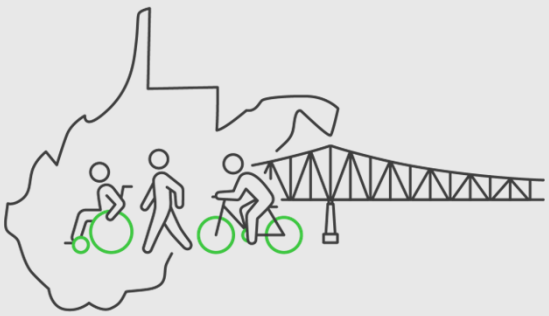
City of New Martinsville

Comprehensive Safety Action Plan



GETTING EVERYONE BACK HOME

NEW MARTINSVILLE, WV

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

February 2025

CITY OF NEW MARTINSVILLE, WEST VIRGINIA

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NEW MARTINSVILLE, WEST VRIGINIA ADOPTING THE COMPREHENSIVE SAFETY ACTION PLAN (CSAP)

WHEREAS, in 2024 the City of New Martinsville, with input from the community and public and private stakeholders, developed a Comprehensive Safety Action Plan following the format specified by the Safe Streets and Roads for All (SS4A) grant Notice of Funding Opportunity, known as the Comprehensive Safety Action Plan for the City of New Martinsville, which identifies strategies to be implemented with the goal to eliminate severe injury and fatal crashes in the City of New Martinsville by 2045;

WHEREAS, based on collection of safety data and input from the community, the Comprehensive Safety Action Plan for the City of New Martinsville focuses on the following emphasis areas: speeding and aggressive driving, intersections, pedestrians and distracted driving;

NOW, THEREFORE, BE IT RESOLVED that the Mayor and the City Council of New Martinsville, West Virginia hereby adopts the Comprehensive Safety Action Plan for the City of New Martinsville to reduce and ultimately eliminate roadway fatalities and serious injuries.

Adopted by the New Martinsville City Council on the 3rd day of February 2025.

Keith Nelsen, Mayor

Kim Whiteman, City Recorder

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Introduction

The streets and sidewalks in the City of New Martinsville, especially along WV-2, are an essential resource – they enable people to travel freely to their destinations and back home. A priority for the City is to make sure residents and visitors can use this network without the risk of a severe crash.

The City of New Martinsville, in coordination with stakeholders, developed a Comprehensive Safety Action Plan (CSAP) for the City. This document establishes strategies with the purpose of reducing and eliminating fatal and serious injury crashes. Between the years 2017 and 2021, six people had their lives forever altered due to serious injuries as a result of a traffic crash and one person tragically lost their life.

This CSAP identifies and evaluates the critical issues causing crashes and lays out recommended countermeasures to mitigate them. These countermeasures were created with safety as the top priority. In addition, potential projects and grants have been identified to help further the action plan and help the City of New Martinsville achieve its vision and goals.

Comprehensive Safety Action Plan Components

The following sections are outlined in the plan to lay the foundation for safety discussions and decisions in the City and to provide a roadmap for advancing the safety priorities throughout New Martinsville.

Safe System Approach

The Safe System Approach (SSA) is a methodology adopted by the US Department of Transportation (USDOT) intended to build redundancies and protections to prevent crashes and minimize harm when crashes occur. The SSA is a tool that consists of five complementary elements - Safer People, Safer Roads, Safer Vehicles, Safer Speeds, and Post-Crash Care. All five of these elements were considered during the making of this plan and three of these objectives were used as focal points for New Martinsville's CSAP.

Vision and Goals

The vision and goals were created in collaboration with community and regional stakeholders.

Vision Statement: "Getting Everyone Back Home! Striving for zero deaths and serious injuries by 2045."

Goal: Reduce fatalities and serious injuries by 5% annually.

Current Safety Program

Previous safety programs, plans, and studies potentially affecting New Martinsville area were researched. These plans were limited to the Statewide Strategic Highway Safety Plan and Vulnerable Road User Assessment. Key takeaways from each plan and how each applies to the City of New Martinsville are documented herein.

Existing Conditions

In order to provide adequate safety recommendations, existing data must be gathered and analyzed. Crash data was evaluated and turned into maps, charts, and graphs to depict critical areas in the City and why the chosen recommendations were made in this plan.

Equity Analysis

Equity factors evaluated included disabled status, people aged 65 and over, and no vehicle access to ascertain if there was a relationship between crashes and disadvantaged communities and to determine where investments will help vulnerable populations.

Public and Stakeholder Engagement

This plan gathered input from stakeholders and the public in order determine the biggest safety needs and concerns in New Martinsville. A public survey was distributed, collecting nearly 90 responses. A stakeholder group was formed to guide the planning process.

Emphasis Areas

Emphasis areas help direct resources and guide safety improvements where they are needed the most and have the greatest potential impact. Through data analysis and stakeholder engagement, four emphasis areas were selected: Speeding and Aggressive Driving, Intersections, Vulnerable Road Users, and Distracted Driving.

Action Plan

Countermeasures were developed based on the contributing factors, emphasis areas, and applicability to New Martinsville.

Project Identification

To support the action plan, specific projects and associated funding opportunities were identified for the region. The specific projects and associated funding opportunities are identified in **Appendix A**.

Next Steps

Next steps were identified for stakeholders and partners to continually advance traffic safety in New Martinsville.

Safe System Approach

The USDOT's SSA is a comprehensive and proactive framework to eliminate fatalities and serious injuries on roadways. The SSA is based on the fundamental concept that fatal and serious injury traffic crash outcomes are preventable. Instead of blaming road users for crashes, this approach recognizes that the responsibility for road safety lies with multiple stakeholders including road users, road designers, vehicle manufacturers, law enforcement, and policymakers. By designing a forgiving road system that accommodates human error, the SSA aims to prevent fatal crashes and minimize the severity of injuries.

To help achieve the goal of zero deaths and serious injuries, additional resources are being allocated to safety improvements. Traditional funding programs, like the Highway Safety Improvement Program, are seeing financial boosts and new sources, like the Safe Streets and Roads for All (SS4A) discretionary grants, are now available.

To support their goal of zero deaths and serious injuries and to capitalize on these resources, the New Martinsville CSAP was developed using the SSA. The SSA was used as a tool to frame stakeholder conversations and data analysis to identify solutions that more intentionally address safe roads, safe road users, safe speeds, post-crash care, and safe vehicles. The five elements (inner ring) and six principles (outer ring) of the SSA were considered throughout the development of this plan (**Figure 1**).

Figure 1: Safe System Approach

The Action Plan describes solutions for the issues most relevant in the City of New Martinsville:

Safe Roads: Improving roads through planning, engineering, and design to facilitate safe travel for all road users.

Safe Road Users: Encouraging road users to execute safe driving behaviors and enforcing traffic laws.

Safe Speeds: Considering speeds in coordination with the surrounding environments and contexts.

Vision and Goals

The following vision expresses the ideal safety conditions for the City of New Martinsville.

GETTING EVERYONE BACK HOME!
STRIVING FOR ZERO DEATHS AND SERIOUS INJURIES BY 2045.

The following goal emphasizes where investments and resources will be directed to achieve the vision.

REDUCE FATALITIES AND SERIOUS INJURIES BY 5% ANNUALLY WITH A FOCUS ON:

INTERSECTIONS

SPEEDING & AGGRESSIVE DRIVING

VULNERABLE ROAD USERS

DISTRACTED DRIVING

Current Plans

There are plans that have been adopted to support the transportation needs of West Virginia. At the time of publication, there were no local or regional transportation plans that were specific to the New Martinsville area. The Strategic Highway Safety Plan and the Vulnerable Road User Assessment were reviewed to determine how their findings and recommendations may be applicable to this safety plan. A summary is provided below.

Title	Agency	Key Findings	Application to New Martinsville

West Virginia Strategic Highway Safety Plan *2022-2026*	West Virginia Division of Highways	Statewide crash statistics for three of the four emphasis areas between 2016 and 2020:
		• Speeding and Aggressive Driving
		  ○ 57% were serious injury (up by 32%)
		  ○ 57% were fatal
		• Intersections
		  ○ 19% were serious injury (up by 1%)
		  ○ 14% were fatal (up by 4%)
		• Pedestrians & Cyclists
		  ○ 6% were serious injury (up by 3%)
		  ○ 9% were fatal (up by 3%)
			Compared to statewide statistics, New Martinsville has seen less severe crash rates by emphasis area. However, given the existing roadway and traffic conditions in New Martinsville, local crash statistics could rise closer to statewide levels.

West Virginia Vulnerable Road User Assessment 2023	West Virginia Department of Highways	Crash trends involving Vulnerable Road Users (pedestrians, cyclists, etc.) in West Virginia between 2012-2021: • 580 pedestrian and 83 cyclist injuries resulted in fatality or serious injury • 6% of all fatal and serious injuries are VRU related in 2021 • Males in the 20-29 age range were the most common at-fault drivers	While the VRU crash history in New Martinsville is low, the risk is still high enough to take immediate action. The recorded pedestrian crash on WV-2 featured a 27-year-old male driver, which fits the statewide trend.

Existing Safety Performance

A comprehensive examination of the crash data for the City of New Martinsville was conducted to identify patterns and trends, determine the causes of crashes, and develop strategies to reduce the frequency and severity of crashes. Conducting a crash analysis is a critical step in improving roadway safety as it enables stakeholders to identify problem areas and develop targeted strategies to address them.

Crash Analysis

Crash data for years 2017 through 2021 was obtained from West Virginia Division of Highways using AASHTOWare Safety which is West Virginia's safety data management system. In addition to the data presented herein, additional crash information is provided in **Appendix B**.

Figure 2 represents the number of crashes that occurred during this five-year period. In this time period, there were 411 reported crashes in New Martinsville. One person was killed, and 90 crashes resulted in injury in New Martinsville.

Total crashes were relatively trending downward, with an exception in 2018. Fatal and severe injury crashes were also on a downward trend, except for a spike in 2020 (**Figure 3**). Nationally, as a result of the COVID-19 pandemic, fewer vehicles on the road generally led to higher travel speeds which resulted in more severe outcomes when a crash did occur.

Figure 2: Total Crash Trends (2017-2021)

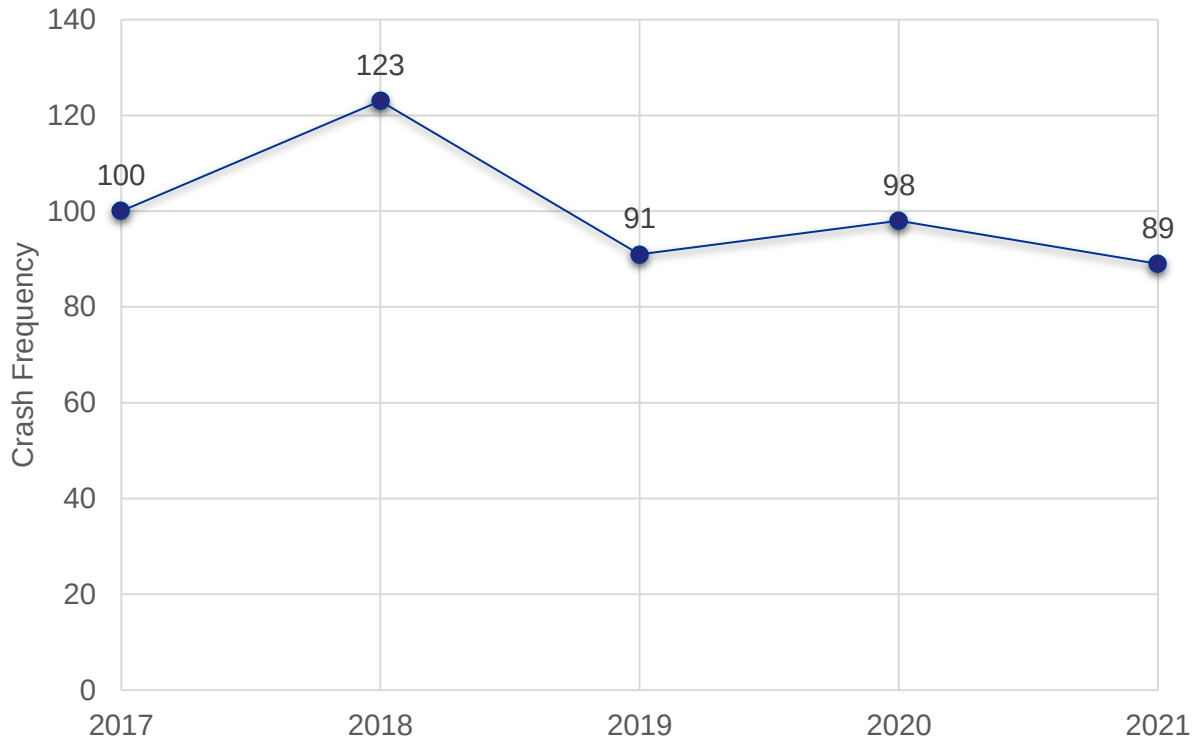
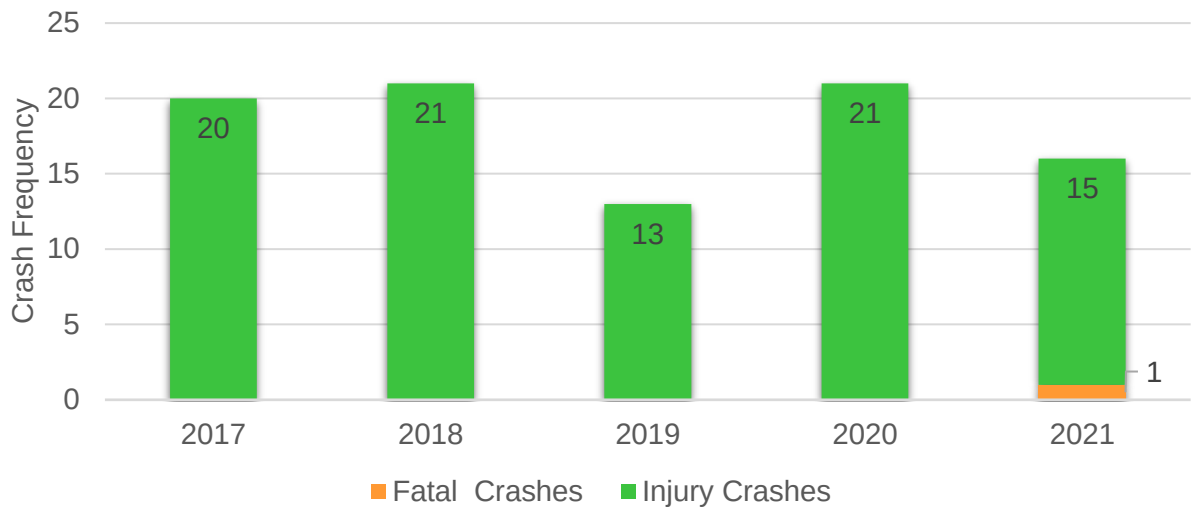


