

Safe Streets and Roads for All Safety Action Plan

Danville Metropolitan Planning Organization

Acknowledgments

The Danville Metropolitan Planning Organization developed this plan with regional collaboration through the SS4A Working Group and input from the people who live, work, and play in the Danville region.

Danville MPO Staff Team

- Kristie Eberly, Executive Director
- Joe Bonanno, Senior Planner

SS4A Working Group

- Lee Vogler, City of Danville
- Vic Ingram, Pittsylvania County
- Marc Adelman, Danville Transit
- Maggie Richardson, The Health Collaborative
- Diana Schwartz, River District Association
- Chris Wiles, City of Danville Police Department
- Chris Key, Pittsylvania County Public Safety
- Carol Tuning, Disability Rights and Resource Center
- Winfred Fallen, Ballou Recreation Center
- Chris Winstead, VDOT
- Carson Eckhardt, VDOT
- Rick Youngblood, VDOT
- Brian Dunevant, City of Danville
- Johnny Mills, Danville Life Saving Crew
- David Whitley, City of Danville Police Department
- Bryan Price, Virginia Rural Health

Prepared by:

EPRPC

List of Acronyms

AADT: Average Annual Daily Traffic

ADA: Americans with Disabilities Act

DRCC: Disability Rights and Resource Center

DRPT: Virginia Department of Rail and Public Transportation

CEJ: Climate and Economic Justice

EMT: Emergency Medical Technician

ETC: Equitable Transportation Community

FHWA: Federal Highway Administration

GIS: Geographic Information Systems

HIN: High Injury Network

HSIP: Highway Safety Improvement Program

K&A: Fatality (K) and serious injury (A) (referring to crash severity)

mph: miles per hour

MPO: Metropolitan Planning Organization

PBSAP: Pedestrian and Bicycle Safety Action Plan

PSI: Potential for Safety Improvement

RCUT: Restricted Crossing U-Turn

SMART SCALE: System Management and Allocation of Resources for Transportation: Safety, Congestion, Accessibility, Land Use, Economic Development, and Environment.

SS4A: Safe Streets and Roads for All

STEM: Science, Technology, Engineering, and Math

USDOT: United States Department of Transportation

VA: Virginia

VDOT: Virginia Department of Transportation

Table of Contents

Introduction	6
Community Engagement	10
Summary of Crash and Equity Data Analysis	12
Crash Data	13
High Injury Network and High Crash Intersections.....	20
Project Prioritization and Countermeasure Recommendations	24
Project Safety Corridor Recommendations.....	24
A. West Main Street	27
B. Memorial Drive/Craghead Street	31
C. Riverside Drive/River Street (US 58 Business)/South Boston Road	35
D. Piedmont Drive/Piney Forest Road	40
E. US 29.....	45
F. Franklin Turnpike	50
G. Kentuck Road.....	55
Recommendations for Systemic Safety Countermeasures.....	59
Additional Proven Safety Countermeasures.....	68
Strategy Recommendations.....	71
Priority Actions	75
Implementation and Evaluation	82

List of Figures

Figure 1: The Safe System Approach (FHWA)	8
Figure 2: Safety Action Plan Goals	9
Figure 3: Stakeholders at the Safety Summit	10
Figure 4: Conversation with Community Member at Juneteenth Block Party	11
Figure 5: Resident Gives Input on Traffic Safety Issues	11
Figure 6: SS4A Team Gathers Input at Food Truck Rodeo	12
Figure 7: Yearly Fatalities and Serious Injuries Danville MPO Area, 2018-2023	13
Figure 8: Fatalities by Road User Type, Danville MPO, 2018-2023	14
Figure 9: Population Emphasis Areas and Crash Severity, Danville MPO, 2018-2023.....	18
Figure 10: Danville Region Emphasis Areas	19

Figure 11: Danville MPO High Injury Network and High Crash Intersections	21
Figure 12: High Injury Network and ETC Explorer Disadvantaged Areas, Danville MPO	23
Figure 13: Priority Safety Corridors	26
Figure 14: West Main Street Crash Characteristics	29
Figure 15: Memorial Drive Crash Characteristics	32
Figure 16: Riverside drive/River Street/South Boston Road Crash Characteristics	36
Figure 17: Piney Forest Road Crash Characteristics	42
Figure 18: US 29 Crash Characteristics	47
Figure 19: Franklin Turnpike Crash Characteristics	52
Figure 20: Kentuck Road Crash Characteristics	56
Figure 21. Before and After images of Westover Drive Roadway Reconfiguration.	69
Figure 22: Craghead Street at Wilson Street Aerial Imagery.....	70

List of Tables

Table 1: Fatal and Serious Injury Crash Type by Year, 2018-2023	15
Table 2: Fatal and Serious Injury Crash Contributing Factors	16
Table 3: Demographic Characteristics in Fatal and Serious Injury Crashes, 2018-2023.....	17
Table 4: Fatal (K) and Serious Injury (A) Night Crashes Involving Vulnerable Road Users....	18
Table 5: Fatal and Serious Injury Crashes by Emphasis Area and Locality, 2018-2023	19
Table 6: High Injury Network Crashes, Danville MPO	20
Table 7: West Main Street Corridor Characteristics	27
Table 8: Fatal (K) and Serious Injury (A) Crashes on West Main Street, 2018-2023.....	27
Table 9: Memorial Drive Corridor Characteristics.....	31
Table 10: Fatal (K) and Serious Injury (A) Crashes on Memorial Drive	33
Table 11: Riverside Drive/River Street/South Boston Road Corridor Characteristics.....	35
Table 12: Fatal (K) and Serious Injury (A) Crashes on Riverside Drive Corridor	37
Table 13: Riverside Drive Corridor Improvement Study Recommendations	38
Table 14: Piney Forest Road Corridor Characteristics	40
Table 15: Fatal (K) and Serious Injury (A) Crashes on Piney Forest Road	40
Table 16: US 29 Corridor Characteristics.....	45
Table 17: Fatal (K) and Serious Injury (A) Crashes on US 29, 2018-2023	45
Table 18: US 29 Previously Identified Improvements	48
Table 19: Franklin Turnpike Corridor Characteristics	50
Table 20: Fatal (K) and Serious Injury (A) Crashes on Franklin Turnpike, 2018-2023.....	50
Table 21: Kentuck Road Corridor Characteristics.....	55
Table 22: Fatal (K) and Serious Injury (A) Crashes on Kentuck Road, 2018-2023	55
Table 23: Roadway Width Criteria	61

Table 24: High Crash Intersections 64
Table 25: Priority Segments 66

Appendices

Engagement Summary

Safety Summit Summary

Safety Project Recommendations from Prior Studies

VDOT HSIP Expanded Systemic Program Countermeasure Reference Sheets

Self-Certification Checklist

DRAFT

Introduction

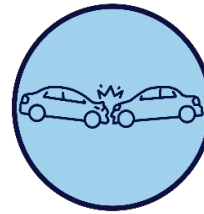
Every year, 12 people are killed, and 95 people are seriously injured in traffic crashes in the Danville urbanized area. Traffic fatalities and serious injuries are a major concern in the region, with the Danville Metropolitan Planning Organization (MPO) ranking second among Virginia MPOs in both crash rate and fatal crash rate.¹

On July 11, 2024, the Danville MPO adopted a goal to reduce the number of traffic-related fatalities and serious injuries by 50 percent by 2045. This document - the Safe Streets and Roads for All Safety Action Plan – prepares a path to achieving this goal.

About this Plan

The Safe Streets and Roads for All (SS4A) grant program was introduced in the Bipartisan Infrastructure Law (BIL) to fund regional and local initiatives to prevent roadway fatalities and serious injuries. This program supports the U.S. Department of Transportation’s (USDOT) National Roadway Safety Strategy which is working toward a goal of zero roadway fatalities using a Safe System Approach.

This Safety Action Plan closely examines road safety issues in the Danville region and identifies crash trends and emphasis areas – factors that are highly correlated to fatal and serious injury crashes – to guide plan recommendations. It also identifies a High Injury Network (HIN) – a small proportion of the region’s road network that accounts for the majority of the region’s fatal and serious injury



Every year **12** people in the Danville area die in traffic crashes, and **95** people are seriously injured.



DANVILLE - WEDNESDAY EVENING MOTOR VEHICLE CRASH: At around 7:30 p.m. on Wednesday evening, May 29. Danville's Emergency Services...

Woman dead, driver injured after fatal crash in Danville



PITTSYLVANIA COUNTY

27-year-old killed, multiple injured in crash on Rt. 41 in Pittsylvania County

¹ VDOT, 2021. “Virginia’s 2022-2026 Strategic Highway Safety Plan (SHSP).” Accessed December 3, 2024 from <https://www.vdot.virginia.gov/about/safety-plan/>.

crashes – and examines equity considerations to identify areas that experience disproportionate burdens related to transportation inequities. The plan documents input gathered from the public engagement efforts, designed to include typically under-represented populations.

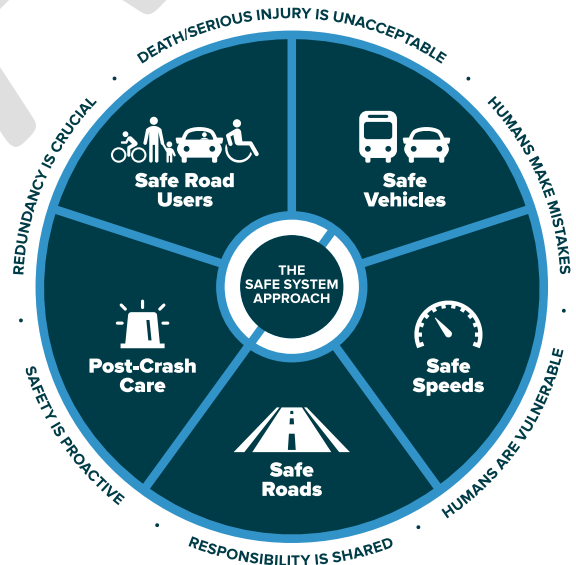
The recommendations presented in this plan are based on a deep understanding of traffic safety issues and acknowledge roadway improvement projects already underway. Countermeasures are recommended for priority safety corridors to address each corridor’s unique safety needs, as well as systemic safety recommendations based on the presence of risk factors and the potential for future crashes.

This plan also recommends strategies, including programs, tactics, and collaboration efforts needed beyond infrastructure changes. Finally, the plan identifies the highest priority actions with concrete next steps. It assigns responsibilities for moving forward with planners and engineers working collaboratively with elected officials, law enforcement, emergency responders, community groups, public health organizations, schools, and many others. These recommendations should be implemented together as part of the Safe System Approach to reduce deaths and serious injuries on the Danville region’s roads.

Safe System Approach

The Safe System approach is a holistic, proactive framework for road safety that emphasizes designing transportation systems to prevent serious injuries and fatalities, regardless of human error.

It shifts the focus from reducing crashes to minimizing the risk of fatal and severe injuries by addressing all elements of the transportation system. This approach recognizes that humans make mistakes, but those mistakes should not result in death or serious harm.



SAFE SYSTEM PRINCIPLES



Death/Serious Injury is Unacceptable

While no crashes are desirable, the Safe System approach prioritizes crashes that result in death and serious injuries, since no one should experience either when using the transportation system.



Humans Make Mistakes

People will inevitably make mistakes that can lead to crashes, but the transportation system can be designed and operated to accommodate human mistakes and injury tolerances and avoid death and serious injuries.



Humans Are Vulnerable

People have limits for tolerating crash forces before death and serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates human vulnerabilities.



Responsibility is Shared

All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes don't lead to fatal or serious injuries.



Safety is Proactive

Proactive tools should be used to identify and mitigate latent risks in the transportation system, rather than waiting for crashes to occur and reacting afterwards.



Redundancy is Crucial

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

Figure 1: The Safe System Approach (FHWA)

By incorporating these principles and elements, the Safe System approach aims to create a transportation network where road users are protected, and serious injuries or fatalities are significantly reduced.

Safety Action Plan Goals

Four primary goals were developed to realize the vision of reducing roadway deaths within the Danville urbanized area, reflecting the Safe System Approach.

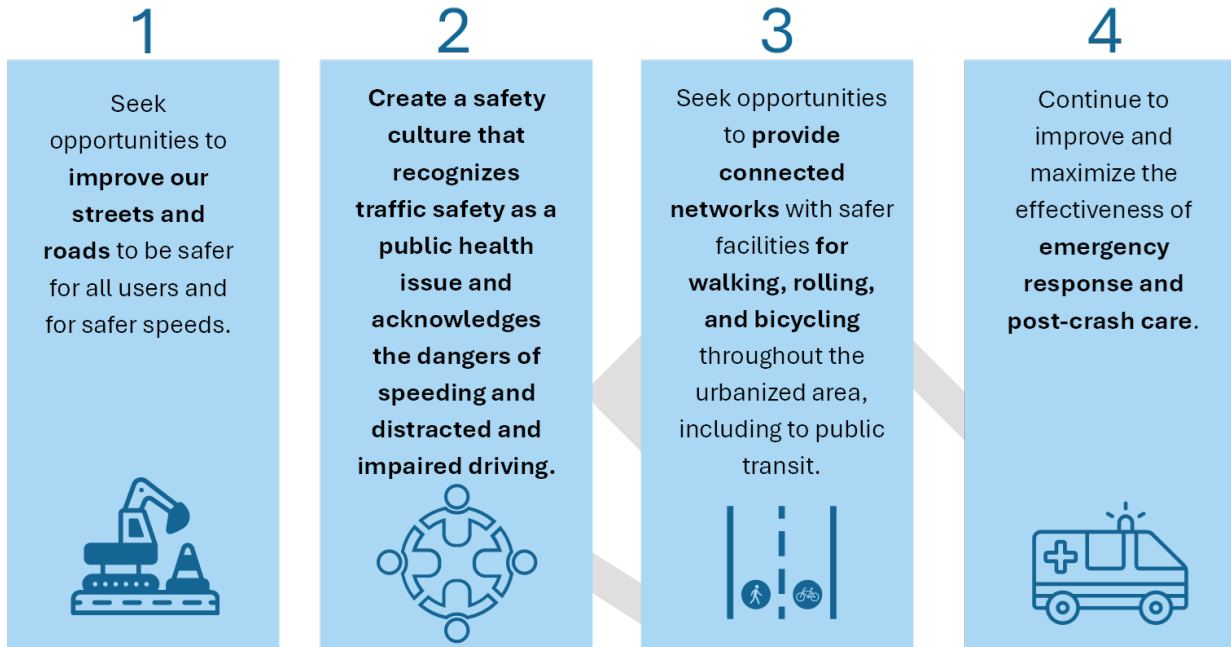


Figure 2: Safety Action Plan Goals

Community Engagement

The project kicked off in January 2024, with a presentation and discussion with the Danville MPO Policy Board. Wider community engagement efforts began in March of 2024 and will continue through 2025 and beyond to assist with implementation and monitoring of the plan.

Safety Partners and Stakeholders

The Project Working Group consists of members selected from various local agencies and organizations working on different roadway safety and equity elements with representation from:

- Danville MPO
- Danville Public Schools
- Virginia Department of Transportation (VDOT)
- Health Collaborative
- Virginia Rural Health
- Danville Transit
- Danville River District Association
- Danville Lifesaving Crew
- Pittsylvania Public Safety
- Disability Rights and Resources Center (DRRC)
- Other local organizations

The Working Group provided input on the outreach strategy and key stakeholders served as project ambassadors and reviewed crash data.

Public Outreach

To better understand issues and concerns around traffic safety in the region, the project team conducted a public engagement process that included:

- An areawide public survey with over 100 respondents
- One-on-one discussions with more than 150 residents at community events:
 - City of Danville Employee and Retiree Health and Wellness Fair
 - Danville Farmers' Market



Figure 3: Stakeholders at the Safety Summit

- Bridge Street Food Truck Rodeo
- Health Collaborative -
Pittsylvania County Chapter Meeting
- Juneteenth Block Party
- Latino Health Fair
- Stakeholder Interviews
 - Danville River District
 - Disability Rights and Resources Center
 - Danville Transit
 - Virginia Department of Transportation
- Safety Summit to prioritize corridors and discuss draft actions



Figure 4: Conversation with Community Member at Juneteenth Block Party

The team heard valuable feedback from vulnerable populations, including older adults, young adults, people living with disabilities, and people who walk, bike, and use transit. Key takeaways from the public engagement process, including the survey, individual discussions, and stakeholder interviews are detailed below:

Speeding

Speeding emerged as a primary concern with routine speeding cited on roads such as Piney Forest Road, Halifax Road, Westover Drive, Main Street, Craghead Street, Piedmont Drive, and Riverside Drive. Additionally, speeding in work zones was raised as a significant safety concern, with Public Works employees highlighting risks they face during roadway projects.

Traffic Control

Red light running was a critical safety concern, particularly at intersections along Riverside Drive, S. Boston Road, Kentuck Road, Memorial Drive, and Piney Forest Road. Many of these intersections also faced speeding issues, as people tried to avoid waiting at red lights or felt the signal timing was too short. Concerns were raised about stop sign compliance in

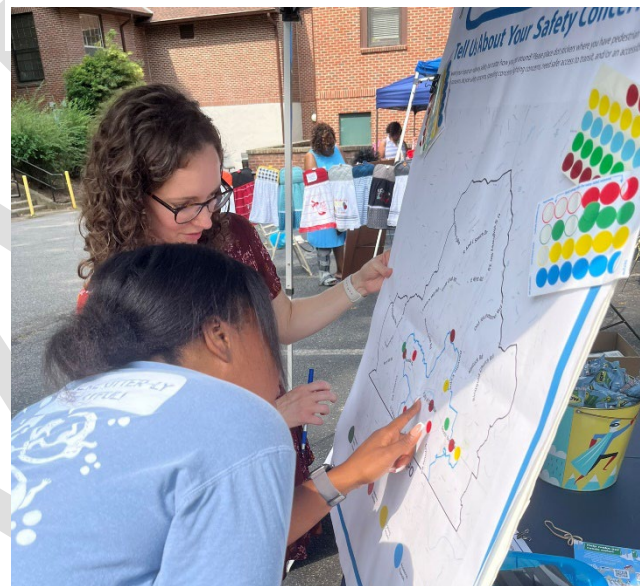


Figure 5: Resident Gives Input on Traffic Safety Issues

downtown areas and the lack of stop signs in residential neighborhoods. Busy roads, such as Route 29, were criticized for having insufficient traffic control beyond major intersections.

Pedestrian Safety

Several locations were identified as unsafe for pedestrians, including Main Street, school zones, shopping centers, Piney Forest Road, Halifax Road, and Piedmont Drive. Concerns included narrow sidewalks, a lack of crosswalks, high-speed traffic, poor nighttime visibility, and drivers failing to yield to pedestrians. Many drivers reported difficulty seeing pedestrians at night.



Figure 6: SS4A Team Gathers Input at Food Truck Rodeo

Distracted Driving

Distracted driving was a recurring concern. Community members often linked distracted driving to speeding issues, suggesting a need for greater attention to driver behavior and improved enforcement.

Roadway Maintenance

Road conditions, particularly potholes, were cited as safety concerns contributing to hazardous driving conditions and pedestrian safety risks.

Safety Summit

On September 20, 2024, the Danville MPO held a Safety Summit to gather input from stakeholders and residents to help develop the Safety Action Plan recommendations. The participants reviewed the findings from the crash and equity data analysis and public input. Attendees participated in several facilitated activities to gather input on the priority corridors and action planning.

A full summary of the engagement activities can be found in the Appendix.

Summary of Crash and Equity Data Analysis

A **Safety and Equity Analysis Considerations Report** was compiled to help identify projects and strategies to improve roadway safety. In conformance with USDOT SS4A guidance, the safety analysis includes:

- Crash data analysis,
- High Injury Network (HIN) identification, and
- Equity considerations.

Crash Data

This plan emphasizes reducing and eliminating deaths and serious injuries. Therefore, the crash analysis explored crash trends and contributing factors with a focus on fatal (K) and serious injury (A) crashes; VDOT crash data within the Danville MPO study area over a six-year period (2018-2023) was used, totaling 7,433 crashes including 562 K+A crashes and 642 people injured or killed due to these crashes. 397 K+A crashes occurred in the City of Danville, and 165 K+A crashes occurred in the Pittsylvania County portion of the MPO area.

Figure 7 summarizes the total number of **people** who were killed or seriously injured each year within the Danville MPO area between 2018 and 2023. Serious injuries declined from 2018-2020 but have risen in recent years. Fatalities have remained relatively consistent over the six-year period.

