise the lowest third. All segments on the High-Injury Network are important to invest in, but this prioritization helps to guide investment in Mooresville's road safety.



MAP: MAINTENANCE RESPONSIBILITY ON THE HIGH-INJURY NETWORK

The map below shows the High-Injury Network by maintenance entity. Of the 86 total miles of roads on the High-Injury Network, 18 miles are owned and maintained by the Town of Mooresville, 67.5 miles are state and federal roads maintained by NCDOT, and 0.3 miles are privately owned. To complete projects on non-Town maintained roads, the Town will need to collaborate with others.



High-Injury Network Projects

This section outlines some key projects which the Town is developing that will significantly improve safety conditions for all road users along sections of our identified High-Injury Network. By continuing to develop these projects, the Town can make investments to reduce the number of fatal and serious injury crashes on our streets. In addition to these specific projects, the Action Plan (Chapter 5) has recommendations for more programmatic approaches to develop smaller-scale, yet impactful improvements to other segments of the HIN. There are also NCDOT projects currently under development which overlap the HIN.

DOWNTOWN TRANSPORTATION STUDY RECOMMENDED PROJECTS AND DOWNTOWN STREETScape MASTER PLAN IMPROVEMENTS

The Downtown Transportation Study was completed in early 2022 and includes recommendations for restricting and reallocating motor vehicle turning movements at many of the complex traffic signals in Downtown Mooresville. Reorganizing the vehicle turning movements will also allow more time to be allocated for pedestrians to cross, and permit the installation of leading pedestrian intervals at Downtown traffic signals. The Downtown Transportation Study's recommended projects overlap with several HIN corridors.

The Downtown Streetscape Master Plan kicked off in July 2023. It will develop streetscape projects that will address pedestrian mobility and safety on these Downtown HIN corridors.

TALBERT ROAD COMPLETE STREET

Talbert Road is a corridor along our High-Injury Network that has experienced rapid residential and commercial development. Both ends of Talbert Road have or will be improved by NCDOT projects, however, a significant portion of Talbert Road will remain without sidewalks or left turn lanes after these projects are complete. The Talbert Road Complete Street project would provide safe pedestrian access along and across Talbert Road, along with needed turn lanes to reduce the crash factors found in the fatal/serious injury crashes on this corridor.

HIGHWAY 115 SHARED USE PATH

This ~5-mile stretch of Highway 115 between Downtown Mooresville and the Davidson town limits has multiple sections on the HIN, and a bicyclist was killed along this corridor. The Pedal Mooresville plan identifies this as a priority corridor and the Town has already obtained funding to construct a stretch of this shared use path between Fairview Rd and Waterlyn Rd. This project will be need to be completed in phases and presents a great opportunity to provide safe access to vulnerable road users. NC 115 provides access to residential, large employment, medical, and school land uses.

PLANTATION RIDGE DR ROUNDABOUT AND IMPROVEMENT

The Town has already made investments in one pedestrian crossing along Plantation Ridge Drive at Joe Knox Ave, and opportunites exist to install other improved pedestiran crossings along HIN

segments in this area where none exist today. The roundabout at Planation Ridge and Singleton lacks ADA complaint crossings and has a large turn raidius that encourages higher speeds.

SHARED USE PATH ON N MAIN ST (NC 152) FROM NORTH MAIN PARK TO WIGGINS RD

This stretch of N Main St shows up on the High-Injury Network and currently has no sidewalk.

The town currently has a funded sidewalk project along N Main St from Beatty Ave to North Main Park. This project would extent that pedestrian path to East Mooresville Intermediate School, providing access to the large residential subdivision next to the park and middle school.



