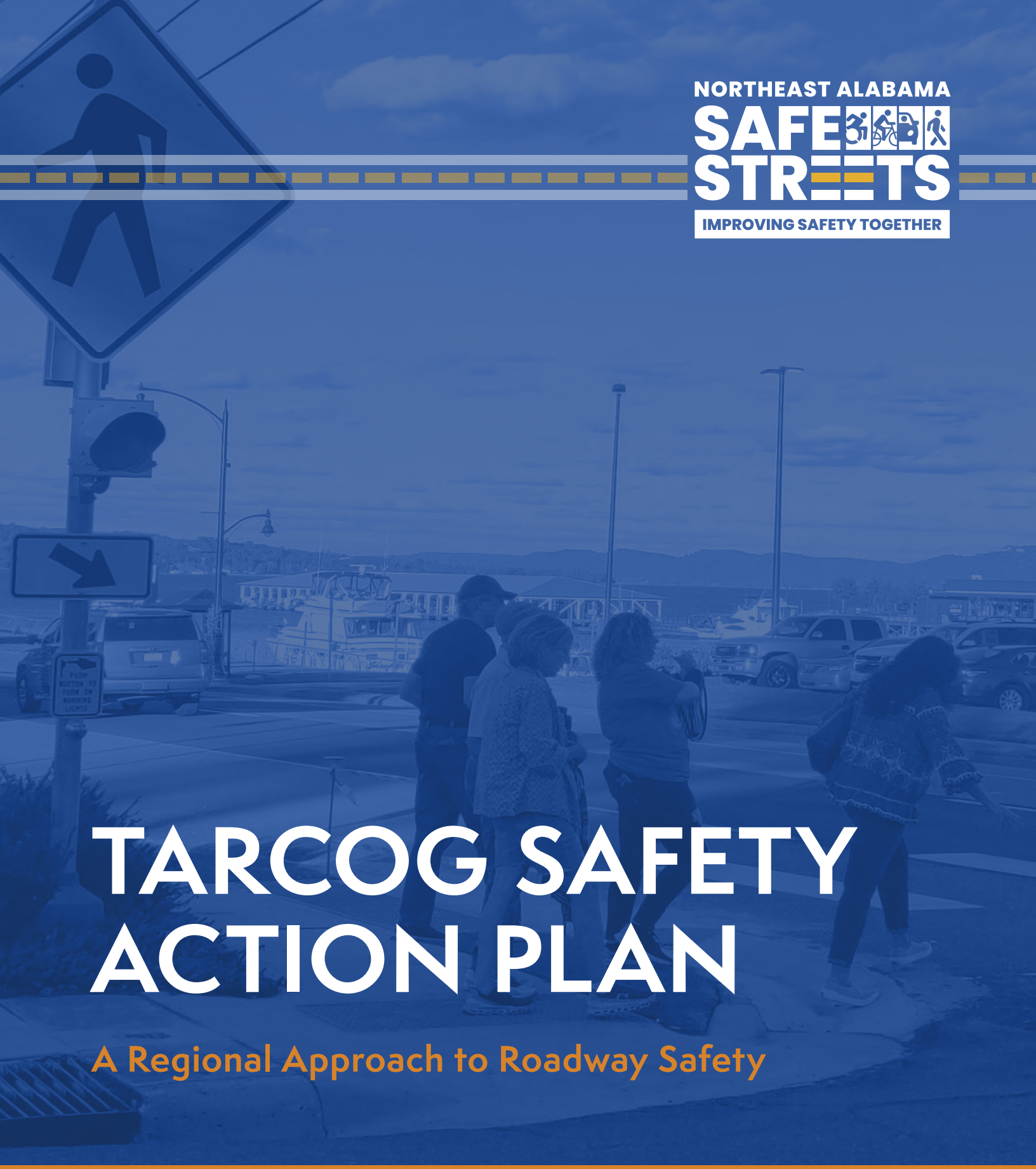

NORTHEAST ALABAMA SAFE STREETS
IMPROVING SAFETY TOGETHER

TARCOG SAFETY ACTION PLAN

A Regional Approach to Roadway Safety

TARCOG

FINAL PLAN

FEBRUARY 2025

ACKNOWLEDGMENTS

The TARCOG Safety Action Plan is a product of the hard work and commitment of each of the members of the TARCOG Safety Steering Committee. Their efforts are a testament to the outstanding partnership and collaboration necessary to make northeast Alabama safe for walking, biking, and rolling into the future.

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01

Introduction

TARCOG COMMITMENT

“

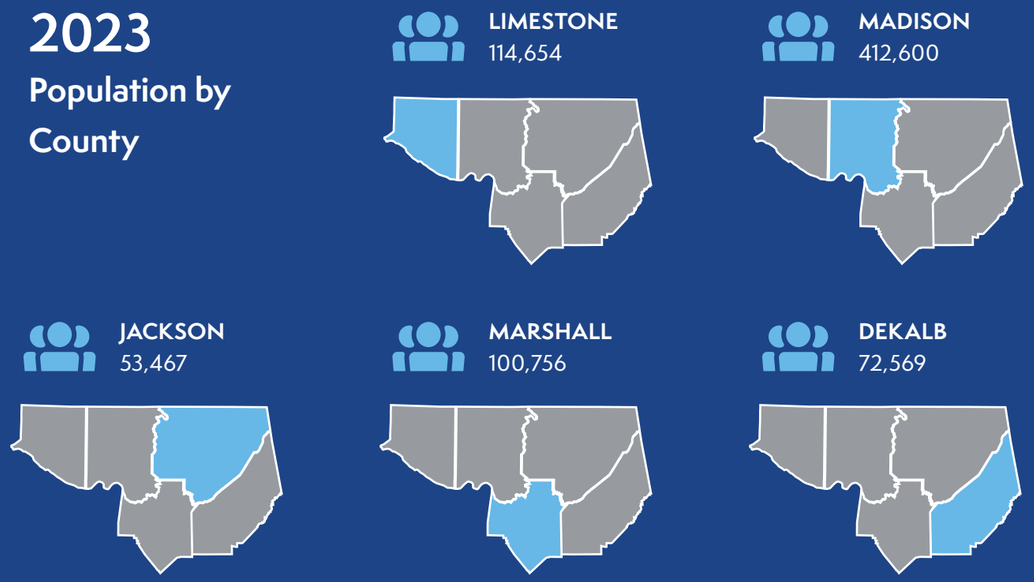
We pledge to incorporate the Safety Action Plan guiding principles, strategies, and priorities into every department in order to reach **a 50% reduction in roadway fatalities across the region by 2050**.

WELCOME TO THE TARCOG REGION

TARCOG serves a region of five counties in northeast Alabama including Madison,* Limestone, Marshall, DeKalb, and Jackson Counties. The Tennessee River, foothills of the Appalachian Mountains, and rolling fields are the connecting features of the region. The area includes the outskirts of the Huntsville-Madison metro area and the main cities in the region: Athens, Scottsboro, Guntersville, Albertville, and Fort Payne.

**The plan includes the Rural Planning Organization (RPO) area of Madison County and excludes the Huntsville UA.*

2023 Population by County



A CALL TO ACTION TO SAVE LIVES

This plan is dedicated to residents of the TARCOG region, in particular those who have been impacted by a traffic death or severe injury

One Traffic Death Is Too Many

For our families and friends, one traffic fatality is not acceptable. For our communities, it is not acceptable either. The Top of Alabama Regional Council of Governments (TARCOG) created this regional safety action plan to save lives and prevent more life-altering injuries from happening.

Driving in the Northeast Alabama region can become safer through roadway design measures, more aware and informed driver behavior, and regional collaboration. TARCOG commits to facilitating regional innovation and prioritizing roadway safety to address a public safety need.

From 2016–2022*

43,370
KSI crashes were reported

504
people lost their lives

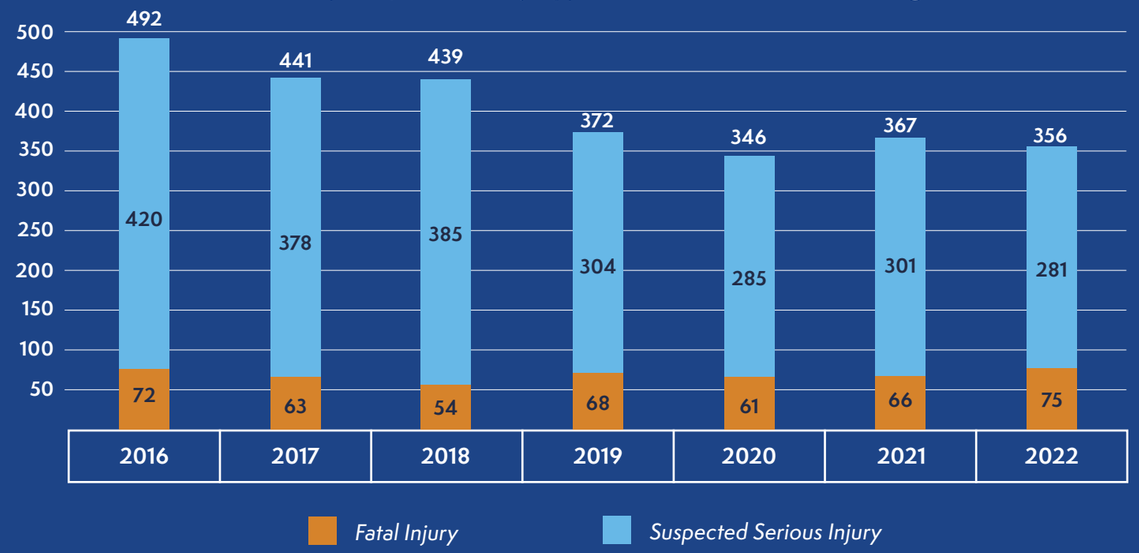
3,148
people were seriously injured

**The TARCOG region excludes the Huntsville Urbanized Area (UA).*

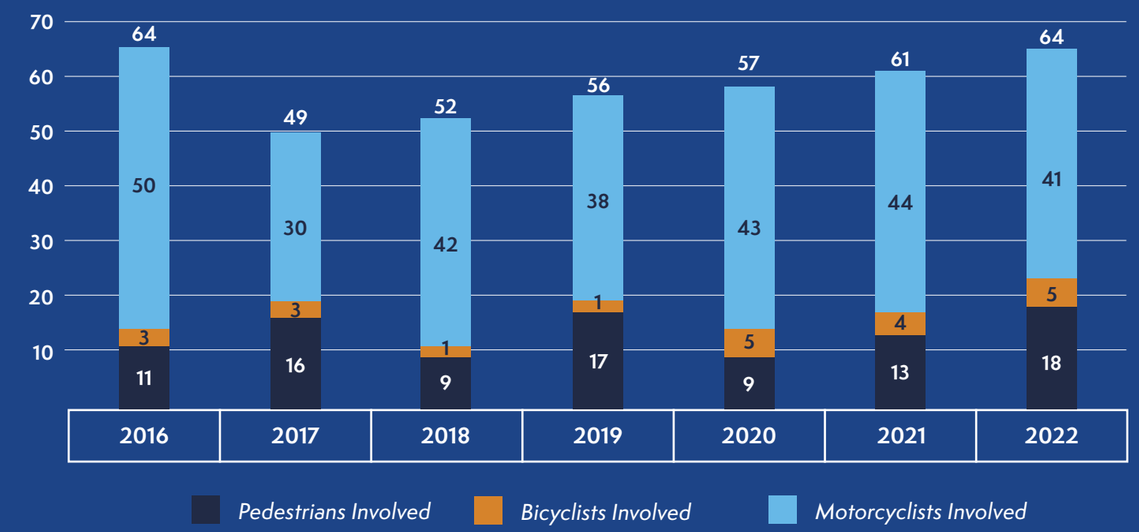
Over this seven-year period, someone **was seriously injured or killed nearly every day.**

(3,652 serious injuries or fatalities over a period of 2,555 days)

KSI (Fatal/Serious Injury) Crashes in the TARCOG Region



KSI Crashes with Pedestrians, Bicyclists, and Motorcyclists

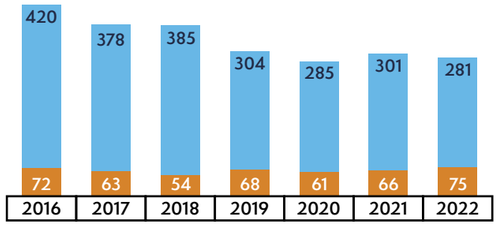


Are KSIs and crashes in general going up?

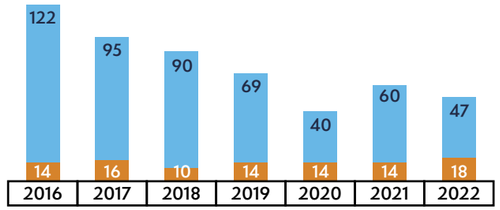
Suspected Serious Injury *Fatal Injury*

As a regional average, fatalities continue to increase with a lowest point of 54 in 2018 to 75 in 2022, and serious injury crashes are overall declining.

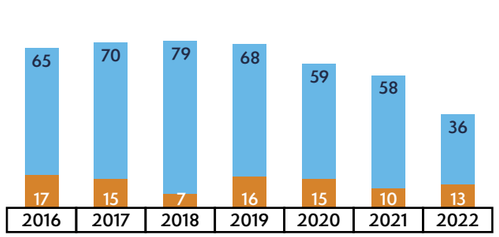
TARCOG KSI Crash Incidents



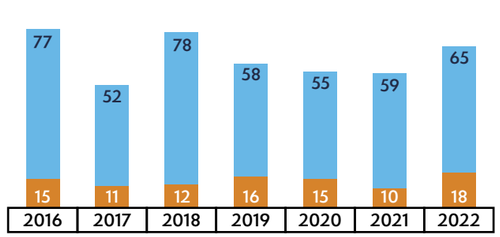
DeKalb KSI County Crash Incidents



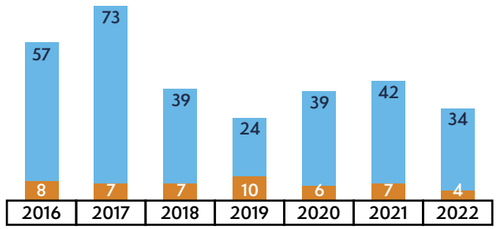
Jackson KSI County Crash Incidents



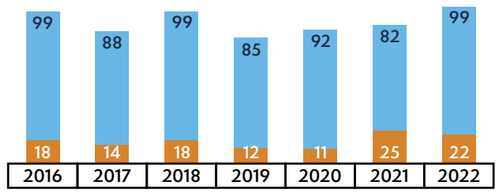
Limestone KSI County Crash Incidents



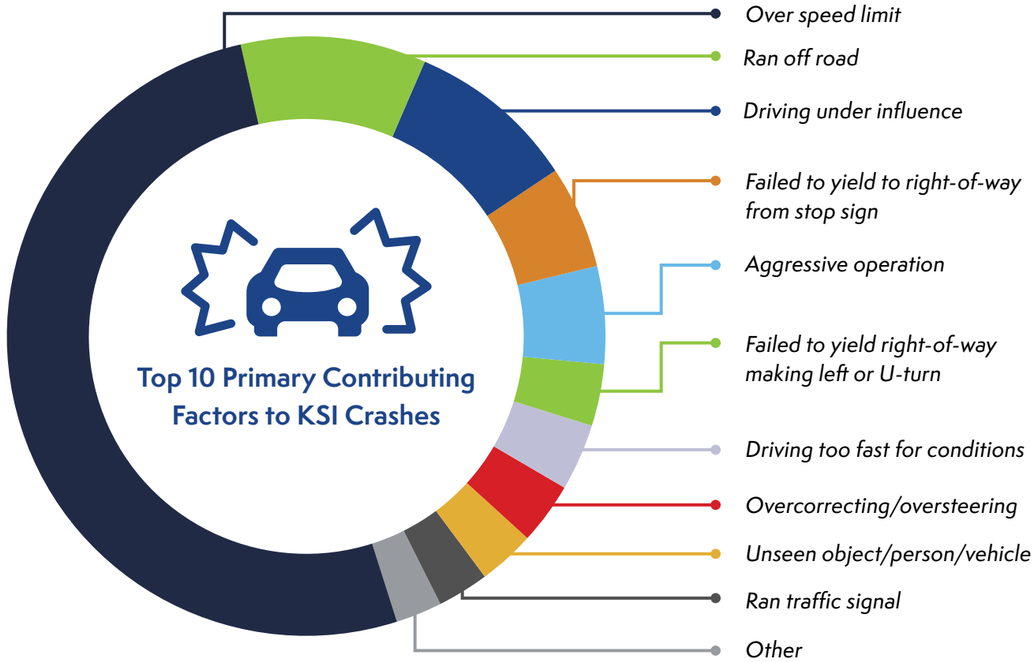
Madison County RPO KSI Crash Incidents



Marshall County KSI Crash Incidents



Top 10 Primary Contributing Factors to KSI Crashes in TARCOG Region Counties

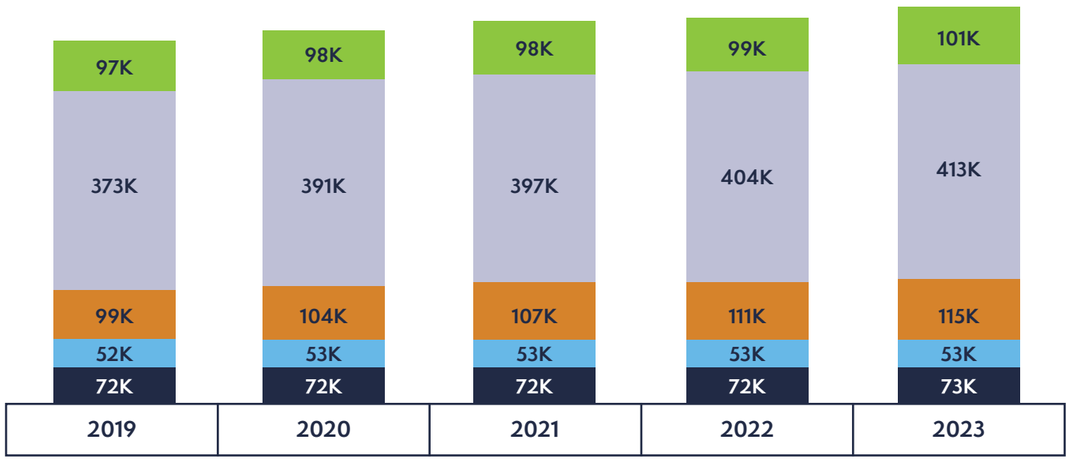


Top 5 Primary Contributing Factors to KSI Crashes by County

	DEKALB	JACKSON	LIMESTONE	MADISON	MARSHALL
1	*Ran off road*	*Ran off road*	*Over speed limit*	*Over speed limit*	*Ran off road*
2	*Over speed limit*	*Failed to yield right-of-way from stop sign*	*Ran off road*	*Driving under influence*	*Over speed limit*
3	*Failed to yield right-of-way from stop sign*	*Over speed limit*	*Failed to yield right-of-way from stop sign*	*Failed to yield right-of-way from stop sign*	*Driving under influence*
4	*Overcorrecting/ Oversteering*	*Crossed centerline*	*Driving under influence*	*Driving under influence*	*Failed to yield right-of-way from stop sign*
5	*Unseen object/ person/vehicle*	*Driving under influence*	*Overcorrecting/ Oversteering*	*Driving too fast for conditions*	*Crossed centerline*

The five-county region has experienced a 9% increase in population over the last five years.

TARCOG Population



According to the 2020 US Census, the population of TARCOG's planning area was **approximately 713,000**.

TARCOG has experienced over **9 percent** population growth since 2019.

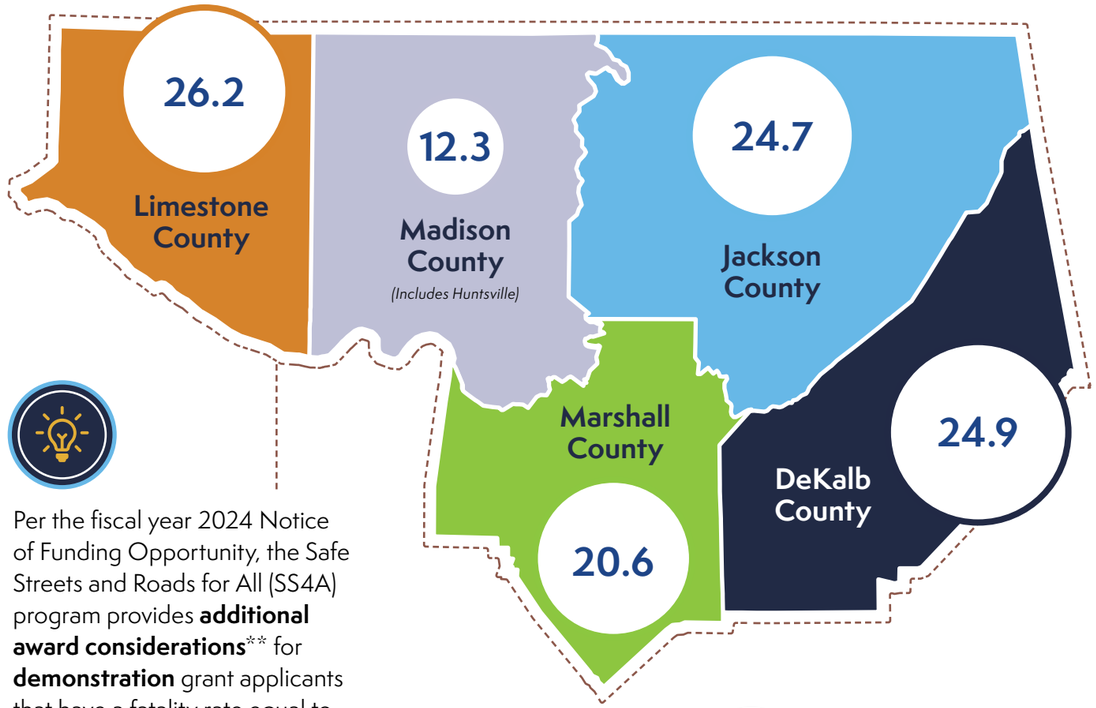
The largest city in TARCOG's jurisdiction is Athens with a 2023 estimated population of **30,904**.*

Data source: *US Census Bureau Quick Facts
https://www.census.gov/quickfacts/fact/table/athenscityalabama/PST045223

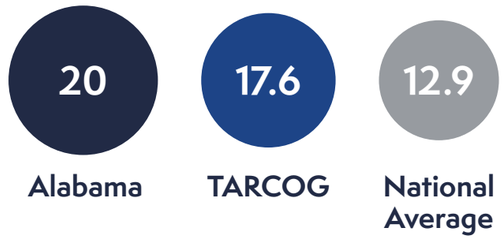
REGIONAL AND STATEWIDE COMPARISONS

The total fatality rate per 100,000 people in the TARCOG region (based on five years of federally collected data) is 17.6, placing TARCOG below the Alabama fatality rate of 20 per 100,000 but above the national average of 12.9 fatalities per 100,000 (2021 data).

For comparisons within Alabama, the city of Birmingham has the seventh highest fatality rate in the country at 23.8 per 100,000; Mobile is 22nd at 17.8 per 100,000; Montgomery 36th at 15.6 per 100,000, and Huntsville 78th at 11.1 per 100,000.*



Per the fiscal year 2024 Notice of Funding Opportunity, the Safe Streets and Roads for All (SS4A) program provides **additional award considerations**** for **demonstration** grant applicants that have a fatality rate equal to or greater than 17.0 fatalities per 100,000 people. All of the counties, with the exception of the Madison County RPO area, meet this extra consideration.



*FARS 2021 ARF; Population-Census Bureau; National Highway Traffic Safety Administration's Traffic Safety Facts Annual Report
** "Communities with High Fatality Rates," USDOT, last updated February 20, 2024, https://www.transportation.gov/grants/ss4a/fatality-rate-consideration

TARCOG'S ROLE IN THE AREA

In an effort to raise the quality of life for its more than 713,000 residents, TARCOG unifies representation from the municipalities in the region to collectively address their common issues. The counties work together to create, among other things, a seamless educational system, coordinated transportation systems, a healthy economy, and healthy communities.

47 MUNICIPALITIES:

- 16 in DeKalb County
- 5 in Limestone County
- 13 in Jackson County
- 6 in Madison County
- 7 in Marshall County

Improving Safety with Partnerships

Facilitating communication, strengthening infrastructure, and improving safety

The Rural Planning Organization (RPO), funded through an initiative of the Alabama Department of Transportation (ALDOT), seeks to improve the safety of roadways in non-metropolitan areas and provide a direct line of communication between rural areas and ALDOT. Utilizing a consultation process, the RPO comprises three committees:

CITIZENS ADVISORY COMMITTEE
Meets once each quarter in each of four non-metropolitan counties: DeKalb, Jackson, Limestone, and Marshall

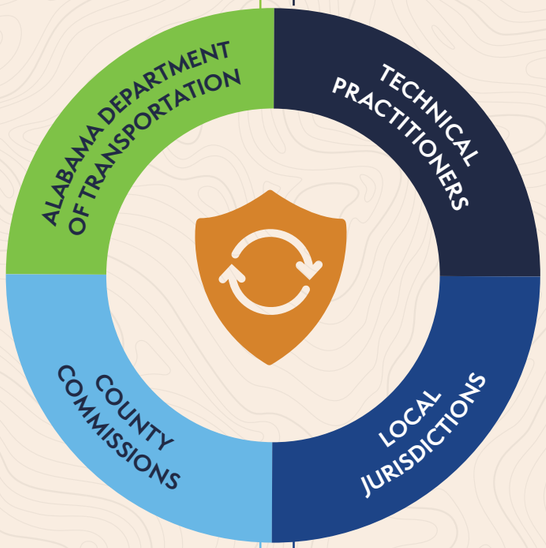
TECHNICAL ADVISORY COMMITTEE
Includes county engineers, representatives of ALDOT District and Division offices, and representatives of trucking, rail, and aviation industries

POLICY COMMITTEE
Provides a forum for representatives of municipalities and county commissions to discuss highway-related issues with ALDOT and one another

SAFETY ROLES AND RESPONSIBILITIES

ALDOT's North Regional office encompasses all TARCOG member counties into its transportation planning. ALDOT's work incorporates safety data into all of its traffic engineering projects. Members of the North Regional office collaborate with TARCOG to improve the safety, environment, and efficiency of TARCOG's state-maintained traffic systems and how they interface with municipal systems.

Addressing roadway safety requires a coordinated effort between planners, land use development, emergency response, law enforcement, roadway engineers, and decision makers. Accepting the safe systems approach to roadway planning and design is the first step. This plan identifies recommendations for all parties to take steps toward a safer road network through a collaborative effort.



Each of the five county commissions approve and vote on roadway policies and approve projects on county roads. County commissions can elect to adopt safety resolution or crash reduction targets.

The TARCOG region comprises five counties and 47 municipalities that make decisions and set policies that impact roadways and land use. This plan provides these agencies with resources to aid existing and future roadway safety planning efforts.

PLAN PURPOSE

Every year, residents of and visitors to Northeast Alabama are killed or seriously injured in traffic crashes. Through this Regional Safety Action Plan, TARCOG and its partners recognize that this loss is unacceptable and pledge to improve roadway safety. To accomplish this effort, this plan does the following:

- Assesses existing conditions and roadway safety trends
- Engages the community to hear from residents throughout the region
- Develops a high injury network (HIN) that pinpoints where the greatest number of fatalities and serious injury crashes are happening
- Highlights underserved areas and their safety transportation needs
- Identifies strategies to improve safety as a regional effort across agencies and jurisdictions
- Equips safety practitioners with a toolkit to identify safety countermeasures

The Safe System Approach

SAFE ROAD USERS

People living, working, or traveling in TARCOG should be safe walking, biking, rolling, taking transit, or driving.

SAFE VEHICLES

Promote vehicle designs and regulations that minimize crashes, reduce severity, and incorporate safety measures using the latest technology.

SAFE SPEEDS

Slower travel speeds help save lives and reduce the risk of a life-altering injury or death.

SAFE ROADS

Design roads so that human error does not result in the loss of human life.

POST-CRASH CARE

When crashes do occur, reduce harm by providing rapid access to emergency medical care and analyzing data to support system improvements.

EXISTING SS4A EFFORTS IN THE REGION

VISION ZERO HUNTSVILLE: A MULTIMODAL SAFETY ACTION PLAN

Finalized in 2023, the City of Huntsville's Vision Zero Plan outlines the city's strategies and action items to help them reach their goal of zero traffic fatalities and serious injuries by 2055.

- The plan identified University Drive, Governors Drive, US Hwy 431 (The Parkway), and Jordan Lane as the roadway corridors with the highest rates of fatalities and serious injuries.
- 63.9% of the HIN roads were on state-maintained roadways.
- Speed was a significant issue. Nearly all of the HIN was on roads with posted speed limits of 40 mph or higher.

JACKSON COUNTY SAFETY ACTION PLAN

Adopted in April 2024 by the Jackson County Commission, the Jackson County Safety Action Plan sets the framework to meet the county's goal of reducing roadway fatalities and serious injuries by half by 2035.

- The safety plan provides a detailed safety analysis, roadway prioritization model, and project recommendations for county-maintained roadways.
- The plan identified the top ten county roads for safety improvements and provided countermeasures.
- In September 2024, Jackson County was awarded $15.9 million in SS4A implementation funding.

Athens 2040 Vision Zero: Comprehensive Safety Action Plan

Grant Type: Planning and Demonstration

The City of Athens was awarded **$240,000** in funding to develop a new Comprehensive Safety Action Plan.