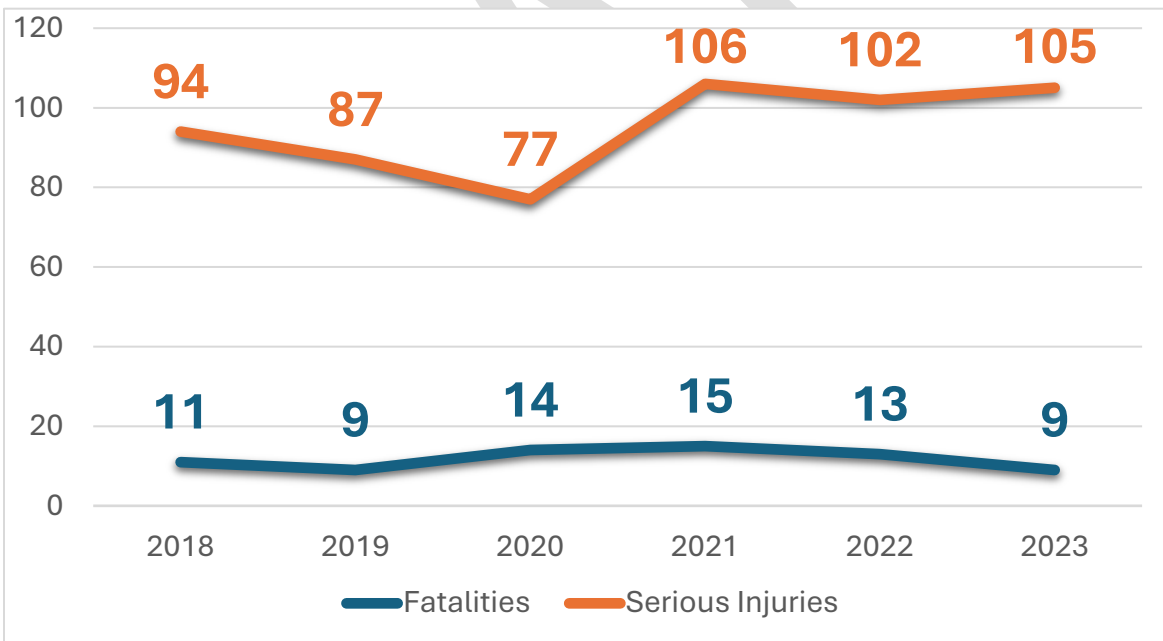


Figure 7: Yearly Fatalities and Serious Injuries (# of people) Danville MPO Area, 2018-2023

Seventy-one (71) **people** were killed, and 571 **people** were seriously injured as a result of motor vehicle crashes between 2018 and 2023. The 71 fatalities include eight pedestrians, seven motorcyclists, one bicyclist, and 55 vehicle drivers or occupants. **Figure 8** summarizes the types of roadway users killed over the six-year period and the distribution of between the City of Danville and Pittsylvania County. These numbers differ slightly from the number of crashes because more than one person may be killed or seriously injured in one crash.

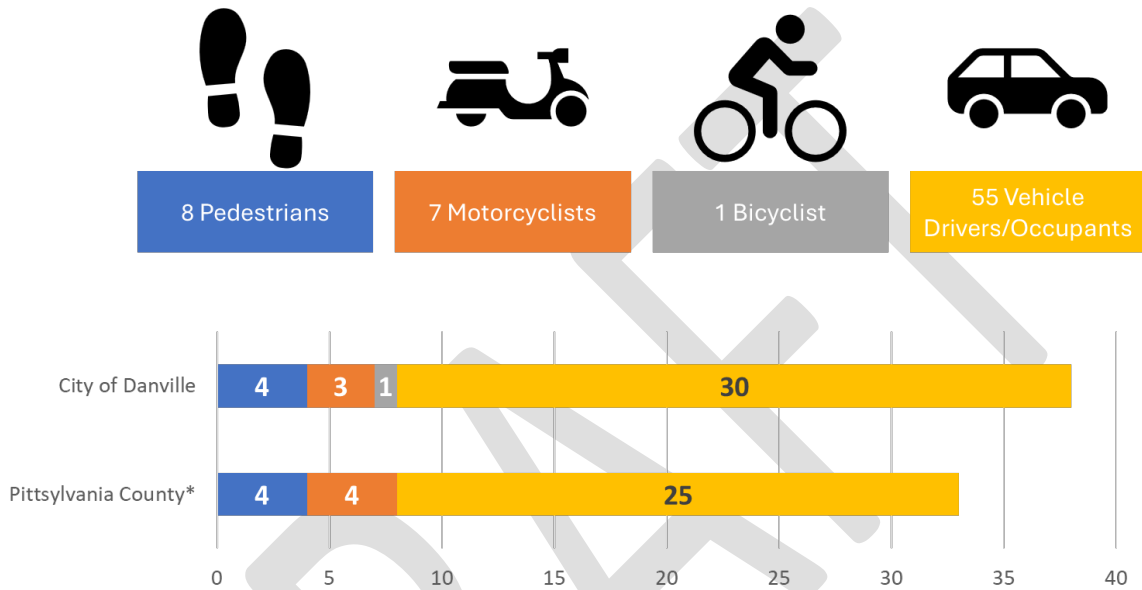


Figure 8: Fatalities by Road User Type, Danville MPO, 2018-2023

The most common crash type among the fatal and serious injury crashes reported in the six-year analysis period was **Fixed Object–Off Road crashes, which account for approximately 31 percent (31%) of all fatal and serious injury crashes in the Danville MPO study area.** Angle crashes, at 24%, were the next most common crash type. **Table 1** summarizes the fatal and serious injury crashes reported during the six-year analysis period by crash type.

Table 1: Fatal and Serious Injury Crash Type by Year, 2018-2023

Crash Type	2018	2019	2020	2021	2022	2023	Total
Fixed Object – Off Road	25	24	32	41	29	23	174
Angle	27	14	19	24	26	24	134
Rear End	13	14	11	14	14	16	82
Other	5	11	4	12	10	10	52
Head On	9	6	7	10	6	9	47
Ped	4	4	1	6	7	7	29
Non-Collision	4	3	4	2	2	3	18
Sideswipe – Same Direction	0	1	3	0	5	3	12
Sideswipe – Opposite Direction	0	3	0	0	0	4	7
Fixed Object in Road	1	2	0	0	1	1	5
Deer	1	0	0	0	0	0	1
Other Animal	0	0	0	1	0	0	1
Total	89	82	81	110	100	100	562

Environmental Factors

Understanding the environmental factors that contribute to crashes can help determine countermeasure selection to improve safety and better accommodate the traveling public. For the 562 fatal and serious injury crashes reported in the Danville MPO study area, environmental factors such as lighting, weather, and surface conditions were also evaluated to identify trends. **Table 2** summarizes the contributing factors as reported during the six-year analysis period.

Table 2 summarizes the environmental conditions that may have contributed to the crashes during the six-year analysis period.

Table 2: Fatal and Serious Injury Crash Contributing Factors

Light Conditions	2018	2019	2020	2021	2022	2023	Total
Daylight	64	52	47	66	56	66	351
Darkness – Road Lighted	14	11	12	27	27	17	108
Darkness – Road Not Lighted	8	14	18	13	12	14	79
Dusk	3	3	3	2	4	1	16
Dawn	0	2	1	2	1	2	8
Total	89	82	81	110	100	100	562
Surface Conditions	2018	2019	2020	2021	2022	2023	Total
Dry	78	76	69	98	88	88	497
Wet	9	6	11	11	10	12	59
Snowy	0	0	0	0	2	0	2
Icy	1	0	1	0	0	0	2
Other¹	1	0	0	1	0	0	2
Total	89	82	81	110	100	100	562
Weather Conditions	2018	2019	2020	2021	2022	2023	Total
No Adverse Conditions	81	77	69	101	91	88	507
Rain	6	4	11	6	5	7	39
Mist	1	1	0	3	1	3	9
Fog	1	0	1	0	0	1	3
Snow	0	0	0	0	2	0	2
Sleet/Hail	0	0	0	0	1	0	1
Other¹	0	0	0	0	0	1	1
Total	89	82	81	110	100	100	562

Lighting Conditions

Between 2018 and 2023, one in four crashes, nearly half of all fatal crashes and half of all pedestrian crashes, occurred at night.

Nearly 10% of all crashes in the Danville MPO occurred during darkness where the road was not lit, and this percentage increased to 14% for fatal and serious injury crashes, 19% for fatal and serious pedestrian injuries, and 29% for all fatal crashes. Of the 29 pedestrian crashes, 24% of those were at intersections in darkness and 45% occurred in darkness at non intersections.

Between 2018 and 2023, 87% of fatal and injury crashes in the Danville MPO that occurred in darkness where the road was not lighted were not at an intersection. Roadway lighting can reduce nighttime injury crashes on rural and urban highways up to 28%, and even more so at intersections.

FHWA’s Lighting Handbook was recently updated in 2023 and provides recommendations for the design and application of roadway lighting, identifying potential needs, benefits, and applicable references. The 2023 FHWA Lighting Handbook is available at <https://highways.dot.gov/safety/other/fhwa-lighting-handbook-2023>.

Surface Conditions

Approximately 10% of fatal and serious injury crashes reported in the Danville MPO study area during the six-year analysis period occurred during wet surface conditions, and approximately 7% occurred during rainy weather conditions.

Demographic Patterns

The 562 fatal and serious injury crashes were evaluated for patterns related to certain at-risk populations including aging drivers (age 65 or older), teenage drivers, and drivers under the influence of alcohol or drugs. **Table 3** summarizes the proportion of crashes that involved each of these demographic characteristics. Note that the crashes quantified in **Table 3** are not mutually exclusive; two or more of the demographic categories included in the table could be involved in any one crash.

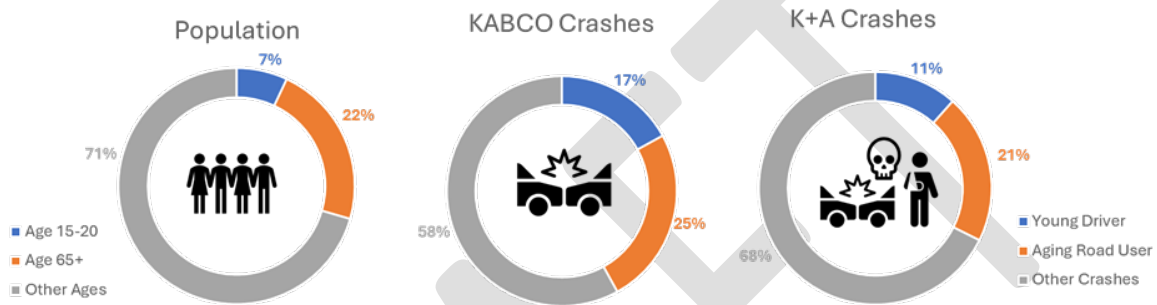
Table 3: Demographic Characteristics in Fatal and Serious Injury Crashes, 2018-2023

Demographic Information	No. of K+A Crashes	Percentage of Crashes that are K+A
Aging Driver	117	20.8%
Young Driver Crashes	65	11.6%
Alcohol Involvement	80	14.2%
Drug Involvement	13	2.3%
Distraction-Related Crashes	77	13.7%
Drowsy-Related Crashes	45	8.0%
All Crashes	562	

Approximately 14% of fatal and serious injury crashes reported in the Danville MPO study area during the six-year analysis period involved alcohol use by one or more of the individuals involved in the crash, and approximately 2% involved drug use.

Figure 9 shows the percentage of crashes involving young and aging drivers in comparison to the rest of the driving population. Young drivers and aging road users account for a disproportionate share of crashes compared to their share of the overall population. Although crashes involving these populations occur more often, they tend to result in less severe injuries. Note that the crashes quantified in **Figure 9** and **Table 4** are not mutually exclusive: two or more of the demographic categories included in the table could be involved in any one crash.

Figure 9: Population Emphasis Areas and Crash Severity, Danville MPO, 2018-2023.



Aging drivers (over 65) were involved in approximately 21% of fatal and serious injury crashes reported during the six-year analysis period, and young (age 15-20) drivers were involved in approximately 11% of fatal and serious injury crashes.

Vulnerable Road Users

Between 2018-2023, there were 32 K+A crashes involving pedestrians, 5 involving bicycles and 44 involving motorcyclists. These crashes are more likely to result in death or serious injury.

Half of the pedestrian crashes, 20% of the bicycle crashes, and 39% of the motorcycle crashes occurred at night. **Table 4** summarizes the pedestrian, bicycle, and motorcycle crashes.

Table 4: Fatal (K) and Serious Injury (A) Night Crashes Involving Vulnerable Road Users, 2018-2023

	K+A Crashes Involving Pedestrians	K+A Crashes Involving Bicycles	K+A Crashes Involving Motorcycles	All K+A Crashes
Night Crashes	16	1	17	187
All Crashes	32	5	44	562
Percentage of Crashes Occurring at Night	50.0%	20.0%	38.6%	33.3%

Emphasis Areas

In addition to collision types, the analysis evaluated the crash data by emphasis areas. The [Virginia 2022-2026 Strategic Highway Safety Plan \(SHSP\)](#) identifies emphasis areas as predominant factors that contribute to or result in roadway fatalities and serious injuries. The study team used this approach to organize data analysis to understand what behaviors or roadway conditions contribute to crashes and identify solutions geared towards addressing those behaviors or conditions. The safety analysis revealed that **speeding, roadway departure, intersection concerns, occupant protection, and impaired driving** were the top emphasis areas present in fatal and serious injury crashes in the Danville region. **Table 5** summarizes the fatal and serious injury crashes by Emphasis area. Note one crash can fall under multiple emphasis areas.



Figure 10: Danville Region Emphasis Areas

Table 5: Fatal and Serious Injury Crashes by Emphasis Area and Locality, 2018-2023

Emphasis Areas	City of Danville		Pittsylvania County		Danville MPO	
	Fatalities	Serious Injuries	Fatalities	Serious Injuries	Fatalities	Serious Injuries
Motorcyclists	4	27	3	14	7	41
Pedestrians	4	16	4	13	8	29
Bicyclists	1	4	0	0	1	4
Young Drivers	5	42	6	26	11	68
Aging Road Users	7	87	7	30	14	117
Occupant Protection	17	79	22	47	39	126
Impaired Driving	17	108	13	38	30	146
Speeding	19	98	23	46	42	144
Heavy Vehicles	2	18	5	17	7	35
Intersections	14	216	10	56	24	272
Hit-and-Run	2	31	1	6	3	37
Roadway Departures	15	130	19	71	34	201

Speeding was the leading cause of fatal crashes among all emphasis areas. Other significant factors in fatal and serious injury crashes include not wearing a seatbelt and impaired driving. These behaviors contribute most to deaths and serious injuries from traffic crashes in the Danville MPO. The most common types of driver impairments are alcohol and distracted driving.

High Injury Network and High Crash Intersections

The crash data analysis identified a High Injury Network (HIN) – a selection of roads and streets in the study area where most of the fatal and serious injury crashes occurred. The HIN for the Danville MPO includes 68.3 miles of roads, about 8% of the area’s road network, yet it accounts for 63% of the area’s fatal and serious injury crashes, based on crash data from 2018 to 2022. The High Injury Network is shown in **Figure 11**.

Table 6: High Injury Network Crashes, Danville MPO

Crash Severity	Crashes on the HIN	All Crashes	Percentage of Crashes that Occurred on the HIN
K	36	59	61.0%
A	254	403	63.0%
B	374	621	60.2%
C	692	1,265	54.7%
O	1,751	3,736	46.9%
K+A	290	462	62.8%
All (KABCO)	3,107	6,084	51.1%

For a further analysis of the HIN, please refer to the **Safety and Equity Analysis Report**.

High Injury Network Segments and High Crash Intersections 2018-2022

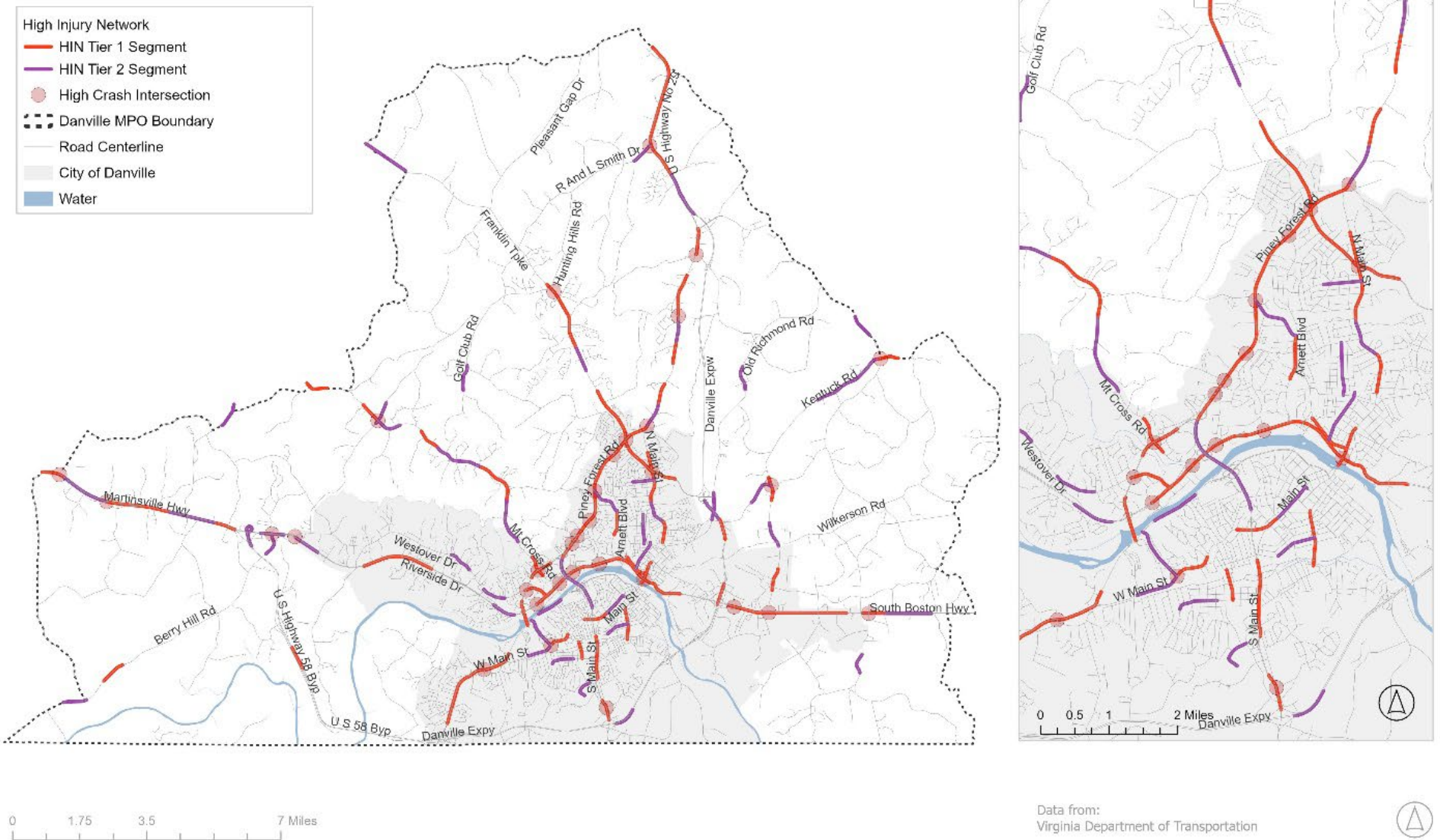


Figure 11: Danville MPO High Injury Network and High Crash Intersections

Equity Considerations

While improving safety for all roadway users is a primary objective of this plan, it is important to consider equity by assessing how safety impacts may vary amongst socioeconomic groups as well as to ensure countermeasures proposed are diverse in project type and location. Equity was a common thread that informed much of the approach for identifying the High Injury Network (HIN), conducting engagement, and prioritizing projects. Equity considerations include identifying underserved communities through data and other analyses in collaboration with appropriate partners. The equity analysis used the data sets provided by USDOT's Equitable Transportation Community (ETC) Explorer.

This tool uses various metrics to identify disadvantaged areas based on transportation insecurity, environmental burden, social vulnerability, health vulnerability, as well as climate and disaster risk burden components. The ETC Explorer uses census tract boundaries from 2020.

Figure 12 shows the areas within the Danville MPO that qualify as disadvantaged according to the ETC methodology, and the location of the High Injury Network.

The equity analysis showed various disadvantages across the Danville MPO area. Overall, 81% of the High Injury Network is in a disadvantaged area.

The Safety and Equity Data Analysis results helped inform priority safety corridors and corridor recommendations identified during the Safety Summit, as well as the strategies and countermeasures sections of this action plan.