EAST CENTER AVE CYCLETRACK

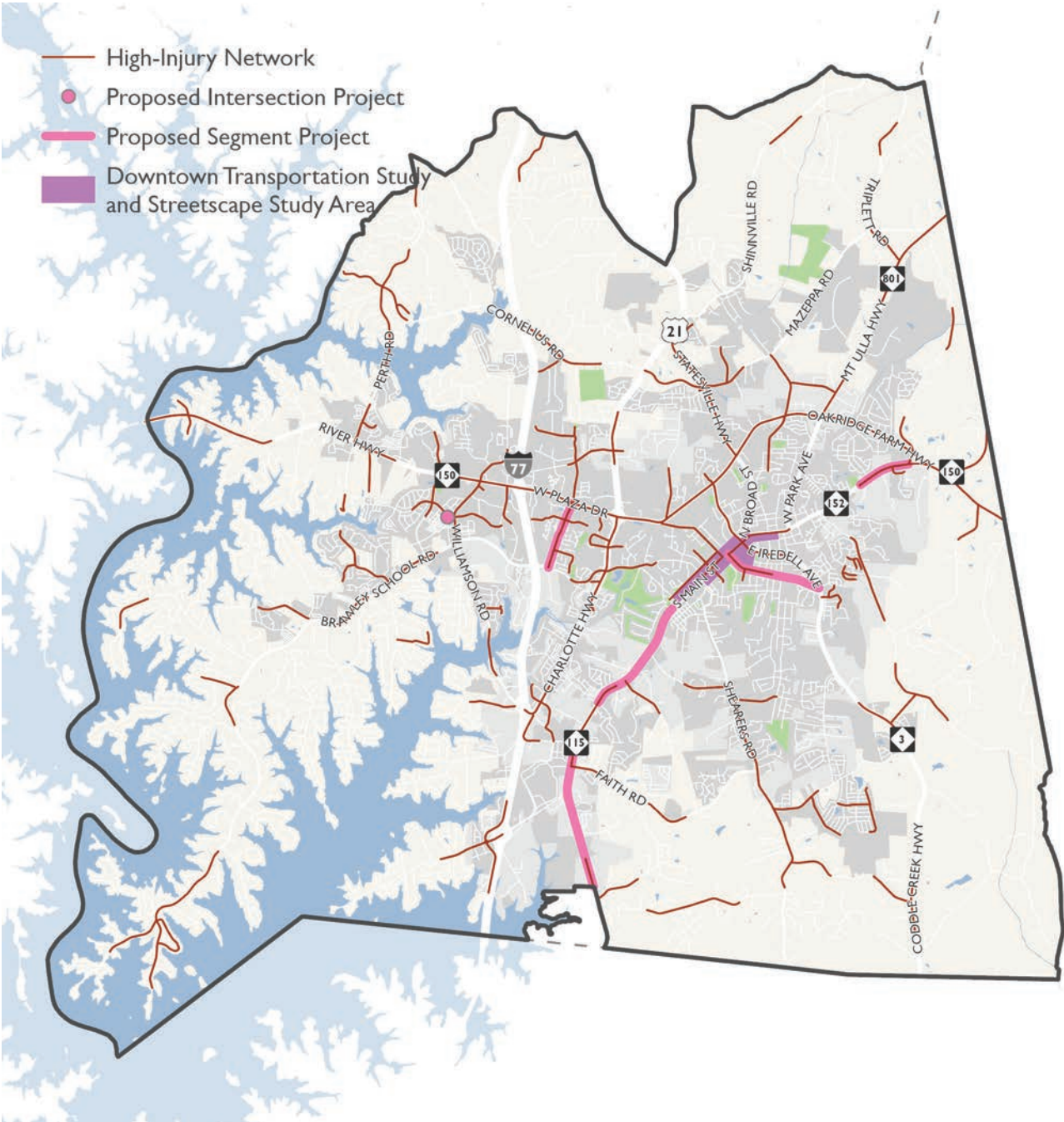
The East Center Ave Cycle Track is a priority project from the Pedal Mooresville Bicycle Plan. This project aims to not only add a two-way separated bicycle lane to E Center Ave, but significantly narrow the roadway from a wide 36' curb to curb dimension for 2 travel lanes to ~22' wide for 2 travel lanes. This narrowing of the vehicle travel lanes will promote speeds more aligned with Downtown character, and make it safer for pedestrians to cross E Center Ave.