Huntsville Holmes Avenue Medical Access Corridor: Safer Streets to Medical Access for Vulnerable Populations

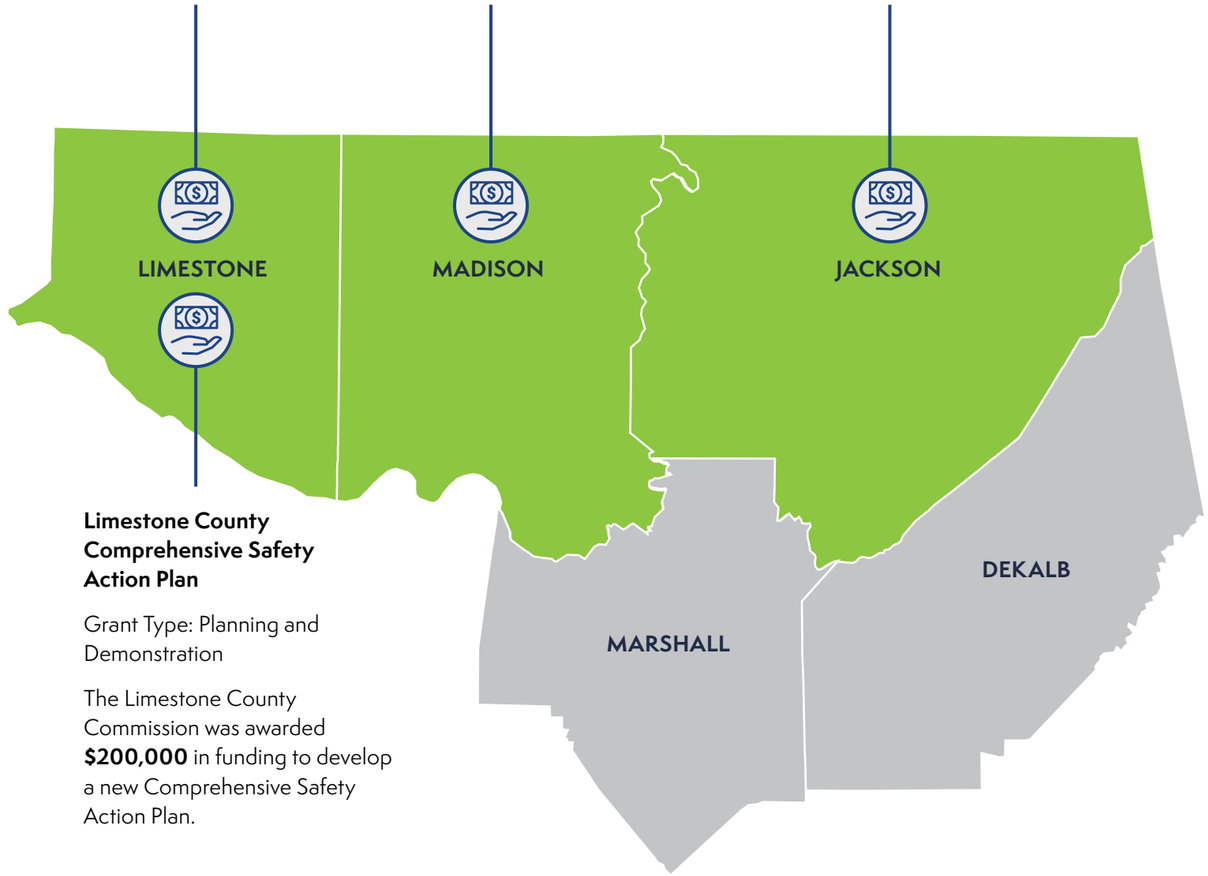
Grant Type: Implementation

The City of Huntsville was awarded **$21.6 million** in funding for a Complete Streets transformation of Holmes Avenue from the University of Alabama Huntsville to Spragins Street downtown.

Jackson County Equitable Rural Roadway Improvements

Grant Type: Implementation

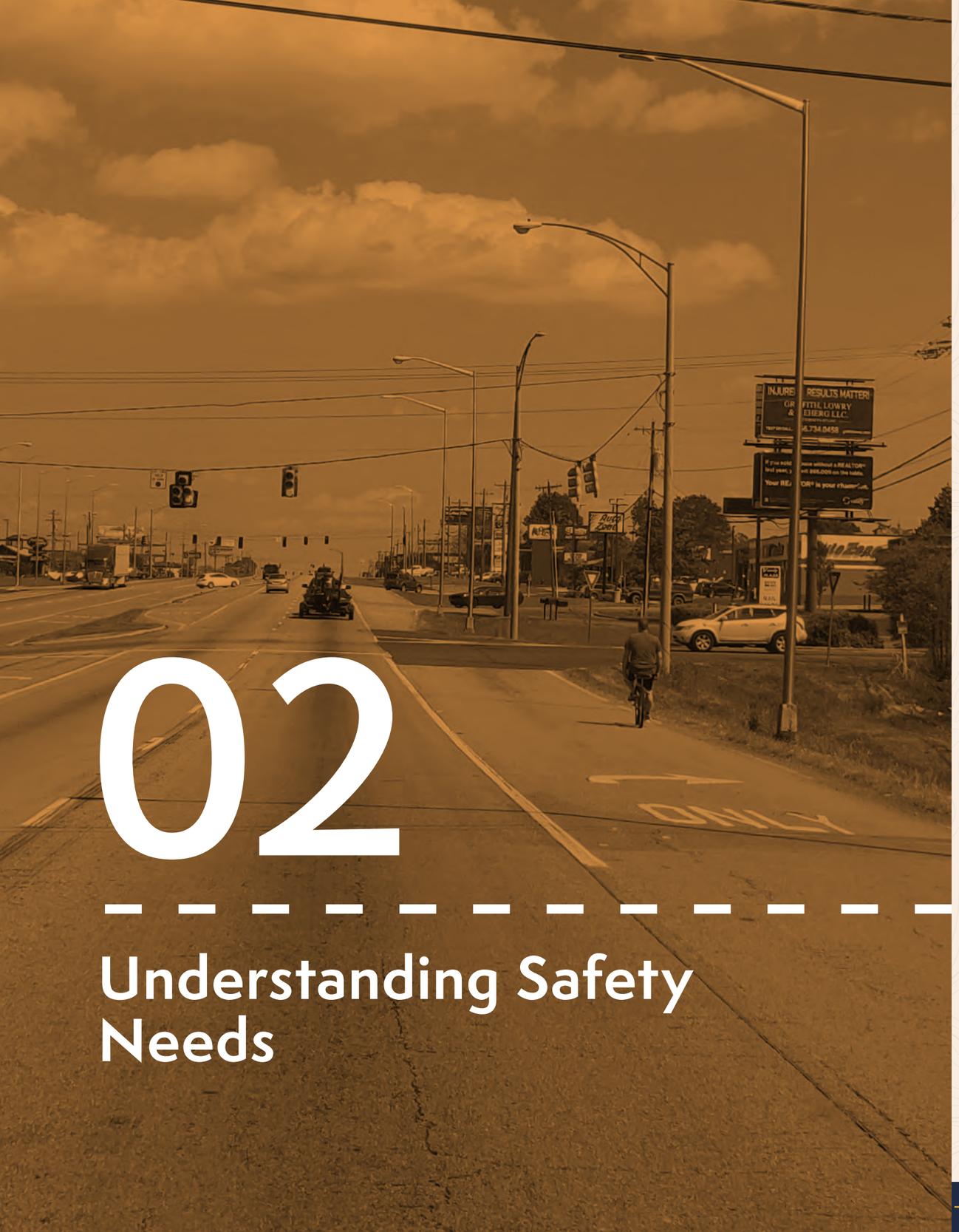
Jackson County was awarded **$15.9 million** in funding to implement countermeasures aimed at preventing rural roadway departures, crashes, and serious injuries at nine rural roadway segments scattered throughout the county.



Limestone County Comprehensive Safety Action Plan

Grant Type: Planning and Demonstration

The Limestone County Commission was awarded **$200,000** in funding to develop a new Comprehensive Safety Action Plan.



02

Understanding Safety Needs

Seven years of crash data (2016–2022) were examined to understand **why crashes are happening, where they are happening, and who is involved**. The crash data analysis revealed the emphasis areas and locations that would be most impactful in reducing serious crashes in the TARCOG region.

CRASH TRENDS

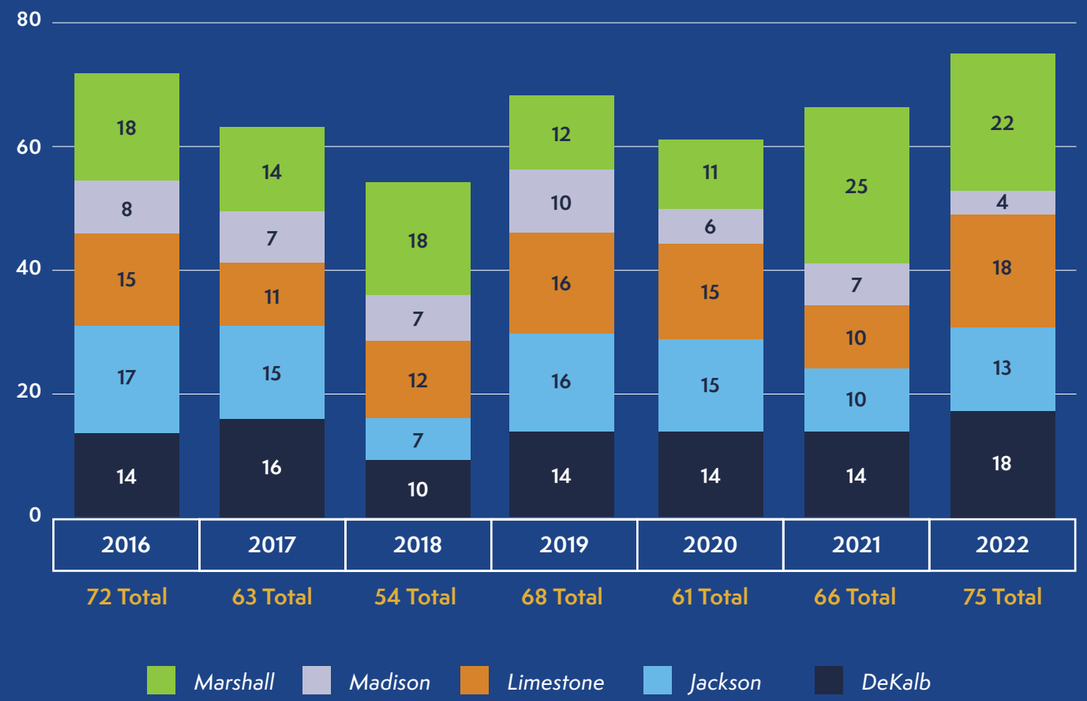
Fatal crashes in the TARCOG region, as well as most of Alabama, were on a downward trend until 2016 when there was a significant increase, followed by a period where crash trends fluctuated.

Smaller trends within the TARCOG region can be found in recent years with **fatal crashes on the rise with a 48% percent increase from a low point of 54 fatal crashes in 2018 to 2022, where 75 people were killed in fatal crashes**.

Despite some improvements in reducing fatalities, the number of people being killed in traffic is unacceptably high. **The fatality rate (deaths per 100,000 residents) is higher in the TARCOG region than the US national fatality rate.**

Particularly concerning is the pedestrian fatality rate: **more than one out of every five (23%) pedestrians involved in a crash will not survive**.

TARCOG Fatal Crashes (2016–2022)



Where are crashes happening?

	DeKalb	Jackson	Limestone	Madison	Marshall	Grand Total
Fatal Injury	22%	20%	21%	11%	26%	**100%**
Suspected Serious Injury	22%	18%	19%	13%	27%	**100%**
Non-Incapacitating Injury	13%	19%	17%	13%	36%	**100%**
Possible Injury	12%	17%	18%	10%	44%	**100%**
Property Damage Only	14%	16%	17%	9%	43%	**100%**
Unknown	24%	31%	10%	8%	28%	**100%**

As shown in the table, fatalities are occurring mostly evenly across the five counties with each county experiencing between 20-26% of the traffic fatalities and 18-27% of the serious injury crashes.

The exception is Madison County that shows 11% of the fatalities and 13% of the serious injuries. As this project only included the RPO area of Madison County, the Madison County geographic area was drastically reduced, resulting in a smaller subset of crash data.

Marshall County experiences the most significant share of property damage-only crashes. Most of these crashes are happening along US 431 between Guntersville and Boaz.

Most of the "Unknown" type crashes are reported in Jackson, DeKalb, and Marshall counties. This could be due to variations in crash data recording across the region.

How many injury-type crashes are fatalities and serious injuries?

	DeKalb	Jackson	Limestone	Madison	Marshall
Fatal Injury	6.2%	4.7%	5.1%	3.8%	3.1%
Suspected Serious Injury	32.2%	22.0%	23.2%	24.1%	16.8%
Non-Incapacitating Injury	38.1%	45.3%	41.7%	48.2%	43.7%
Possible Injury	23.5%	28.0%	30.0%	23.9%	36.4%
Grand Total (of Injury Crashes)	100%	100%	100%	100%	100%


Roadside Memorial

People are being seriously injured or dying on our roadways. **As a five-county average, 28% of injury type crashes result in the drivers or passengers being seriously injured or dying**.

If someone is in an injury-type crash, they have a 1 in 3 chance of being seriously injured or dying.

The crash data confirmed what many residents already know to be true: **that traveling by foot, car, or bike in the TARCOG region is unsafe**.

"Better traffic enforcement. I see drivers blowing through redlights, stop signs, taking their half out of the middle, and failing to yield at roundabouts."

Failing to yield was the primary contributing circumstance in **20% of crashes** (8,581 of 43,370).

"My road is 40 [miles per hour] and almost no one seems to obey it. We have a motorcycle that travels daily doing 80-100 mph."

Speeding or driving too fast for conditions accounted for **21% percent of fatal crashes** (97 of 459).

"There is not enough lighting at night to light the roadways safely. A lot of the reflective paint no longer shows on the roadways either."

Over 50% of crashes involving a non-motorist were at night; **81 non-motorist crashes** happened on dark roadways with no lighting.

Between 2016 and 2022, there were 504 fatalities. On average, 72 people a year are killed. **In an average year, the following people are killed or severely injured:**

1 person biking

66 people driving

5 people walking

For every 100,000 people, ***5 more*** people are killed in crashes in the TARCOG region than the national average.

WHY ARE CRASHES HAPPENING?

Emphasis Areas

Every time there is a crash, information about the location, time, people and vehicles involved, and contributing circumstances are recorded. Analyzing these factors allows us to understand which elements related to the roadways, intersections, environment, and behavior might be more likely to lead to a serious crash. From these trends, the following emphasis areas were identified:

EMPHASIS AREA A:
High-speed crashes

EMPHASIS AREA B:
Crashes involving non-motorists

EMPHASIS AREA C:
Crashes at night and low-light conditions

EMPHASIS AREA D:
Contributing roadway characteristics: intersections, rural roadways, and state-maintained roads

EMPHASIS AREA E:
Crashes involving younger and older drivers

EMPHASIS AREA F:
User behavior: inattention, intoxication, and occupant protection

Emphasis Area A: High-Speed Crashes

Speed is the most significant factor in whether a person walking, biking, or using a mobility device survives a crash. As cars travel faster, the chances somebody will survive the crash get dramatically smaller. National studies show that a pedestrian hit by a car traveling 20 miles per hour has a 95% survival rate, but a pedestrian hit by a car traveling 40 miles per hour has just a 15% chance of survival.

Figure 1. **Speeding-Related Crashes at National Scale**

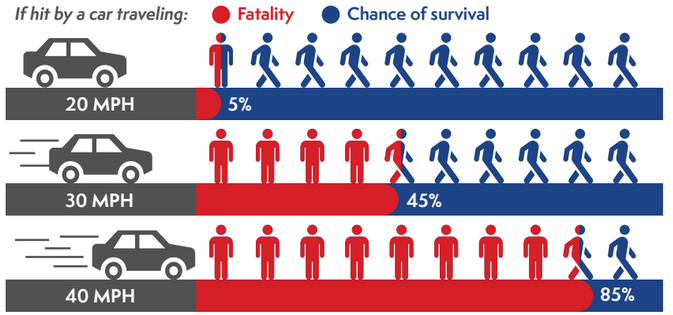
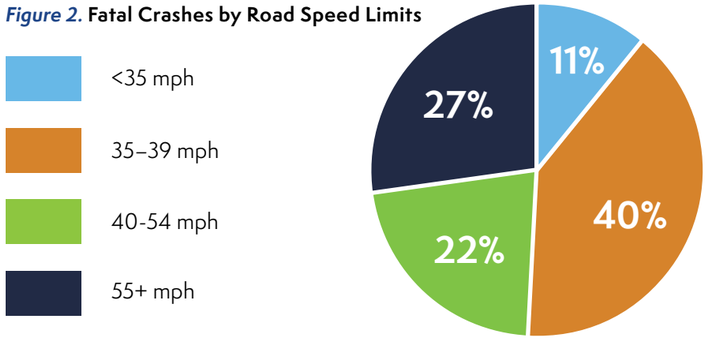


Image Source: National Traffic Safety Board (2017)

Figure 2. **Fatal Crashes by Road Speed Limits**



High-speed crashes can be caused by cars traveling on high-speed roads, or people driving too fast for conditions and not following the posted speed limit. In the TARCOG region, we found that...

Speeding or driving too fast for conditions was the primary contributing circumstance in 23% of fatal crashes.

75% of fatal crashes were on roadways with speed limits of 35 miles per hour or greater.

Driving too fast for conditions can result in the driver losing control of the vehicle and striking fixed objects outside the roadway, such as trees.

27% of all injury crashes involved a roadway runoff and/or a collision with a fixed object (such as a lightpost or tree); 13.5% of fatal crashes involved a collision with a tree.

Emphasis Area B: Crashes Involving Non-Motorists

People traveling on foot, by bike, or using a mobility device are more susceptible to serious injury or death if they are struck by a motor vehicle. While the total number of people walking and biking in the more rural areas that make up the TARCOG region is smaller, non-motorists involved in crashes are much more likely to suffer from serious or fatal injuries.

In the TARCOG region from 2016 to 2022, 8.6% of crashes with cyclists were fatal while only 1% of exclusively motorist crashes were fatal, making crashes with bikes **8.6 times more deadly** in the region. **Similarly, 23.6% of pedestrian crashes are fatal**. Pedestrian-involved crashes have a **23.6 times higher** chance of resulting in a fatality than crashes with just motorists.

Emphasis Area C: Crashes at Night and Low Light Conditions

Crashes at night, or between sunset and sunrise, accounted for 30% of all crashes in the TARCOG region. Darkness presents challenges in seeing other motorists, pedestrians, bicyclists, or hazards on the roadway. Drivers are also more likely to be driving while fatigued or intoxicated at night. Unlit roadways accounted for many serious and fatal crashes, and most pedestrian- and bicycle-involved crashes.

Rural, dark, and unlit roadways represented 17% of all crashes where somebody was killed or seriously injured.

Emphasis Area D: Contributing Roadway Characteristics

The crash analysis revealed several roadway characteristics that are present in many of the serious crashes in the region.

STATE-MAINTAINED ROADS

Roads maintained by ALDOT often transport more people and at higher speeds than locally controlled roads in the TARCOG region. Due to this, there are more crashes on ALDOT maintained roads, highlighting the need for coordination between state, regional, and local agencies. **Between 2016 and 2022, 61% of all crashes occurred on ALDOT roadways and the remaining 39% on local or county streets.**

Figure 3. **Fatal Injury**

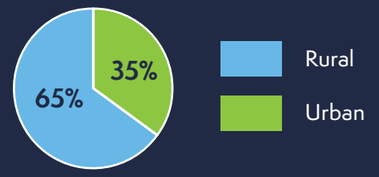
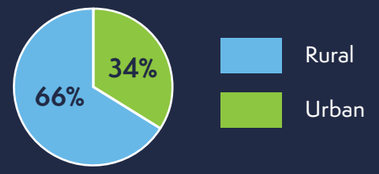


Figure 4. **Suspected Serious Injury**



RURAL ROADWAYS

Crashes were more likely to result in a fatality or serious injury on rural roadways, which are defined as roadways outside an incorporated town or city. **Rural roadways account for 65% of fatal crashes and 66% of serious injury crashes**.

78% of pedestrian-involved crashes happened on roadway corridors, not at an intersection.

62% of bike and pedestrian crashes that resulted in a death or serious injury were in dark or dusk conditions.

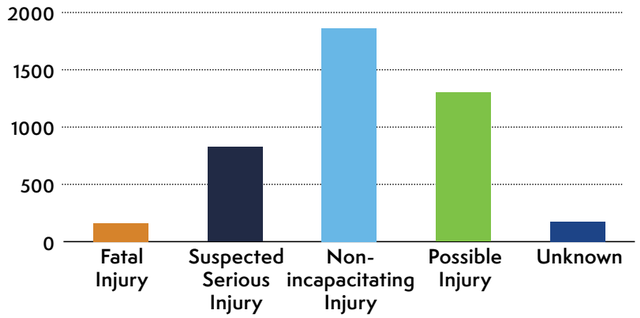
INTERSECTIONS

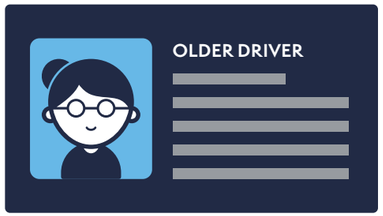
Crashes at intersections accounted for 46% of all crashes, and **32% of crashes where somebody was killed or seriously injured**. Among crashes at intersections, the most common vehicle movement was making **a left turn**. In 19% of crashes at intersections, the driver turned left; in comparison, 6.6% of crashes involved a driver turning right.

Emphasis Area E: Crashes Involving Younger and Older Drivers

More than 1 in 3 injury crashes (39%) involved a driver between the ages of 15 and 25, but that age group only makes up 13% of the region's total population.

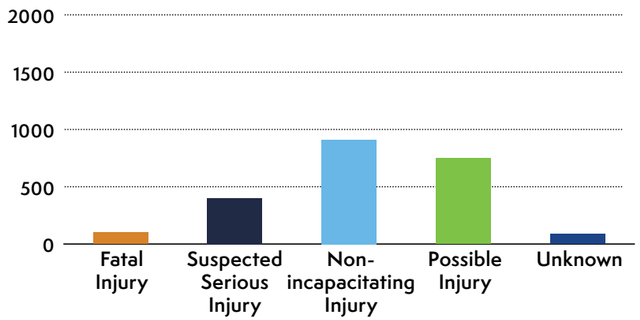
Younger drivers (under the age of 25) are less experienced drivers, many holding their driver's license for only a few years. Younger drivers may also be more prone to risky driving behaviors, such as speeding, distracted driving, or aggressive driving.





20% of all injury crashes involved a driver over the age of 65, despite that demographic only making up 16% of the region's population.

Older drivers may be more susceptible to serious injury if involved in a crash. Older drivers may also be impacted by physical conditions that make them slower to respond to roadway hazards, such as reduced vision.



Emphasis Area F: User Behavior - Inattention, Intoxication, and Occupant Protection

Driving behaviors such as distracted driving, driving while intoxicated, or not wearing a seatbelt were major factors in killed and serious injury crashes. Driving while under the influence of alcohol or drugs played a significant role in serious crashes. Close to half of the roadway deaths were unrestrained occupants.

45% of fatal crashes involved an unrestrained occupant

In **14%** of crashes involving a serious or fatal injury, the at-fault driver was under the influence of alcohol or drugs.

The most common time for crashes involving an intoxicated driver to occur was between **6 p.m.** and **10 p.m.**, rather than during the late-night hours.

03

The Voice of TARCOG

Jackson County Public Engagement

During the one-year planning process, the project team worked closely with **roadway safety practitioners** and reached out to residents within the **five-county region** of Limestone, Madison, Marshall, Jackson, and DeKalb counties to understand safety needs and priorities. A **safety committee**, consisting of practitioners in the realm of emergency response, planning, roadway engineering, higher education, enforcement, and regional partnerships, provided oversight at major milestones of the project.

The project team gathered public feedback through **community events** and a **survey.** The following section provides an overview of major engagement meetings, events, promotional materials, and findings from the survey.

ENGAGEMENT TYPES

4 SAFETY COMMITTEE MEETINGS

Representatives from engineering, planning, economic development, healthcare, schools, and emergency response

First meeting: October 26, 2023
Second meeting: March 27, 2024
Third meeting: November 18, 2024

+

5 IN-PERSON COUNTY MEETINGS

Technical stakeholders from county and city engineering offices, county EMAs, economic development stakeholders, and police departments

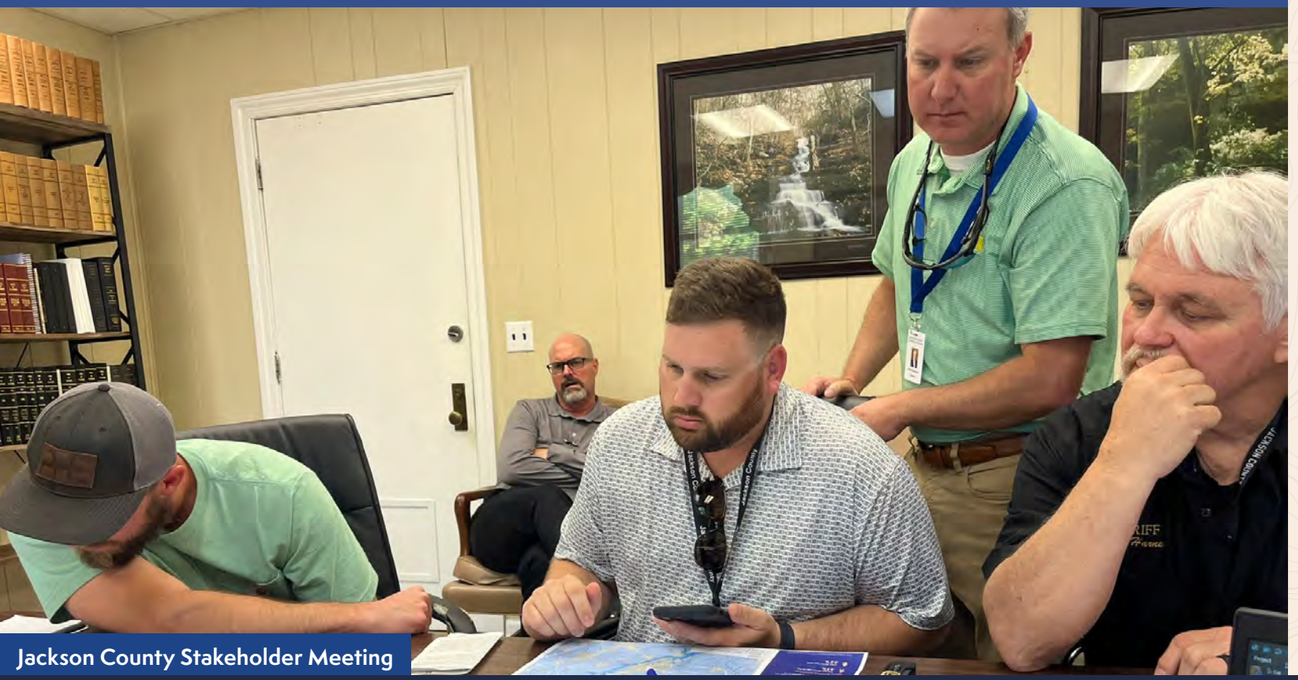
Jackson County: April 23, 2024
Limestone County: April 24, 2024
Marshall County: April 24, 2024
Madison County: April 25, 2024
DeKalb County: April 25, 2024

+

5 TABLING EVENTS

Spring 2024 to conduct intercept surveys and gather public feedback

Scottsboro Jubilee: March 30, 2024
Guntersville Spring Fling: April 20, 2024
Athens Fridays after 5: April 26, 2024
Fort Payne Saturday Sunset: April 20, 2024

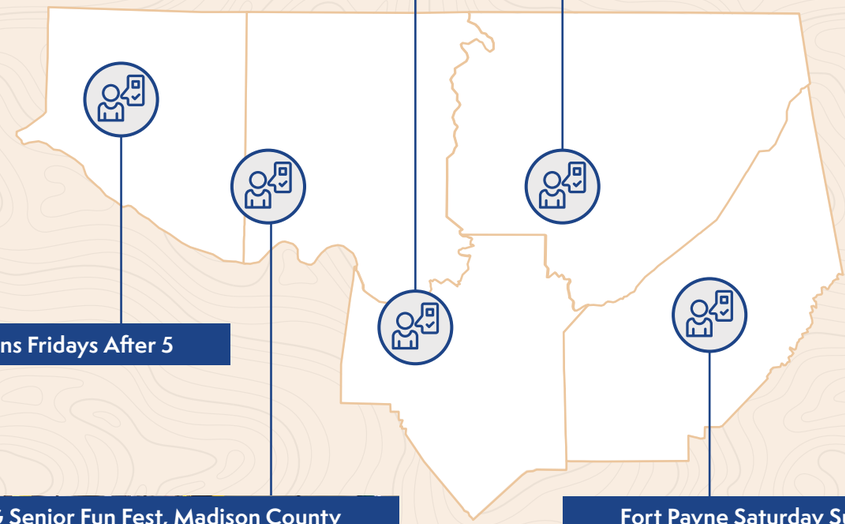


Jackson County Stakeholder Meeting

Intercept Surveys at Tabling Events

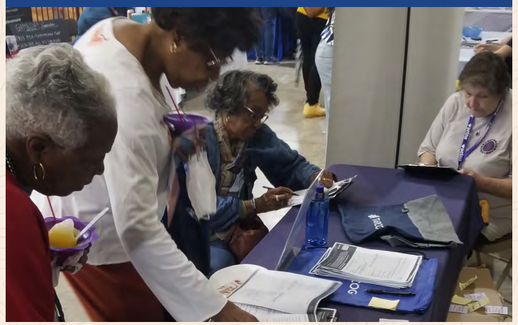
Guntersville Spring Fling

Scottsboro Jubilee Festival



Athens Fridays After 5

TARCOG Senior Fun Fest, Madison County



Fort Payne Saturday Sunset

Intercept surveys were conducted at five events throughout the spring of 2024. The goal was to gather representative responses from a broad and diverse segment of the local population. Participants were asked about perceptions of safety, quality of infrastructure, and ideas for the future, as well as demographic data. Survey results can be found at the end of this section.

ENGAGEMENT MATERIALS

Tabling Event Materials

Outreach boards with information and open-ended questions were used to solicit feedback.

T-shirts and stickers were made to promote awareness of the project. Materials were produced by local vendors.

NORTHEAST ALABAMA
SAFE STREETS
IMPROVING SAFETY TOGETHER

Back

Front

Mailers and Gift Card Incentive

NORTHEAST ALABAMA SAFE STREETS
IMPROVING SAFETY TOGETHER

WE NEED TO HEAR FROM YOU!

The Top of Alabama Regional Council of Governments (TARCOG) is developing a safety action plan across the **5-county region of DeKalb, Jackson, Limestone, Madison, and Marshall counties**. The goal of this Regional Safety Action Plan **is to improve safety for all roadway users**. TARCOG will help local leaders identify safety issues in their jurisdiction and understand how to develop safety improvement projects.

Specifically, the plan will evaluate crash data, identify a high injury network, and recommend strategies to improve safety. **We are excited to work with partners to develop a Regional Safety Action Plan that will identify ways to make it safer to drive, bike, and walk.**

As part of this project, we need to hear from residents and understand safety concerns. Please spread the word about this project and share your thoughts via the survey.

Thank you!

Complete the survey and enter to WIN a $100 VISA GIFT CARD

Or visit: surveymonkey.com/r/XBTWTFV

Survey closes June 1st.

Questions? If you have any questions about the project, please contact **Phoenix Robinson** at phoenix.robinson@tarcog.us

TARCOG

Postcards with a gift card incentive were emailed to residents to solicit survey responses.

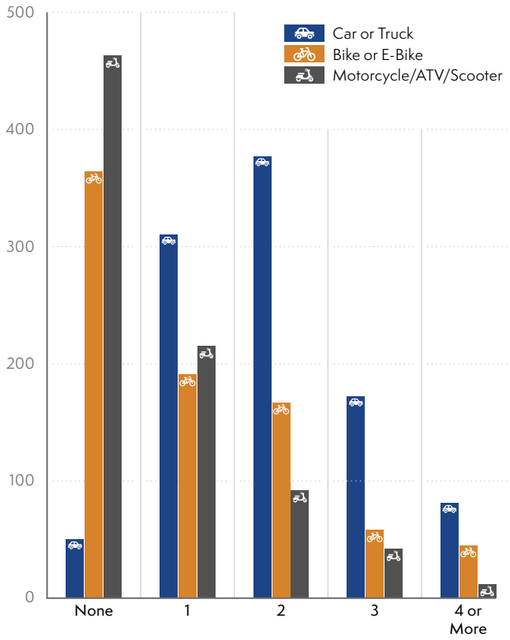
SURVEY RESULTS

Information about Survey Respondents

Participants were asked about vehicle ownership, their travel habits, and crash frequency.

More than half of the households had at least two cars (Figure 5), and about a third go to the gas station twice a month to fuel their vehicles.

Figure 5. **How Many Vehicles Does Your Household Own?**



How many times a month do you go to the gas station to fill up?

