

Transportation Safety Action Plan

Scott County

December 2025



LEADERSHIP COMMITMENT

Donna Reed, 911 Director

Brett Bond, Chief Deputy, Scott County Sheriff's Office

Daniel Murley, Oneida Fire Department

Blue Day, 1st District Commissioner

Jamie Byrd, Scott County Transportation Supervisor (School Buses)

Jeffied Jeffers, Scot County Mayor

RESOLUTION LETTER

Date:

Resolution:

The Scott County Commission in The State of Tennessee unanimously resolves to embrace the Transportation Safety Action Plan and pursue the elimination of all traffic fatalities and serious injuries on the county's roadways by the year 2045. Following complete review of the Transportation Safety Action Plan, the following matters will be settled:

WHEREAS, Vision Zero stands as a federally-endorsed strategy with the aim of eradicating all traffic-related fatalities and severe injuries while promoting safe, healthy, and equitable mobility for all.

WHEREAS, the Scott County Commission has successfully developed a Transportation Safety Action Plan to address the safety concerns of all road users in the unincorporated areas of Scott County, Tennessee;

WHEREAS, the Transportation Safety Action Plan is grounded in the fundamental principles that acknowledge human fallibility and vulnerability, deem fatalities and serious injuries as unacceptable, advocate for shared and proactive responsibility in preventing such tragedies, and recognize that enhanced redundancy in infrastructure can provide additional layers of protection, known as the Safe Systems Approach;

WHEREAS, the Transportation Safety Action Plan utilized historical crash data and engaged the public, stakeholders, and a steering committee to identify a High Injury Network comprising the most injury-prone roads and intersections in unincorporated Scott County; and

WHEREAS, the Transportation Safety Action Plan encompasses a multi-faceted approach to address safety concerns, including the identification of 9 High Injury Network locations, with the ultimate goal of eliminating fatalities and serious injuries.

NOW, THEREFORE, BE IT RESOLVED by the Scott County Commission in Tennessee to adopt the objective of eliminating traffic deaths and serious injuries by 2045, endorsing Vision Zero as a comprehensive and holistic approach towards achieving this goal.

BE IT FURTHER RESOLVED that the Transportation Safety Action Plan, detailed in Exhibit A, is hereby granted approval.

BE IT FINALLY RESOLVED that this resolution becomes effective from and after the date of its passage, in accordance with the welfare of the County.

X _____

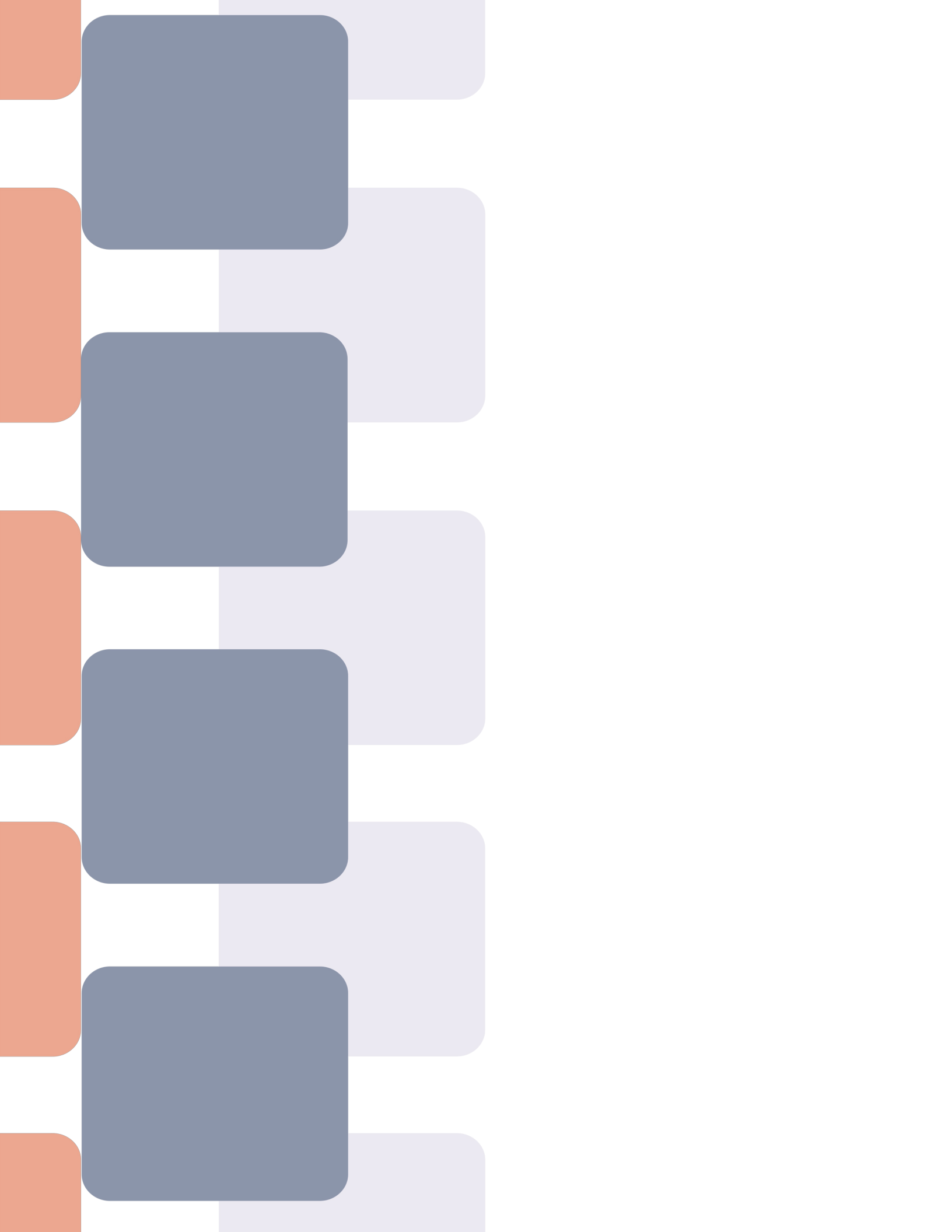


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INTRODUCTION

Scott County is committed to working toward the elimination of fatalities and serious injuries on its roadways. This effort is in line with the United States Department of Transportation's Safe Streets and Roads for All (SS4A) grant program, which focuses on funding regional, local, and tribal initiatives in preventing roadway deaths and serious injuries. The SS4A framework is rooted in the National Highway Safety Strategy (NRSS), which implements the Safe System Approach to roadway safety.



Between 2020 and 2024, Scott County recorded 1,051 crashes, including 28 fatal crashes resulting in 30 deaths and 54 serious injury crashes leading to 66 serious injuries. These figures underscore the critical need for continued investment in roadway safety strategies. Scott County is committed to implementing data-driven and community-focused approaches to understand what the biggest transportation-related issues are. This Transportation Safety Action Plan (TSAP) was created with the goal of ensuring that everyone who lives in or visits Scott County arrives at their destinations safely.

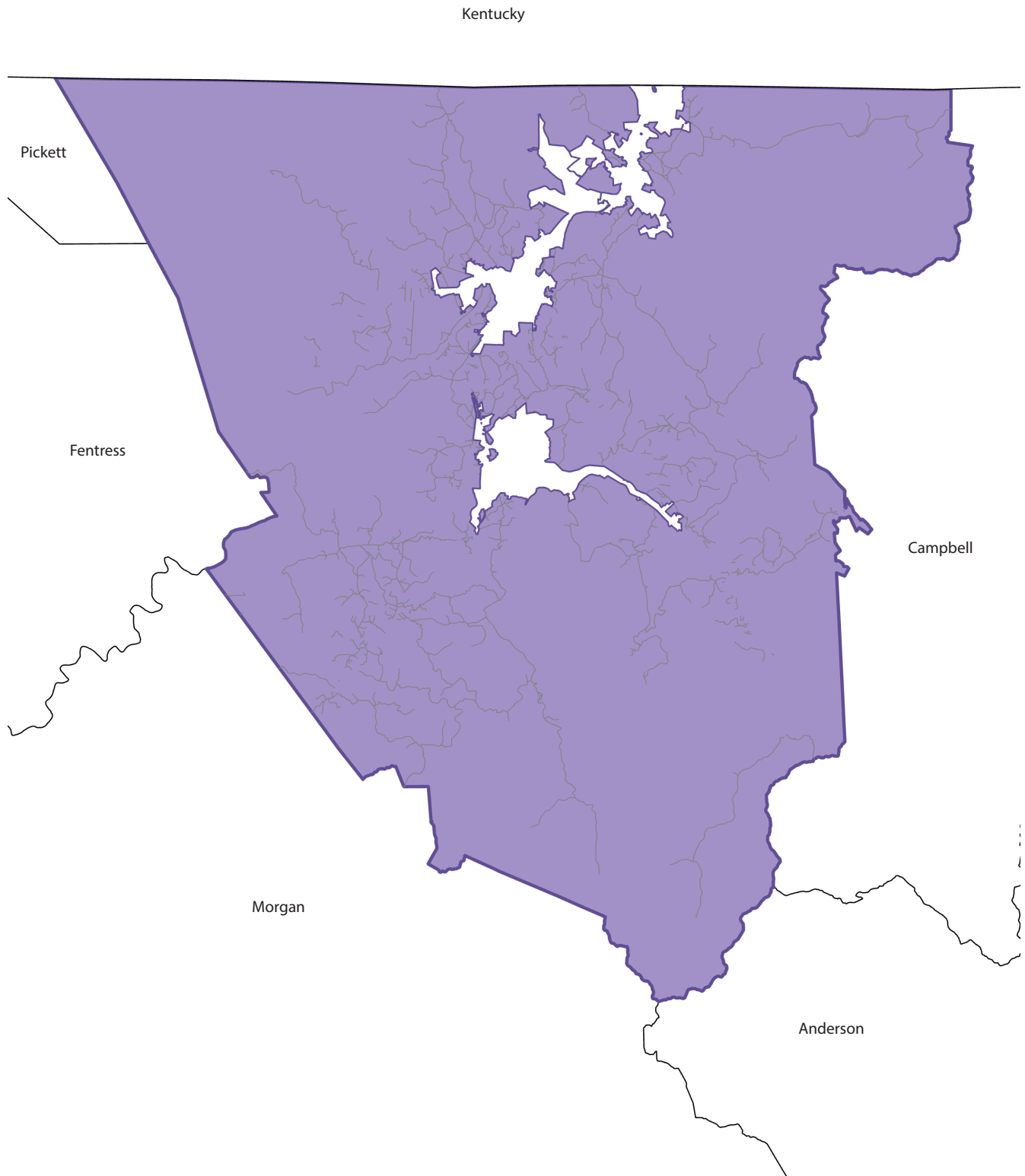


Population of
Scott County **21,917**
(2022)

To achieve the goal of 0 fatalities and 0 serious injuries, Scott County is committed to prioritizing safety and community needs that support state and nationwide transportation initiatives. By pledging specific goals, analyzing the county's crash history, engaging with the public, and enforcing changes through purposeful strategies and transparency, the Scott County Safety Committee aims to reduce crash severity and enhance public safety. The planning process that was used to develop this plan is based on the U.S. Department of Transportation's 7 components of an action plan as shown below.