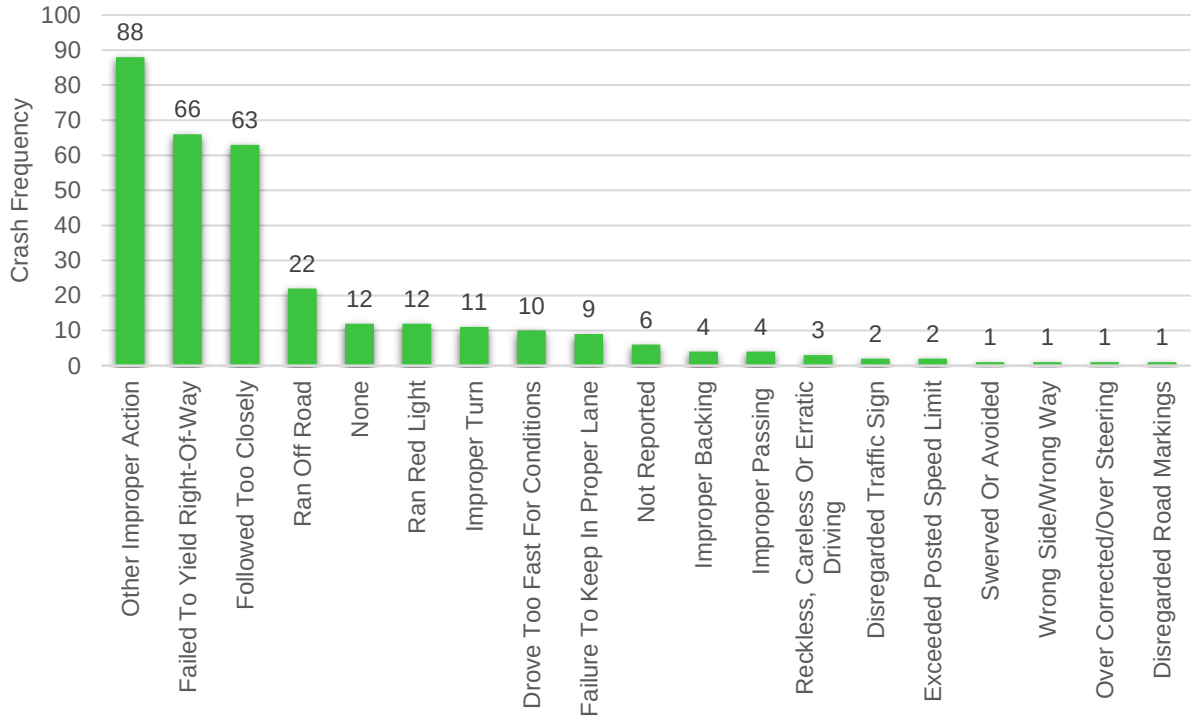
Figure 3: Fatal & Injury Crash Trends (2017-2021)



Contributing Factors

Crashes within the City of New Martinsville were evaluated based on contributing factors. The leading contributing factor for New Martinsville was other improper action. This means that an improper action made by a driver involved in the crash that is not listed as an option, contributed to the crash occurring. For example, a rear end crash was caused by the driver failing to maintain control of the vehicle. The next leading contributing factors were followed too closely and failed to yield right of way.

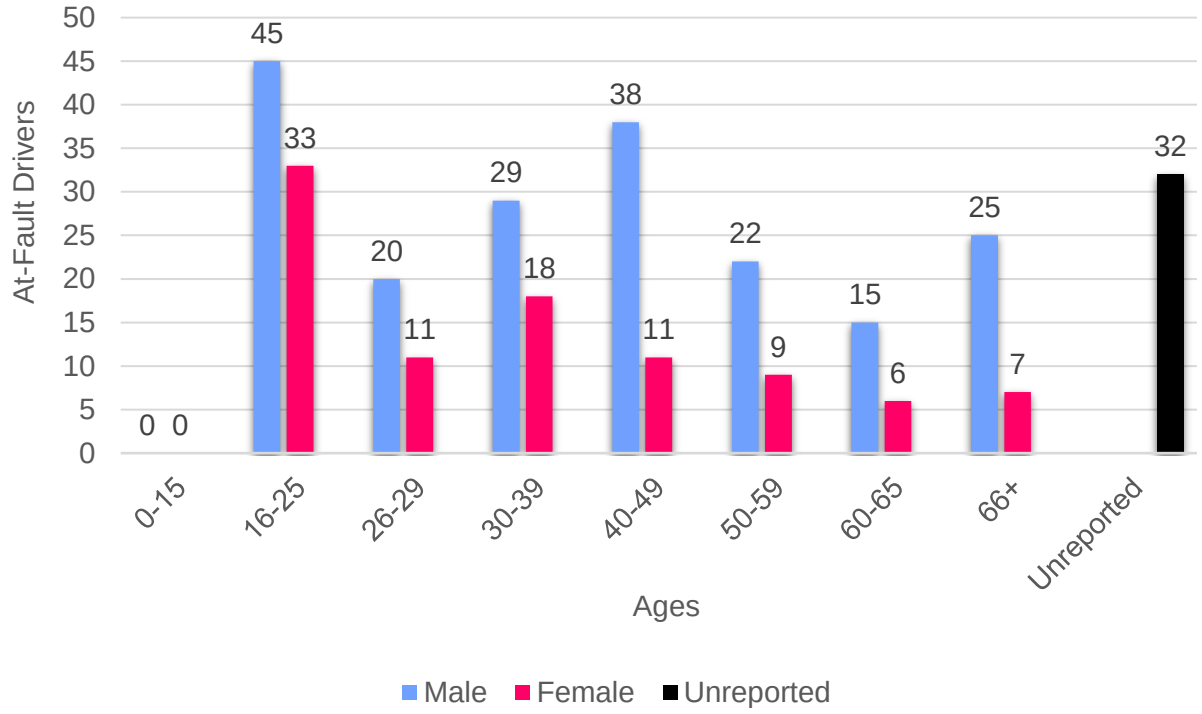
Figure 4: Crash Contributing Factors



Gender and Age Range of At-Fault Drivers

The gender and age range of drivers (presumed to be “at-fault” in the crash) involved in fatal and injury crashes were evaluated. The majority of drivers involved in fatal and injury crashes were aged 16 to 49 years old. In 78 instances of fatal or injury crashes, the at-fault driver was between the ages of 16 and 25. According to the 2020 US Census Data, this age group makes up less than 10 percent of the population in New Martinsville. However, this age group is at fault for almost a quarter of the injury and fatal crashes. Furthermore, the population of New Martinsville is roughly half male and half female per the Census data; however, over 60 percent of the at-fault drivers in fatal and injury crashes were males.

Figure 5: Gender and Age of At-Fault Drivers Involved in Fatal and Injury Crashes



Crash Hot Spot Identification

A High Injury Network (HIN) was identified by determining the Equivalent Property Damage Only (EPDO) factors for roadway segments and intersections. This EPDO factor weights injury crashes in terms of an equivalent number of property damage crashes. The weighting factors are developed from the economic crash costs determined and used by West Virginia Division of Highways in their AASHTOWare Safety analysis tool. For example, a possible injury crash is equivalent to just over 10 property damage only crashes based on its economic crash cost. A composite scoring comprised of the ranks for the EPDO value per crash, total EPDO value at the location, and the crash frequency was used to determine the priorities for New Martinsville roadway segments and intersections. **Table 1** summarizes the weights of each level of injury severity. The top Highway Injury Network Roadway Segments and Intersections are listed below with maps and larger lists provided in **Appendix C**.

Table 1: EPDO Crash Weights by Severity

	Costs	Weight
Fatal Crash (K)	$9,646,264	930.119
Serious Injury Crash (A)	$552,237	53.248
Minor Injury Crash (B)	$177,292	17.095
Possible Injury Crash (C)	$104,838	10.109
Property Damage Only (O)	$10,371	1.000

High Injury Network Roadway Segments – Top 5

All located on WV-2:

1. Between Franklin Street & North Street
2. Between Orchard Drive & Mound Street
3. Between Foundry Street & Central Street
4. Between Rosary Road & Cemetery
5. In front of Riverview Plaza

High Injury Network Intersections – Top 5

1. Mound Street* & WV-2
2. Harlan Drive & WV-2
3. Brickyard Alley (Near Choo Choo's) & WV-2
4. North Street & WV-2
5. Rosary Road & WV-2

*This location was reconfigured/updated with a turn lane with the development of the credit union

Systemic Analysis

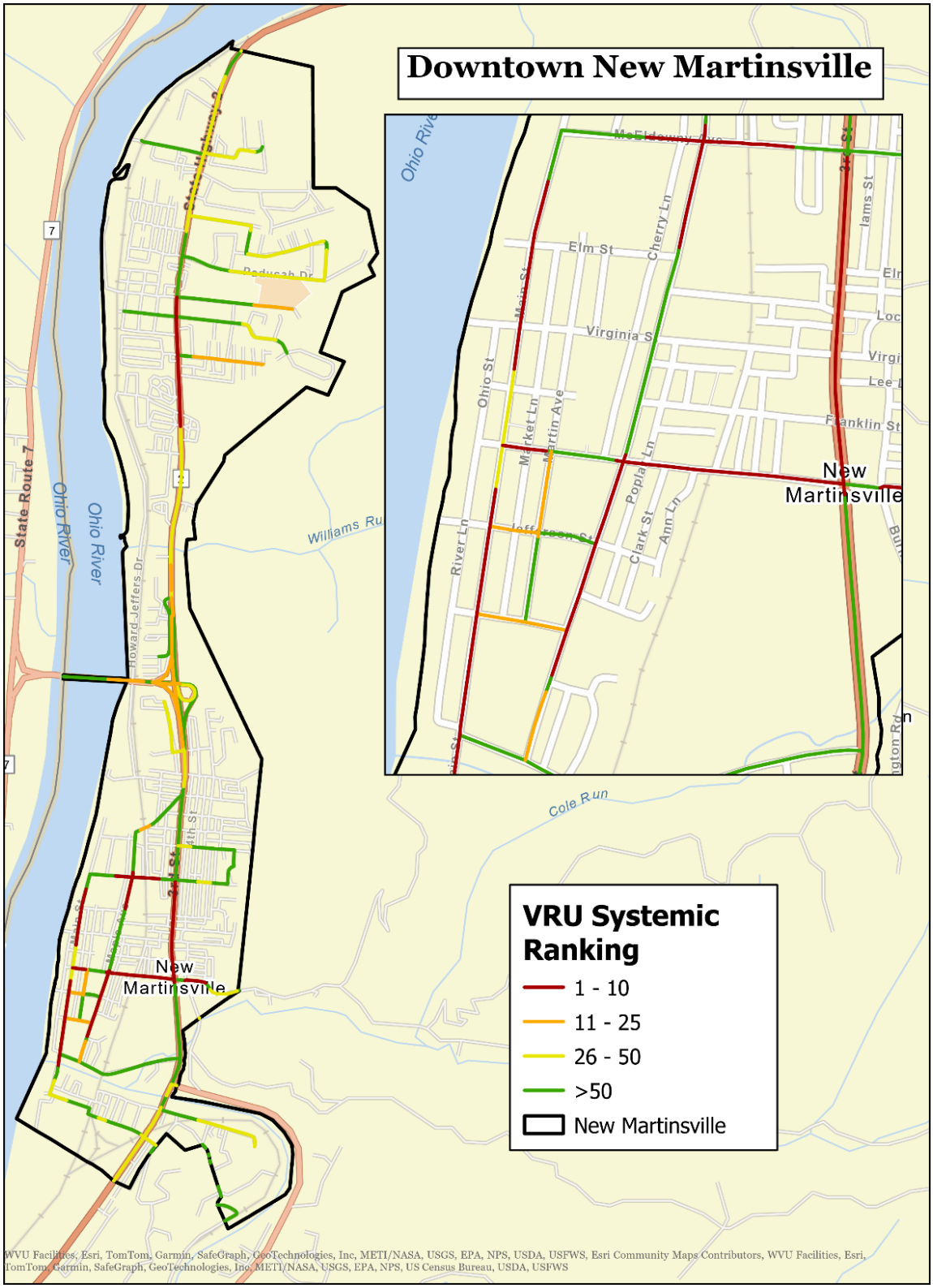
A systemic analysis was also conducted for roadway segments in New Martinsville for Vulnerable Road Users (VRUs). VRUs are defined as bicyclists, pedestrians, and other road users not in a motor vehicle. West Virginia's VRU Assessment methodologies were used for this analysis due to the lack of sufficient pedestrian and bicycle crash data in New Martinsville to establish New Martinsville-specific factors. Risk factors such as posted speed limit, bicycle and pedestrian volumes, traffic volumes, and roadway functional classification were used to identify segments that may be more susceptible to VRU crashes based on their characteristics, regardless of if a crash has occurred at that location in the past. A VRU Systemic Ranking map is provided in **Figure 6** and the top five locations were identified.

The list of the top 25 segments in its entirety is provided in **Appendix D**.

Systemic Analysis Results for VRUs – Top 5

1. WV-2 between McEldowney Avenue & North Street
2. Main Street between sports fields & College Street
3. WV-2 between E Benjamin Drive & Cemetery
4. North Street between Maple Avenue & WV-2
5. North Street between Pine Street & Beech Street

Figure 6: VRU Systemic Rankings for Roadway Segments in New Martinsville



Equity Analysis

In analyzing safety conditions, it is typical to study equity factors to determine if there is a relationship between crashes and a disadvantaged community, and to determine where investments will help vulnerable populations. For this equity analysis, 5-Year American Community Survey (ACS) data was used at the census tract level. The equity measures used in this analysis were disability status, population over 65 years old, and vehicle access.