31% fill up **twice a month**

12% fill up **five times a month** or more

The vast majority of respondents use their car or truck for commuting, running errands, or other travel around the area (Figure 6).

People were asked if they or a member of their family were involved in a traffic crash in the last five years. **About half the respondents said they were in reported or unreported crashes, while half had not been in a crash (Figure 7).**

Figure 6. **How Do You Get around in a Typical Week?**

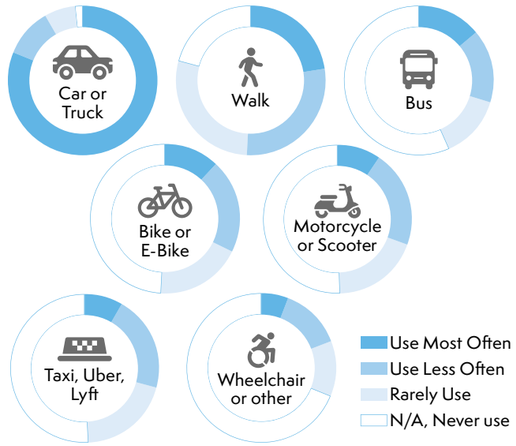
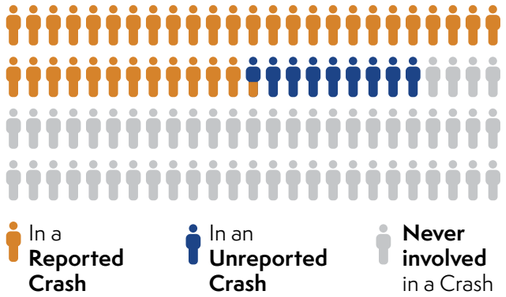
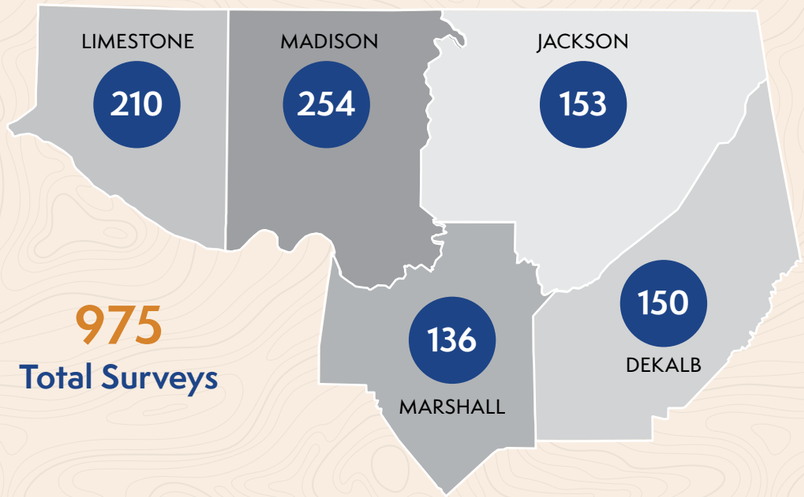


Figure 7. **Five-Year Crash Incidence**



Almost half of respondents have been in a crash.

Survey Responses by County*

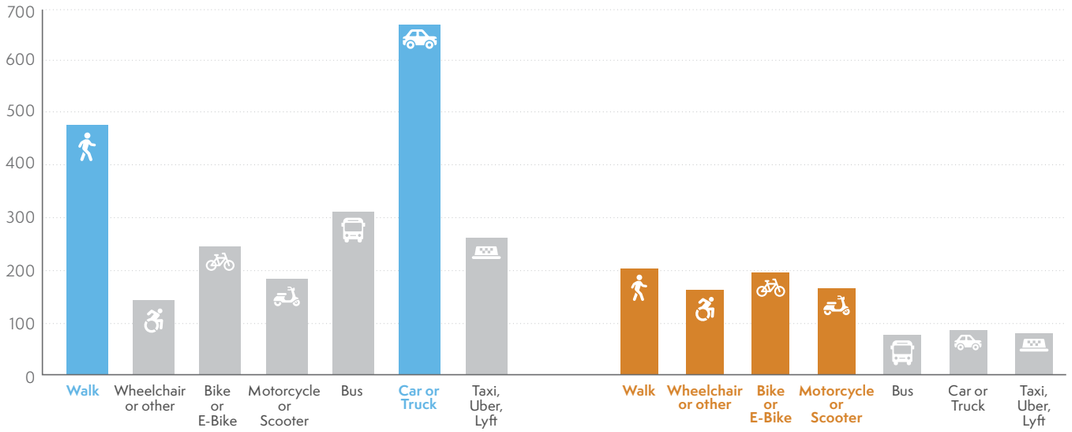


*72 respondents did not provide a county

Concerns about Safety

When asked about safety, people expressed the highest feelings of safety when driving in a car or truck. Responses concerning safety and comfort while walking varied. Some respondents reported feeling safe or very safe (51%) walking, while others reported feeling unsafe or very unsafe (23%), or had a neutral stance or did not respond (26%). Additionally, some people also reported feeling very unsafe when using mobility devices, a bike, or a motorcycle/scooter (Figure 8).

Figure 8. **Respondents Who Report Feeling *Safe* or *Very Safe* Using These Travel Modes vs.... Respondents Who Report Feeling *Unsafe* or *Very Unsafe* Using the Same Travel Modes**



SURVEY RESULTS

Improving the Network

Respondents said **distracted driving** was the top safety issue in the region, and that stricter enforcement of traffic laws could help lessen the problem. They also mentioned **speeding** and **lack of infrastructure** as issues that could be addressed with better facilities for walking, biking, and driving, and that changes to traffic operations, such as signal timing, could reduce vehicle speeds (Figures 9 and 10).

Figure 9. **Top Five Safety Concerns**

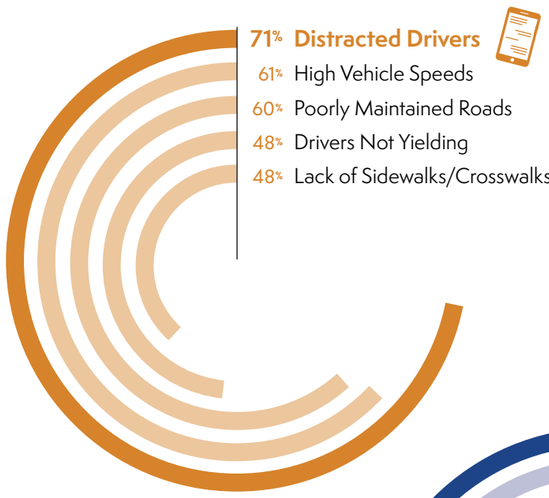
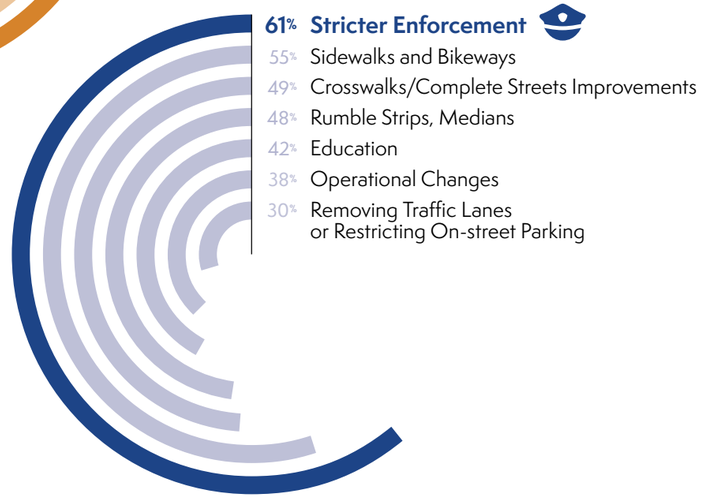


Figure 10. **Top Seven Safety Strategies**



Improving Walking and Biking Conditions

When asked what would encourage them to walk or bike more, the top three responses in both categories centered around safety, infrastructure, and connectivity. People expressed a desire for more facilities dedicated to walking and bicycling, safer facilities such as crosswalks with sufficient time to cross the roadway or bike lanes that are divided from traffic by a barrier, and well-connected networks to get around all parts of town.

I WOULD **WALK** MORE IF...

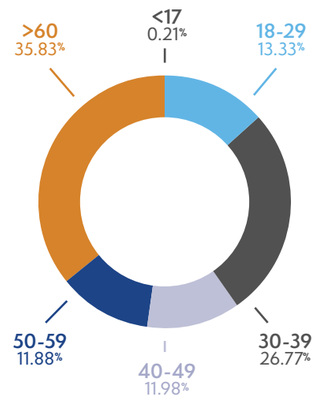
- There were **better sidewalks**
- There were **enough crosswalks** and time to cross the street
- There was a **well-connected sidewalk network**

I WOULD **BIKE** MORE IF...

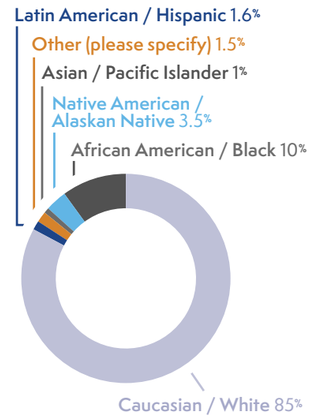
- There was **better biking infrastructure**
- Bike lanes were **separated from traffic**
- There was a **well-connected biking network**

Survey Respondent Demographics

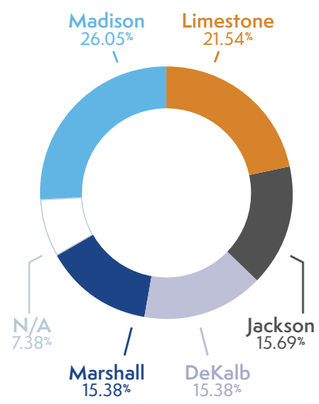
AGE



ETHNICITY/RACE

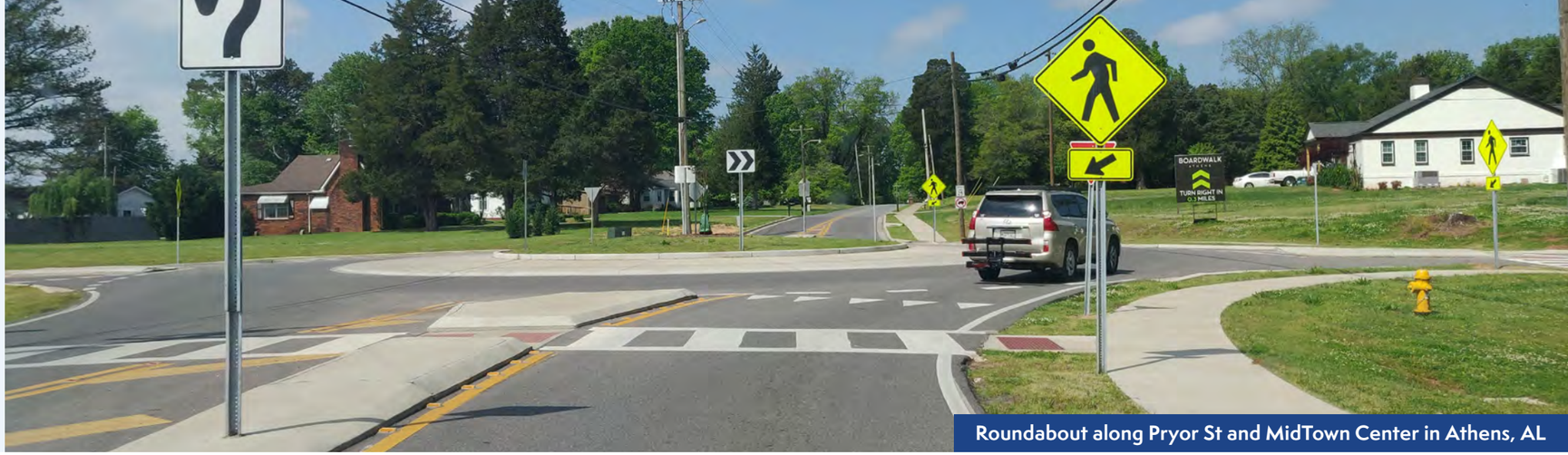


COUNTY



Top Safety Priorities and Interests by County

Respondents provided open-ended responses **expressing their priorities and interests to improve roadway safety**. The project team classified the responses into categories to identify reoccurring themes from public comments and understand safety priorities for the region and for each county. Active transportation infrastructure including **sidewalks, bike lanes, and Complete Streets-type** improvements ranked highly among survey respondents along with **speed reduction, distracted driver education/enforcement, and maintenance**.



Roundabout along Pryor St and MidTown Center in Athens, AL

Figure 11. **Top 7 in Limestone County**

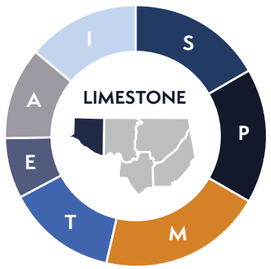


Figure 12. **Top 7 in Madison County**

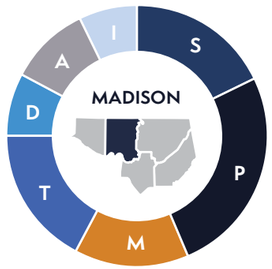


Figure 13. **Top 7 in Jackson County**

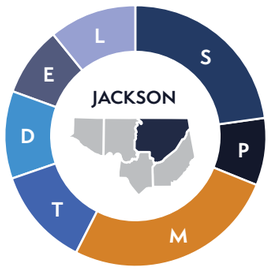


Figure 14. **Top 7 in Marshall County**

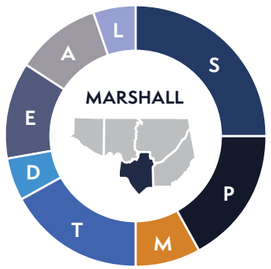
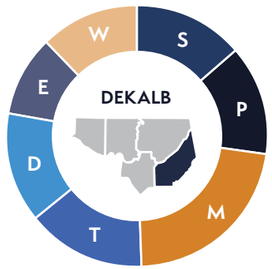
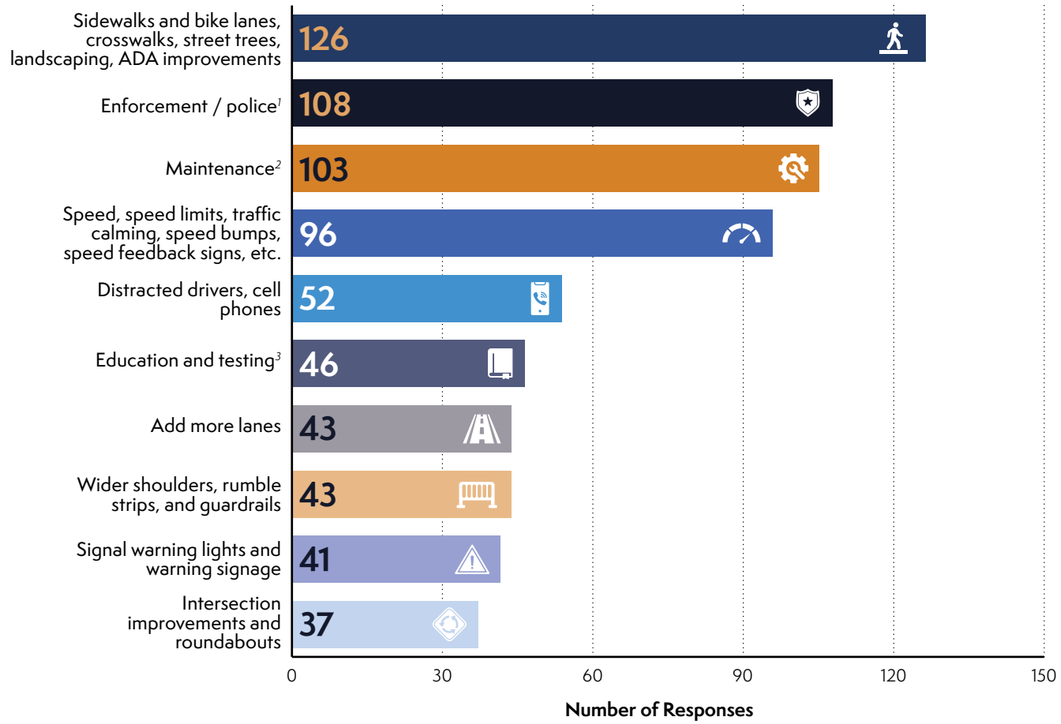


Figure 15. **Top 7 in DeKalb County**



- **S** Sidewalks, bike lanes, crosswalks, street trees, landscaping, ADA improvements
- **P** Enforcement and police
- **M** Maintenance
- **T** Traffic calming, speed limits, speed bumps, feedback signs
- **D** Distracted drivers, cell phones
- **E** Education and testing
- **A** Add more lanes
- **W** Wider shoulders, rumble strips, guardrails
- **L** Signal warning lights and warning signage
- **I** Intersection improvements and roundabouts

Figure 16. **Top 10 Region-Wide Priorities**



[1] *Many respondents emphasized road safety accountability. Some recommended an increase in penalties (e.g., higher traffic tickets) for traffic infractions, while others requested more law enforcement in general. Specific traffic infractions listed include the following: speeding, passing vehicles, running red lights/stop signs, and failing to yield at roundabouts. A few people drew attention to middle turning lanes, which drivers misuse as passing lanes. Some requested more supervision on the roads, either vaguely or by mentioning more police presence.*

[2] *Common requests for road maintenance include fixing potholes, repainting road lines (with a particular emphasis on reflectivity), managing debris and old signage, and repaving. Fixing potholes, by far, was the most listed request.*

[3] *Common themes include traffic safety material (e.g., dangers of speeding, driving safety tips, cyclist and pedestrian safety) and traffic laws. Some respondents recommend mandating a second license exam once drivers reach a certain age limit. Respondents drew attention to the link between education and law enforcement, explaining their connected nature. In tandem with increased public safety education, there should be more accountability and enforcement of safe driving practices.*

Key Findings and Action Items from Public Outreach

Public engagement efforts helped the project team assess the public's concerns and interests regarding roadway safety. Major takeaways are highlighted below and will be expanded upon in more detail in Chapter 6: Strategies and Action Items.

CONCERN	ACTION
1 Survey respondents are **concerned by distracted drivers** and **cell phone use** while driving.	Implement a **region-wide safety campaign** and collaborate with schools, churches, and major employment centers to get the word out.
2 Survey respondents want to see more **sidewalks, Complete Streets improvements, and crosswalks.**	Coordinate with local agencies to **update street design standards** to accommodate bicycle and pedestrian travel in areas of high demand. Coordinate with ALDOT on new processes and standards to assess the need for **vulnerable road user accommodations** along state roads.
3 Survey respondents are worried about **speeding**.	Identify **countermeasures** and **roadway design options** to encourage slower speeds. Increase education efforts to explain the dangers of speeding and coordinate with law enforcement on current enforcement efforts.
4 Survey respondents would like to see more **safety improvements** and maintenance. Respondents noted **reflective striping, wider shoulders, lighting, rumble strips, guardrails, signal changes, intersection improvements, signage**, and **repaving**.	Equip decision makers, roadway designers and planners, community leaders, and advocates with the **tools to implement countermeasures** on local and county roads. Increase coordination between ALDOT and local agencies. Assess funding sources to support local agencies.
5 Survey respondents support more and new **driver education**.	Coordinate with the AL Law Enforcement Agency (ALEA), and the AL Department of Economic and Community Affairs (ADECA) to improve driver education, create materials to **increase awareness** of safe driving practices, and establish new processes or testing.

SURVEY RESPONDENT QUOTES

Scottsboro Senior Center

The project team would like to thank the staff at the senior centers and Councils on Aging within the TARCOG region for their support spreading the word about the plan and distributing the project survey.

*So many heavily trafficked roads in Mentone, a tourist area, have many, many potholes making driving on the road similar to an obstacle course. Heavy truck traffic is a hazard because the speed limit is not obeyed. Trucks and **speeding cars** are never stopped for speeding through town.*

– DEKALB COUNTY RESIDENT

*Enforce **speed limits near schools** and homes, add more sidewalks with **clearly marked crosswalks, and support better safety education for drivers.***

– MARSHALL COUNTY RESIDENT

*If I had the ability to improve traffic safety in the northeastern region of Alabama, I would prioritize **enhancing law enforcement, implementing safety education programs, and improving infrastructure.** By strictly enforcing traffic regulations, we can reduce violations and enhance road user compliance. Safety education would raise awareness and promote responsible driving habits. Lastly, infrastructure improvements, such as better signage and road design, could significantly reduce accident risks.*

– JACKSON COUNTY RESIDENT

*Put in speed humps in the county in **residential areas** where drivers think it's a racetrack.*

– MADISON COUNTY RESIDENT

*Better roadways to accommodate the volume of traffic. **Lighting**- there is not enough lighting at night to light the roadways safely. A lot of the reflective paint no longer shows on the roadways either.*

– LIMESTONE COUNTY RESIDENT

04

The High Injury Network

CRASH ANALYSIS PROCESS

A core component of a safety action plan is understanding where the highest density of fatalities and serious injury type (KSI) crashes have occurred to identify roads with the most significant safety concerns. A High Injury Network (HIN) analysis was conducted to pinpoint both **roadway segments** and **intersections** with the most highest density KSI crashes and injury type crashes.

The Process

To achieve this, KSI crashes were assigned higher scores so they have more "weight" relative to crashes with less tragic outcomes. After weights are developed, road segments are scored based upon the density of injury crashes.

Local/County Road HIN and ALDOT HIN

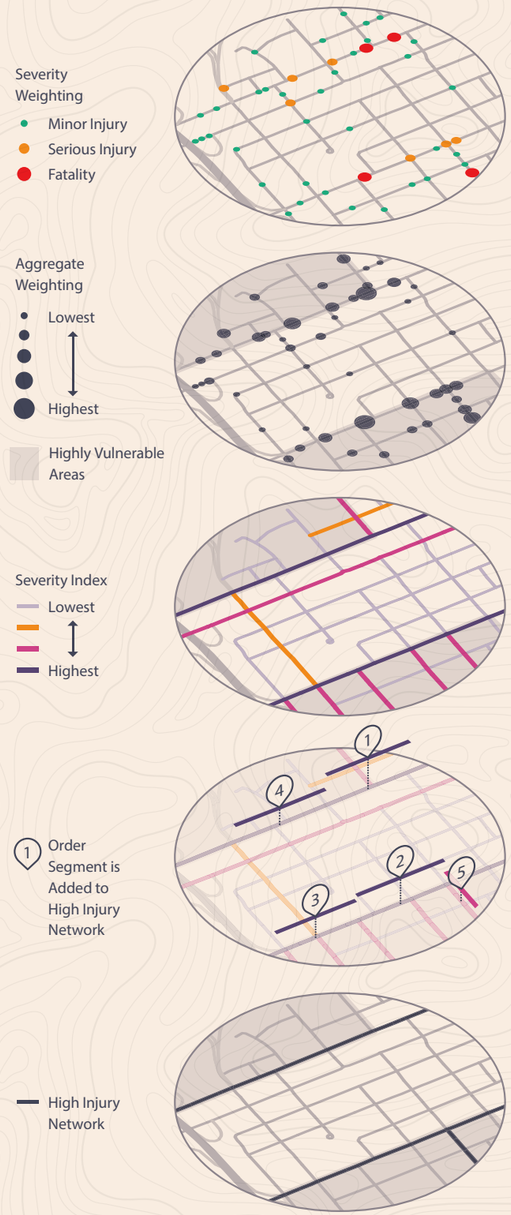
For this safety action plan, crashes were separated out by county/local roads and ALDOT-maintained roadways. This resulted in two separate HIN analyses to help the various agencies compare crashes in their respective jurisdictions.

The following pages provide the HIN segments and intersections for ALDOT, each county, and the top 20 HIN segments.

Tier 1 and Tier 2 HIN

The maps in the following section depict the HIN as a Tier 1 and Tier 2 segments. Tier 1 segments capture roadway segments with the highest 50% of the weighted crash scores. The KSI rate for Tier 1 segments averages 1.1 KSI crashes whereas Tier 2 averages 0.78 KSI crashes.

See the data disclaimer on page 3. These materials are protected under 23 U.S.C. §409 and 23 U.S.C. §148(h)(4). In addition, the Alabama Supreme Court in Ex parte Alabama Dept. of Transp., 757 So. 2d 371 (Ala. 1999) found that these are sensitive materials exempt from the Alabama Open Records Act.



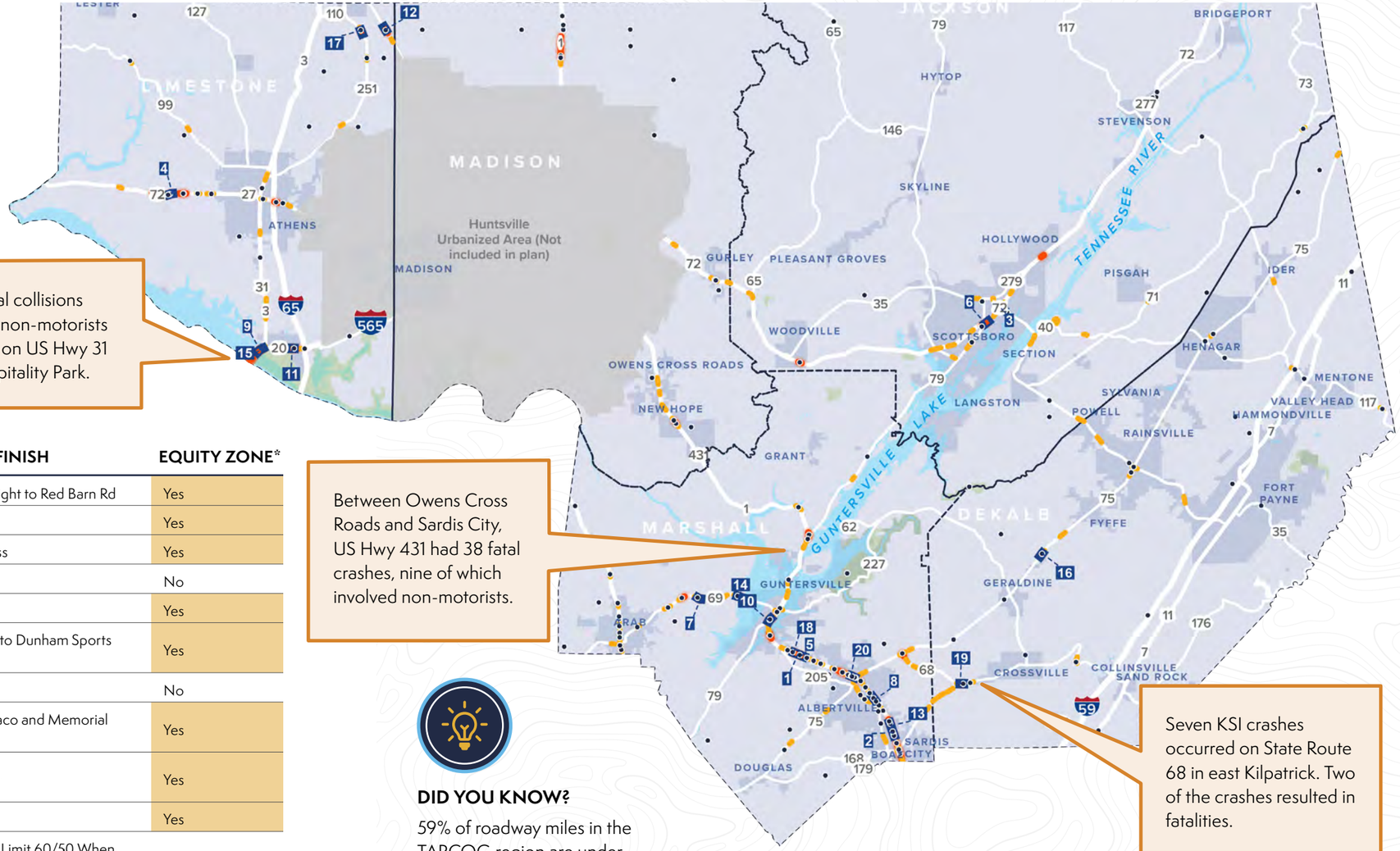
ALDOT HIGH INJURY NETWORK

A region-wide HIN assessment of ALDOT roadways is shown here to highlight the corridors with the highest density of injury-type crashes. Of the total crashes (43,370) analyzed with the TARCOG region, **61% of all crashes occurred on an ALDOT roadway and the remaining 39% on local or county streets**. The HIN intersections include multiple jurisdictions at times; 33% of HIN intersections include two ALDOT roads, 39% intersect an ALDOT and one non-ALDOT road, and 28% intersect two local roads.

Table 1. **Top 20 HIN Corridors along ALDOT Roadways**

RANK	MILES	NAME	CORRIDOR START AND FINISH	EQUITY ZONE*
1	**0.25**	US Hwy 431	Walmart and Chick-fil-A traffic light to Red Barn Rd	Yes
2	**0.25**	US Hwy 431	Byron Ave to Williams St	Yes
3	**0.25**	State Rte 35	Windsor Rd to center of overpass	Yes
4	**0.25**	Lee Hwy	Sod Rd to Curtis Ln	No
5	**0.25**	US Hwy 431	Red Barn Rd to Reed Rd	Yes
6	**0.26**	John T Reid Parkway/US Hwy 72	279 to 72 northbound on-ramp to Dunham Sports traffic light	Yes
7	**0.25**	State Rte 69	Union Grove Rd to Junkins Rd	No
8	**0.25**	US Hwy 431	Crow St to intersection of Bochaco and Memorial Chapel	Yes
9	**0.25**	US Hwy 72 Alt Hospitality Park Bend	Mile marker 260 to Hwy 20 Exit	Yes
10	**0.25**	Florida Short Rte	Hwy 79 to Hackberry St	Yes
11	**0.25**	Huntsville Decatur Hwy/US Hwy 72 Alt	Co Rd 113/Mitchell Rd to Speed Limit 60/50 When Wet sign	No
12	**0.25**	State Rte 53	Pinedale Dr to street number 30176	No
13	**0.25**	US Hwy 431	Henderson Rd to Go Medical and Marshall Hospital intersection	Yes
14	**0.25**	State Rte 69	Georgia Mountain Rd to Nuel Rd	No
15	**0.25**	US Hwy 72 Alt	Northbound warning sign to mile marker 260	Yes
16	**0.25**	State Rte 75	Saffels St to Co Rd 400	No
17	**0.25**	State Rte 251	Sweet Springs Rd to Valley Dr	No
18	**0.25**	US Hwy 431	Vandy Cir to Walmart and Chick-fil-A traffic light	Yes
19	**0.25**	State Rte 68	Co Rd 478 to Co Rd 253	Yes
20	**0.25**	US Hwy 431	Mathis Mill to Carlisle St	No

**See Chapter 5 for an explanation of the Equity Zones.*



DID YOU KNOW?

59% of roadway miles in the TARCOG region are under ALDOT jurisdiction.

10.2% of non-interstate ALDOT **roadway centerline miles** account for

41.8% of the **life-altering crashes** and

42.3% of **injury crashes** on those roads

LEGEND

- High-Injury Network (Tier 1)
- High-Injury Network (Tier 2)
- Top 20 HIN Segments
- High Crash Intersection

LIMESTONE COUNTY HIGH INJURY NETWORK

Limestone County's HIN network is shown to the right and includes local and county roadways. Many of the HIN segments within Limestone County are located along curves or intersection approaches. Additionally, intersections with a high volume of KSIs were assessed separately and shown as points on the map. See page 48 for findings on state-maintained roadways.