STUDY AREA



THE SAFE SYSTEM APPROACH

The Scott County Safety Committee abides by the Safe System Approach, which has been adopted by the U.S. Department of Transportation and focuses on creating redundancies on roadways to mitigate inevitable human error. It works by building and reinforcing multiple layers of protection to both prevent crashes from happening in the first place and minimize the harm caused to those involved when crashes do occur. It is a holistic and comprehensive approach that provides a guiding framework to make places safer for people. The principles of the Safe System Approach are outlined below.



Principles

Death and Serious Injuries are Unacceptable

Crashes that result in death and serious injuries must be eliminated

Humans Make Mistakes

Transportation systems should be designed and operated to anticipate inevitable human mistakes

Humans Are Vulnerable

Transportation systems should be designed to prioritize human safety and account for inherent physical limitations

Responsibility is Shared

Transportation safety requires shared responsibility among those who plan, design, manage, and use the road network

Safety is Proactive

Rather than responding only after crashes have taken place, proactive tools should be used to identify and address existing safety issues

Redundancy is Crucial

Reducing risks requires that all parts of the transportation system be strengthened, so that if one part fails, the other parts still protect people

Objectives

Safer Road Users

Foster safe, responsible road behavior and prioritize the safety of everyone using roads, ensuring they can reach their destinations unharmed

Safe Roads

Design road environments to accommodate human errors and reduce the impact of crashes, encouraging safer behavior and protecting the most vulnerable users

Safe Vehicles

Promote the availability of vehicle systems that prevent crashes and minimize their effects on both occupants and non-occupants

Safe Speeds

Encourage safer driving speeds through well-designed roads, appropriate speed limits, targeted education, outreach campaigns, and enforcement

Post-Crash Care

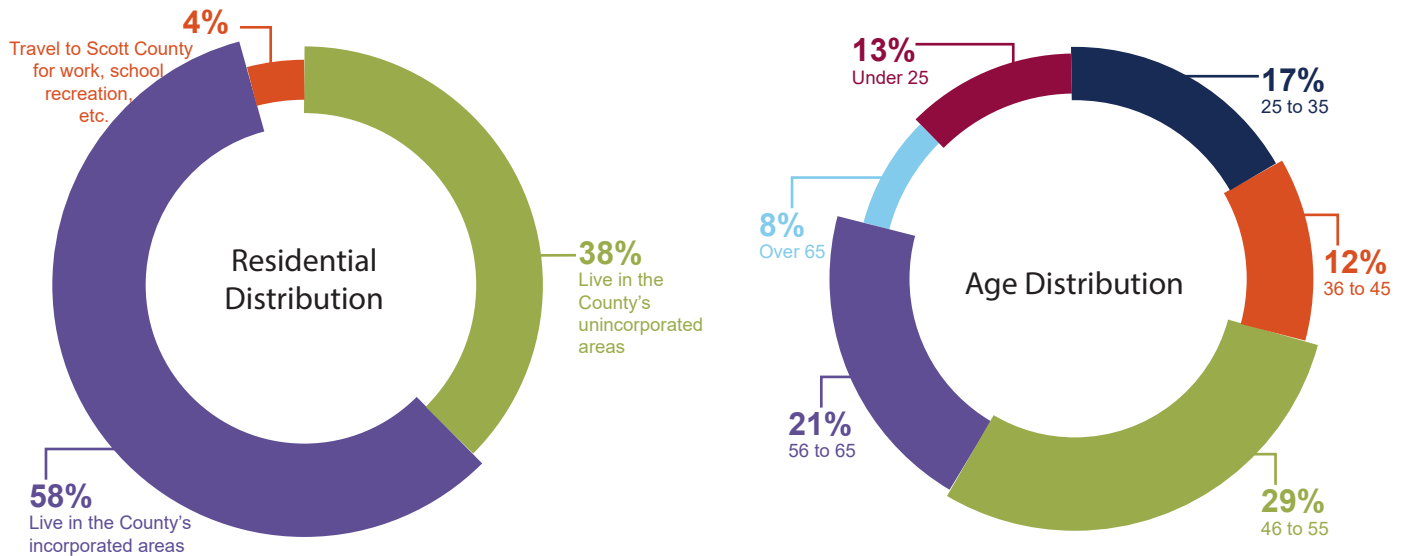
Enhance the chances of survival following crashes by improving access to emergency medical care, ensuring the safety of first responders, and preventing secondary crashes through effective traffic incident management

PUBLIC ENGAGEMENT

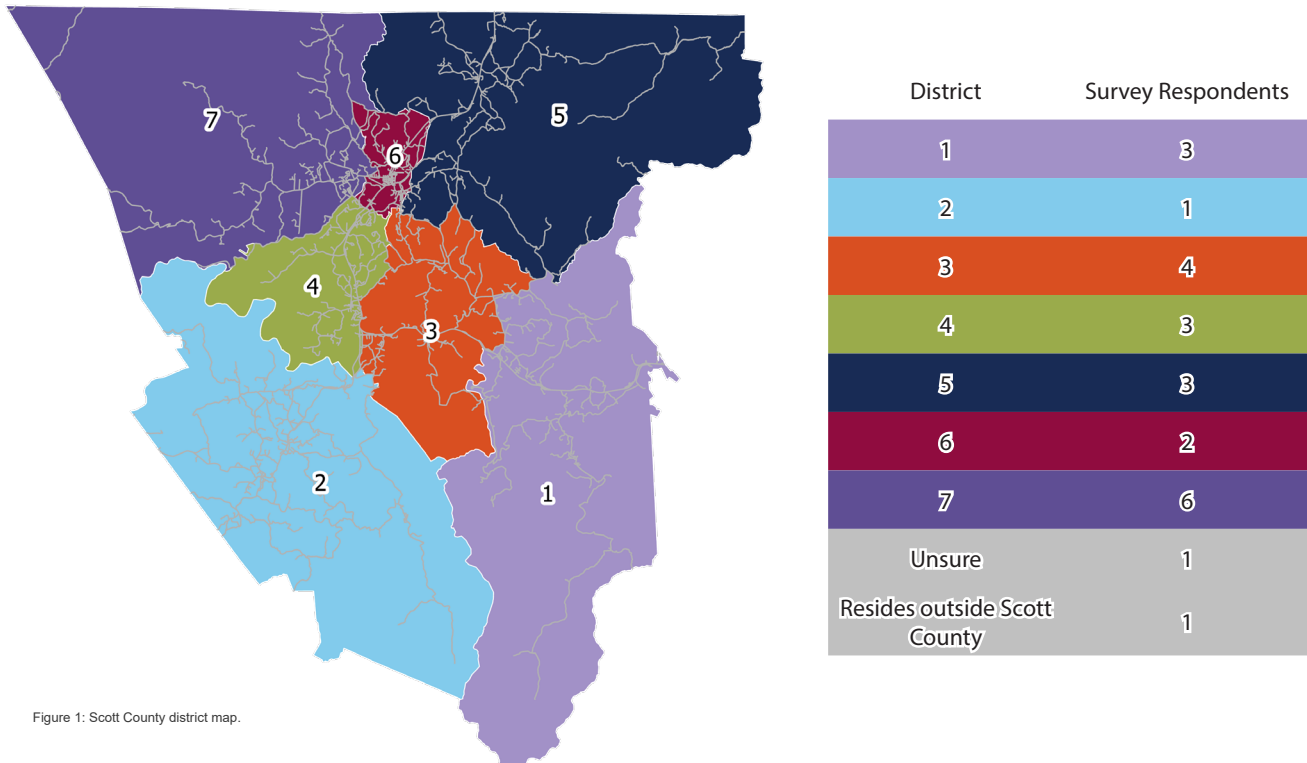
Public and stakeholder engagement played a key role in understanding safety conditions and concerns within Scott County. This input was used along with the technical analysis discussed previously to develop potential safety projects and strategies for this TSAP.

From March through May of 2025, Scott County residents and visitors were invited to share their views on transportation safety. This public survey gathered only 24 responses, but each response provided valuable information that informed this TSAP.

Approximately 38% of the respondents live in Scott County's unincorporated areas while 58% live in incorporated areas like Huntsville, Oneida, and Winfield. The survey participants included members from different age ranges, which reflects a broad understanding of the community's needs currently and in the future.

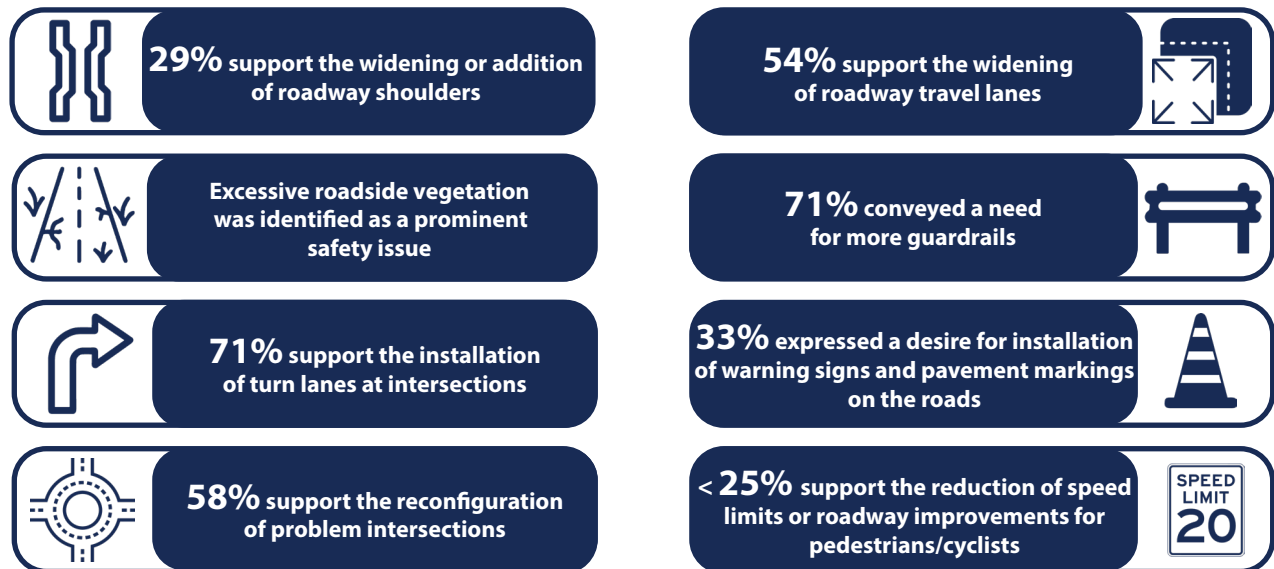


Understanding where survey participants live provides important insight into the demographic distribution of the sample, as shown in Figure 1.