However, the ACS data only identified three census tracts within New Martinsville, none of which show up as a disadvantaged census tract on the USDOT Equitable Transportation Community (ETC) Explorer. The ETC Explorer did indicate a relatively high Health Vulnerability and Transportation Insecurity for the entire area of New Martinsville as shown in **Figure 7** & **Figure 8**:

Figure 7: ETC Explorer Health Vulnerability

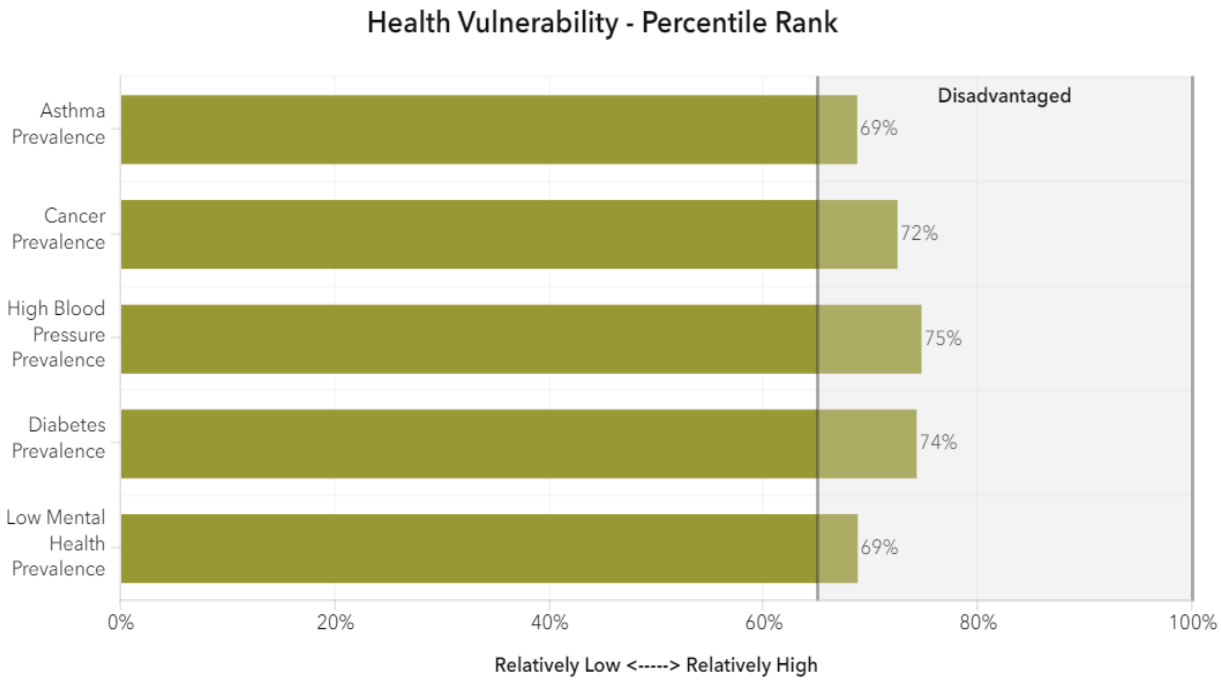
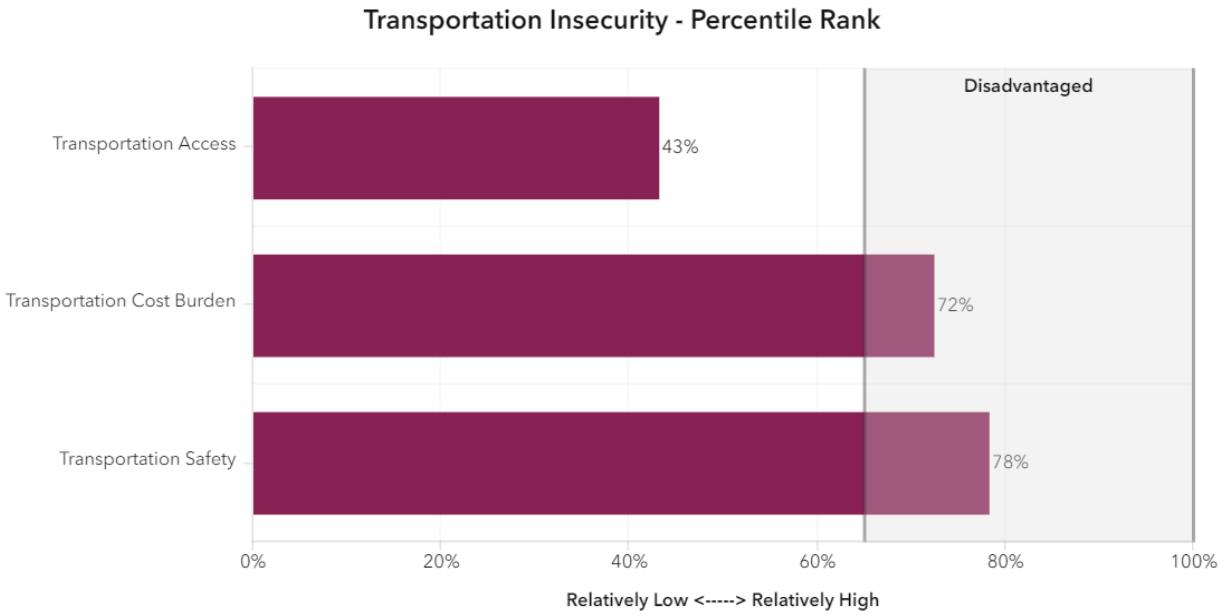


Figure 8: ETC Explorer Transportation Insecurity



Additionally, too few ACS census tract areas for comparison did not yield meaningful results of the relationship between crashes and community equity factors. Therefore, anecdotal and land use information was used for the equity considerations. Comparisons of the census tracts and equity measures are included in **Appendix E** for reference.

An equity need identified by stakeholders and members of the public was lower income housing areas along WV-2 and the lack of a low stress accessible pedestrian accommodation along the roadway. One location was where the posted speed limit is 45 mph, from the New Martinsville Villas (187 WV-2) north of the bridge to south of bridge “interchange” to destinations of interest including Walmart near Russell Ave. People were frequently observed walking along the shoulder of the busy road and crossing the interchange ramps in this area.

Public and Stakeholder Engagement

This planning process solicited input from several sources to better get an idea of priority safety needs and concerns in the City of New Martinsville. Input was solicited through two methods:

- An online public engagement survey and comment map
- An in-person Stakeholder engagement workshops

Public Survey

To gather public opinion and concerns on road safety in New Martinsville, an online survey was conducted. The first portion of the survey included questions about behaviors of road users, general safety concerns, and what type(s) of improvements would best serve the community. The second part of the survey included an interactive map-based comment option where participants could add a point to a map and explain their safety concerns at that location.

The survey took place between February 14th, 2024 - March 14th, 2024. In total, the survey received results from 86 respondents. Key survey responses are summarized in **Figure 9** through **Figure 13.** The survey questions included:

- Please indicate your age, race, and gender
- What is your home zip code?
- Do you work in New Martinsville?
- How do you regularly or most frequently commute?
- What is your *second* most used form of transportation?
- Where do you commute to the most?
- How safe are other motorists when driving?
- How are pedestrians behaving?
- How are bicyclists behaving?
- I feel safe traveling by car – Agree or Disagree
- I feel safe when biking – Agree or Disagree
- I feel safe when walking – Agree or Disagree
- Which roadway safety issues in New Martinsville concern you the most?
- Cars tend to travel at safe speeds – Agree or Disagree
- There is sufficient traffic law enforcement in New Martinsville – Agree or Disagree
- Infrastructure in New Martinsville (bikeways, paths, etc.) is generally available to make safe biking trips – Agree or Disagree
- Infrastructure in New Martinsville (sidewalks, crosswalks, etc.) is generally available to make safe walking trips – Agree or Disagree
- Choose your top 3 priorities for investment for the City of New Martinsville
- Are there any other infrastructure improvements you believe could help alleviate safety concerns in New Martinsville.

Figure 9: How safe are other motorists when driving?

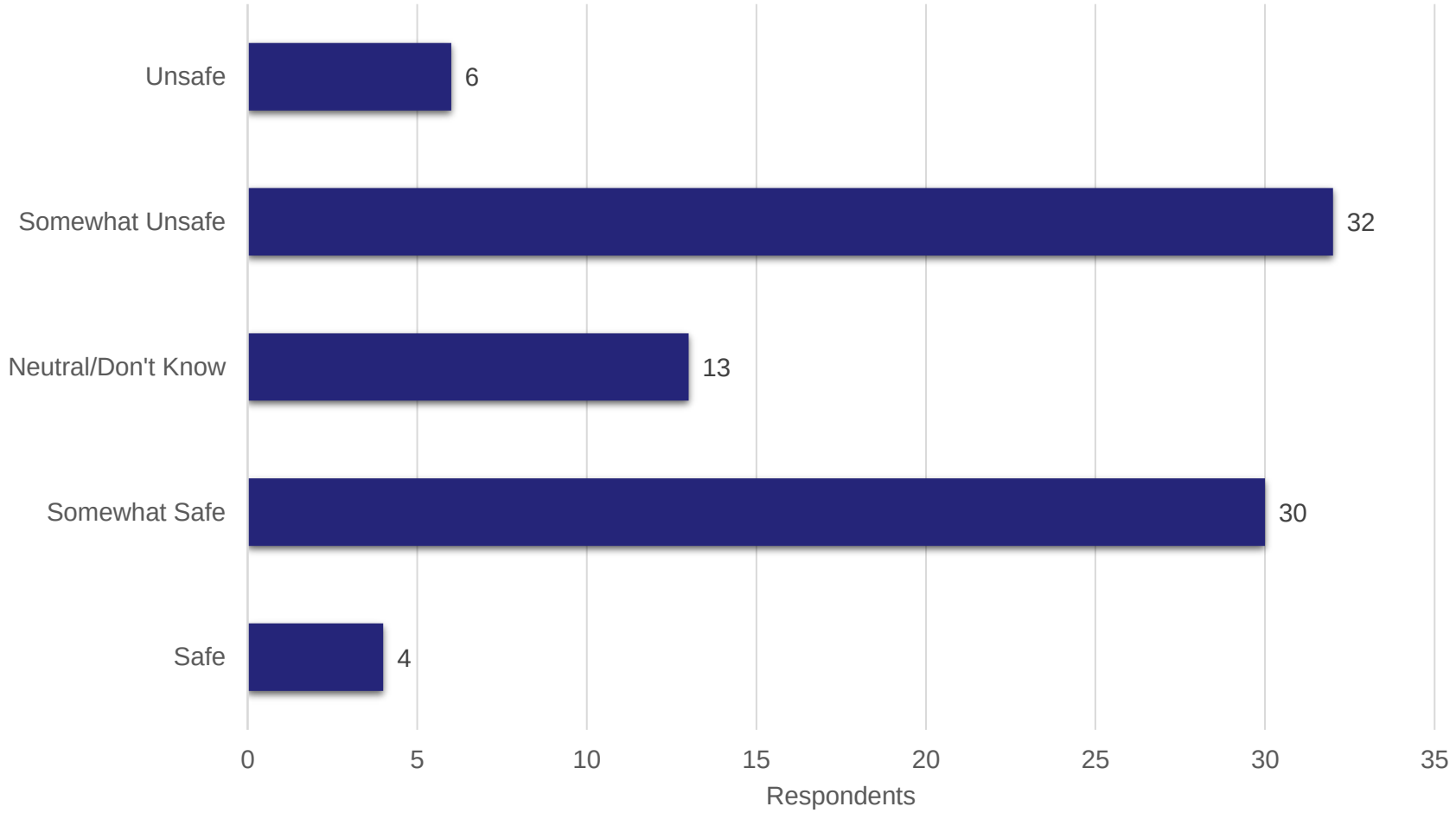


Figure 10: I feel safe when traveling by car, biking, or walking.

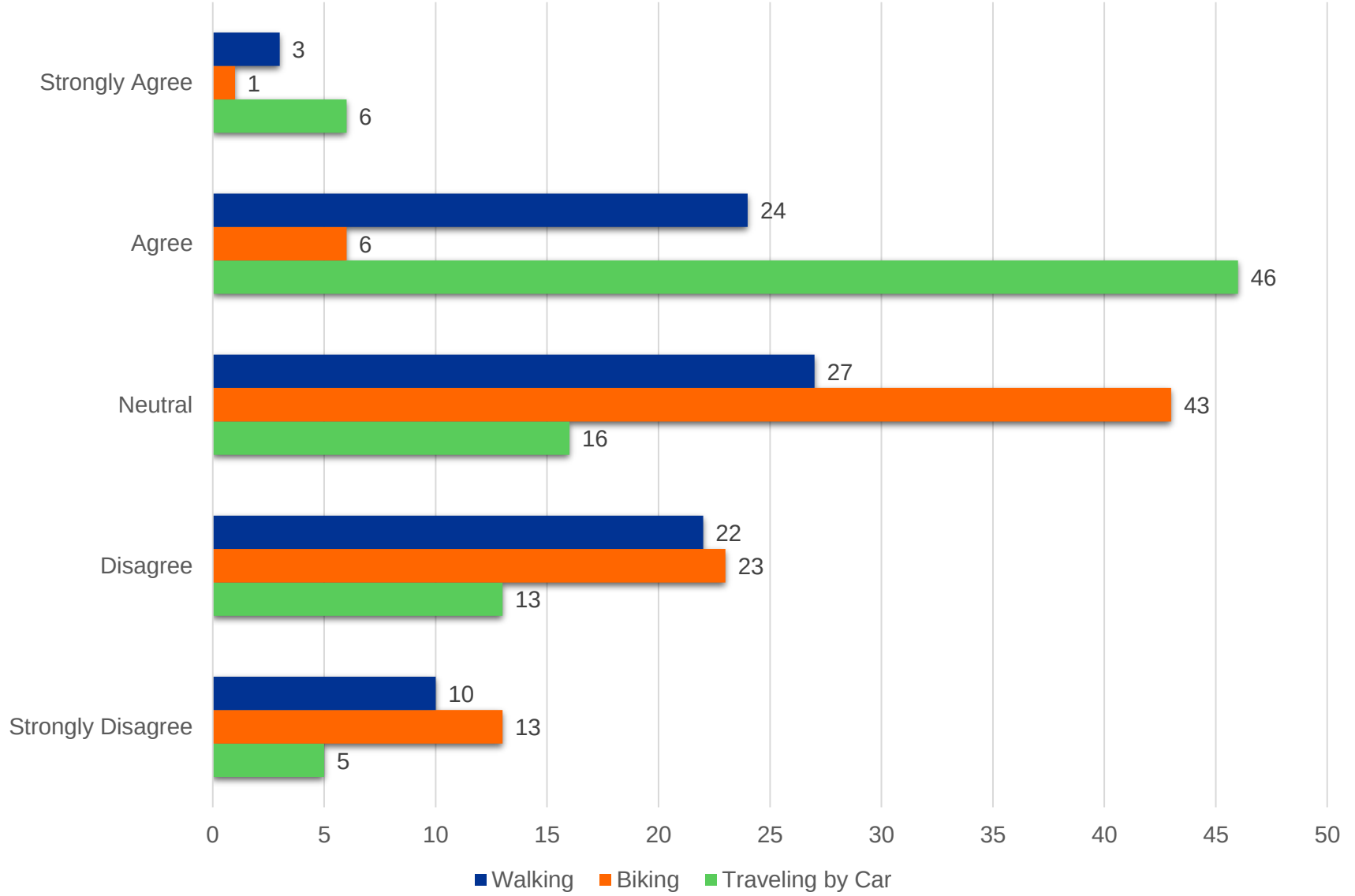


Figure 11: Which roadway safety issues in New Martinsville concern you the most? Select all that apply.