E Center Ave between S Main St and Evergreen St is on the High Injury Network.



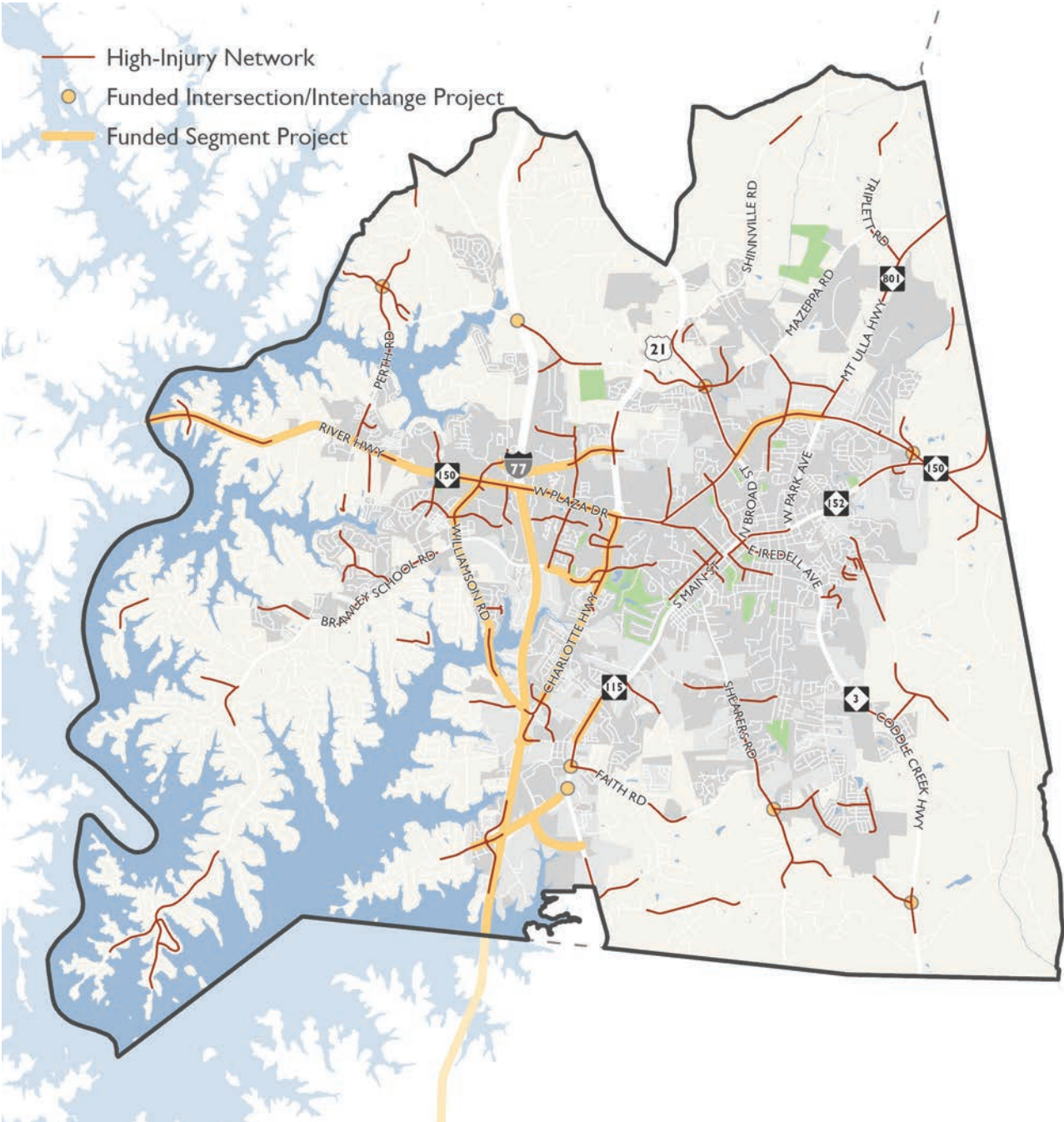
MAP: HIGH-INJURY NETWORK PROJECTS

The map below showcases key projects along the High-Injury Network proposed by the Town of Mooresville. Completing these projects would contribute to addressing up to 28 of the 168 road segments on the High-Injury Network. These projects are described in detail on pages 30 and 31. The Downtown Transportation Study and Downtown Streetscape Master Plan Study Area is shown to represent potential improvements in this area to address roadway safety.