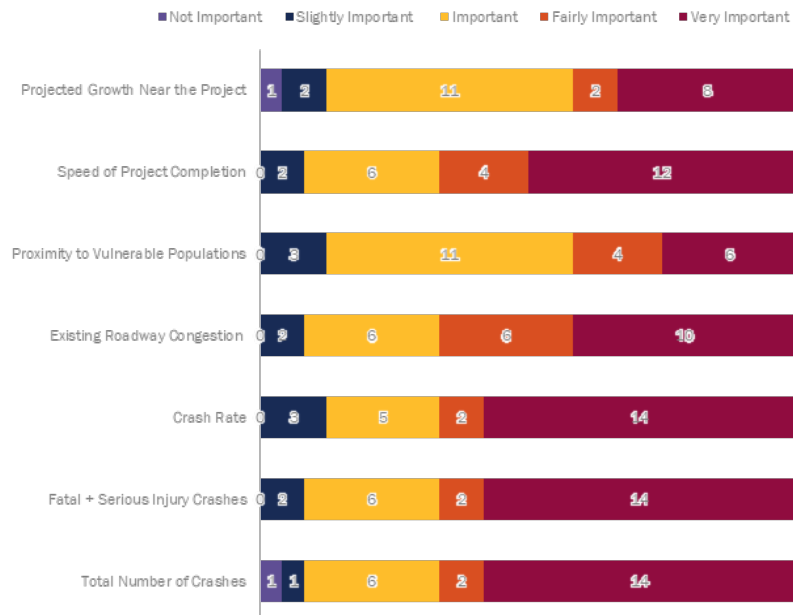


Survey participants were asked to select up to 5 safety projects that they thought were most needed on Scott County's roads. The results from the survey are shown below. The transportation safety options given in the survey included:

1. Reconfigure Intersections
2. Add Warning Signs and Pavement Markings
3. Add or Widen Shoulders
4. Add Guardrail
5. Widen Travel Lanes
6. Reduce Speed Limits
7. Install Turn Lanes at Intersections
8. Roadway Improvements for Pedestrians
9. Roadway Improvements for Cyclists
10. Roadside Vegetation Removal



Survey participants were also asked to rank various criteria (Not Important to Very Important) in determining how the county should prioritize safety projects. The results are shown below.



Key Takeaways

Fatal + Serious Injury Crashes, Crash Rate, Total Crashes are viewed as the most critical considerations in project prioritization.

Growth near the project and speed of completion are valued, but less consistently across respondents compared to safety factors.

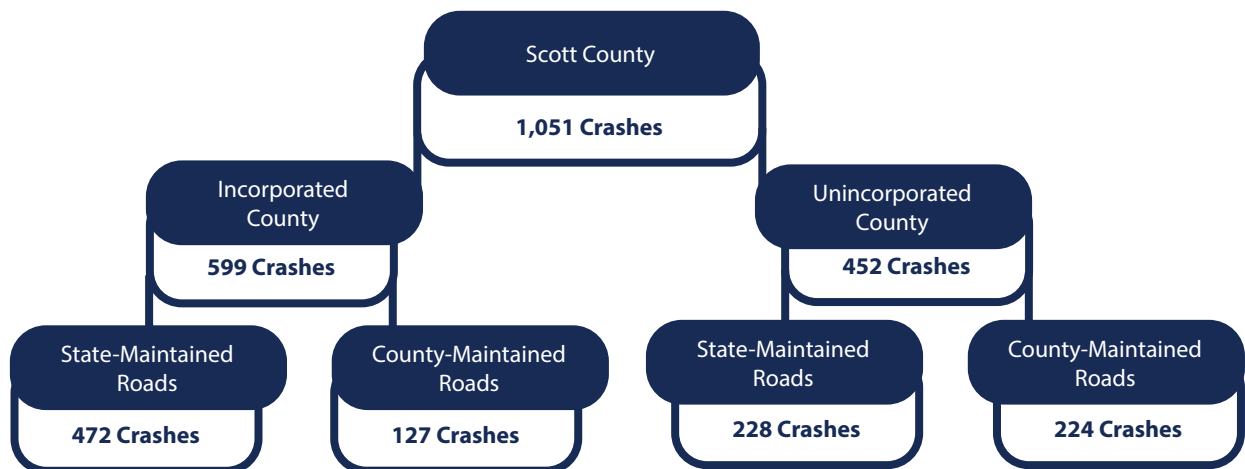
Respondents prioritize safety above all, while still recognizing the importance of equity, congestion, and timely project completion.

SAFETY ANALYSIS

A robust five-year data analysis process was conducted to inform the decision making presented in this TSAP. The crash data presented in this report was gathered using the Tennessee Department of Transportation's (TDOT) Enhanced Tennessee Roadway Information Management System (E-TRIMS), a comprehensive database containing traffic safety data collected by law enforcement agencies statewide.

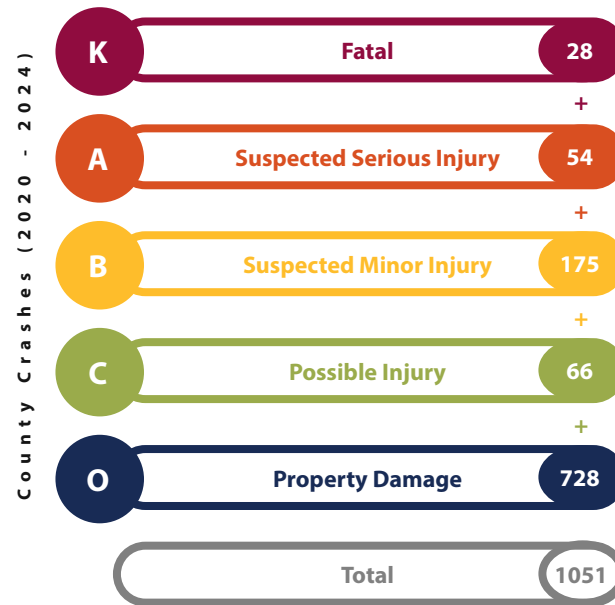


This section of the TSAP focuses on all crashes that occurred throughout Scott County from 2020-2024. While the primary focus of this document is improving safety within unincorporated communities, it is essential to consider countywide trends. Notably, most crashes in Scott County took place in unincorporated areas, meaning that the county-wide data follows very similar trends to the data from the unincorporated areas.

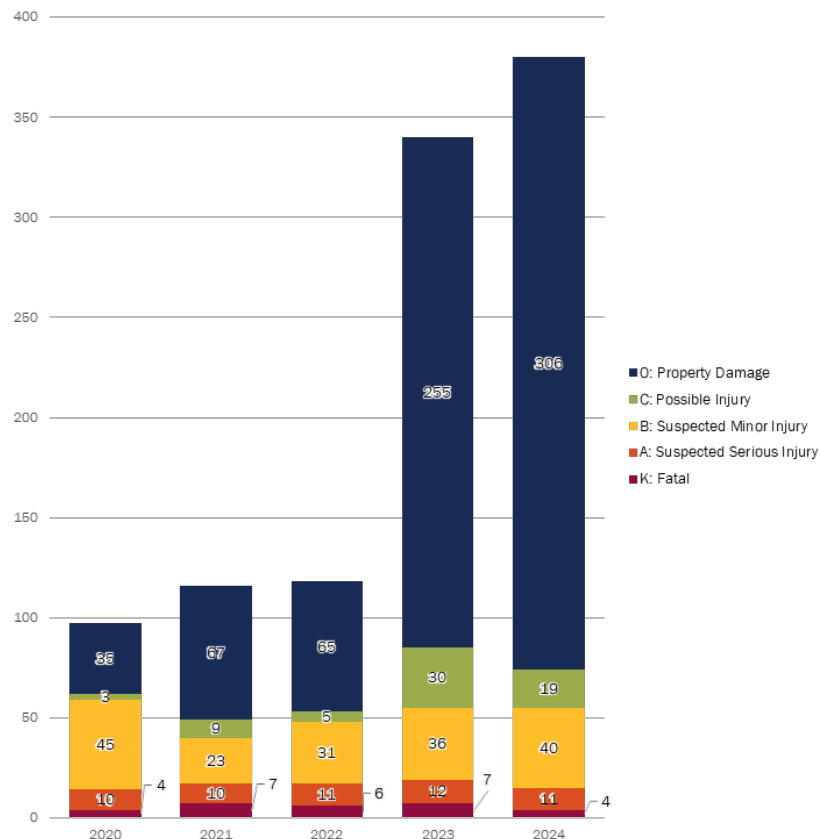


The data analysis for this action plan examines crashes by the most severe injury outcomes according to the KABCO scale. The KABCO Scale was developed by the Federal Highway Administration (FHWA) and is used by law enforcement agencies to classify crash severity.

Over the five-year crash analysis period (2020-2024), there were 1,051 crashes throughout Scott County, 30 individuals were killed, and 66 individuals were severely injured. Another 397 individuals suffered from other injuries and consequences.

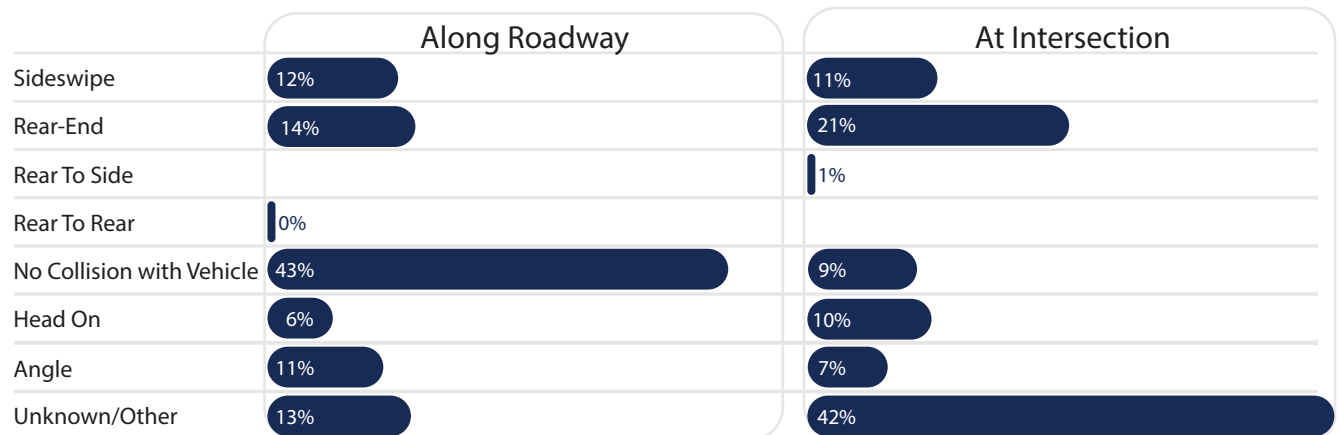


It is important to note that the total number of injured people and the total number of injury crashes represent two different counts. One crash can involve multiple injured individuals.



Understanding the full spectrum of traffic crashes throughout the county can reveal underlying issues such as driver behavior, road conditions, or weather patterns. By analyzing all crash types, The Scott County Safety Committee was able to identify contributing factors and behaviors, allowing for more comprehensive safety measures. Although the primary objective of this TSAP is to focus on preventing fatalities (K) and serious injuries (A), studying crashes that involve minor injury (B), possible injury (C), and property damage (O) can also provide detailed patterns and allow for proactive rather than reactive safety measures.