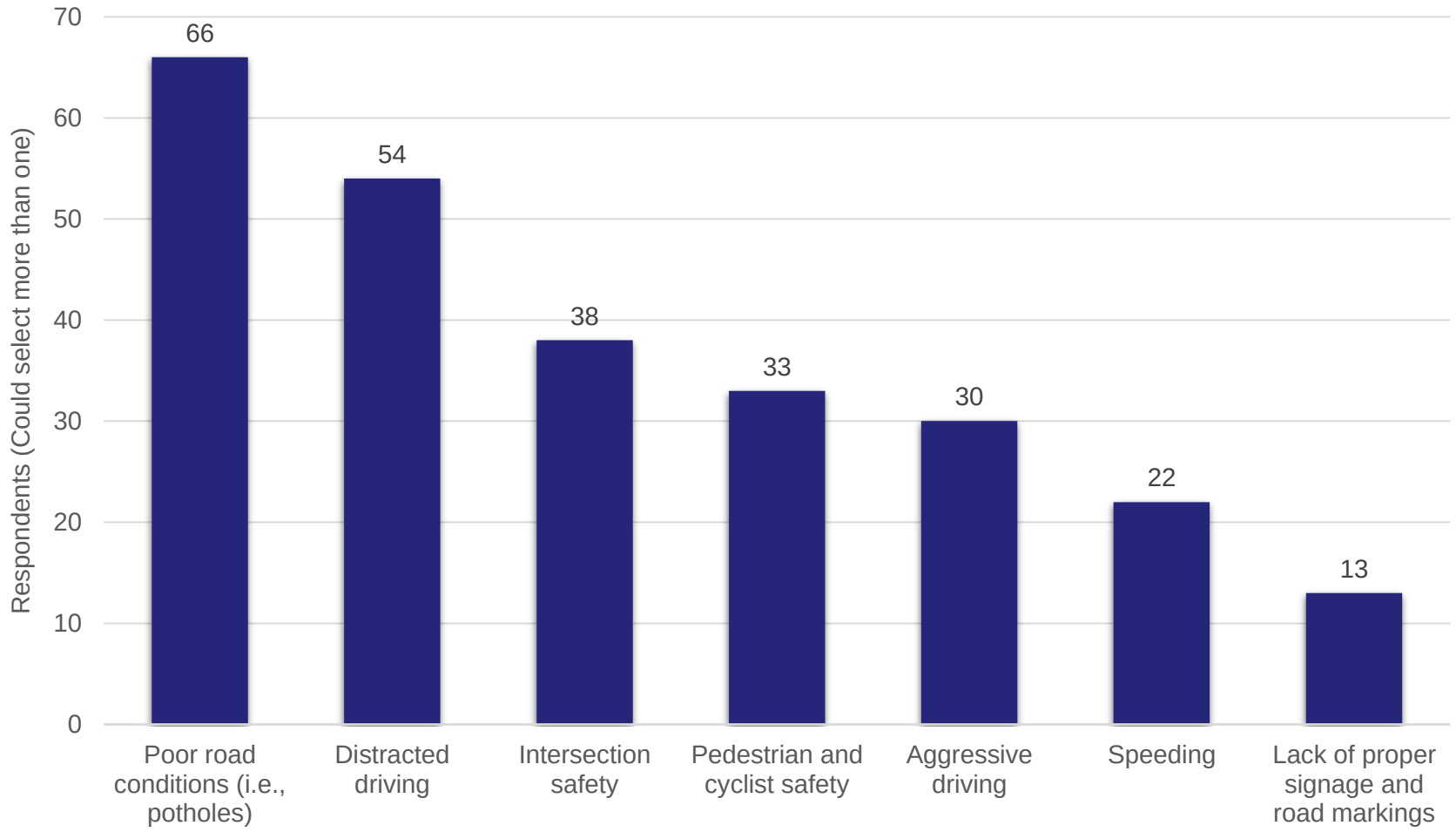


Figure 12: Cars tend to travel at safe speeds.

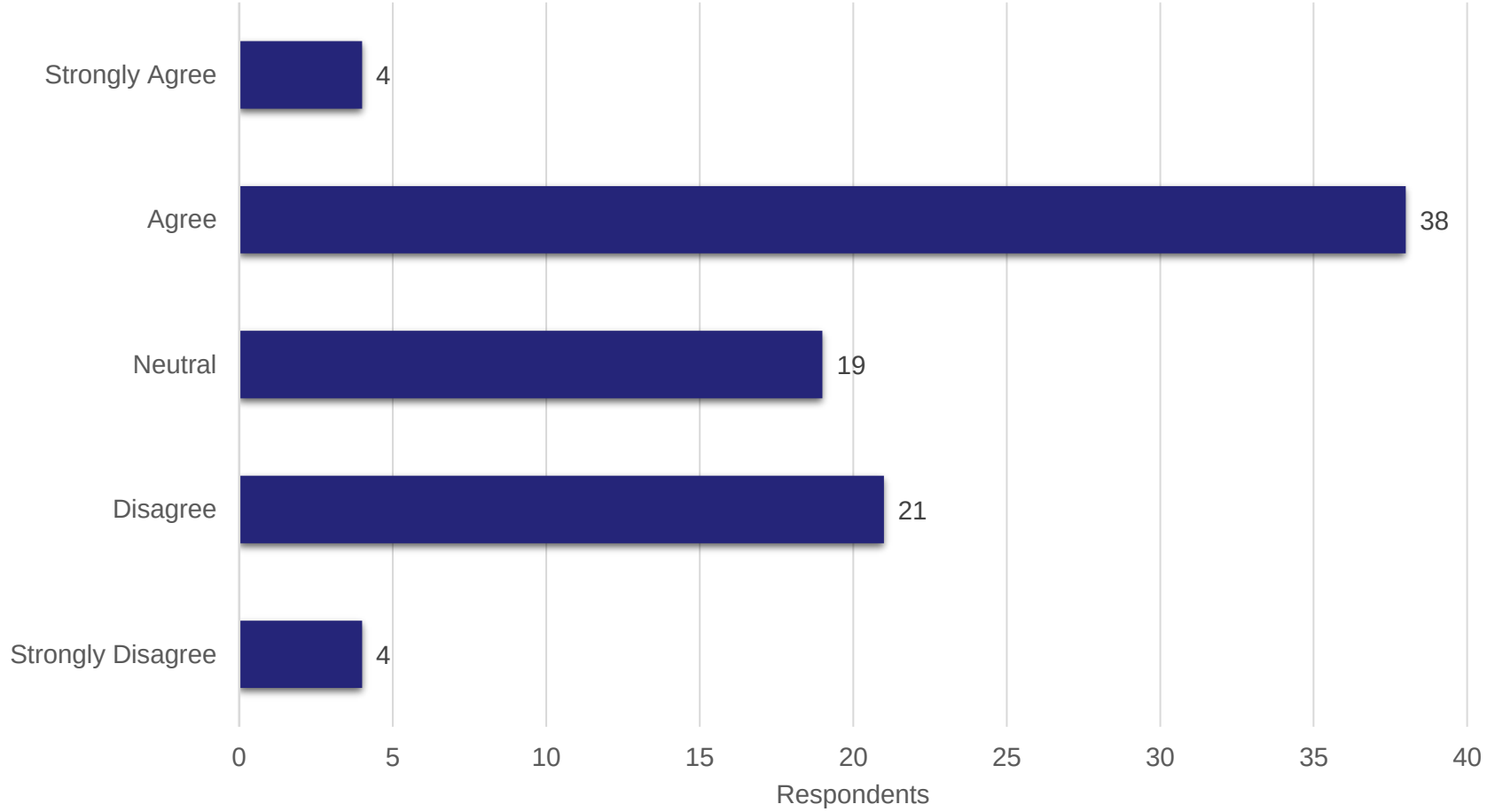
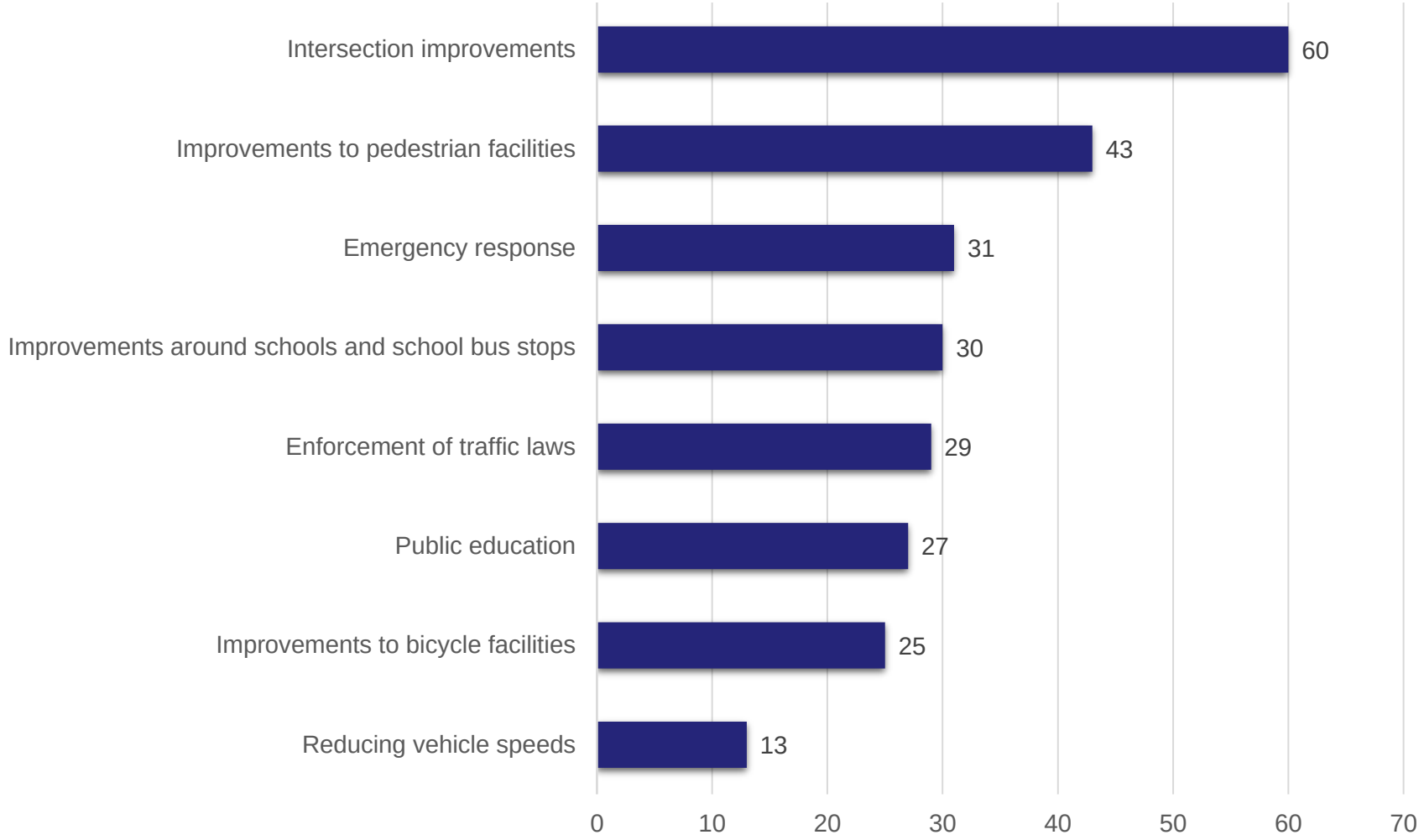


Figure 13: Choose your 3 top priorities for investment for the City of New Martinsville.



The survey map showed that residents had varying concerns about the safety of New Martinsville. The table below summarizes the survey results. The full survey results are provided in **Appendix F**.

- **Congestion and traffic jams**, particularly at intersections and around popular destinations such as Walmart, Walgreens, and the schools.
- **Train crossing** issues at the WV-2 and CSX railroad cause backups and congestion, and especially cause issues for EMS vehicles trying to pass through.
- **Speeding** from impatient drivers along WV-2, particularly when trying to beat red lights at intersections.
- **Drivers' behavior** running red lights and stop signs, causing dangerous situations for pedestrians and other drivers.
- **Lack of sidewalks and crosswalks** making it difficult and unsafe for pedestrians to navigate the city, particularly for lower-income individuals and Villas Apartment residents.
- **Poor roadway conditions**, including potholes, rough patches, debris, and faded pavement markings which makes roads harder to drive on.
- **Poorly timed traffic signals,** which increases long queues at intersections, congestion, and frustrated drivers.
- **Lack of police enforcement** causes more drivers to get away with unsafe driving.
- **Truck traffic** routinely disobeys speed limits, damages infrastructure and run red lights throughout town.

Stakeholder Engagement

A multi-disciplinary group of stakeholders was established to offer feedback on the formation of the CSAP and provide guidance and recommendations throughout the process, ultimately ensuring the successful development of the plan. This group of professionals with knowledge from the area was invited to share insight, feedback, and solutions. Participants in this stakeholder group included individuals from various organizations:

- New Martinsville Mayor
- New Martinsville City Council
- New Martinsville Police
- New Martinsville Fire/EMS
- New Martinsville Street Department
- New Martinsville Planning Commission
- New Martinsville Electric Department
- Congressman Alex Mooney's Office
- WV Governor's Highway Safety Program
- New Martinsville Bicycle Club
- Wetzel-Tyler Chamber of Commerce
- Belomar Regional Council
- West Virginia Division of Highways

Three meetings took place to help inform plan development. Over the course of the meetings, the team was provided relevant data and informational materials to identify the safety challenges and needs within the area. Stakeholders discussed safety opportunities, challenges, and problems, directly leading to plan focus and formation. Meetings ensured the strategies and implementation efforts aligned with the vision and goals of the region. Presentations were given to provide context and resources for the planning process. Summaries of each meeting are included in **Appendix G**.

Photo 1: Stakeholder Engagement Discussions

Stakeholder Meeting #1

Held in January of 2024, the purpose of this first meeting was to introduce the concept of the CSAP, the SSA, and the goal of getting everyone home safely. High-level crash data was provided to start initial conversations. Meeting participants were asked to share safety efforts in progress in the region to understand what effective solutions are already being implemented to address Safe System priorities. Discussion continued identifying challenges to overcome and specific location problem areas.

Stakeholder Meeting #2

In the second stakeholder meeting in March of 2024, preliminary public survey results were presented and comprehensive data was reviewed to set the stage for discussions. Vision and Goals were set for the plan as noted in the section above and the stakeholders identified the following focus safety areas to address with the CSAP:

- Speed & Aggressive Driving
- Intersections
- Distracted Driving
- Vulnerable Road Users

Stakeholders also reviewed priority crash locations based on both reactive and proactive data and provided additional anecdotal feedback on the locations.

Stakeholder Meeting #3

The third stakeholder meeting took place in June 2024 where specific projects and strategies that could be implemented to eliminate severe crashes were discussed. The strategies were based on the four chosen emphasis areas, with added improvement ideas for the railroad crossing. From some of the best practices in West Viriginia and the nation, potential countermeasures and strategies were presented. The stakeholders partook in a dot sticker exercise to choose which strategies would be most effective in New Martinsville. Some even wrote in additional strategies desired.

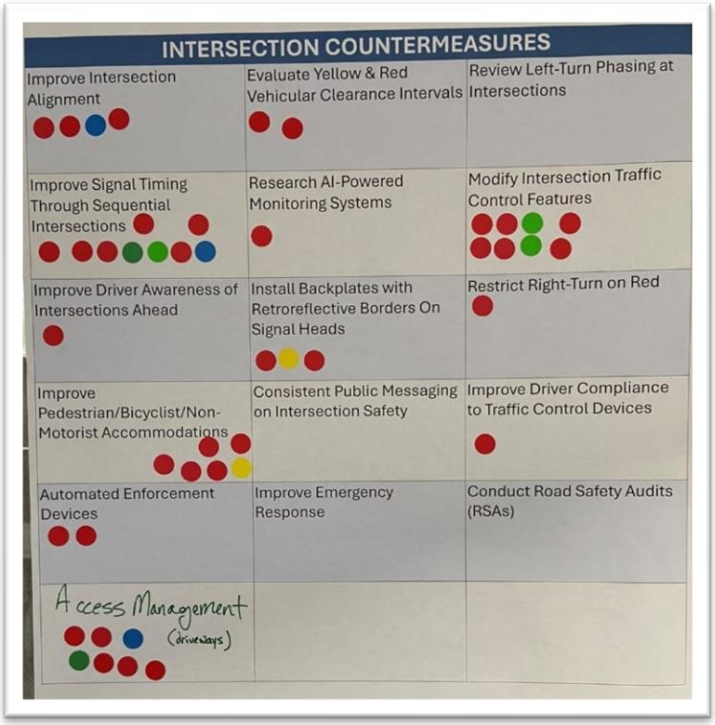


Photo 2: Countermeasure Dot Sticker Exercise

Emphasis Areas

Emphasis areas focus on specific types of crashes and contributing factors to help direct resources and guide safety improvements where it is needed most. To determine the regional specific emphasis areas for New Martinsville, the state emphasis areas defined in the SHSP were used as a starting point. Stakeholder feedback indicated that distracted driving was a problem in the city and should be evaluated for an emphasis area consideration. Additionally, the number of younger drivers at fault in some of the severe crashes resulted in younger drivers being considered in the emphasis area analysis. **Figure 14** summarizes the fatal and injury crash frequency by emphasis area while **Table 2** compares the crash occurrences in New Martinsville with statewide percentages. Based on the data analysis and stakeholder engagement processes, four emphasis areas were determined for New Martinsville: speed & aggressive driving, intersections, distracted driving, and vulnerable road users. Solutions and countermeasures addressing each of the emphasis areas will often overlap and be complimentary. Additionally, even though the four emphasis areas have been chosen to be the focus of the plan, the other emphasis areas are considered throughout the CSAP, especially for those emphasis areas that overlap.

