

Arrive Alive



Henrico

Safety Action Plan

May 2025



Henrico County
VIRGINIA





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BACKGROUND

Safe Streets and Roads for All

The U.S. Department of Transportation (USDOT) established the Safe Streets and Roads for All (SS4A) grant program through the Bipartisan Infrastructure Act to fund regional, local, and Tribal initiatives to prevent roadway deaths and serious injuries. SS4A provides \$5 billion over 5 years to prevent deaths and serious injuries on roadways. Through this program, USDOT supports agencies with developing a comprehensive safety action plan, which identifies the most significant safety concerns within a community and lays out strategies for implementing new safety measures to address existing concerns and prevent future fatalities and serious injuries.

In 2022, Henrico County was awarded SS4A grant funds to develop a comprehensive safety action plan. This plan, Arrive Alive Henrico, aims to reduce roadway fatalities and serious injuries for all road users throughout the county and facilitate the planning process. This safety action plan contains the following key components:

- ▶ Analysis of historical crash trends to understand the frequency and severity of crashes
- ▶ Identification of emphasis areas, which are contributing factors to fatalities and serious injuries or user types that are more vulnerable to suffering fatalities and serious injuries
- ▶ Analysis of high-risk locations
- ▶ Engagement with the public and relevant stakeholders
- ▶ Evaluation of policies and programs
- ▶ Guidance on implementation

Virginia Strategic Highway Safety Plan

A complementary effort that will support and inform the development of Arrive Alive Henrico is Virginia's 2022–2026 Strategic Highway Safety Plan (SHSP). The Virginia Department of Transportation (VDOT) developed the SHSP to address the increase in traffic fatalities and serious injuries across the Commonwealth of Virginia. Through the SHSP, VDOT aims to reduce fatalities and serious injuries by 50% by 2045. Like the components of a safety action plan, the SHSP analyzed crashes throughout the state to identify emphasis areas on which to focus safety improvements and countermeasures. Henrico County used these emphasis areas as a starting point for this plan.

Safe System Approach

Arrive Alive Henrico, SS4A, and the SHSP are guided by the Safe System Approach to roadway safety. This approach is grounded in the fact that humans make mistakes and are vulnerable to injury; thus, the transportation systems we build need to provide a layer of redundancy to accommodate mistakes and reduce the severity of crashes. The Safe System Approach includes multiple layers of protection to minimize the harm caused to those involved in crashes and to prevent crashes from happening in the first place.



Safe System Approach (Source: USDOT)

OBJECTIVES OF A SAFE SYSTEM

APPROACH INCLUDE:

- ✓ **Safer Road Users:** Encourage safe, responsible driving behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed
- ✓ **Safer Roads:** Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users
- ✓ **Safer Vehicles:** Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants
- ✓ **Safer Speeds:** Promote safer speeds in all roadway environments through a combination of thoughtful, equitable, context-appropriate roadway design, appropriate speed-limit setting, target education, outreach campaigns, and enforcement
- ✓ **Post-Crash Care:** Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practice

Four Es of Roadway Safety

To complement the Safe System Approach, Henrico has integrated into this plan strategies across the four Es of roadway safety:



Engineering

Designing safer facilities for all users



Education

Building a culture of traffic safety



Enforcement

Reinforcing safe travel behaviors



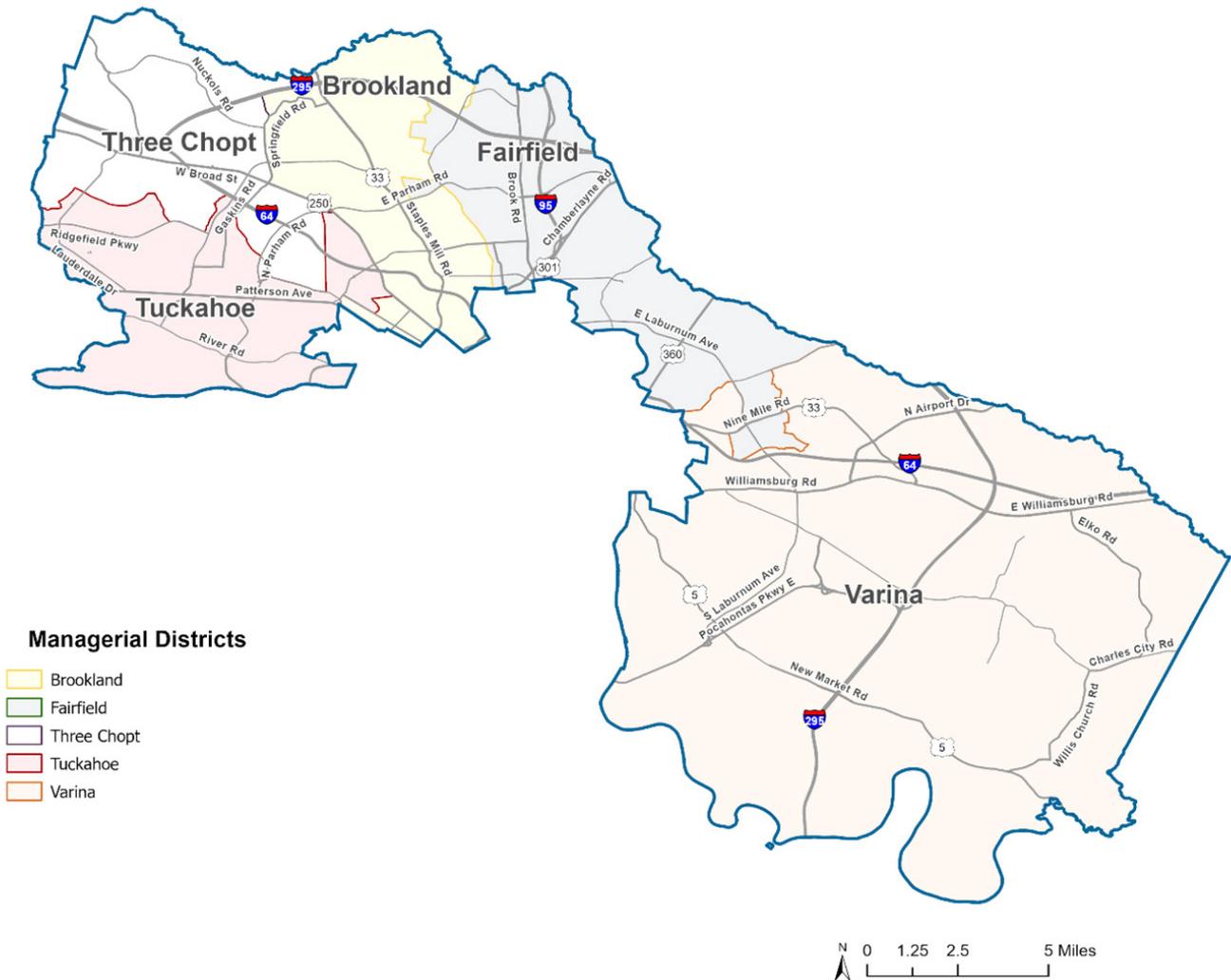
Emergency Response

Saving lives through rapid response

Henrico County

Henrico County is located in central Virginia and borders the state capital, Richmond, Virginia, to the northwest, northeast, and southeast. The county is located between the James River and the Chickahominy River and includes parts of the Richmond metropolitan area. Henrico County is divided into five magisterial districts as shown in **Figure 1**: Brookland, Fairfield, Three Chopt, Tuckahoe, and Varina. The county is 244 square miles ([Henrico County](#)). I-64, I-95, and I-295 provide regional connections for Henrico County.

Figure 1. Henrico County Map



LEADERSHIP COMMITMENT

The Henrico Board of Directors has committed to exceeding the Virginia 2022-2026 Strategic Highway Safety Plan (SHSP) goal by setting a target of reducing roadway fatalities and serious injuries by 50% by 2035. Henrico County has committed to accomplishing this goal by educating road users about safe roadway behavior and constructing roadway safety improvements. These improvements will include elements like sidewalks, pedestrian crossings, bicycle lanes, roadway lighting, rumble strips, and roundabouts where appropriate in Henrico County. A copy of the resolution is included in the Appendix.



**Halve the total number
of roadway fatalities and
serious injuries by 2035**



WORKING GROUP

Henrico County established a Working Group to assist in the development of the safety action plan. County staff participated in four meetings, providing subject matter expertise throughout the development of Arrive Alive Henrico.

The Working Group includes staff representatives from the following departments:

- ▶ Department of Public Works (DPW)
- ▶ Fire Department
- ▶ Health Department
- ▶ Police Department
- ▶ Public Schools

Working Group members guided local public engagement approaches, participated in engagement activities, and informed recommendations across the four Es of roadway safety. DPW hosted four meetings at various critical stages of the planning process; the focus of each of those meetings is outlined below:

- ▶ **April 12, 2024 | Working Group Meeting #1:** Discuss goals, process, emphasis areas, and public outreach strategy for Arrive Alive Henrico
- ▶ **July 8, 2024 | Working Group Meeting #2:** Review data analysis findings, prepare for site visits, and review public feedback
- ▶ **January 28, 2025 | Working Group Meeting #3:** Review engineering recommendations and discuss potential programs and prioritization criteria
- ▶ **April 29, 2025 | Working Group Meeting #4:** Preview draft plan and recommended solutions

EXISTING CONDITIONS

This section includes an assessment of demographic, socioeconomic, and transportation safety trends in Henrico County.

Data Sources

The project team referenced the following sources that provide data related to transportation safety and demographics in Henrico County.

- ▶ [U.S. Census](#): The United States Census Bureau collects demographic data. The Census reports data at various levels, including state, county, tract, and block group. The project team used the block group or tract measurements because they provide more detail than state- and county-level data.
- ▶ [VDOT Crash Data](#): The Virginia Department of Transportation (VDOT) maintains a statewide crash database that includes injury-related crashes and non-injury related crashes that resulted in at least \$1,500 worth of property damage.
- ▶ [Google Maps](#): The project team used Google Street View imagery to understand existing conditions of roadways in Henrico County.
- ▶ [Areas of Persistent Poverty](#): An "Area of Persistent Poverty" is defined by the Bipartisan Infrastructure Law. An area is defined as such if:
 - the **County** consistently had greater than or equal to 20 percent of the population living in poverty in all three of the following datasets: (a) the 1990 decennial census; (b) the 2000 decennial census; and (c) the most recent (2022) Small Area Income Poverty Estimates; **OR**
 - the **Census Tract** has a poverty rate of at least 20 percent as measured by the 2014-2018 5-year data series available from the American Community Survey of the Bureau of the Census; **OR**
 - the area is any territory or possession of the United States.

Transportation Conditions

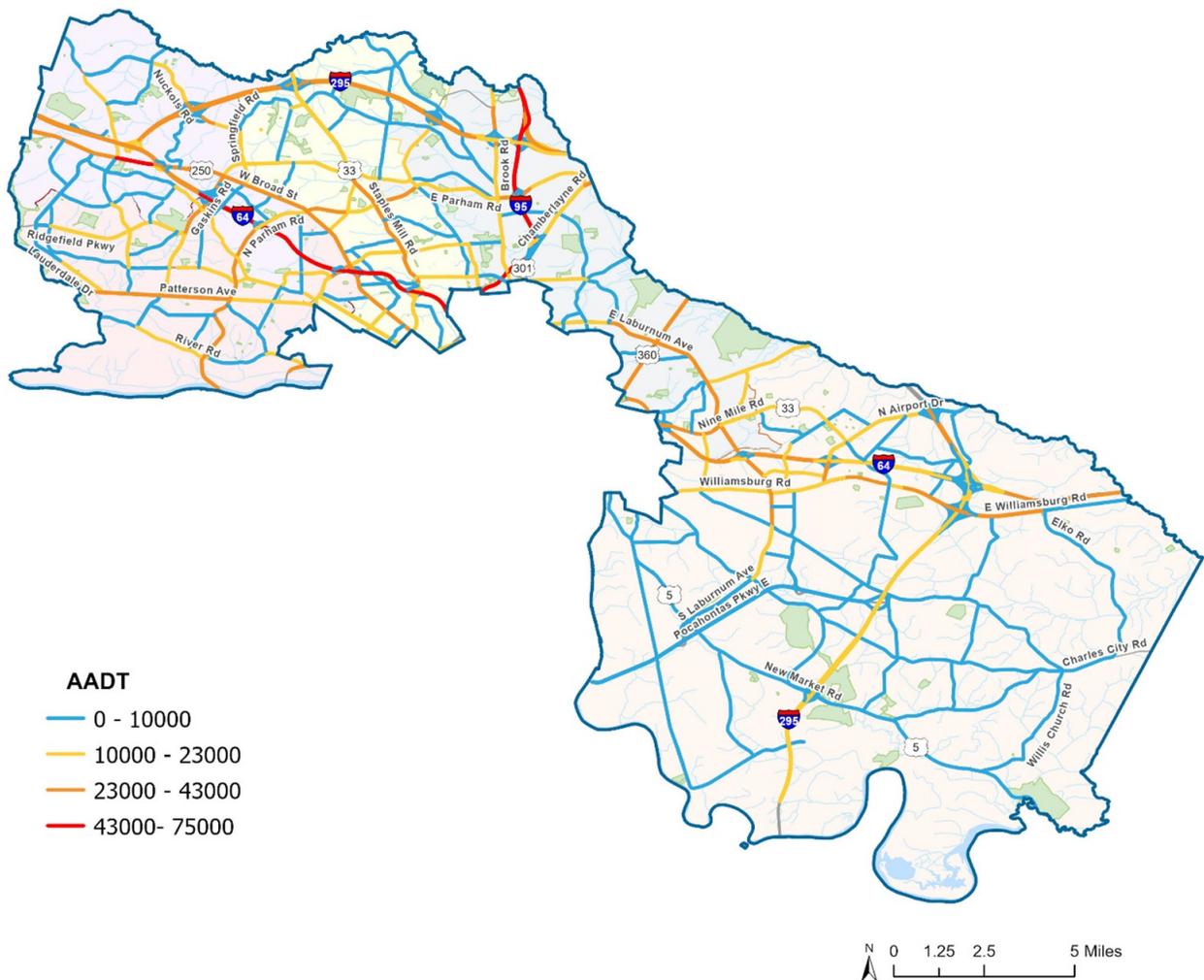
The project team summarized traffic and safety data to define the safety needs for Henrico County.

TRAFFIC VOLUMES

Average annual daily traffic (AADT) is an estimate of the average number of vehicles traveling on a roadway each day over the course of a year. In Virginia, VDOT calculates and publishes AADT. The project team analyzed AADT on the roadway network throughout the County to identify high demand roadways. **Figure 2** displays AADT on roadways in 2023.

Henrico County’s highest traffic volume segments are along W. Broad Street, I-95, I-64, Staples Mill Road, I-295, Gaskins Road, Brook Road, Patterson Avenue, Laburnum Avenue, Mechanicsville Turnpike, and Chippenham Parkway.

Figure 2. 2023 AADT



Data Source: [AADT Volume Estimates, 2023, VDOT.](#)

CRASH DATA REVIEW

VDOT publishes roadway crashes for injury-related crashes and non-injury related crashes that resulted in at least \$1,500 worth of property damage. **Table 1** summarizes the five crash severity types that comprise the KABCO scale. The remainder of the data summaries focus on fatal (K) and suspected serious injury (A) crashes, unless otherwise noted. Suspected serious injuries are referred to as serious injuries.