Disadvantaged Census Tracts - ETC Explorer & High Injury Network

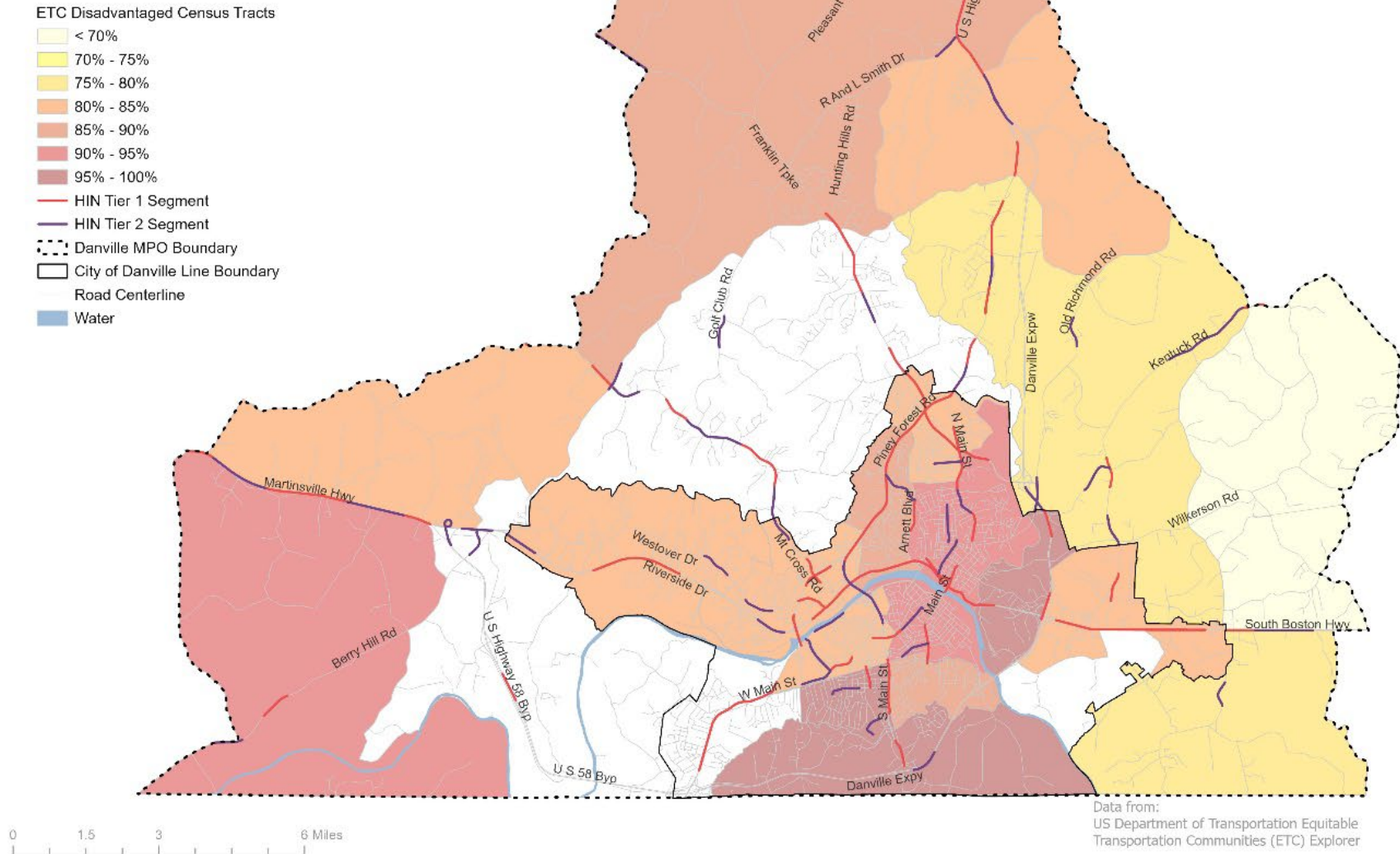


Figure 12: High Injury Network and ETC Explorer Disadvantaged Areas, Danville MPO

Project Prioritization and Countermeasure Recommendations

The existing environment plays a major role in roadway safety. Improper design, lack of bicycle and pedestrian facilities, and deferred maintenance are just a few of the infrastructure-related factors that can contribute to deadly crashes. This plan has developed a prioritized list of critical local projects to address these issues. The identified countermeasures have also been prioritized to aid in funding prioritization.

In recognition of the USDOT's focus on improving equity and eliminating barriers to opportunity in underserved communities, criteria related specifically to safety and equity were weighted more highly, serving to bring projects to the top of the list that were located along the HIN. Safety countermeasures were identified through data driven safety analyses and collaboration with stakeholders and community members during the plan development. The countermeasures identified are intended to support the goals and objectives of this plan and reduce the frequency of fatal and serious injury crashes.

Project Safety Corridor Recommendations

In addition to the priority segments and high crash intersections shown in **Figure 11**, seven priority safety corridors were identified based on the results of the safety and equity analysis data and with input from stakeholders and community residents in the Safety Summit.

The priority safety corridors are the roads with the most significant safety needs. While there are other safety needs and issues on roads beyond these seven corridors, the priority safety corridors represent the top corridors for focusing energy and resources on safety improvements in the near term.

The seven priority safety corridors are:

- A. West Main Street** from the North Carolina State Line to Ballou Park
- B. Memorial Drive/Craghead Street** from West Main Street to Industrial Avenue
- C. Riverside Drive/River Street (US 58 Business)** from Piedmont Drive/Robertson Bridge to Kentuck Road
- D. Piedmont Drive/Piney Forest Road** from Riverside Drive to North Main Street
- E. US 29** from North Main Street to the Northern MPO Boundary
- F. Franklin Turnpike** from Vicar Place to Twin Springs Lane






G. Kentuck Road from Eagle Springs Road/Wilkerson Road to Kentuck Church Rd/Ringgold Church Rd

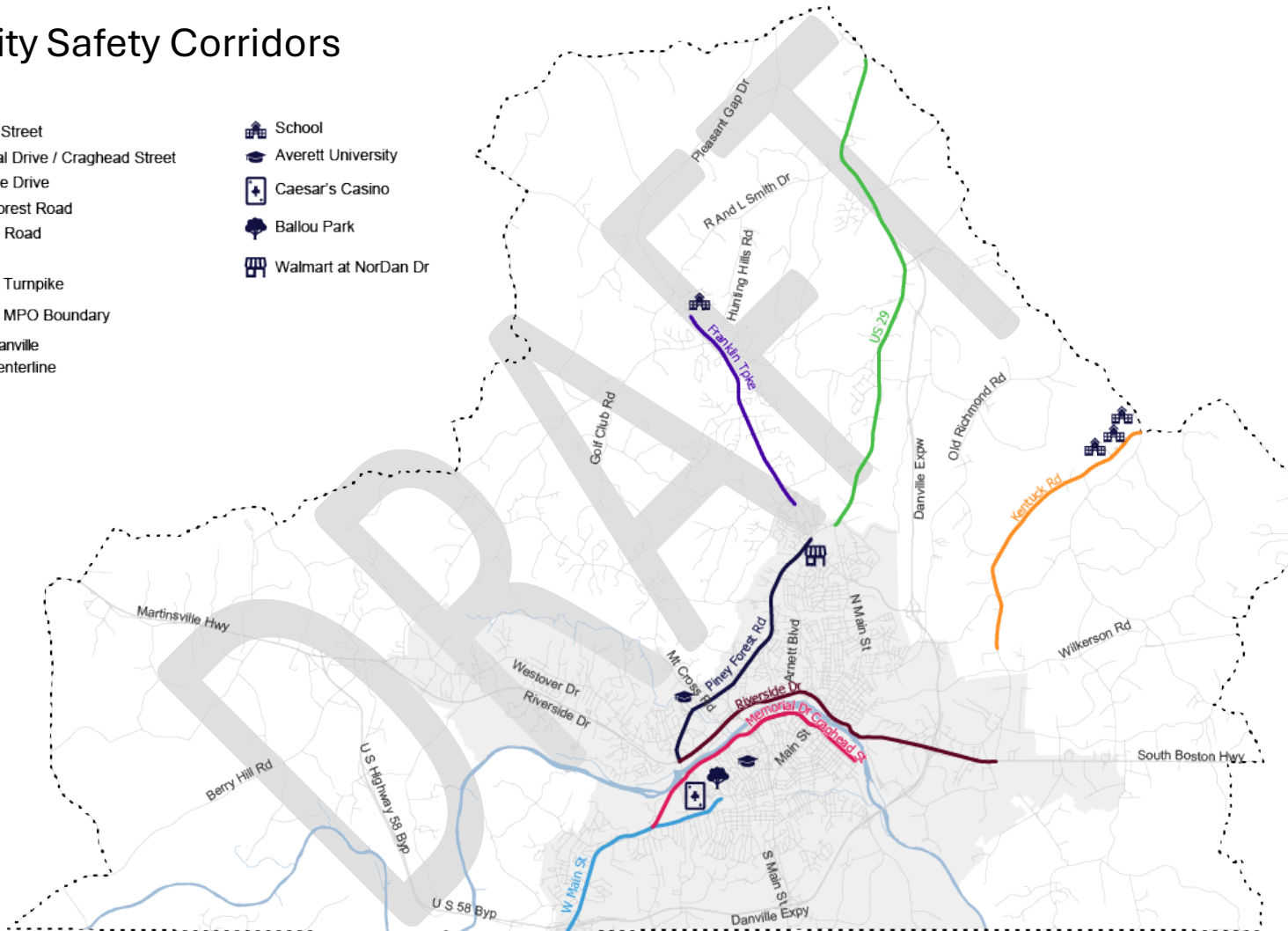
Figure 13 shows the locations of the priority safety corridors within the Danville MPO area.

The following sections provide information about each priority safety corridor, including specific safety issues, prior projects and studies, upcoming improvements, potential countermeasures, and specific strategies.

DRAFT

Priority Safety Corridors

- W Main Street
 - Memorial Drive / Craghead Street
 - Riverside Drive
 - Piney Forest Road
 - Kentucky Road
 - US 29
 - Franklin Turnpike
 - Danville MPO Boundary
 - City of Danville
 - Road Centerline
 - Water
-  School
 -  Averett University
 -  Caesar's Casino
 -  Ballou Park
 -  Walmart at NorDan Dr



0 1.5 3 6 Miles

Figure 13: Priority Safety Corridors



A. West Main Street

North Carolina State Line to Ballou Park

West Main Street is a key connector roadway on the south side of Danville. Adjacent land uses include a few commercial properties, some of which are vacant.

East of Memorial Drive, West Main Street is a minor arterial connecting city neighborhoods and providing access to several key commercial establishments, including the Ceasars Casino, Ballou Park and Recreation Center, and Averett University.

Sidewalk exists on the west side of West Main Street from just north of the Danville Expressway interchange to Old Greensboro Road with no buffer between the back of curb and the sidewalk. Along much of this segment, utility poles are located within the sidewalk, some within two feet of the face of curb. There is one at-grade railroad crossing south of Gatewood Avenue.

Table 7 and **Figure 14** summarize the roadway characteristics and crash metrics for West Main Street.

Table 7: West Main Street Corridor Characteristics

Segment	Lanes	Speed Limit (mph)	Divided/Undivided	Daily Traffic Volume (2023)
West Main Street (west of Memorial)	4	40-45 MPH	Divided	11000-15000 AADT
West Main Street (east of Memorial)	2	25 MPH	Undivided	4000-5000 AADT

Safety Issues and Concerns

The crash history shown in **Table 8** shows this corridor experienced three fatality and 25 serious injury crashes over the six-year crash analysis period.

Table 8: Fatal (K) and Serious Injury (A) Crashes on West Main Street, 2018-2023

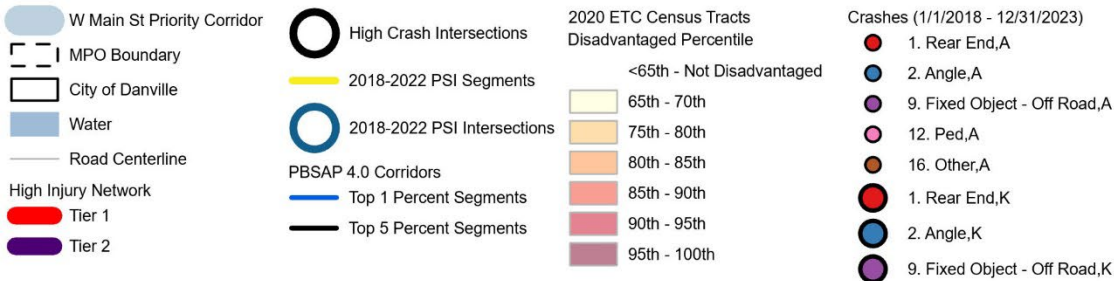
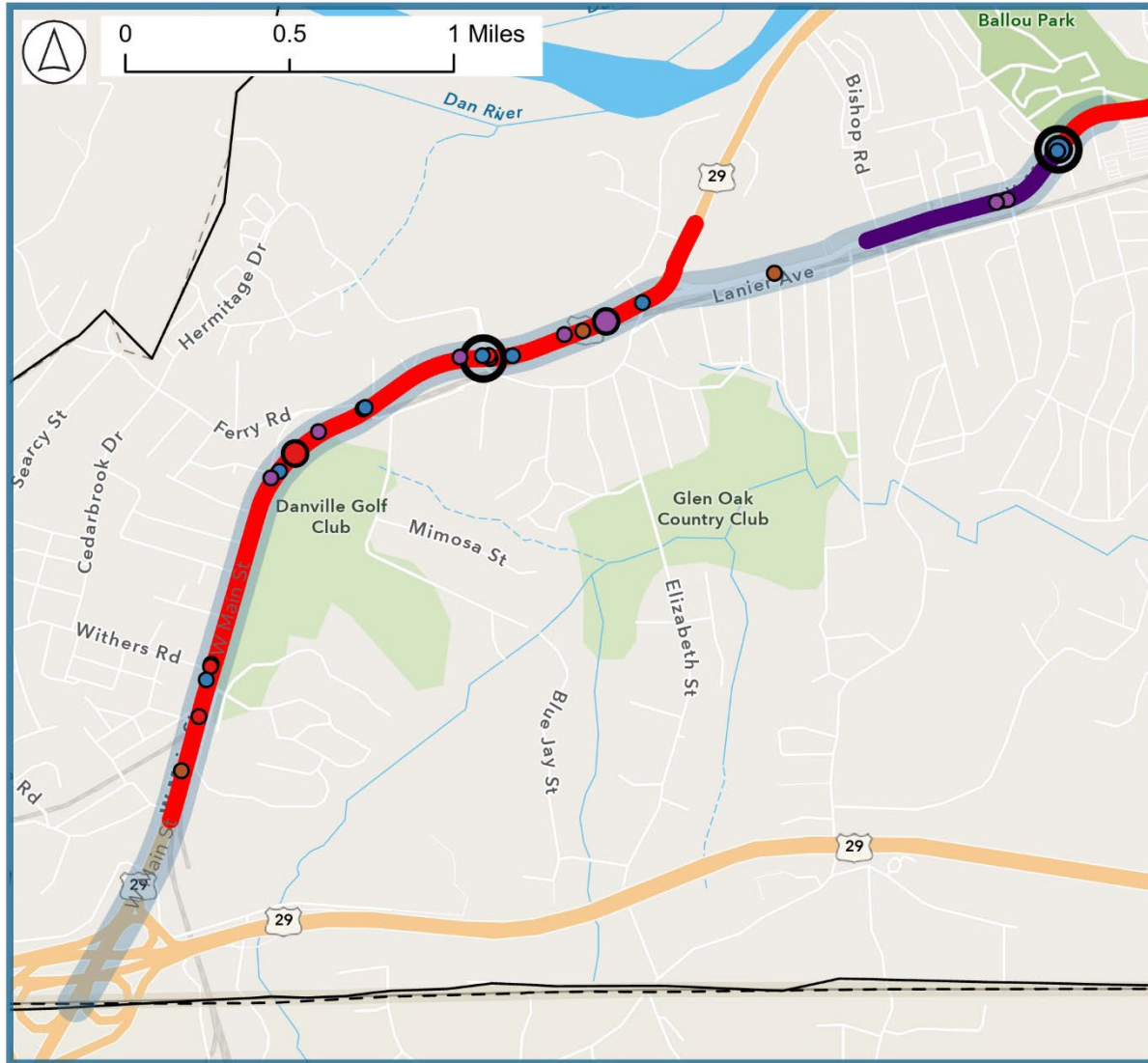
Collision Type	West Main Street from Danville Expressway to Memorial Drive		West Main Street from Memorial Drive to Ballou Park	
	K	A	K	A
Rear-End	1	5	0	0
Angle	0	8	1	2
Head On	0	0	0	0
Fixed Object – Off Road	1	4	0	2
Other	0	3	0	1

All Collision Types	2	20	1	5
----------------------------	----------	-----------	----------	----------

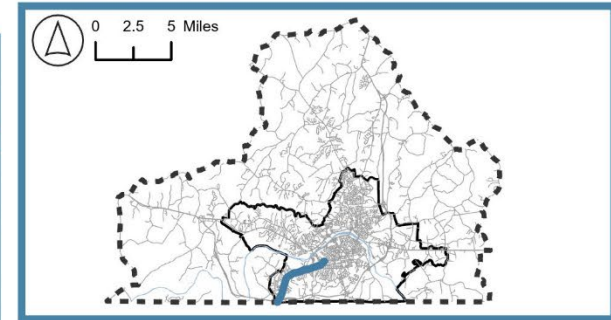
DRAFT

Priority Corridor: W Main Street

High Injury Network and Fatal and Severe Crashes



Corridor Location within Danville MPO



Potential for Safety Improvement (PSI) Segments & Intersections



ETC Census Tracts & Pedestrian/Bicycle Safety Action Corridors

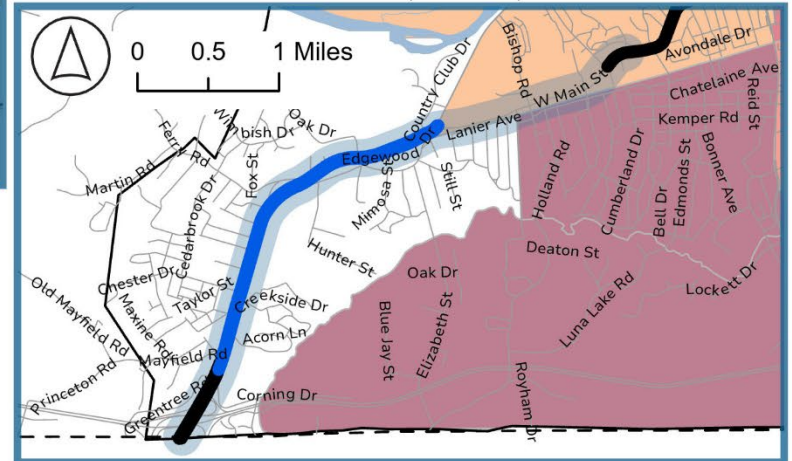


Figure 14: West Main Street Crash Characteristics

The section of West Main Street from the Danville Expressway to Memorial Drive is on the High Injury Network, and the intersection with Edgewood Drive is a high crash intersection. Portions of West Main Street east of Memorial Drive are on the High Injury Network, including the section of West Main Street in front of the Caesar's Casino. The intersection of West Main Street and Park Avenue is a high-crash intersection.

West Main Street was cited in public comments, and multiple groups at the Safety Summit identified it as a priority corridor. Key issues identified include:

- Speeding, particularly in the northbound direction
- Difficulty making a left turn from Edgewood Drive (Edgewood Mart/Citgo Station) onto West Main Street
- Lack of pedestrian crosswalks
- Concern about future growth and new development

Potential Countermeasures and Safety Improvements

The following safety improvements and countermeasures are recommended for West Main Street:

- Access Management to reduce conflict zones
- Advance intersection warning signs
- Sidewalks and pedestrian crosswalks
- Enhanced pedestrian crossings/hybrid beacons where appropriate
- High visibility signal backplates at signalized intersections
- Flashing yellow arrows where applicable
- Speed feedback signs in select locations based on evaluated speed data and engineering judgment

These countermeasures are intended to address several issues including unsignalized intersections, fixed object – off road crashes, speeding, and pedestrian safety along this corridor.

Additional strategies focused on the West Main Street corridor include:

- Impaired driving prevention with businesses that serve alcohol
- Enforcement check-points
- Speed photo enforcement at Schoolfield Elementary school

B. Memorial Drive/Craghead Street

West Main Street to Industrial Avenue

Memorial Drive from West Main Street to Central Boulevard has few roadside uses, which gives the roadway a feeling of a high-speed arterial. Commercial access is generally limited to the area around the Robertson Bridge. The intersection of Bishop Road is being converted to a signalized intersection to accommodate anticipated casino traffic.

Memorial Drive between Central Boulevard and Main Street is a minor arterial with a mix of commercial, residential, and recreational uses. As Memorial Drive approaches the downtown core, the White Mill building on the north side of Memorial Drive is leasing new apartments, and activity is expected to increase.

East of Main Street, Memorial Drive changes to Craghead Street, a street in the downtown core with on-street parking and frequent intersections and storefronts. Pedestrian activity is common along and across Craghead Street.