Figure 14: Fatal and Injury Crashes by Emphasis Area

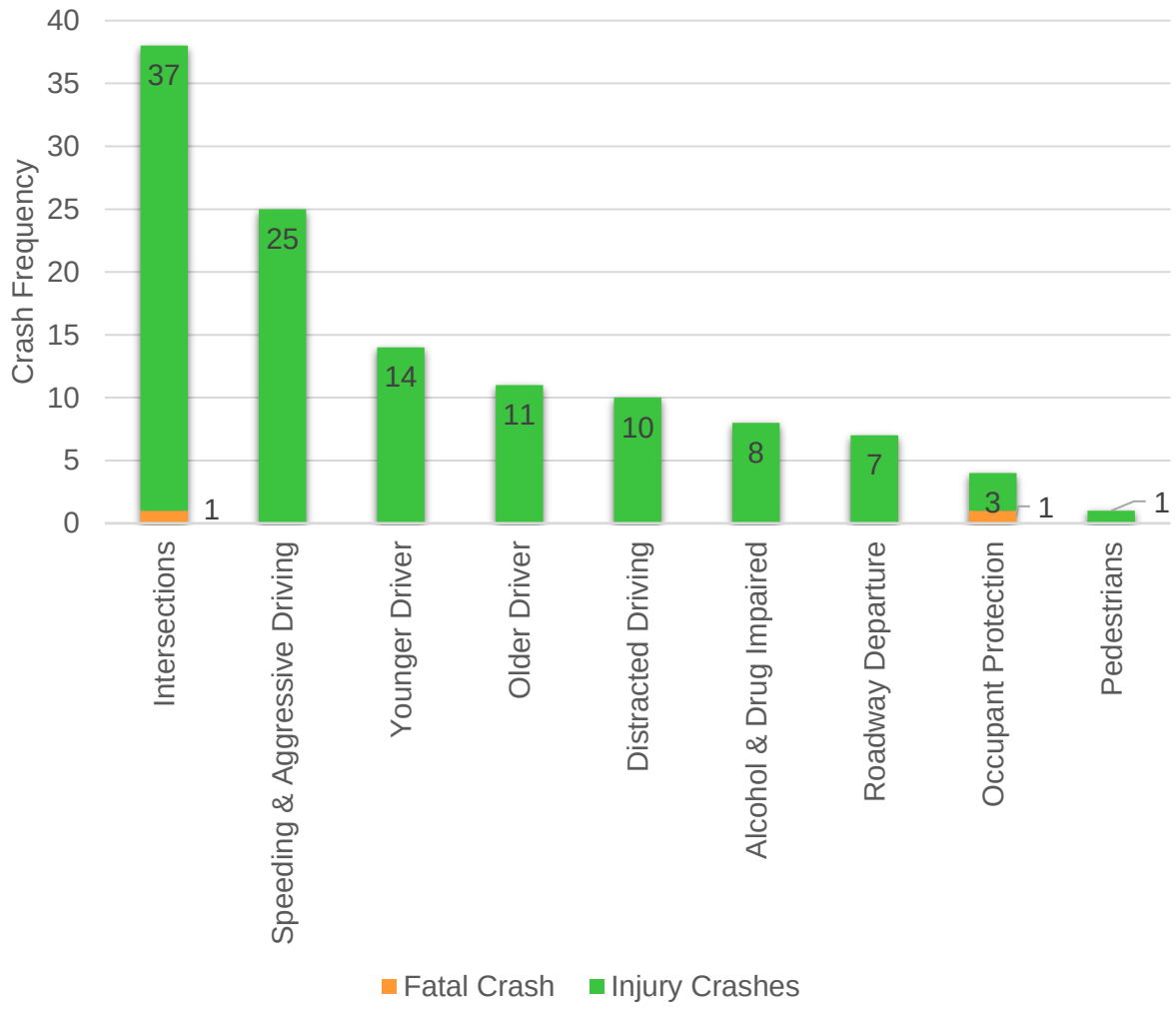


Table 2: Percentage of Injury Crashes by Emphasis Area

Emphasis Area	Statewide Fatal and Serious Injury Crashes	New Martinsville Fatal and Serious Injury Crashes	New Martinsville All Crashes
Speed and Aggressive Driving	57%	29%	23%
Roadway Departure	55%	0%	5%
Occupant Protection	32%	29%	1%
Older Driver	22%	43%	24%
Alcohol and Drug Impaired	22%	29%	3%
Intersections	18%	43%	37%
Vulnerable Road Users	7%	0%	0%

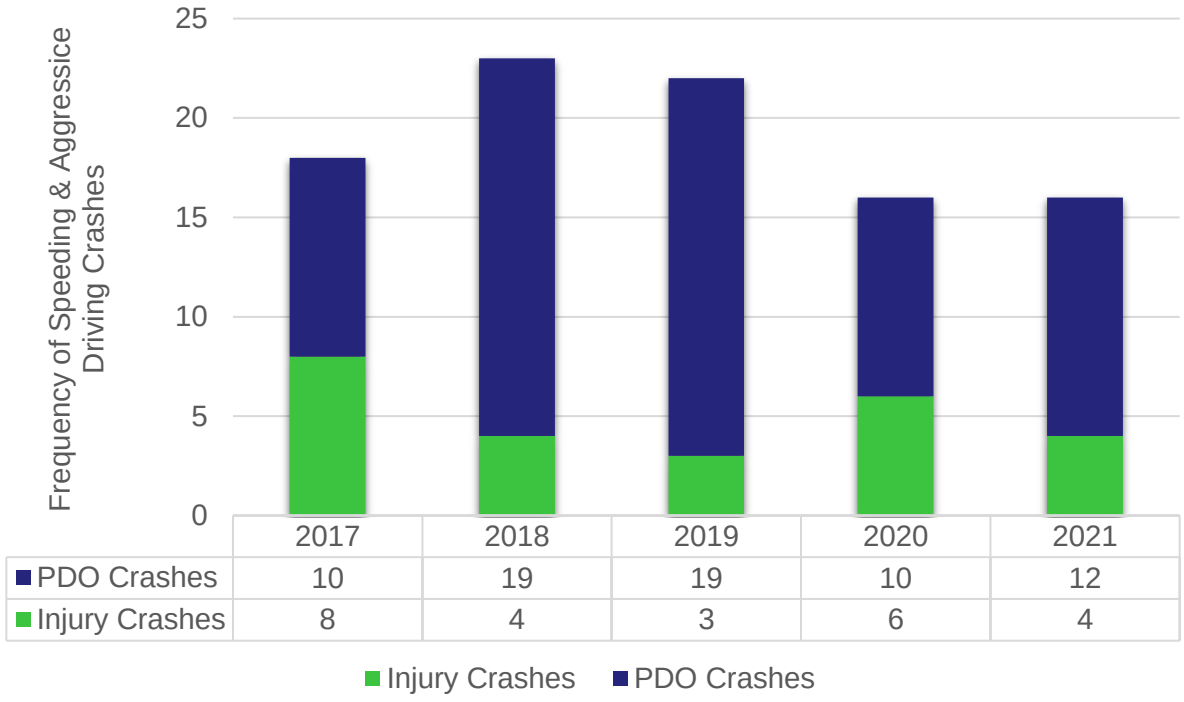
*Only for SHSP Emphasis Areas

Higher than State Average
Lower than State Average

Speeding & Aggressive Driving

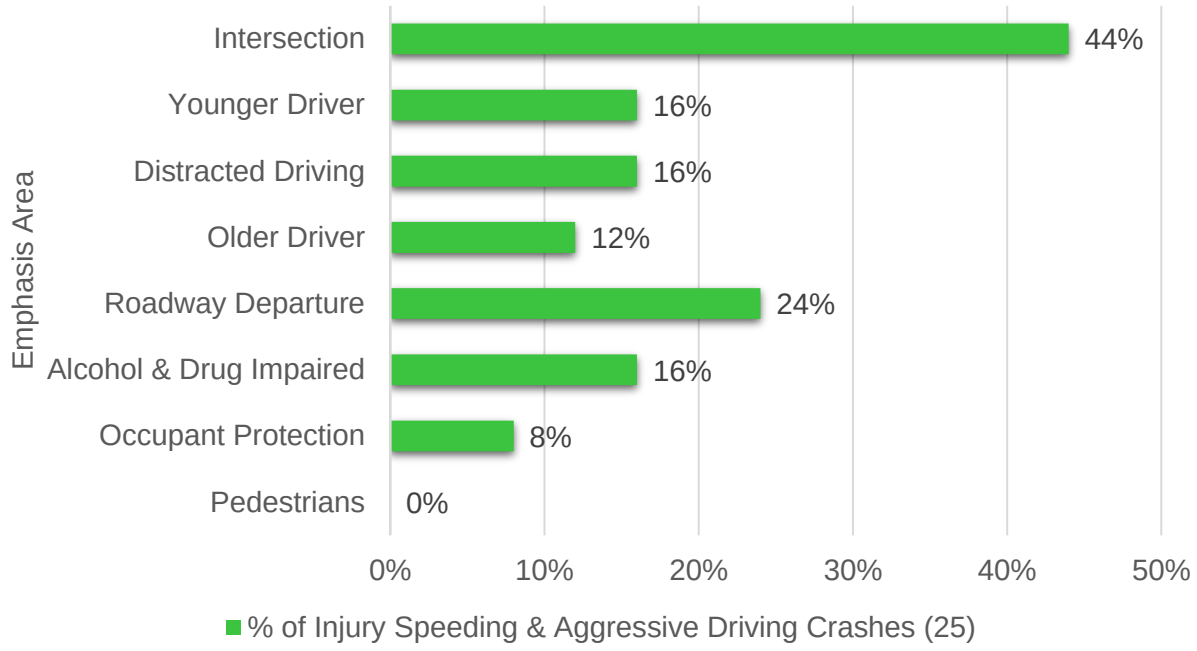
Studying crashes involving speeding and aggressive driving is crucial because these behaviors are significant contributing factors to road traffic crashes, injuries, and fatalities. Aggressive driving refers to any combination of driving behaviors that put other road users at risk, such as excessive speed, tailgating, running red lights or stop signs, and weaving in and out of traffic. Between 2017 and 2021, 95 crashes related to speed occurred, 26 percent of which were injury crashes in the City of New Martinsville (**Figure 15**). No fatal crashes due to speed or aggressive driving occurred during the study period. Speeding causes an average of five injury crashes per year, a trend that is mostly stable throughout the study period.

Figure 15: Speeding & Aggressive Driving Annual Crashes by Severity



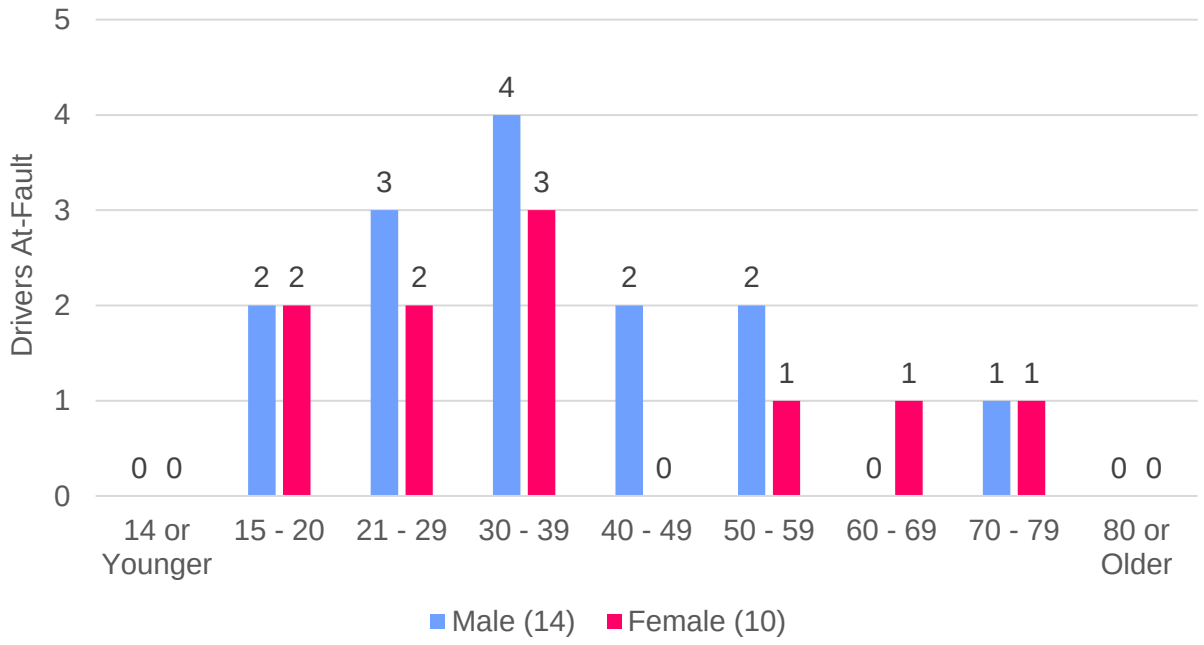
WHY? Several other factors also contribute to speed-related injury crashes. Nearly half of all speeding crashes are intersection related, many which involve younger drivers. Due to inexperience, younger drivers demonstrate riskier driving behaviors such as speeding, running red lights and overall misjudging traffic conditions when navigating intersections. Other factors that contribute to speed-related injury crashes include intersection-related factors, roadway departure, alcohol involvement, and lack of restraint usage.

Figure 16: Speeding & Aggressive Driving Injury Crashes by Emphasis Area



WHO? The majority of speed-related crashes have been caused by males, particularly between the ages of 30 and 49. Female drivers tend to speed less frequently and drive less aggressively throughout all age ranges.

Figure 17: Speeding & Aggressive Driving Injury Crashes by Age and Gender of "At-Fault" Driver



WHEN? Speed and aggressive driving-related crashes resulting in injury were dispersed throughout the week without a notable trend. Injury crashes involving speed mainly occurred in the afternoon between 1:00 PM and 7:00 PM, and spikes at around 6:00 PM. This spike is around the same time drivers leave work to travel home or to evening activities.