The top 20 segments with the highest density and volume of KSI crashes are reported here. To pinpoint the most crucial areas for safety improvements, each segment ranges from 0.1 to 0.5 miles in length. Within Limestone County, **166 miles of roadway** were designated as part of the HIN. Of those, 12.5 miles fall within the City of Athens.

15% of local and county **roadways** account for

83% of the life-altering **crashes** in the county

Table 2. **Top 20 HIN Corridors in Limestone County**

RANK	MILES	NAME	CORRIDOR START AND FINISH	EQUITY ZONE*
1	0.29	Huntsville-Brownsferry Road	Lenard Cir to Spring Rd	No
2	0.24	Forrest Street West	S Houston St to Whitt's BBQ/railroad overpass	No
3	0.17	Huntsville-Brownsferry Road	Lenard Cir to Escue Dr	No
4	0.49	New Cut Road	Easter Ferry Rd to Round Island Creek Bridge	No
5	0.50	Harris Station Road	Swan Creek Dewatering	Yes
6	0.27	Moyers Road	Hine St S to Co Rd 67	No
7	0.27	Sandlin Road	Co Rd 100 to Elkmont Fire Department	No
8	0.17	Huntsville-Brownsferry Road	Spring Rd to Supercell Shelters	No
9	0.48	Elk River Mills Road	Harris Rd/CR 33 to street number 14604	No
10	0.1	East Limestone Road	Harvest Rd to Hall Cemetery Rd	No
11	0.5	East Limestone Road	Hall Cemetery Rd to street number 21648	No
12	0.2	Levert Avenue, Southwind Drive	Windscape Dr to Cottonwood Apartments	Yes
13	0.27	Nick Davis Road	Roslyn Lee Ln to Newby Chapel Rd	No
14	0.52	Holt Road	Drive 21489 to street number 20940 at Black Rd	No
15	0.22	Swancott Road/Co Rd 115	Old Hwy 20 to People Rd	No
16	0.26	Elkton Road/Co Rd 86	Athens city limits to Elkton Rd Baptist Church	No
17	0.51	Sewell Road	Easter Ferry Rd to street number 17444	No
18	0.5	Brownsferry Road	Carter Rd to Grisby Ln	No
19	0.5	Mooresville Road	Crossing Thatch Road	No
20	0.24	Lindsay Lane South	Crossing Lee Hwy 72	No

*See Chapter 5 for an explanation of the Equity Zones.

MADISON COUNTY HIGH INJURY NETWORK

Madison County's HIN network is shown to the right and includes local and county roadways. See page 48 for findings on state-maintained roadways. Additionally, intersections with a high volume of KSIs were assessed separately and shown as points on the map with notable concentrations along the US Hwy 431 and Winchester Road corridors.

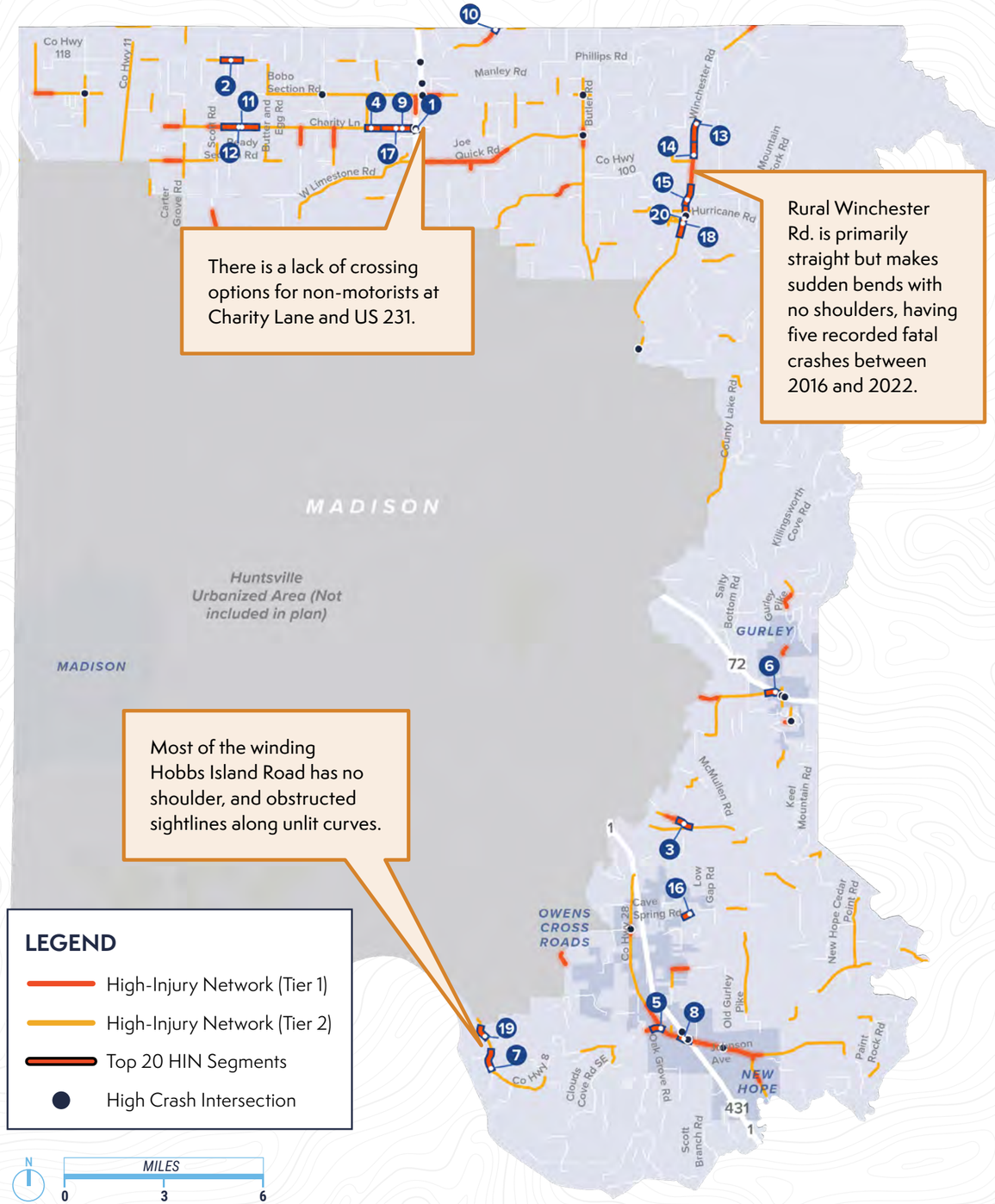
The top 20 segments with the highest density and volume of KSI crashes are reported here. Segments range from 0.1 to 0.5 miles in length to address the most significant roadway sections with safety concerns. In Madison County, **127.9 miles of roadway were identified as being on the HIN**, and 6.1 of these HIN miles are within New Hope.

17% of local and county **roadways** account for **93%** of the life-altering **crashes** in the county

Table 3. **Top 20 HIN Corridors in Madison County**

RANK	MILES	NAME	CORRIDOR START AND FINISH	EQUITY ZONE*
1	**0.08**	Charity Ln slip lane	Charity Ln to US Hwy 231	No
2	**0.50**	Elkwood Section Road	Treva ln to Terry Ln	No
3	**0.34**	Cherry Tree Road	Joe Cross Rd to street number 395/Adtran	No
4	**0.48**	Charity Lane	Frank Patterson Rd to Bright Rd	No
5	**0.23**	Hobbs Island Road Southeast	Self Rd SE to Co Hwy 28	No
6	**0.25**	Little Cove Road	Miller Rd to State Hwy 72	No
7	**0.52**	Hobbs Island Road Southeast	Mountview Dr SE to street number 1874	No
8	**0.25**	Old Hwy 431	Aldridge Circle to US Hwy 431	No
9	**0.48**	Charity Lane	Jane Dr to US Hwy 231	No
10	**0.04**	South Lincoln Road, Mulberry Road	Posey and Son Nursery to state line	No
11	**0.48**	Charity Lane	Honea Rd to Brier Fork Flint River	No
12	**0.48**	Charity Lane	County Crest Rd to Honea Rd	No
13	**0.49**	Winchester Road	Moe Rd to Hillsboro Cir	No
14	**0.49**	Winchester Road	Hillsboro Cir to street number 6265	No
15	**0.49**	Winchester Road	Drive 5793 to College St	No
16	**0.17**	Cave Spring Road	Allen Moon Lane to street number 877	No
17	**0.48**	Charity Lane	Bright Rd to street number 305	No
18	**0.49**	Winchester Road	Clinic St to Oak St	No
19	**0.31**	Hobbs Island Road Southeast	Carabell Dr SE to Railway Lane SE	No
20	**0.49**	Winchester Road	Mountain Fork Bridge to Clinic St	No

**See Chapter 5 for an explanation of the Equity Zones.*



The plan includes the RPO area of Madison County and excludes the Huntsville UA.

JACKSON COUNTY HIGH INJURY NETWORK

Jackson County's HIN network is shown to the right and includes local and county roadways. See page 48 for findings on state-maintained roadways. Additionally, intersections with a high volume of KSIs were assessed separately and shown as points on the map.

The top 20 segments with the highest density and volume of KSI crashes are reported here. Segments range from 0.1 to 0.5 miles in length to address the most significant roadway sections with safety concerns. In Jackson County, **98.5 miles of roadway were identified as being on the HIN**, 18, or over two thirds, of which are within urban Scottsboro.

22% of local and county **roadways** account for

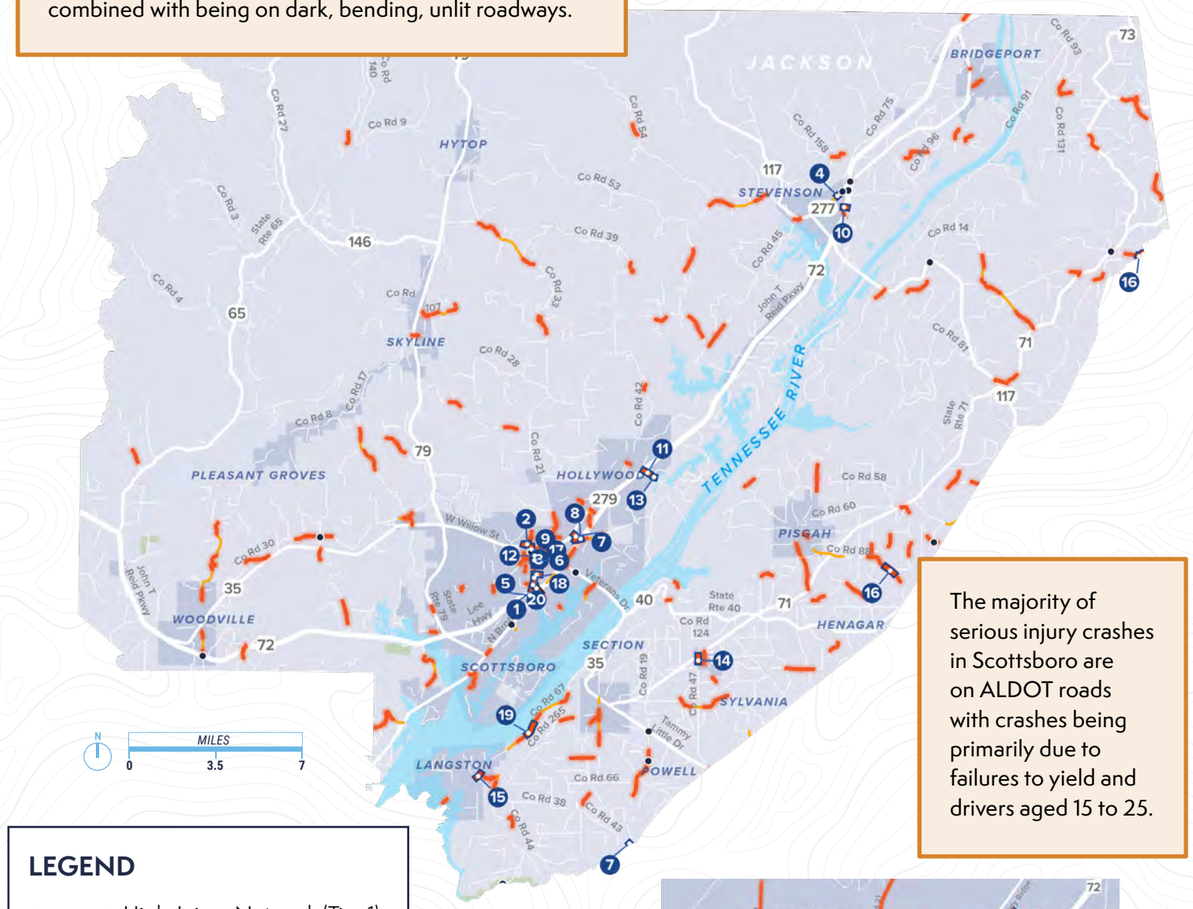
74% of the life-altering **crashes** in the county

Table 4. **Top 20 HIN Corridors in Jackson County**

RANK	MILES	NAME	CORRIDOR START AND FINISH	EQUITY ZONE*
1	0.22	County Park Rd	Crossing 72, E Ridge Rd to Sarah Betty Ln	Yes
2	0.21	N Cedar Hill Dr, W Maple Ave	Dr. MLK Jr. Drive over the Railroad Tracks to Mary Hunter Ave	Yes
3	0.22	County Park Road	Broad St to Calvary Baptist Church	Yes
4	0.26	East 2nd Street	Old Mt Caramel to street number 1293	Yes
5	0.25	South Broad Street underpass	72 Underpass	Yes
6	0.25	South Broad Street	Parks Ave to Cherry St	Yes
7	0.24	Snodgrass Road	Moody Ridge Rd to bend in road	Yes
8	0.24	Snodgrass Road	Bend to John T Reid Parkway	Yes
9	0.07	Franklin Street	S Scott St to Washington Cir	Yes
10	0.13	Old Mt Carmel Road	Adams St to John T Reid Parkway	Yes
11	0.25	County Road 33	John T Reid Parkway to Co Rd 113	No
12	0.25	South Broad Street	College St to Park Ave.	Yes
13	0.25	County Road 33	Co Rd 113 to Town Creek	No
14	0.23	College Road	State Rte 71 to Nicholas St	No
15	0.22	Langston Road	Oak St to Mountain View Cir	No
16	0.43	County Road 88	Hidden Drive Sign at street number 1856 to 1183	No
17	0.2	South Houston Street	Willow St to Appletree St	Yes
18	0.25	South Broad Street	Pine St to Cecil St	Yes
19	0.49	County Road 67	Street Address 6961 to 7467 at power line easement to the reflector at corrugated culvert	No
20	0.22	Hayes Street	Broad St to S Scott St	Yes

*See Chapter 5 for an explanation of Equity Zones.

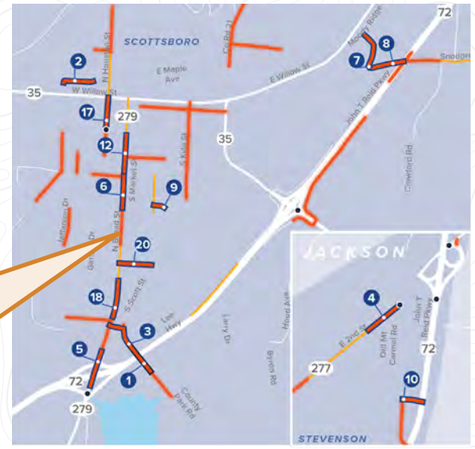
Serious injury crashes on rural county roads were similar to ALDOT roads but saw more incidents related to excess speeding or speeds generally over 55 mph, often combined with being on dark, bending, unlit roadways.



The majority of serious injury crashes in Scottsboro are on ALDOT roads with crashes being primarily due to failures to yield and drivers aged 15 to 25.

LEGEND

- High-Injury Network (Tier 1)
- High-Injury Network (Tier 2)
- Top 20 HIN Segments
- High Crash Intersection



North Broad Street experiences crashes due to misjudgments of stopping distance, unseen objects, or other unknown causes.

MARSHALL COUNTY HIGH INJURY NETWORK

Marshall County's HIN network is shown to the right and includes local and county roadways. See page 48 for findings on state-maintained roadways. Additionally, intersections with a high volume of KSIs were assessed separately and shown as points on the map, most of which occur at or near crossings with Hwy 431, south of the Tennessee River.

The top 20 segments with the highest density and volume of KSI crashes are reported here. Segments range from 0.1 to 0.5 mile to address the most significant roadway sections with safety concerns. In Marshall County, **187.3 miles of roadway were identified as being on the HIN**; 19.6 miles of the HIN are in the city limits of Albertville, and 21.2 miles are in Guntersville.

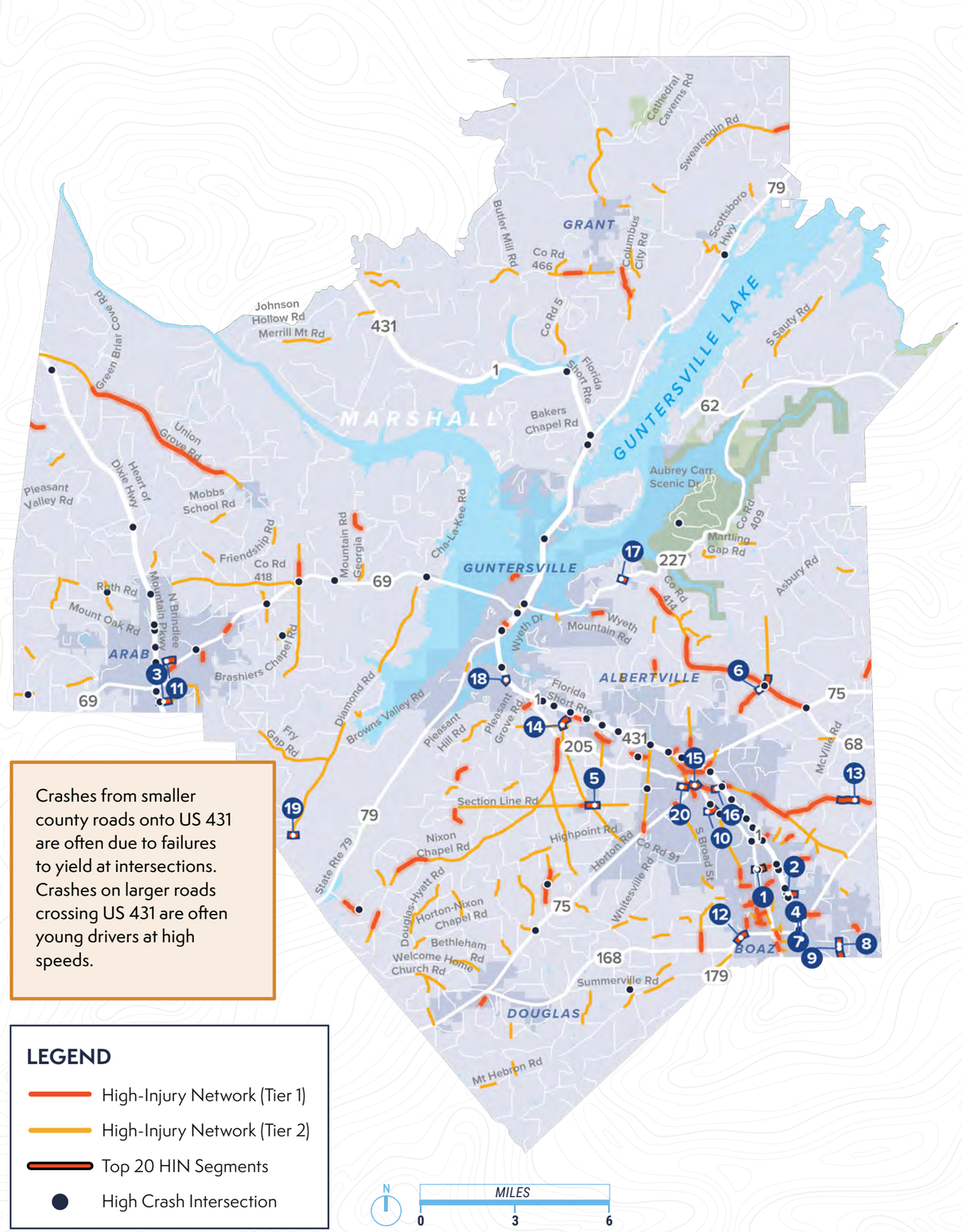
13% of local and county **roadways** account for

83% of the life-altering **crashes** in the county

Table 5. **Top 20 HIN Corridors in Marshall County**

RANK	MILES	NAME	CORRIDOR START AND FINISH	EQUITY ZONE*
1	0.23	Wagner Drive	Blanche Dr to Paragon Dr	Yes
2	0.25	Butler Ave	Florida Short Route past Williams St	Yes
3	0.28	City Park Drive Southwest	S Main St to S Brindle Mountain Parkway/US 231	No
4	0.26	Billy B. Dyar Boulevard	Florida Short Route past Snead St	Yes
5	0.25	Section Line Road	Street address 2677 to 2969	No
6	0.47	Martling Road	Helton Rd to street number 2570	No
7	0.26	Bruce Road	Florida Short Rte to McVille Rd	Yes
8	0.23	Sardis Road	Bethsaida Rd to 400 Bethsaida Sardis Rd	Yes
9	0.23	Sardis Road	400 Bethsaida Sardis Rd to Strawn Rd	Yes
10	0.29	Barnes Street	Baltimore Ave to Hickory St	Yes
11	0.2	7th Avenue Northeast	N Maine St to 3rd St NE	No
12	0.27	West Mill Avenue	Jones Drive to EZY Mini Storage	No
13	0.48	Blessing Road	Country Dr to Co Rd 388	Yes
14	0.27	Red Barn Road	Miller Rd to Old Solitude Rd	Yes
15	0.19	Sand Mountain Drive	E Main St to Broad St	Yes
16	0.26	East Main Street	Florida Short Rte to Christ Episcopal Church	Yes
17	0.09	Hustleville Road	State Rte 227 to street number 7880	No
18	0.08	Bodine Road	State Rte 205 to Guy Rd	No
19	0.14	Strickland Lane	Diamond Rd to dead end	No
20	0.15	Logan Street	S Humbrick St to Colvin St	Yes

*See Chapter 5 for an explanation of the Equity Zones.



DEKALB COUNTY HIGH INJURY NETWORK

DeKalb County's HIN network is shown to the right and includes local and county roadways. See page 48 for findings on state-maintained roadways. Additionally, intersections with a high volume of KSIs were assessed separately and shown as points on the map.

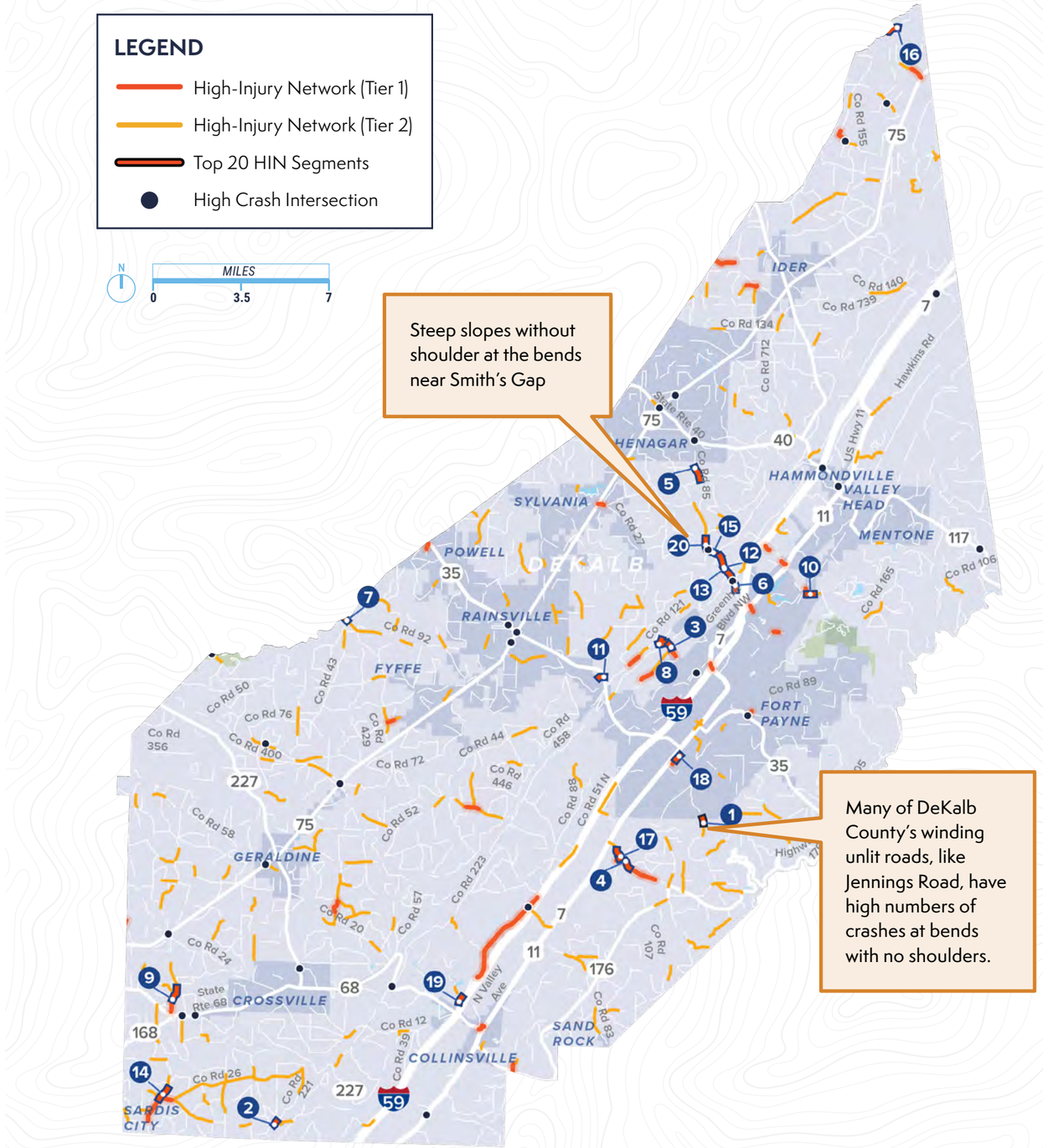
The top 20 segments with the highest density and volume of KSI crashes are reported here. Segments range from 0.1 to 0.5 mile to address the most significant roadway sections with safety concerns. In DeKalb County, **187.3 miles of roadway were identified as being on the HIN**, 5.3 miles of which are in Fort Payne.

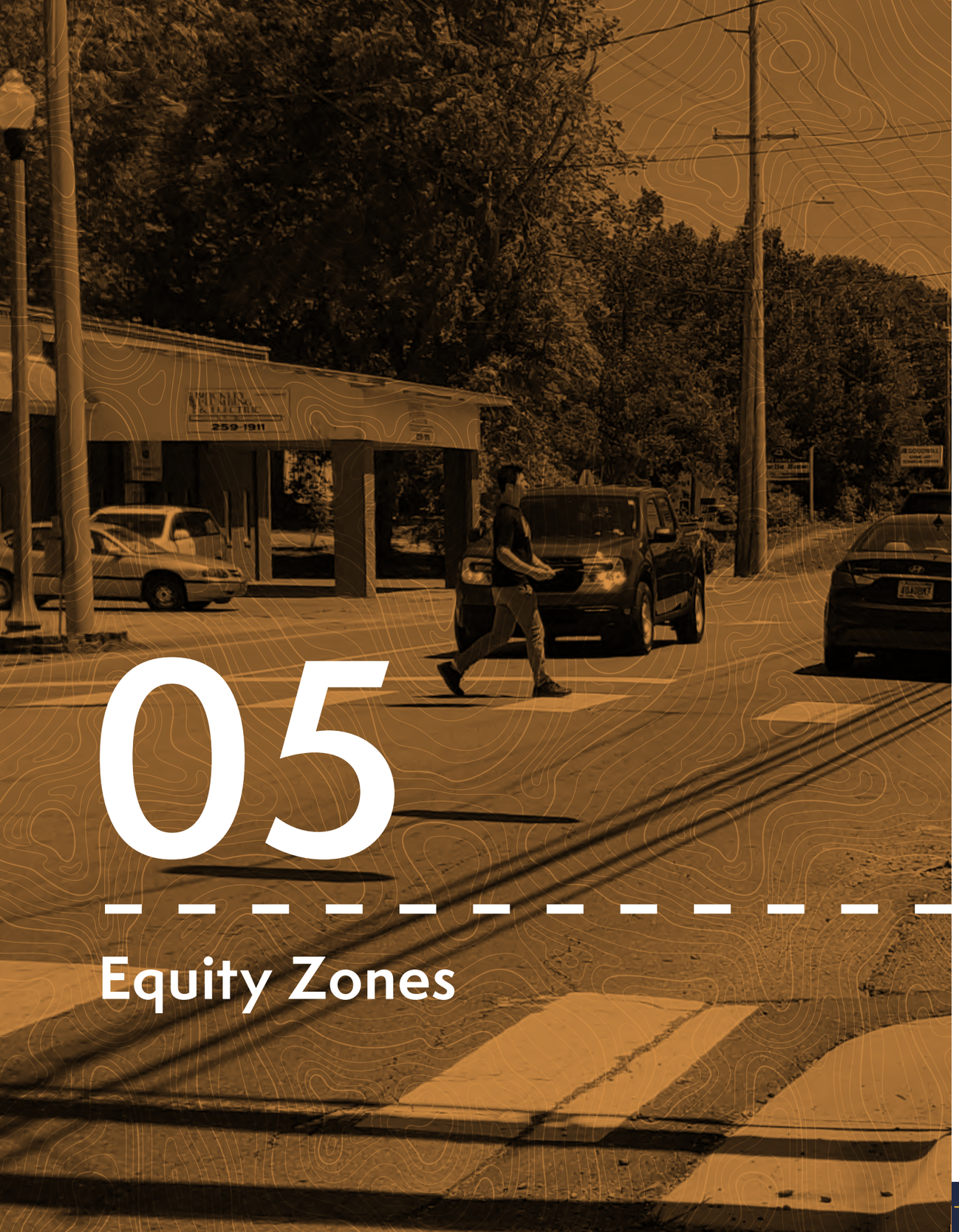
10% of local and county **roadways** account for **75%** of the life-altering **crashes** in the county

Table 6. **Top 20 HIN Corridors in DeKalb County**

RANK	MILES	NAME	CORRIDOR START AND FINISH	EQUITY ZONE*
1	**0.18**	Jennings Road, CR 127	Co Rd 9008 to Fort Payne City Limits	No
2	**0.14**	County Road 4	Belchers Gap, Co Rd 456 to Co Rd 29	Yes
3	**0.15**	Sylvania Road NW & Co Rd 27	Gibson Gap, Co Rd 931 to Co Rd 609, School Bus Stop	Yes
4	**0.31**	Dogtown Road SE	Colbran Gap. Co Rd 277 to Co Rd 9003	Yes
5	**0.5**	County Road 85 over Bengis Creek	Co Rd 623 to Co Rd 122	Yes
6	**0.5**	County Road 85 School Bus Stop	Co Rd 952 to Co Rd 749	Yes
7	**0.19**	County Road 56 over Reedy Creek	Reedy Creek Bridge, CR 52 to Co Rd 43	No
8	**0.51**	County Road 27	County Rd 494 to Co Rd 498, Gibson Gap	Yes
9	**0.51**	County Road 179	Co Rd 999 to Co Rd 433	Yes
10	**0.26**	Wade Gap/County Road 604	Wade Gulf, Vulcraft-Alabama to Blue Cayote Farms	Yes
11	**0.2**	Love Road	State Rd 35 to Old Hwy 35 E	No
12	**0.5**	County Road 85 below Smith Gap	Smith Gap to Smith Cemetery	Yes
13	**0.5**	County Road 85 at Lyons Spring	Smith Cemetery to Co Rd 749	Yes
14	**0.5**	Leeth Gap Rd, CR 479	Co Rd 26 to Emily's Chicken Coop	No
15	**0.5**	County Road 85 above Smith Gap	Co Rd 602 to Smith Gap	Yes
16	**0.44**	County Road 812 over Higdon Creek	Co Rd 169 to Co Rd 292	No
17	**0.45**	Dogtown Road SE, CR 81 at Colbran Gap	From the Railroad up the first bend	Yes
18	**0.22**	Godfrey Avenue SE	14th St SE to Valley Timber	Yes
19	**0.22**	County Road 51	Coker Racing to second tower on left	Yes
20	**0.5**	County Road 85 over Town Creek	Co Rd 602 to southbound weight limit sign	Yes

**See Chapter 5 for an explanation of the Equity Zones.*





05

Equity Zones

AREAS OF NEED

Some neighborhoods and commercial areas have greater safety threats that need prioritization.