83% of all crashes occurred directly on the roadway and 17% occurred at intersections.



Crash Locations

Distinguishing between crashes that happen on the roadway and those that occur at intersections is crucial, as different types of crashes often require different safety interventions. Knowing where crashes take place helps prioritize specific actions, such as improving signage, adding traffic signals, or redesigning intersections.

Roadway crashes are dominated by single-vehicle incidents, while intersections crashes are dominated by multi-vehicle crashes, especially angled crashes.

Vulnerable Road Users

According to the National Road Safety Strategy, vulnerable road users (VRU) are road users not in a car, bus or truck. They are generally considered to include pedestrians, motorcycle riders, cyclists, children 7-years-and under, the elderly and users of mobility devices. In the event of a crash, VRUs have little to no protection from crash forces.

Pedestrian Safety in Morgan County



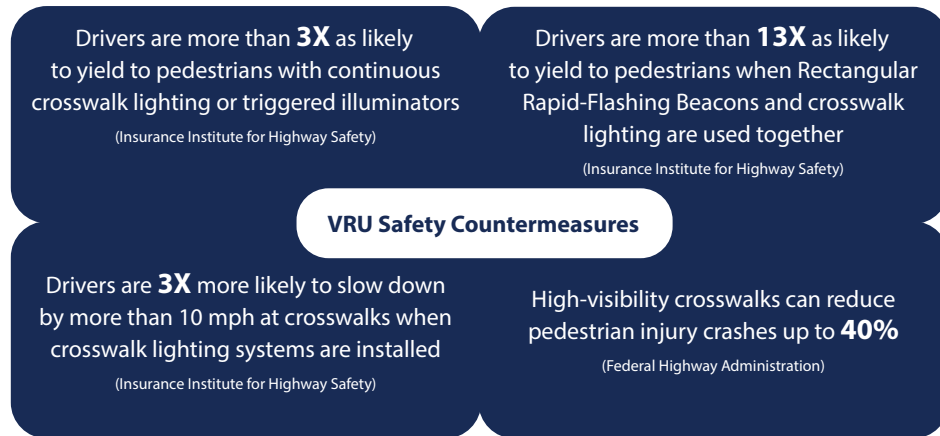
Of the 1051 Total Crashes,
7 involved pedestrians (<1%)

Of the 28 Total Fatal Crashes,
3 involved pedestrians



A small number of pedestrian crashes carry a disproportionately high cost in lives lost

Traffic comes with unpredictability, but patterns can be detected to alleviate potential crashes. Faster driving speeds contribute to longer stopping distances, smaller fields of vision, and increased pedestrian injuries and fatalities. Larger vehicles also require more stopping distance, have higher impact forces, and inflict increased pedestrian injuries and fatalities. The Governors Highway Safety Association (GHSA) has reported that from 2008 to 2019, pedestrian fatalities increased by 53%, while other traffic fatalities increased by 2%. The GHSA data also revealed that 81% of pedestrian fatalities occurred from dusk to dawn, highlighting potential visibility concerns. To mitigate these factors and other roadway hazards, it is crucial to Scott County to prioritize the safety of vulnerable users through countermeasures such as improved crosswalk visibility, efficient traffic calming strategies, and strict enforcement of speed limits to reduce and eliminate the risks of deaths and serious injuries.



Fatal (K) & Serious (A) Injury Crashes

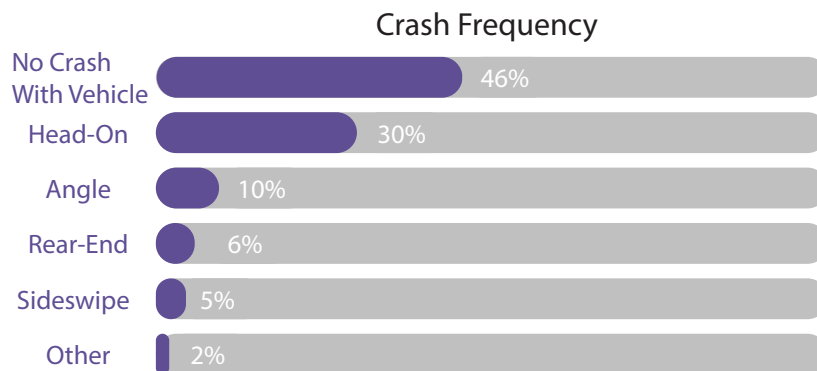
Fatal (K) and Serious (A) Injury crashes are unacceptable and must be prevented. The lives lost and the lives impacted serve as a glaring reminder of the cost of roadway crashes. The numbers presented through Scott County's crash data underscore the urgent need for safety measures, public awareness, and systemic reforms to prevent further tragedies. The minor injury (B), possible injury (C), and property damage (O) crashes show that preventative measures must be taken to improve road safety, reduce economic losses, and prevent further damage and loss. Scott County is committed to eliminating deaths and injuries on its roadways and that begins with ensuring that property damage (O) and minor/possible (BC) injury crashes do not escalate into fatal (K) and serious (A) injury crashes.

28 fatal (K) crashes and 54 serious injury (A) crashes lead to 30 deaths and 66 incapacitating injuries. To fully understand these crashes, it is crucial to investigate the underlying factors. Are they predominantly influenced by characteristics typical of rural driving, such as winding roads, limited visibility, animal encounters, or distracted driving? Or are there broader systemic issues, including insufficient road maintenance, poor signage, or a lack of enforcement? Identifying the root causes of these crashes is required for developing targeted solutions that address the safety challenges on Scott County's roadways.



Crash Trends

Of the 28 fatal (K) and 54 serious injury (A) car crashes throughout the county, approximately 46% were non-collision incidents, involving drivers striking non-vehicular objects. The other crash types are illustrated in below. The high percentage of non-collision crashes underscores the importance of addressing potential contributing factors such as roadway conditions, driver behaviors, and environmental factors. This data also provides insight into potential solutions that can be beneficial to eradicating these types of crashes.



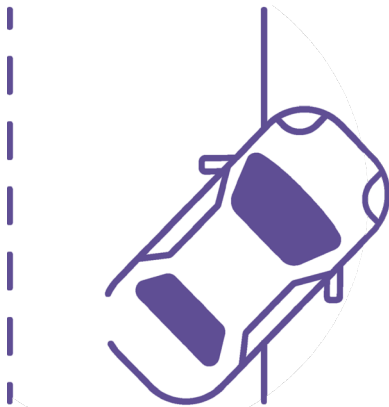
First Harmful Event	Frequency
Vehicle in Transport	42
Standing Tree	9
Earth Embankment	7
Pedestrian	7
Ditch	6
Overturn	2
Utility Pole	2
Curb	1
Deer (Animal)	1
Fell/Jumped from Vehicle	1
Fire/Explosion	1
Guardrail End	1
Set in Motion by Motor Vehicle	1
Vehicle in Transport in another Roadway	1
Total K & A Crashes	82

The analysis of harmful events in fatal (K) and serious (A) injury crashes provides insight into what is leading to injury/death in these crashes. Most crashes were attributed to vehicles in transport. While vehicle to vehicle crashes account for 42 of the K & A crashes in Scott County, this data also shows the safety risks posed by fixed object collisions and roadway departures, which contribute to the overall safety issues throughout the county.

Driver Behaviors

Driver behavior has a profound impact on the severity of crashes. Factors such as impaired reaction times, distraction, and fatigue not only increase the likelihood of collisions but also amplify their consequences. According to research from the National Highway Traffic Safety Administration, 90% of motor vehicle crashes are caused by driver-related factors. Understanding these behaviors allows for the identification of patterns and risk factors, enabling the development of targeted interventions to improve road safety. By focusing on driver vulnerability, safety measures can be tailored to address specific issues, such as promoting attentiveness, reducing distractions, and encouraging adherence to traffic laws.

Driver Action	Frequency
Lane Departure	31
No Contributing Actions	20
Failure to Yield Right of Way	8
Unknown/Other	5
Following Improperly	3
Over Correcting	3
Driving Left of Center	2
Failure to Obey Traffic Controls	2
Speed too Fast for Conditions	2
Swerved or Avoided	2
Exceeding Posted Speed Limit	1
Failure to observe Warnings or Instructions	1
Improperly Towing or Pushing Vehicle	1
Inattentive (Eating, Reading, Talking, etc)	1
Total K & A Crashes	82



Human Vulnerability

Human vulnerability plays a central role in the crash-risk. Road systems must be designed to anticipate inevitable human mistakes.

The Table (left) lists the driver actions that contributed to the fatal and serious injuries throughout the county. The data shows that around 38% of K & A injury crashes occurred when drivers veered off the roadway, deviating from their designated travel lane (Lane Departure).

The Table (below) lists the condition the driver exhibited during reports filed by law enforcement. Approximately 7% of K & A injury crashes occurred when drivers had been drinking. This demonstrates the continued risk posed by impaired driving, while also highlighting that the majority of severe crashes stem from other contributing factors.

Driver Conditions	Frequency
Appeared Normal	56
Unknown Condition	13
Had Been Drinking	6
Unknown/Other	5
Apparently Asleep	1
Ill (Sick)	1
Total K & A Crashes	82

Environmental Factors

Environmental conditions can contribute to crashes and examining patterns within these conditions can provide insight into where and how roadway conditions can be improved. Factors such as weather, lighting, and roadway surface conditions were evaluated for the 90 fatal (K) and serious (A) injury crashes throughout Scott County from 2020-2024. The table below summarizes the environmental factors reported during the analysis period. Approximately 34% of all K & A injury crashes during the analysis period occurred during dark conditions, where no roadway lighting was present. This suggests that inadequate lighting increases crash risk, particularly at nighttime. Other data presented in this table suggests that severe crashes are not primarily caused by poor weather or wet surfaces, but rather occur under clear weather, dry pavement, and daylight conditions. Safety strategies may be more effective if they focus on driver behavior, roadway design, and lighting improvements, rather than solely on weather or surface conditions.