Figure 18: Speeding & Aggressive Driving Crashes by Day of Week

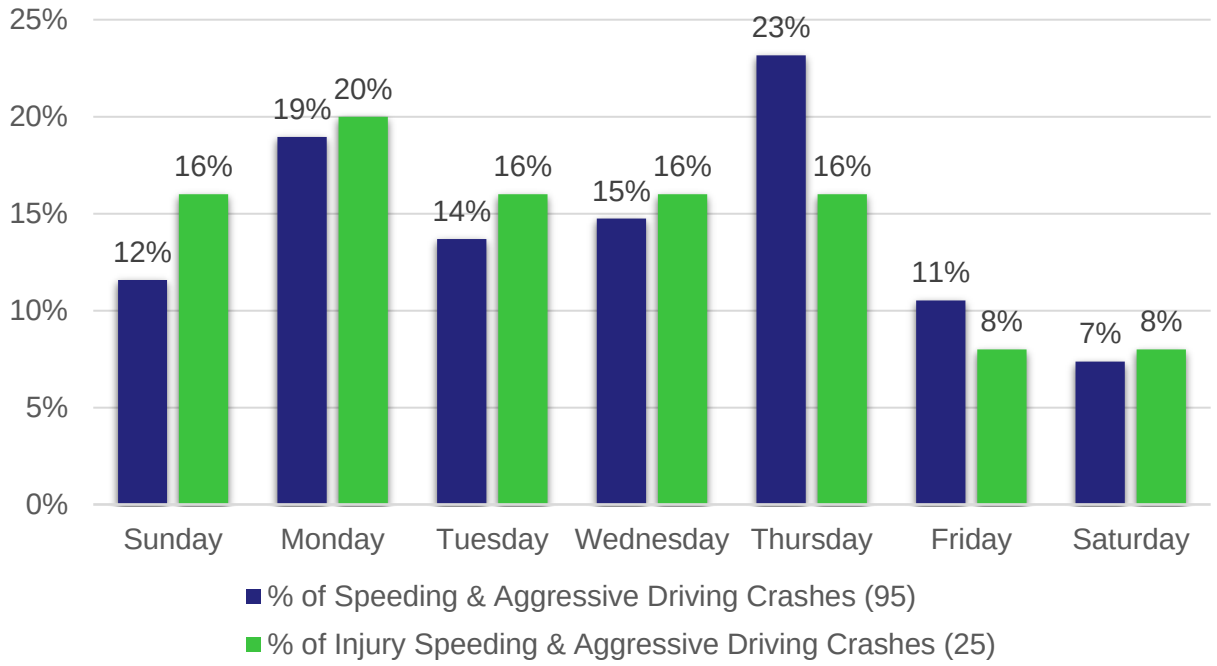
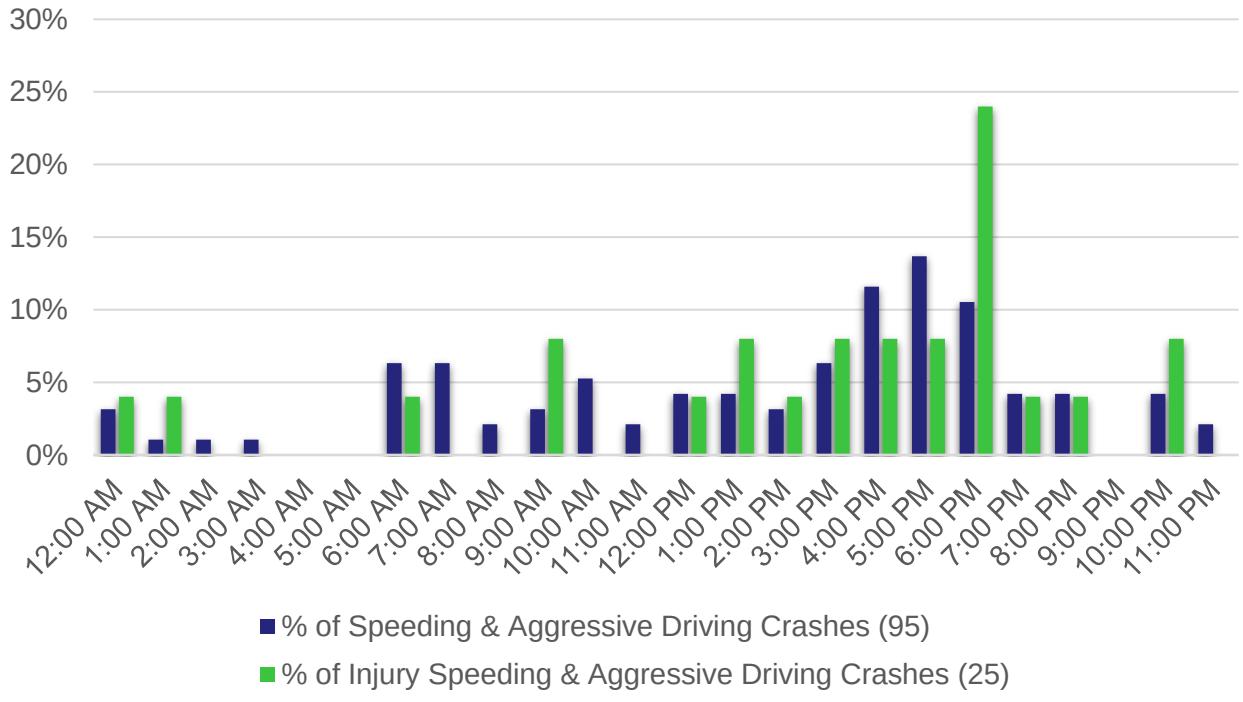
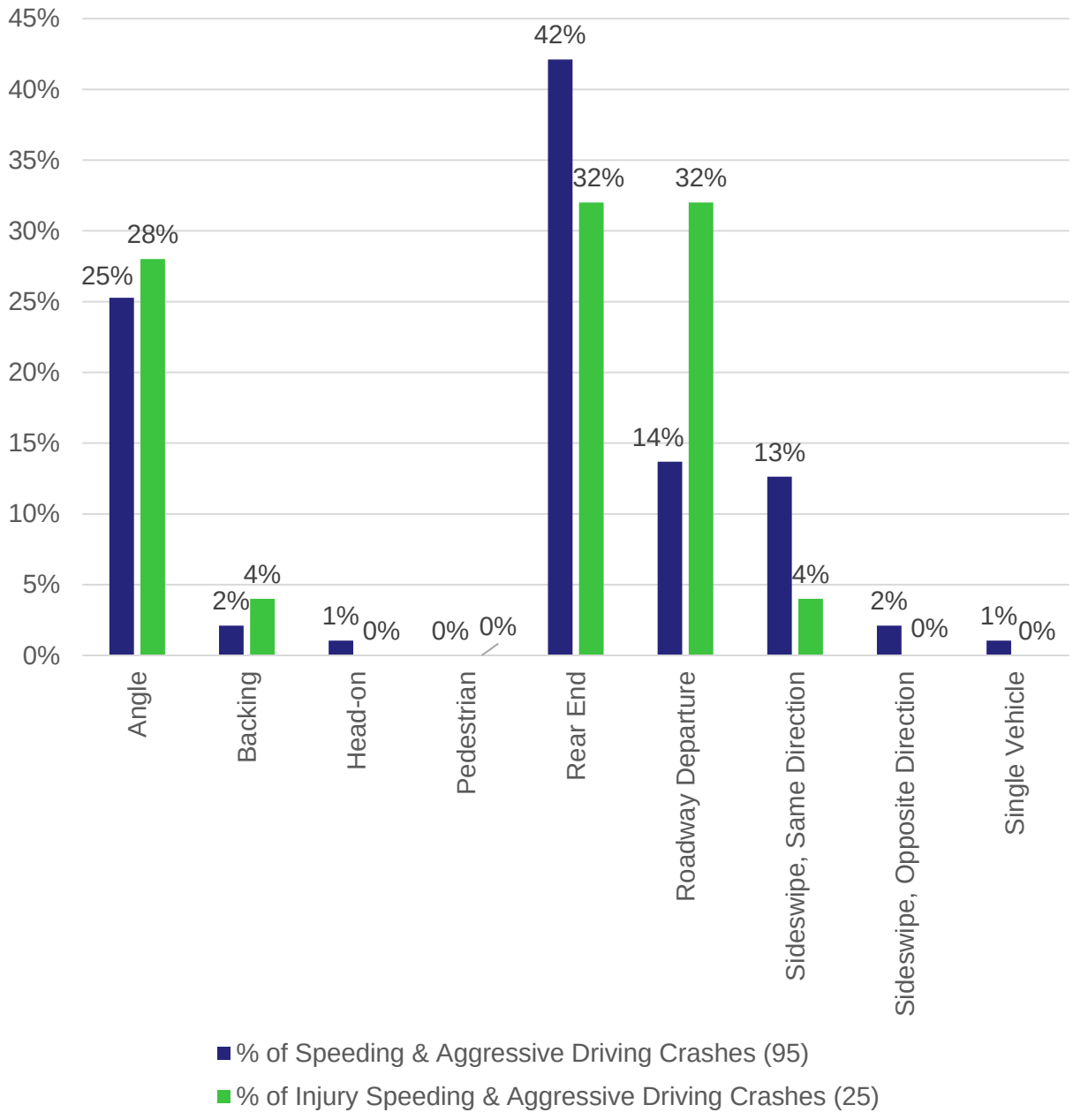


Figure 19: Speeding & Aggressive Driving Crashes by Time of Day



HOW? Rear end, roadway departure and angle crash types made up 92 percent of all speed and aggressive driving-related injury crashes. There is a prominent overlap between speed and aggressive driving and intersection crashes, as intersections are primarily where these crash types occur.

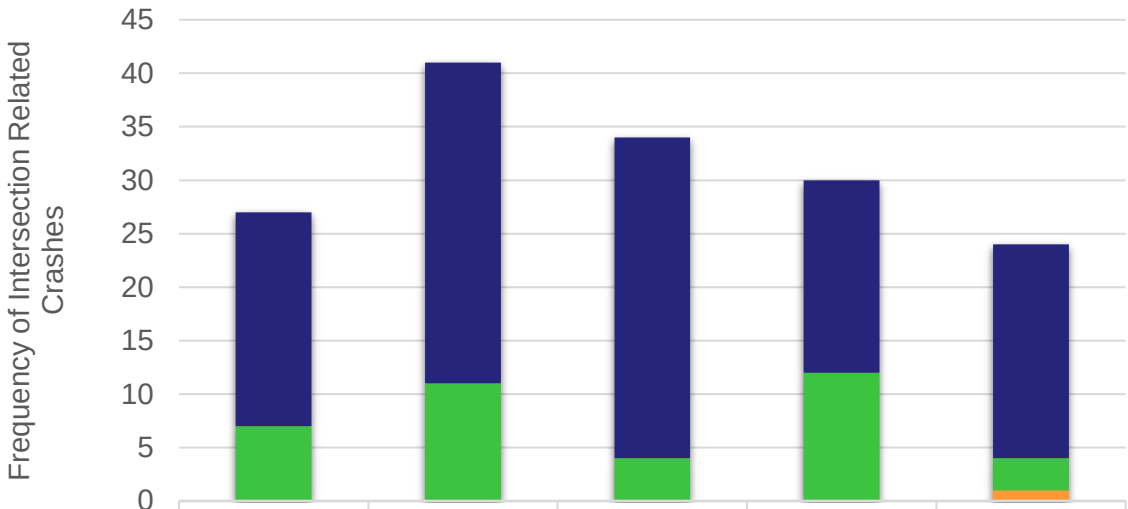
Figure 20: Speeding & Aggressive Driving Crashes by Crash Type



Intersections

At intersections, motorist interactions are all but guaranteed. Intersections are also places where different modes of travel interact, as non-motorized travelers often must traverse across vehicle travel lanes. Due to the increased interactions that come with intersections, they can be a focal point for crashes. Intersections were selected to be an emphasis area in part because of the frequency of crashes that occurred at intersections, including one fatal crash and 37 injury crashes (**Figure 21**).

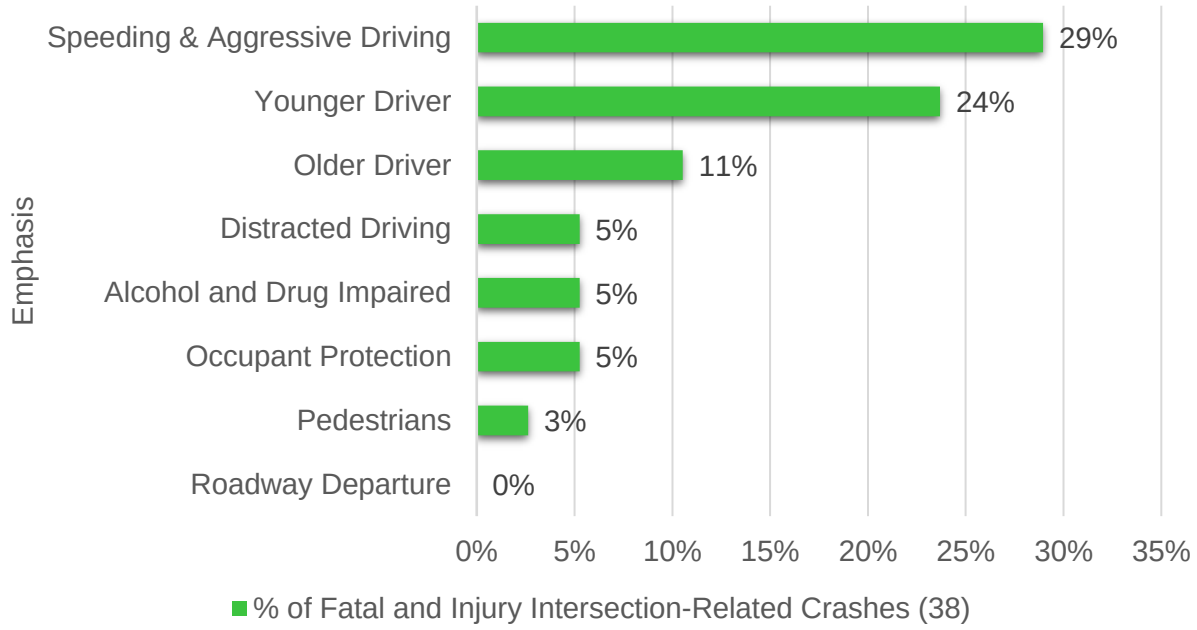
Figure 21: Intersection-Related Annual Crashes by Severity



	2017	2018	2019	2020	2021
PDO Crashes	20	30	30	18	20
Injury Crashes	7	11	4	12	3
Fatal Crash	0	0	0	0	1

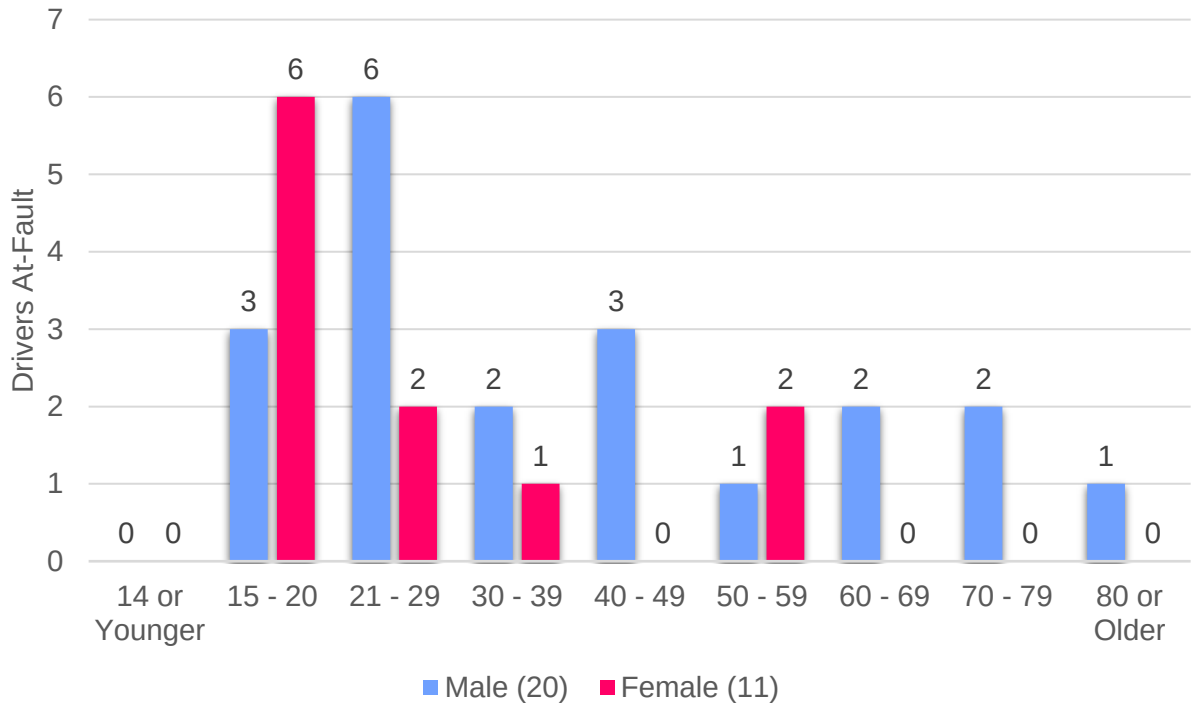
WHY? Through data analysis, overlaps in emphasis areas can be determined. Intersection-related crashes show overlap with the other emphasis areas, particularly with younger drivers and speed and aggressive driving. 29 percent of intersection-related fatal and injury crashes also involved speeding and aggressive driving. Other areas included older drivers, alcohol involvement and lack of restraint usage in intersection crash events.