Disadvantaged communities within the TARCOG region were analyzed to identify those most impacted by transportation insecurity. The analysis revealed that the High-Injury Network (HIN) and high-crash intersections were disproportionately concentrated in these areas. As a result, prioritizing transportation safety improvements in these communities will provide the greatest impact toward achieving the goals of the TARCOG Safety Action Plan.

Equity Metrics

National datasets included in the equity analysis identified at-risk communities as having relatively high numbers of the following:

LOW-INCOME FAMILIES

Households with a $25,000 or less median annual income.

ELDERLY

Residents who are 65 or older may be less capable of driving and may not have peers or stable transportation services to crucial food or medical care facilities.

COMMUNITIES OF COLOR

Areas with historic populations of African-American, Native American, or Hispanic communities have been marginalized from infrastructural improvements, creating a need for prioritization.

LACK OF VEHICLE

Households with limited or no access to a motor vehicle will have to use alternative forms of travel, often on roads that are less suitable for such modes.

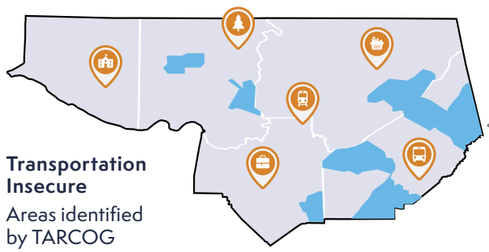
PEOPLE WITH DISABILITY

Those who are less able to drive or do not have access to transportation services may at times resort to using roadways without a vehicle, or drive themselves, increasing crash risk to themselves and others.

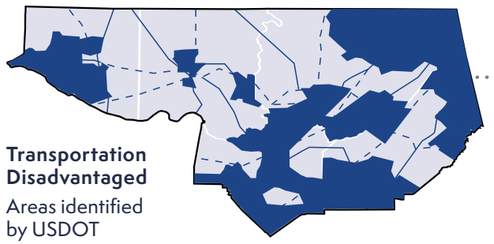
EQUITY FOCUS AREAS

Understanding the needs of disadvantaged communities and meeting the goals of the Justice 40 Initiative is a priority of SS4A Safety Action plans. Three disadvantaged community datasets that address the equity metrics—Transportation Disadvantaged Communities, US Council on Environmental Quality (USCEQ) Disadvantaged Communities, and Transportation Insecure Areas—were mapped within the TARCOG region. When the three zones overlapped, these areas were designated as **Equity Focus Areas.**

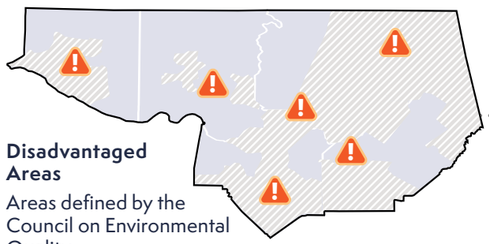
Predefined Equity Areas



Transportation Insecure
Areas identified by TARCOG

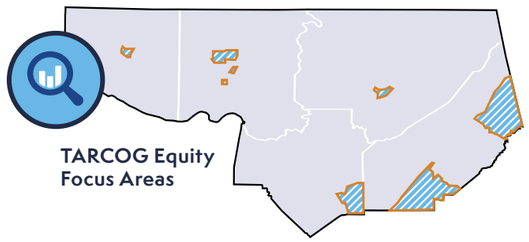


Transportation Disadvantaged
Areas identified by USDOT



Disadvantaged Areas
Areas defined by the Council on Environmental Quality

Equity Focus Areas



TARCOG Equity Focus Areas

TARCOG Equity Focus Area

Disadvantaged Area (USCEQ)

Transportation Insecure Area

Transportation Disadvantaged Area

N

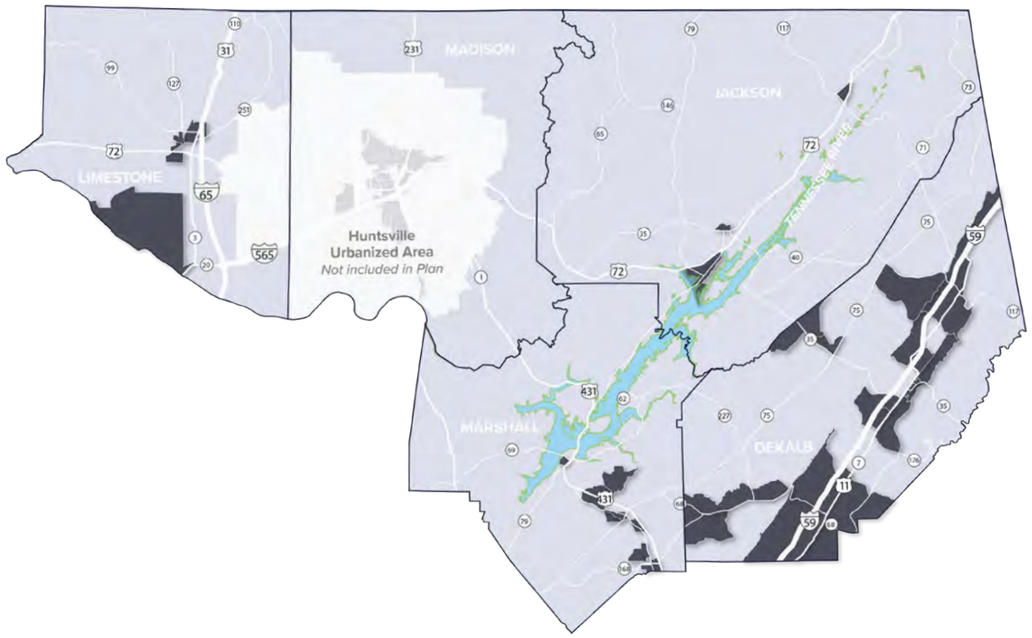
MILES 0 5 10 15 20

EQUITY FOCUS NEIGHBORHOODS

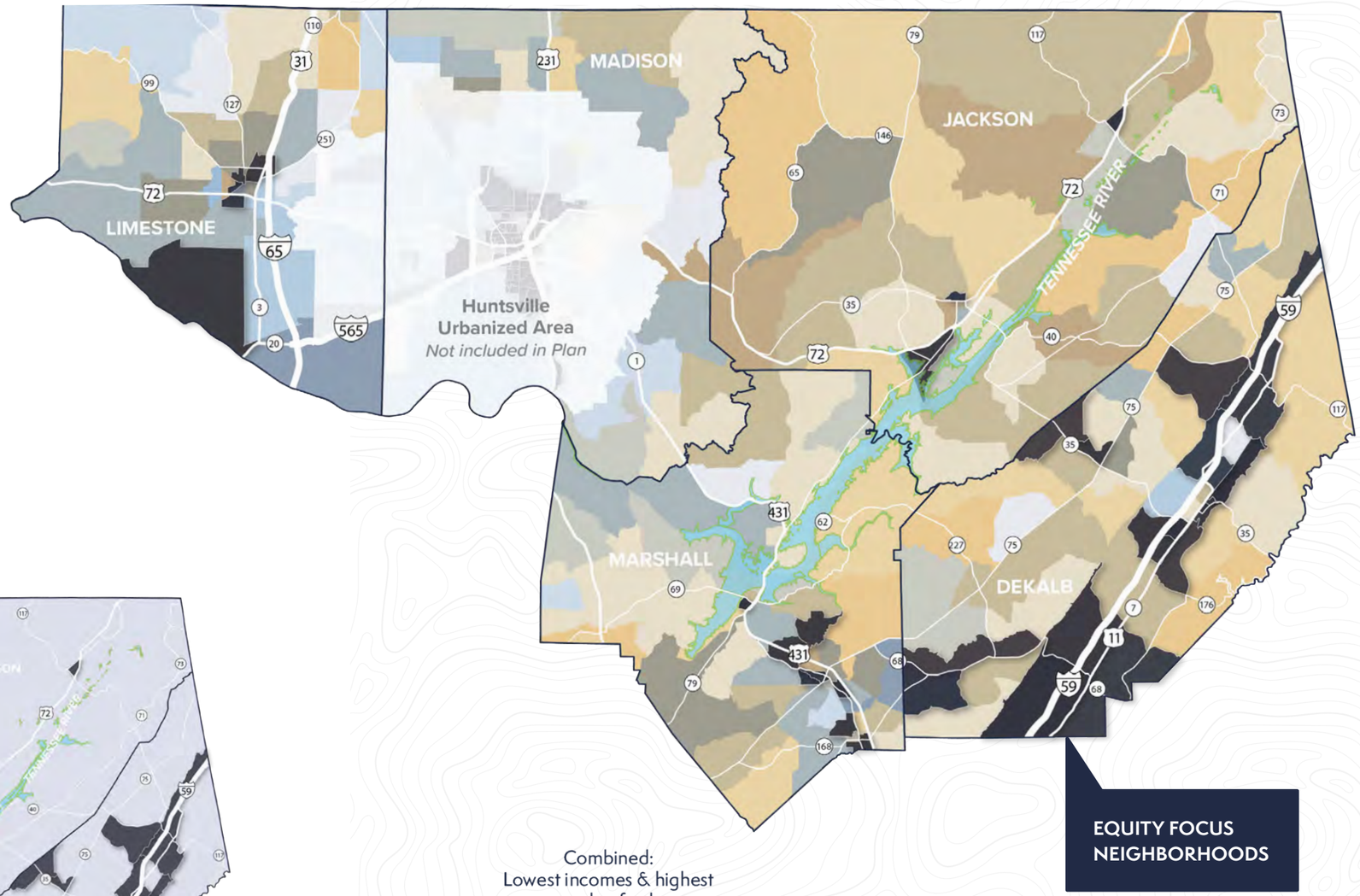
For a more detailed analysis, **race and median household** income were mapped to highlight these two equity metrics. These two indicators were equally weighted and combined for a detailed index describing **Equity Focus Neighborhoods**. The Equity Focus Neighborhoods identify the top 25% of census block groups with the highest proportion of people of color combined with the **top 25%** census block groups with the lowest median incomes.

These communities may experience transportation disparities and rely on transit services or walking and biking to get around. The region as a whole has limited transportation services. In only a few cases are those services available to low-income and rural residents. Transit between municipalities and rural areas in the region is very limited or absent, and entirely absent for most residents on nights, weekends, and early mornings. Particularly insecure areas were outlined from the intersection of predefined areas that rely on the previous equity definitions.

Map 1. **Equity Focus Neighborhoods**



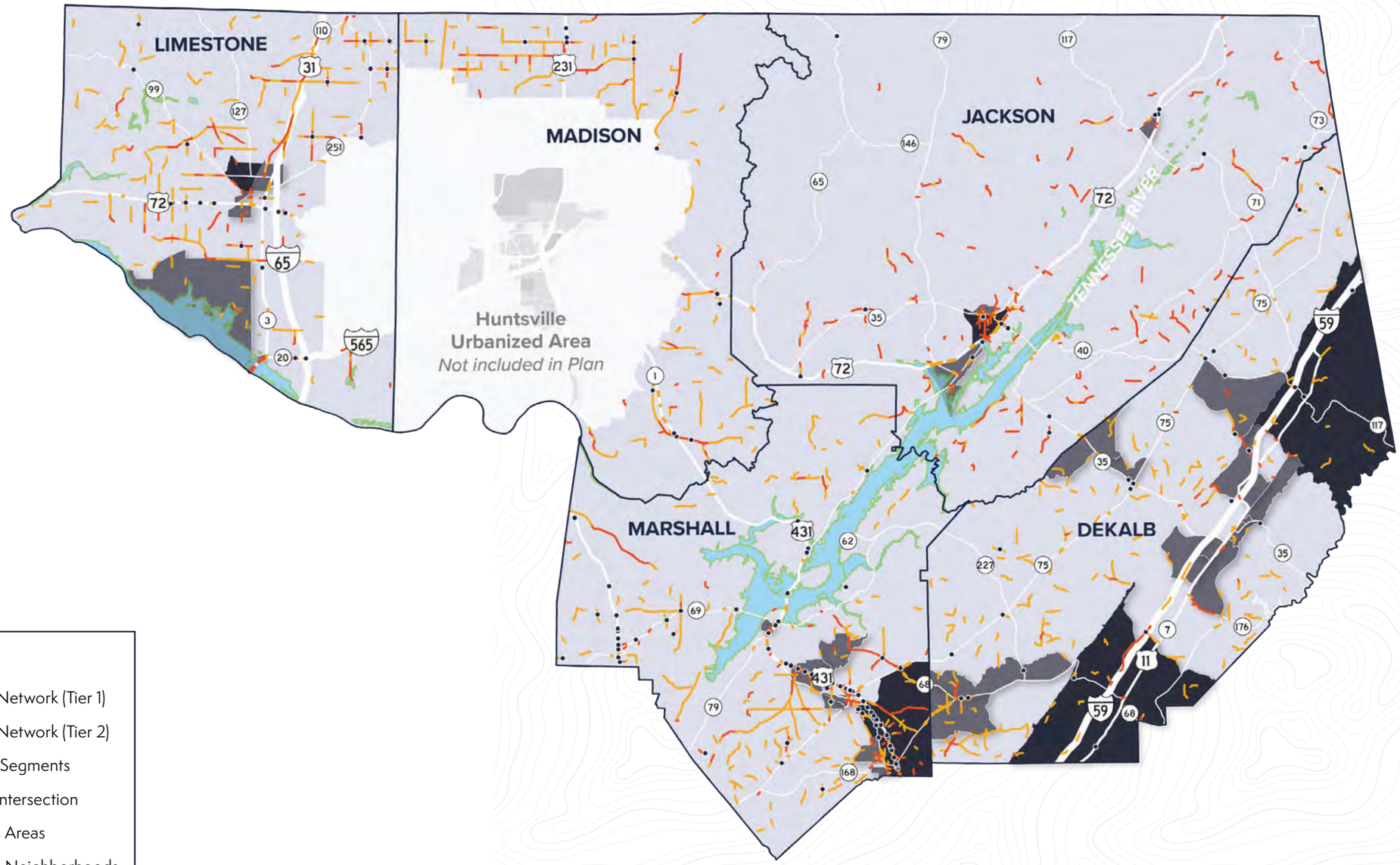
Map 2. **Race and Income in the TARCOG Region**



EQUITY ZONES AND THE HIN

The Equity Focus Areas and Equity Focus Neighborhoods are shown in the grey zones and comprise the **Equity Zones** for this plan. The following pages highlight the major corridors with safety concerns in each county. In terms of addressing transportation disparities, a tailored approach for each county is needed to address a range of safety concerns.

In the majority of rural areas, many of the steep, winding, and unlit roads present safety concerns. In counties with urban contexts, many of the safety concerns are more urban in nature with failure-to-yield and intersection type crashes.



LIMESTONE COUNTY EQUITY ZONES

Equity Zones and the County HIN

There is only one TARCOG Equity Focus Area in Limestone County, which is in the northwest part of Athens, around the Lakewood neighborhood. The southwest and northeast sections of Limestone County are identified as Equity Focus Neighborhoods. Ten crashes with non-motorists were recorded in the Athens Equity Zones.

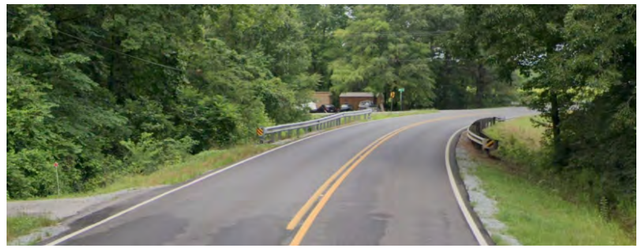
ALDOT HIN

All of the top-ranked HIN segments connect toward the Tennessee River Bridge where State Routes 3 and 20 meet, with 36 rolled crash counts near the intersection and other nearby segments each above 25 crashes.

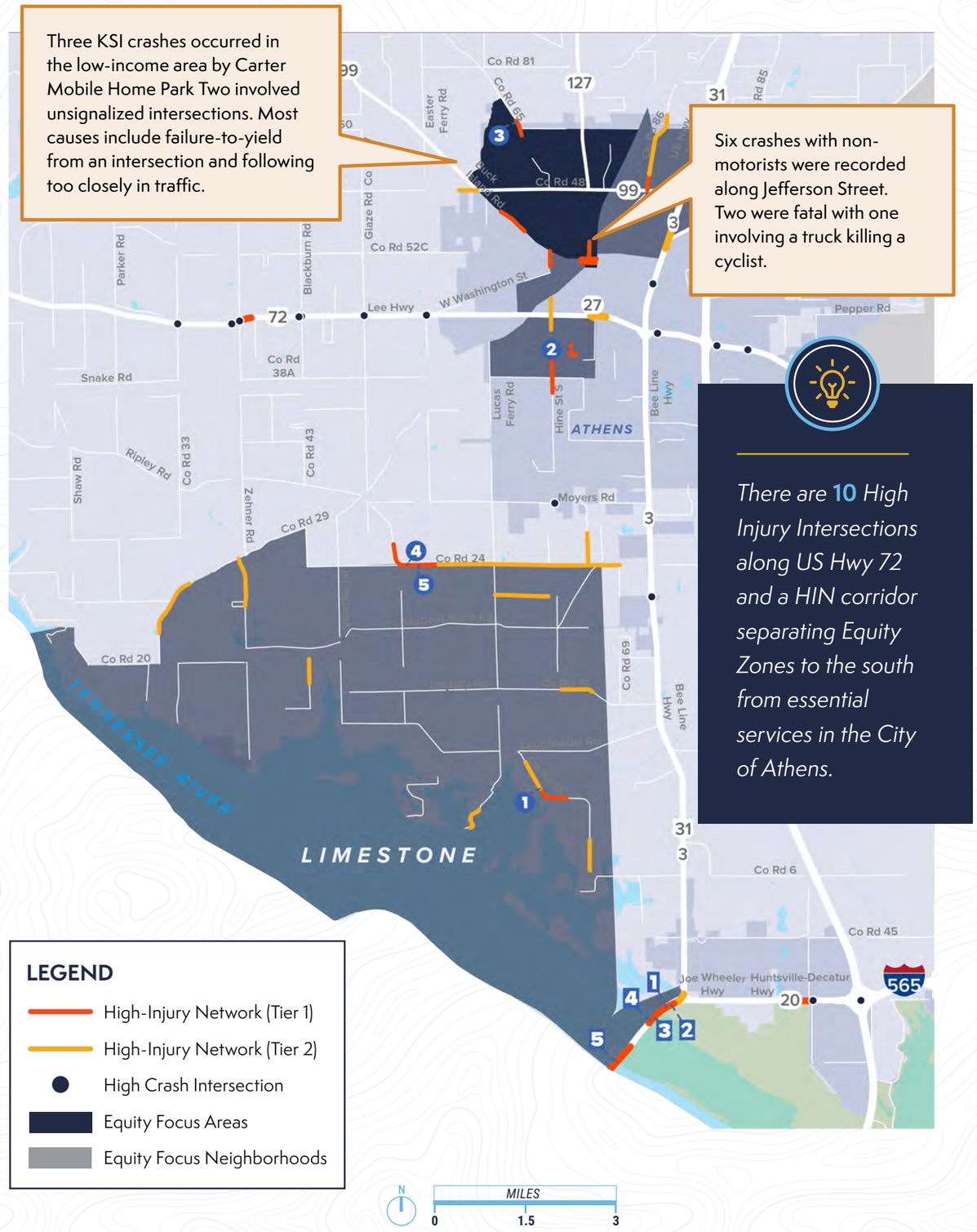
RANK*	COUNTY HIN SEGMENT	CRASH CONTEXTS
1	Harris Station Rd/Swan Creek	Bend in dark, unlit straightaways; speeding; river crossing at the bend has no shoulder
2	Levert Ave/Southwind Dr	T-type intersection; unlit; missing warning signage
3	Edgewood Rd/Airport Rd	Stop sign intersection on bend of long straightaways; unlit; dense hedge of crepe myrtles limit visibility
4	Huntsville Brownsferry Rd bend	90° bend with driveway; two t-type intersections; two river crossings with no shoulder
5	Huntsville Brownsferry Rd straightaway	Rolling, unlit straightaway before dangerous 90° bend

**All Ranked ALDOT HIN are represented with squares on AL Hwy 20.*

County HIN #1. Curve along unlit rural Harris Station Road



County HIN #4 & #5. Curve along unlit, rural Huntsville Brownsferry Road with limited shoulder



MADISON COUNTY EQUITY ZONES

Equity Zones and the County HIN

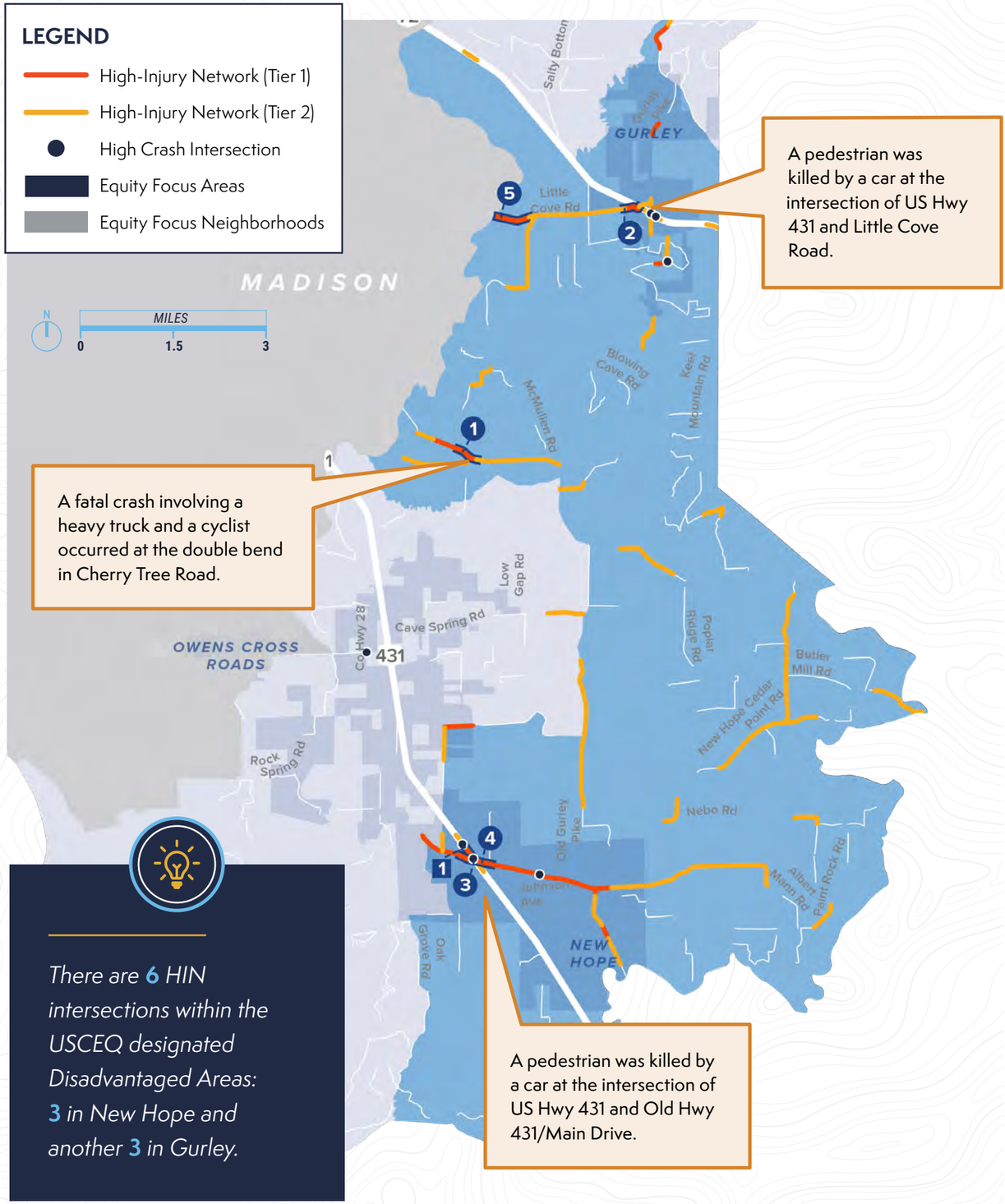
The only Equity Focus Areas in Madison County are located within the Huntsville UA and thus not part of this analysis. Portions of Gurley and New Hope are identified as Climate and Environmental Justice Screening Tool (CEJST) Disadvantaged Areas with roads that are part of the HIN. Areas around Gurley and south to Berkley are also considered Transportation Insecure. High traffic ALDOT corridors in Madison County along US Hwy 72 and US Hwy 431 connect urban Equity Zones in the MPO to other Equity Zones in TARCOG and South Tennessee. These highways divide communities in smaller cities and are restrictive to safe pedestrian or bicycle travel.

RANK	COUNTY HIN SEGMENT	CRASH CONTEXTS
1	Cherry Tree Rd, Joe Cross Rd to Adtran	Heavy truck and speeding
2	Little Cove Road west of Hwy 72	6 crashes at high speed intersection
3	Old Hwy 431 west of US Hwy 431	HIN intersection
4	Main Drive east of US Hwy 431	No pedestrian crossings
5	Little Cove Rd, Flint River to McMullin Rd	Excess speed at bend

RANK	ALDOT HIN SEGMENT	CRASH CONTEXTS
1	US Hwy 431 and Old Hwy 431	Lack of pedestrian crossings

There are no Equity Focus Areas or Equity Focus Neighborhoods in Madison County beyond the Huntsville UA. The HIN includes the US Hwy 431 corridor splitting Hazel Green and Owens Cross Roads in two divided sections without crosswalks or sidewalks. US Hwy 72 divides Gurley, and there are no signalized or pedestrian intersections or sidewalks. Other high-incident county roadways intersect these corridors leaving opportunities for municipal-level improvements. Hobbs Island Road, which winds along the base of Oak Bluff, has numerous precarious bends.

Unsignalized intersection at Little Cove Road; unlit double bend on County Highway 28; lack of crossing facilities at the Old Highway 431 intersection with US Hwy 431.



JACKSON COUNTY EQUITY ZONES

Equity Zones and the County HIN

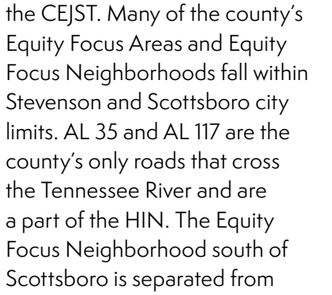
All of Jackson County is a Disadvantaged Area as defined by the CEJST. Many of the county's Equity Focus Areas and Equity Focus Neighborhoods fall within Stevenson and Scottsboro city limits. AL 35 and AL 117 are the county's only roads that cross the Tennessee River and are a part of the HIN. The Equity Focus Neighborhood south of Scottsboro is separated from major destinations in Scottsboro by the confluence of AL 279, US Hwy 72 (both in the HIN), and Roseberry Creek, making it impossible for residents to safely travel northward without a vehicle.

ALDOT HIN

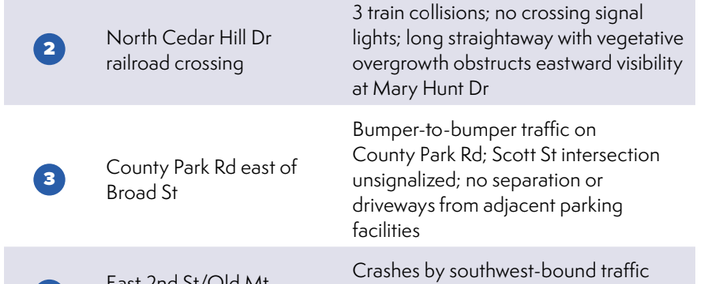
All of the top HIN segments within the Equity Zones are located along US Hwy 72 between CR 279 and Snodgrass Road.