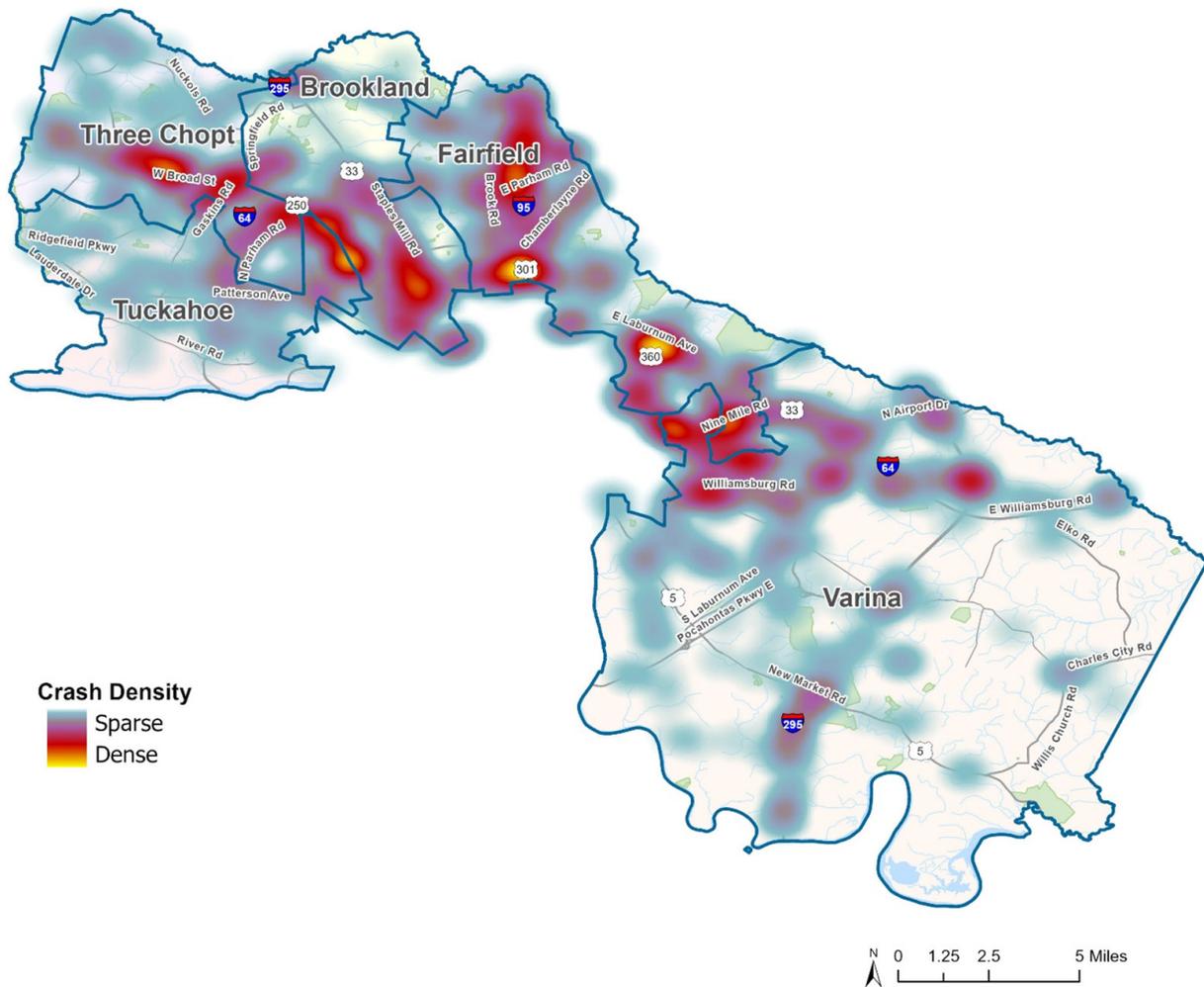
Table 1. *Crash Severity Scale*

Severity Code	Severity	Severity Description
K	Fatality	Any injury that results in death within 30 days after the crash in which the injury occurred.
A	Suspected Serious Injury	Any injury other than fatal that results in one or more of the following: <ul style="list-style-type: none"> • Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood • Broken or distorted extremity (arm or leg) • Crush injury • Suspected skull, chest, or abdominal injury other than bruises or minor lacerations • Significant burns (second- and third-degree burns over 10% or more of the body) • Unconsciousness when taken from the crash scene • Paralysis
B	Suspected Minor Injury	Any injury that is evident at the scene of the crash, other than fatal or serious injuries. Examples include a lump on the head, abrasion, bruise, and minor laceration (cut on the skin surface with minimal bleeding and no exposure of deeper tissue/muscle).
C	Possible Injury	Any injury reported or claimed that is not a fatal, suspected serious, or suspected minor injury. Examples include momentary loss of consciousness, claim of injury, limping, or complaint of pain or nausea. Possible injuries are those that are reported by the person or are indicated by his/her behavior, but no wounds or injuries are readily evident.
O	Property Damage Only (No Apparent Injury)	A situation where there is no reason to believe that the person received any bodily harm from the crash. There is no physical evidence of injury, and the person does not report any change in normal function, but the crash resulted in damage of at least \$1,500 to the motor vehicle or other property. The threshold for a property-damage-only crash changed from \$1,000 to \$1,500 in July 2008.

The project team analyzed crashes in Henrico County between 2019 and 2023 to understand common factors and patterns.

- ▶ 26,843 crashes occurred throughout the County, with 145 fatal crashes and 888 serious injury crashes
- ▶ **Figure 3** displays a heat map of the fatal and serious injury crashes. These crashes resulted in 153 fatalities and 1,064 serious injuries.
- ▶ Road segments with the highest number of fatal and serious injury crashes include Mechanicsville Turnpike, W Broad Street, I-64; Brook Road, Chamberlayne Road, I-95, and Nine Mile Road

Figure 3. Fatal and Serious Injury Crash Heat Map



Data Source: [Crash Data](#), 2019-2023, VDOT.

EMPHASIS AREAS

The project team worked with Henrico County to identify ten emphasis areas, which represent contributing factors to fatalities and serious injuries or user types that are more vulnerable to suffering fatalities and serious injuries. **Table 2** defines each emphasis area. **Figure 4** displays the total number of people killed or seriously injured in crashes for each emphasis area as defined in **Table 2**. A fatality or serious injury may be included in more than one emphasis area if the crash included more than one contributing factor or user type. As such, the total number of fatalities and serious injuries across all emphasis areas in **Figure 3** is higher than the number of fatalities and serious injuries in the county.

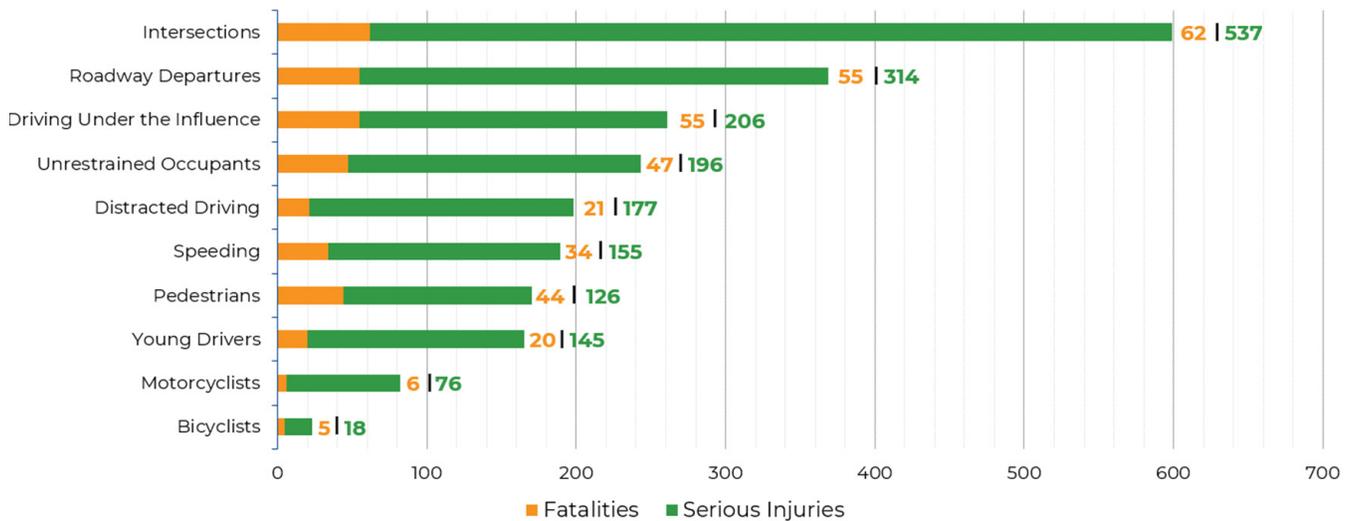
The project team conducted additional analysis on the intersection and pedestrian emphasis area to determine probable causes and potential mitigation strategies. These categories were selected based on the number of crashes and the increased likelihood of a fatality or serious injury.

Table 2. *Emphasis Area Definitions*

Severity Code	Severity Description
Intersections	All people killed or seriously injured in a crash that occurs within 250 feet of an intersection on a VDOT road or was identified as occurring at an urban intersection on the crash report.
Roadway Departures	All people killed or seriously injured in a crash where one or more vehicles cross an edgeline or centerline or otherwise leave the traveled way, excluding intersection crashes.
Driving Under the Influence	All people killed or seriously injured in a crash where one or more drivers were drinking alcohol or using drugs prior to the crash.
Unrestrained Occupants	All unrestrained (i.e., not wearing a seat belt) people killed or seriously injured in a crash in a passenger car, pickup, van, SUV, motor home, recreational vehicle, emergency vehicle, single-unit truck, or tractor-trailer.
Distracted Driving	All people killed or seriously injured in a crash where one or more drivers were distracted. Driver distraction is defined as any instance (e.g., cell phone, passengers, roadside incident) in which the driver was not alert to the roadway
Speeding	All people killed or seriously injured in a crash where one or more drivers were driving 10 mph or more faster than the posted speed limit or the maximum safe speed for conditions.

Severity Code	Severity Description
Pedestrians	All pedestrians killed or seriously injured in a crash. This does not include non-pedestrians killed or seriously injured in a crash involving a pedestrian.
Young Drivers	All people of any age killed or seriously injured in a crash where one or more drivers were between the ages of 15 and 20.
Motorcyclists	All motorcyclists killed or seriously injured in a crash. This does not include non-motorcyclists killed or seriously injured in a crash involving a motorcyclist.
Bicyclists	All bicyclists killed or seriously injured in a crash. This does not include non-bicyclists killed or seriously injured in a crash involving a bicyclist.

Figure 4. Fatalities & Serious Injuries by Emphasis Area, 2019 - 2023.



Data Source: [Crash Data](#), 2019-2023, VDOT.

INTERSECTION-RELATED CRASHES

The project team identified intersection safety needs as any intersection that ranked in the top ten across the following four metrics using 2019–2023 crash data. The project team included any crash that occurred within 250 feet of each intersection.

Table 3 lists the intersections with the rankings for the four metrics.

- ▶ Number of total crashes
- ▶ Number of fatal (K) and serious injury (A) crashes
- ▶ Number of equivalent property damage only (EPDO) crashes, which assigns weights to crashes based on severity level using the following scale sourced from the SMART SCALE Technical Guide for Round 5:
 - K=160
 - A=160
 - B=20
 - C=10
 - O=1
- ▶ Potential for safety improvement (PSI), a VDOT measure that identifies intersections that have more crashes than expected based on site type and traffic volume

Table 3. List of Intersection Safety Needs

Intersection	Total Crashes	Total Crash Rank	KA Crashes	KA Crash Rank	EPDO Crashes	EPDO Crash Rank	District PSI Rank	Local PSI Rank
W Broad St & Pump Rd/Pouncey Tract Rd	129	1	0	327	688	31	5	2
W Broad St & Brownstone Blvd	126	2	3	11	1,173	3	3	1
S Laburnum Ave & Gay Ave	122	3	4	6	1,384	1	-	-
W Broad St & Tom Leonard Drive	122	3	0	327	720	26	-	-
W Broad St & John Rolfe Pkwy	118	5	1	95	845	18	-	-
Mechanicsville Tpke & Crump St/ Bloom Ln	114	6	1	95	861	15	-	-
W Broad St & Gaskins Rd	103	7	3	11	1,282	2	7	4
Nine Mile Rd & Laburnum Ave	93	8	3	11	1,092	4	6	3
Staples Mill Rd & Dickens Rd	90	9	1	95	618	43	9	5
W Broad St & Glenside Dr	89	10	2	38	948	12	12	6

Arrive Alive Henrico Safety Action Plan

Intersection	Total Crashes	Total Crash Rank	KA Crashes	KA Crash Rank	EPDO Crashes	EPDO Crash Rank	District PSI Rank	Local PSI Rank
Mechanicsville Tpke & E Laburnum Ave	88	11	3	11	1,039	7	24	11
Three Chopt Rd & N Parham Rd	83	13	0	327	462	85	13	7
S Laburnum Ave & Williamsburg Rd	81	14	2	38	834	19	14	8
N Laburnum Ave & Creighton Rd	76	17	0	327	418	101	17	10
N Parham Rd & Mayland Dr	71	20	4	6	962	10	15	9
Staples Mill Rd & Glenside Dr/ Hilliard Rd	69	24	5	1	1,082	6	69	12
W Broad St & Pemberton Rd	65	25	4	6	1,033	8	-	-
N Parham Rd & Skipwith Rd	41	61	4	6	848	17	133	13
Nine Mile Rd & Kenway Ave	38	73	5	1	1,089	5	-	-
N Parham Rd & Homeview Dr	37	79	5	1	1,031	9	-	-
Mechanicsville Tpke & Byron St	28	131	5	1	899	13	-	-
Mechanicsville Tpke & Rescue Ave	27	135	5	1	955	11	-	-
E Parham Rd & Sanctuary Dr	25	141	4	6	794	21	-	-

Figure 5 displays the intersection safety needs and **Table 4** displays the number of intersection safety needs by district.

- ▶ Fairfield & Three Chopt have the highest number of intersection safety needs
- ▶ Seven of the 23 intersection safety needs are on W Broad Street
- ▶ 78% of the priority intersections intersect with a block group with a median household income less than the County median

Figure 5. Map of Intersection Safety Needs



Table 4. Intersection Safety Needs by District

Tuckahoe	Brookland	Fairfield	Three Chopt	Varina
3	3	8	7	2

Data Source: [Crash Data](#), 2019-2023, VDOT.

Pedestrian-Related Crashes

The project team investigated pedestrian-related fatalities and serious injuries to understand how pedestrian actions (e.g., crossing roadway, walking along roadway) and the presence or lack of pedestrian facilities (e.g., crosswalks, sidewalks) contributed to crashes. **Figure 6** displays pedestrian fatalities and serious injuries by pedestrian action and **Figure 7** through **Figure 9** provide additional details about the type of infrastructure present for each pedestrian action. **Figure 10** provides a further breakdown of pedestrian actions that comprise the “other” category in **Figure 6**.

- ▶ The results suggest that creating new pedestrian facilities and educating both drivers and pedestrians about compliance with existing pedestrian facilities could reduce the number of pedestrian fatalities and serious injuries

Figure 6. Pedestrian Fatalities and Serious Injuries by Action

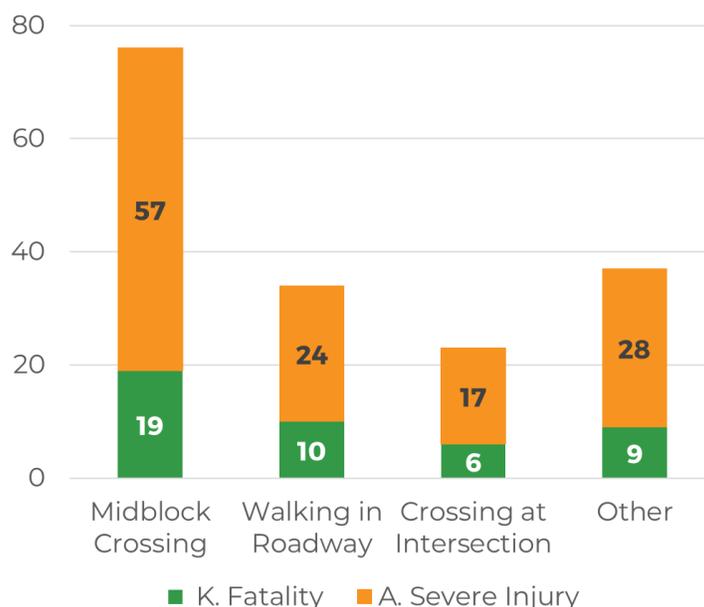


Figure 7. Midblock Crossing Fatalities and Serious Injuries

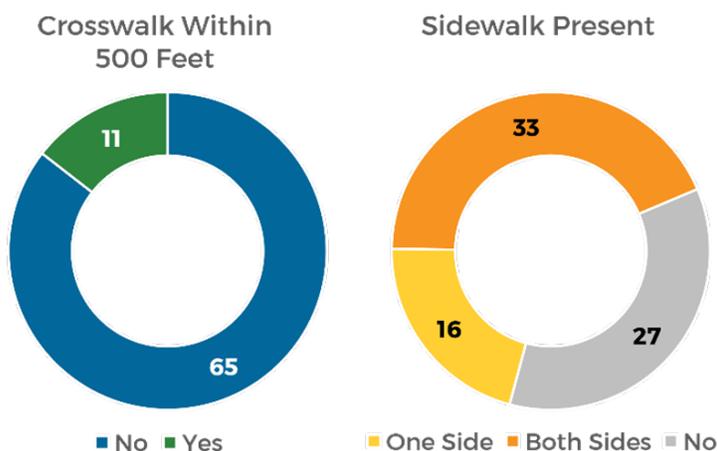


Figure 8. Crossing at Intersection Fatalities and Serious Injuries

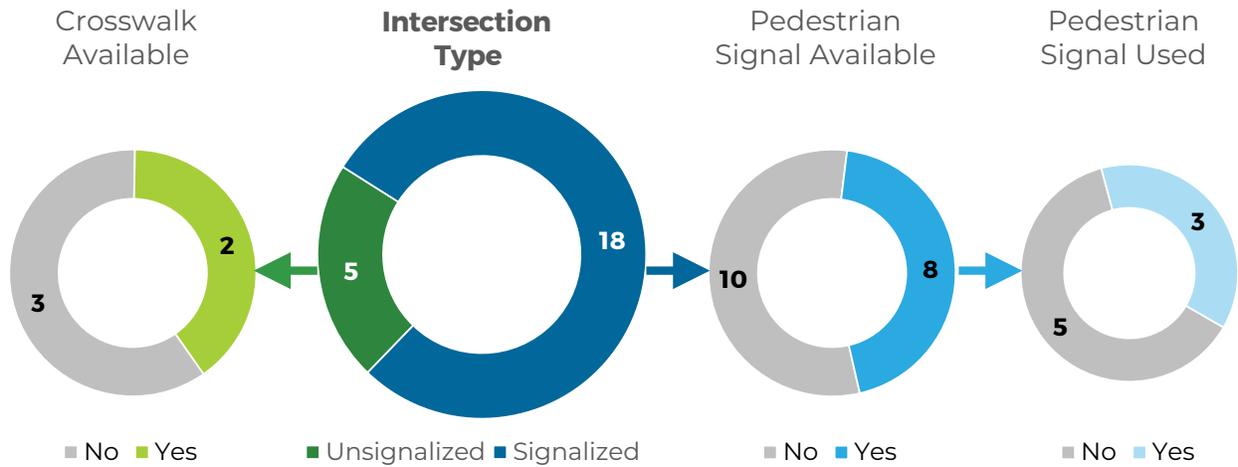


Figure 9. Walking in Roadway Fatalities and Serious Injuries

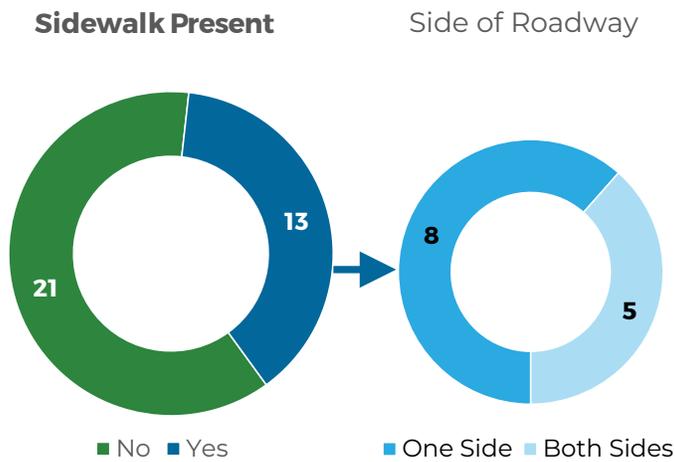
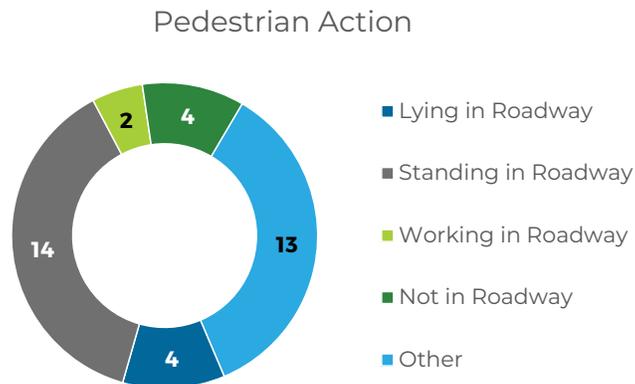


Figure 10. Other Fatalities and Serious Injuries



Data Source for **Figure 6** through **Figure 10**: [Crash Data](#), 2019-2023, VDOT.