Figure 22: Intersection-Related Fatal and Injury Crashes by Emphasis Area



WHO? The majority of intersection-related crashes have been caused by drivers between the ages of 15 and 29 for both genders. For other age ranges female drivers tend to cause fewer intersection related crashes than males.

Figure 23: Intersection-Related Fatal and Injury Crashes by Age and Gender of "At-Fault" Driver



WHEN? There are no notable trends on which day crashes occur, though crashes are the lowest on Saturdays. Intersection-related fatal and injury crashes occurred in the afternoon and evening, with the peak hours being 3:00 PM and 10:00 PM.

Figure 24: Intersection-Related Crashes by Day of Week

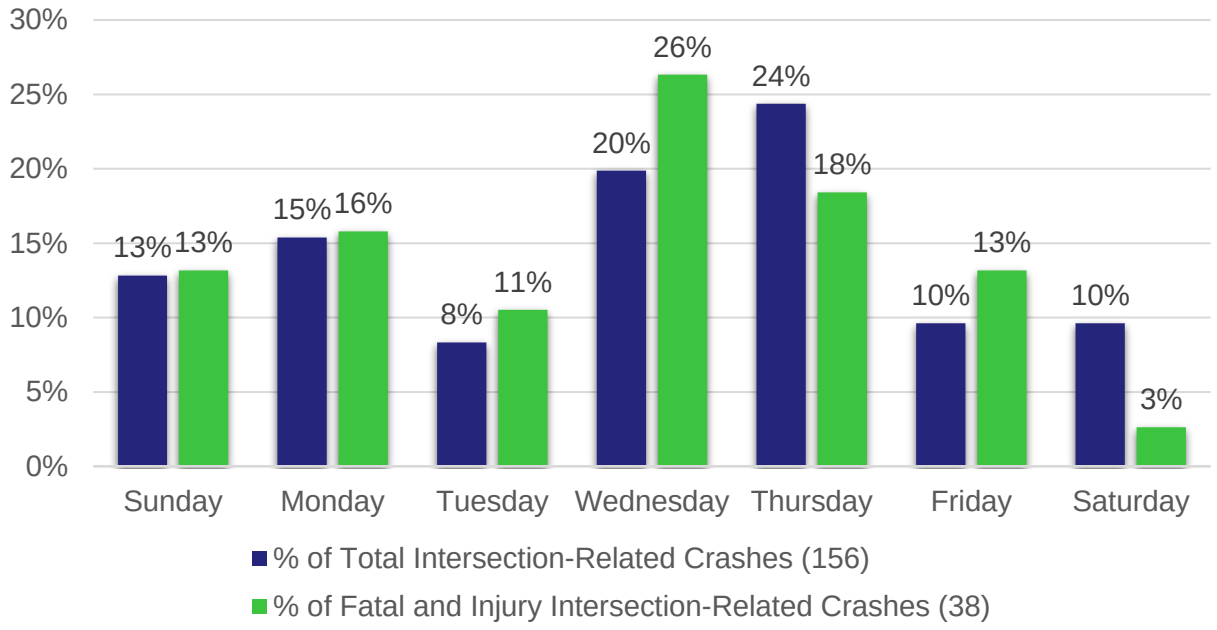
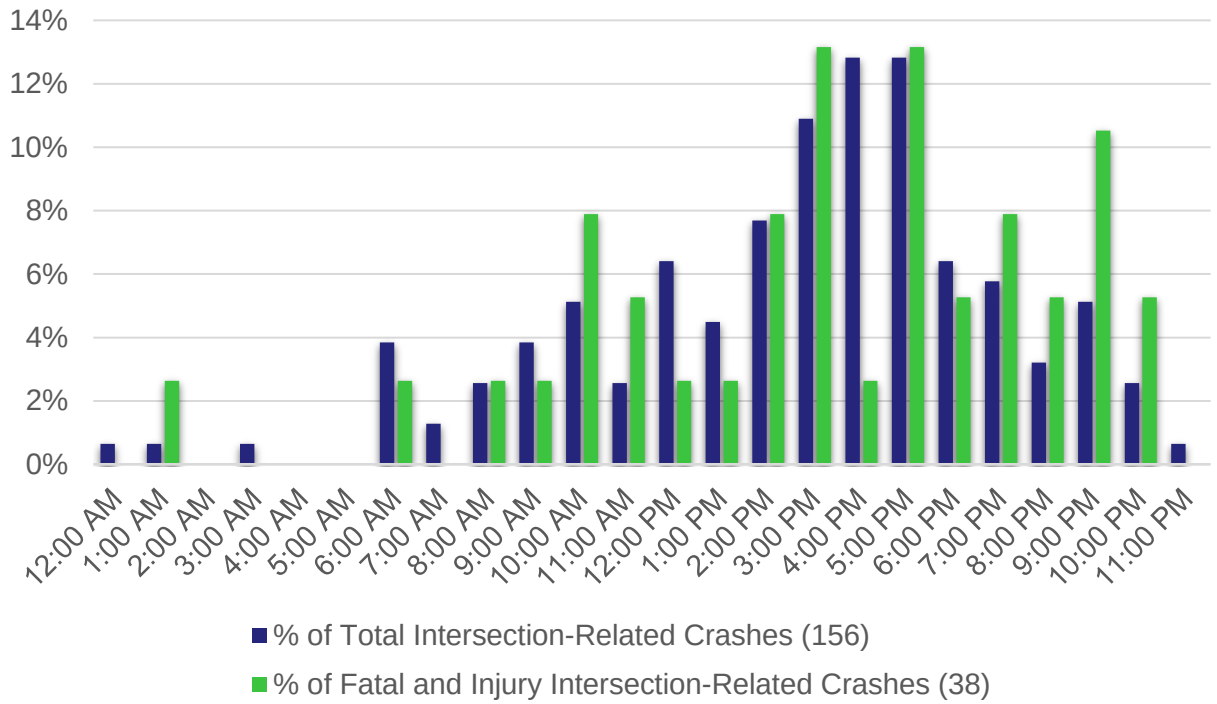
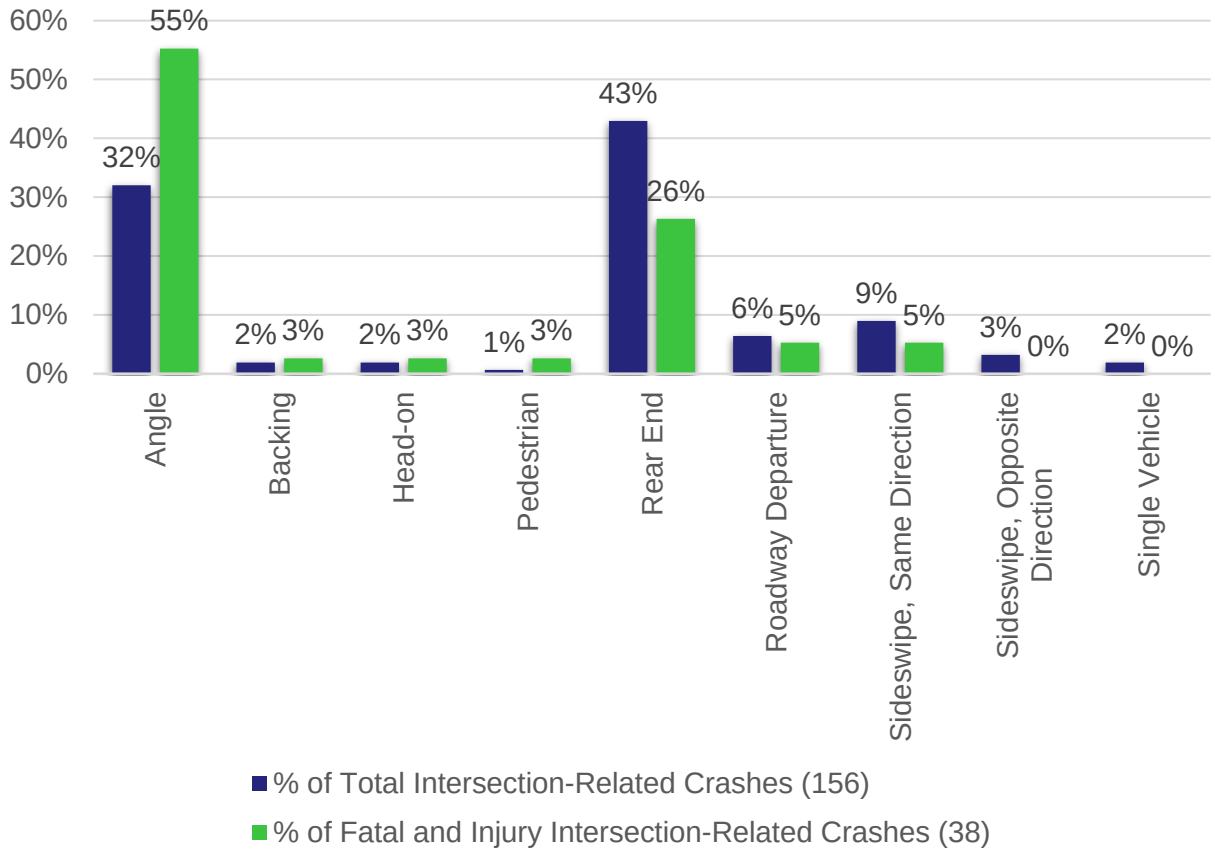


Figure 25: Intersection-Related Crashes by Time of Day



HOW? Over half of intersection-related fatal and injury crashes were angle crashes. The next highest crash type is rear end with 26 percent. Intersections are most likely where angle and rear end crashes are going to occur.

Figure 26: Intersection-Related Crashes by Crash Type



Vulnerable Road Users

While only one vulnerable road user-related crash was reported in the study period, it is important to analyze it to prevent the possibility of future vulnerable road user crashes. Vulnerable road users along WV-2 are seen daily like in **Photo 3**, and the public is concerned about their safety, especially in areas where sidewalk and lighting are not provided.

The single vulnerable road user crash during the five-year study period involved a pedestrian. The pedestrian crash occurred on February 4th, 2020, at the intersection of Route 180 and WV-2 during dark-unlighted conditions. The driver was a 27-year-old male, and the pedestrian was a 52-year-old male who was intoxicated. There are no vulnerable road user facilities such as sidewalks or crosswalks in this area, nor is there street lighting.

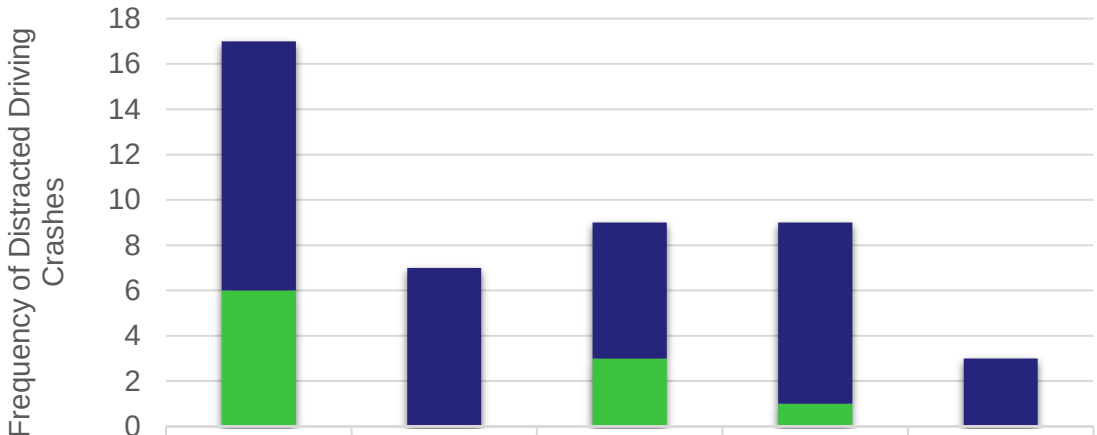
Concerns regarding vulnerable road user safety include the lack of street lighting, and the disrepair or lack of vulnerable road user facilities along WV-2. The most notable VRUs are lower-income residents and families that have limited mobility.

Photo 3: Pedestrian Walking along WV-2

Distracted Driving

While not a West Virginia SHSP emphasis area, distracted driving has been a growing concern within the City of New Martinsville. Distracted driving has contributed to 45 crashes in the five-year study period, with 10 of those crashes resulting in injuries. Distracted driving includes any activity that diverts attention from driving, including looking at a cellphone, eating and drinking, or focusing on objects outside the vehicle. It is important to note that distracted driving is often under-reported, as drivers tend to not admit they were driving distracted. Anecdotally, survey respondents and stakeholders both indicated that distraction was an observed and concerning behavior.