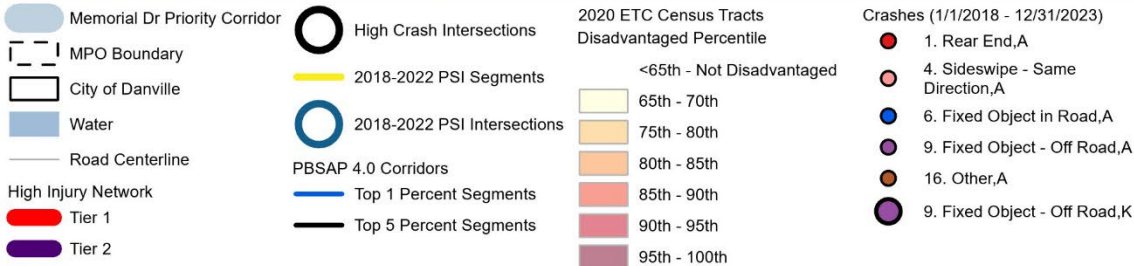
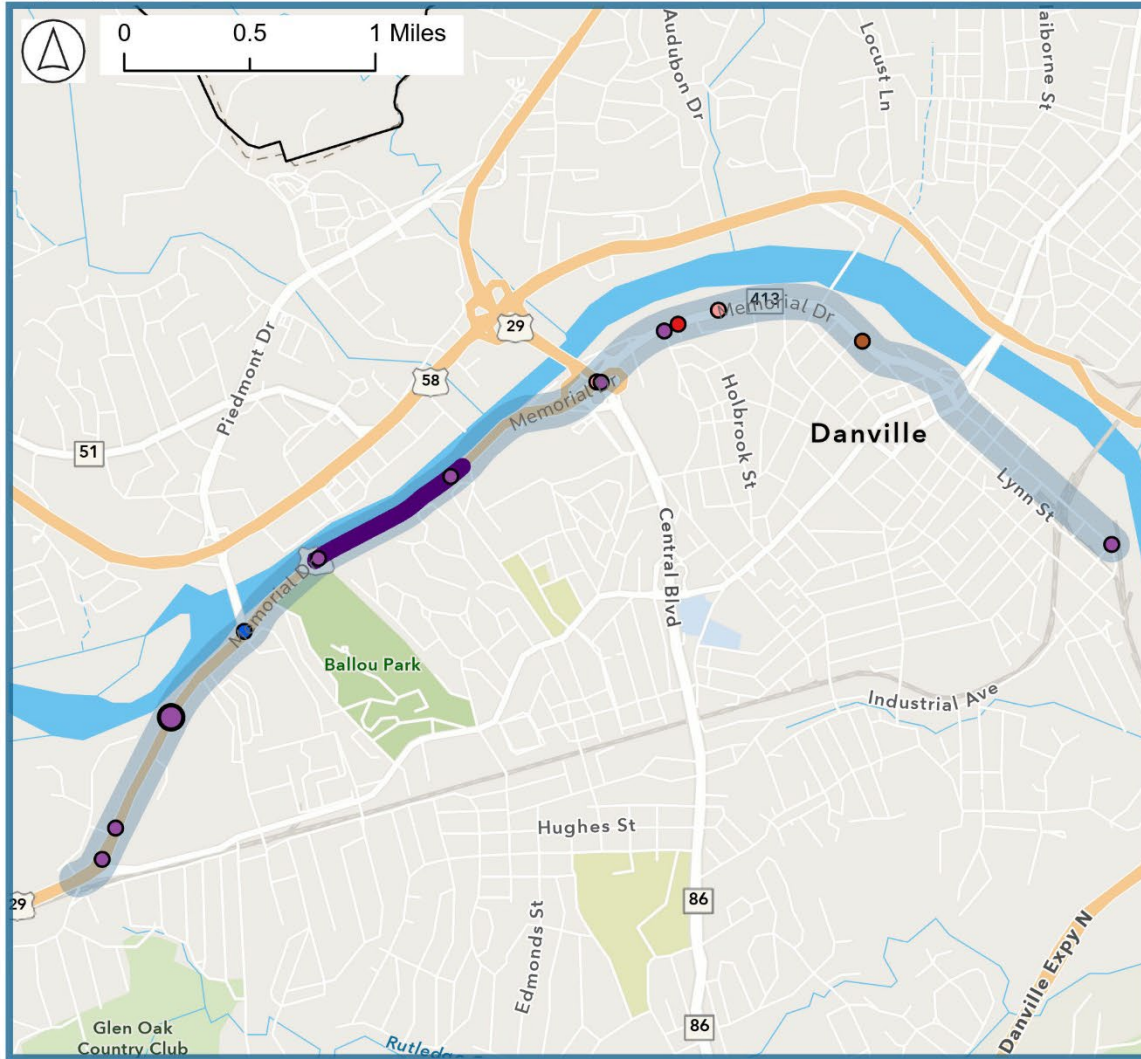
Table 9 and **Figure 15** summarize the roadway characteristics and crash metrics for West Main Street.

Table 9: Memorial Drive Corridor Characteristics

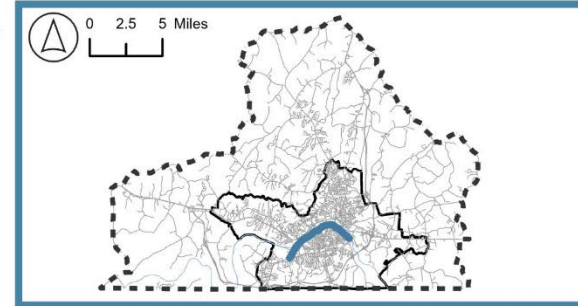
Segment	Lanes	Speed Limit (mph)	Divided/Undivided	Daily Traffic Volume (2023)
Memorial Drive (West Main to Central Blvd)	4	35 MPH	Undivided	11000-14000 AADT
Memorial Drive (Central Blvd to N Main)	4	35 MPH	Divided	10000-13000 AADT
Craghead Street (N Main to the East)	2	35 MPH	Undivided	under 4000 AADT

Priority Corridor: Memorial Drive

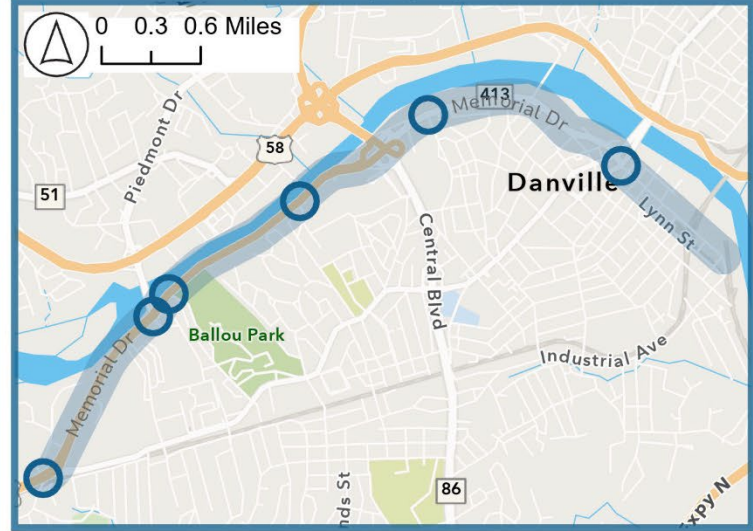
High Injury Network and Fatal and Severe Crashes



Corridor Location within Danville MPO



Potential for Safety Improvement (PSI) Segments & Intersections



ETC Census Tracts & Pedestrian/Bicycle Safety Action Corridors

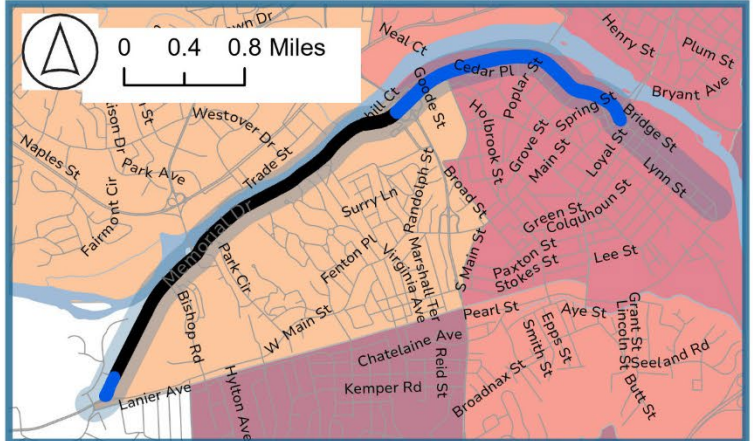


Figure 15: Memorial Drive Crash Characteristics

Safety Issues and Concerns

As shown in **Table 10**, this corridor experienced one fatality and 12 serious injuries in the six-year analysis period.

Table 10: Fatal (K) and Serious Injury (A) Crashes on Memorial Drive

Collision Type	Memorial Drive from West Main St to Central Blvd		Memorial Drive from Central Blvd to Main St Bridge		Craghead Street from Main St Bridge to Industrial Ave	
	K	A	K	A	K	A
Rear-End	0	0	0	1	0	0
Angle	0	0	0	0	0	0
Head On	0	0	0	0	0	0
Fixed Object – Off Road	1	5	0	1	0	0
Other	0	2	0	2	0	1
All Collision Types	1	7	0	4	0	1

Craghead Street and Memorial Drive were identified in public comments and during the Safety Summit. Key issues include:

- Pedestrian crossings on Craghead Street and a portion of Memorial Drive east of Cleveland Street
- Future development and a new school will add pedestrian activity and more traffic
- Difficulty crossing at the White Mill building and Camilla Williams Park
- The intersection of Memorial Drive and Main Street at the Bridge has confusing lanes, and drivers make unsafe lane changes
- Red light running, especially at the intersection of Memorial Drive and the Robertson Bridge
- Insufficient left turn lane storage for vehicles on westbound Memorial Drive turning left onto Bishop Road
- Speeding on Memorial Drive, especially around the Robertson Bridge

Potential Countermeasures

The following countermeasures are recommended for Memorial Drive:

- Install additional speed limit signs
- Speed feedback signs in select locations based on evaluated speed data and engineering judgment
- Replace sections of missing edge line markings

- Provide pedestrian connection between Abreu Grogan Park and Riverwalk Trail at Robertson Bridge
- Pedestrian crossings and/or enhancements at select locations such as park entrances; consider traffic calming measures
- Lane markings
- Signage improvements
- Wayfinding
- Rumble strips

DRAFT

C. Riverside Drive/River Street (US 58 Business)/South Boston Road

Piedmont Drive/ Roberston Bridge to Kentuck Road

The roughly three-mile portion of Riverside Drive from Piedmont Drive to North Main Street was studied extensively in the Riverside Drive Corridor Improvement Study, completed in 2019. The study and recommendations are summarized later in this section.

Table 11 and **Figure 16** summarize the roadway characteristics and crash metrics for Riverside Drive/River Street/South Boston Road.

Table 11: Riverside Drive/River Street/South Boston Road Corridor Characteristics

Segment	Lanes	Speed Limit (mph)	Divided/Undivided	Daily Traffic Volume (2023) AADT
Riverside Dr (Piedmont Drive to Arnett)	6	35-40 MPH	Divided	12000-24000 AADT
Riverside Drive (Between Arnett and Locust)	4	40 MPH	Undivided	20000-50000 AADT
Riverside Drive (East of Locust)	4	35 MPH	Undivided	20000-50000 AADT
River Street	4	35 MPH	Undivided/Divided	14000-16000 AADT
South Boston Road (West of Danville Expy)	4	45 MPH	Divided	20000-50000 AADT
South Boston Road (East of Danville Expy)	6	45 MPH	Divided	16000-28000 AADT

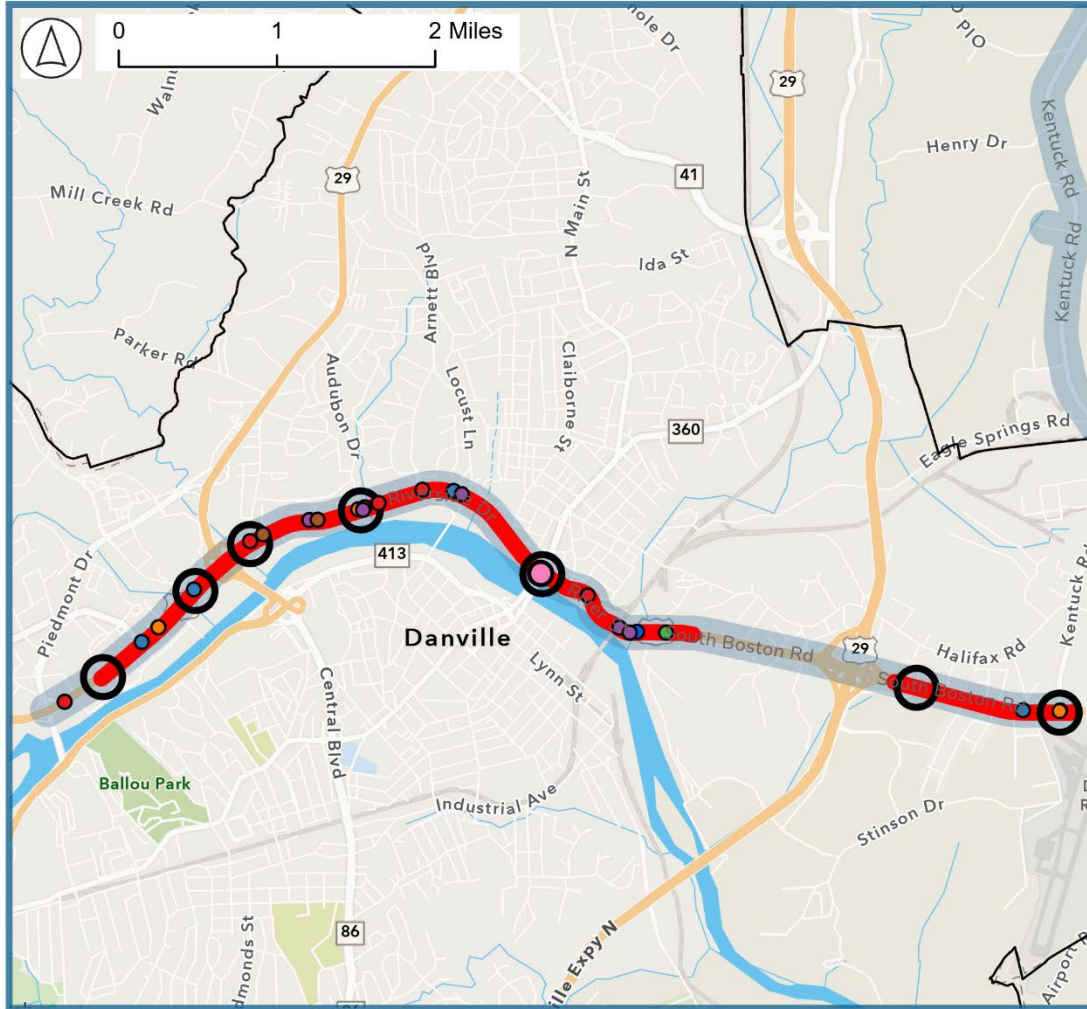
Safety Issues and Concerns

As shown in **Table 12**, this corridor experienced two fatalities and 24 serious injuries within the six-year analysis period. Most portions of the Riverside Drive/River Street/South Boston Road priority safety corridor are on the High Injury Network. Several intersections in this corridor are identified as high crash intersections, including:

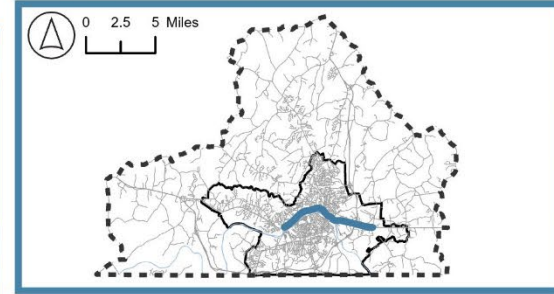
- Riverside Drive at Riverview Drive/Wild Winds Lane
- Riverside Drive at Mount Cross Road
- Riverside Drive at Piney Forest Road
- Riverside Drive at Audubon Drive
- Riverside Drive at North Main Street/Main Street bridge
- South Boston Road at Riverpoint Drive/Rudder Road
- South Boston Road at Kentuck Road

Priority Corridor: Riverside Drive

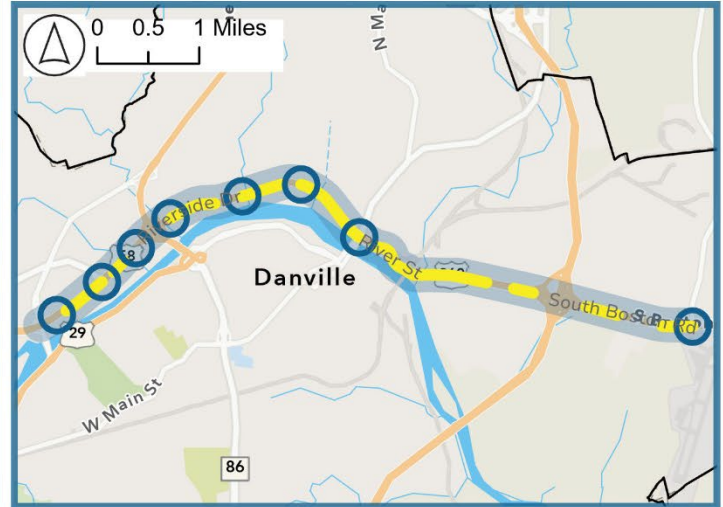
High Injury Network and Fatal and Severe Crashes



Corridor Location within Danville MPO



Potential for Safety Improvement (PSI) Segments & Intersections



ETC Census Tracts & Pedestrian/Bicycle Safety Action Corridors

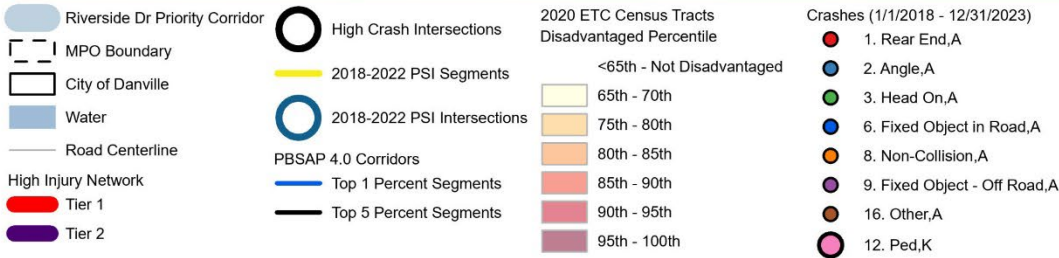
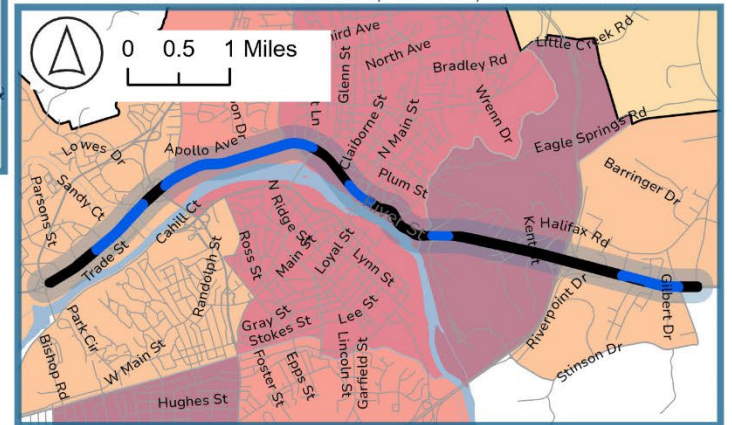


Figure 16: Riverside drive/River Street/South Boston Road Crash Characteristics

Table 12: Fatal (K) and Serious Injury (A) Crashes on Riverside Drive Corridor

Collision Type	Riverside Drive from Piedmont Drive to North Main Street*		River Street from North Main Street to Old Halifax Road		South Boston Road from Old Halifax Road to Kentuck Road	
	K	A	K	A	K	A
Rear-End	0	5	0	1	0	0
Angle	0	3	0	0	0	2
Head On	0	0	0	0	0	1
Fixed Object – Off Road	0	3	0	3	0	0
Other	2	4	0	1	0	1
All Collision Types	2	15	0	5	0	4

*Crashes at the North Main Street intersection are included in this segment.

Multiple crashes on River Street involved motorcyclists. Several serious injury crashes on South Boston Road occurred at intersections and median openings.

Public comments and stakeholder input identified several issues along this corridor, including:

- Speeding on Riverside Drive, River Street, and South Boston Road
- Lots of pedestrians on Riverside Drive and discontinuous pedestrian facilities
- Merging onto Riverside Drive at the Central Boulevard ramps feels unsafe because of drivers driving too fast on Riverside Drive
- Confusing configuration, running red lights, especially at the intersection of North Main Street and Riverside Drive/River Street
- Insufficient left turn lane storage length for westbound traffic on River Street turning left onto the Main Street bridge
- Riverwalk trail has a missing link between Commerce Street and Wild Wings Lane. Pedestrians are forced to walk on Trade Street, which has no sidewalks.
- Speeding and swerving on the narrow lanes at the S-curves on River Street. Drivers drift into adjacent lanes, including over the centerline.
- Lack of sidewalks and bike lanes on South Boston Road between Old Halifax Road and the Danville Expressway
- Difficulty turning left from unsignalized side-streets on South Boston Road

Riverside Drive Corridor Improvement Study

The Riverside Drive Corridor Improvement Study examined and developed recommendations for improving motorist and pedestrian safety, better managing access, and addressing operational issues in the 3.2-mile section of Riverside Drive between (and including) the intersection with North Main Street to the east and the unsignalized intersection at the Honda dealership entrance west of Piedmont Drive.