The project team investigated how other roadway characteristics influenced pedestrian-related fatalities and serious injuries. **Figure 11** displays pedestrian fatalities and serious injuries by lighting conditions at the time of the crash. Darkness-related crashes include all crashes that occurred in the dark, regardless of the presence of roadway lighting. **Figure 12** displays pedestrian fatalities and serious injuries by speed limit. For pedestrian crashes that occurred at intersections of roadways with different speed limits, **Figure 12** considers the maximum speed limit of the two roadways.

- ▶ Most pedestrian fatalities and serious injuries occurred in the dark and on roads with a 35–45 mph speed limit

Figure 11. *Pedestrian Fatalities and Serious Injuries by Lighting*

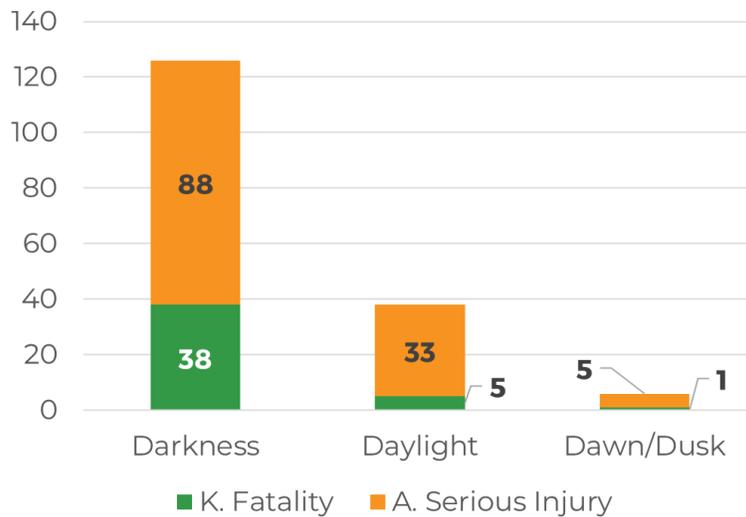
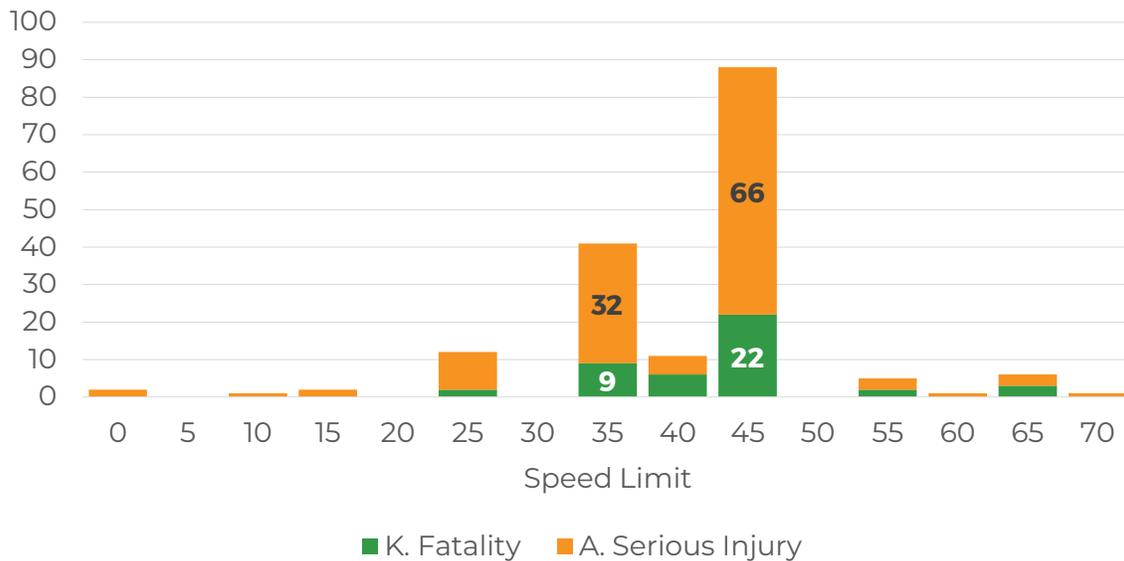


Figure 12. *Pedestrian Fatalities and Serious Injuries by Speed Limit*



The project team investigated pedestrian alcohol use and driver alcohol use in pedestrian fatalities and serious injuries.

- ▶ 23% of pedestrian fatalities and 31% of serious injuries involved a pedestrian that was under the influence of alcohol
- ▶ 11% of pedestrians fatalities and 24% of serious injuries involved a driver that was under the influence of alcohol

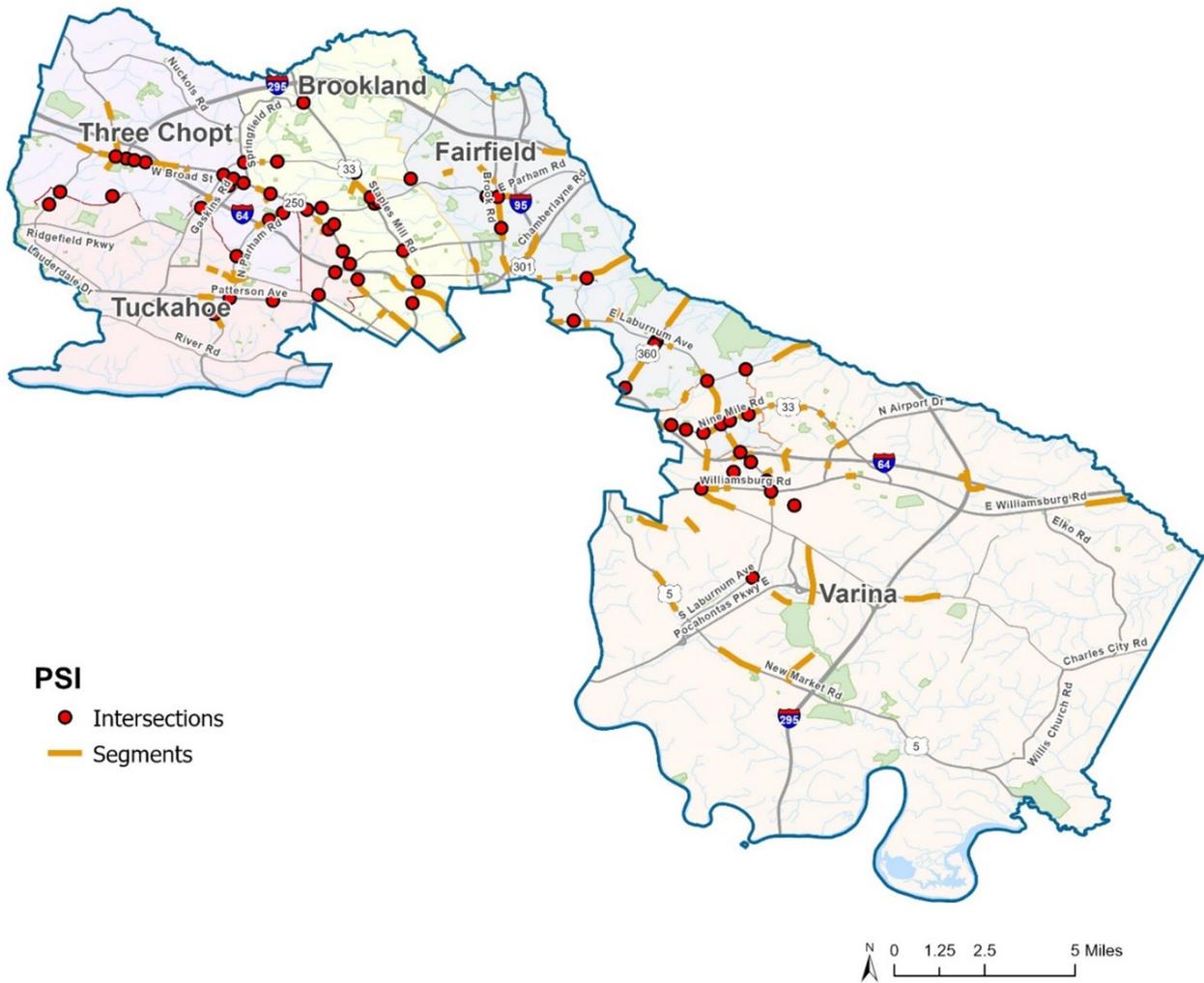
STATEWIDE NETWORK SCREENING DATA

Potential for Safety Improvement (PSI)

Potential for safety improvement (PSI) measures how much crash frequency could be reduced at specific sites based on Highway Safety Manual (HSM) methodologies. PSI indicates an intersection or roadway segment that has experienced more crashes than what is expected for a site of the same type (e.g., four-legged signalized intersection, six-lane arterial) with similar traffic volumes. VDOT annually updates its PSI analysis and ranks all intersections and roadways segments based on PSI value. VDOT then publishes a list of the top 100 intersections and the top 100 miles of roadway segments within each VDOT district. **Figure 13** displays the intersections and segments within Henrico County that ranked in the top 100 within VDOT's Richmond District based on 2019–2023 crash data.

- ▶ High-volume roadway segments that are also identified through the PSI analysis, include, I-64, I-95, W. Broad Street, I-295, Gaskins Road, Brook Road, and Staples Mill Road. Despite the high traffic volumes on these roadways, they have had more crashes than expected.
- ▶ While roadway segments are identified in all districts, Fairfield and Varina have the highest number of PSI roadway segments
- ▶ W Broad Street, Staples Mill Road, Nine Mile Road, and Laburnum Avenue have a high concentration of PSI intersections

Figure 13. PSI Intersections and Segments



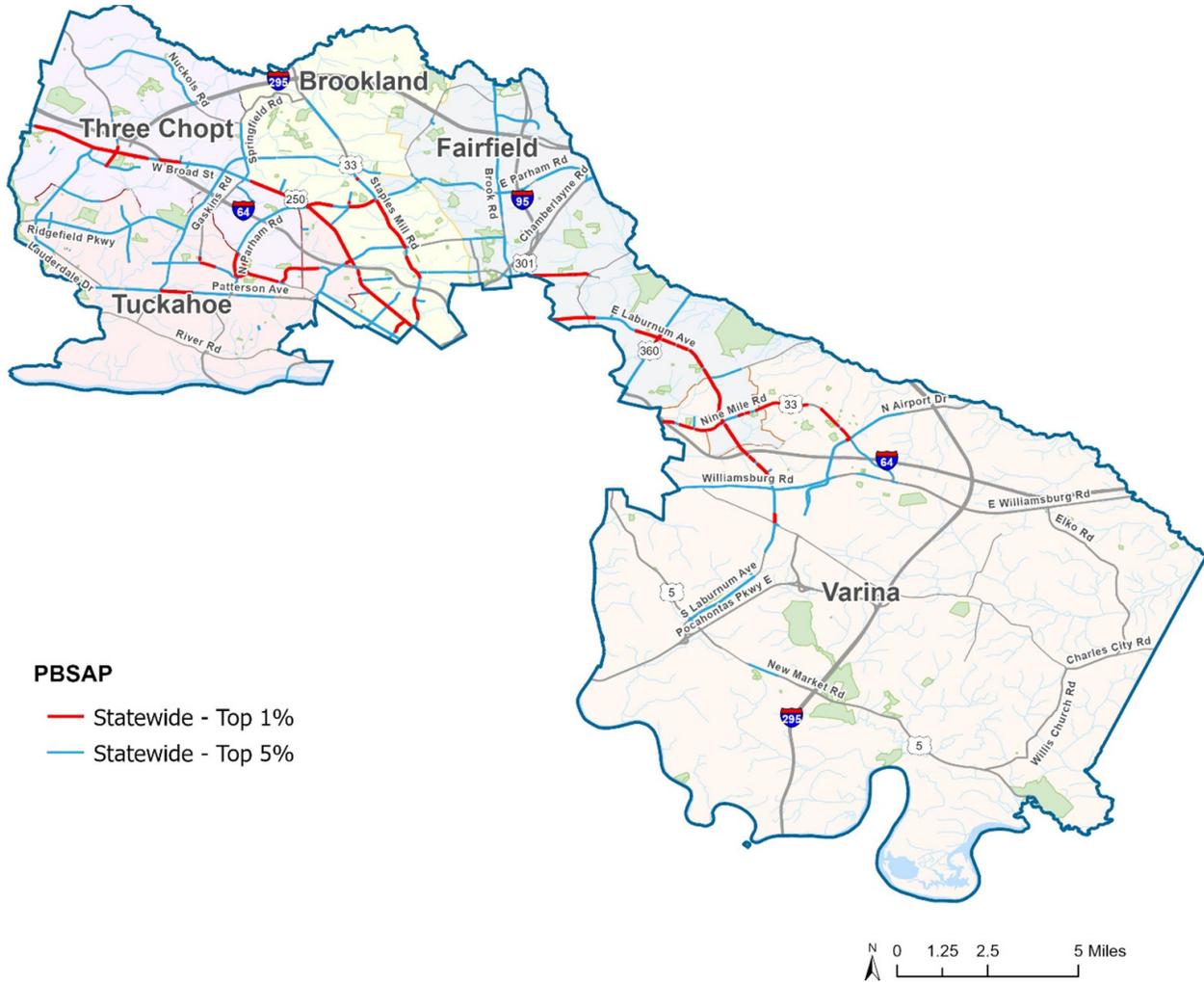
Data Source: [2019-2023 Top PSI Segments and Intersections](#), 2024, VDOT.

Pedestrian and Bicyclist Safety Action Plan (PBSAP)

The Pedestrian and Bicyclist Safety Action Plan (PBSAP) is a VDOT tool that identifies roadway segments in need of pedestrian or bicyclist countermeasures (e.g., bike lanes, crosswalks), even if those segments do not have a history of pedestrian or bicyclist crashes. The PBSAP analysis considers various risk factors that comprise category scores for the roadway, build environment, community, traffic data, land use, and 2018–2022 crashes. VDOT publishes a list of priority corridors that score within the top 1% and top 5% statewide. **Figure 14** displays the PBSAP priority corridors identified in Henrico County. **Table 5** shows the total mileage of PBSAP priority corridors in each district. The mileage shown for segments in the top 5% includes the segments in the top 1%.

- ▶ Fairfield, Brookland, and Three Chopt have the most mileage of priority corridors
- ▶ There are long, top 1% priority corridors identified on W. Broad Street, Nine Mile Road, Staples Mill Road, and Laburnum Avenue

Figure 14. PBSAP Map



Data Source: [PBSAP 4.0](#), 2018-2022, VDOT.

Table 5. PBSAP Mileage per District

District	Top 1% (mi)	Top 5% (mi)
Brookland	16.2	51.4
Fairfield	13.2	48.2
Three Chopt	14.6	41.9
Tuckahoe	3.5	38.0
Varina	6.0	31.2
Henrico County (Total)	53.6	210.7

HIGH-INJURY NETWORK

The high-injury network (HIN) identifies roadway segments throughout the County that contain the highest number of fatal or serious injury crashes. The HIN will guide and prioritize strategic safety recommendations.

Minimum Crash Criteria

The project team worked with the County to determine the minimum crash criteria that must be met for a roadway segment to be included on the HIN. The project team evaluated crash data separately for each direction of travel on limited access facilities (e.g., interstates). On all other roadways, the project team evaluated crashes in both directions.