RANK	COUNTY HIN SEGMENT	CRASH CONTEXTS
1	County Park Rd/US Hwy 72	Traffic entering from driveways has no merge lanes; failures to yield on left turns; no margin or shoulder on northbound lanes
2	North Cedar Hill Dr railroad crossing	3 train collisions; no crossing signal lights; long straightaway with vegetative overgrowth obstructs eastward visibility at Mary Hunt Dr
3	County Park Rd east of Broad St	Bumper-to-bumper traffic on County Park Rd; Scott St intersection unsignalized; no separation or driveways from adjacent parking facilities
4	East 2nd St/Old Mt Caramel	Crashes by southwest-bound traffic in bend approaching intersection; conditions reported as unlit
5	South Broad St underpass	Connects to essential services; disconnected shoulders/sidewalks; US Hwy 72 ramp is a high-incident intersection

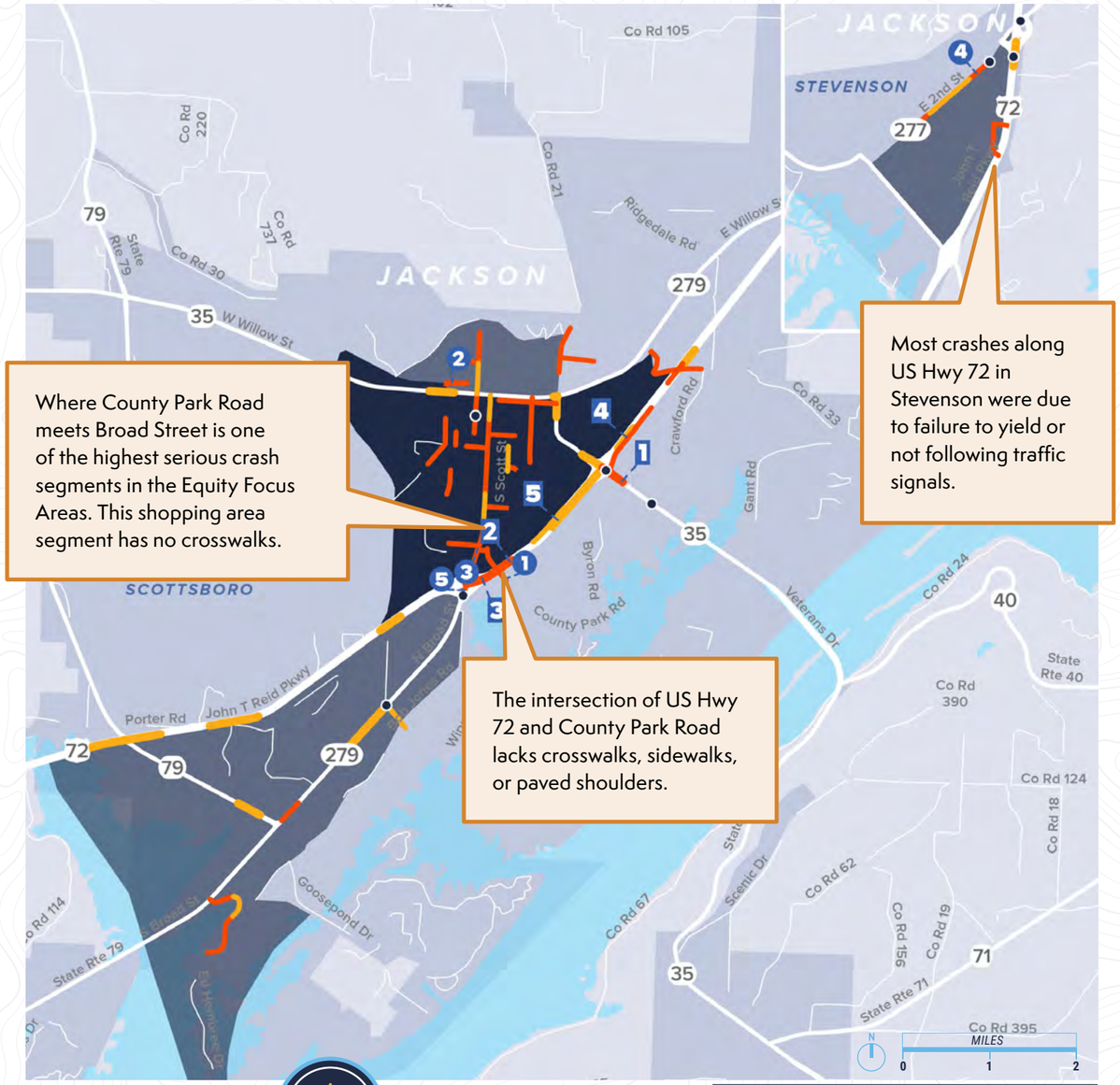
RANK	ALDOT HIN SEGMENT	CRASH CONTEXTS
1	Veterans Drive north to US 72	Failure to yield at signal and making left turns; high crash intersection at ramps
2, 3, 4, 5	US Hwy 72 in Scottsboro	Failure to yield



HIN #1. County Park Rd.



County HIN #5. South Broad Street underpass



*Equity Zones in Jackson County are **2x** as likely to contain segments of the HIN when compared to Non-Equity zones.*

LEGEND

- High-Injury Network (Tier 1)
- High-Injury Network (Tier 2)
- High Crash Intersection
- Equity Focus Areas
- Equity Focus Neighborhoods

MARSHALL COUNTY EQUITY ZONES

Equity Zones and the County HIN

Most of Marshall County falls in an identified CEJST Disadvantaged Area. The TARCOG Equity Focus Area includes the townships of McVille, Marshall, Boaz, and Double Bridges.

Marshall County has a high number of serious crashes. Compared to the rest of the TARCOG region, Marshall's TARCOG Equity Focus Area has the highest density of high crash intersections, most of which are roads crossing US Hwy 431 from Guntersville to Boaz. Nine pedestrians and cyclists have been hit in the Equity Focus Area. An additional eight were hit in Equity Focus Neighborhoods.

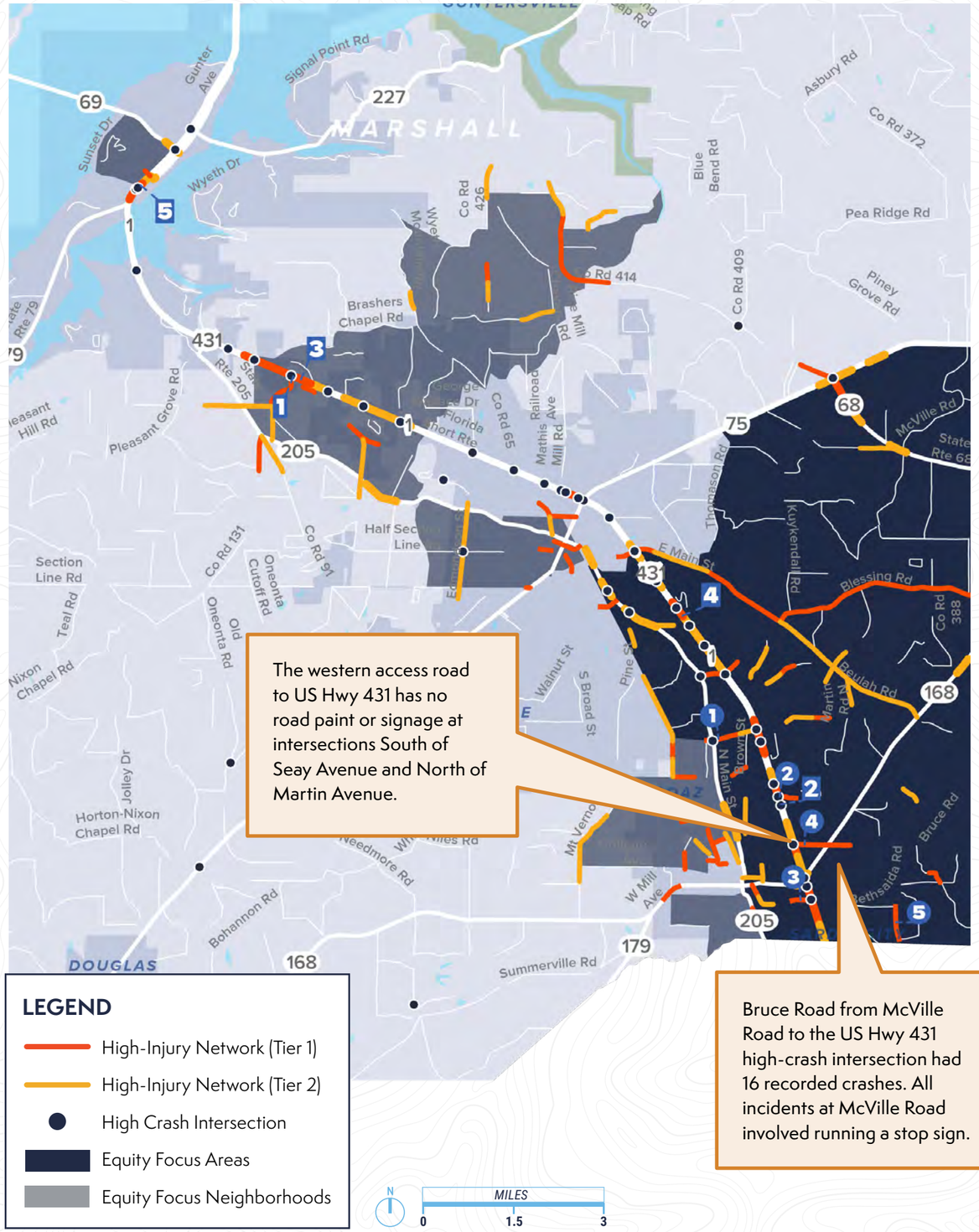
ALDOT HIN

All of the top ALDOT HIN segments in the Equity Zones are along the US Hwy 431 commercial corridor.

RANK	COUNTY HIN SEGMENT	CRASH CONTEXTS
1	Wagner Dr/Boaz Rd	High-crash intersection with five driveways on Wagner Dr
2	Butler Ave/Williams St	High-crash intersections; primary access for Walmart Supercenter; road paint worn off; failure to yield from stop sign and taking left turns
3	Bill B. Dyar Blvd/Snead St	Failure to yield at urban arterial in commercial area; failure to yield to traffic signals at Snead St; no southbound merge lane at US Hwy 431
4	Bruce Rd/McVille Rd	Running stop sign at McVille Rd intersection; no traffic lights crossing US Hwy 431; no paint or signage west of US Hwy 431 on parallel road
5	Sardis Rd	T-type intersection missing warning signage; long straightaway with sudden bending; bend lacks W1-8 signage; speeding

RANK	ALDOT HIN SEGMENT	CRASH CONTEXTS
1, 2, 3, 4, 5	US Hwy 431/Florida Short Route through city limits	Urban arterial in commercial area; failure to yield; speed limits of 50 mph and over; alcohol involved; freight truck crashes; high-crash intersections

*Marshall County has the most HIN intersections **(71)**, and **30%** of them are within the TARCOG Equity Zones. In the county, **6%** of roads are part of the HIN, but **23%** of HIN roads are in the TARCOG Equity Zones.*



DEKALB COUNTY EQUITY ZONES

Equity Zones and the County HIN

Most of DeKalb County falls in an identified CEJST Disadvantaged Area. The two TARCOG Equity Focus Areas in DeKalb County are located on the eastern side of the county, primarily in rural areas east of the Sand Mountain plateau that runs the length of the county. These rural areas are currently not served by the transit services offered by the Council on Aging and Rural Public Transportation Services. Rural roads that are part of the HIN often lack lighting, are located along winding roads with steep slopes, and have trees blocking visibility at turns.

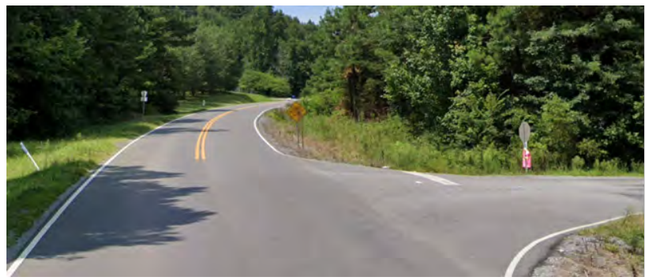
Top ALDOT HIN

The only ALDOT HIN segment with the Equity Zones is State Route 68 just west of Crossville.

RANK	COUNTY HIN SEGMENT	CRASH CONTEXTS
1	Sylvania Rd at Gibson Gap	Limited shoulders; steep banks
2	Dogtown Rd at Colbran Gap	Winding roads, Steep terrain
3	County Rd 85 at Bengis Creek	Straights & bends; high speeds
4	County Rd 85 School Bus Stop	Unlit intersection; high speeds
5	County Rd 27 at Gibson Gap	Unlit tight bend with no shoulder

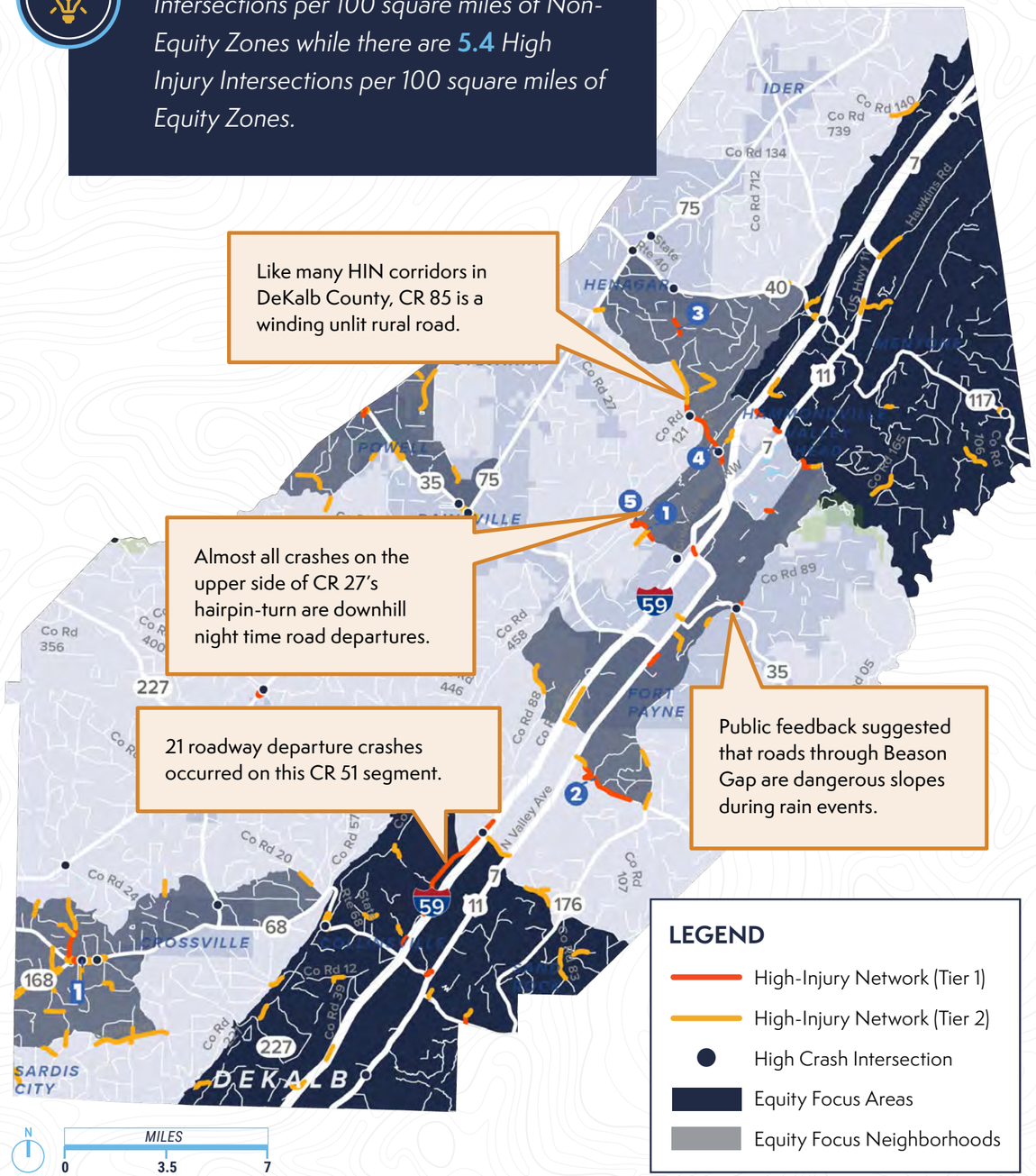
RANK	ALDOT HIN SEGMENT	CRASH CONTEXTS
1	State Route 68 East Kilpatrick	No shoulder, traffic stops or crosswalks

*HIN segments are **7x more prevalent** in DeKalb County's Equity Zones than the Non-Equity Zones.*



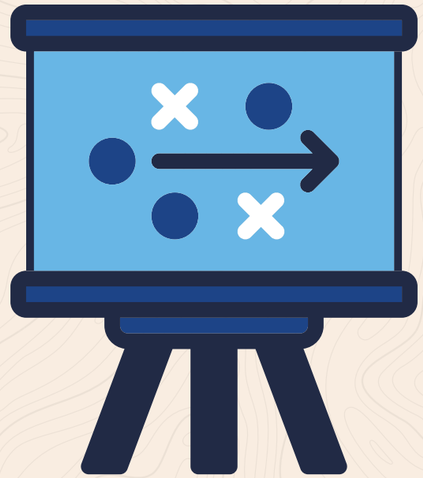
County Road 85 School Bus Stop (Co Rd 952 to Co Rd 749).

*In DeKalb County, there are **2.4** HIN Intersections per 100 square miles of Non-Equity Zones while there are **5.4** High Injury Intersections per 100 square miles of Equity Zones.*



06

Strategies and Action Items



Saving lives and preventing injuries on our roads requires a multifaceted approach to guide how we **design** our roads and towns, use **data**-based tools, **educate** road users, and implement **policies and programs** to keep **road users safe**.

ACTION PLAN STRATEGY

To comprehensively identify solutions for transportation safety challenges and organize recommended strategies, **this action plan's recommendations are organized into the following themes:**

DESIGN AND IMPLEMENTATION
Implement safety countermeasures to create safer roads and encourage safer speeds.

PROGRAMS AND CAPACITY BUILDING
Build capacity to support cross-agency safety efforts.

PLANS AND LAND USE
Integrate roadway safety planning into future plans and land use planning across the region.

EDUCATION AND TRAINING
Revise or create new educational resources to inform the public, technical staff, and decision makers.

POLICIES
Create or revise policies to support safer roadway design, safer speeds, and safer users.

DATA
Create new processes and collaborate with stakeholders to update crash findings, identify trends, and prioritize projects.

In addition, the framework integrates the **Safe System approach** and identifies the corresponding category. Most recommendations fall into multiple categories, as the elements of a Safe System approach are interconnected.

- **SAFE ROAD USERS**
- **SAFE ROADS**
- **SAFE VEHICLES**
- **POST-CRASH CARE**
- **SAFE SPEEDS**

HOW TO READ THE RECOMMENDATIONS

TOPIC:
What is the primary focus area of the recommendation?

OBJECTIVE:
What is the goal of the recommendation?

RECOMMENDATION	Broad recommendation directly related to systemic safety analysis, crash profiles, community concerns, or policy/program gap assessment.
ACTION STEPS	The key steps needed to achieve the recommendation.
TIMELINE	When the action should take place. *Short (< 1yr)* *Medium (1-3 yrs)* *Long (> 3 yrs)*
COLLABORATION NEEDS	Who needs to be involved in the implementation of the recommendation?
IMPLEMENTATION NEEDS	What resources, and at what level, will be needed to implement the recommendation? *None* *Minimal* *Moderate* *Significant*
SAFE SYSTEM CATEGORY	Safe Road Users, Safe Vehicles, Safe Speeds, Safe Roads, Post-Crash Care

DESIGN AND IMPLEMENTATION

Implement safety countermeasures to create safer roads and encourage safer speeds.

RECOMMENDATION	ACTION STEPS	TIMELINE	COLLABORATION NEEDS				IMPLEMENTATION NEEDS			SAFE SYSTEM CATEGORY		
			TARCOG	County Governments	Local Governments	ALDOT	Funding	Staff Capacity	Policy Change	Safe Roads	Safe Users	Safe Speeds
Create a strategy to implement **safety improvements** on the **HIN network**. Identify opportunities for low-cost and effective quick-build projects for rapid implementation.	▸ Coordinate one-on-one meetings with ALDOT and county staff to collaborate together, identify projects along the HIN, and coordinate public engagement. Continue quarterly safety committee meetings to share project updates, grant opportunities, and regional safety needs. ▸ Connect county engineers with ALDOT resources to apply for Road Safety Audits (RSAs) of HIN corridors.	Short	✓	✓	✓	✓		■		✓	✓	✓
Create a process with counties and local agencies to prioritize traffic safety improvements and projects in **equity emphasis areas**.	▸ Coordinate with ALDOT, county, and local jurisdiction staff to adopt the federally designated equity focus areas through local resolutions or internal process changes. ▸ Track and measure how projects are geographically distributed and needs in equity focus areas are being addressed.	Short	✓	✓	✓	✓		■	■		✓	
Improve **bicycle and pedestrian infrastructure** and prioritize **gaps** in the network.	▸ Work with ALDOT and counties to create separated facilities for pedestrians, especially along the HIN. ▸ Identify projects for HSIP funding or TAP applications. Meet quarterly to coordinate on projects and grant applications.	Short	✓	✓	✓	✓	■	■		✓	✓	
Create a vulnerable road users **(VRU) toolkit** to provide best practices, action items, and processes to implement VRU countermeasures and support local agencies with design decision.	▸ Seek SS4A Supplemental funds to hire consultant to work through a process and toolkit development.	Short	✓	✓	✓	✓		■		✓	✓	
Coordinate with local jurisdictions and ALDOT to **improve roadway lighting**, **clear sight lines**, and **install highly reflective paint** especially on the High Injury Network.	▸ Pilot highly reflective paint and lighting at locations along the HIN. ▸ Evaluate the success of this effort by documenting crashes after the improvements.	Short	✓	✓	✓	✓	■	■		✓		
Implement safety countermeasures along **curves and roads** with narrow shoulders. Coordinate with the counties to assess **clear zone and shoulder width requirements.**	▸ Pilot improvements along curves and roads with narrow shoulders along the HIN. ▸ Evaluate the success of this effort by documenting crashes after the improvements.	Short	✓	✓	✓	✓	■	■		✓		

PLANS AND LAND USE

Integrate roadway safety planning into future plans and land use planning across the region.

RECOMMENDATION	ACTION STEPS	TIMELINE	COLLABORATION NEEDS				IMPLEMENTATION NEEDS			SAFE SYSTEM CATEGORY		
			TARCOG	County Governments	Local Governments	ALDOT	Funding	Staff Capacity	Policy Change	Safe Roads	Safe Users	Safe Speeds
Standardize the application of High Injury Network findings for future projects and development.	▸ Incorporate the High Injury Network into all future RPO planning projects and the county's development review process. ▸ Create a standard process across the five counties to access the latest CARES crash data.	Long	✓	✓	✓		Low	Medium	Low	✓	✓	✓
Create a **5-year plan** with each of the counties to identify priority projects and next steps for funding and implementation.	▸ Coordinate with each of the counties to develop and update 5-year plans and list of roadway safety projects. Collaborate on grant applications.	Long	✓	✓		✓	Low	Medium	Low	✓	✓	✓
Collaborate with local jurisdictions to identify **high-speed corridors** and create a **traffic calming plan**. Track, measure, and document success as a pilot or case studies for other agencies. Install more speed feedback signs.	▸ Consider joint funding/leveraging of dollars to install speed feedback signs at typical speeding locations. ▸ Pilot traffic calming studies and implementation through SS4A supplemental funds.	Long	✓	✓	✓		Medium	Medium	Medium	✓	✓	✓
Coordinate **access management** policies across counties and with ALDOT.	▸ Create a thorough review of all existing access management policies in the region and establish a working group to assess existing concerns, barriers, case studies, and next steps for access management policy changes.	Long	✓	✓	✓	✓	Low	High	Medium	✓		
Analyze barriers within the counties to compact development and assess **existing and future land use.**	▸ Develop a region-wide land use study to assess the interplay between transportation and land use context. Work with local agencies to address roadway safety in comprehensive plans and future land use decision.	Long	✓	✓	✓		Low	High	Medium	✓		
Create a **lighting inventory** and identify opportunities to enhance street lighting.	▸ Collaborate with county and local staff to identify project zones of concern where lighting is limited. ▸ Consider SS4A supplemental funding to conduct this task with a consultant's assistance.	Long	✓	✓	✓	✓	Medium	Medium	Low	✓	✓	

POLICIES

Create or revise policies to support safer roadway design, safer speeds, and safer users.

RECOMMENDATION	ACTION STEPS	TIMELINE	COLLABORATION NEEDS				IMPLEMENTATION NEEDS			SAFE SYSTEM CATEGORY		
			TARCOG	County Governments	Local Governments	ALDOT	Funding	Staff Capacity	Policy Change	Safe Roads	Safe Users	Safe Speeds
Draft a **Complete Streets** ordinance, policy, and standards that can be adopted by local jurisdictions.	▸ Create a **template resolution** for counties to adopt a **Complete Streets policy**. ▸ Establish a working group for accountability and stakeholder engagement across departments and interests (downtown redevelopment, economic development, advocates, etc.)	›››	✓	✓	✓	✓	▯▯▯	▮▮▯	▮▮▯	✓	✓	✓
Coordinate with counties and municipalities to **adopt and implement** the regional safety action plan.	▸ Create a **template resolution** for counties to adopt a **crash reduction goal**. ▸ Track which counties and municipalities have adopted resolutions.	›››	✓	✓	✓		▯▯▯	▮▮▯	▮▮▯	✓	✓	✓
Develop a working group to explore how to implement **automated speed enforcement** in the region.	▸ Create a pilot program of automated speed enforcement and measure results. ▸ Collaborate with local universities on projects and research.	›››	✓	✓	✓	✓	▮▯▯	▮▮▯	▮▯▯			✓
Assess and identify opportunities for **lowering speed limits** especially within school zones. **Develop speed management plans** for individual jurisdictions especially where there are conflicts between modes (vehicular vs. walking/biking)	▸ Develop a working group of technical staff and decision makers to collaborate on assessing and revising speed limits.	›››	✓	✓	✓	✓	▮▯▯	▮▮▯	▮▮▮			✓
Assemble a working group focused on **rightsizing enforcement** and exploring effective alternatives to traffic fees and fines .	▸ Explore new techniques such as requiring ticketed individual to complete **educational modules** instead of paying fines and fees which can result in a number of inequitable interrelated harms.	›››	✓	✓	✓		▮▯▯	▮▮▯	▮▮▮		✓	

PROGRAMS AND CAPACITY BUILDING

Build capacity to support cross-agency safety efforts.

RECOMMENDATION	ACTION STEPS	TIMELINE	COLLABORATION NEEDS				IMPLEMENTATION NEEDS			SAFE SYSTEM CATEGORY		
			TARCOG	County Governments	Local Governments	ALDOT	Funding	Staff Capacity	Policy Change	Safe Roads	Safe Users	Safe Speeds
Hire or appoint a **Safety Action Plan Coordinator** to lead implementation efforts and measure progress.	▸ Continue the **Safety Steering Committee** to coordinate regional Safety Action plan efforts. ▸ Release an **annual Safety Action Plan report** to communicate progress to stakeholders and track progress.	›››	✓	✓	✓	✓	▮▯▯	▮▮▯	▮▮▮	✓	✓	✓
Continue to **build staff capacity across all sectors** of roadway safety including local **law enforcement**.	▸ Support local law enforcement in attracting and hiring more officers. ▸ Coordinate with nearly jurisdictions to assess their hiring and incentive program.	›››	✓	✓	✓		▮▮▯	▮▯▯	▮▮▯	✓	✓	✓
Continue to **gather public feedback** and empower the public to share roadway safety concerns.	▸ Conduct regular pop-up events along the High Injury Network to connect with and educate **community members** on safety initiatives. ▸ Create a **Community Ambassador Program** that empowers local advocates and leaders to voice their communities' concerns.	›››	✓	✓	✓		▮▯▯	▮▮▯	▮▮▮	✓	✓	✓
Develop a **model traffic calming program** that counties and municipalities throughout the TARCOG region can adopt.	▸ Develop a working group of technical staff and decision makers to collaborate on traffic calming techniques. ▸ Create a toolbox of adopted traffic calming measures and success stories.	›››	✓	✓	✓	✓	▯▯▯	▮▮▯	▮▮▯			✓
Create a region-wide **Safe Routes to School** program.	▸ Develop a template for the counties and cities to develop a **Safe Routes to School program** and curriculum.	›››	✓	✓	✓		▮▯▯	▮▮▯	▮▮▮	✓	✓	

EDUCATION & TRAINING

Revise or create new educational resources to inform the public, technical staff, and decision makers.

RECOMMENDATION	ACTION STEPS	TIMELINE	COLLABORATION NEEDS				IMPLEMENTATION NEEDS			SAFE SYSTEM CATEGORY		
			TARCOG	County Governments	Local Governments	ALDOT	Funding	Staff Capacity	Policy Change	Safe Roads	Safe Users	Safe Speeds
Develop an education program for **new and young drivers** and testing for **older drivers**.	▶ Coordinate with **high schools, public health departments, and the Alabama Law Enforcement Agency (ALEA)** to collaborate on younger driver education programs and testing. ▶ Coordinate with ALEA on older driver assessment and testing.	›››	✓	✓			▯▯▯	▮▮▮	▮▮▮		✓	
Implement a **safety awareness campaign** and **develop resources for an educational program** for safety practitioners and decision/policy makers.	▶ Develop roadway safety education materials such as **yard signs and billboard messages**. ▶ Educate local jurisdictions about the Safety Action Plan and provide additional support for those seeking to adopt the Plan through local resolutions. ▶ Create resources, handouts, and talking points about roadway safety concerns and needs for each county to support advocates and **inform decision makers and elected officials**.	›››	✓	✓			▮▮▯	▮▮▮	▮▯▯		✓	
Support local jurisdictions seeking to access **state, regional, or federal funds** for improving roadway safety.	▶ Provide training and resources to inform local agencies how and when to apply for **SS4A**, **Highway Safety Improvement Program (HSIP)**, **Local Roads Safety Initiative (LRSI)**, or other safety implementation funding.	›››	✓	✓	✓	✓	▯▯▯	▮▮▯	▯▯▯		✓	
Develop a **training series for professionals** who impact roadway safety (i.e. crossing guards, police, emergency responders, truck drivers, bus drivers).	▶ Develop focus groups around these topic areas and identify the types of training.	›››	✓	✓		✓	▮▯▯	▮▮▯	▯▯▯	✓	✓	
Create a training program for county engineers to access and utilize the **Critical Analysis Reporting Environment (CARE)** safety portal.	▶ Develop an adopted schedule and process within the region for downloading and assessing crash data from CARE. Coordinate with the **Center for Advanced Public Safety (CAPS)** at the University of Alabama, **Auburn LTAP program**, **ATI**, and **FHWA** on training opportunities and new technologies.	›››	✓	✓	✓	✓	▯▯▯	▮▮▯	▮▯▯		✓	

DATA

Create new processes and collaborate with stakeholders to update crash findings, identify trends, and prioritize projects.

RECOMMENDATION	ACTION STEPS	TIMELINE	COLLABORATION NEEDS				IMPLEMENTATION NEEDS			SAFE SYSTEM CATEGORY		
			TARCOG	County Governments	Local Governments	ALDOT	Funding	Staff Capacity	Policy Change	Safe Roads	Safe Users	Safe Speeds
Regularly update (every 2-3 years) the **High Injury Network** based on the most recent data available and **update this Safety Action Plan** every 5 years to track progress and meet evolving needs.	▶ Identify a TARCOG staff member or team of county engineers who will be assigned to download data from the **CARE safety portal**. ▶ Coordinate CARE safety **portal training**.	❯❯❯	✓	✓	✓	✓	▮▯▯	▮▮▮	▮▯▯		✓	
Install **near miss cameras** at the most high risk intersections in the region.	▶ Coordinate with the ALDOT Traffic and Safety Operations Section, Design Bureau. ▶ Develop pilot projects and studies to gather data and assess success. Collaborate with colleges and universities to establish studies.	❯❯❯	✓	✓	✓	✓	▮▮▯	▮▮▯	▮▯▯		✓	
Collaborate with police departments to develop training resource for police officers on best practices for **reporting roadway crashes**.	▶ Meet with police chiefs in each of the counties and provide training on current reporting techniques on a yearly basis or when new staff are hired. ▶ Provide training and establish a working group of law enforcement professionals to keep in touch on the latest reporting technology. Share current resources on the Mobile Officer Virtual Environment (**MOVE**).	❯❯❯	✓	✓	✓		▮▯▯	▮▮▮	▮▯▯		✓	
Establish a **Rapid Response Team** to review fatal crashes and implement preventative actions.	▶ Develop a process with staff to **visit the site of the fatal crash** to gather data and learn more about the circumstances. Include ALDOT when a fatal crash occurs within TARCOG on a state-owned and/or maintained roadway. ▶ Meet monthly to review fatal crash cases investigated by the police department. ▶ Identify potential actions the local agency or county can take at the crash site or other similar locations to address safety issues. Make recommendations to meet safety goals. ▶ Provide recommendations to elected leadership and head of public works.	❯❯❯	✓	✓	✓	✓	▮▯▯	▮▮▮	▮▯▯	✓	✓	

07

Countermeasure Toolboxes

COUNTERMEASURE TOOLBOXES

While the HIN findings provide hot-spot locations for future project locations or road safety audits, a systemic and proactive approach to roadway design will create lasting change in the TARCOG region. To aid technical staff with identifying countermeasures, **TARCOG and the project team developed five countermeasure toolboxes:**

SPEED MANAGEMENT

BEHAVIORAL
Alcohol & Young Drivers

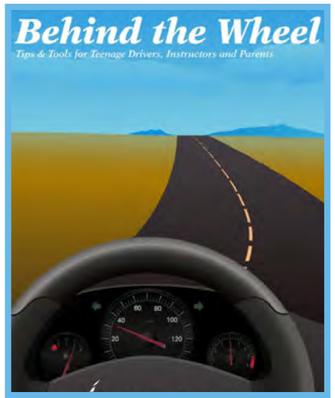
BICYCLE AND PEDESTRIAN

RURAL ROADWAYS

URBAN AND SUBURBAN ROADWAYS

EXAMPLE COUNTERMEASURES

Auto Speed Enforcement



Educational Resources

High Visibility Crosswalk

Dynamic Sequential Chevrons

Signal Adjustments

SOURCES:

The countermeasures provided here can be found in FHWA's Proven Safety Countermeasures, the Alabama Speed Management Manual, the ALDOT Access Management Manual, and the Alabama Strategic Highway Safety Plan 4th addition.