The study recommendations include a variety of projects, including sidewalk construction, marked pedestrian crosswalks, left turn lanes at median openings, ramp realignments, converting unsignalized intersections into Restricted Crossing U-Turn (RCUT) intersections,² pedestrian hybrid beacons, and closing select median openings, among others.

The study recommendations were grouped into seven packages of improvements. **Table 13** describes the packages of improvements. Project summary sheets from the Riverside Drive Corridor Improvement Study illustrating the recommendations are provided in the appendix.

Table 13: Riverside Drive Corridor Improvement Study Recommendations

Improvement Package	Description of Improvements	Funding Status	Construction Timeframe
Riverside Drive from Westover Drive to Mount Cross Road	New sidewalks, including pedestrian bridges across the Sandy River, pedestrian crosswalks at signalized intersections, select intersection and median opening conversions to RCUTs.	Unfunded	Unknown
Riverside Drive from Piney Forest Road to Audubon Drive	New sidewalks, crosswalks, closure of select median openings, conversion of select intersections to RCUTs, bus bay and bus shelter.	Unfunded	Unknown
Riverside Drive at the Central Boulevard Interchange Area	New sidewalks, ramp realignment, crosswalks and rectangular rapid flashing beacons, closure of select entrances, advance pedestrian warning signs.	Unfunded	Unknown
Riverside Drive from Park Avenue to Westover Drive	New sidewalks, crosswalks, pedestrian countdown signals, conversion of select intersections to RCUTs, entrance consolidation.	Unfunded	Unknown

² A Restricted Crossing U-Turn (RCUT) is an innovative intersection that improves safety by reducing conflict points. More information about RCUT intersections is available at <https://www.vdot.virginia.gov/about/our-system/highways/innovative-intersections/restricted-crossing-u-turn/>.

Riverside Drive from Audubon Drive to Arnett Boulevard	Add sidewalks, crosswalks, and pedestrian signals. Replace median openings with RCUT. Add bus bay turnout and bus shelter. Access management improvements.	Awarded SMART SCALE Round 5 funding	2028-2029
Riverside Drive - Piedmont Drive Ramp Realignment	Realign the ramp from southbound Piedmont Drive to westbound Riverside Drive to intersect at 90 degrees.	Unfunded	Unknown
Riverside Drive from Arnett Boulevard to Main Street	Add sidewalks, crosswalks, and pedestrian signals. Connection to Riverwalk trail. Median barrier at Highland Court for safety improvements.	Awarded SMART SCALE Round 5 funding	2028-2029

This Safety Action Plan recommends continued efforts to fund the improvements that have been identified in the Riverside Drive Corridor Improvement Study.

Potential Countermeasures and Roadway Safety Improvements

The following countermeasures are recommended for River Street and South Boston Road:

- Centerline rumble strips on the undivided portion of River Street
- Curve warning signs on River Street S-curves
- Widening River Street to convert the undivided section into a divided section with a median barrier
- High friction surface treatment on River Street S-curves and at South Boston intersection approaches
- Access management and turn lanes on six-lane portion of South Boston Road

D. Piedmont Drive/Piney Forest Road

Riverside Drive to North Main Street

The 2.6-mile portion of Piney Forest Road from Franklin Turnpike to Holt Garrison Parkway was studied extensively in the Piney Forest Corridor Improvement Study, completed in 2021. The study and recommendations are summarized later in this section.

Table 14 and **Figure 17** summarize the roadway characteristics and crash metrics for Piedmont Drive/Piney Forest Road.

Table 14: Piney Forest Road Corridor Characteristics

Segment	Lanes	Speed Limit (mph)	Divided/Undivided	Daily Traffic Volume (2023)
Piedmont Drive	4	35 MPH	Divided	15000 AADT
Piney Forest	5	40 MPH	Undivided/TWLTL	20000-50000 AADT

Safety Issues and Concerns

As shown in **Table 15**, this corridor experienced three fatalities and 24 serious injuries in the six-year analysis period.

Table 15: Fatal (K) and Serious Injury (A) Crashes on Piney Forest Road

Collision Type	Piedmont Drive from Riverside Drive to Central Boulevard		Central Boulevard/ Piney Forest Road from Piedmont Drive to North Main Street	
	K	A	K	A
Rear-End	0	3	0	5
Angle	0	0	0	9
Head On	0	0	0	2
Fixed Object – Off Road	0	0	1	1
Other	0	1	2	3
All Collision Types	0	4	3	20

Most of the segments on this priority safety corridor are on the Tier 1 High Injury Network. Several intersections in this corridor are identified as high crash intersections, including:

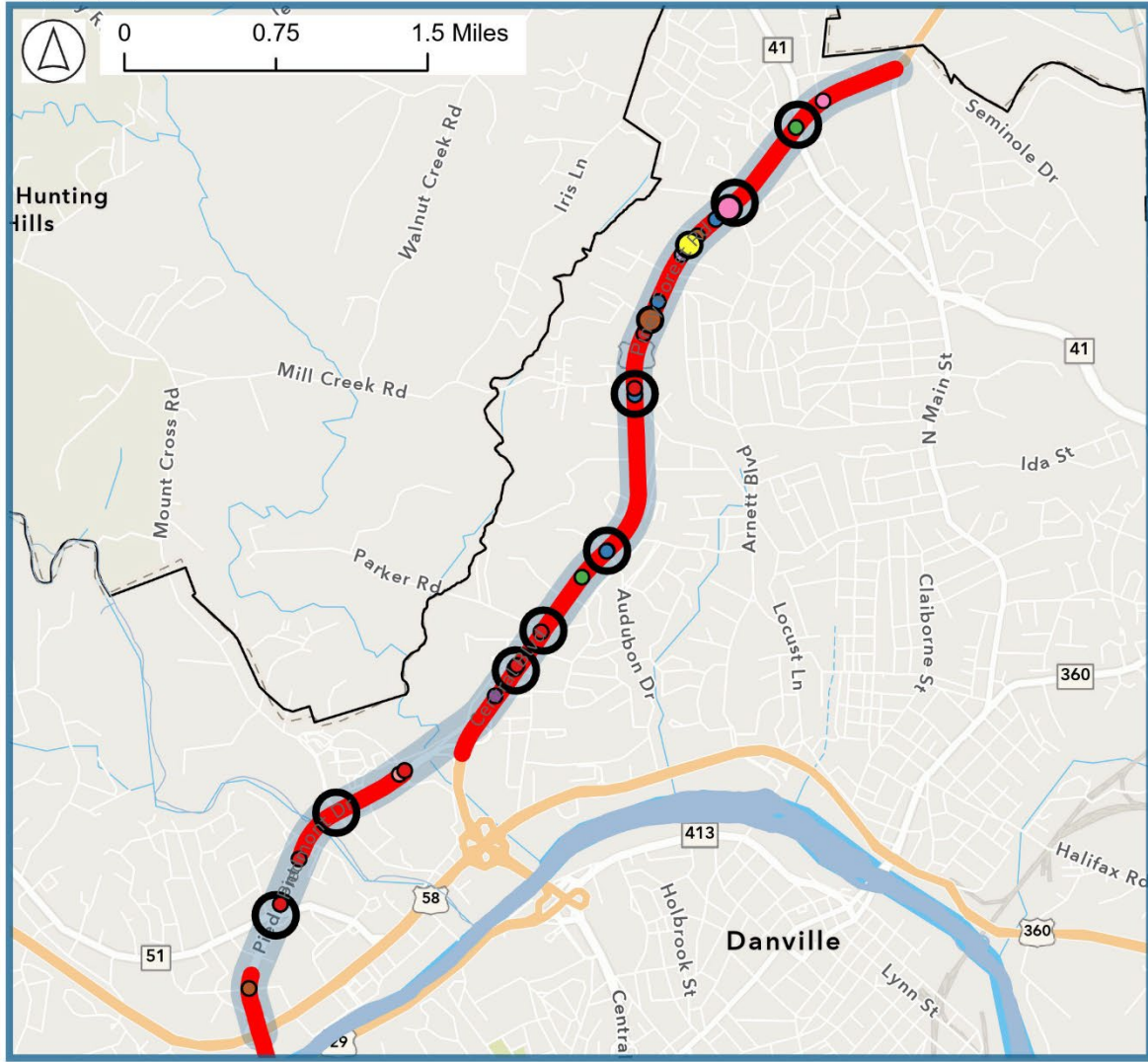
- Piedmont Drive at Westover Drive
- Piedmont Drive at Mount Cross Road
- Piney Forest Road at Holt Garrison Parkway/Boxwood Court

- Piney Forest Road at Parker Road
- Piney Forest Road at Audubon Drive/Pineview Drive
- Piney Forest Road at Wendell Scott Drive/Beavers Mill Road
- Piney Forest Road at Nor-Dan Drive/Nelson Avenue
- Piney Forest Road at Franklin Turnpike

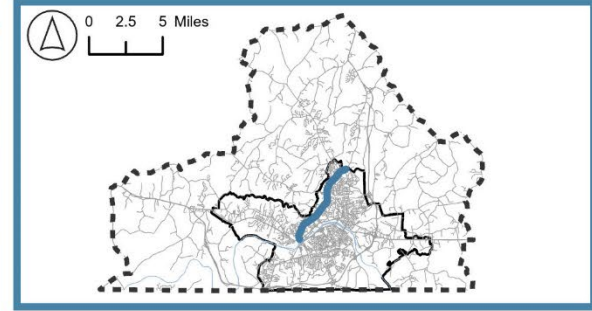
DRAFT

Priority Corridor: Piney Forest Road/ Piedmont Drive

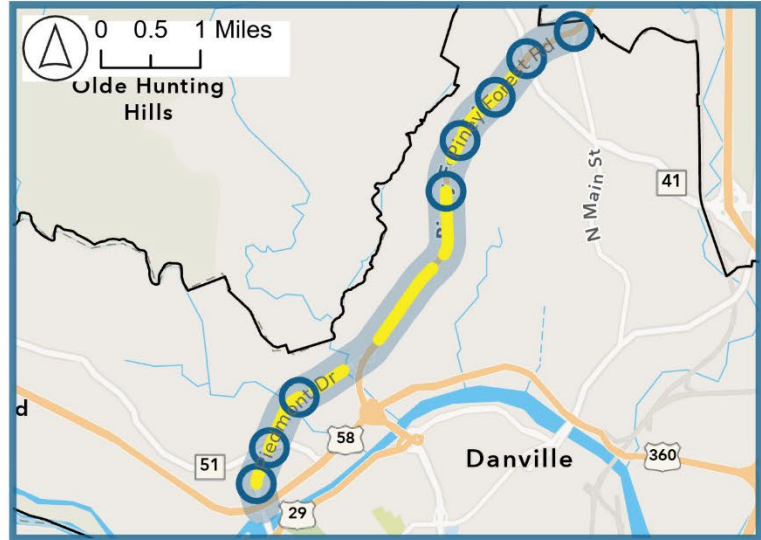
High Injury Network and Fatal and Severe Crashes



Corridor Location within Danville MPO



Potential for Safety Improvement (PSI) Segments & Intersections



ETC Census Tracts & Pedestrian/Bicycle Safety Action Corridors

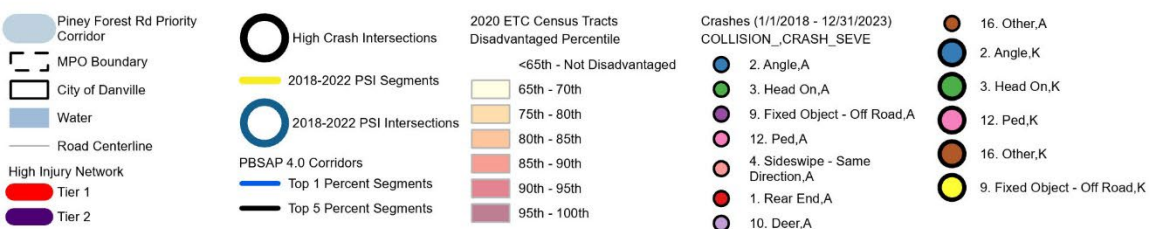
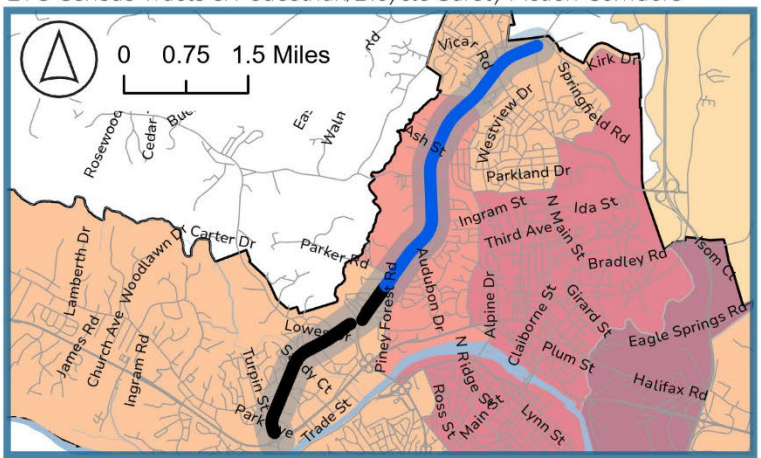


Figure 17: Piney Forest Road Crash Characteristics

The Piney Forest Road Corridor Study discusses the safety issues on Piney Forest Road from Franklin Turnpike to Holt Garrison Parkway in depth.

Public comments and stakeholder input identified several issues along this corridor, including:

- Speeding
- Drivers weaving in and out of lanes
- Running red lights throughout the corridor, and especially at the intersections of Piney Forest Road at Franklin Turnpike, and Piedmont Drive at Mount Cross Road
- Lack of bicycle facilities
- Lack of/inadequate facilities for pedestrians, including crossings at Piney Forest Road/Nor-Dan Drive
- Congestion, near misses, and safety issues at the intersection of Piney Forest Road and Franklin Turnpike

Piney Forest Road Corridor Study

The Piney Forest Road Corridor Study examined and developed recommendations for addressing existing and future congestion, safety concerns, and multimodal needs along the 2.5-mile section of Piney Forest Road from Franklin Turnpike to Holt Garrison Parkway.

The study recommendations include various projects, including access management, replacing the two-way left turn lane with a median, providing left turn lanes with required deceleration areas, improving curb ramps to meet ADA standards, marking crosswalks with pedestrian signals and push buttons at signalized intersections, and removing existing mid-block crosswalks and overhead warning signs.

Several recommendations from this study are included in the Piney Forest Road Improvements project that was awarded SMART SCALE Round 5 funding. This project spans 0.9 miles from Beavers Mill Road/Wendell Scott Drive to Nor-Dan Drive and includes constructing a landscaped median to replace the two-way left turn lane and intersection and pedestrian improvements at the three signalized intersections at Nor-Dan Drive, Arnett Boulevard, and Wendell Scott Drive/Beavers Mill Road. Illustrations of these improvements are provided in the appendix.

Improvements recommended in the Piney Forest Road Corridor Study that do not have funding for implementation include:

- Pedestrian improvements, including marked crosswalks, ADA curb ramps, and pedestrian signals at Holt Garrison Parkway, Parker Road, Audubon Drive, and Franklin Turnpike

- Northbound flyover ramp at the intersection of Piney Forest Road and Franklin Turnpike.
- Extension of the landscaped median to replace the two-way left turn lane on Piney Forest Road north of Nor-Dan Drive and south of Beavers Mill Road.

This Safety Action Plan recommends continued efforts to fund the improvements identified in the Piney Forest Road Corridor Study.

Route 29 BUS / Piedmont Drive LY01 Project Pipeline Study

This study examined and developed recommendations to address safety concerns at intersections along the corridor. The study recommends adding sidewalks, crosswalks, and pedestrian signals along several roads near Piedmont Drive and Mount Cross Road.

The study also tested converting several intersections to thru-cut³ intersections. Public feedback did not support the thru-cut intersection conversions as strongly as the sidewalk and crosswalk concepts.

The pedestrian facility recommendations received SMART SCALE Round 5 funding, and construction is anticipated in the 2029-2031 timeframe. These recommendations are illustrated under the Piedmont Drive Pedestrian Accommodations project in the appendices.

Potential Countermeasures and Safety Improvements

The following countermeasures should be a priority for the Piedmont Drive/Central Boulevard/Piney Forest Road priority safety corridor as shown in the prior studies:

- Crosswalks, curb ramps, and pedestrian signals at signalized intersections
- Consolidation of driveways and access points
- Evaluation of yellow change intervals
- Improved intersection lighting
- Red light running camera photo enforcement

³ A thru-cut is an innovative intersection to improve safety by reducing the number of conflict points. It prohibits side-street traffic from going straight across the intersection. More information on thru-cut intersections is available at <https://www.vdot.virginia.gov/about/our-system/highways/innovative-intersections/thru-cut/>.

E. US 29

North Main Street to Northern MPO Boundary

US 29 is a north-south principal arterial roadway. From the northern MPO boundary to US 29 Business, the area has some development, with land primarily used for commercial purposes. Between US 29 Business and the boundary of the city of Danville, there is more development, including a mix of commercial and some residential properties. Based on stakeholder and community member discussions, this is a primary roadway for commuters to and from Danville.

Several projects have been identified on the US 29 and US 29 BUS corridor. Illustrations of these recommendations are included in the appendices.

Table 16 and **Figure 18** summarize the roadway characteristics and crash metrics for US 29.

Table 16: US 29 Corridor Characteristics

Segment	Lanes	Speed Limit (mph)	Divided/Undivided	Daily Traffic Volume (2023)
US-29 BUS (to South of Lawless Creek)	5	45-60 MPH	Undivided/TWLTL	10000-20000 AADT
US-29 BUS (South of Lawless Creek to Interchange)	4	45-60 MPH	Divided	10000-20000 AADT

Safety Issues and Concerns

As shown in **Table 17**, this corridor experienced five fatalities and 18 serious injuries over the six-year crash analysis period. Fatalities and serious injuries on this priority safety corridor often involve speeding, alcohol, unbelted vehicle occupants, and/or distracted or drowsy driving. Several serious injury crashes involved pedestrians. Several other serious injury crashes involved large trucks.

Table 17: Fatal (K) and Serious Injury (A) Crashes on US 29, 2018-2023

Collision Type	US 29 from North Main Street to Lawless Creek Road*		US 29 from Lawless Creek Road to Northern MPO Boundary	
	K	A	K	A
Rear-End	0	2	1	0
Angle	0	1	1	4

Head On	1	0	0	1
Fixed Object – Off Road	2	2	0	3
Other	0	1	0	4
<i>All Collision Types</i>	3	6	2	12

*Crashes at the intersection of US 29 and Lawless Creek Road are counted in this column.