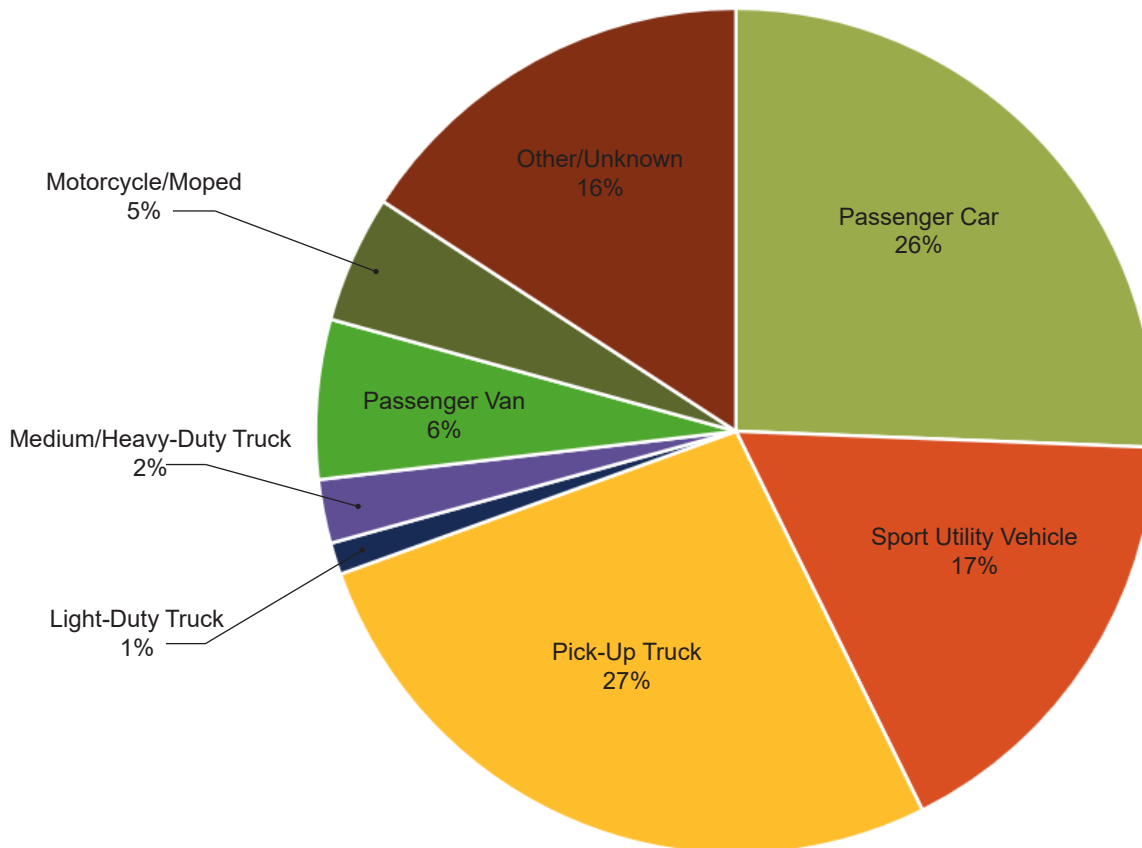


Condition	Year					Total (K & A)
	2020	2021	2022	2023	2024	
Weather						
Unknown	1	1	0	0	0	2
Clear	13	13	13	15	14	68
Cloudy	0	1	2	2	0	5
Fog	0	2	1	1	0	4
Rain	0	0	1	1	1	3
Total (K & A)	14	17	17	19	15	82
Light						
Dark - Lighted	1	2	1	0	1	5
Dark - Not Lighting	4	8	5	7	4	28
Dawn	0	0	0	1	0	1
Daylight	8	6	11	11	10	46
Dusk	1	1	0	0	0	2
Total (K & A)	14	17	17	19	15	82
Roadway Surface						
Dry	13	16	16	15	12	72
Sand, Mud, Dirt, Oil	1	1	0	1	0	3
Unknown	0	0	0	1	1	2
Wet	0	0	1	2	2	5
Total (K & A)	14	17	17	19	15	82

Modal Analysis

Knowing what vehicle mode was involved in fatal and serious injury crashes is important because different vehicle types have distinct sizes, weights, and safety features that influence crash severity and outcomes.

From 2020-2024, there were 82 crashes throughout Scott County that involved either a fatality and/or a serious injury. The chart below shows the breakdown of 82 crashes and which vehicle modes were involved in those crashes. Roughly 70% of crashes involved a personal vehicle like a passenger car, SUV, or pickup truck indicating that everyday drivers account for most collisions leading to fatalities and serious injuries.



Unincorporated Scott County

This section looks at crashes in unincorporated Scott County specifically, but the countywide data and trends still apply. Since crashes in the unincorporated areas make up over 43% of crashes in the whole county, the overall crash patterns are strongly influenced by what happens in these areas.

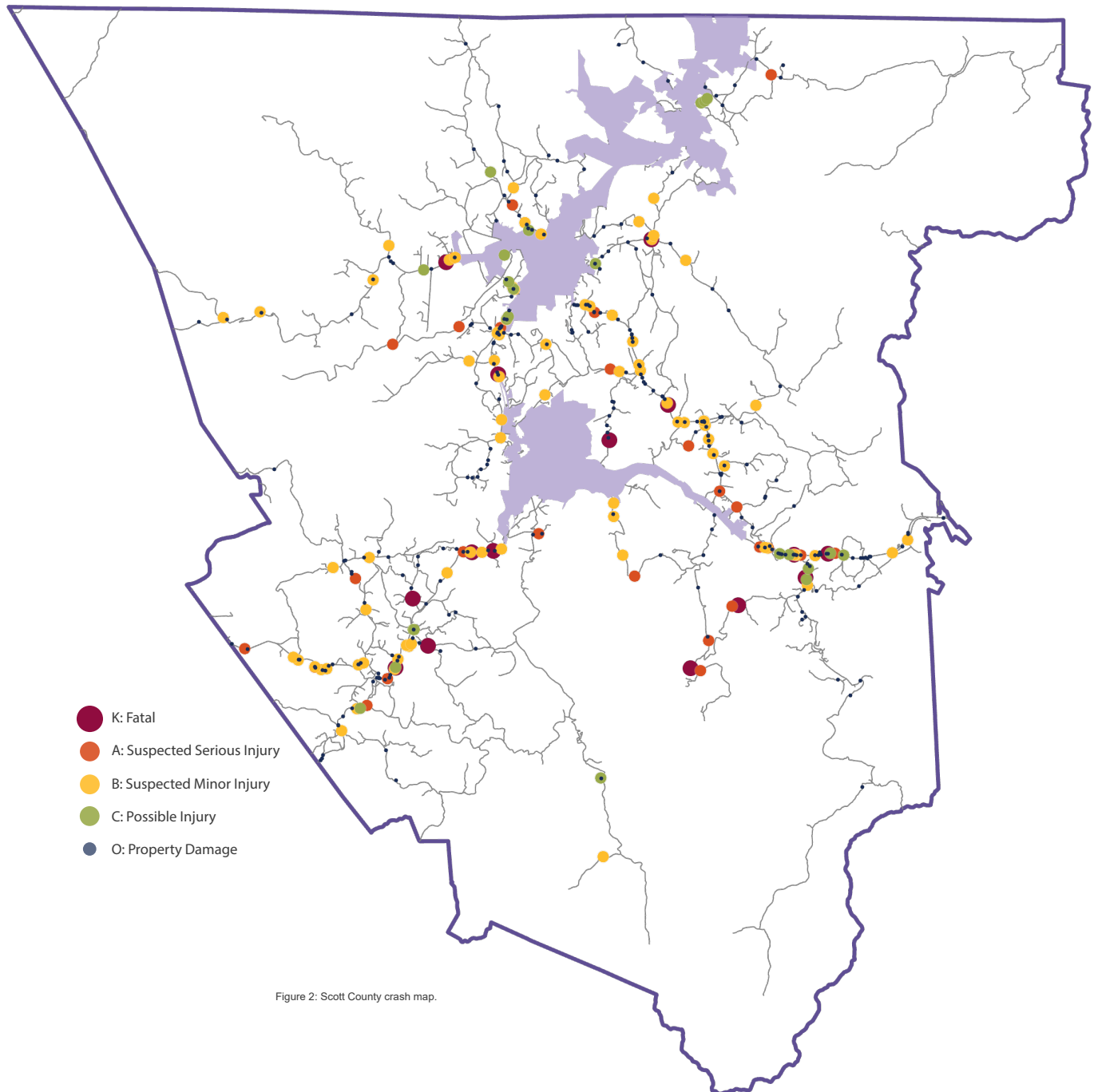


Figure 2: Scott County crash map.

During the analysis of crash trends across all unincorporated areas of Scott County, several key findings emerged. The data showed an almost even distribution of crashes between county-maintained and state-maintained roadways. In total, there were 15 fatal crashes and 26 crashes resulting in serious injuries throughout the county.



Further analysis of crash severity throughout Scott County showed that approximately 12% of crashes resulted in either a fatality or serious injury (K & A). Around 27% of crashes involved minor or possible injuries (B & C), while the majority (61%) resulted in property damage only (O). These findings highlight that although most crashes did not lead to severe outcomes, a significant portion still involved some level of injury. It is important to focus on preventing crashes from escalating in severity. The Scott County Safety Committee is committed to reducing the likelihood of serious injuries becoming fatal, minor injuries becoming serious, or property-damage-only crashes resulting in injuries.



Approximately **93%** of all unincorporated crashes occurred somewhere along the roadway

7% of all unincorporated crashes occurred at intersections



From 2020-2024, road users were impacted by crashes on unincorporated road in Scott County

Pedestrians		Motorists
1	Killed	15
3	Injured	26

State-Maintained Routes

Though this TSAP is primarily focused on roads maintained by Scott County, it is also crucial to prioritize road safety across all roads within the county, regardless of jurisdiction. Scott County crash data indicates that crashes on state-maintained routes in unincorporated areas occur at disproportionately high rates compared to their share of the road network. These routes, which make up only 8.6% of the total centerline miles, account for an astonishing 51% of all reported crashes and 56% of all fatal (K) and serious (A) injury crashes in unincorporated areas of the county.

Unincorporated			
Facility Type	Centerline Miles	Total Crashes	Fatalities + Serious Injuries
County Roads	460.74 (91.2%)	224 (49%)	20 (44%)
State Routes	43.35 (8.60%)	228 (51%)	25 (56%)
State Park Roads	1.33 (0.2 %)	0 (0%)	0 (0%)
Total	505.42 (100%)	452 (100%)	45 (100%)

As shown, state-maintained routes within the county experience high crash frequencies and pose significant safety concerns. These routes often serve as connector roads for residents, meaning crashes along them directly impact county communities. Although the county does not have direct jurisdiction over State routes, documenting these patterns provides an opportunity for multi-jurisdictional collaboration with TDOT. Coordinated planning and investment between the county and the state can help align safety priorities and ensure enhancements across the entire roadway network. The table below presents a summary of all state route crashes throughout unincorporated Scott County.