Alabama Speed Management Manual: Section 2.0

FHWA Proven Safety Countermeasures

Alabama Speed Management Manual: Section 6.1.3

Alabama Speed Management Manual: Section 6.2.2

Alabama Speed Management Manual: Section 6.2.3

Alabama Speed Management Manual: Section 6.3.1

Alabama Speed Management Manual: Section 6.3.4

Alabama Strategic Highway Safety Plan 4th Ed: Roadway/Lane Non-Motorists (Vulnerable Road Users): Strategy 3

Alabama Strategic Highway Safety Plan 4th Ed: Impaired Driving: Strategies 1 and 2

Alabama Strategic Highway Safety Plan 4th Ed: Impaired Driving: Strategy 1

Alabama Strategic Highway Safety Plan 4th Ed: Roadway/Lane Departure Crashes: Strategy 1

Alabama Strategic Highway Safety Plan 4th Ed: Roadway/Lane Departure Crashes: Strategy 2

Alabama Strategic Highway Safety Plan 4th Ed: Intersection Crashes: Strategy 1

Alabama Strategic Highway Safety Plan 4th Ed: Intersection Crashes: Strategy 2

ALDOT Access Management Manual, Section 2.8.4.1

ALDOT Access Management Manual Section 2.8.2

Alabama Strategic Highway Safety Plan 4th Ed: Appendix D

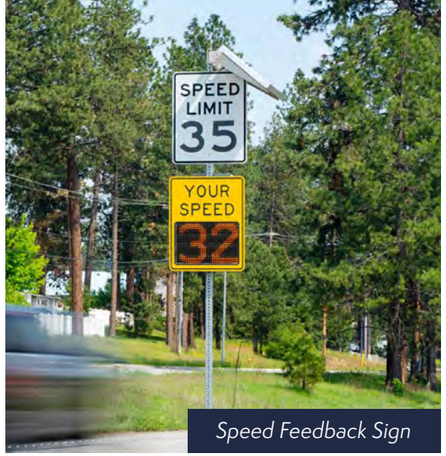
Alabama Strategic Highway Safety Plan 4th Ed: Young Drivers: Strategy 1

HOW TO READ THE COUNTERMEASURES

CRASH REDUCTION FACTOR (CRF)	The CRF is the expected percent decrease in crashes of a given type and severity.
CRASH TYPE	Single-vehicle crash; Not at an intersection; Fixed object crash; Rear End; Run off Road, Wet Road; Angle; Right Turn, Other; Left Turn; Red Light Run
LEVEL OF EFFORT	On average, is the complexity of implementing the countermeasure 1– Low cost, easy install; 2– Low cost, difficult install; 3–Medium cost, moderate install; 4– High cost, easy install; 5– High cost, difficult install
COST RANGE	On average, is the cost of maintaining this countermeasure considered low, medium, or high? Varies; $: <$100,000; $$: $100,000 - $1,000,000; $$$: >$100,000
NUMBER OF LANES INVOLVED	2-lane, local roads; Both 2 and 4-lane roads
STUDY AREA	Rural; Suburban; Urban Principal Arterials
QUICK BUILD OPPORTUNITY	Could a "quick build" version of this countermeasure be implemented? No; Yes; Varies
DELIVERY TIMELINE	On average, how long will it take to implement this countermeasure? Under 6 Months; 6 to 9 Months; 9 to 12 Months; 12 to 18 Months; More than 18 Months

Speed Management Toolbox

Speeding or driving too fast for conditions was the primary contributing circumstance in **23% of fatal crashes.**



Speed Feedback Sign

COUNTERMEASURES

Set Posted Speed Limit 5 mph below Engineering Recommendations

Resource: 10249

Crash Reduction
40.0%

Level of Effort
1–Low Cost and Easy to Install

Cost Range
Cost is negligible; cost of study is most of cost.

2-lane or 4-lane
2&4
Both 2 and 4-lane roads

Study Area
Rural

Quick Build Opportunity
No; due to policy change requirements

Delivery Timeline
Within 6 months

Install Dynamic Speed Feedback Sign

Resource: 6887

Crash Reduction
5.0%

Level of Effort
1–Low Cost and Easy to Install

Cost Range
$15,000 / each

2-lane or 4-lane
2&4
Both 2 and 4-lane roads

Study Area
Rural

Quick Build Opportunity
Yes

Delivery Timeline
Within 6 months

COUNTERMEASURES

Implement Automated Speed Enforcement Cameras

Resource: 2912

Crash Reduction
48.0%

Level of Effort
3–Medium Cost & Moderate Install

Cost Range
Camera cost to install varies by city and operator.

2-lane or 4-lane
2&4
Both 2 and 4-lane roads

Study Area
Urban Principal Arterials

Quick Build Opportunity
Yes

Delivery Timeline
Between 9 to 12 Months

Mobile Speed Enforcement Cameras

Resource: 7582

Crash Reduction
20.1%

Level of Effort
3–Medium Cost & Moderate Install

Cost Range
Cost is negligible; cost of study is most of cost.

2-lane or 4-lane
2&4
Both 2 and 4-lane roads

Study Area
Urban Principal Arterials

Quick Build Opportunity
Yes

Delivery Timeline
Between 9 to 12 Months

Systemic Installation of Speed Humps on Local, Low Speed Roads

Resource: 132

Crash Reduction
40.0%

Level of Effort
1–Low Cost and Easy to Install

Cost Range
$2000 / each

2-lane or 4-lane
2
2-lane, local roads

Study Area
Urban and Suburban

Quick Build Opportunity
No

Delivery Timeline
Between 6 to 9 Months

Behavioral Toolbox

More than 1 in 3 crashes (39%) involved a driver between the ages of 15 and 25, but that age group only makes up **13% of the region's total population**.

20% of all injury crashes involved a driver over the age of 65, despite that demographic only making up **16% of the region's population**.

In 14% of crashes involving a serious or fatal injury, the at-fault driver was **under the influence of alcohol or drugs.**

COUNTERMEASURES

YOUNG DRIVER EDUCATION

Education Programs for Young Drivers

Study Area

TARCOG could consider offering their own education programs for young drivers. The Alabama Department of Public Health offers some programs related to teen driving, including the #UrKeys2Drv Teen Driver Summit. Note, the National Highway Traffic Safety Administration (NHTSA) lists these kinds of program as being under evaluated, but could still be effective if implemented well.

The state of Alabama has already implemented a Graduated Driver Licensing program, which is rated as being highly effective by the NHTSA.

DUI PREVENTION

Alcohol Vendor Compliance Check	TARCOG could consider creating a compliance check program to ensure that alcohol vendors are not selling alcohol to individuals under the drinking age.
Alcohol Problem Assessment and Treatment Programs	TARCOG could consider creating programs that could help people who are struggling with alcohol addiction or other alcohol related issues, which could in turn lead to a decrease in the instance of driving under the influence.
Alternative Transportation Program	TARCOG could consider creating a program that would provide alternative transportation options to drivers who are unsafe to drive due to age, health, disability, or being under the influence of alcohol or drugs. This could improve mobility for many people within the TARCOG region while potentially reducing the rate of driving under the influence.

COUNTERMEASURES

DUI LAWS AND ENFORCEMENT

Lower (Blood Alcohol Concentration) BAC Limits	Lowering BAC limits could encourage people to reduce the amount of alcohol they drink
Alcohol Impaired Driving Law Review	This would likely be a larger, state-wide initiative. By reviewing the current alcohol impaired driving laws that are currently in effect, a state or local government could confirm the effectiveness of their laws and make changes where necessary.
Publicized Sobriety Checkpoints and High Visibility Saturation Patrols	Enforcement of alcohol impaired driving laws that is widely visible and known to the public could decrease the rates of driving under the influence of alcohol by increasing the perceived and actual likelihood of being penalized for breaking said laws.
BAC Test Refusal Penalties	Creating penalties for refusing BAC tests could improve compliance and thus the enforcement of laws to prevent driving under the influence of alcohol.

RESOURCES:

- Young Driver Countermeasures
- Safe Teen Driving PSA
- Ur Keys 2 Drv Teen Driver Summit
- Alcohol Impaired Driving Countermeasures
- Drive Safe Alabama

Ur Keys 2 Drv Educational Day (Source: ALDOT)

Bicycle and Pedestrian Toolbox

23.6% **of pedestrian crashes are fatal.**

Pedestrian-involved crashes have a **23.6 times higher chance of resulting in a fatality** than crashes with just motorists.

Pedestrian Refuge

COUNTERMEASURES

FACILITIES

Convert Traditional Bike Lane to Separated Bike with a Blend of Flexi-post and other Vertical Elements

Adding Flexi-posts or other vertical elements between a bike lane and adjacent motor vehicle travel lanes should improve the safety of cyclists by acting as a barrier.

Resources: 11301, 9244, 3092

Crash Reduction
36.0% Urban
14% 4-lane Arterial
63% Bicycle Blvd

Level of Effort
2-3 Depending on available space

Cost Range
$300,000 / Mile

Quick Build Opportunity
Yes

Delivery Timeline
Between 6 to 9 Months

Install Sidewalk

Installing sidewalks improves connectivity for pedestrians and improves safety by giving pedestrians a designated space to walk in.

Resource: 11246

Crash Reduction
40.2%

Level of Effort
3, 4, or 5 depending on existing conditions

Cost Range
$350,000 / Mile

Quick Build Opportunity
No

Delivery Timeline
Between 9 to 12 Months

COUNTERMEASURES

ROADWAY CORRIDOR TREATMENTS

"Classic Road Diet" - Convert 4-lane Undivided Road to 2 lanes + TWLTL

Reduce the number of lanes through pavement marking or hardscape changes. May provide a traffic calming effect.

Resource: 10376

Crash Reduction
38.7%

Level of Effort
3, 4, or 5 depending on existing conditions

Cost Range
$350,000 / Mile

Quick Build Opportunity
No

Delivery Timeline
Varies depending on existing conditions. Could range from 12 months to more than 18 months.

Upgrade Existing Markings to Wet-reflective Pavement Markings

Wet-reflective pavement markings improve the visibility of pavement markings during dark and wet conditions.

Resource: 10080

Crash Reduction
25.4%

Level of Effort
1–Low cost and easy to install

Cost Range
$65,000 / Mile

Quick Build Opportunity
Yes

Delivery Timeline
Within 6 months

Presence of a Pedestrian Crosswalk at Midblock Locations

Midblock crosswalks alert drivers to the presence of a designated pedestrian crossing. It may also concentrate midblock pedestrian crossings to the crosswalk locations instead of occurring at random locations along the block.

Resource: 11181

Crash Reduction
18.0%

Level of Effort
1-2 Depending on existing conditions

Cost Range
$10,000 / Mile

Quick Build Opportunity
Varies

Delivery Timeline
Between 6 to 9 months

COUNTERMEASURES

INTERSECTION TREATMENTS

Install a Pedestrian Hybrid Beacon (PHB or HAWK) or Rectangular Rapid Flashing Beacon (RRFB)

Pedestrian hybrid beacons are actuated traffic signals that stop car traffic to allow pedestrians to more safely cross the street.

Resources: 10608, 11168

Crash Reduction
45% - 70%

Level of Effort
4 to 5 depending on existing conditions

Cost Range
$150,000 / Crossing

Quick Build Opportunity
No

Delivery Timeline
Between 9 to 12 months

Install Pedestrian Countdown Timer

Pedestrian countdown timers provide a pedestrians with a countdown before the pedestrian signal displays "Don't Walk". A study by the FHWA found that while pedestrian safety is the main focus of pedestrian countdown timers, they also have an impact on driver behavior that leads to a decrease in the number of rear end crashes.

Resource: 10117

Crash Reduction
12.5%

Level of Effort
1–Low cost and easy to install

Cost Range
$2,000 / Crossing

Quick Build Opportunity
Yes

Delivery Timeline
Within 6 months

Install Raised Median with Marked Crosswalk (Uncontrolled)

Pedestrian hybrid beacons are actuated traffic signals that stop car traffic to allow pedestrians to more safely cross the street.

Resources: 175, 22

Crash Reduction
46.0%

Level of Effort
4 to 5 depending on existing conditions

Cost Range
$40,000 / 100 Feet

Quick Build Opportunity
No

Delivery Timeline
Between 12 to 18 Months

COUNTERMEASURES

Increase Length of Signal Phases to Allow Pedestrians More Crossing Time and Employ Leading Pedestrian Intervals (LPIs)

Increase the length of signal phases in order to provide increased crossing time for pedestrians.

Resources: 5252, 9905

Crash Reduction
15 - 51%

Level of Effort
1–Low cost and easy to install

Cost Range
Only operational change

Quick Build Opportunity
Yes

Delivery Timeline
Within 6 months

LIGHTING

Install Illumination

Install lighting along a corridor or at an intersection to improve visibility for all roadway users.

Resources: 574, 575

Crash Reduction
20% - 74%

Level of Effort
1 to 3 if filling in existing lighting gaps

3 to 5 for new lighting installations

Cost Range
$450,000 / Mile

$80,000 / Intersection

Quick Build Opportunity
No

Delivery Timeline
Within 6 Months to fill existing lighting gaps.

9 to 12 Months for new lighting installations

Rural Roadways Toolbox

Crashes were more likely to result in a fatality or serious injury on rural roadways, which are defined as roadways outside an incorporated town or city.

Rural roadways account for

65% **of fatal crashes** and

66% **of serious injury crashes.**

Traffic Approaching Warning Sign

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
ROADWAY CORRIDOR TREATMENTS						
Install Sequential Dynamic Chevrons Sequential dynamic chevron signs warn drivers to the presence and direction of horizontal curves. They include solar powered flashing lights to improve their visibility to drivers. **Resource**: 600	60%	Non-Intersection	1–Low Cost & Easy Install	Yes	$6,500 / Each	Within 6 months
Upgrade Existing Markings to Wet-reflective Pavement Markings Wet-reflective pavement markings improve the visibility of pavement markings during dark and wet conditions. **Resource:** 10080	25.4%	Run off Road, Wet Road	1–Low Cost & Easy Install	Yes	$65,000 / Mile	Within 6 months
Install New Fluorescent Curve Signs Or Upgrade Existing Curve Signs To Fluorescent Sheeting Upgrading signs to fluorescent sheeting makes them more reflective and therefore improves their visibility to drivers. **Resource:** 2434	35.0%	ALL	1–Low Cost & Easy Install	Yes	$2,000 / Curve	Within 6 months
Widen Paved or Unpaved Shoulders to 5' Paved Upgrading to a wider, paved shoulder can provide drivers with more space to regain control of a vehicle if they begin to leave the road. A paved shoulder provides better traction than an unpaved shoulder **Resources:** 5410, 5403	72.0%	ALL	3-4 but possible to widen during maintenance		$20,000 / Mile for 2' Shoulder; $150,000 - $250,000 / Mile for 5' Shoulders	Between 9-12 Months
Install Wider Edgelines (4-in to 6-in) Install wider edgelines to improve their visibility and more clearly mark the edge of the road. **Resource:** 4746	36.8%	Single Vehicle	1–Low Cost & Easy Install	Yes	$65,000 / Mile	Between 12 to 18 Months
Install Shoulder Rumble Strips and Centerline Rumble Strips Install shoulder and/or centerline rumble strips to provide warning to drivers that they are encroaching into an oncoming lane. **Resource:** 9703, 5566, 9703	7.6% - 14%	Fixed Object, Run off Road	1–Low Cost & Easy Install	Yes	$1,500 / Mile	Within 6 months
Install High Friction Surface Treatment High Friction Surface Treatment involves the application of very-high quality aggregate within a polymer binder in order to improve pavement friction. This should help motorists maintain better control of their vehicle in dry and wet driving conditions **Resource:** 11445	44.0%	Run off Road	High Cost & Easy Install	Yes	$40 / Square Yard	Between 6 to 9 months

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
Install Safety Edge A Safety Edge is a shoulder treatment provides a slope down to the ground to prevent a vehicle's tires from suddenly dropping off when it leaves the road. Also makes it easier for tires to get back onto the road. **Resource**: 9660	10.8%	Run off Road	1–Low Cost and Easy Install if done in conjunction with other resurfacing projects.	Yes	$15,000 / Mile	Between 6 to 9 months
Remove or Relocate Fixed Objects Outside of the Clear Zone If possible, remove objects from the clear zone that present collision hazards to drivers. **Resource**: 2724	97.6%	Fixed Object	1 to 5 depending on the type and frequency of the objects to be relocated or removed	Varies	Varies	Varies depending on the object to be relocated
Install Roadside Barrier Roadside barriers can be installed to protect vehicles from leaving the road and to protect objects that cannot be removed from the clear zone. **Resource**: 6402	51.0%	Run off Road	1 to 3 depending on the location and required length of the roadside barrier	Yes	$20,000 / 100 Feet	Could vary from 6 to 12 months depending on length and location of roadside barrier
Install Crash Cushion Crash cushion refers to several devices that can be used to protect objects that cannot be removed from the clear zone or protected by a barrier. These devices function by reducing the severity of an impact with an object. **Resource**: 55	69.0%	Fixed Object	1–Low Cost & Easy Install	Yes	$45,000 / Each	Within 6 Months
Install Illumination Install lighting along a corridor or at an intersection to improve visibility for all roadway users. **Resources:** 574, 575	20-74%	ALL	1 to3 if filling in existing lighting gaps; 3 to 5 for new lighting installations	No	$45,000 / Each	Within 6 Months

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
Install Any Type of Median Barrier Median barriers are designed to safely prevent vehicles from crossing the median an colliding with oncoming traffic. **Resources:** 42, 43	30 - 43%	ALL	1–Low Cost & Easy Install	Yes	$60,000 / 100 Feet	Could vary from 6 to 12 months depending on length and location of median barrier
INTERSECTION TREATMENTS						
Provide Flashing Beacons at Stop Controlled Intersections Flashing beacons at stop controlled intersections can alert drivers to the presence of a stop controlled intersection so that they can prepare to stop or look for cross traffic. **Resource:** 450	16.0%	Angle	1–Low Cost & Easy Install	Yes	$6,500 / Each	Within 6 Months
Improve Angle of Channelized Right Turn Lane The angle of a channelized right turn lane greatly impacts the line of sight drivers have as they try to enter traffic. Changing the lane alignment to improve driver line of sight line of sight may improve safety at these locations. **Resources:** 8431, 8498, 8497	60.3%	Right Turn, Other	2-3 Depending on the location	No	Varies	Between 6 to 9 Months
Install Transverse Rumble Strips on Stop-Controlled Approaches in Rural Areas Transverse rumble strips provide tactile feedback to drivers to alert them to changing roadway conditions. In this case, they can alert drivers to the presence of a stop controlled intersection. **Resource:** 4049	25.0%	Angle	1–Low Cost & Easy Install	Yes	$600 / Set	Within 6 Months

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
Install a Traffic Signal Convert a stop-controlled intersection to a signalized intersection. **Resource:** 325	44.0%	ALL	5–High Cost & Difficult Install	No	$400,000/ Intersection	More than 18 Months
Increase Triangle Sight Distance Roadside objects such as signs, foliage, buildings, and even the roadside terrain can all block the view of a driver at an intersection. Relocating or removing these objects can improve safety by improving visibility **Resources:** 307, 308	11 - 48%	ALL	1 to 5 depending on the object that is blocking visibility at the intersection	Varies	Varies	Delivery time would vary greatly depending on the object to be removed or relocated
Install Dynamic All-Red Extension The purpose of a Dynamic All-Red Extension system is to detect when a vehicle may violate the red signal. In these cases, the all-red phase can be extended to allow the vehicle to safely cross the intersection before allowing cross traffic to flow **Resource:** 11227	7.0%	OTHER	3–Medium Cost & Moderate Install	Yes	$5,000 / Approach	Between 9 to 12 Months
Provide "Stop Ahead" Pavement Markings and Signs "Stop Ahead" pavement markings and signs may warn and prepare drivers traveling through a stop controlled intersection **Resource:** 9076	71.0%	Angle	1–Low Cost & Easy Install	Yes	$1,000 / Approach	Within 6 Months

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
Improve Stop Sign Retroreflectivity Improve the visibility of stop signs by upgrading them to type XI sheeting. **Resource:** 6052	9.4%	ALL	1–Low Cost & Easy Install	Yes	$300 / Sign	Within 6 Months
Implement Systemic Signing and Marking Improvements at Stop-controlled Intersections and Install Intersection Conflict Warning Systems (ICWS) This countermeasure includes the following: ▸ Double-Up Intersection Warning, Yield, or Stop Signs. Install Retroreflective strips on sign posts. ▸ Place minor road stop bars within 4 to 10 ft from the edge of the nearest through lane along the major road. Install yield bars on all lanes having yield conditions. ▸ Add dashed white edge-lines along the major road through the intersection. ▸ Remark all existing stop bars, crosswalks, arrows and word messages Remark all turn lanes to include the pattern of lane arrows and text marking ""ONLY"" based on the turn lane length. **Resources:** 8878, 8442	16.7%	Angle	1–Low Cost & Easy Install	No	$25,000 / Intersection	Within 6 Months
Provide Intersection Illumination Install lighting along a corridor or at an intersection to improve visibility for all roadway users. **Resource:** 2376	32.6%	Angle	1 to 3 if filling in existing lighting gaps 3 to 5 for new lighting installations	No	$80,000 / Intersection	Within 6 Months to fill existing lighting gaps. 9 to 12 Months for new lighting installations

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
INTERSECTION DESIGN						
Convert Minor-road Stop Control to All-way Stop Control Requiring drivers on the major road to stop at a stop-controlled intersection removes the need for drivers on the minor road to wait for a gap in order to safely merge with or cross traffic on the major road. **Resource:** 3128	77.0%	ALL	2–Low cost and easy to install	Yes	$4,000 / Intersection	Between 6 to 9 Months
Conversion of Intersection into Single-lane Roundabout Roundabouts have fewer conflict points than traditional intersections and are designed to prevent vehicles from traveling through intersections at high speeds. **Resource:** 9280	59.0%	ALL	5–High Cost & Difficult Install	No	$2.5 M / Intersection	More than 18 Months
Convert a Conventional Unsignalized Intersection to an Unsignalized Superstreet Superstreets and RCUTs are specially designed intersections that require drivers to make U-turn followed by a right-turn in order to make what would have been a left-turn movement in a conventional intersection. This reduces the number of conflict points from 32 in a conventional intersection down to 18 in an RCUT or superstreet intersection. **Resource:** 4666	44.0%	ALL	5–High Cost & Difficult Install	No	$1.5 M / Intersection	More than 18 Months
Convert an Intersection into a Continuous Green T Intersection In a Continuous Green T (CGT) Intersection, the traffic traveling straight at the top of the T flows continuously. All other movements at the T intersection are signalized to allow for safer left turns to and from the intersecting street. **Resource:** 8656	15.4%	ALL	5–High Cost & Difficult Install	No	$1.5 M / Intersection	More than 18 Months
Change Intersection Skew Angle The skew angle at which two roads meet can greatly impact the ease with which a driver can see incoming vehicles on the intersecting road. It can also impact the safe speed at which a turning movement can be made from one road to another. Adjusting the alignment of two roads so that they meet at a 90-degree angle can improve visibility and ease of turning movements. **Resource:** 669	Varies depending on the existing roadway geometry	ALL	5–High Cost & Difficult Install	No	Varies	More than 18 Months

Urban and Suburban Toolbox

The majority of HIN intersections were located along urban and suburban arterials with failure-to-yield, aggressive operation, speeding, or running traffic signals as the top contributing factors.


Roundabout

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
ROADWAY CORRIDOR TREATMENTS						
Reduce Driveways Reducing the number of driveways along a given stretch of road decreases the number of conflicting movements that are generated along the corridor. **Resources**: 179, 178, 177	25% - 31%	ALL	5–High Cost & Difficult Install	No	$15,000 / Driveway	Between 12 to 18 Months
Conversion of Intersection to Roundabout Roundabouts have fewer conflict points than traditional intersections and are designed to prevent vehicles from traveling through intersections at high speeds. **Resources**: 9280, 9886, 208	5% - 20%	ALL	5–High Cost & Difficult Install	No	$2.5 M / Intersection	More than 18 Months
Convert Minor-road Stop Control to All-way Stop Control Requiring drivers on the major road to stop at a stop-controlled intersection removes the need for drivers on the minor road to wait for a gap in order to safely merge with or cross traffic on the major road. **Resource**: 3128	77.0%	ALL	2–Low Cost & Difficult Install	Yes	$4,000 / Intersection	Between 6 to 9 Months
Upgrade Existing Markings to Wet-reflective Pavement Markings Wet-reflective pavement markings improve the visibility of pavement markings during dark and wet conditions. **Resource**: 10080	25.4%	Run off Road, Wet Road	1–Low Cost & Easy Install	Yes	$65,000 / Mile	Within 6 Months
Provide a Raised Median A raised median can provide traffic calming, create a barrier between traffic flowing in different directions, and remove conflict points by limiting the number of locations where left turns can be made. **Resource**: 22	22.0%	ALL	5–High Cost & Difficult Install	No	$40,000 / $100 Feet	Between 12 to 18 Months
Convert an Open Median to a Directional Median Directional median openings allow only left turns from one roadway to pass through the median, which reduces the number of potential conflicts around the median. **Resource**: 5453	23.0%	ALL	5–High Cost & Difficult Install	No	$150,000 / Each	Between 9 to 12 Months
SIGNS / SIGNALS						
Improve Stop Sign Retroreflectivity Improve the visibility of stop signs by upgrading them to type XI sheeting. **Resource**: 6052	9.4%	ALL	1–Low Cost & Easy Install	Yes	$300 / Sign	Within 6 Months

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
Add 3-inch Yellow Retroreflective Sheeting to Signal Backplates Adding retroreflective sheeting to signal backplates should improve their visibility to drivers. **Resource**: 1410	15.0%	ALL	1–Low Cost & Easy Install	Yes	$500 / Sign	Within 6 Months
Implement Coordinated Traffic Signals and Review Green Times Coordinating traffic signals at adjacent intersections may improve safety by allowing for uniform traffic flows between intersections. Review existing signal timing to ensure that adequate green time is provided for all movements. **Resource**: Not Included in Crash Modification Factor Clearinghouse	No CMF		3–Medium Cost & Moderate Install	Yes	Varies	Between 9 to 12 Months
Increase All-red Clearance Interval Increasing the all-red clearance interval would give drivers more time to clear the intersection before cross-traffic was allowed to proceed through the intersection. **Resource**: 4212	20.2%	ALL	1–Low Cost & Easy Install	Yes	Very low; operational change	Within 6 Months
Install Near-Side Signal Heads At intersections with sight distance issues or at intersections that are very wide, consider installing auxiliary traffic signal heads on the near side of the intersection. **Resource**: Link	30.0%	Red Light Run Crashes, Frontal Impact Crashes	3–Medium Cost & Moderate Install	No	$3,500 / Each	Between 9 to 12 Months

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
Install Advanced Dilemma Zone Detection Modifies traffic control signal timing to reduce the number of drivers that may have difficulty deciding whether to stop or proceed during a yellow phase. This may reduce rear-end crashes associated with unsafe stopping and angle crashes due to illegally continuing into the intersection during the red phase. **Resource**: Link	39.0%	ALL	3–Medium Cost & Moderate Install	Yes	$15,000 / Intersection	Between 6 to 9 Months
Install Left Turn Flashing Yellow Arrow Signals and Supplemental Traffic Signs (Protected-Permissive and Permissive Only Left-Turn Phasing) Flashing yellow arrows for left-turning movements are installed to communicate to drivers that they need to yield to oncoming traffic before attempting to make a left turn. **Resources:** 7730, 7700	14.3% - 50.2%	Left Turn	1–Low Cost & Easy Install	Yes	$55,000 / Intersection	Within 6 Months
INTERSECTION DESIGNS AND TREATMENT						
Improve Angle of Channelized Right Turn Lane The angle of a channelized right turn lane greatly impacts the line of sight drivers have as they try to enter traffic. Changing the lane alignment to improve driver line of sight line of sight may improve safety at these locations. **Resource:** 8431	60.3%	Right Turn, Other	2 to 3 Depending on the location	No	Varies	Between 6 to 9 Months

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
Introducing Zero or Positive Offset Left-turn Lane on Crossing Roadway Positive offset and zero offset left-turn lanes increase the sight distance to oncoming vehicles. **Resource:** 277	20.0%	Angle	3 to 4 Depending on the location	No	Varies	Between 12 to 18 Months
Convert Protected/ Permissive Left Turn Phasing to Protected -Only Left Turn Phasing Consider converting existing protected/permissive left turning phases to protected-only left turning phases at intersections with dangerous left turning movements. **Resources:** 10748, 4157	34% - 77%	Left Turn	1–Low Cost & Easy Install	Yes	Could be done operationally or require new equipment	Within 6 Months
Convert a Conventional Signalized Intersection to Signalized Superstreet Superstreets and RCUTs are specially designed intersections that require drivers to make U-turn followed by a right-turn in order to make what would have been a left-turn movement in a conventional intersection. This reduces the number of conflict points from 32 in a conventional intersection down to 18 in an RCUT or superstreet intersection. **Resource**: 9985	22.0%	ALL	5–High Cost & Difficult Install	No	$2.5 M / Intersection	More than 18 Months

COUNTERMEASURE	CRASH REDUCTION	CRASH TYPE	LEVEL OF EFFORT (Cost & ease of installation	QUICK BUILD OPPORTUNITY?	COST RANGE	DELIVERY TIMELINE
Convert Intersection to Type A Median U-Turn (MUT) Intersection Type A/Type B MUT intersections are specially designed intersections that require drivers to make U-turn followed by a right-turn in order to make what would have been a left-turn movement in a conventional intersection. This reduces the number of conflict points from 32 in a conventional intersection down to 16 in an MUT intersection. **Resources:** 10852, 10866	22.7% ~28.3%	Left Turn	5–High Cost & Difficult Install	No	$4.5 M / Intersection	More than 18 Months
Implement Systemic Signing and Visibility Improvements at Signalized Intersections This countermeasure includes the following: ▸ Replace all signal heads ▸ Replace pedestrian signal heads, pushbuttons, and signs. ▸ Install backplates with retroreflective borders on all signal heads. ▸ Re-stripe stop lines and crosswalks. ▸ Install advance warning signs and overhead signs. ▸ Install curb ramps. **Resource:** 8929	4.0%	Rear End	3 to 5 Depending on the necessary improvements	No	$500 / Each	Between 9 to 12 Months
Increase Triangle Sight Distance Roadside objects such as signs, foliage, buildings, and even the roadside terrain can all block the view of a driver at an intersection. Relocating or removing these objects can improve safety by improving visibility **Resources:** 307, 308	11-48%	ALL	1 to 5 depending on the object that is blocking visibility at the intersection	Varies	Varies	Delivery time would vary greatly depending on the object to be removed or relocated