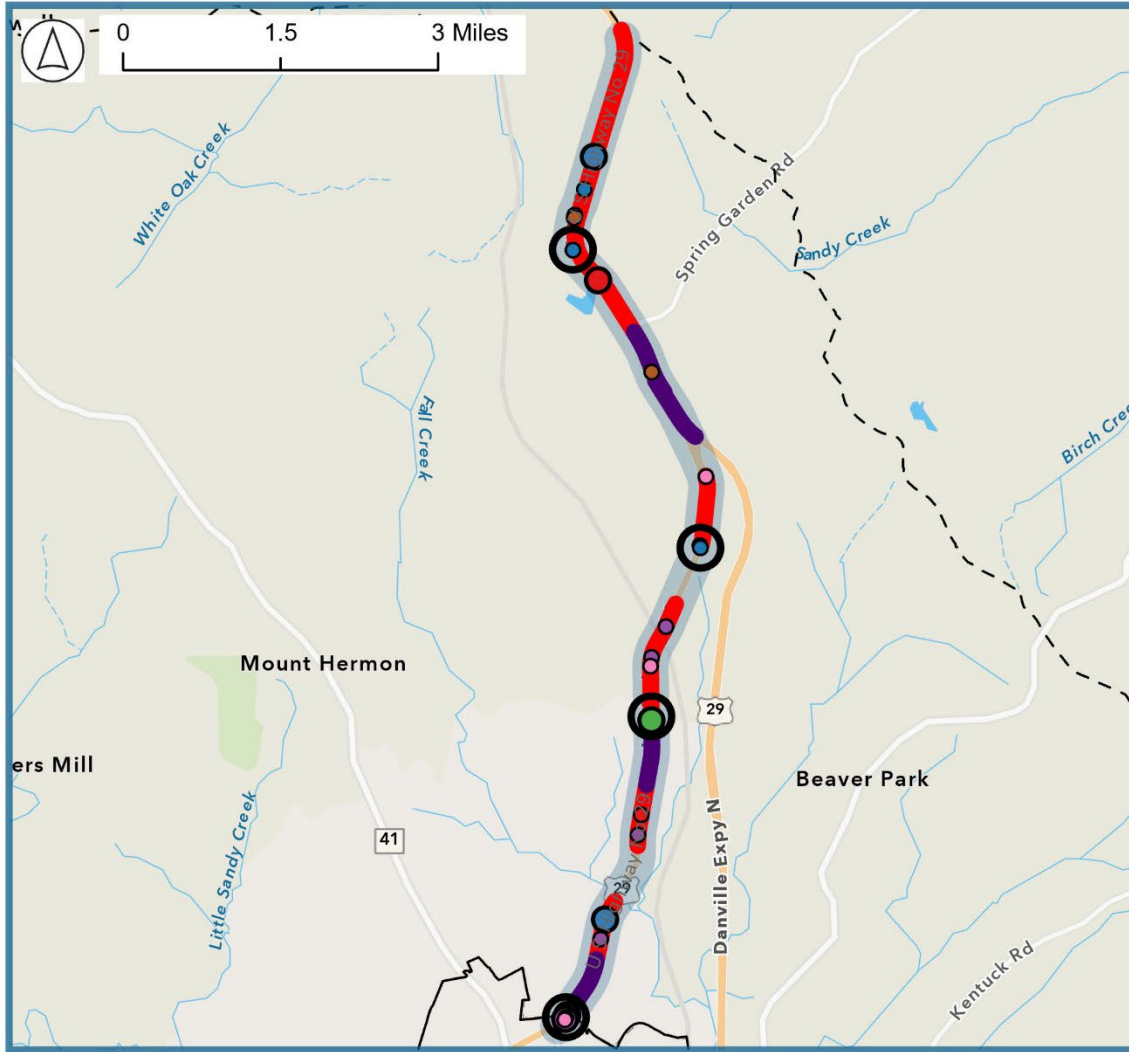
Most segments on the US 29 priority safety corridor are on the High Injury Network. Several intersections in this corridor are identified as high crash intersections, including:

- US 29 at Seminole Drive/Social Security Administration entrance
- US 29 at Livestock Road/Mount View Road
- US 29 at Lawless Creek Road/East Witt Road
- US 29 at R and L Smith Drive

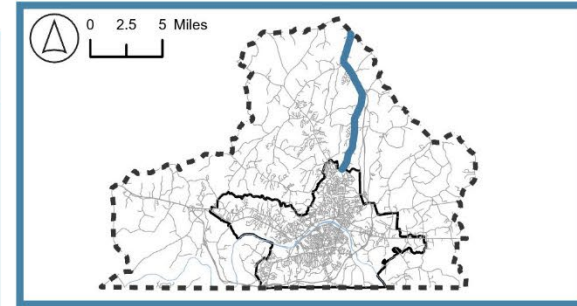
DRAFT

Priority Corridor: US 29

High Injury Network and Fatal and Severe Crashes



Corridor Location within Danville MPO



Potential for Safety Improvement (PSI) Segments & Intersections



ETC Census Tracts & Pedestrian/Bicycle Safety Action Corridors

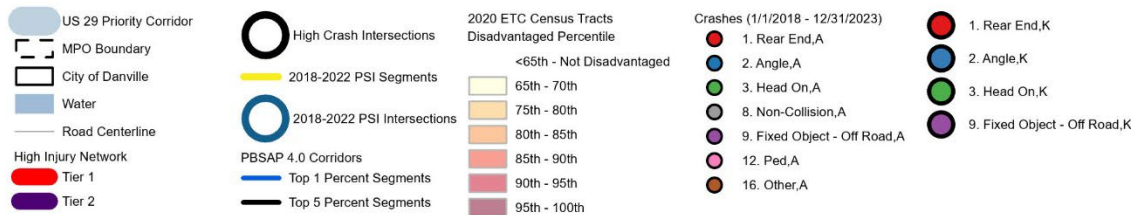
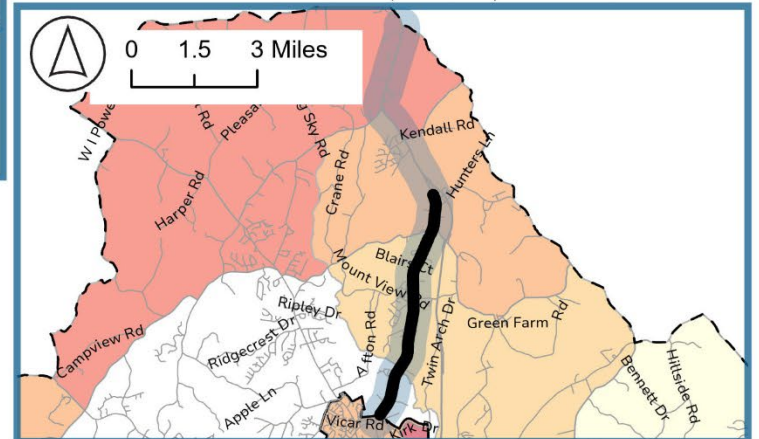


Figure 18: US 29 Crash Characteristics

Public comments and stakeholder input identified several issues along this corridor:

- Unsafe intersections – near misses, especially at R and L Smith Drive
- Not enough room for crossing over and turning in the median, including at Spring Garden Road
- Future development
- Speeding

Improvement Projects

As shown in **Table 18**, several projects have been identified on the US 29 and US 29 BUS corridor. Illustrations of these recommendations are included in the appendices.

Table 18: US 29 Previously Identified Improvements

Project Name	Description	Status	Construction Timeline
US Route 29 BUS & Malmaison Road Roundabout	Install a single-lane roundabout at US 29 and Malmaison Road	Unfunded	Unknown
US 29 at Lawless Creek Road	Install a single-lane roundabout at US 29 and Lawless Creek Road	Unfunded	Unknown
US Route 29 at Spring Garden Rd Turn Lane Improvements	Construct a new northbound left turn lane, and extend the southbound left turn lane and northbound right turn lane at Spring Garden Road	Awarded SMART SCALE Round 5 funding	Unknown

This Safety Action Plan recommends continued efforts to fund the improvements that have been identified for the US 29 priority safety corridor.

Potential Countermeasures and Roadway Safety Improvements/Recommendations

In addition to the recommendations from the prior studies, the following countermeasures are recommended for the US 29 priority safety corridor:

- Oversized advance intersection warning signs
- Edge line rumble strips
- SafetyEdgeSM
- Changeable message signs to buckle up and don't drive distracted or impaired
- Innovative intersection treatments at high-crash locations

- Additional signage and pavement markings
- Speed feedback signs in select locations based on evaluated speed data and engineering judgment
- High visibility signal backplates at signalized intersections
- Flashing yellow arrows where applicable

DRAFT

F. Franklin Turnpike

Vicar Place to Twin Springs Lane

The three-mile portion of Franklin Turnpike from Orphanage Road to Golf Club Road was studied extensively in the Franklin Turnpike Project Pipeline Study, completed in 2024. The study and recommendations are summarized later in this section.

Table 19 and **Figure 17** summarize the roadway characteristics and crash metrics for Piedmont Drive/Piney Forest Road.

Table 19: Franklin Turnpike Corridor Characteristics

Segment	Lanes	Speed Limit (mph)	Divided/Undivided	Daily Traffic Volume (2023)
Franklin Tpke (Hunting Hills to Danville)	5	45 MPH	Undivided/TWLTL	5000-20000 AADT
Franklin Tpke (In Danville)	5	40 MPH	Undivided/TWLTL	5000-20000 AADT
Franklin Tpke (North of Hunting Hills)	2	55 MPH	Undivided	5000-20000 AADT

Safety Issues and Concerns

As shown in **Table 20**, this corridor experienced five fatalities and 10 serious injuries within the six-year analysis period.

Table 20: Fatal (K) and Serious Injury (A) Crashes on Franklin Turnpike, 2018-2023

Collision Type	Franklin Turnpike from Twin Springs Lane to Vicar Place	
	K	A
Rear-End	0	0
Angle	2	5
Head On	3	1
Fixed Object – Off Road	0	1
Other	0	3
All Collision Types	5	10

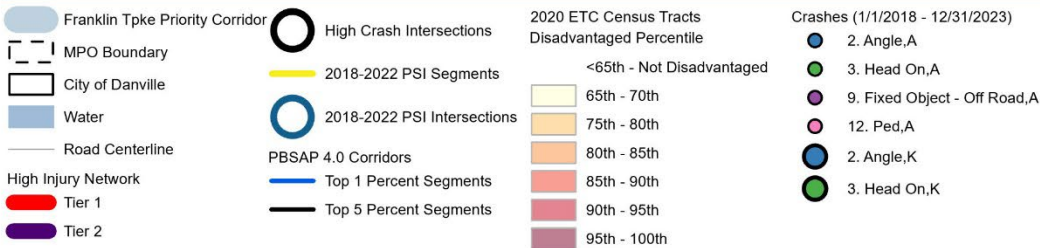
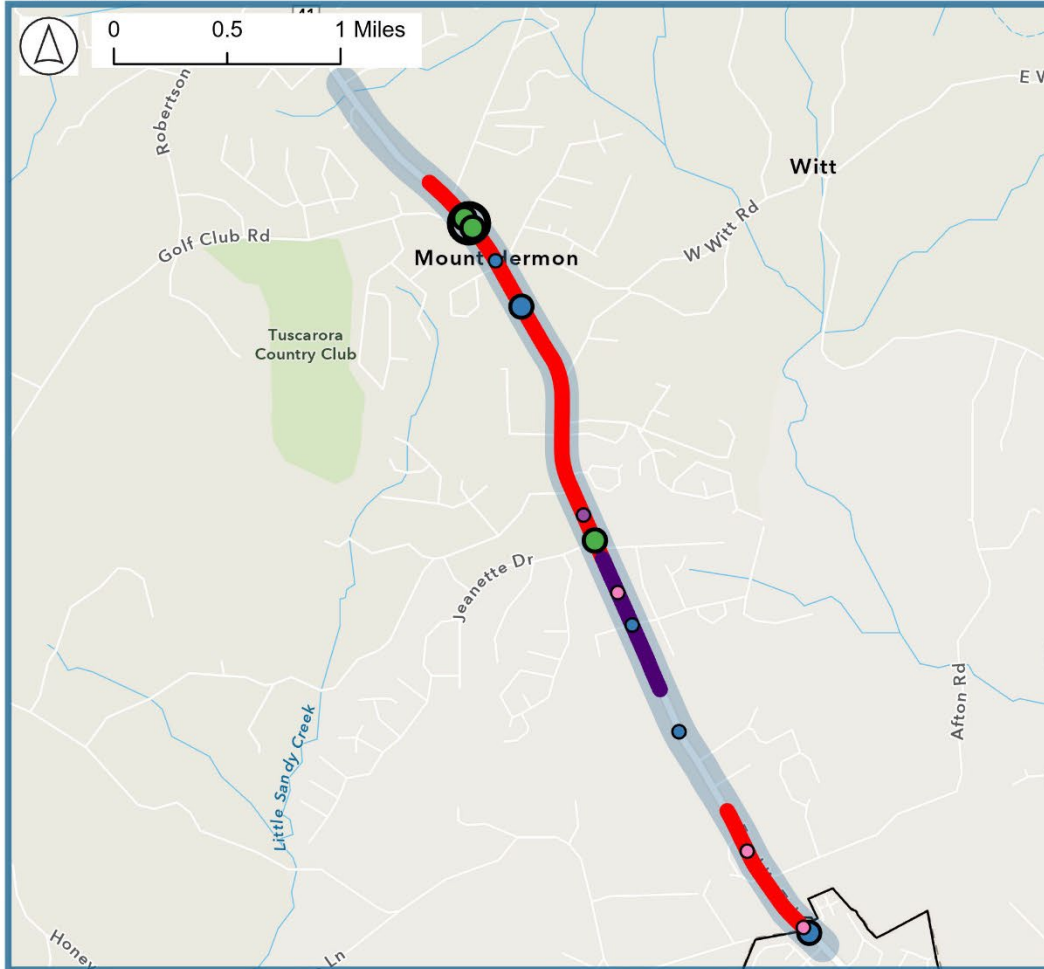
Most portions of the Franklin Turnpike priority safety corridor are on the High Injury Network. Franklin Turnpike and Golf Club Road is identified as a high crash intersection.

The Franklin Turnpike (VA 41) LY-23-09 Project Pipeline Study discusses the safety issues on Franklin Turnpike in depth.

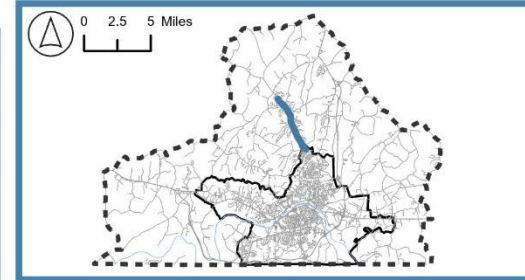
DRAFT

Priority Corridor: Franklin Turnpike

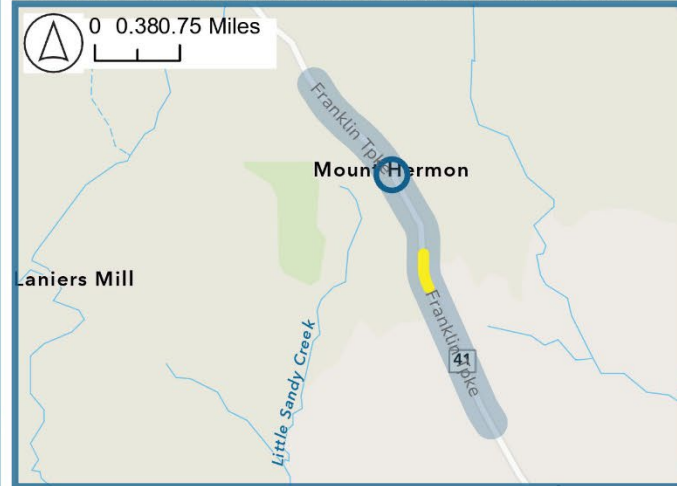
High Injury Network and Fatal and Severe Crashes



Corridor Location within Danville MPO



Potential for Safety Improvement (PSI) Segments & Intersections



ETC Census Tracts & Pedestrian/Bicycle Safety Action Corridors

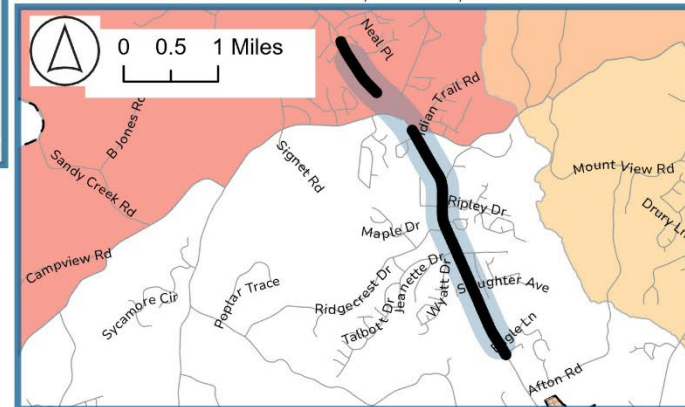


Figure 19: Franklin Turnpike Crash Characteristics

Public comments and stakeholder input identified several issues along this corridor, including:

- Speeding
- No right turn lanes at most intersections
- Improper use of the two-way left turn lane
- Difficulty turning left from side streets at Orphanage Road/Turnpike Townhome Apartments
- Lack of roadway lighting
- Inadequate pedestrian facilities

Franklin Turnpike (VA 41) LY-23-09 Project Pipeline Study

The Franklin Turnpike Project Pipeline Study examined safety issues along the three-mile segment of Franklin Turnpike in Pittsylvania County from 0.13 miles north of Hunting Hills Road (Route 864) to Vicar Place. The study evaluated several alternatives at select intersections.

The study recommended:

- Installing a new traffic signal at the intersection of Franklin Turnpike at Orphanage Road
- Constructing a shared-use path along the west side of Franklin Turnpike
- Replacing the two-way left turn lane with a median

An illustration of the proposed new traffic signal is provided in the appendices. This concept was submitted for SMART SCALE funding.

This Safety Action Plan recommends continuing efforts to fund the improvements identified in the Franklin Turnpike Project Pipeline Study.

Potential Countermeasures and Roadway Safety Improvements

In addition to the recommendations from the prior study, the following countermeasures are recommended for the Franklin Turnpike priority safety corridor:

- Roadway lighting
- Speed feedback signs in select locations based on evaluated speed data and engineering judgment
- Speed camera photo enforcement at Twin Springs Elementary School zone
- Stop bars at cross streets

- Divided highway and cross street signage
- Retroreflective strips on stop and/or curve warning signs
- Double yellow pavement markings on side streets
- Enhanced signs

DRAFT

G. Kentuck Road

Eagle Springs Road/Wilkerson Road to Kentuck Church Road/Ringgold Church Road

Three schools are located within proximity to the intersection of Kentuck Road and Ringgold Church Road/Kentuck Church Road. Kentuck Elementary School and Dan River Middle School are located on Kentuck Road. Dan River High School is located on Kentuck Church Road.

Table 21 and **Figure 20** summarize the roadway characteristics and crash metrics for Kentuck Road.

Table 21: Kentuck Road Corridor Characteristics

Segment	Lanes	Speed Limit (mph)	Divided/Undivided	Daily Traffic Volume (2023)
Kentuck Road (North of Eagle Springs Rd)	2	45 MPH	Undivided	4000-5000 AADT

Safety Issues and Concerns

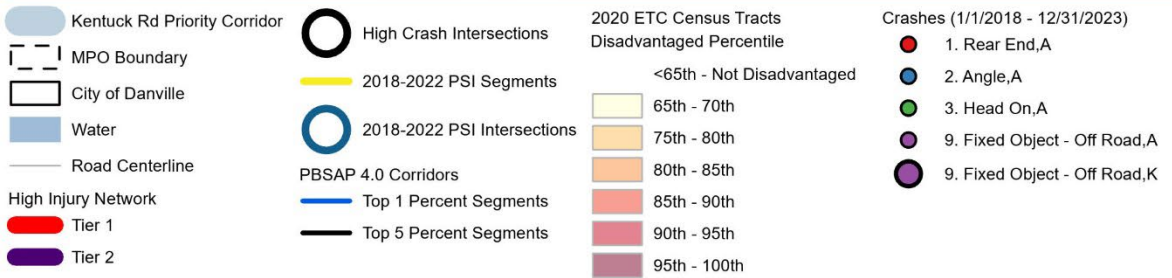
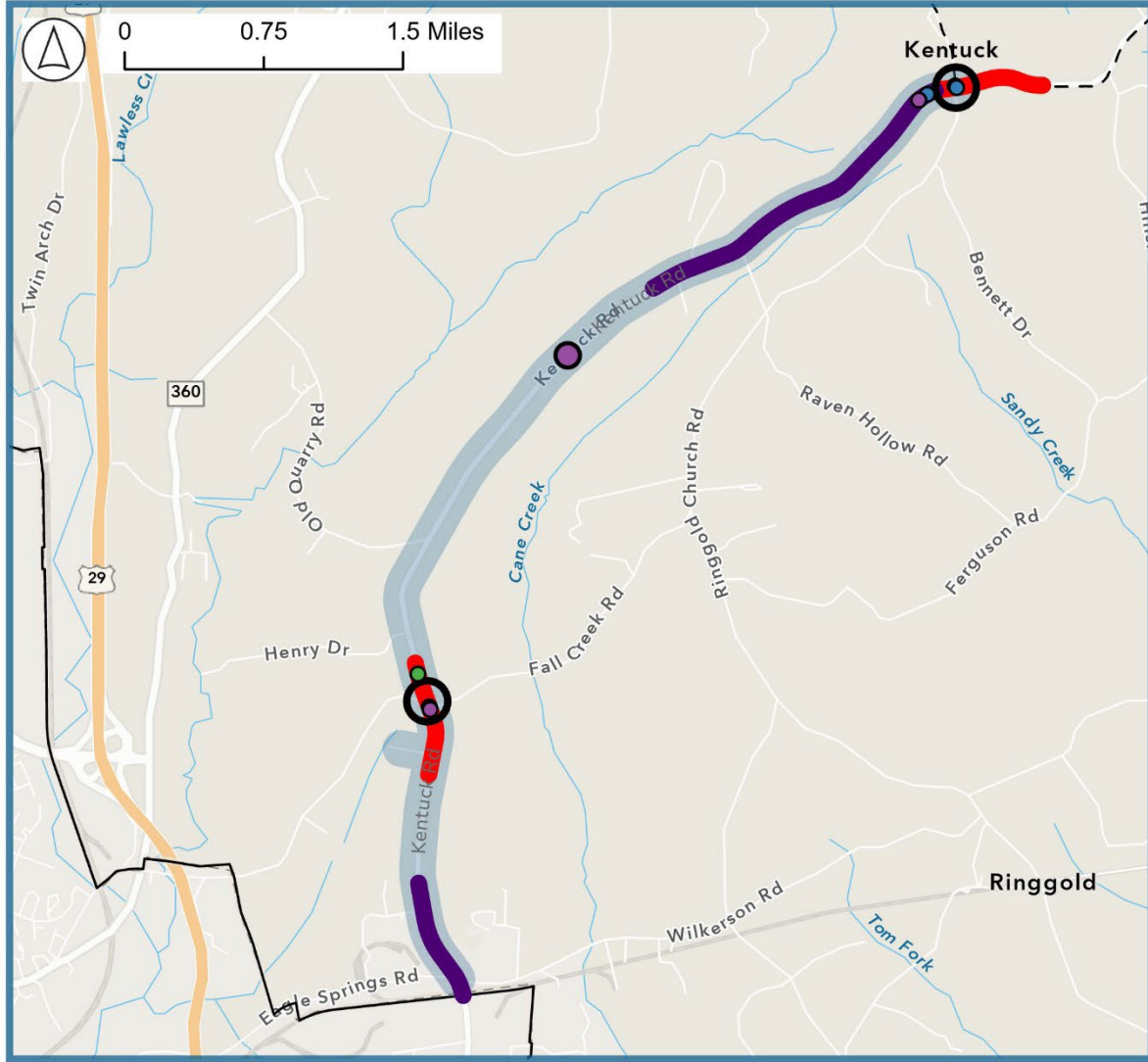
As shown in **Table 22**, this corridor experienced 1 fatality and 8 serious injuries over the six-year crash analysis period. Seven of the eight fatal and serious injury crashes involved unbelted vehicle occupants and/or distracted or impaired driving. None of the crashes involved young drivers.