MAP: FUNDED PROJECTS

The map below shows funded projects for corridors and intersections in Mooresville. These come from the STIP, MTP, and local plans. These projects represent a variety of project types that are at varying levels of design and engineering. Completing these projects may help address up to 52 of the 168 road segments on the High-Injury Network.





5 Action Plan

Action Table

The following actions represent the steps Mooresville is committed to taking to prevent deaths and serious injuries on our roads. These policies and programs are intended to supplement investment in physical improvements to the High-Injury Network, and will help us maximize these investments. The Action Table is organized around three guiding Goal Statements:

- Design streets that are safe for everyone
- Create a culture of safety
- Better our implementation of safety improvements

The table below includes a lead agency or agencies for each action, as well as key partners to advancing each action. Common abbreviations include:

- PS: Public Services
 - PCD: Planning & Community Development
 - NCDOT: North Carolina Department of Transportation
 - MPD: Mooresville Police Department
 - VZTF: Mooresville Vision Zero Task Force
- MGSD: Mooresville Graded School District
 - HIN: High-Injury Network
 - TOM: Town of Mooresville
 - CM: Communications & Marketing

GOAL	Design streets that are safe for everyone.			
Action	Description	Measure	Lead Agency(s)	Key Partner(s)
D-1	Evaluate speed reductions to 25mph on streets within the Downtown Streetscape Master Plan Limits.	Number of street segments in the Downtown Core reduced to 25 mph	PS; MPD	NCDOT; PCD
D-2	Require sidewalks and/or other multimodal facilities with new development.	Miles of sidewalks in Mooresville	PCD	NCDOT
D-3	Ensure existing sidewalks are well maintained and meet Town standards.	Maintenance calls fulfilled for sidewalk issues	PS	NCDOT; TOM Risk Mgmt.