- ▶ **Minimum Crash Criteria:** A 0.5-mile or shorter roadway segment must have at least two fatal or serious injury crashes (2019–2023) to be included in the HIN

Sliding Window Analysis

The project team used a sliding window analysis to identify segments that met the minimum crash criteria for inclusion in the HIN. **Figure 15** illustrates the sliding window analysis methodology. The project team first evaluated the first 0.5-mile segment on a roadway to determine if the minimum crash criteria was met. The study team then shifted the 0.5 mile analysis window by 0.1-mile increment at a time and evaluated each new 0.5 mile segment. The project team repeated this process for the full roadway network. Any 0.5-mile segment that met the minimum criteria was included in the HIN, even if it overlapped with another qualifying segment. For any roadways shorter than 0.5 miles, the minimum crash criteria must have been met over the total length of the roadway for that roadway to be included in the HIN.

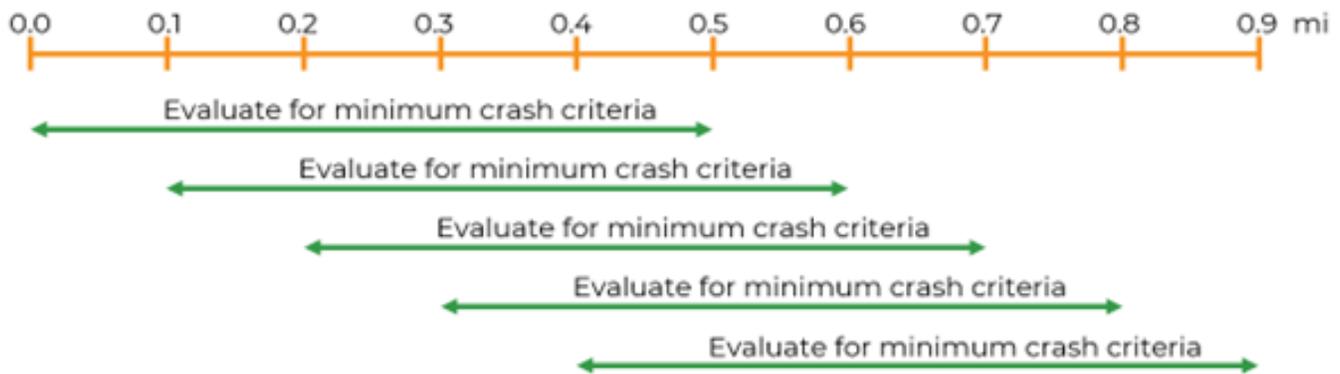
HIN Segment Ranking

The project team calculated the crash cost per mile using all fatal and injury crashes for each HIN segment using the Virginia Department of Transportation’s (VDOT) 2023 comprehensive crash costs shown in **Table 6**.

Table 6. Crash Cost by Severity

Crash Severity	Crash Cost
Fatality (K)	\$15,446,715
Suspected Serious Injury (A)	\$903,948
Suspected Minor Injury (B)	\$297,620
Possible Injury (C)	\$170,636

Figure 15. *Sliding Window Analysis Methodology*



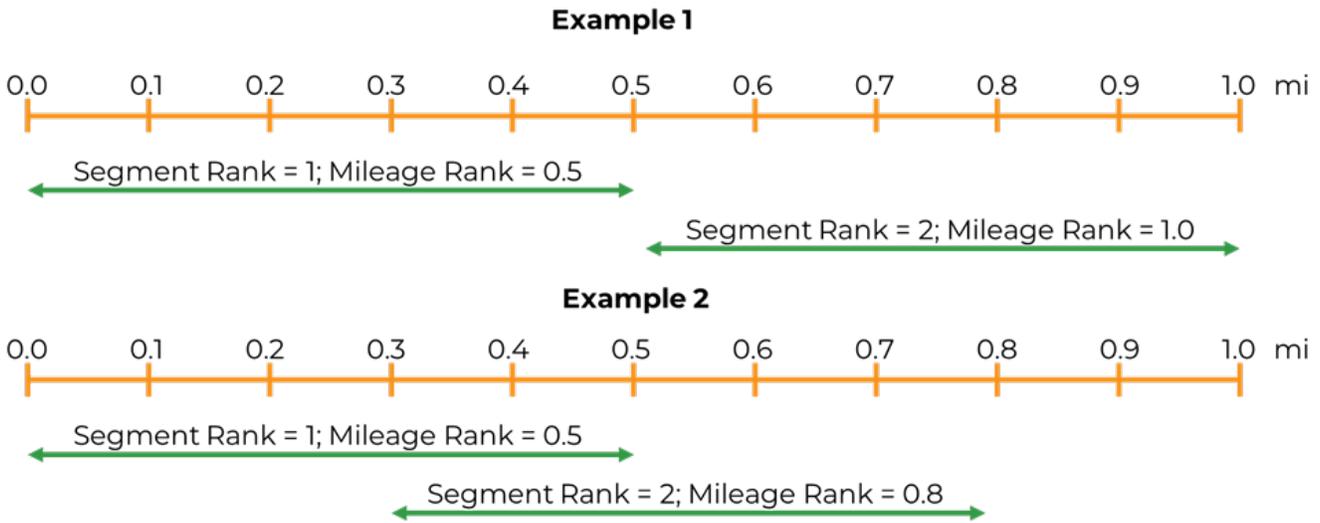
The project team then calculated a segment and mileage rank for each segment as follows:

- ▶ **Segment Rank:** the project team ranked segments from one to the total number of segments based on the crash cost per mile. For example, the 0.5-mile segment with the highest crash cost per mile was assigned rank one and the 0.5-mile segment with the second-highest crash cost per mile was assigned rank two.
- ▶ **Mileage Rank:** the project team assigned each segment a mileage rank that indicates the total number of roadway miles that have an equal or worse crash cost per mile than that segment. For example, the 0.5-mile segment with the highest crash cost per mile was assigned a mileage rank equal to 0.5 miles. The next segment would be assigned a mileage rank of 1 mile if it did not overlap with the first segment (example 1 in **Figure 16**). If the segment overlapped with the higher-ranked segment, the mileage rank would be set to the total roadway mileage covered by the two segments (example 2 in **Figure 16**).

The project team then categorized the segments into four tiers based on the mileage rank.

- ▶ **Tier 1:** segments with mileage rank less than or equal to 10 miles (i.e., the ten miles of roadway segments with the highest crash cost per mile)
- ▶ **Tier 2:** segments with mileage rank between 10 and 25 miles
- ▶ **Tier 3:** segments with mileage rank between 25 and 50 miles
- ▶ **Tier 4:** segments with mileage rank higher than 50 miles

Figure 16. HIN Mileage Rank Examples



Results

The HIN comprises **140 segment miles** throughout the County.

Table 7 shows the number and percentage of HIN segment miles in each district. **Table 7** also includes the number and percentage of fatal and serious injury crashes in the district associated with these segments. For example, 83% of all fatal and serious injury crashes in Fairfield District occurred on only 13% of the roadway mileage. **Figure 17** displays the HIN.

- ▶ 75% of the fatal and serious injury crashes in Henrico County occurred on 8% of the roadway
- ▶ 58% of the HIN segment miles are in Fairfield and Varina

Table 7. HIN Miles & Crashes by District

Crash Severity	Segment Miles	% of District Miles	Fatal and Serious Injury Crashes on HIN Segments	% of District Fatal and Serious Injury Crashes
Fairfield	42	13%	260	83%
Three Chopt	21	7%	110	70%
Tuckahoe	16	5%	76	74%
Brookland	20	7%	118	81%
Varina	40	7%	208	68%
Henrico County (Total)	140	8%	772	75%

The following roadways have segments included in tier 1 of the HIN:

- ▶ W. Broad Street
- ▶ Nine Mile Road
- ▶ Staples Mill Road
- ▶ E. Laburnum Avenue
- ▶ I-95
- ▶ Mechanicsville Turnpike
- ▶ Williamsburg Road
- ▶ I-250
- ▶ Chamberlayne Road
- ▶ Glenside Drive

Figure 17. HIN



Data Source: [Crash Data](#), 2019-2023, VDOT.

Community Conditions

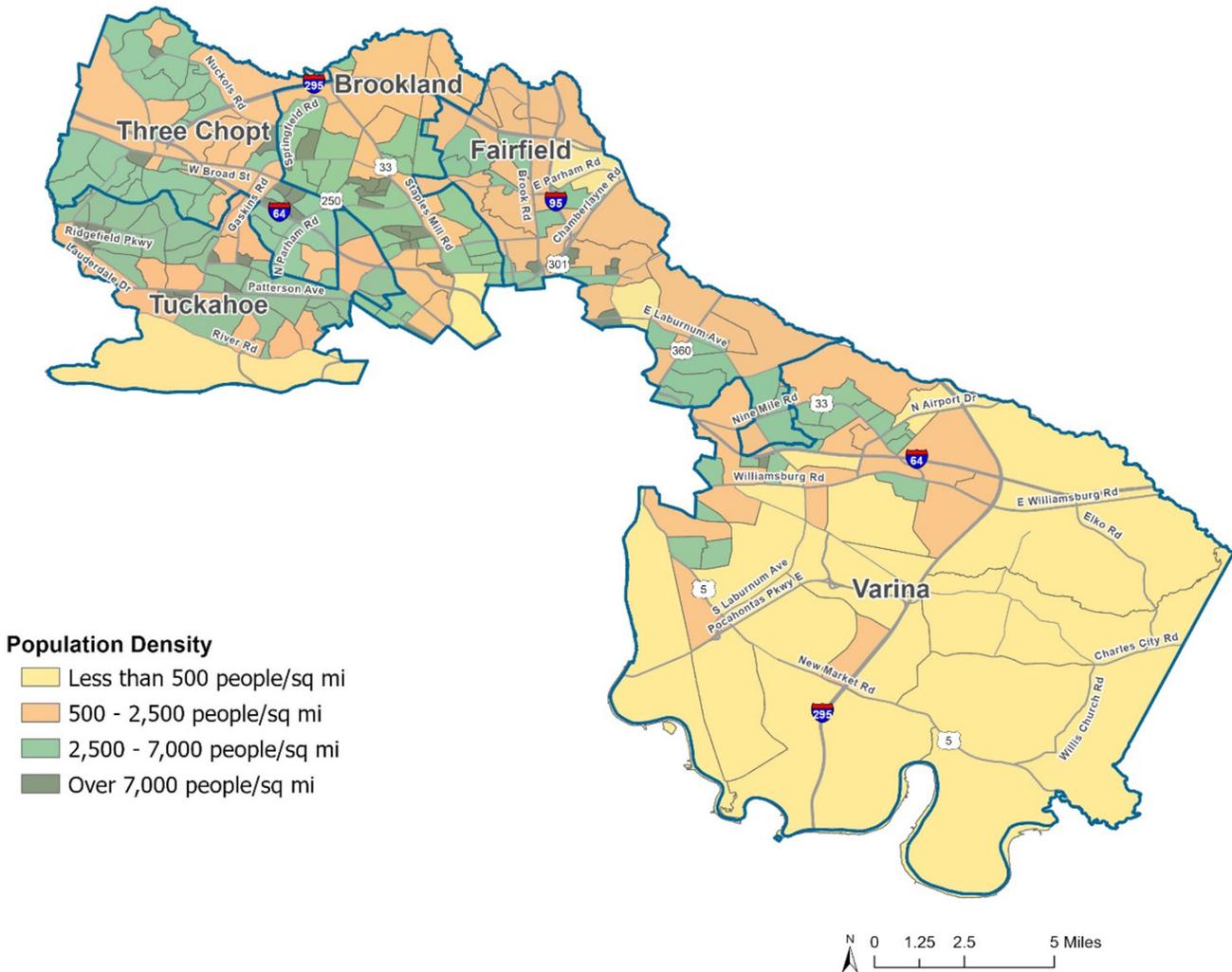
The project team summarized demographic, socioeconomic, and income data to understand the distribution of communities across the County.

POPULATION DENSITY

Figure 18 displays population density, calculated as people per square mile, per U.S. Census block group throughout the County.

- ▶ There is a higher population density in Brookland, Fairfield, and Three Chopt than in Varina
- ▶ There are groupings of high-density block groups in Tuckahoe, Three Chopt, and Brookland

Figure 18. *Population Density*



Data Source: [American Community Survey 5-year estimates, 2022, U.S. Census Bureau.](#)

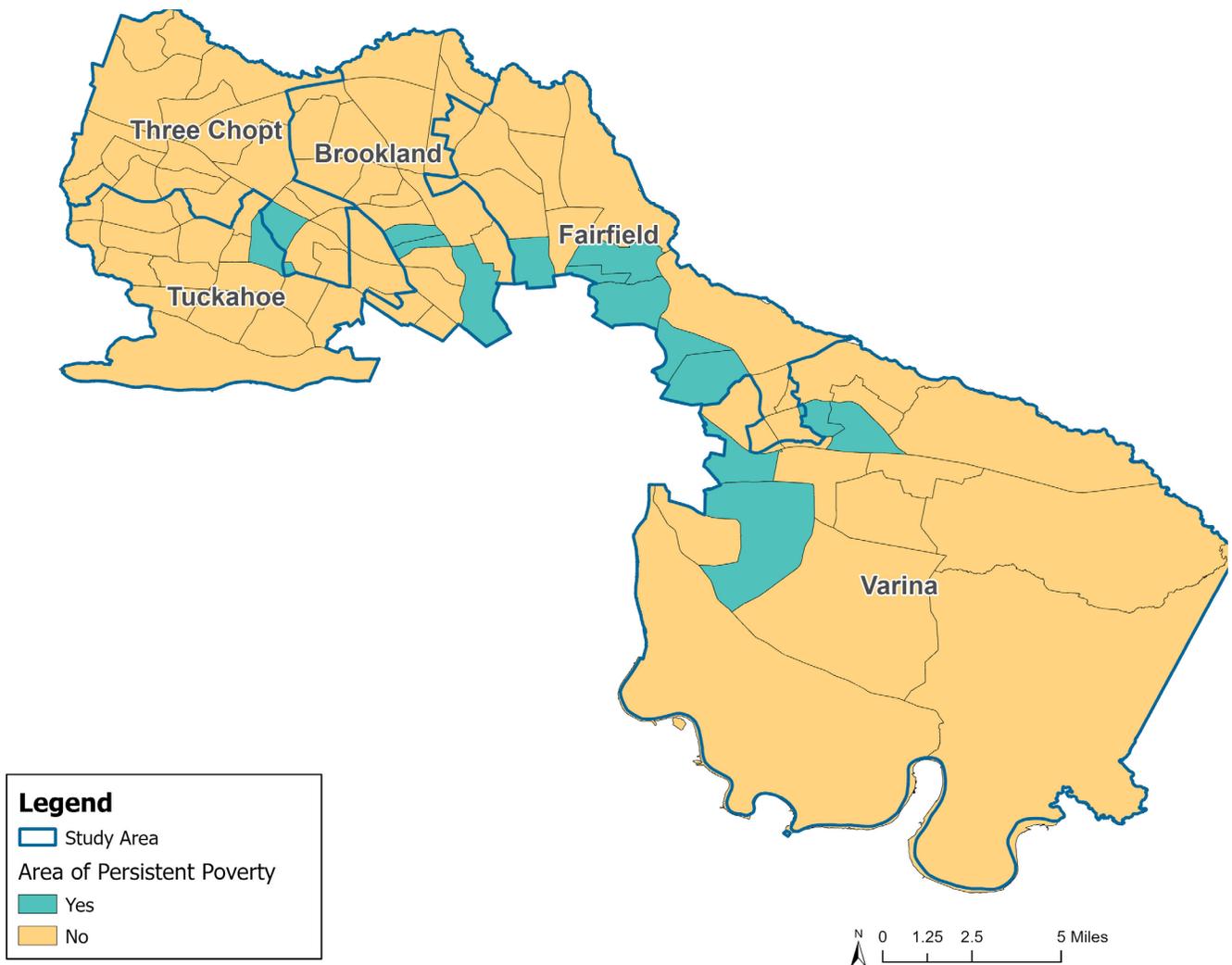
AREAS OF PERSISTENT POVERTY

Figure 19 displays the [Areas of Persistent Poverty](#) within Henrico County at the Census tract level, which was developed by the USDOT and is defined as any census tract with a poverty rate of at least 20% as measured by the 2014-2018 5-year data series available from the American Community Survey.

While Areas of Persistent Poverty are present in all districts, Brookland, Fairfield and Varina have the highest concentration of Areas of Persistent Poverty.