Appendix

APPENDIX TABLE OF CONTENTS

FUNDING RESOURCES

PROGRAM	PROJECT TYPES	CRITERIA	MATCH REQUIRED (YES, NO, OR NA)	FUNDING AMOUNT	RESOURCES
FEDERAL FUNDING SOURCES (AS OF DECEMBER 2024)					
SS4A	Planning studies; Implementation activities including programs and capital projects	The SS4A program supports development and implementation of a comprehensive safety action plan (Action Plan) to identify and treat the most significant roadway safety concerns in a community. Applicants must have an eligible Action Plan to apply for an implementation grant. The SS4A program can be used to support safety projects and strategies that address serious safety violations of drivers (e.g., speeding, alcohol, and drug-impaired driving), so long as the proposed strategies are data-driven and demonstrate a process in alignment with goals around community policing and in accordance with federal civil rights laws and regulations.	Yes 20%	$100k to $10M for Planning and Demonstration $2.5M to $25M for Implementation	https://www.transportation.gov/grants/SS4A
RAISE	Planning and Implementation. Road, rail, transit, and port	USDOT evaluates applications for this grant program on the requested infrastructure project's potential to improve safety, environmental sustainability, quality of life, mobility and community connectivity, economic competitiveness and opportunity (including tourism), state of good repair, partnership and collaboration, and innovation.	Yes 20%	Minimum $5M in urban areas, $1M in rural areas. Maximum $25M award.	https://www.transportation.gov/Raise grants
Congestion Mitigation and Air Quality (CMAQ)	Planning and implementation; Transit, congestion relief, vehicle retrofit, low-emission fuels, and active transportation	The program's overall goals are to improve air quality and reduce congestion, through four objectives: localized congestion relief, operational improvements, mode shift, and direct emissions reduction. Both administrated areas are considered non-attainment areas for the eight-hour ozone standard, so priority is given to projects that reduce ground-level ozone. This can include active transportation projects that have the potential to facilitate mode shift.	Yes 20%	$64M available in Alabama between 2022-2026. This money is federally-funded, but disbursed by MPOs.	FY2022-2026 Apportionments from Bipartisan Infrastructure Law (see Page 2)
Reconnecting Communities (RCN) grant program	Planning and Implementation; Eliminate barriers (wide/high-speed/grade separated) to community connectivity	The RCN program provides funding to transportation projects 1) to advance community-centered transportation connection projects, with a priority for projects that benefit disadvantaged communities[...], that improve access to daily needs such as jobs, education, healthcare, food, nature, and recreation, and foster equitable development and restoration, and 2) to provide technical assistance to further these goals (FHWA). There are two grant programs on the single RCN application: Community Planning & Capital Construction Grants and Regional Partnership Challenge Grants.	Yes; match can be waived for disadvantaged/ underserved communities.	Community Planning Grant: $50M annually 2024-2026. Maximum award is $2M. Capital Construction Grant: 2024- $150M 2025- $152M 2026- $155M. Minimum award $5M; maximum award is $100M.	Reconnecting Communities Pilot (RCP) Grant Program: Notice of Funding Opportunity (NOFO) | US Department of Transportation
National Highway Performance	Implementation only; Measures to improve the highway system	Projects must be identified in the Statewide Transportation Improvement Program (STIP)/Transportation Improvement Program (TIP) and be consistent with the Long-Range Statewide Transportation Plan and the Metropolitan Transportation Plan(s) (See 23 U.S.C. 119(d)(1)). Safety improvements to any road on the National Highway System. Bike/ped facilities associated with an NHS facility. Traffic information monitoring, management, and control facilities. Innovative, intelligent transportation system improvements. Transit facilities and improvements.	Yes, 20%	$2.96B available in Alabama between 2022-2026.	National Highway System - Alabama Map National Highway Performance Program Implementation Guidance
Carbon Reduction	Implementation; Construction, planning, and design of safe bike/ped facilities	The BIL establishes the Carbon Reduction Program (CRP), which provides funds for projects designed to reduce transportation emissions, defined as carbon dioxide (CO_2) emissions from on-road highway sources. Alabama created a Carbon Reduction Strategy in 2023, as required. Applications can lean on the state's Carbon Reduction Strategy.	Yes 20%	AL 2022-2026: $128M Nationwide: 2024- $1.283B 2025- $1.309B 2026- $1.335B	Carbon Reduction Program Factsheet

Funding Opportunities, cont'd.

PROGRAM	PROJECT TYPES	CRITERIA	MATCH REQUIRED (YES, NO, OR NA)	FUNDING AMOUNT	RESOURCES
Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program	Planning and implementation; Vulnerability assessments; improvements to infrastructure in case of disaster	The PROTECT grant is a USDOT fund for projects that address the climate crisis by improving the resilience of all surface transportation. Projects should closely follow best available information and practices for climate change risks, impacts, and vulnerabilities. Projects can be funded for any level and scale of transportation, and this is reflected in that states, MPOs, local governments, federally recognized tribes and affiliated groups, and US territories can all apply directly for the grant. There are two types of grants: Planning and Resilience Grants. Resilience grants have four sub-types: Resilience Improvement, Community Resilience and Evacuation Routes, and At-Risk Coastal Infrastructure. Bicycle and pedestrian paths are eligible surface transportation facilities.	No match for planning grants.	$145.9M is estimated for Alabama between 2022-2026. $848M was distributed in the 2023 application cycle.	PROTECT Grant Program Information Page
STATE FUNDING SOURCES (AS OF DECEMBER 2024)					
Alabama Highway Safety Improvement Program (HSIP)	Non-infrastructure safety improvement projects	10% of Alabama's HSIP apportionment for each fiscal year may go towards non-infrastructure highway safety improvement projects such as collection, analysis and improvement of safety day, road safety audits, and transportation planning. A specified safety project includes a project that: 1) promotes public awareness and informs the public regarding highway safety matters (including safety for motorcyclists, bicyclists, pedestrians, individuals with disabilities, and other road users); 2) facilitates enforcement of traffic safety laws; 3) provides infrastructure and infrastructure-related equipment to support emergency services; 4) conducts safety-related research to evaluate experimental safety countermeasures or equipment; or supports safe routes to school non-infrastructure related activities described in [23 U.S.C.] 208(g)(2)	N/A	$31M available in Alabama between 2022-2026	Guidance for Road Safety Assessments & Reviews (last updated 2016) Alabama Strategic Highway Safety Plan (Dec 2022)
Alabama Highway Safety Improvement Program (HSIP)	Safety Improvements and Infrastructure	The HSIP is administered by the Traffic and Safety Operations Section located in the Design Bureau. Counties, cities, and various ALDOT offices can propose projects at any time during the year. The HSIP provides competitive funding to safety projects. See Table 2 on page 7 of the HSIP Project Application Guideline for project prioritization criteria. Specific to counties and municipalities, the High Risk Rural Roads (HRRR) and the Local Road Safety Initiative (LRSI) provide funding for local roadway safety improvement projects.	N/A	$279M available in Alabama between 2022-2026	Alabama DOT HSIP Program HSIP Project Application Guidelines (updated 2020) FY 2025 Local Roads Safety Initiative Call for Applications
Rebuild AL Grant Program	Transportation Infrastructure	The RAA Annual Grant Program is an ALDOT administered transportation infrastructure grant program for projects of local interest created in the Rebuild Alabama Act of 2019. The program is open to any municipal or county government.	Varies; maximum amount with no match is $250k.	$15M available in 2025	https://www.dot.state.al.us/programs/RAAGrantProgram.html
Transportation Alternatives Program (TAP)	Safety improvements for non single-occupancy vehicles	This program funds projects providing alternatives to private motor vehicle transportation. Eligible activities include bicycle and pedestrian facilities, trails, environmental mitigation, and safe routes to school.	Yes, 20%	$144M available statewide in Alabama. Most of this is managed by MPOs. Maximum award of $800,000 federal funds.	Huntsville Area MPO 2024 Transportation Alternatives Program Guidelines ALDOT Transportation Alternatives Program
Alabama Transportation Rehabilitation and Improvement Program (ATRIP)	Rehabilitation of AL highways	Funds projects on the state-maintained highway system that improve the highway system with an emphasis on the economic growth, public safety, and stability. Inclusion of local roads and bridges in a project application should be limited to those portions and specific structures that are essential to accomplish improvements benefiting the state highway system.	No	$40M in 2025. Maximum funding for an individual project is $2M.	Alabama DOT TRIP FY2025 Guidelines ATRIP ALDOT General Page
Surface Transportation Block Grant	Flexible funds	Eligible activities are very broad and depend on an individual MPO's priorities. ▶ Bicycle and pedestrian barrier elimination ▶ Construction, reconstruction, rehabilitation, or operational improvements of roadways ▶ High-risk, high-congestion intersection projects ▶ Transportation alternatives program is a set-aside in STB program. Transfers of up to 50% of funding to and from other federally-funded programs is allowed.	Yes, 20%	$1.44B available statewide in Alabama between 2022-2026.	Surface Transportation Block Grant Program Information

PLAN AND POLICY REVIEW

					RELEVANCE TO THE SAFE SYSTEMS APPROACH		
PLAN OR POLICY NAME	**AGENCY**	**YEAR**	**FINDING TYPE**	**KEY FINDING**	**SAFE ROADS**	**SAFE SPEEDS**	**SAFE ROAD USERS**
ALDOT PLANS AND DESIGN GUIDANCE							
Alabama Strategic Highway Safety Plan 4th Edition https://www.dot.state.al.us/publications/Design/pdf/TrafficSafetyOp/SHSP.pdf	ALDOT	2022	Performance Measures	Reduce fatalities and suspected serious injuries by 50 percent by 2040	Yes	Yes	Yes
			Safety Strategy	The plan provides safety strategies for the four main categories with **emphasis areas**: A) **Behavioral issues:** Speeding and Aggressive Driving, Drowsy and Distracted Driving, Impaired Driving, and Occupant Protection B) Infrastructure-based: **Roadway/Lane Departure Crashes and Intersection Crashes** C) At-risk users: **Older drivers, younger drivers, and non-motorists** (vulnerable road users) D) **Data Systems**	Yes	Yes	Yes
Alabama VRU study ALVRUSafetyAssessment.pdf (state.al.us)	ALDOT	2023	Safety Strategy	Strategy 1: Develop and implement **community outreach and communication strategies** for both drivers and non-motorists to bring awareness to the severity of crashes involving non-motorists, the **responsibilities** of all road users, and encourage safe driving and walking practices by coordinating with both traditional and non-traditional partners. (p. 11) Action Step: ALDOT will engage with **local agencies, universities, and nontraditional partners** to conduct outreach efforts targeted at issues involving non-motorists. Funding for this effort will come from a combination of HSIP funding, other federal funds and special grants, state and/or local funds, and in-kind matching funds. (p. 11)			Yes
			Safety Strategy	Strategy 2: Conduct geographically based targeted **enforcement of existing pedestrian and bicycle safety laws**. (p. 11) Action Step: ADECA will investigate the feasibility of a system and the most appropriate data to use in order to determine the geographical locations most overrepresented by nonmotorist-related crashes that can be mitigated through enforcement efforts and subsequently facilitate increased enforcement efforts in those areas. Funding will be provided through a combination of NHTSA safety program and state funding. (p. 11)	Yes	Yes	Yes
			Safety Strategy	Strategy 3: Identify and implement **needed infrastructure** to support non-motorists based on the context of the roadway and indicators of infrastructure need such as worn paths or other documented evidence of pedestrians (e.g., sidewalks, Safe Routes to School, rectangular rapid flashing beacons, Complete Streets concept) (p. 11) Action Step: ALDOT will engage with local agencies, universities, and non-traditional partners to identify and implement infrastructure projects to support non-motorists. Funding for this effort will come from a combination of HSIP funding, TAP funding, other federal funds and special grants, state and/or local funds, and in-kind matching funds. Refer to Section 7.4 of this document for additional information on funding. (p. 11)	Yes		
			Performance Measures	ALDOT has an objective of reducing non-motorist fatal and serious injuries by 4% each year. (p. 19)			

					RELEVANCE TO THE SAFE SYSTEMS APPROACH		
PLAN OR POLICY NAME	**AGENCY**	**YEAR**	**FINDING TYPE**	**KEY FINDING**	**SAFE ROADS**	**SAFE SPEEDS**	**SAFE ROAD USERS**
Alabama Speed Management Manual https://www.dot.state.al.us/publications/Design/pdf/TrafficSafetyOp/SpeedManagementManual.pdf	ALDOT	2015	Policy	The mission statement of the Alabama Speed Policy is as follows: To reduce deaths, injuries and the economic cost due to speed-related crashes, through enforcement, engineering, education, emergency medical services, legislation, setting realistic and credible speed limits, research and adjudication. (p. 2)	Yes	Yes	Yes
			Policy	The Policy identifies some cost-effective strategies for decreasing speed-related crashes that include (p. 9): ▶ Targeting **enforcement** to locations with high numbers of speed-related fatal and injury crashes. ▶ **Setting realistic and credible speed limits** based on engineering studies. ▶ Understanding the problem: who speeds, where, when, and why. ▶ Using multi-agency, **multi-disciplinary processes**, assessment, techniques and technologies, including conducting multi-agency, multi-disciplinary field investigations of locations with high numbers of speed-related fatal and injury crashes. ▶ Providing **public information and education** on the risks and consequences of speeding, especially at locations with high numbers of speed-related fatal and injury crashes. ▶ Proposing **legislation**. ▶ Fair and consistent **adjudication** of speeding citations. ▶ Modify or reinforce **speed management programs**, based on the results of impact and effectiveness.	Yes	Yes	Yes
			Safety Infrastructure and Guidelines	**Speed limits and zone lengths**: It is recommended that speed zones should be as long as possible along a homogeneous segment of a roadway – while still considering the existence and impact of horizontal and/or vertical curvature, as well as locations where vehicles would enter and exit the facility at intersections and driveways. For rural locations, the length of a speed zone should be generally at least one-half mile long. Speed zones leading into urban, residential, or congested areas should be at least 0.2 miles in length or longer based on homogeneous segments (p. 36)	Yes	Yes	
			Safety Infrastructure and Guidelines	**Speed reduction techniques** include reducing lane widths, road diets, center raised medians, roundabouts, and gateway treatments. (p. 50) On low speed roadways, speed reduction can be accomplished through the use of countermeasures that have an element of vertical relief or horizontal shift such as speed humps, speed tables, roundabouts, traffic circles, raised intersections, lane narrowing, intersection realignment, and lateral shifts. (p. 54) To alert motorists of VRUs, the following countermeasures can be considered: medians and pedestrian crossing islands in urban and suburban areas, pavement markings for bicycle and pedestrian crossings, pedestrian hybrid beacons (PHBs), road diets, rectangular rapid flashing beacons (RRFBs), and shared lane markings. (p. 56)	Yes	Yes	
			Safety Infrastructure and Guidelines	When approaching a settled area with a low speed limit, motorists should first be provided with **warning devices and psychological measures**, such as advance signing, and then be presented with physical measures (e.g. road narrowing, stepped down speed limits, etc.) (p. 57)	Yes	Yes	Yes
			Policy	Code of Alabama gives the DOT Director and the Director of Public Safety joint authority to **alter a speed limit** on state highways on the basis of an engineering and traffic investigation, with the approval of the Governor, up to the maximum allowed by code. It also establishes the **ability of local authorities to change speed limits** on roadways within their jurisdiction up to the statutory limit on the basis of an engineering and traffic investigation. If the roadway is a state roadway, Department of Transportation approval is also required. (p. 13)		Yes	

					RELEVANCE TO THE SAFE SYSTEMS APPROACH		
PLAN OR POLICY NAME	**AGENCY**	**YEAR**	**FINDING TYPE**	**KEY FINDING**	**SAFE ROADS**	**SAFE SPEEDS**	**SAFE ROAD USERS**
Alabama Transportation Planner's Guide to Safety Data Access and Documentation, ALDOT Guidebook https://www.dot.state.al.us/publications/Design/pdf/TrafficSafetyOp/SafetyDataAccessGuidebook.pdf	ALDOT	2016	Performance Measures	US DOT Secretary establishes **performance measures for the number and rate of fatalities and serious injuries per MAP-21** (Moving Ahead for Progress in the 21st Century Act), the states and MPOs to set targets against those measures, and FHWA to evaluate progress. Targets must be identical for the NHTSA programs and the HSIP. MPOs must set targets for the same measures for all public roads in the MPO boundary and must be set in coordination with the state.	Yes	Yes	Yes
Guidance for Road Safety Assessments and Reviews https://www.dot.state.al.us/publications/Design/pdf/TrafficSafetyOp/GuidanceforRoadSafetyAssessmentsandReviews.pdf	ALDOT	2016	Safety Analysis	This document provides a standard procedure for conducting Road Safety Audits (RSAs) and Road Safety Reviews (RSRs). See page 12 for the project selection process and eligibility for a RSA. The following locations or **projects are appropriate for an RSA**: ▶ Locations with elevated crash severity and frequency (intersections, road segments, and ramps for example) ▶ Resurfacing, Restoration, and Rehabilitation projects where a safety concern has been identified ▶ Facility types that generally correlate with safety performance issues (e.g., 4-lane undivided facilities) or that are identified in the SHSP as a focus area ▶ "Hot-Spot" locations for which HSIP funding is requested ▶ Sites identified through previous safety studies ▶ Locations with vulnerable users, such as locations near schools or popular bicycle or motorcycle routes ▶ Access management projects ▶ Facilities for which High Risk Rural Roads (HRRR) funding is requested	Yes		

					RELEVANCE TO THE SAFE SYSTEMS APPROACH		
PLAN OR POLICY NAME	**AGENCY**	**YEAR**	**FINDING TYPE**	**KEY FINDING**	**SAFE ROADS**	**SAFE SPEEDS**	**SAFE ROAD USERS**
Capacity Analysis for Planning Roundabouts https://www.dot.state.al.us/publications/Design/frm/CapacityAnalysisforPlanningRoundabouts.xlsm	ALDOT	2015	Safety Infrastructure and Guidelines	Maintaining relatively **low speeds** are important for efficient roundabout operation. The recommended absolute entry design speeds for single and multilane roundabouts are 25 mph and 30 mph, respectively (see Exhibit 6-7 of NCHRP 6722). Designers should consider roundabouts as a first priority when evaluating intersection options for any site with **entering AADT of 45,000 vehicles a day or less**.	Yes	Yes	
			Safety Infrastructure and Guidelines	Designers should **consider roundabouts at the following locations**: 1) At intersections that record high incidences of crashes both in terms of frequency and severity. 2) On corridors where turn proportions (particularly left turns) at intersections are heavy and difficult to achieve good progression without additional through lanes were they to be signalized. 3) On major arterials or state highways where left and U-turns are required for trucks. This becomes especially important where there are right-of-way constraints and providing left and U-turns for large trucks result in potential property impacts. 4) On interchanges (e.g. diamond interchange) where it may be required to provide turning opportunities to traffic turning to and from ramps without needing more lanes for match-up speeds on through lanes. 5) At gateway intersections and on ceremonial streets, roundabouts may offer speed reduction and landscaping opportunities and may also provide aesthetic appeal. 6) At intersections with difficult skew angles of approaches, with five or more approach legs, or staggered intersections. 7) At closely spaced intersections, roundabouts can potentially reduce queues and balance traffic flows.	Yes		
Alabama Access Management Manual AccessManagementManual.pdf (state.al.us)	ALDOT	2022	Safety Policy Safety Strategies Safety Infrastructure and Guidelines	This manual provides ALDOT standards for access management and encourages local agencies to adopt their own access management policy or follow the guidance in this manual. **It is through a cooperative relationship between ALDOT and local governments that the safety and operational benefits of access management can be fully realized on all roads in Alabama.** (p. 50)	Yes		
				Various strategies help address access management concerns: 1) Develop a Corridor Access Management Plan as a collaborative effort that could include ALDOT, local governments, MPOs, RPOs, and interest groups 2) Reconfigure driveways 3) Install medians 4) Consider alternative intersection design: Restricted Crossing U-turn (RCUT), Alabama Continuous Green T Intersection, Median U-Turn Intersection, and/or Roundabouts	Yes		
				See page 37 for minimum spacing criteria between intersections See page 48 for small channel designs See Appendix G for case study examples	Yes		

					RELEVANCE TO THE SAFE SYSTEMS APPROACH		
PLAN OR POLICY NAME	**AGENCY**	**YEAR**	**FINDING TYPE**	**KEY FINDING**	**SAFE ROADS**	**SAFE SPEEDS**	**SAFE ROAD USERS**
Alabama Statewide Bicycle and Pedestrian Plan StatewidePlan.pdf	ALDOT	2017	Strategies	The plan set forth recommendations to improve bicycle and pedestrian safety. 1) Develop a Pedestrian and Bicycle Safety Action Plan 2) Establish Statewide Pedestrian and Bicycle Safety Goals and Performance Measures (see Table 2-2 on p. D-3 for recommended performance metrics and targets) 3) Incorporate Pedestrian and Bicycle Safety in Project Selection, Planning, and Design Processes 4) Provide Technical Training on Pedestrian and Bicycle Facility Planning and Design:	Yes		
			Performance Measures	Performance measures and targets are presented in Table 2-2 on p. D-3 and include: 1) **2% annual decrease** and up to a total 50% decrease in **annual number of combined non-motorized KSIs** 2) Average annual regional percentage increase in the annual pedestrian commuting mode share 3) Average annual regional percentage increase in the annual bicycle commuting mode share 4) 100% annual consistency with the scheduled right-of-way improvements in the current state ADA Transition Plan 5) 4% annual increase up to a total of 100% of corridors for the percentage of priority bicycle corridors designated as state bicycle routes 5) One new route every five years for the total number of vision bicycle corridors designated as state bicycle routes	Yes		
TARCOG AND COUNTY PLANS							
Human Services Coordinated Transportation Plan	TARCOG	2022		Transportation needs for individuals with disabilities, older adults, households lacking a vehicle, and people with low incomes are met.			Yes
Limestone County							
Vision Zero Policy https://athensalabama.us/DocumentCenter/View/2628/Vision-Zero-Athens	City of Athens	2023	Vision Zero Resolution	Vision Zero Athens is a strategy to work towards the **elimination of all traffic fatalities and severe injuries**, while increasing safe, healthy, and equitable mobility for all by the year **2040**.	Yes	Yes	Yes
A Vision for Athens: Transportation Plan https://athensalabama.us/DocumentCenter/View/481/Transportation-Plan-2015-Adopted	City of Athens	2015	Safety Strategies	Various safety objectives are identified in the Transportation Plan. Objective: Address pressing safety concerns identified in the field. Objective: Install larger street signs from cross streets at intersections along arterials. Objective: Re-design and reconfigure intersections identified as needing improvements in alignment and traffic movement. Identified intersections include US 72 and I-65, Exit 351, US 72 and Mooresville Road, US 72 and Cambridge Lane, US 72 and Audubon Lane/Athens-Limestone Blvd, US 72 and Athens-Limestone Blvd/Braly Blvd, US 72 and French Farm Blvd, US 31 and Strain Rd., US 31 and Moyers Rd., US 31 and AL 251/Pryor Stl, AL 251 and Lindsay Ln, Nick Davis Rd and Oakdale Rd, and US 31 and Huntsville-Brownsferry Rd. Objective: Improve traffic signal coordination along US 72. Objective: Improve and preserve traffic flow along US 72 and US 31 through access and traffic conflict management. Objective: Expand greenway network, particularly along Swan Creek, Town Creek, and other tributaries. Objective: Expand sidewalk network, primarily along arterials and collectors with lower levels of service, where residents have greater access to destinations and recreation. Objective: Provide more opportunities for bicycle travel, particularly along arterials and collectors with lower levels of service.	Yes	Yes	Yes

					RELEVANCE TO THE SAFE SYSTEMS APPROACH		
PLAN OR POLICY NAME	**AGENCY**	**YEAR**	**FINDING TYPE**	**KEY FINDING**	**SAFE ROADS**	**SAFE SPEEDS**	**SAFE ROAD USERS**
Athens Circulation Standards https://www.athensalabama.us/DocumentCenter/View/128/Traffic-Circulation-Standards-PDF	City of Athens	2007	Safety Strategies	The standards identify various roadway safety strategies including **driveway design standards** (p. 8), access location standards (p.8), **traffic study** determination standards (p.20), and traffic impact study procedures (p. 23).	Yes		
Athens Zoning Ordinance https://athensalabama.us/DocumentCenter/View/2810/Zoning-Ordinance-2017-2016-Codified-through-Ord-No-2024-2309?bidId=	City of Athens	2017	Safety Infrastructure and Guidelines	The zoning ordinance provides guidance on **sidewalks**/pedestrian pathways, **bicycle parking**, **ADA** requirements, **lighting** plan requirements, sign regulations, and when a development triggers the development of a **Circulation Plan** to address transit, bicycle, pedestrian, and vehicular circulation.	Yes		
FY 2022 County Rebuild Alabama Transportation Plan	Limestone County	2022	Funding	The transportation plan identifies five projects which includes 12.27 miles of roadway improvements. Projects included resurfacing and traffic striping. Project costs totaled $1.4M.	Yes		
Madison County							
Madison County Transportation Master Plan and Implementation Program http://www.huntsvillempo.org/wp-content/uploads/2022/03/Madison-County-Transportation-Plan-FINAL-9-21-C.pdf	Madison County	2021	Safety Infrastructure and Guidelines	In commercial areas, pedestrians will be present, often walking to work at entry level jobs, so road improvement projects around restaurants and shopping centers should include **sidewalks** wherever feasible. (p. 14)	Yes		Yes
			Safety Infrastructure and Guidelines	The HATS LRTP identifies a limited network of **bicycle routes** in the study area, and on these roads bicycle accommodations should be included in future road improvements if possible. A two-foot **paved shoulder** provides a margin of safety for cyclists and will reduce run-off-the-road crashes by about 20 percent on many roads, while a four-foot paved shoulder can be designated as a bike lane and also will yield even greater reductions in run-off-the-road crashes. (p. 14)	Yes		Yes
			Safety Infrastructure and Guidelines	**Access Management Recommendations** are provided starting on p. 58.	Yes		
Jackson County							
Bridgeport Downtown Revitalization Plan https://tarcog.us/wp-content/uploads/DowntownPlan-Bridgeport.pdf	City of Bridgeport	2017	Safety Infrastructure and Guidelines	Connect the downtown, depot, and new park with sidewalks to the Walking Trail Bridge over Tennessee River through existing walking trail. Plant trees along railroad throughout the downtown to provide green screen and **pedestrian safety**. (p. 30)	Yes		Yes
			Safety Infrastructure and Guidelines	Define **crosswalks** with different pavement type or paint to promote pedestrian safety. (p. 35)	Yes		Yes
			Safety Infrastructure and Guidelines	Accommodate on-street parking, where feasible, and add bump outs with landscaping and mid-block crossing to protect parked cars, **provide pedestrian safety**, and define travel lanes. (p. 37)	Yes		Yes
Jackson County Commission Resolution 24-05	Jackson County	2024	Vision Zero Resolution	The County adopts a target of **reducing crash-related fatalities and serious injuries by fifty percent or more by the year 2035**.	Yes	Yes	Yes
Jackson County Roadway Safety Action Plan	Jackson County	2024	Safety Infrastructure and Guidelines	Proposed safety countermeasures and prioritized county roads are identified on pages 39 - 49.	Yes	Yes	
Town of Skyline Comprehensive Plan https://tarcog.us/wp-content/uploads/SkylineComprehensivePlan.pdf	Town of Skyline	2020	Safety Infrastructure and Guidelines	The comprehensive plan seeks to guide future development, protect and promote the health, safety, and welfare of the citizens of Skyline, promote good civic design, and coordinate the efficient delivery of public services.	Yes		Yes

					RELEVANCE TO THE SAFE SYSTEMS APPROACH		
PLAN OR POLICY NAME	**AGENCY**	**YEAR**	**FINDING TYPE**	**KEY FINDING**	**SAFE ROADS**	**SAFE SPEEDS**	**SAFE ROAD USERS**
DeKalb County							
Town of Mentone Comprehensive Plan https://tarcog.us/wp-content/uploads/MentoneComprehensivePlan.pdf	Town of Mentone	2017	Safety Policy	Policy 1.01.02: The Town shall promote healthy communities and active lifestyles by providing or encouraging enhanced bicycle and pedestrian circulation, access, and **safety along roads near areas of employment, schools, libraries, and parks**. (p. 49)	Yes		
			Safety Policy	Policy 2.03.01: The Town shall ensure traffic operations and roadway design, such as traffic signals, service roads, traffic signs, and pavement markings, shall be continually reviewed to identify safety and efficiency issues. Modifications that are necessary shall be identified and included in an updated Roadway Improvement Program.	Yes		
Connecting Communities: DeKalb County Regional Trails Network	DeKalb County	2018	Safety Infrastructure and Guidelines	Provide a **safe, connected network of on- and off-road bicycle/pedestrian trails** (and associated infrastructure) for the Lookout Mountain Area of DeKalb County, Alabama.	Yes		Yes
			Safety Infrastructure and Guidelines	Introduce Climbing **Bicycle Lanes, Bicycle Stairwell Runnels, Advisory Bike Lanes, Advisory Shoulders, and Bicycle Boulevards**. Provide a Design Guide for unpaved facilities and wayfinding (p. 29)	Yes		Yes
Marshall County							
Arab Thoroughfare Plan https://tarcog.us/wp-content/uploads/StreetPlan-Arab.pdf	City of Arab	2014	Safety Infrastructure and Guidelines	The thoroughfare plan contains cross sections with **sidewalk and bicycle lane recommendations**. **Complete Streets** are recommended to create safer and more attractive streetscapes for people. The plan recommends **amending subdivision regulations** to accomplish plan recommendations. Specific recommendations include the following: Street lights, and appropriate buffer lanes for alternative means of transportation, such as pedestrian thoroughfares and bike lanes, should be incorporated as areas continue to grow. The existing 50-foot grassed median along US Highway 231 has opportunity for street trees, future crosswalks, and pedestrian refuges. (p. 17)	Yes		Yes
Albertville Downtown Master Plan https://tarcog.us/wp-content/uploads/DowntownPlan-Albertville.pdf	City of Albertville	2015	Safety Infrastructure and Guidelines	The city should continue its efforts in addressing paving needs and upgrading streets to meet **ADA** standards, as foot traffic is essential for businesses in this pedestrian-oriented district. The intersection of McKinney Avenue, North Carlisle, and Highway 75 was noted as a specific location with safety issues. (p. 34)	Yes		Yes
Alabama Communities of Excellence: Boaz, AL https://tarcog.us/wp-content/uploads/BOAZ_ACE_Phase1_Report_FINAL.pdf	City of Boaz		Safety Infrastructure and Guidelines	Plan and implement **bike routes and pedestrian connections** to increase alternative transportation activities by connecting **key recreational and civic facilities as well as schools**. (p. 13)	Yes		Yes

NORTHEAST ALABAMA

SAFE STREETS

IMPROVING SAFETY TOGETHER