Table 22: Fatal (K) and Serious Injury (A) Crashes on Kentuck Road, 2018-2023

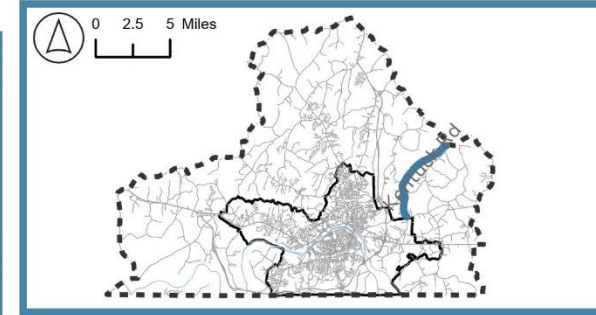
Collision Type	Kentuck Road from Eagle Springs Road/ Wilkerson Road to Kentuck Church Road/ Ringgold Church Road	
	K	A
Rear-End	0	1
Angle	0	3
Head On	0	1
Fixed Object – Off Road	1	3
Other	0	0
All Collision Types	1	8

Priority Corridor: Kentucky Road

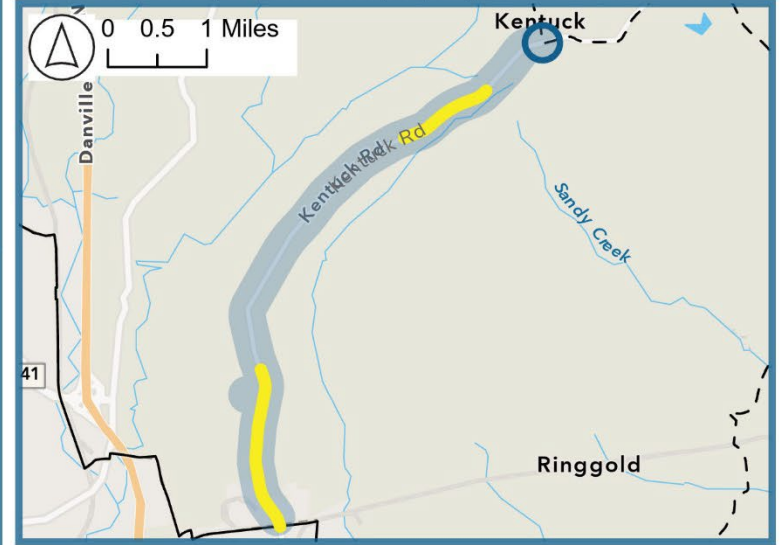
High Injury Network and Fatal and Severe Crashes



Corridor Location within Danville MPO



Potential for Safety Improvement (PSI) Segments & Intersections



ETC Census Tracts & Pedestrian/Bicycle Safety Action Corridors

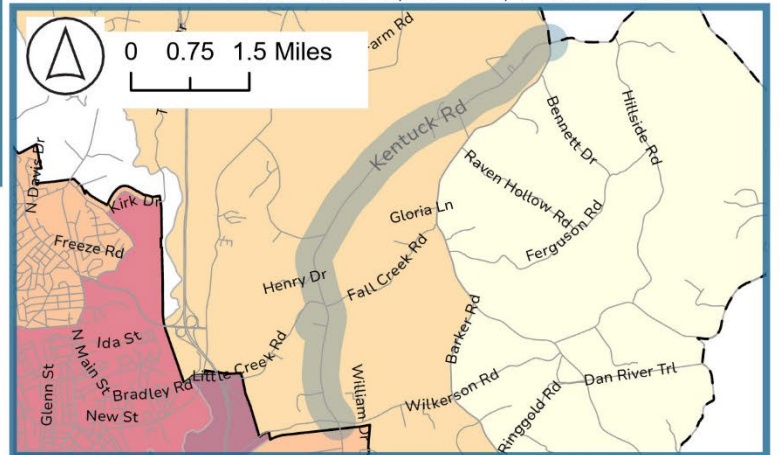


Figure 20: Kentucky Road Crash Characteristics

Only a few segments of Kentuck Road are on the High Injury Network, including:

- 1.5 miles from Ringgold Church Road/Kentuck Church Road to the southwest, just past Gwen Lane (Tier 2)
- The half-mile segment near Little Creek Road (Tier 1)
- The half-mile segment north of Wilkerson Road/Eagle Springs Road (Tier 2)

The following high-crash intersections are located in the Kentuck Road priority safety corridor:

- Kentuck Road at Little Creek Road
- Kentuck Road at Ringgold Church Road/Kentuck Church Road

Public comments and stakeholder input identified several key safety issues along the Kentuck Road priority safety corridor, including:

- Speeding, especially with houses on Kentuck Road and children playing in front yards, and near the three schools
- Limited enforcement
- High speeds
- Narrow lanes

Kentuck Road Planning Level Study (2013)

The 2.7-mile section of Kentuck Road from Little Creek Road to South Boston Road was studied in 2013 to improve safety and capacity. The study recommended improvements at two intersections within the study area.

1. Kentuck Road and Eagle Springs Road – Remove the northbound channelization and add a 100-foot right turn lane on the northbound approach and a 100-foot right turn lane on the westbound approach (Alternative 2)
2. Kentuck Road and Little Creek/Fall Creek Roads – Shift the alignments of Little Creek Road and Fall Creek Road and install a traffic signal (Alternative 2)

Illustrations of these recommendations are provided in the appendices.

This Safety Action Plan recommends continued efforts to fund the improvements that have been identified in the Kentuck Road Planning Level Study.

Potential Countermeasures

In addition to the recommendations from the prior study, the following countermeasures are recommended for the Kentuck Road priority safety corridor:

- Speed feedback signs in select locations based on evaluated speed data and engineering judgment
- Speed camera photo enforcement at Kentuck Elementary School, Dan River Middle School, and Dan River High School
- Wide edge lines
- Centerline rumble strips
- SafetyEdgeSM during repaving projects, where appropriate
- Evaluate the existing passing zone in the School zone

Additional strategies focused on the Kentuck Road corridor include:

- Changeable message boards to buckle up and phones down
- Targeted enforcement for impaired driving and seatbelt violations

Recommendations for Systemic Safety Countermeasures

The previous chapter provided recommendations for the priority safety corridors, most of which are reactive measures to address corridor-specific issues identified through crash history and public input.

This chapter addresses the proactive side of the comprehensive safety approach. While crash history analysis can identify areas that have safety issues, a systemic safety analysis identifies roadway characteristics and risk factors that increase the likelihood of a crash occurring. The identified countermeasures can be applied systemically across the network to mitigate high-risk roadway characteristics.

Countermeasures described in this section include:

- High-Visibility Signal Backplates (HVSB)
- Flashing Yellow Arrows
- Pedestrian crossing improvements
- Centerline Rumble Strips
- Edgeline Rumble Strip/Stripes
- Curve Delineation
- Unsignalized Intersection Enhancements
 - Stop signs both sides
 - Enhanced stop signs
 - Stop Bars
 - Advanced warning signs
 - Guide Signs
 - Stop Ahead signs
 - Double yellow centerlines
 - Raised splitter islands (6' wide)
 - Transverse rumble strips
 - Flashing beacon systems
 - Removal of foliage
 - Removal of parking that limits sight distance
 - Dashed edgelines to delineate the mainline & turning bays
 - Word messages
 - Lane arrows
 - Crosswalks
- Safety Wedge

The countermeasures described in the following sections are specific to physical improvements and engineering enhancements on the road. By focusing on a systemic approach to improvements we are able to target safety challenges within various areas throughout the MPO area and achieve the goals and objectives of this plan. Additional strategies related to enforcement, education, and emergency response are provided in the Strategy Recommendations section later in this plan.

High-Visibility Signal Backplate (HVSB)

HVSB improves visibility for older and color vision-deficient drivers. This countermeasure is also effective during power outages, providing a visible cue for motorists to stop at the intersection when traffic lights are not operating. They can help reduce the risk of crashes caused by poor visibility conditions, such as at night, in heavy fog, or during heavy precipitation.

Flashing Yellow Arrows (FYAs)

FYA can reduce crashes at signalized intersection by up to 50%, reduce traffic congestion and delays, and minimize driver error. A flashing yellow arrow reminds drivers to proceed with caution and wait for a safe gap to make a left turn. FYA can also be programmed to restrict left turns during heavy traffic.

Pedestrian Improvements

Pedestrian safety was a common concern in the public comments and in stakeholder and working group discussions, especially in the downtown area and other areas with significant pedestrian activity. Comments often included examples of drivers failing to yield to a pedestrian. Many community members indicated a desire to change driver behavior and create a cultural norm where drivers yield to pedestrians.

The following countermeasures can enhance visibility of pedestrians, provide pedestrians with extra time to cross, and change the overall feel of an area to one that is designed for pedestrians, in which drivers feel compelled to drive more slowly and be alert for pedestrians.

- High visibility crosswalks
- Accessible Pedestrian Signals at signalized intersections
- Countdown features at signalized pedestrian crossings
- Leading Pedestrian Intervals (LPIs)⁴

⁴ See FHWA Office of Safety, 2023. "Proven Safety Countermeasures: Leading Pedestrian Interval." FHWA-SA-21-032. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/leading-pedestrian-interval>.

- Pedestrian hybrid beacons at trail and existing heavy pedestrian crossings
- Pedestrian refuge islands at crossing that are three or more lanes and at midblock crossing islands
- Daylighting intersections to increase driver visibility of pedestrians, shorten pedestrian crossing distances, and slow driver speeds
- Lighting to illuminate the crosswalk and the areas where pedestrians wait to cross
- Lower speed limits

Edge Line and Centerline Delineation and Emphasis

Clearly, delineated edge lines and centerlines are important for preventing roadway departure crashes. If drivers cannot clearly identify the edge of the travel lanes and see the road alignment ahead, the risk of roadway departure may be greater.⁵

Countermeasures related to delineation of the travelway include the following, which can be employed in a phased approach:

1. Installing centerlines
2. Installing four-inch width⁶ edge lines
3. Increasing edge line width to six inches to add emphasis
4. Installing centerline and/or edge line rumble stripes
5. Installing plastic inlaid markers (PIMs)

The application of these countermeasures depends on the roadway width and, to some extent, the AADT volumes of a roadway. **Table 23** describes considerations for applications of these countermeasures.

Table 23: Roadway Width Criteria⁷

Width	AADT	Center Line	Edge Line	Pavement Inlaid Markers
<16 ft	All	N/A	N/A	N/A
>16ft	All	Optional	Not Allowed	Not Recommended
<18 ft	All	Optional	Not Allowed	Not Recommended
>18 ft	<500	Optional	Not Allowed	Not Recommended
	> or = 500<1000	Required	Not Allowed	Not Recommended

⁵ FHWA Office of Safety, 2023. “Proven Safety Countermeasures: Wider Edge Lines.” FHWA-SA-21-055. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/wider-edge-lines>.

⁶ The Virginia Supplement to the 2009 Manual on Uniform Traffic Control Devices (MUTCD) indicates the width of a normal longitudinal line shall be 4 inches, and a wide line shall be twice the width of a normal line. The Virginia Supplement was last updated in 2013. FHWA released the 11th Edition of the MUTCD in December 2023, which notes that a normal edge line width of 6 inches can provide safety benefits.

⁷ Manual on Uniform Traffic Control Devices (MUTCD), 11th Edition.

	>1000 <3000	Required	Not Allowed	Optional
<20ft	>3000	Required	Not Allowed	Optional
>20ft	<500	Optional	Optional*	Not Recommended
	> or = 500<1000	Required	Required	Not Recommended
	>1000 <3000	Required	Required	Optional
	>3000	Required	Required	Recommended

*Required if Centerline is present.

Centerline and edge line markings should be applied in conformance with the Virginia Supplement to the MUTCD.

Curve Delineation

There are a variety of potential strategies that can be implemented in advance of or within horizontal curves to enhance delineation. Some of the countermeasures that can be implemented are:

- Advance curve warning signs
- Enhanced curve warning signs
- Chevron signs
- Retroreflective strips on signpost
- In-lane curve warning pavement markings
- Delineators

The addition of chevron signs can reduce night-time crashes⁸ by 25% and non-intersection fatal and injury crashes by 16%⁹. When installing oversized chevron signs, a 15% reduction in fatal and injury crashes can be achieved¹⁰. The installation of in-lane curve warning pavement markings can provide a 35-38% reduction in all crashes¹¹⁻¹². Providing new fluorescent curve signs or upgrading the existing curve signs to fluorescent sheeting can have an 18% reduction in non-intersection, head-on, run-off-road, and sideswipe in rural areas¹⁰.

⁸ (CMF ID: [2439](#), [2431](#), [2432](#)) Albin et al. Low-Cost Treatments for Horizontal Curve Safety 2016. FHWA-SA-15-084, (2016).

⁹ (CMF ID: [2438](#)) Srinivasan et al. Safety Evaluation of Improved Curve Delineation. FHWA-HRT-09-045, (2009).

¹⁰ (CMF ID: [8978](#)) Lyon et al. Safety Evaluation of Two Curve Warning Treatments: In-Lane Curve Warning Pavement Markings and Oversized Chevron Signs. Presented at the 96th TRB Annual Meeting, Paper No. 17-00432, (2017).

¹¹(CMF ID: [10362](#)) Hallmark, S. Evaluation of Sequential Dynamic Chevrons on Rural Two-lane Highways. FHWA, (2017).

¹² (CMF ID: [10312](#), [9167](#)) Donnell et al. Reducing Roadway Departure Crashes at Horizontal Curve Sections on Two-lane Rural Highways. FHWA-SA-19-005, (2019).

Safety Wedge

Asphalt shoulder edge wedges play a crucial role in road safety, offering a smooth transition from the pavement to the shoulder area. These wedges can significantly reduce vehicle departures and rollover accidents by providing a more forgiving exit path for vehicles that stray off the main roadway. It should be installed on new construction, mill-and-fill, and straight overlay projects that mill or pave to the edge of pavement. Areas where this treatment would be beneficial are:

- Open ditch sections, no curb and gutter
- Paved shoulder widths four feet wide or less
- Speed limits greater than 35 mph
- Specified final asphalt surface lift thickness of at least 1.25 inches

High Crash Intersections and Roadway Segments – Hot Spot Evaluations

In addition to the seven priority safety corridors, **Table 24** shows the intersections identified as high crash intersections within the Danville MPO study area. A desktop evaluation was performed for each intersection, and potential safety countermeasures have been identified for each location. Each site should be further evaluated to determine final recommendations. These intersections have been identified as the top ten intersections based on any of the following categories:

- Number of total crashes
- Number of KA crashes
- Number of EPDO crashes

Table 24: High Crash Intersections

Location	City/County	Fatal Crashes	Serious Injury Crashes	EPDO Crash	Total Crashes	Recommended and Potential Countermeasures
Main St N & Bus US-29N/S	City of Danville	2	2	791	25	Signalized – HVSB, improve access to pedestrian features
Martin Luther King Brg & Main St N, Riverside Dr	City of Danville	2	1	697	38	Signalized – Enhance do not enter signs, add guide striping,
Franklin Tpke & N Main St	Pittsylvania County	2	0	342	5	Signalized – HVSB, adding crosswalks & ramps, monitor volumes and update signal timing plans, modify the eastbound cut-through to the frontage road, consider converting the intersection to an innovative intersection
Clarks Mill Rd & Gunn Garland Rd	Pittsylvania County	1	3	640	4	Unsignalized – Divided hwy signs, stop bars, double yellow pavement markings, Enhanced Stop signs, Retroreflective strip on stop signs, improve mainline left turn lanes
E Gretna Rd & Riceville Rd, SC-640N/S, VA-40E/W	Pittsylvania County	1	2	522	7	Unsignalized – Add stop bar, Advanced Stop ahead signs, Cross street does not stop signs, Enhanced Stop Signs, Retroreflective strip on stop signs
Park Ave & Main St W	City of Danville	1	2	543	11	Signalized –improve crosswalk and ramps, and provide pedestrian signalization

Livestock Rd & Mt View Road & Bus US-29N/S	Pittsylvania County/City of Danville	1	2	558	15	Unsignalized – Enhanced Stop Signs, Cross traffic does not stop signs, Advanced stop ahead sign, Retroreflective strip on stop signs
Main St S & Watson St & VA-86	City of Danville	1	2	536	14	Signalized – HVSB, Improved crosswalks and ramps, access to pedestrian features. Add nb right turn lane.
Grays Park Rd & Martinsville Hwy	Pittsylvania County	1	1	343	6	Unsignalized – Divided Hwy signs, stop bars, double yellow pavement markings, enhanced stop signs, Retroreflective strip on stop signs
Nelson Ave & Nor Dan Dr, UR-3755N/S	City of Danville	1	0	417	60	Signalized – HVSB, improved access to pedestrian features, ramp and crosswalk improvements, add sb right turn lane, modify intersection per the Piney Forest Road Corridor study.

Table 25 shows the high-crash segments that have been identified for safety improvements. This selection also considered providing a mix of priority segments within different roadway types such as number of lanes and median presence.

Table 25: Priority Segments

Route Name	From MP	To MP	Segment Length	K	A	B	C	O	Total Crashes	Jurisdiction	Recommended Countermeasure
R-VA US29NB/BUS (N Main St to Seminole Dr)	9.38	9.50	0.124	2	3	5	8	18	36	City of Danville	Modify westbound right turn lane geometry onto US29 Business, possible Green T geometry.
R-VA US58EB/BUS14 (Keen St to Bridge Street-Ped Bridge)	9.56	10.07	0.504	2	2	4	18	33	59	City of Danville	Rebuild Route 58 out of floodplain and adjust horizontal curves, requires raising the railroad bridge.
R-VA US29NB/BUS (Country Club Court to Winstead Dr)	1.27	2.80	1.022	2	8	5	14	28	57	City of Danville	Implement typical section and intersection improvements per the New Schoolfield District Small Area Plan transportation element.
R-VA SR41NB (Terry Ave to Orphanage Road)	2.56	3.09	0.534	1	4	2	4	10	21	City of Danville	Median and access management improvements. On side streets – stop bars, double yellow pavement markings, retroreflective strips on stop signs, and cross traffic does not stop signs
R-VA US29NB (North of Toy Ln to Tower Ln)	18.44	18.94	0.501	1	3	5	0	10	19	Pittsylvania County	Left and right turn lane improvements, RCUTs for sidestreets.
R-VA US58EB (Airview Drive to west of memorial park)	302.13	302.61	0.48	1	2	5	5	14	27	City of Danville	Turn lane and access management improvements.

R-VA 71SC00750NB/Mt Cross Road (East of Woodhaven Dr to east of Pincroft Road)	2.54	3.04	0.507	1	2	7	0	2	12	Pittsylvania County	Possible CL or EL rumble
R-VA US58EB (Ringgold Road to Gough St)	303.09	303.57	0.484	1	3	0	0	3	7	Pittsylvania County	Turn lane and access management improvements.
S-VA108PR ARNETT BLVD (Wendell Scott Dr to Mulberry Rd)	0.51	1.02	0.512	1	2	4	6	12	25	City of Danville	Remarking for traffic calming
R-VA US58EB (Willow Briar Ln to Grays Park Road)	283.02	283.50	0.479	1	1	4	0	5	11	Pittsylvania County	Access Management turn lanes, and wide edge line
R-VA SR293NB/W Main Street (Park Ave to Blackwell Drive)	1.01	1.51	0.504	1	1	2	10	13	27	City of Danville	Access Management, Multi modal Improvements, Intersection improvements at Park and Main, HVSB, Crosswalks, improved ped features, HVSB at Tunstall, at Magnolia install HVSB, FYA and improve crosswalks and ramps, at Howeland install HVSB, Consider innovative at Howeland

Additional Proven Safety Countermeasures

Speed Management

Speeding is the factor most closely associated with fatal and severe injury crashes in the Danville MPO. It was also the most common concern from the public.

Speed safety cameras are a proven safety countermeasure, with crash reductions varying between 20% and 54%.¹³ The Code of Virginia currently limits the application of speed safety cameras to school zones and work zones.

Speed cameras can be installed in any school zone. Systemic application of these cameras could include prioritizing locations with higher speed limits and higher traffic volumes.

Appropriate speed limits should be considered in conjunction with Complete Streets policy and design improvements.