- ▶ 16% of roadway fatalities and 21% of serious injuries from 2019 to 2023 occurred in Areas of Persistent Poverty

Figure 19. *Areas of Persistent Poverty*

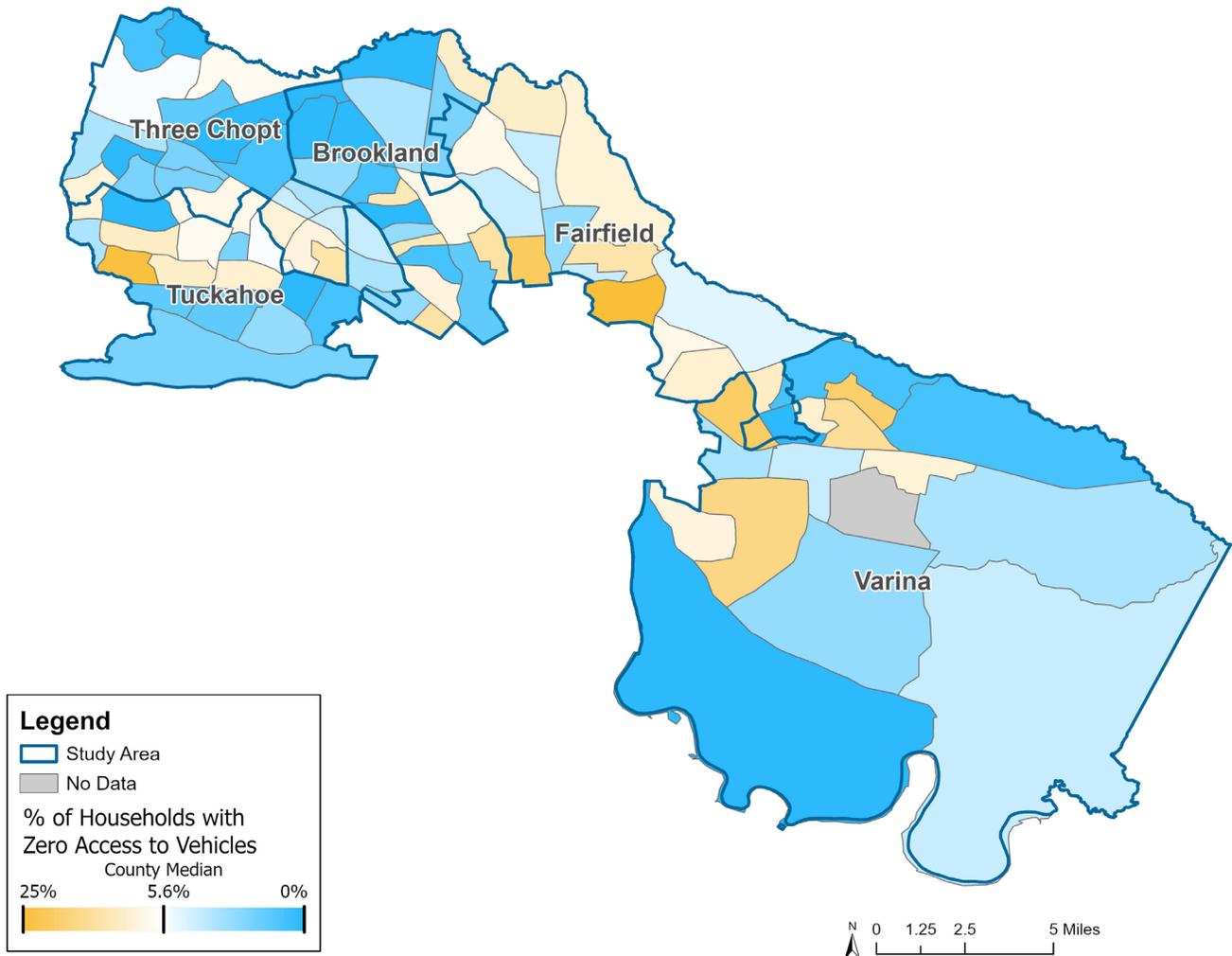


Data Source: [Areas of Persistent Poverty](#), U.S. DOT.

ZERO-VEHICLE HOUSEHOLDS

The U.S. Census Bureau collects households' access to vehicles. **Figure 20** displays the percentage of households with zero vehicle access relative to Henrico County's median of 5.2 percent of households having no access to a private vehicle at the census tract level.

Figure 20. Zero-Vehicle Households by Census Tracts



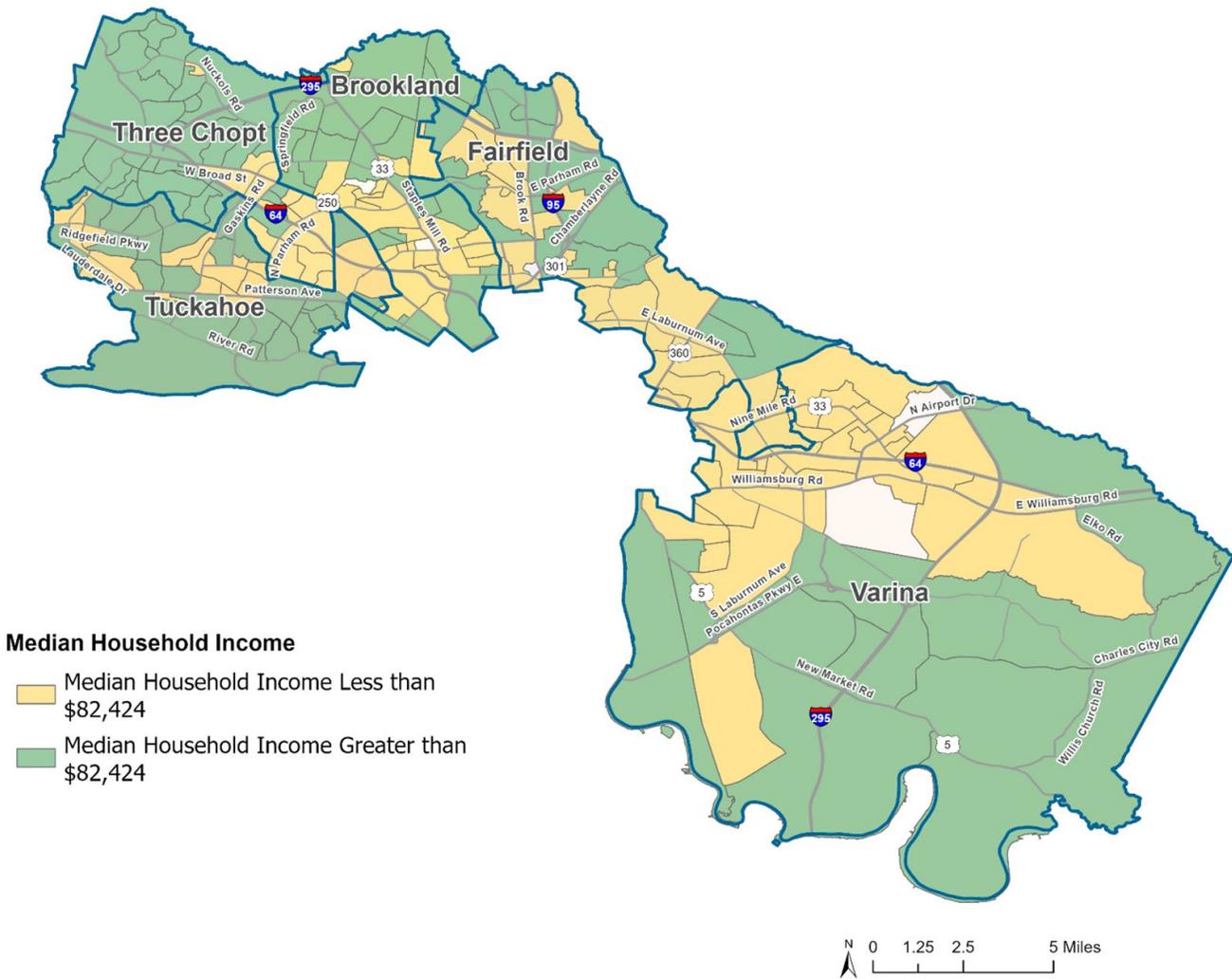
Data Source: [American Community Survey 5-year estimates, 2022, U.S. Census Bureau.](#)

MEDIAN HOUSEHOLD INCOME

The U.S. Census Bureau collects median household income by block group. **Figure 21** displays the median household income distribution in Henrico County. Block groups that did not report median household income to the U.S. Census are shown as blank in **Figure 21**.

- ▶ The median household income in Henrico County is **\$82,424**
- ▶ Fairfield has the greatest number of block groups (42) that have a median household income below the average

Figure 21. Median Household Income



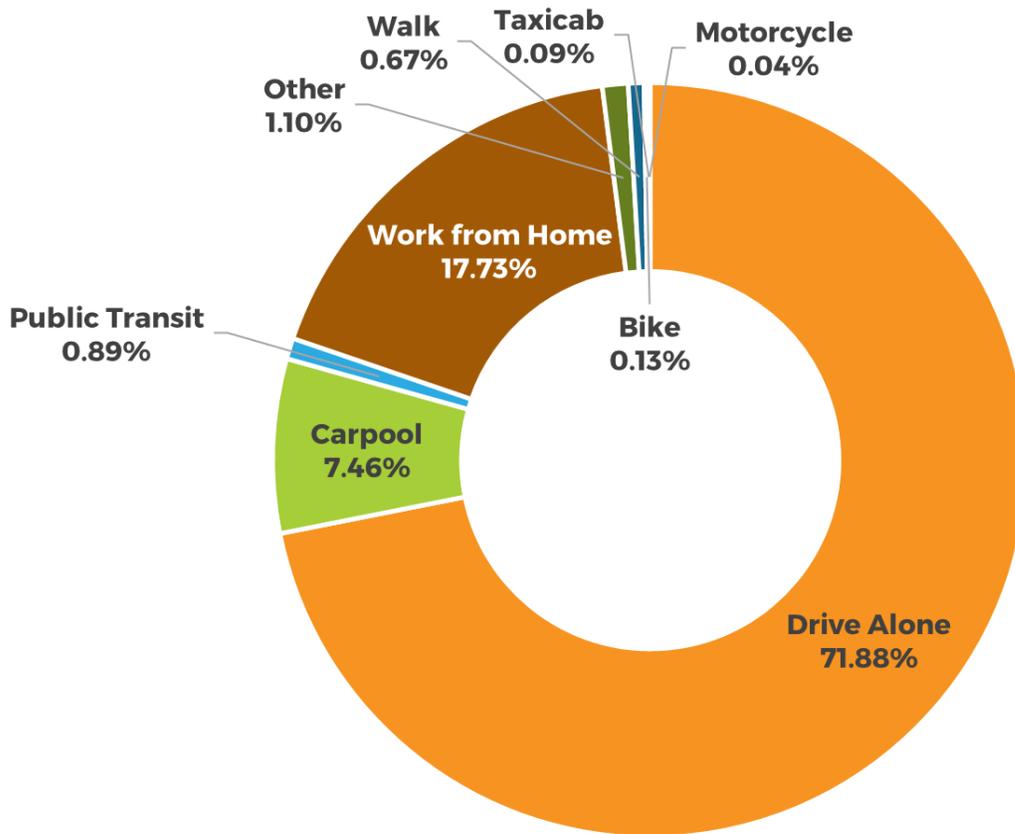
Data Source: [American Community Survey 5-year estimates, 2022, U.S. Census Bureau.](#)

COMMUTE MODE

The U.S. Census Bureau collects data on commute mode to work. **Figure 22** displays commute mode to work for Henrico County residents.

- ▶ Most residents either drive alone (72%) or carpool (7%) on a typical workday
- ▶ A small percentage (<2%) of residents walk, bike, or take public transportation
- ▶ 18% of residents work from home

Figure 22. Commute Mode to Work



Data Source: [American Community Survey 5-year estimates, 2022](#), U.S. Census Bureau.

ADJACENT INITIATIVES

This section summarizes countywide or statewide projects, both current and planned, that have similar priorities as Arrive Alive Henrico.

Watch Out Ahead Henrico (WOAH!)

[Watch Out Ahead Henrico \(WOAH!\)](#) is a public awareness campaign to promote safer streets. It is a partnership between Henrico County Police and Henrico County Government.

- ▶ WOAH! encourages vulnerable road users to wear reflective clothing at night
- ▶ Henrico County has distributed WOAH!-branded reflective vests around the County

Henrico County Vision 2026

[Henrico County Vision 2026](#) is the County's current comprehensive plan that sets a guide for the future development and transportation network in Henrico County. The plan was adopted in 2009 and includes the following transportation safety goals.

- ▶ Install sidewalks and pedestrian facilities in and surrounding new developments and on new or reconstructed major thoroughfares
- ▶ Facilitate bicycle travel throughout the County
- ▶ Evaluate alternative countermeasures to maintain or improve traffic conditions

HenricoNEXT

[HenricoNext](#) is Henrico County's ongoing effort to update its comprehensive plan to provide a framework for and set goals for the next 20 years.

Henrico County Bike Plan

As part of HenricoNext, Henrico County has created a [Draft Bike Plan](#) to identify possible bicycle facility connections and additions. The Safe and Connected Spaces chapter will address transportation related safety concerns.

Sidewalk Prioritization

Henrico County is developing a sidewalk gap prioritization tool. The tool accounts for bike and pedestrian crashes, speed limit, traffic volume, road classification, health opportunity index, transit route proximity, and walkable facilities. The tool is currently in development.

Strategic Highway Safety Plan

Virginia's [Strategic Highway Safety Plan \(SHSP\)](#) is the guiding five-year plan for road safety efforts in the Commonwealth. The SHSP goal is to reduce fatalities and serious injuries by 50% by 2045.

H.E.A.R.T.'s Mobility Subcommittee

[Henrico's H.E.A.R.T. \(Henrico Emergency Awareness and Response Team\)](#) Mobility Subcommittee focuses on enhancing accessibility and transportation safety for residents during emergencies, with particular attention to vulnerable populations including seniors and those with disabilities. The subcommittee works to identify transportation barriers, develop evacuation strategies, and coordinate with local agencies to ensure all community members have access to safe mobility options during crisis situations.

PUBLIC ENGAGEMENT

Overview of Engagement

Henrico County conducted two rounds of public engagement to inform the development of Arrive Alive Henrico. Stakeholders, including the public, were asked to identify roadway safety concerns and potential solutions. The focus of each round of engagement is outlined below:

- ▶ **Round 1:** Identifying roadway safety concerns
- ▶ **Round 2:** Prioritizing potential roadway safety solutions

PUBLIC ENGAGEMENT GOALS:

- ▶ Identify safety concerns
- ▶ Prioritize safety countermeasures
- ▶ Promote awareness of the Safety Action Plan
- ▶ Foster better interagency communication

STAKEHOLDERS ENGAGED:

Outreach efforts targeted audiences that represent all Henrico County roadway users.

- ▶ Henrico County Public Schools (HCPS)
- ▶ Henrico County Public Relations
- ▶ Law Enforcement/First Responders
- ▶ Health Department
- ▶ Henrico County Elected Officials
- ▶ General Public
- ▶ Special Interest and Advocacy Groups
- ▶ Community and Civic Organizations
- ▶ Non-Motorized Users

PROJECT WEBSITE:

The www.henrico.gov/works/arrive-alive-henrico website served as a central hub for public engagement and project updates. The site featured:

- ▶ Updates on the engagement process and project milestones
- ▶ A sign-up portal for residents to receive project communications
- ▶ A calendar of upcoming and past public meetings and pop-up events
- ▶ Resources on roadway safety, including tips for cyclists, pedestrians, and drivers

Public Engagement Activities

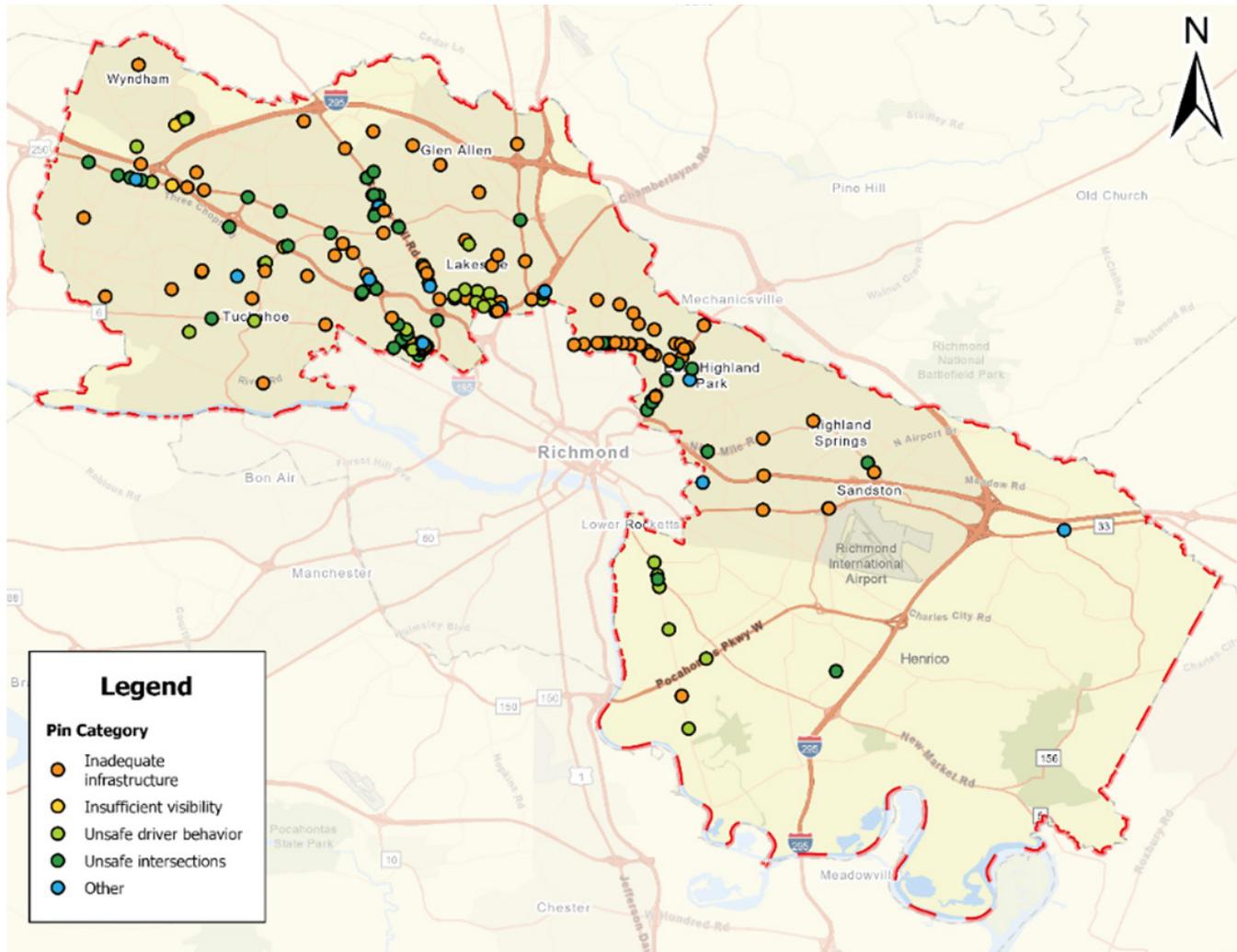
ROUND 1: IDENTIFYING THE ROADWAY SAFETY CONCERNS

Online Survey

Henrico invited the public to participate in an online survey to provide feedback on roadway safety concerns. Participants placed icons to indicate issues such as inadequate infrastructure, unsafe

intersections, unsafe driver behavior, and insufficient visibility. The survey also gathered qualitative data on residents' general perceptions of roadway safety and their most pressing concerns (shown in **Figure 23**). The responses collected helped the planning team identify regional hotspots for safety solutions and informed the selection of priority locations for targeted improvements. The online survey was administered in English and Spanish from May 15, 2024 to July, 1 2024. Paper surveys were available at the pop-up events and the public meeting.