State Route	Total Crashes	Total Fatalities (K)	Total Incapacitating Injuries (A)	Total Minor Injuries (B)	Crashes at Intersections with County-Maintained Roads	AADT (2023)
SR029	79	5	7	43	9	14917
SR052	24	0	2	10	0	1447
SR063	44	2	3	26	2	9649
SR297	19	1	1	12	1	3820
SR456	62	1	3	32	9	7606
Total	228	9	16	123	21	

High Injury Network

A High Injury Network (HIN) is a tool used to identify specific roads and intersections within a community where severe and fatal traffic crashes occur most frequently. By analyzing crash data, areas that pose the greatest risk to all road users can be pinpointed. This targeted approach allows for the allocation of resources and implementation of safety measures where they are needed most, ultimately aiming to reduce serious injuries and fatalities on the road. The HIN for Scott County is mapped below. Scott County's HIN consists of 9 roadway segments (all under county ownership) as shown in Figure 3. **Crashes involving animals and impaired (under the influence of drugs or alcohol) drivers have been removed from the total crash count in the selection of the HIN.**

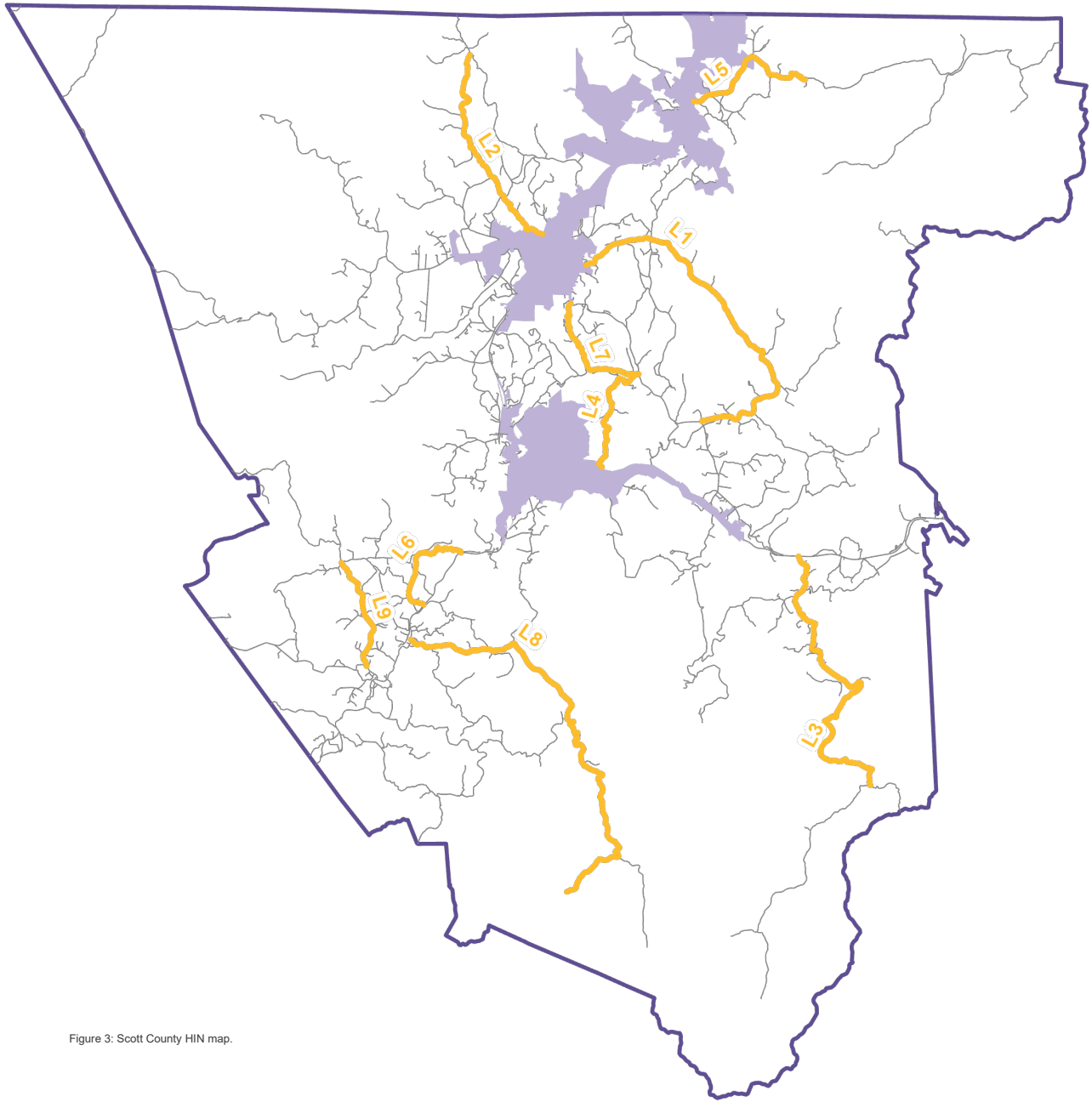


Figure 3: Scott County HIN map.

Map Label	Road Name	Total Crashes	Total Fatalities	Total Incapacitating Injuries	Total Minor Injuries	Speed Limit	AADT
L-1	Buffalo Rd.	16	1	0	3	25	1833
L-2	Grave Hill Rd.	11	0	1	8	25	1402
L-3	Norma Rd.	11	1	0	3		1913
L-4	Huntsville Hill Rd.	6	1	0	0	-	652
L-5	Pleasant Grove Rd.	6	0	1	4	-	1254
L-6	Old Hwy. 27	5	1	0	0	35	485
L-7	Tunnel Hill Rd.	6	0	1	0	35	-
L-8	Brimstone Rd.	5	1	0	2	-	190
L-9	West Robbins Rd.	5	0	1	3	35	348

Safety Concerns on Supplementary Roads

While the HIN highlights the corridors with the greatest concentration of severe crashes, several additional roadways in the county present notable safety issues that warrant attention. The tables below list roads and intersections of potential concern throughout Scott County, respectively.

Road Name	Total Crashes	Total Fatalities	Total Incapacitating Injuries	Total Minor Crashes	Ownership
Ditney Trail Rd.	9	0	0	2	County
Halenwood Loop Rd.	8	0	0	1	County
Cherry Fork Rd.	7	0	0	2	County
Verdun Rd.	6	0	0	10	County
River Rd.	6	0	1	4	County
Pine Grove Rd.	7	0	0	3	City
Leatherwood Rd.	7	0	0	3	State

Road Name	Total Crashes	Total Fatalities	Total Incapacitating Injuries	Total Minor Crashes
SR-63 & Winona Rd.	14	0	3	12
SR-29 & SR-63	34	2	5	23

Traffic Studies

Additional traffic studies were completed on roads of interest that did not have documented speed limits or traffic volumes. These studies provided essential speed, volume, and vehicle classification data needed to evaluate roadway safety performance and support crash analysis. All data was collected using pneumatic road-tube counters.

The study locations included the following roads in Scott County:

Ditney Trail Rd.	Cordell Rd.	Huntsville Hill Rd.	Old Hwy 27
Buffalo Rd.	Grave Hill Rd.	Hurricane Rd.	Pleasant Grove Rd.
Brimstone Rd.	Halenwood Loop Rd.	Norma Rd.	

Road Name	AADT	Posted Speed Limit (MPH)	85th Percentile Speed (MPH)
336 Ditney Trail Rd.	636.8	25	41
4859 Ditney Trail Rd.	318.2	25	35
1676 Buffalo Rd.	1307.6	25	48
9386 Buffalo Rd.	266.4	25	49
Brimstone Rd. (East of Ridge Rd.)	282.2	-	49
Cordell Rd.	53	-	33.5
Grave Hill Rd.	1402	35	45
Halenwood Loop Rd.	752	-	37
Huntsville Hill Rd.	521.6	-	43
Hurricane Rd.	27.5	-	31.5
Norma Rd.	1412.6	-	39
Old Hwy 27	477	35	50
Pleasant Grove Rd.	1401	-	55

Guardrail Safety Issues

Designed to prevent vehicles from leaving the roadway and encountering dangerous obstacles like cliffs, steep embankments, or fixed objects (such as trees, poles, or bridge supports), guardrails are critical components of roadside safety. However, guardrails themselves can become significant hazards if they are outdated, improperly maintained, or incorrectly installed. Guardrail standards have evolved over the years. It is possible that when the existing guardrail was installed, it met the standards in place at that time. Scott County aspires to ensure that guardrails do not become hazards themselves and can continue to provide safer roads for all. Through consistent attention and investment in roadside infrastructure, the county can significantly reduce the risks of roadway departures and make sure guardrails fulfill their intended role of saving lives.

Inadequate Guardrail Height and Structure

A key issue that can turn a guardrail into a hazard is its height or structural condition. Guardrails that do not meet current Federal Highway Administration (FHWA) standards, such as those less than 24 inches in height, are classified as non-functional. These low barriers are no longer capable of safely redirecting vehicles back onto the road. Particularly for larger or taller vehicles, low guardrails may cause the vehicle to vault over the top or slide beneath the rail, leading to rollovers, serious crashes, or even falls into dangerous off-road areas.

Outdated Guardrail Designs

Beyond height issues, outdated guardrail designs pose significant risks. Some outdated designs are less effective at absorbing or dissipating the energy from vehicle collisions compared to newer models. For instance, some guardrail end treatments designed decades ago have been linked to fatal crashes. A widely used guardrail end terminal, the ET-Plus, has sparked controversy for its role in crashes where the rail failed to crumble properly on impact. Instead of absorbing crash energy, it could impale vehicles, leading to life-threatening injuries.

Improper Guardrail Placement

Another issue arises when guardrails are installed in inappropriate locations or too close to the road's edge. Improper placement can increase risks for drivers, such as when guardrails are positioned along road sections with minimal chances of vehicle departure. In such cases, the guardrail may become a more dangerous obstacle than the natural surroundings. If a driver swerves to avoid an obstacle but instead strikes an improperly placed guardrail, the collision could cause more damage than if no guardrail were present.

Damaged or Deteriorating Guardrails

Guardrails that have sustained damage can also become hazards. Bent, broken, or misaligned rails may lack the structural integrity to stop or redirect a vehicle in a collision effectively. According to FHWA guidelines, if a guardrail is pushed more than 18 inches out of alignment or if three or more posts are damaged or detached from the rail, it is no longer functional. In such cases, the guardrail may collapse upon impact, allowing the vehicle to break through and collide with the obstacles it was designed to protect against.

Defective Guardrail End Treatments

Guardrail end treatments are another area where guardrails can become hazardous. These end sections soften the impact of a vehicle hitting the end of the guardrail, preventing a collision with a rigid, immovable object. However, when these treatments are outdated, poorly installed, or damaged, they may fail to function correctly. Some outdated models have been known to "spear" vehicles upon impact, drastically increasing the risk of fatalities or severe injuries. Ensuring that all end treatments meet safety standards and are correctly installed is vital to reducing harm. Priority should be given to replacing end treatments that no longer meet safety standards, especially in high-traffic or high-risk areas.

Inconsistent Guardrail Coverage and Gaps

Inconsistent guardrail coverage or gaps in guardrail systems can also pose serious hazards. Large gaps in guardrail coverage can leave sections of the road unprotected, allowing drivers to swerve into these unguarded areas and encounter dangerous roadside hazards. Additionally, inconsistent coverage can confuse drivers, undermining their sense of protection. A continuous, well-maintained guardrail system is essential for ensuring that drivers remain shielded from off-road dangers.