Pedestrian and Bicycle Improvements

There are gaps and missing sections of sidewalks and bike lanes throughout the Danville MPO area. To make walking and bicycling safer and more comfortable for most people, installing bicycle lanes and walkways (sidewalks or paved shoulders) should be considered. Consideration should be given to ensuring all collector and arterial streets have ADA compliant sidewalks to provide safe access and provide connectivity for all users. Creating a safer network of roadways for people walking and biking can mitigate or prevent interactions, conflicts, and crashes. This countermeasure recognizes human vulnerability and enhances safety for all road users.

Arterial Crosswalks and Crosswalk Enhancements

Many of the Danville MPO's arterial roadways lack pedestrian crossings. Countermeasures for providing and enhancing pedestrian crosswalks on arterial roads include:

- Installing crosswalks, ADA curb ramps, and pedestrian countdown signals at signalized intersections
- Crosswalk visibility enhancements, including high visibility crosswalk marking patterns, improved lighting, and enhanced signing and pavement markings¹⁴

¹³ FHWA Office of Safety, 2023. "Proven Safety Countermeasures: Speed Safety Cameras." FHWA-SA-21-070. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/speed-safety-cameras>.

¹⁴ See FHWA Office of Safety, 2023. "Proven Safety Countermeasures: Crosswalk Visibility Enhancements." FHWA-SA-21-049. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/crosswalk-visibility-enhancements>.

- Medians and pedestrian refuge islands¹⁵
- Pedestrian hybrid beacons to establish crosswalks at mid-block locations¹⁶
- Road diets¹⁷

Road Diets/Complete Streets (Roadway Reconfiguration)

Complete Streets are a holistic urban planning concept designed to create roadways that accommodate all users, including pedestrians, cyclists, motorists, and transit riders. The idea is to go beyond traditional road design, which often prioritizes vehicle movement, by integrating a variety of features that promote safety and accessibility. Construction of, and conversion of existing roads to a complete street configuration offers safety benefits. One of the key safety benefits of complete streets is the reduction of traffic-related accidents. By incorporating features such as dedicated bike lanes, wider sidewalks, and pedestrian crossings, they help to clearly define spaces for different types of travelers, reducing conflicts and promoting a more harmonious coexistence. Additionally, complete streets often include traffic calming measures, such as narrowed lanes, curb extensions, and landscaping, among other treatments, which can influence vehicle travel speeds, further enhancing safety for vulnerable road users. Note that the City’s 2030 Comprehensive Plan alludes to complete streets elements including streetscape, bicycle and pedestrian access, and accommodating other modes of travel. The City’s latest (draft) Comprehensive Plan specifically addresses a recommendation to “deepen [the] commitment to Complete Streets, with an emphasis on speed reduction measures, to increase the safety of all road users, especially in high-injury and sensitive areas”.



Figure 21. Before and After images of Westover Drive Roadway Reconfiguration.

¹⁵ See FHWA Office of Safety, 2023. “Proven Safety Countermeasures: Medians and Pedestrian Refuge Islands in Urban and Suburban Areas.” FHWA-SA-21-044. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/medians-and-pedestrian-refuge-islands-urban-and-suburban-areas>.

¹⁶ See FHWA Office of Safety, 2023. “Proven Safety Countermeasures: Pedestrian Hybrid Beacons.” FHWA-SA-21-045. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/pedestrian-hybrid-beacons>.

¹⁷ See FHWA Office of Safety, 2023. “Proven Safety Countermeasures: Road Diets (Roadway Reconfiguration).” FHWA-SA-21-046. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/road-diets-roadway-reconfiguration>.

Examples of recent complete street conversion efforts include re-marking West Main Street near the junction with S. Main Street and Rison Street included pavement re-marking to re-allocate lanes and add bicycle lanes. Other examples include the conversion of Westover Drive from a four-lane roadway to a two-lane roadway with bicycle lanes (See **Figure 21**), continued enhancements to Craghead Street’s pedestrian crossings, and the ongoing improvements to Memorial Drive near the former White Mill Building and Riverfront Park to enhance pedestrian access along the corridor. Finally, the Schoolfield District small area plan emphasizes modifications to West Main Street to better accommodate multimodal access throughout that section of the City.

The aerial imagery in **Figure 22** from the City’s GIS Parcel Viewer shows the before (2012-image left) and after (2024-image right) condition for Craghead Street at Wilson Street. Curb extensions improve line of sight for people driving and walking, and shorten the amount of time that the pedestrian is exposed to traffic. They also provide a sense of a narrowed travel way to drivers which has been shown to result in slower vehicle speeds.



Figure 22: Craghead Street at Wilson Street Aerial Imagery

Shoulder Widening

Providing or widening shoulders can improve safety and provide a number of benefits, including:

- Maneuverability where drivers can use the wider shoulder
- Recovery area provides drivers who leave the travel lane with a clear, stable place to recover
- Stopping sight distance can be improved by creating a wider shoulder at horizontal curves
- Bicycle accommodations can be enhanced
- Emergency storage can provide space to store disabled vehicles

These shoulder widths vary by road type. Refer to the VDOT Road Design Manual for the requirements, which vary by functional classification and AADT.

Intersection Conversion to Roundabouts and RCUTs

Roundabouts and RCUT intersections are two innovative intersection configurations that reduce the number of conflict points at an intersection and reduce crash potential at stop-controlled intersections. In addition, roundabouts require all traffic, including the mainline, to slow down and yield to oncoming traffic in the roundabout.

Both RCUTs and roundabouts have been proven to reduce fatal and injury crashes – RCUTs by 54%¹⁸ and roundabouts by 82%.¹⁹

High Friction Surface Treatment

Providing high friction treatment along horizontal curves can reduce roadway departures as well as provide additional traction for the motorcyclist.

Guardrail and Clear Zone

Installing or upgrading guardrail designed to protect both vehicles and motorcyclists on horizontal curves and at roadway departure hotspots where sufficient clear zone is not present can keep vehicles on the roadway. Improving the clear zone on rural roadways can provide an area for motorists to recover should they leave the roadway.

Strategy Recommendations

The recommendations and countermeasures presented so far are primarily engineering and infrastructure improvements. However, the Shared Responsibility principle of the Safe Systems approach asserts that safety is not just the responsibility of roadway designers, but of everyone.

This section presents a list of key strategies for each goal. Strategies can be programs, policies, educational campaigns, collaboration efforts, and a variety of other efforts and activities. The strategies are intended to incorporate elements of education, enforcement, and emergency response, in addition to the engineering recommendations presented in

¹⁸ FHWA Office of Safety, 2023. “Proven Safety Countermeasures: Reduced Left-Turn Conflict Intersections.” FHWA-SA-21-030. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/reduced-left-turn-conflict-intersections>.

¹⁹ FHWA Office of Safety, 2023. “Proven Safety Countermeasures: Roundabouts.” FHWA-SA-21-030. Accessed October 17, 2024 from <https://highways.dot.gov/safety/proven-safety-countermeasures/roundabouts>.

prior sections. However, some strategies may place additional emphasis on engineering as well.

Below are strategies brainstormed by participants at the Safety Summit or developed by the SS4A team upon completion of the policy review.

Strategies marked with an asterisk (*) were identified as priority implementation actions, and they are discussed further in the Priority Actions section of this Safety Action Plan.

Goal 1: Seek opportunities to improve our streets and roads to be safer for all users and for safer speeds.

- Secure funding for project recommendations already identified in prior studies.*
- Create a program to systematically install and enhance pedestrian crossings throughout the City of Danville.*
- Develop a process to improve visibility and driver compliance at stop-controlled intersections.*
- Identify systemic improvements to reduce common crash types that can be implemented within existing routine maintenance programs or align with VHSIP local and VDOT systemic initiatives.
- Create an SS4A Infrastructure Committee to support and advance traffic safety improvement projects.
- Identify opportunities for converting intersections with high crash potential into roundabouts or other innovative intersections.
- Retime corridor traffic signals with slower progression speeds.

Goal 2: Create a safety culture that recognizes traffic safety as a public health issue and acknowledges the dangers of driving without a seatbelt, speeding, distracted, and impaired driving.

- Conduct a region-wide educational campaign on the importance of occupant protection (seat belts and car seats) and the dangers of distracted, drunk, impaired, and reckless driving.*
- Investigate opportunities to host driver safety courses in high schools.
- Develop more intensive driver training programs and requirements for teens, new drivers, and senior license renewals.
- Include physical driver training on how to navigate roundabouts and other innovative intersections in driver training programs.

Seatbelts Save Lives

Over two-thirds of vehicle occupants who died in traffic crashes in the Danville MPO between 2018 and 2023 were unrestrained. This is higher than the national trend of 50%.²⁰

Nationally, seat belts saved an estimated 14,955 lives and could have saved an additional 2,549 people, in 2017 alone.²¹ People who are not wearing seat belts are 30 times more likely to be ejected from a vehicle during a crash.²²

The Code of Virginia requires every driver, all front-seat passengers, and all passengers under 18 to wear a safety belt.²³ Failure of a driver or front-seat passenger to wear a safety belt is a primary violation, and police officers are allowed to stop motorists and issue citations for this offense.

The following strategies to increase seat belt use have been demonstrated to be effective in reviews by the National Highway Traffic Safety Administration:²⁴

- Increased penalties including higher fines or points on a driver's license
- Short-term, high-visibility enforcement of seat belt laws, such as Click It or Ticket, involving a brief period of increased police efforts, such as checkpoints or saturation patrols, highly publicized through mass media campaigns
- Integrated nighttime enforcement programs – short-term, highly visible enforcement conducted at night, often combined with enforcement of other laws such as impaired driving

The Kailee Mills Foundation is one organization that provides resources, including school safety programs at <https://www.kaileemillsfoundation.org/>.

Of the 562 fatal and serious injury crashes, 132 were unrestrained, 18 of which were young drivers.

Strategies to increase child car seat and booster seat use include:²⁵

- Distribution and education programs to help parents and caregivers obtain new, unused car seats and learn how to properly use and install them, with hands-on demonstrations
- Incentive and education programs to reward parents or children with coupons or other prizes for correctly using car seats
- Enhanced enforcement programs similar to those used for seat belt use that are short-term, highly visible, and widely advertised

²⁰ National Highway Traffic Safety Administration, 2024. "Seat Belts." Accessed October 21, 2024 from <https://www.nhtsa.gov/vehicle-safety/seat-belts>.

²¹ Ibid.

²² Children's Hospital of Philadelphia Research Institute, 2024. "Seat Belt Use: Facts and Stats." Accessed October 21, 2024 from <https://teendriversource.research.chop.edu/teen-crash-risks-prevention/rules-of-the-road/seat-belt-use-facts-and-stats>.

²³ Code of Virginia § 46.2-1094, § 46.2-1095.

²⁴ Centers for Disease Control and Prevention, 2024. "Seat Belts: What Works: Strategies to Increase Restraint Use." Accessed October 21, 2024 from <https://www.cdc.gov/seat-belts/what-works/index.html>.

²⁵ Ibid.

Goal 3: Seek opportunities to provide connected networks with safer facilities for walking, rolling, and bicycling throughout the urbanized area, including to public transit.

- Conduct a focus group with people with disabilities to understand the issues and barriers they face in getting around the Danville region.*
- Develop an inventory of bicycle and pedestrian facilities and identify needed connections.*
- Upgrade pedestrian crossings at signalized intersections to include APS for pedestrians with audio or visual disabilities.
- Adopt a Complete Streets policy and design guidelines.
- Implement Neighborhood Traffic Calming Policy.
- Update the Riverwalk Master Plan to identify connections for neighborhoods to trails and sidewalks.
- Consider implementing microtransit in areas of higher adult and aging road users, as well as providing alternative transportation options in nightlife areas to discourage drinking and driving.

Goal 4: Continue to improve and maximize the effectiveness of emergency response and post-crash care.

- Provide more training and employment opportunities for emergency services including EMTs, paramedics, nurses, doctors, and firefighters.*
- Develop a public safety app for communication about emergencies and traffic incidents.*
- Provide additional equipment to assist departments in responding to incidents.*
- Conduct an educational campaign on how, when, and why to pull over in emergency situations.
- Meet with emergency service providers to identify challenges and ideas.
- Upgrade traffic signal equipment to install emergency vehicle pre-emption and other telecommunication devices.

Priority Actions

At the Safety Summit and in subsequent Project Working Group meetings, stakeholders identified priority actions and specific implementation details to advance each goal.



Goal 1: Seek opportunities to improve our streets and roads to be safer for all users and for safer speeds.

Priority Action	Why is this important? What is it?	Who is responsible?	Next steps
<p>Create a program to systematically install and enhance pedestrian crossings throughout the City of Danville.</p>	<p>Drivers do not obey existing crosswalks, even with flashing beacons. It is not safe to cross the street.</p> <p>A program for systematic implementation of enhanced pedestrian crosswalk protections could include raised crosswalks, speed tables at intersections, and elevated pedestrian walkways.</p>	<p>Lead:</p> <ul style="list-style-type: none"> VDOT Traffic Engineering Lynchburg District Danville City Engineering <p>Support:</p> <ul style="list-style-type: none"> VDOT Citizens MPO (Joe Bonanno) Health Collaborative (Kitt Mayo) Danville Complete Streets Committee (Bryan Price and others) 	<ol style="list-style-type: none"> 1. Research best practices in other similar sized cities that have established intersection safety programs for pedestrians (VDOT Neighborhood Traffic Calming Guide, IIM-384.1) 2. With input from multiple city departments, create a formal process/program for prioritizing pedestrian improvement locations based on pedestrian and vehicle volumes. (The program may include installation of temporary demonstration projects.) 3. Include education and reminders to the community about how and when to stop for pedestrians at crosswalks.

Priority Action	Why is this important? What is it?	Who is responsible?	Next steps
<p>Develop a funding plan for safety projects on the HIN, including project recommendations identified in prior studies, and priority bicycle, pedestrian, and transit connections identified in Goal 3.</p>	<p>Studies have already been conducted on many of the HIN locations (for example, Riverside Drive and Piney Forest Road). Many of these projects have already been identified for their safety benefits but need funding for implementation.</p>	<p>Lead: Partnership between City/County, MPO, and VDOT together</p>	<ol style="list-style-type: none"> 1. Work with VDOT to identify relevant state and federal funding opportunities. 2. Phase these projects so they don't have to be funded all at once; break into components for easier implementation. 3. Tailor project descriptions to match individual grant requirements better. Include the projects in City budgeting and share costs amongst different sources. 4. Collaborate with other organizations who may have similar goals and additional funding.
<p>Develop a process to improve visibility and driver compliance at stop-controlled intersections.</p>	<p>It is often hard to perceive if you need to stop at existing stop-controlled intersections in downtown Danville due to visual clutter, sight distance or other factors. Improving visibility and driver compliance at stop-controlled intersections is needed to improve driver and pedestrian safety.</p> <p>The process could include a walkability audit of downtown to assess sight distance at intersections,</p>	<p>Lead: City of Danville</p>	<p>Identify intersections most needed:</p> <ul style="list-style-type: none"> • Sight distance issues • Visual clutter • Crash data • Violations • Community feedback

Priority Action	Why is this important? What is it?	Who is responsible?	Next steps
	particularly for visibility of pedestrians to oncoming drivers. Improvements could include high-visibility stop signs or other treatments.		



Goal 2: Create a safety culture that recognizes traffic safety as a public health issue and acknowledges the dangers of speeding and distracted and impaired driving.

Priority Action	Why is this important? What is it?	Who is responsible?	Next steps
Conduct a community-wide campaign on the dangers of distracted, drunk, impaired, and reckless driving.	A community-wide educational campaign would engage a range of users to create positive, systemic change that permeates throughout the community. The campaign will include printed and social media, along with in-person engagements.	<p>Lead: City of Danville and Pittsylvania County with DMV</p> <p>Support:</p> <ul style="list-style-type: none"> • Sheriff’s dept. • Police dept. • DMV and DriveSmart • Libraries • Insurance agencies • US DOT • Local Schools/Driver Educators 	<ol style="list-style-type: none"> 1. Establish community buy-in with community partners. 2. Contact DriveSmart for brochures, media campaign materials and representatives for drunk/distracted driving demonstrations. 3. Find funding for campaign (DMV – VA Highway Safety Office – applications typically open Jan. 31, 2025). 4. Social media could begin within 30 days – data, tips, benefits.

- | | | | |
|--|--|--|--|
| | | <ul style="list-style-type: none">• Danville Pittsylvania Community Service• Local colleges and universities• Mark @ River City TV Station, weekly interviews• Local health organizations• Danville Regional Foundation• Regional Alliance for Substance Abuse and Prevention (Amanda Oakes)• Youth of Virginia Speak out about Traffic Safety | |
|--|--|--|--|

DRAFT



Goal 3: Seek opportunities to provide connected networks with safer facilities for walking, rolling, and bicycling throughout the urbanized area, including to public transit.

Priority Action	Why is this important? What is it?	Who is responsible?	Next steps
<p>Develop an inventory of existing bicycle, pedestrian and transit facilities and identify needed connections between them.</p>	<p>An inventory of existing facilities exists, but it is unclear if it is up to date. There is a need to have discussions with key stakeholders to identify gaps and prioritize those for funding, so that limited resources can be used to the best effect.</p>	<p>Lead: MPO</p> <p>Support:</p> <ul style="list-style-type: none"> • VDOT Bike/Ped Coordinator (David Cook) • City/County GIS Departments • Public works • Community development • Danville City Council and City Manager • Pittsylvania County Board of Supervisors • Public • Disability Rights and Resources Center • DRPT 	<ol style="list-style-type: none"> 1. Ensure the location inventory is up to date for existing sidewalks, crosswalks, bike lanes, etc. 2. Identify needed connections (system/network plan). 3. Conduct a focus group with people in the disability community to understand accessibility needs/barriers as they relate to the HIN. 4. Set priorities using maps from Safety Action Plan mapping activity 5. Engage all departments/stakeholders 6. Coordinate funding plan/schedule (see Goal 1) and communicate that schedule with the public. <p>City/County can investigate borrowing VDOT counters to understand usage</p>



Goal 4: Continue to improve and maximize the effectiveness of emergency response and post-crash care.

Priority Action	Why is this important? What is it?	Who is responsible?	Next steps
<p>Provide more training and employment opportunities for emergency services careers.</p>	<p>There is a shortage of personnel in the health, public safety and emergency response fields. This shortage results in increased response time and decrease in hospital care when crashes do occur, which results in increased deaths. Many local organizations have job training programs to recruit personnel, but more are needed.</p>	<p>Lead: Danville Life Saving Crew, Danville Area Training Center, Workforce Development</p> <p>Support:</p> <ul style="list-style-type: none"> • Pittsylvania County Technical Career Center • George Washington High School Vocational School • Danville Regional Foundation • Danville Community College, Patrick and Henry • WIB- Workforce Investment Board • Local High Schools • Local emergency response agencies (fire, EMS, police)? • Virginia Dept of Emergency Management? 	<p>Economic relief</p> <p>Need instructors</p> <p>Outreach to HS, college, community colleges</p> <p>Incentives</p> <p>Funding opportunities</p> <p>Research best practices across nation, workforce issue</p>

<p>Develop a public safety app for community communication about emergencies and traffic incidents.</p>	<p>Provide weather alerts Provide crash site Community information (events)(construction) Map feature/ interactive</p>	<p>Salem Emergency Operations Center (VDOT side) – does Danville have a local one?</p>	<p>Committee Funding Town Council/ Board Approval</p>
<p>Provide additional equipment to assist departments in responding to incidents.</p>	<p>Shortage in equipment Funding shortage Modernizing equipment Outdated equipment Tools don't cut through new metals in cars</p>	<p>Lead: Danville Lifesaving Crew Support: MPO or PDC Many local foundations, United Way, Firehouse subs, Danville</p>	<p>Funding Grants Someone to write grants and follow through (admin person) Maybe a regional person to cover several areas</p>

DRAFT

Implementation and Evaluation

This Safety Action Plan presents a comprehensive set of projects, strategies, and actions to achieve the Danville MPO's goal of reducing fatal and serious injuries from traffic crashes by 50 percent by 2045.

The priority actions in the Safety Action Plan clearly identify the agencies that will lead each action, as well as organizations that can provide support. WPPDC will work with partner agencies to apply for an SS4A Implementation Grant for financial and other resources to achieve the projects and strategies outlined in this Safety Action Plan.

This Safety Action Plan will be posted online. WPPDC will monitor the progress of the Safety Action Plan annually and update the Safety Action Plan every five years.

To track progress, the WPPDC has developed a crash data dashboard²⁶ that shows the location and severity of crashes from 2018-2022, the high injury network, high crash intersections, PSI segments and intersections, CEJ and ETC Census tracts, and PBSAP priority corridors. It also contains charts to summarize the number of crashes, the total number of people killed or injured, and the number of people killed or injured for each emphasis area. These charts will update based on filters, selection, or map zoom level. As new crash data becomes available, the dashboard will be updated, and comparisons can be made to show progress over time.

²⁶ The WPPDC crash data dashboard is currently available at <https://vdot.maps.arcgis.com/apps/dashboards/17758cca31ce4df4bc34da78e9c5e5d3>.