Figure 23. Summary of Roadway Safety Locations from Public Survey



Participants prioritized safety improvements that would address their primary concerns and challenges to travel in Henrico County. The top three safety improvements selected by participants were:

- ▶ Enhancing the sidewalk and/or bike lane network
- ▶ Improving roads and signage to improve safety
- ▶ Educating drivers on safe practices

Round 1 Pop-Ups Events

Five pop-up community events were held to promote Arrive Alive Henrico, the upcoming public meeting, and the survey. The project team handed out information and educated road users on safety practices. Participation was encouraged with branded giveaway items.

The high-foot traffic areas were chosen based on planned adjacent events and Google activity data. Each magisterial district had one pop-up event at popular times.

The pop-up event locations were:

- ▶ Tuckahoe Library (Thursday, May 16, 2024, 4:00 pm – 6:00 pm)
- ▶ Willow Lawn Drive Bus Stop (Thursday, May 30, 2024, 4:00 pm – 6:00 pm)
- ▶ Fairfield Library (Thursday, May 30, 2024, 4:00 pm – 6:00 pm)
- ▶ Short Pump Town Center (Friday, May 31, 2024, 5:00 pm – 7:00 pm)
- ▶ Varina Library (Saturday, June 1, 2024, 12:00 pm – 2:00 pm)



Round 1 Public Meeting

Henrico hosted a public meeting at Belmont Recreation Center on Monday, June 3, 2024. The meeting provided an opportunity for attendees to gain an understanding of the Safety Action Plan process, review crash facts, share safety concerns, and ask questions. Participants shared their sense of safety in Henrico County, suggested potential solutions for the project team to consider, and made roadway safety commitments.



Road Safety Awareness Work Session

A Road Safety Awareness Work Session was held on August 13, 2024. The work session engaged stakeholders who work on transportation safety in Henrico County to understand priorities, successful programs, funding needs, and implementation challenges. Representatives from multiple organizations gathered to establish a collective understanding of roadway safety challenges and potential solutions.

- ▶ Bike Walk RVA – Sports Backers
- ▶ Henrico County Department of Public Works
- ▶ Henrico County Emergency Management & Workplace Safety
- ▶ Henrico Doctors Hospital
- ▶ Henrico County Police Department
- ▶ Henrico County Public Schools
- ▶ PlanRVA
- ▶ Henrico County Recreation and Parks
- ▶ RVA Rapid Transit
- ▶ Virginia Department of Health
- ▶ Virginia Department of Transportation

At the work session, the project team introduced the SS4A program and the Safe System Approach, reinforcing that traffic fatalities and serious injuries are preventable through shared responsibility.

Participants engaged in discussions on the four Es of roadway safety—engineering, education, enforcement, and emergency response. Breakout sessions included discussions on priority safety projects and programs for various departments or organizations, successful safety initiatives, funding requirements, and challenges faced in implementing safety projects and programs. These discussions contributed to forming priorities for the safety action plan.



ROUND 2: PRIORITIZING POTENTIAL ROADWAY SAFETY SOLUTIONS

The second round of public engagement occurred from January to February 2025. It included five pop-up community events and a public meeting. The purpose was to prioritize the identified transportation safety concerns from the first round of engagement opportunities for road users throughout the County.

Interactive Public Survey/Activity

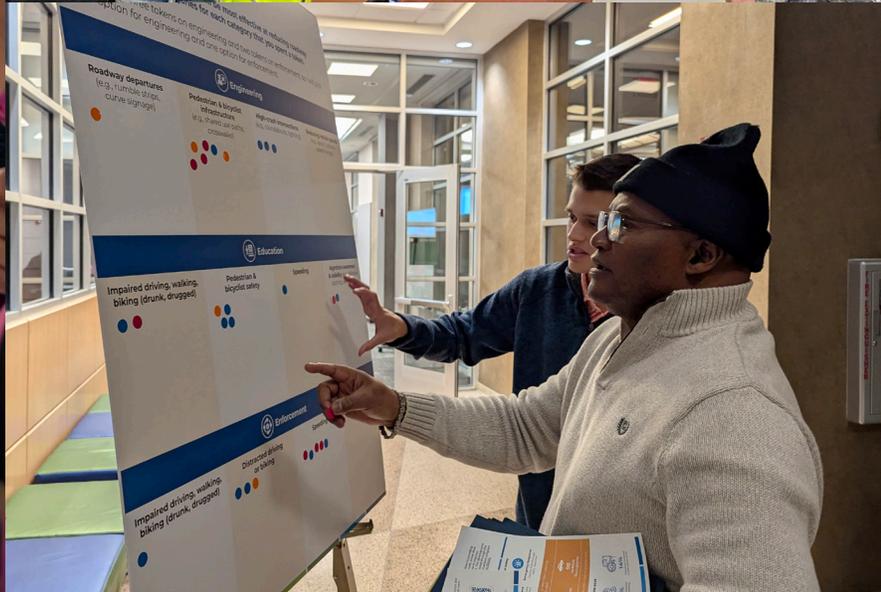
An interactive engagement activity allowed participants to prioritize potential safety solutions. Each participant received five tokens to allocate across three categories: engineering, education, and enforcement. They then selected their preferred solutions within each category—such as enhanced crosswalks, traffic-calming measures, increased lighting, and additional signage—by placing stickers on their chosen options. Henrico gave participants postcards with ways to stay safe on the roads and additional information on how to stay engaged with Arrive Alive Henrico.



Round 2 Pop-Ups Events

Community members participated in Round 2's in-person activities, including the public engagement activity, to provide input on their preferred roadway safety solutions. Below is a list of pop-up events held during Round 2 engagement:

- ▶ Tuckahoe Library (Wednesday, January 22, 2025, 4:30 pm – 6:30 pm)
- ▶ Twin Hickory Library (Tuesday, January 28, 2025, 4:00 pm – 6:00 pm)
- ▶ Fairfield Library (Wednesday, January 29, 2025, 4:00 pm – 6:00 pm)
- ▶ Willow Lawn Drive Bus Stop (Thursday, January 30, 2025, 1:30 pm – 3:30 pm)
- ▶ Varina Library (Saturday, February 1, 2025, 2025, 11:00 am – 1:00 pm)



Round 2 Public Meeting

The Round 2 public meeting was hosted at the Libbie Mill Public Library on February 4, 2025, from 5:00 pm to 7:00 pm. The information presented included crash history and safety data, and participants were encouraged to provide feedback, complete the interactive activity, and submit personal commitments to roadway safety. The project team used input to inform the priorities and incorporate considerations in project discussions and decisions going forward.

Key Takeaways

- ▶ Round 2 of public engagement included a total of 149 interactions across all five pop-up events and the second public meeting
- ▶ Engineering received the highest priority amongst the three E's of roadway safety approaches from the engagement participants
- ▶ Pedestrian and bicyclist infrastructure countermeasures ranked the highest amongst all countermeasure examples provided to priority activity participants for their consideration of engineering solutions



ENGINEERING IMPROVEMENTS

This section discusses proposed engineering countermeasures to address safety challenges within Henrico County. The project team identified these improvements and countermeasures by analyzing input from various data sources, including Henrico County staff, stakeholders, the public, historical roadway and crash data trends, and industry best practices. The project team categorized proposed improvement locations as spot improvements or systemic improvements.

- ▶ **Spot improvements or countermeasures** are targeted, location-specific improvements for an intersection or roadway segment where crash patterns can be attributed to intersection controls, land use context, or roadway design elements that fail to meet current engineering standards (e.g. inadequate sight distance, improper superelevation).
- ▶ **Systemic improvements or countermeasures** are countermeasures that are meant to enhance safety at multiple locations throughout the county. Systemic improvements may include advanced warning signage or rumble strips along longer roadway segments or a larger geographic area.

Spot Project Identification and Prioritization

Based on the needs identified in the existing conditions section and feedback from Henrico County staff, the project team conducted site visits to investigate safety concerns further at select locations. The project team reviewed crash patterns and visited select intersections and roadway

segments to evaluate field conditions, observe roadway user behavior, and document geometric challenges and safety concerns with the goal of identifying infrastructure improvements. The project team also reviewed safety improvements that were identified as part of a previous study that have not yet been funded or constructed.

The project team developed a project prioritization matrix that ranks projects identified as part of this plan or a previously completed study based on four categories. The **Appendix** contains a more detailed scoring matrix.

SAFETY

The safety category ranks projects based on their level of safety need and their ability to reduce crashes.

Safety Need Location

This subcategory checks if the project addresses a high-ranking safety need based on the high-injury network or other safety data documented in the existing conditions section.

Max points = 30

Crash Reduction

This subcategory ranks projects based on their potential effectiveness at reducing crashes. The project team calculated a projected reduction in equivalent property damage only (EPDO) crashes for each project using crash modification factors (CMFs).

Max points = 30

WDEMOGRAPHICS

The demographics category ranks projects based on population and access data.

Disadvantaged Communities

This subcategory identifies if the project is located in an Area of Persistent Poverty.

Max points = 5

Income

This subcategory identifies if the project is located in a census tract with an average household income less than the median household income for Henrico County.

Max points = 5

Non-Motorist Users

This subcategory identifies if the project is applicable to pedestrians and/or bicyclists and if the project is located in a census tract with a higher percentage of zero-vehicle households than the Henrico County median or on a PBSAP priority corridor.

Max points = 5

IMPLEMENTATION

The implementation category evaluates projects according to their projected costs and expected construction timelines once funding has been secured. This category assesses the readiness of a project for implementation and the resources required to complete it.

Cost

This subcategory identifies the projected cost relative to other proposed improvements.

Max points = 10

Timeframe

This subcategory identifies the projected timeframe for the design and construction of all proposed improvements. The timeframe does not account for time to obtain funding.

Max points = 10

PUBLIC NEED

The public need category assesses if the project addressed a need identified by the public.

Identified Need

This subcategory identifies if the project addresses a public safety concern identified through engagement efforts for this project or if the project was identified as part of previous county efforts.

Max points = 5

List of Prioritized Spot Improvements

Table 8 and Figure 24 identify the recommended spot improvements for Henrico County. Table 8 also summarizes the results of the project prioritization.

Table 8. Recommended Spot Improvements

Project ID	Location	Countermeasure	Safety: Safety Need Location	Safety: Crash Reduction	Demographic: Disadvantaged Communities	Demographic: Income	Demographic: Non-Motorist Users	Implementation: Cost	Implementation: Timeframe	Public Need: Identified Need	Total Score	Rank
A	W Broad Street & Pump Road/ Pouncey Tract Road	<ul style="list-style-type: none"> Reconstruct the southbound approach at Pouncey Tract Road to include triple left-turn lanes, a through lane, and a shared through/right lane Convert the westbound US 250 right-turn lanes into a shared through/right lane 	30	10	0	0	0	0	0	5	45	16
B	Mechanicsville Turnpike & Crump Street/ Bloom Lane	<ul style="list-style-type: none"> Install pedestrian signals Construct a 10-foot shared-use path on the east side of US 360 Update curb ramps to ADA compliant 	10	10	5	5	5	4	5	5	49	14
C	W Broad Street & Gaskins Road	<ul style="list-style-type: none"> Add third southbound through lane Remove eastbound and northbound channelizing islands Install pedestrian facilities across Gaskins Road 	30	10	0	5	5	4	0	0	54	13
D	Nine Mile Road & Laburnum Avenue	<ul style="list-style-type: none"> Install no right turn on red sign on all approaches Increase the radius in the northwest corner Install additional signal heads for northbound and southbound Laburnum Road Install crosswalks with pedestrian signals equipped with leading pedestrian intervals 	30	20	0	5	5	4	5	0	69	6
E	W Broad Street & Glenside Drive	<ul style="list-style-type: none"> Add a second dedicated through lane to the northbound approach Add a third dedicated through lane to the southbound approach Convert split phasing to concurrent phasing 	30	10	5	5	0	0	0	5	55	11

Project ID	Location	Countermeasure	Safety: Safety Need Location	Safety: Crash Reduction	Demographic: Disadvantaged Communities	Demographic: Income	Demographic: Non-Motorist Users	Implementation: Cost	Implementation: Timeframe	Public Need: Identified Need	Total Score	Rank
F	Staples Mill Road & Glenside Drive/ Hilliard Road	<ul style="list-style-type: none"> Install pedestrian facilities Refurbish pavement markings 	30	20	5	5	5	0	5	5	75	4
G	Nine Mile Road & Kenway Avenue	<ul style="list-style-type: none"> Install crosswalks with pedestrian signals equipped with leading pedestrian intervals Upgrade signals to mast arms Install high-visibility signal backplates Add intersection lighting Move the bus stop to the far side of the intersection 	30	30	0	5	5	7	5	0	82	3
H	N Parham Road & Homeview Drive	<ul style="list-style-type: none"> Restripe pavement markings on Homeview Drive Install no right turn on red sign on Homeview Drive and move the stop bar back for the left-turn lane Upgrade signals to mast arms Install high-visibility signal backplates Add intersection lighting 	30	10	0	5	0	7	10	0	62	8
I	Mechanicsville Turnpike & Byron Street	<ul style="list-style-type: none"> Install pedestrian signals Construct a 10-foot shared-use path on the east side of US 360 Update curb ramps to ADA compliant 	30	30	5	5	5	7	5	5	92	1
J	Mechanicsville Turnpike & Rescue Avenue	<ul style="list-style-type: none"> Construct a 10-foot shared-use path on the east side of US 360 Construct a directional median closure that restricts all turning movements except for the northbound left turn 	30	30	5	5	5	7	5	5	92	1
K	W Broad Street & Pemberton Road/ Springfield Road	<ul style="list-style-type: none"> Install pedestrian facilities across Pemberton Road/ Springfield Road Reconfigure eastbound approach to two left-turn lanes, two through lanes, and one shared through/right lane Install sidewalk 	20	10	0	5	5	0	0	0	40	19