County-Wide Countermeasures

The following 28 countermeasures proven to improve roadway safety are listed as general benefits that can be applied to all areas of concern throughout the county:

Countermeasure	Safety Benefit
Speed Management	
Speed Safety Cameras	Deters speeding, reducing crash frequency
Variable Speed Limits	Adjusts speeds for safety during variable conditions
Appropriate Speed Limits for All Road Users	Aligns speed limits with road characteristics and conditions
Pedestrian & Bicyclist	
Bicycle Lanes	Provides dedicated space for cyclists, reducing crossing crashes
Crosswalk Visibility Enhancements	Increases driver awareness of pedestrians, reducing crossing crashes
Leading Pedestrian Interval	Gives pedestrians a head start, lowering turning conflicts with vehicles
Medians and Pedestrian Refuge Islands in Urban and Suburban Areas	Offers safe mid-crossing refuge, reducing pedestrian injury risk
Pedestrian Hybrid Beacons	Alerts drivers to pedestrian crossings, improving safety at mid-block locations
Rectangular Rapid Flashing Beacons (RRFB)	Enhances driver awareness of crosswalks, reducing pedestrian crashes
Road Diets (Roadway Reconfiguration)	Slows traffic and creates space for non-motorized users, reducing crash frequency
Walkways	Provides a safe path for pedestrians, separating them from vehicles
Roadway Departure	
Wider Edge Lines	Enhances lane visibility, reducing run-off-road crashes
Enhanced Delineation for Horizontal Curves	Improves curve visibility, decreasing curve-related crashes
Longitudinal Rumble Strips and Stripes on Two-Lane Roads	Alerts drivers to lane departures, preventing crashes
SafetyEdge	Ensures a safe return to the roadway shoulder
Roadside Design Improvements at Curves	Provides clear guidance and recovery areas on curves
Median Barriers	Prevents crossover crashes by separating opposing traffic
Intersections	
Backplates with Retroreflective Borders	Improves signal visibility, reducing intersection crashes
Corridor Access Management	Reduces conflict points and improves traffic flow, lowering crash risk
Dedicated Left- and Right- Turn Lanes at Intersections	Separates turning traffic, reducing angle and rear-end crashes
Reduced Left-Turn Conflict Intersections	Minimizes left-turn collisions by separating turning movements
Roundabouts	Slows traffic and eliminates angle crashes, reducing severe crashes
Systematic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections	Improves safety at multiple intersections efficiently with low-cost treatments
Yellow Change Intervals	Gives drivers adequate warning before signals change, reducing red-light running crashes
Crosscutting	
Pavement Friction Management	Maintains skid resistance, enhancing vehicle control
Lighting	Improves visibility, reducing nighttime crashes
Local Road Safety Plans	Identifies and addresses local safety issues systematically
Road Safety Audit	Provides an independent safety review of road projects

Policy and Process Changes

Evaluation process for assessing current policies, plans, guidelines, and standards was conducted by the Scott County Safety Committee to identify opportunities to enhance transportation safety.

On a local level, there are few existing plans devoted to safety issues in Scott County, but this TSAP has been developed to address that gap by providing a framework for prioritizing and enhancing safety measures. It marks the beginning of a structured approach to improving transportation safety throughout the country.

The following transportation plans have been reviewed and will serve to address issues in Scott County as well as the entire state of Tennessee:

TDOT 25-Year Long-Range Transportation Policy Plan: Safety, Security, and Transportation Resilience

The TDOT 25-Year Long-Range Transportation Policy Plan outlines a strategic vision for advancing safety, security, and resilience across Tennessee's transportation system. The plan focuses on integrating detection, to reduce accidents and enhance overall road safety. It also emphasizes strengthening infrastructure against natural and human-caused threats, including upgrading critical roadways and bridges to withstand extreme weather and other potential threats. Additionally, the plan advocated comprehensive risk management strategies and emergency response frameworks to ensure quick recovery and minimal disruption during unforeseen events. By establishing clear long-term goals and implementing proactive measures, this policy paper aims to create a robust and adaptive transportation network that meets the evolving needs of the state.

TDOT Strategic Highway Safety Plan (SHSP)

The Tennessee Department of Transportation's Strategic Highway Safety Plan (SHSP) aims to reduce traffic fatalities and serious injuries by using data-driven strategies to address key issues like impaired driving, speeding, and pedestrian safety. The plan focuses on targeted actions, collaboration with various stakeholders, and ongoing evaluations to improve road safety across the state.

TDOT Highway Safety Improvement Program (HSIP) Annual Report

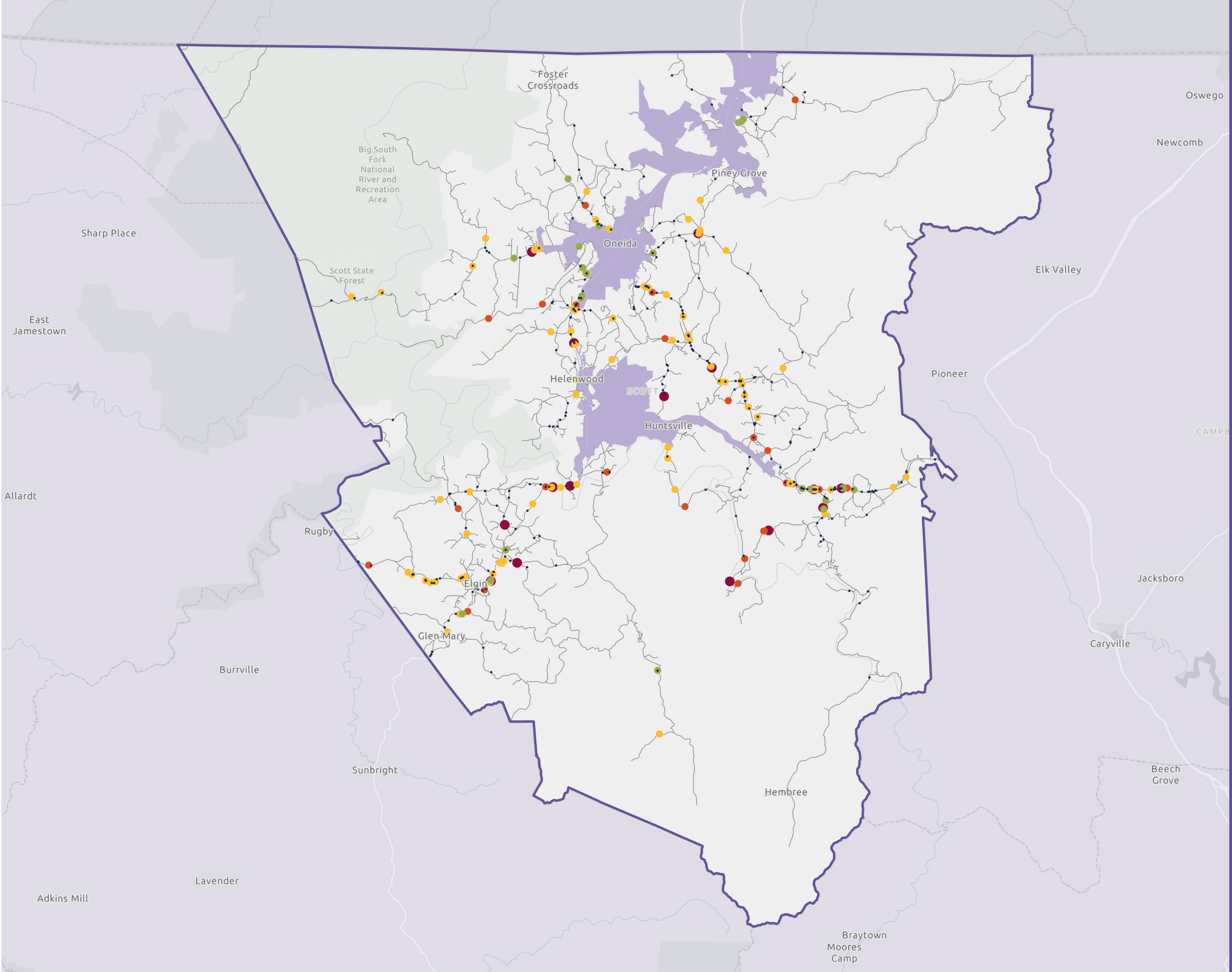
The Tennessee Department of Transportation's Highway Safety Improvement Program (HSIP) Annual Report highlights the program's efforts to enhance roadway safety through targeted projects and funding. It includes details on the implemented safety measures, and performance metrics showing their impact on reducing crashes.

Progress and Transparency

This TSAP is designed to be a living document and will evolve over time. To maintain transparency in the progress of this TSAP, Scott County will publish this document along with any amendments for the public to access. This information will allow the public to explore safety trends and project data, providing a clear view of our progress toward achieving Vision Zero goals and the steps taken to address safety concerns. Such transparency will hold us accountable in our bold approach to improving street safety for everyone.

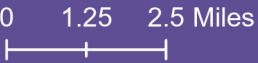
APPENDIX A

All crashes
on Scott County
maintained roads
2020 to 2024



- Fatal
- Suspected Serious Injury
- Suspected Minor Injury/
Possible Injury
- Possible Injury
- Property Damage