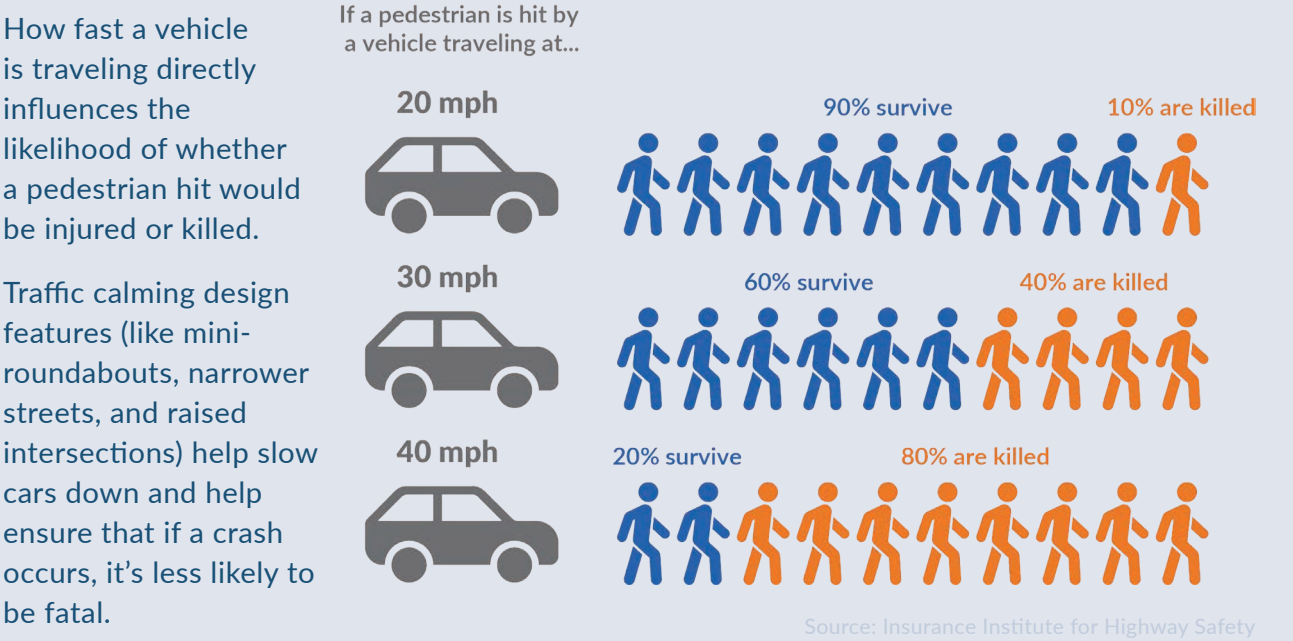
GOAL	Design streets that are safe for everyone.			
Action	Description	Measure	Lead Agency(s)	Key Partner(s)
D-4	Evaluate sidewalk gaps that exist in Mooresville and prioritize filling gaps along the HIN.	Complete two sidewalk gap projects	PCD	PS; NCDOT
D-5	Through the UDO and Land Development Standards, require traffic calming measures such as roundabouts, raised intersections, and raised crosswalks where appropriate in new development.	Number of new development projects including traffic calming measures	PCD	Local developers
D-6	Identify lane diet opportunities where wide lanes can be reduced in width to slow motor vehicle travel speeds and provide space for other travel modes.	Number of safety conversions on Town-maintained streets and HIN segments	PS; PCD	NCDOT
D-7	Identify locations to implement traffic calming pilot projects such as roundabouts, curb extensions or modular traffic control devices.	Number of pilot projects completed	PS	PCD; NCDOT
D-8	Identify and develop traffic calming strategies for local streets, where applicable, to encourage drivers to operate at the posted speed limit.	Traffic calming strategy developed for all applicable Town streets on the HIN	PS; PCD	
D-9	Actively support speed limit reductions on NCDOT-controlled roads, where appropriate.	Number of speed reductions, reductions in observed traffic speed	PS; MPD	NCDOT

SAFETY SPOTLIGHT: LANE DIETS

A **lane diet** is a project that narrows a roadway by reducing the width of overly wide lanes to encourage slower vehicle speeds and provide space for other modes. A project on **E Wilson Ave** is an example of a recently completed project of this type. Another project of this type is being developed for **E Center Ave**.

GOAL Design streets that are safe for everyone.				
Action	Description	Measure	Lead Agency(s)	Key Partner(s)
D-11	Analyze the speed limits of Town-controlled streets to determine if the speed limit can be reduced, especially on HIN segments. Clearly communicate any new speed limits using mobile speed feedback signs, warnings, or educational materials.	Number of speed reductions, reductions in observed traffic speed	PS; MPD	
D-12	Apply for CRTPO funds to complete a corridor study on HIN segments to identify safety improvements.	Complete corridor safety study	PS; NCDOT	PCD

SAFETY SPOTLIGHT: HOW DOES SPEED IMPACT SAFETY?