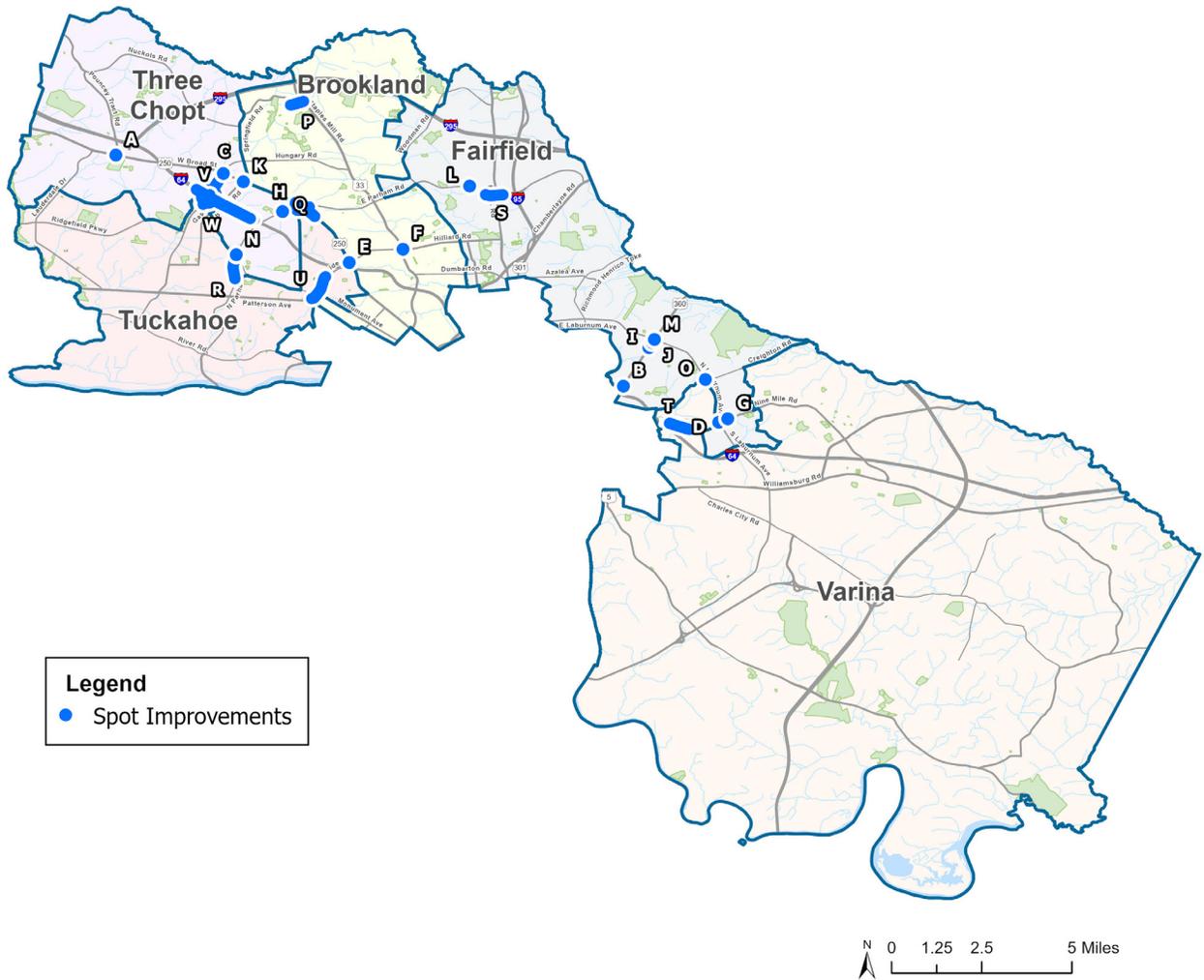
Project ID	Location	Countermeasure	Safety: Safety Need Location	Safety: Crash Reduction	Demographic: Disadvantaged Communities	Demographic: Income	Demographic: Non-Motorist Users	Implementation: Cost	Implementation: Timeframe	Public Need: Identified Need	Total Score	Rank
L	East Parham Road & W Sanctuary Drive	<ul style="list-style-type: none"> • Install high-visibility signal backplates • Add additional curve warning signs • Evaluate clearance intervals • Install advanced warning signs for signal 	10	20	0	5	0	10	10	0	55	11
M	Mechanicsville Turnpike & East Laburnum Avenue	<ul style="list-style-type: none"> • Install pedestrian signals • Construct a 10 -foot shared-use path on the east side of US 360 • Convert to quadrant intersection or Michigan left-turn intersection 	30	20	5	5	5	0	5	5	70	5
N	Three Chopt Road & N Parham Road	<ul style="list-style-type: none"> • Install high-visibility signal backplates • Install flashing yellow arrow • Install advanced warning signs for signal • Evaluate clearance intervals 	10	20	5	5	0	10	10	0	60	9
O	N Laburnum Avenue & Creighton Road	<ul style="list-style-type: none"> • Install high-visibility signal backplates • Install median on Creighton Road • Install flashing yellow arrow 	10	10	5	5	0	7	10	0	47	15
P	Springfield Road Improvements	<ul style="list-style-type: none"> • Modify laneages at Staples Mill Road/Springfield Road, Springfield Road/Hindu Center of Virginia • Convert from span wire to mast arms at Springfield Road and Francistown Road • Construct a shared-use path on WB Springfield Road and sidewalk on EB Springfield Road and NB Francistown Road • Install pedestrian facilities on the east leg of Springfield Road/Francistown Road, and the west and south legs of Springfield Road/Staples Mill Road 	0	10	0	0	3	0	5	5	23	23

Project ID	Location	Countermeasure	Safety: Safety Need Location	Safety: Crash Reduction	Demographic: Disadvantaged Communities	Demographic: Income	Demographic: Non-Motorist Users	Implementation: Cost	Implementation: Timeframe	Public Need: Identified Need	Total Score	Rank
Q	W Broad Street & Parham Road Intersection Improvements	<ul style="list-style-type: none"> Construct geometric improvements along W Broad Street between Skipwith Road and N Parham Road, and at N Parham Road/Skipwith Road Modify the W Broad Street medians at Pine Grove Drive, Hollybrook Avenue, and Carousel Lane Install high-visibility crosswalks at the south leg of W Broad Street/Old Parham Road, and the north leg of W Broad Street/Carousel Lane Construct 5 inch sidewalk on NB N Parham Road and on both sides of W Broad Street Reconstruct sidewalk on EB Broad Street Relocate existing GRTC bus stops #409 and #410 	30	20	0	5	5	0	0	5	65	7
R	Parham Road Ped Improvements – Holly Hill to Three Chopt	<ul style="list-style-type: none"> Construct pedestrian improvements along N Parham Road, and at key intersections Implement access management on N Parham Road (NB and SB) Extend raised median on Eastridge Road to convert Eastridge Road/Eastridge Road to right-in/right-out Modify the traffic signals at key intersections to accommodate pedestrian and geometric improvements 	20	20	5	5	5	0	0	5	60	9
S	E Parham Road Improvements – I-95 to Cleveland Street	<ul style="list-style-type: none"> Widen WB Parham Road from two to three lanes between North Park shopping center and Cleveland Street Add a WB right-turn lane at Parham Road/Brook Road and Parham Road/Hungary Road Modify traffic signals at Parham Road/Brook Road and Parham Road/North Park Shopping Center Install pedestrian facilities along EB and WB Parham Road, NB Hungary Road, NB Brook Road, and at key intersections including Parham Road/Brook Road, Parham Road/North Park Shopping Center, Parham Road/Aberdeen Street, and Brook Road/Concord Avenue 	10	10	0	5	5	0	0	5	35	21

Project ID	Location	Countermeasure	Safety: Safety Need Location	Safety: Crash Reduction	Demographic: Disadvantaged Communities	Demographic: Income	Demographic: Non-Motorist Users	Implementation: Cost	Implementation: Timeframe	Public Need: Identified Need	Total Score	Rank
T	Nine Mile Road Improvements – Gordons Lane to Dabbs House Road	<ul style="list-style-type: none"> Construct 1 EB left turn at Nine Mile Road/Echo Avenue Construct sidewalk at 6 intersections on EB Nine Mile Road from Gordon Lane to Dabbs Road Perform access management along Nine Mile Road Upgrade the traffic signal at Nine Mile Road/Gordon Lane and at Nine Mile Road/Taylor Road/Dabbs House Road Install crosswalks at Nine Mile Road/Gordon Lane and Nine Mile Road/Dabbs House Road Improve GRTC bus stops #1896 and #1897 and construct a new bus stop on Nine Mile Road/Dabbs House Road 	20	10	0	5	5	0	0	5	45	16
U	Glenside Drive & Horsepen Road Safety Improvements	<ul style="list-style-type: none"> Widen lanes and add right-turn lanes on Horsepen Road and Glenside Drive Adjust lane configurations and extend turn lanes at key intersections. Close and modify median openings along Glenside Drive and Horsepen Road Construct new sidewalks at various locations on Horsepen Road, Glenside Drive, and Three Chopt Road Install high-visibility crosswalks with ADA ramps, pedestrian signals, and improve pedestrian crossings Replace and modify traffic signals to support new configurations and pedestrian improvements 	20	10	0	5	5	0	0	5	45	16

Project ID	Location	Countermeasure	Safety: Safety Need Location	Safety: Crash Reduction	Demographic: Disadvantaged Communities	Demographic: Income	Demographic: Non-Motorist Users	Implementation: Cost	Implementation: Timeframe	Public Need: Identified Need	Total Score	Rank
V	Gaskins Road Interchange at I-64 (North Quad & Aux Lanes)	<ul style="list-style-type: none"> Widen WB I-64 to four lanes from Parham Road to Gaskins Road Remove WB I-64 off-ramp loop to SB Gaskins Road and realign off-ramp to NB Gaskins Road with a signalized intersection Widen the WB I-64 off-ramp to Gaskins Road to two lanes Widen SB and NB Gaskins Road to three lanes near the I-64 ramps Adjust lanes and traffic signal at Gaskins Road/Mayland Drive 	10	10	5	5	0	0	5	5	40	19
W	Gaskins Road Interchange at I-64 (Southern Quad)	<ul style="list-style-type: none"> Widen EB I-64 from three lanes to four lanes for 2,440 feet and SB Gaskins Road to three lanes Install sound walls along ramps and sections of I-64 and Gaskins Road Enhance the interchange at EB I-64 and Gaskins Road, including relocating and realigning ramps, and widening ramp lanes Add a new traffic signal at Gaskins Road and realigned I-64 off-ramp intersection with additional turn lanes Convert NB right-turn lane at Gaskins Road and Three Chopt Road to a shared through-right lane and modify the traffic signal 	10	10	5	5	0	0	0	5	35	21

Figure 24. Map of Spot Improvements



Systemic Countermeasures

The following countermeasures can be installed at multiple locations throughout the county. These countermeasures are meant to systemically mitigate the risk of severe crashes.



EDGELINE TREATMENT

Edgeline treatment includes edgeline rumble strips or wider edge line markings.

- ▶ Edgeline rumble strips provide noise and vibration to alert drivers about to depart the roadway. They can be painted with a retroreflective coating to increase pavement edge visibility at night and during adverse weather conditions.
- ▶ Increasing the width of edgeline markings from the minimum normal line width of 4 inches to the maximum normal line width of 6 inches increases the visibility of roadway boundaries.

Candidate locations for edgeline treatment consist of roads with sufficient shoulder space and higher speeds and traffic volumes. Installing edgeline treatment on nonfreeway facilities has the potential to reduce road delineation crashes by up to 16%.



CENTERLINE RUMBLE STRIPS

Centerline rumble strips provide noise and vibration to alert drivers who are about to enter opposing traffic. They can be painted with a retroreflective coating to increase pavement edge visibility at night and during extreme weather. Candidate locations consist of undivided roads with higher speeds and traffic volumes. Installing centerline rumble strips on non-freeway facilities has the potential to reduce head-on and sideswipe crashes by up to 24%.



CURVE DELINEATION

Curve delineation measures include signs and/or pavement markings that alert drivers to horizontal curves in the roadway. These markings consist of chevron signs, retroreflective plating, curve advisory signs, and flashing beacons. Speed advisory signs are required at curves with advisory speeds 15 mph below the speed limit and recommended at 10 mph below the speed limit. Applying chevrons has the potential to reduce nighttime crashes by 25%. Installing chevrons with flashing beacons has the potential to reduce nighttime crashes by 41%.



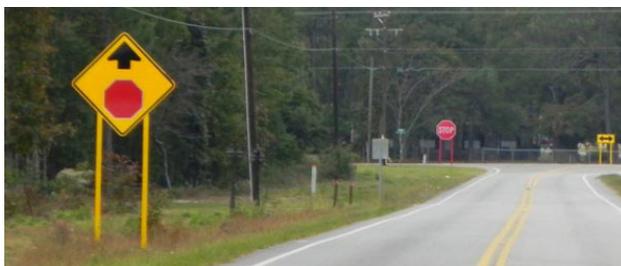
HIGH-VISIBILITY SIGNAL BACKPLATES (HVSB)

Adding a 1-to-3-inch yellow retroreflective border to the backplates of traffic signals enhances their visibility, especially during dark or low-light conditions. This added visibility helps drivers more easily notice and interpret the signals, reducing the likelihood of running red lights and other traffic violations. Candidate locations consist of signalized intersections without retroreflective backplates. Installing HVSBs has the potential to reduce all intersection crashes by 15%.



HIGH-FRICTION SURFACE TREATMENT

High-friction surface treatments added to existing pavement help ensure vehicles have solid contact with the road and reduce the potential for skidding. Candidate locations consist of horizontal curves and interchange ramps. Applying high-friction surface treatment has the potential to reduce crashes by 24%.



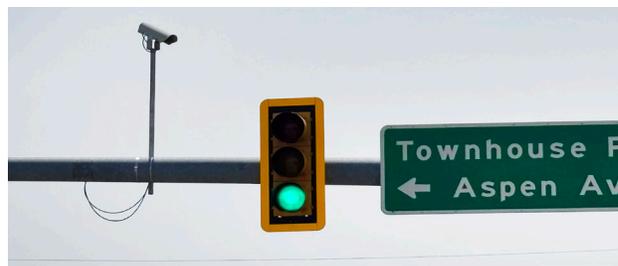
ADVANCE WARNING SIGNS AND PAVEMENT MARKING

These signs or markings are designed to alert drivers that they are approaching an intersection and may be static, flashing, or dynamic. Candidate locations consist of stop-controlled intersections on high-speed roads, steep downgrades, or horizontal curves. Applying this countermeasure has the potential to reduce crashes within the intersection by 18%.



SPEED LIMIT EVALUATIONS

Speed studies evaluate the viability of altering posted speeds limits to improve safety for roadways with multiple roadway users. If current speed limits are considered to be inappropriate, agencies often must implement other speed management strategies to encourage compliance with the new speed limit. Candidate locations consist of locations with speed compliance issues or with significant pedestrian activity. Applying this countermeasure has varied impacts on crashes depending on accompanying traffic calming countermeasures.



IMPROVED SIGNAL TIMING STRATEGIES

Traffic signal coordination can promote progression through a corridor at or close to the posted speed limit. Proper clearance intervals can reduce red-light running. Adaptive signal control technologies can dynamically adjust timings in response to real-time traffic conditions to reduce congestion-related crashes. Candidate locations include roadways with multiple signalized intersections. The benefits of this countermeasure vary depending on the implementation strategies applied.



LEADING PEDESTRIAN INTERVALS (LPI)

An LPI gives pedestrians the opportunity to enter the crosswalk at an intersection 3 to 7 seconds before vehicles are given a green indication. Pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn right or left. Candidate locations consist of intersections with pre-existing pedestrian signal heads with a high rate of turning vehicles. Applying this countermeasure has the potential to reduce pedestrian crashes within the intersection by 59%.

PROGRAMS

This section outlines non-engineering strategies to address roadway safety needs in Henrico County by highlighting behavioral and systemic issues that lead to fatal and serious injury crashes. These projects focus on programs targeted at education, enforcement, design, and implementation efforts needed to develop effective strategies for improving traffic safety in the county.

In August 2023, the project team hosted a road safety awareness work session with stakeholders who work on transportation safety in Henrico County to understand priorities, successful programs, funding needs, and implementation challenges.

The project team used input from the work session participants, along with feedback from the public and the Working Group, to develop the strategies outlined in the plan. Programs are organized into education, enforcement, and emergency responses solutions.

Potential Partners

Henrico County will work with strategic partners to facilitate these initiatives. Potential partners include partnerships needed to facilitate these actions. The project team identified partners to assist the Henrico County Department of Public Works with the implementation of actions and monitoring performance measures.



Table 9 summarizes the proposed programs targeting education, enforcement, design, and implementation efforts to develop effective strategies for improving roadway safety in Henrico County and include potential partners and potential performance measures to track progress.

Table 9. Proposed Programs for Education, Enforcement, Design, and Implementation

Solution Type	Emphasis Area	Solution	Description	Key Statistic	Resources	Potential Partners	Implementation Effort
Education	Distracted Driving, Young Drivers	Alert Driving Campaign	This campaign aims to prevent distracted driving through social media messaging, community engagement, and extra enforcement in high-risk areas, using educational materials modeled after Harvard's "Project Look Out" and DOT's "Put the Phone Away or Pay" toolkit. By building relationships with community leaders and incorporating high-visibility enforcement, it seeks to raise awareness, particularly among young drivers, and promote responsible driving habits through various outreach efforts similar to Vanderbilt University's "Be in the Zone (BITZ)" Campaign.	14% of fatalities (21 fatalities) and 17% of serious injuries (177 serious injuries) involved a distracted driver. 18% of young driver-related fatalities and serious injuries involved a distracted driver.	Project Look Out Be in the Zone Educational Campaign	VDOT, Henrico County Public Schools	High
Education	Driving Under the Influence	Drive Sober Campaign	This campaign aims to discourage driving under the influence of alcohol through high-visibility enforcement and awareness efforts. It will be implemented through online campaigns, community engagement, and school partnerships, leveraging social media and aligning with Virginia's "Drive Sober or Get Pulled Over" and "What's the Damage?" campaigns, while collaborating with community leaders and educational institutions to spread awareness and promote sober driving.	36% of fatalities (55 fatalities) and 19% of serious injuries (206 serious injuries) involved a driver under the influence of drugs or alcohol.	NHTSA Drive Sober or Get Pulled Over Campaign What's the Damage Campaign	VDOT, Henrico County Public Schools	Medium
Education	Speeding	Speeding Catches Up with You Campaign	This campaign aims to raise awareness about the impacts of speeding, using the national "Speeding Catches Up with You" campaign as a foundation. The campaign will include online initiatives and partnerships with community leaders, such as churches and community organizations, to spread its message. It will use social media and other outlets to remind the public to adhere to speed limits and recognize other aggressive driving behaviors.	22% of fatalities (34 fatalities) and 16% of serious injuries (155 serious injuries) occurred when a vehicle was speeding.	NHTSA Speeding Catches Up With You Campaign	Police, Henrico County Public Schools	Medium
Education	Bicyclists, Pedestrians	Vulnerable Users Night Campaign	This campaign instructs pedestrians and bicyclists about safe navigation at night and the proper use of pedestrian and bicyclist infrastructure. The campaign also encourages drivers to safely share the road with pedestrians and bicyclists during the dark. Modeled after the Henrico County Police Division Watch Out Ahead Henrico (WOAH!). The initiative includes online campaigns, school partnerships, and collaborations with community leaders such as churches and community organizations. It incorporates traffic enforcement and educational components to ensure the safety of pedestrians, cyclists, and all road users during nighttime, particularly in the fall and winter evenings. The program can leverage local pedestrian and bicyclist advisory committees to enhance its outreach and effectiveness.	43% of pedestrian crashes occurred in darkness - road not lighted (170 crashes). 107 of the 170 crashes were either K or A. 19% of bicycle crashes occurred in darkness - road not lighted (21 crashes). 10 of the 21 crashes were either K or A.	Dusk and Darkness Education Campaign Watch Out Ahead Henrico (WOAH!)	VDOT	Medium