— Scott County
Maintained Roads



**All crashes
on Scott County
maintained roads
2020 to 2024**



_____ Scott County
Maintained Roads



0 1.25 2.5 Miles

APPENDIX B

Safety Countermeasure	Location	CMF	CMF ID	CMF Description	Applicability	Prior Condition Requirement	Volume Requirements
Rumble Strips and stripes	Centerline	0.56	3358	Install centerline rumble strips	All crashes besides property damage	No centerline rumble strips	Not Specified
Rumble Strips and stripes	Edgleline	0.67	3394	Install edgeline rumble strips	Run off road crashes. Applies to K (fatal),A (serious injury),B (minor injury),C (possible injury)	No Prior Condition(s)	Minimum of 180 to Maximum of 12776 Average Daily Traffic (ADT)
Chevron Signs at curves	Horizontal curves	0.82	2431	Install chevron signs on horizontal curves	All crashes besides property damage	No existing sign or sign without fluorescent sheeting	Minimum of 895 to Maximum of 20479 Annual Average Daily Traffic (AADT)
Chevron Signs at curves	Horizontal curves	0.84	2438	Install chevron signs on horizontal curves	All crashes besides property damage	No existing signs	Minimum of 261 to Maximum of 14790 Annual Average Daily Traffic (AADT)
Flatten sideslope from 1V:3H to 1V:4H	Roadside	0.92	4627	Flatten sideslope from 1V:3H to 1V:4H	Single Vehicle Crashes	No Prior Condition(s)	Not Specified
Flatten sideslope from 1V:4H to 1V:6H	Roadside	0.88	4632	Flatten sideslope from 1V:4H to 1V:6H	Single Vehicle Crashes	No Prior Condition(s)	Not Specified
Speed Safety Cameras	Urban Locations	0.632	7718	Installation of automated speed enforcement system. Determines average speed of vehicle over a long distance.	All crashes besides property damage	No Point-to-Point Automated Section Speed Enforcement System	Not Specified
Provide intersection illumination	Intersection	0.58	436	Provide intersection illumination	Nightttime, Vehicle/pedestrian. Applies to A (serious injury),B (minor injury),C (possible injury) crashes	No Prior Condition(s)	Not Specified
Provide intersection illumination	Intersection	0.62	433	Provide intersection illumination	Nightttime crashes, Applies to A (serious injury),B (minor injury),C (possible injury) crashes	No Prior Condition(s)	Not Specified
Provide highway lighting	Intersection	0.72	192	Provide highway lighting	Nightttime crashes, Applies to A (serious injury),B (minor injury),C (possible injury) crashes	No Prior Condition(s)	Not Specified
Provide intersection illumination	Intersection	0.67	2376	Provide intersection illumination	Angled Crashes	Rural 2-lane intersection with no lighting.	Major Road Traffic Volume: Minimum of 420 to Maximum of 15200 Minor Road Traffic Volume: Minimum of 80 to Maximum of 10400
Install safety edge treatment	Shoulder	0.892	9205	The safety edge is a low-cost treatment that is implemented in conjunction with pavement resurfacing and is intended to help minimize drop-off-related crashes.	K (fatal),A (serious injury),B (minor injury) crashes	Drop-off pavement edge	Minimum of 10 to Maximum of 18600 Annual Average Daily Traffic (AADT)
Install safety edge treatment	Shoulder	0.79	9211	The safety edge is a low-cost treatment that is implemented in conjunction with pavement resurfacing and is intended to help minimize drop-off-related crashes.	Run off road crashes	Drop-off pavement edge	Minimum of 10 to Maximum of 18600 Annual Average Daily Traffic (AADT)
Install safety edge treatment	Shoulder	0.813	9217	The safety edge is a low-cost treatment that is implemented in conjunction with pavement resurfacing and is intended to help minimize drop-off-related crashes.	Head on crashes. Excludes intersection-related crashes and animal-related crashes.	Drop-off pavement edge	Minimum of 10 to Maximum of 18600 Annual Average Daily Traffic (AADT)
Introduce TWLTL (two-way left turn lanes) on rural two lane roads	Roadway	0.64	583	Introduce TWLTL (two-way left turn lanes) on rural two lane roads	All crashes	No Prior Condition(s)	Not Specified
Set posted speed limit 5 mph below engineering recommendations	Roadway	0.43	10250	Set posted speed limit 5 mph below engineering recommendations	Property Damage crashes only	Posted speed limit set equal to engineering recommendations	Not Specified
Installation of fixed speed cameras	Roadside	0.78	8183	Installation of fixed speed cameras on arterials limited access freeways	All crashes besides property damage	No speed camera present	8419 Annual Average Daily Traffic (AADT)
Install dynamic speed feedback sign	Roadside	0.78	10265	System consisting of a speed measuring device and a message sign that displays feedback to those drivers who exceed a predetermined threshold. It may be the actual speed, a message such as SLOW DOWN, or activation of a warning device, such as beacons or a curve warning sign	Crash Type: Other	No dynamic speed feedback sign present	Not Specified

Safety Countermeasure	Location	CMF	CMF ID	CMF Description	Applicability	Prior Condition Requirement	Volume Requirements
Install a traffic signal	Intersection	0.56	325	Install a traffic signal	All crashes	Stop controlled intersection	Major Road Traffic Volume: Minimum of 3261 to Maximum of 29926 Annual Average Daily Traffic (AADT) Minor Road Traffic Volume: Minimum of 101 to Maximum of 10300 Annual Average Daily Traffic (AADT)
Install a traffic signal	Intersection	0.23	326	Install a traffic signal	Angled Crashes	No Prior Condition(s)	Major Road Traffic Volume: Minimum of 3261 to Maximum of 29926 Annual Average Daily Traffic (AADT) Minor Road Traffic Volume: Minimum of 101 to Maximum of 10300 Annual Average Daily Traffic (AADT)
Install a traffic signal	Intersection	0.4	327	Install a traffic signal	Left-turn crashes	No Prior Condition(s)	Major Road Traffic Volume: Minimum of 3261 to Maximum of 29926 Annual Average Daily Traffic (AADT) Minor Road Traffic Volume: Minimum of 101 to Maximum of 10300 Annual Average Daily Traffic (AADT)
Install lighting	Roadway	0.46	2870	Install lighting	All nighttime crashes with severity levels: A (serious injury),B (minor injury),C (possible injury)	Unlit roads	Not Specified
Provide 2-ft paved shoulders (both sides)	Shoulder	0.88	10398	Provide 2-ft paved shoulders on both sides of 2-lane rural roads	All run off road crashes	No Prior Condition(s)	Minimum of 30 to Maximum of 15900 Annual Average Daily Traffic (AADT)

APPENDIX C

Map Label	Road Name	Total Crashes	Total Fatalities	Capacitating Injuries	Minor Injuries	Speed Limit	AADT	Type of Crash	Manner of Crash	Weather Conditions	Light Conditions	Vehicle Maneuver	Roadway Surface Conditions	Most Harmful Event	Driver Actions
L-1	Buffalo Rd.	16	1	0	3	25	1833	12-Property Damage 2-Suspected Minor Injury 1-Fatal 1-Possible Injury	11-No Collision W/ Vehicle 2-Unknown 2-Angle 1-Head-On	12-Clear 1-Unknown 1-Cloudy 1-Fog 1-Snow	10-Daylight 3-Dark-Not Lighted 1-Unknown 1-Dark-Lighted 1-Dark-Unknown Lighting	7-Going Straight 5-Negotiating A Curve 2-Unknown 1-Turning Left 1-Turning Right-RTOR Permitted Not Known	12-Dry 2-Wet 1-Unknown 1-Snow or Slush	3-Ditch 2-Unknown 2-Overturn 2-Standing Tree 2-Vehicle in Transport 1-Concrete Traffic Barrier 1-Earth Embankment 1-Fire/Explosion 1-Guardrail Face 1-Vehicle in Transport in other Roadway	9-No Contributing Actions 4-Lane Departure 1-Failure to Obey Traffic Controls 2-Unknown
L-2	Grave Hill Rd.	11	0	1	8	25	1402	6-Property Damage 2-Possible Injury 2-Suspected Minor Injury 1-Suspected Serious Injury	8-No Collision W/ Vehicle 1-Unknown 1-Head-On 1-Sideswipe	6-Clear 3-Unknown 1-Cloudy 1-Rain	5-Daylight 3-Dark-Not Lighted 2-Dark-Lighted 1-Unknown	6-Going Straight 3-Negotiating A Curve 1-Unknown 1-Turning Left	8-Dry 2-Wet 1-Unknown	3-Ditch 3-Overturn 2-Vehicle in Transport 1-Standing Tree 1-Unknown 1-Utility Pole	6-No Contributing Actions 4-Lane Departure 1-Swerved or Avoided
L-3	Norma Rd.	11	1	0	3		1913	7-Property Damage 2-Possible Injury 1-Fatal 1-Suspected Minor Injury	7-No Collision W/ Vehicle 2-Sideswipe 1-Head-On 1-Unknown	9-Clear 1-Rain 1-Snow	8-Daylight 1-Dark-Not Lighted 1-Dark-Unknown Lighting 1-Unknown	5-Negotiating A Curve 4-Going Straight 2-Unknown	6-Dry 2-Unknown 2-Wet 1-Snow or Slush	3-Unknown Harmful Event 2-Ditch 2-Vehicle in Transport 1-Other Fixed Object 1-Overturn 1-Set In Motion By Motor Vehicle 1-Standing Tree	4-Lane Departure 3-Unknown Action 3-No Contributing Actions 1-Driving Left of Center
L-4	Huntsville Hill Rd.	6	1	0	0	-	652	5-Property Damage 1-Fatal	4-No Collision W/ Vehicle 1-Sideswipe 1-Unknown	3-Clear 2-Cloudy 1-Fog	4-Daylight 1-Dark-Lighted 1-Dark-Not Lighted	3-Negotiating A Curve 1-Going Straight 1-Not Applicable 1-Unknown	4-Dry 2-Wet	2-Standing Tree 1-Ditch 1-Earth Embankment 1-Unknown Harmful Event 1-Vehicle in Transport	3-No Contributing Actions 2-Lane Departure 1-Unknown
L-5	Pleasant Grove Rd.	6	0	1	4	-	1254	3-Possible Injury 2-Property Damage 1-Suspected Serious Injury	5-No Collision W/ Vehicle 1-Unknown	4-Clear 1-Fog 1-Snow	4-Daylight 1-Dark-Lighted 1-Dark-Not Lighted	3-Going Straight 2-Negotiating A Curve 1-Backing Up Other Than Parking	5-Dry 1-Ice	2-Overturn 1-Ditch 1-Earth Embankment 1-Pedestrian 1-Unknown	3-No Contributing Actions 1-Driver Distracted 1-Lane Departure 1-Speed too Fast for Conditions
L-6	Old Hwy. 27	5	1	0	0	35	485	4-Property Damage 1-Fatal	2-Unknown 1-Angle 1-No Collision W/ Vehicle 1-Sideswipe	2-Unknown 2-Clear 1-Rain	3-Daylight 2-Unknown	2-Unknown 2-Negotiating A Curve 1-Going Straight	2-Unknown 2-Dry 1-Wet	2-Unknown 2-Vehicle in Transport 1-Utility Pole	2-Lane Departure 2-No Contributing Actions 1-Unknown
L-7	Tunnel Hill Rd.	6	0	1	0	35	-	5-Property Damage 1-Suspected Serious Injury	3-No Collision W/ Vehicle 1-Angle 1-Head-On 1-Sideswipe	4-Clear 2-Other	6-Daylight	4-Negotiating A Curve 1-Going Straight 1-Turning Left	5-Dry 1-Wet	1-Ditch 1-Other Non-Collision 1-Overturn 1-Vehicle in Transport 1-Vehicle in Transport in other Roadway 1-Work Vehicle	2-Speed too Fast for Conditions 1-Inattentive (Eating, Reading, Talking, etc.) 1-No Contributing Actions 1-Over Correcting 1-Unknown
L-8	Brimstone Rd.	5	1	0	2	-	190	3-Property Damage 1-Fatal 1-Possible Injury	3-No Collision W/ Vehicle 1-Other 1-Sideswipe	5-Clear	3-Daylight 2-Dark-Not Lighted	2-Negotiating A Curve 1-Going Straight 1-Leaving A Parked Position 1-Unknown	4-Dry 1-Sand, Mud, Dirt or Oil	1-Ditch 1-Earth Embankment 1-Standing Tree 1-Unknown Harmful Event 1-Vehicle in Transport	3-No Contributing Actions 1-Driving Left of Center 1-Lane Departure
L-9	West Robbins Rd.	5	0	1	3	35	348	3-Property Damage 1-Suspected Minor Injury 1-Suspected Serious Injury	4-No Collision W/ Vehicle 1-Rear-End	3-Clear 1-Rain 1-Snow	5-Daylight	2-Going Straight 2-Negotiating A Curve 1-Backing Up Other Than Parking	3-Dry 1-Snow or Slush 1-Wet	2-Standing Tree 1-Other Fixed Object 1-Overturn 1-Vehicle in Transport	2-No Contributing Actions 1-Lane Departure 1-Unknown 1-Speed too Fast for Conditions