GOAL Create a culture of safety.				
Action	Description	Measure	Lead Agency(s)	Key Partner(s)
C-1	Meet with the Vision Zero Task Force bi-annually to review safety data and continue to develop community messaging to advance Vision Zero.	Host two meetings	PS, PCD	MPD; VZTF
C-2	Collaborate with and continue to learn from other Vision Zero communities in North Carolina, including by sending staff representatives to the NC Vision Zero Leadership Institute each year.	Staff sent to NC Vision Zero Leadership Institute	PS, PCD, MPD	VZTF, NC Vision Zero, NC Vision Zero Communities
C-3	Integrate Vision Zero principles into driver's education programs at local schools by partnering with the MPD and MGSD.	Number of student drivers educated about Vision Zero principles	MPD; MGSD	
C-4	Incorporate Vision Zero and safe systems principles in all future town planning and policy efforts.	Vision Zero references in new or updated town policies and plans	VZTF, PCD	PS; MPD
C-5	Encourage residents to take the Vision Zero pledge. Publicize the pledge and supporting educational materials via social media, the Town Voice Newsletter, and by engaging with leaders in the community.	Number of Vision Zero pledges signed	VZTF; CM	CM
C-6	Re-engage MGSD physical education (PE) programs to provide the Safe Routes to School curriculum developed in 2021.	SRTS programs in MGSD PE programs	PCD; MGSD; Parks & Rec	MPD

COMMUNITY SPOTLIGHT:
MOORESVILLE DAY CELEBRATION

A critical part of achieving Vision Zero is ensuring that everyone in Mooresville is aware of Vision Zero and what they can do to prevent roadway deaths and serious injuries.

During the Mooresville Day celebration on March 4, 2023, Town staff hosted a booth with a station to grab a treat, learn about Vision Zero, take a pledge to help prevent serious crashes, and snap a picture.

Through this event, 78 people took the Vision Zero pledge. We'll continue these types of community engagement events to spread the word to more people about how they can get involved in making our roads safer for everyone.



GOAL	Better our implementation of safety improvements.			
Action	Description	Measure	Lead Agency(s)	Key Partner(s)
I-1	Update the Town’s Traffic Calming policy to include additional provisions for speed reduction including delineators (flex posts), optical speed bars, and a mobile digital feedback sign program.	Traffic Calming policy updated	PS	PCD, MPD, Mooresville Fire Dept.
I-2	Draft a Complete Streets Policy that requires multimodal facilities to be included in all Town CIP project scopes and private development infrastructure improvements.	Adopted Complete Streets policy	PS; PCD	Town Boards and Committees
I-3	Track and continuously update relevant data such as traffic volume, posted speed limit, signal locations, sign locations, and street lighting. Partner with the Mooresville Police Department to ensure that crash location data is as accurate as possible.	Number of maintained crash- and transportation-related datasets	PS; Mooresville GIS	Iredell County GIS, MPD, Duke Energy
I-4	Develop a Safe Streets for All (SS4A) grant submission in the 2024 grant cycle from the HIN.	Complete grant application	PS; PCD	State and federal agencies
I-5	Build a Traffic Management Center to proactively monitor and operate Town and NCDOT traffic signals.	Development of Traffic Management Center	PS	NCDOT
I-6	Incorporate safety improvements with future road, utility, and street maintenance projects.	Number of improvements	PS; PCD	NCDOT, Duke Energy, other utility providers

Funding

Mooresville can leverage local taxpayer dollars to make safety improvements, but we can make progress more quickly if we secure funding through state and federal grants and other opportunities. This section outlines possible funding sources to pursue to help pay for projects and programs that improve safety in Mooresville.

Federal

SAFE STREETS AND ROADS FOR ALL

The Bipartisan Infrastructure Law, which passed federally in November 2021, established the new Safe Streets and Roads for All (SS4A) discretionary program. This program allocates \$5 billion in funds over five years to regional and local initiatives aimed to prevent roadway deaths and serious injuries. More than 500 communities were awarded SS4A funding in Fiscal Year 2022 to support roadway safety. Mooresville’s Vision Zero Action Plan helps position us to apply for and receive SS4A funding in Fiscal Year 2023 and beyond.

Local

CAPITAL IMPROVEMENT PLAN

Mooresville’s annual budget in Fiscal Year 2022-2023 was approximately \$166 million. The Engineering Department receives a varying annual amount for transportation projects under the Capital Improvement Plan (CIP). The High-Injury Network can be used as a tool in future years for deciding which projects are designated local funding under the CIP, and the priority in which they are funded. Where applicable, future transportation projects should include Vision Zero-supportive safety features.