Solution Type	Emphasis Area	Solution	Description	Key Statistic	Resources	Potential Partners	Implementation Effort
Education	Motorcyclists	Motorcycle Awareness Campaign	This educational campaign focuses on motorcycle safety, specifically targeting non-motorcyclists. The goal is to raise awareness about safely sharing the roadway with motorcyclists, particularly at intersections and among young drivers. The campaign will include an online component featuring educational content on motorcycle awareness and responsible driving behaviors. Additionally, a program targeted at schools will be developed to educate students on how to interact safely with motorcyclists. The campaign is aimed at drivers of vehicles that are not classified as Class 1 motorcycles or two or three-wheeled motorized vehicles under the FHWA 13 Vehicle Category Classification.	4% of fatalities (6 fatalities) and 7% of serious injuries (76 serious injuries) were motorcyclists. 56% of motorcyclist fatalities and serious injuries involved an intersection. 18% of motorcyclist fatalities and serious injuries involved young drivers.	Never Too Safe on 2 Wheels Henrico	VDOT	Low
Education	Pedestrians	Pedestrian Safety Campaign	This campaign uses the Federal Highway Administration's Pedestrian Safety Campaign as a model for outreach materials to educate the public on crossing at designated areas, looking both ways before crossing, obeying traffic signals, avoiding distractions, and wearing bright and reflective clothing while walking at night or in low-visibility conditions.	62% of pedestrian fatalities and serious injuries involved an intersection.	FHWA National Pedestrian Safety Campaign	VDOT	Medium
Education	Unrestrained Occupants	Protected Occupants Campaign	This campaign aims to raise awareness about the importance of wearing seatbelts and using booster seats. It combines online efforts, community engagement, and public messaging. Online campaigns will share content and amplify the national "Click it or Ticket" program via social media, dedicated web pages, and email newsletters. Community engagement will involve partnerships with large employers, churches, and community organizations to promote seatbelt use at events and through communications. Schools will integrate seatbelt safety into curriculums and driver education programs.	31% of fatalities (47 fatalities) and 18% of serious injuries (196 serious injuries) involved an unrestrained occupant.	NHTSA Click it or Ticket Campaign Get It Together Seat Belt Challenge	Police, Henrico County Public Schools	Medium
Education	All	Language Access Plan	This plan provides meaningful access to individuals with limited English proficiency (LEP) to educational programs, roadway user services, and activities to ensure that all Henrico Community members understand how to engage with programs, activities, and laws related to roadway safety.	2023 American Community Survey data estimated that approximately 3% of households have LEP.	U.S. DOT Language Access Plan		
Education	Bicyclists	Bike School	Bike school encompasses local events such as cycling skills clinics, bicycle safety fairs, and bicycle rodeos, typically organized by law enforcement, school staff, or other civic and volunteer organizations. These events aim to teach elementary students essential bicycle safety skills, including starting, stopping, weaving to avoid objects, understanding traffic signs and signals, learning some traffic laws, and riding defensively in various traffic conditions. By engaging young riders in these interactive and educational activities, bike school helps promote safe cycling habits and a better understanding of how to navigate roads safely.	3% of fatalities (5 fatalities) and 2% serious injuries (18 serious injuries) were bicyclists.	NHTSA Cycling Skills Clinics, Bike Fairs, Bike Rodeos	VDOT, Henrico County Public Schools	Low

Solution Type	Emphasis Area	Solution	Description	Key Statistic	Resources	Potential Partners	Implementation Effort
Education	Bicyclists, Pedestrians	Safe Routes to School (SRTS)	The Safe Routes to School program is a nationally funded initiative designed to enhance the safety of students walking and biking to school while promoting these healthier activities. It combines educational programming, such as safety workshops, training sessions, and community engagement, with engineering initiatives that include infrastructure improvements like adding crosswalks, bike lanes, sidewalks, and other safety enhancements around school zones.	3% of fatalities (5 fatalities) and 2% serious injuries (18 serious injuries) were bicyclists, which includes 1 bicyclist age 18 or younger that was killed and 5 bicyclists ages 18 or younger that were seriously injured. 29% of fatalities (44 fatalities) and 12% serious injuries (126 serious injuries) were pedestrians, which includes 13 pedestrians ages 18 or younger that were seriously injured.	NHTSA Safe Routes to School	Henrico County Public Schools	Low-High
Education	Motorcyclists, Intersections	Motorcycle School or Motorcycle Education	This program educates motorcyclists on safe driving skills and behaviors with emphasis on safety at intersections, young motorcycle drivers, and speeding. The campaign uses online platforms to reach a broad audience and share vital safety information. Additionally, it involves developing partnerships with community leaders, such as motorcycle dealers, to further spread the message and engage the motorcyclist community. A key element of the campaign will be to increase awareness and promote participation in the Virginia Rider Training Program, which offers comprehensive training and resources for motorcyclists.	4% of fatalities (6 fatalities) and 7% of serious injuries (76 serious injuries) were motorcyclists. 56% of motorcyclist fatalities and serious injuries involved an intersection.	NHTSA Motorcycle Safety	VDOT	Medium
Education	Young Drivers	Guardian Drivers Education	This driver education program targets parents and guardians of young drivers, aiming to encourage responsible driving behaviors. The program includes online campaigns, school-based initiatives, and partnerships with community leaders such as parent-teacher organizations. It provides educational resources to help guardians enforce graduated driver licensing (GDL) restrictions and teach essential driving skills. National programs like Checkpoints and TeenDrivingPlan offer web-based guidance, while Share the Keys presentations can be scheduled by schools and communities free of charge, with additional online resources available anytime. This initiative supplements traditional driver education by involving parents and guardians in promoting safe driving habits.	13% of fatalities (20 fatalities) and 14% of serious injuries (145 serious injuries) involved a young driver.	NHTSA Program Examples	Henrico County Public Schools	Low

Solution Type	Emphasis Area	Solution	Description	Key Statistic	Resources	Potential Partners	Implementation Effort
Education	Young Drivers, Speeding, Roadway Departures, Intersections	Youth Drivers Education	This driver education program targets young drivers and focuses on critical areas such as speeding, roadway departures, and intersections. The program includes online campaigns, school-based initiatives, and partnerships with community leaders like Girl Scouts, Boy Scouts, and youth sports organizations. By leveraging these platforms, the program aims to reach a broad audience and instill safe driving habits in young drivers. Educational initiatives include programs similar to Richmond Public Schools' Behind-the-Wheel, which provides DMV Learner's permit tests directly at schools, making it more accessible for students. Additionally, the program will promote safe driving through events and informational sessions at community hubs such as recreation centers.	25% of young driver-related fatalities and serious injuries involved speeding. 27% of young driver-related fatalities and serious injuries involved roadway departures. 52% of young driver-related fatalities and serious injuries involved intersections.	Behind the Wheel	Henrico County Public Schools	Low
Enforcement	Distracted Driving	High-Visibility Cell Phone Enforcement	High-visibility cell phone enforcement is a law enforcement program designed to deter the use of cell phones while driving and promote responsible driving behaviors. This initiative involves a noticeable and increased police presence on the roads, specifically targeting drivers who use cell phones for texting, making calls, or other distractions while driving. The heightened visibility and perceived threat of fines serve as a strong deterrent, encouraging drivers to adopt safer habits and stay focused on the road.	14% of fatalities (21 fatalities) and 17% of serious injuries (177 serious injuries) involved a distracted driver.	Put the Phone Away or Pay	Police	Medium
Enforcement	Driving Under the Influence	Sobriety Checkpoints	Sobriety checkpoints raise awareness around the consequences of driving while under the influence of alcohol.	36% of fatalities (55 fatalities) and 19% of serious injuries (206 serious injuries) involved a driver under the influence of drugs or alcohol.	What's the Damage Campaign	Police	Medium
Enforcement	Intersections	Red Light Cameras at Intersections	Red light cameras are automated traffic enforcement devices that record information about vehicles that run red lights. They capture essential details such as the date and time of the infraction, the time elapsed since the red signal began, and the vehicle's speed. The recorded images are reviewed by trained law enforcement officials, and if a violation is confirmed, tickets are sent by mail to the registered owners of the offending vehicles. Virginia law allows for red light cameras to be installed at up to one intersection for every 10,000 residents.	39% of fatalities and 43% serious injuries that occurred at a signalized intersection involved a vehicle running a red light.	VDOT Red Light Camera	VDOT	High
Enforcement	Speeding	High-Visibility Speeding Enforcement	Speeding patrols are law enforcement initiatives focused on enforcing speed limits in areas known as speeding hotspots. These dedicated patrols aim to deter speeding by increasing police presence and conducting traffic stops in high-risk areas.	22% of fatalities (34 fatalities) and 16% of serious injuries (155 serious injuries) occurred when a vehicle was speeding.	NHTSA High-Visibility Enforcement	Police	Medium

Solution Type	Emphasis Area	Solution	Description	Key Statistic	Resources	Potential Partners	Implementation Effort
Enforcement	Speeding	School Zone Automated Speed Enforcement	Speed cameras in school zones are automated enforcement tools designed to ticket drivers who exceed speed limits, thereby enhancing safety for students, staff, faculty, and community members. These cameras automatically detect and ticket speeding vehicles, serving as a deterrent to dangerous driving behaviors in these critical areas. The program offers opportunities to partner with local Police Departments or Vision Zero task forces to reinforce the commitment to road safety and reduce traffic-related incidents around schools.	22% of fatalities (34 fatalities) and 16% of serious injuries (155 serious injuries) occurred when a vehicle was speeding.	FHWA Speed Cameras	VDOT	High
Enforcement	Unrestrained Occupants	High-Visibility Seatbelt Enforcement	This high-visibility seatbelt enforcement program is similar to national initiatives like "Click It or Ticket." It aims to increase the use of seatbelts and other occupant protection methods through a combination of education and law enforcement. The program involves a noticeable law enforcement presence to ensure compliance with seatbelt laws, coupled with educational campaigns to raise public awareness about the lifesaving benefits of seatbelt use.	31% of fatalities (47 fatalities) and 18% of serious injuries (196 serious injuries) involved an unrestrained occupant.	High Visibility Enforcement Example in VA	Police	Medium
Enforcement	Speeding	Speed Limit Reviews	Speed limits should be set to accommodate all road users. This process includes evaluating the characteristics of the roadway, such as its design, surrounding land use, traffic patterns, vulnerable road user activity, and safety data. By verifying that speed limits reflect the actual conditions and constraints of the road, adjustments can be made to enhance safety and ensure that drivers, cyclists, and pedestrians can coexist safely.	22% of fatalities (34 fatalities) and 16% of serious injuries (155 serious injuries) occurred when a vehicle was speeding.	NHTSA Lower Speed Limits	VDOT	Low
Emergency Response	All	Emergency Vehicle Preemption	Emergency vehicle preemption uses technology to control traffic signals, giving green lights to approaching emergency vehicles. This intervention enables quicker and safer passage through intersections and improves response times for emergency vehicles.	N/A	FHWA Next-Generation Traffic Incident Management for Saving Lives	VDOT	Medium

FUNDING OPPORTUNITIES

Competitive funding resources are available to assist in advancing and implementing the region's safety action plan. Henrico should continue to seek available funding and grant opportunities from local, state, and federal resources to accelerate their ability to implement safety improvements throughout the region. This section introduces some of the main funding programs and grants to consider.

Safe Streets and Roads for All Implementation Grant

Safe Streets for All (SS4A) is a discretionary program that funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. SS4A supports funding for Planning and Demonstration Grants and Implementation Grants. Planning and Demonstration Grants support the development, completion, or supplementation of action plans, such as Move Safely Blue Ridge. The goal of an action plan is to develop a holistic, well-defined strategy to prevent roadway fatalities and serious injuries in an area. Implementation Grants provide federal funds to implement projects and strategies identified in an action plan to address a roadway safety problem, which can include infrastructural, behavioral, or operational activity strategies.

SMART SCALE

SMART SCALE allocates funding from the construction District Grants Program (DGP) and High-Priority Projects Program (HPPP) to transportation projects based on a scoring process. The scoring process evaluates, scores, and ranks projects based on congestion mitigation, economic development, accessibility, safety, environmental quality, and land use factors. The location of the project determines the weight of each of these scoring factors in the calculation of the total score.

Revenue Sharing

Revenue Sharing is a program that provides a dollar-for-dollar state match to local funds for transportation projects. Projects eligible for Revenue Sharing funds include construction, reconstruction, improvement, and maintenance projects. All proposed spot improvement projects are candidate projects for Revenue Sharing.

Highway Safety Improvement Program (HSIP)

The HSIP is a federally funded, VDOT-managed program that apportions funding as a lump sum for each state, which is then divided among apportioned programs. These flexible funds can be used for projects to preserve or improve safety conditions and performance on any federal-aid highway, bridge projects on any public road, facilities for nonmotorized transportation, and other project types. Safety improvement projects eligible for this funding include:

- ▶ Curb extensions
- ▶ Pedestrian warning flashing beacons
- ▶ High-visibility crosswalks

Virginia's local HSIP focuses on infrastructure projects with nationally recognized crash-reduction factors. Typically, HSIP calls for projects are made at an interval of one to two years.

MONITORING AND TRANSPARENCY

Effective monitoring of the Arrive Alive Henrico roadway safety action plan is essential for reducing fatal and serious injury crashes across all six jurisdictions. By implementing a monitoring system, Henrico can track progress, identify trends, and adjust strategies as necessary. Annual assessment of crash data will provide valuable insights into the effectiveness of proposed solutions and demonstrate the project team's commitment to transparency and accountability to the communities. This annual assessment may include collaboration between various departments and stakeholders to assess progress and coordinate projects and programs in the year ahead.

Henrico staff will explore ways to present crash data, progress on safety projects, and highlight ongoing education and programming efforts to the broader community. To ensure all stakeholders and community members stay informed about our progress, Henrico will maintain an annually updated website featuring the latest statistics on fatalities and serious injuries. For the most current information on Henrico's safety initiatives and to monitor progress toward creating safer roadways for all users, please visit <https://henrico.gov/works/arrive-alive-henrico/>. Together, we can work toward our shared vision of reducing roadway fatalities and serious injuries in our communities.

APPENDIX

Prioritization Criteria Scoring Matrix

Category	Category Weight	Subcategory	Evaluation Metric	Points
Safety	60	Safety Need Location	Project is located on Tier 1 HIN or ranks in top 3 for other intersection or segment safety needs	30
Safety	60	Safety Need Location	Project is located on Tier 2 HIN or ranks outside the top 3 for other intersection or segment safety needs	20
Safety	60	Safety Need Location	Project is located on Tier 3 or 4 HIN	10
Safety	60	Safety Need Location	Project is not located on HIN and does not rank for other intersection or segment safety needs	0
Safety	60	Crash Reduction	Project ranks within the top 3 for projected crash reduction	30
Safety	60	Crash Reduction	Project ranks within the top 10 for projected crash reduction	20
Safety	60	Crash Reduction	Project ranks outside the top 10 for projected crash reduction	10
Safety	60	Crash Reduction	Project is not projected to reduce any crashes	0
			Maximum Points Available =	60

*Tiered reduction categories (i.e. Top 3 or Top 5) will be finalized with a final list of projects to provide a fair assessment of projects

Category	Category Weight	Subcategory	Evaluation Metric	Points
Demographic	15	Disadvantaged Communities	Project is located in an Area of Persistent Poverty	5
Demographic	15	Disadvantaged Communities	Project is not located in an Area of Persistent Poverty	0
Demographic	15	Income	Project is located within a tract with a median household income lower than the median jurisdictional household income	5
Demographic	15	Income	Project is located within a tract with a median household income at or above the median jurisdictional household income	0
Demographic	15	Non-Motorist Users	Project is applicable to pedestrians and/or bicyclists and is either located within a tract with a higher percentage of zero-vehicle households than the median for the county or on a PBSAP segment	5
Demographic	15	Non-Motorist Users	Project is applicable to pedestrians and/or bicyclists and is not located within a tract with a higher percentage of zero-vehicle households than the median for the county or on a PBSAP segment	3
Demographic	15	Non-Motorist Users	Project is not applicable to pedestrians and/or bicyclists	0
			Maximum Points Available =	15

Category	Category Weight	Subcategory	Evaluation Metric	Points
Implementation	20	Cost	Project is estimated to cost between 0 - 1M	10
Implementation	20	Cost	Project is estimated to cost between 1M - 2M	7
Implementation	20	Cost	Project is estimated to cost between 2M - 5M	4
Implementation	20	Cost	Project is estimated to cost over 5M	0
Implementation	20	Timeframe	Project is estimated to take between 0-1 Years	10
Implementation	20	Timeframe	Project is estimated to take between 1-3 Years	5
Implementation	20	Timeframe	Project is estimated to take over 3 years	0
			Maximum Points Available =	20
Public Need	5	Identified Need	Project addresses a need identified by the public as part of this or prior study	5
Public Need	5	Identified Need	Project does not address a need identified by the public or prior study	0
			Maximum Points Available =	5

Arrive Alive



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