State

POWELL BILL

The North Carolina State Street-Aid Program (also known as the Powell Bill program) provides funding for eligible municipalities based on the number and mileage of locally-maintained roadways. For Fiscal Year 2022-2023, the Town of Mooresville estimates receiving about \$1.4 million in Powell Bill funding. While the primary function of the Powell Bill program is to assist in funding local street resurfacing, these funds may also be used to plan, construct, and maintain bike paths, greenways, or sidewalks. Multimodal facilities help make Mooresville safe for all road users, so Mooresville should consider appropriating future Powell Bill funding toward multimodal safety improvements.

State

HIGHWAY MAINTENANCE IMPROVEMENT PROGRAM

The Highway Maintenance Improvement Program (HMIP) outlines NCDOT’s 5-year maintenance plan for pavement resurfacing and road rehabilitation projects. The roadways scheduled for improvements under the HMIP are prime candidates to include safety improvements, if not already included. The Town of Mooresville should monitor projects on the HMIP and coordinate with local and regional NCDOT staff to coordinate improvements.

Federal

RAISE GRANTS

Formerly known as the BUILD and TIGER grants, the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant program will award \$1.5 billion in Fiscal Year 2023 to help communities around the country fund major infrastructure projects. Evaluation criteria for the RAISE grant prioritize safety, environmental sustainability, mobility and community connectivity, and quality of life. The RAISE grant process provides an opportunity for Mooresville to leverage federal funding for safety projects.

Local

PRIVATE DEVELOPMENT

The Mooresville Unified Development Ordinance (UDO) was updated in 2022 to implement the policies and objectives of the OneMooresville Comprehensive Plan. The UDO requires development to include appropriate bicycle and pedestrian facilities. Future updates to the UDO and Traffic Calming Policy could require developers to fund traffic calming treatments on new roads to promote safer driving.

Local

NONPROFIT ORGANIZATIONS

Other potential funding sources for safety improvements include nonprofit organizations. Working with nonprofit organizations can create lasting relationships locally, regionally, and nationally. Possible organizations include local advocacy, healthcare, and community groups. Funds from these organizations could be used to complete small-scale safety projects such as bicycle and pedestrian facilities and traffic calming in key locations.

Local

TRANSPORTATION BONDS

Transportation bonds generate revenue from a tax increase on property values. In the state of North Carolina, bond referendums must be approved by the local council and later included on a ballot to be voted on by residents. The funds generated from the transportation bonds can be used toward roadway, bicycle, or sidewalk projects.

Local

CRTPO DISCRETIONARY FUNDING PROGRAMS

The Charlotte Regional Transportation Planning Organization (CRTPO) is the federally designated planning agency for the Charlotte urbanized area including Iredell County. CRTPO is responsible for allocating federal and state transportation funding. In addition to the Strategic Transportation Investment Program (STIP) mechanism that funds projects on a ten-year horizon, CRTPO also administers discretionary funds. The two main discretionary funding sources that Mooresville could leverage for Vision Zero projects include the **Surface Transportation Block Grant—Direct Attributable (STBG-DA)**, an \$18.2 million CRTPO fund aimed to preserve and improve the transportation network; and the **Transportation Alternatives Program—Direct Attributable (TAP-DA)**, a \$1 million CRTPO fund aimed at smaller-scale transportation investments such as bicycle and pedestrian facilities.

Call to Action

Keeping people safe as they travel around our Town is our top priority. Improving safety in our Town creates a vibrant community where people can thrive, moving about safely between the places they need to get to, regardless of which mode of transportation they're using. The Mooresville Vision Zero Action Plan gives the Town the knowledge, guidance, and programmatic tools to make our community safer as we work towards our goal of zero traffic fatalities. The plan showcases how we design our roads to be safer for all users, create a culture of safety through education and awareness, and how we implement the changes necessary to achieve Vision Zero. This plan, when supported by Town administration, Town staff, local businesses, and residents, serves as an impactful tool that makes us more competitive for funding opportunities to help us address safety needs in our community.