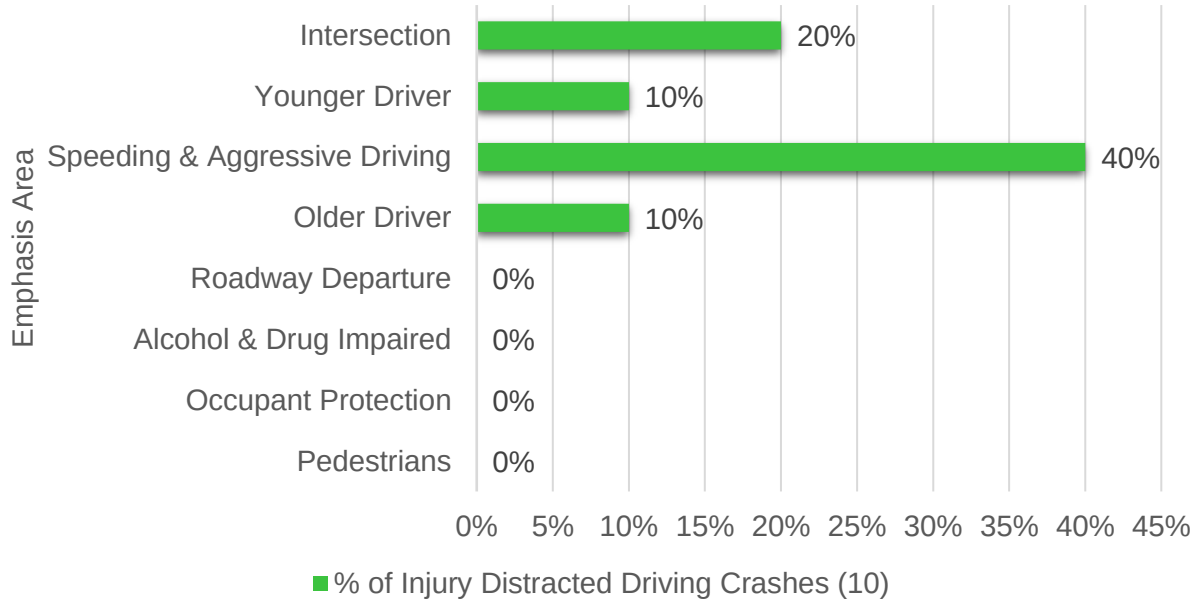
Figure 27: Distracted Driving Annual Crashes by Severity



	2017	2018	2019	2020	2021
PDO Crashes	11	7	6	8	3
Injury Crashes	6	0	3	1	0

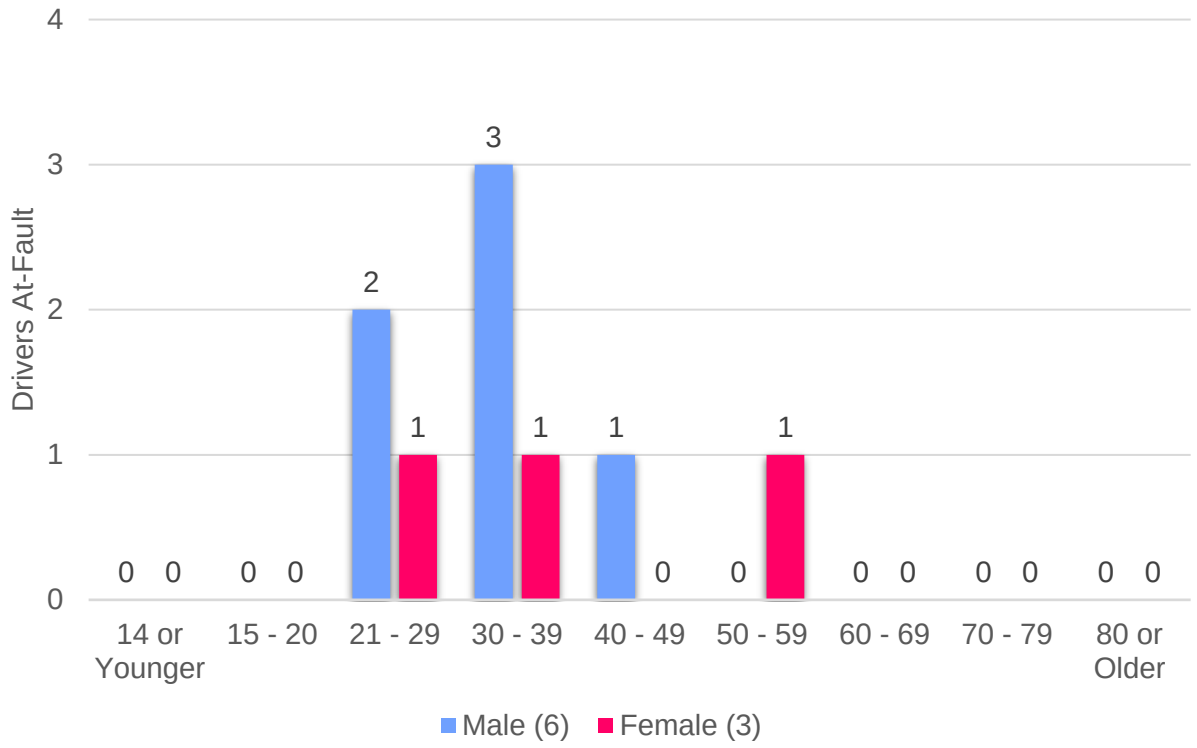
WHY? Overlapping emphasis areas can be identified through the data. The most common related factor in distracted driving-related injury crashes was speeding and aggressive driving. Other factors included intersections, younger drivers, and older drivers.

Figure 28: Distracted Driving Injury Crashes by Emphasis Area



WHO? Most crashes resulting in injury due to distracted driving have been caused by males aged 21 to 39, and with females aged 21 to 39. Other than males in the 30 to 39 age range, the general trend is that distracted driving becomes less frequent as drivers get older.

Figure 29: Distracted Driving Injury Crashes by Age and Gender of "At-Fault" Driver



WHEN? Most of the distracted driving crashes occurred in the afternoon between 12:00 PM and 7:00 PM. The crashes tend to occur mid-week between Wednesday to Thursday.

Figure 30: Distracted Driving Crashes by Day of Week

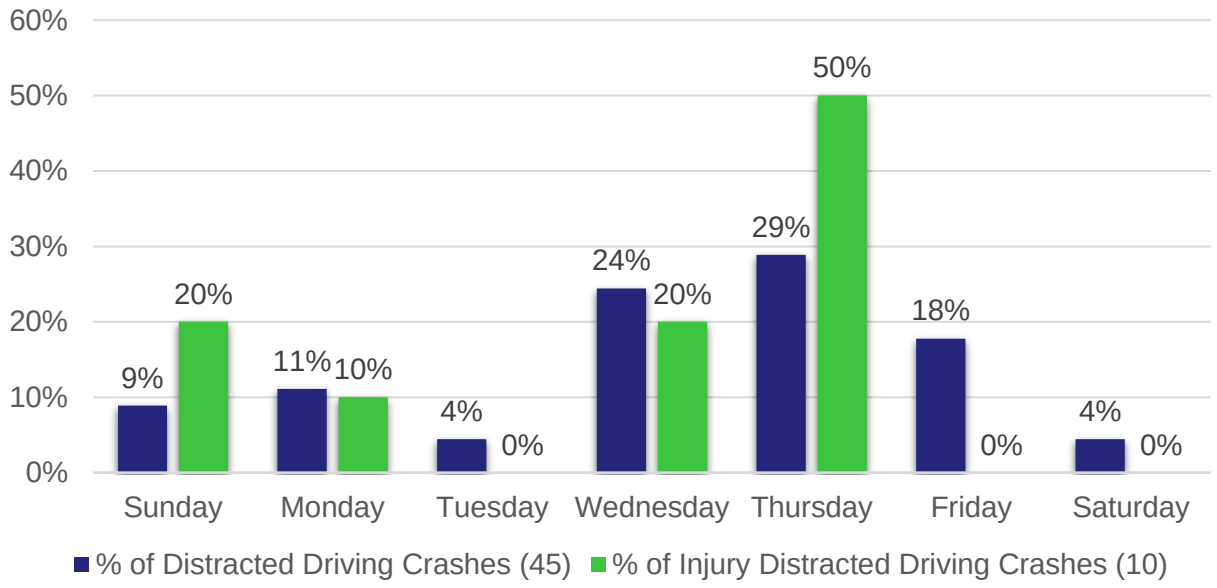
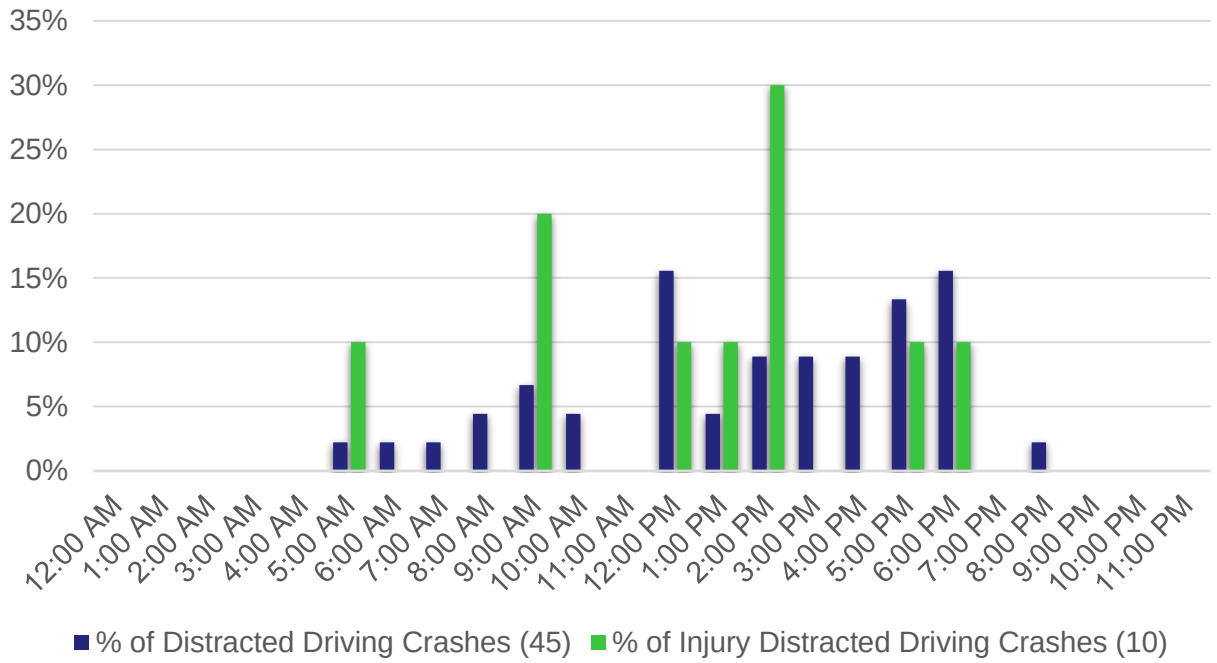
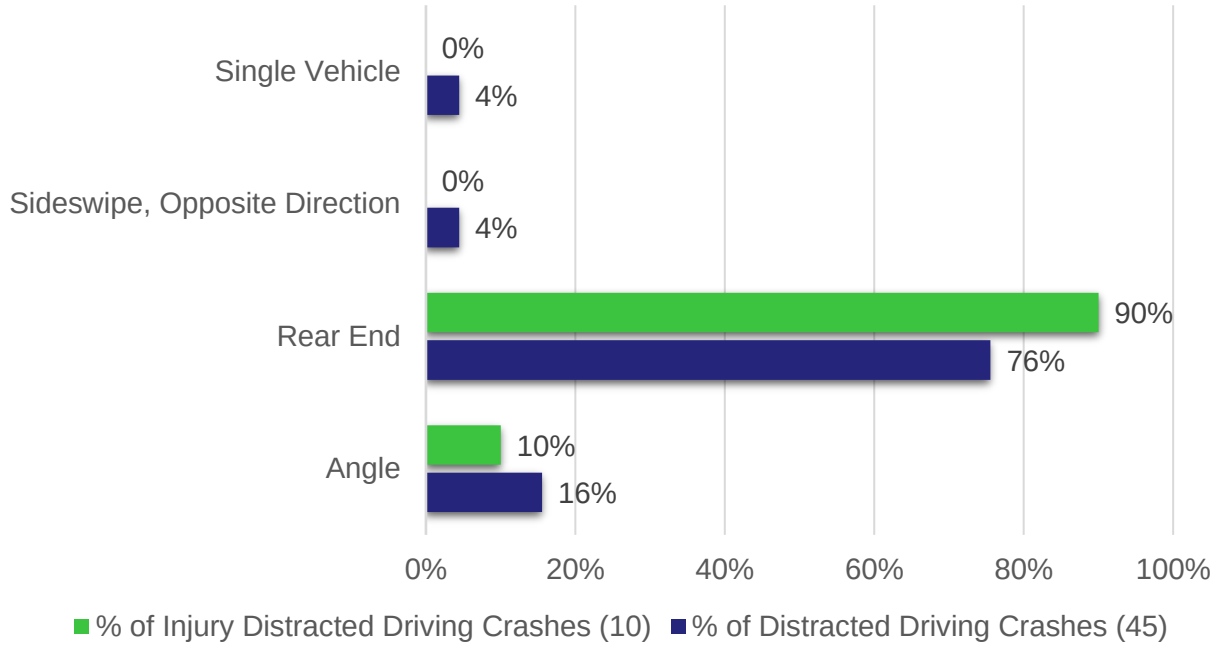


Figure 31: Distracted Driving Crashes by Time of Day



HOW? 90 percent of all distracted driving-related injury crashes were rear ends, while rest of the distracted driving injury crashes were angle collisions. 4 percent each of total distracted driving crashes were single vehicle and sideswipe, opposite direction crashes.

Figure 32: Distracted Driving Crashes by Crash Type



Implementation Strategies

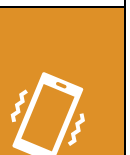
Short Term: 1 Year | Medium Term: 2-5 Years | Long Term: 5+ Years

				EMPHASIS AREA ADDRESSED			
ACTION	**OUTCOME**	**TIMEFRAME**	**LEAD AGENCY**	**INT.**	**SPEED & AGGR.**	**VRU**	**DIST.**
Strategy 1: Retrofit existing streets and intersections to accommodate human mistakes to prevent and reduce the severity of crashes.							
1.1. Improve signal timing through sequential intersections.	Identify segments with multiple signalized intersections and sync signals to increase traffic flow and predictability.	Medium Term	WVDOH/ City of New Martinsville				
1.2. Select locations to implement proven safety countermeasures at traffic signals and crosswalks to reduce vehicle, bicycle, and pedestrian crashes, including signal backplates, yellow change intervals, Leading Pedestrian Intervals, rapid flashing beacons and high visibility crosswalks.	List of locations for systemic and systematic application of countermeasures. Implement identified countermeasures.	Short Term Long Term	WVDOH/ City of New Martinsville				
1.3. Improve access management.	Reduce or remove access points (such as driveways) or add medians near an intersection to decrease conflicts.	Long Term	WVDOH/ City of New Martinsville				
1.4. Improve intersection geometry.	Identify and reconfigure priority intersections (positively offsetting turn lanes, aligning off-set T- intersections, or improving skewed intersections).	Long Term	WVDOH/ City of New Martinsville				
1.5. Develop a database of existing walkways and prioritize filling gaps in locations connecting to points of interest and locations based on public input.	Database is developed	Short Term	City of New Martinsville				
1.6. Identify and implement proven safety countermeasures such as walkways, roadway reconfigurations, protected bikeways, medians, and refuge islands, along the pedestrian high-risk corridors.	List of locations for systemic and systematic application of countermeasures. Implement countermeasures.	Short Term Long Term	WVDOH/ City of New Martinsville				

Short Term: 1 Year | Medium Term: 2-5 Years | Long Term: 5+ Years

ACTION	OUTCOME	TIMEFRAME	LEAD AGENCY	EMPHASIS AREA ADDRESSED			
				INT.	SPEED & AGGR.	VRU	DIST.
Strategy 1 (continued): Retrofit existing streets and intersections to accommodate human mistakes to prevent and reduce the severity of crashes.							
1.7. Improve lighting at priority pedestrian crossing locations.	Identify locations to improve vulnerable road user visibility. Modify crossing locations for improved vulnerable road user visibility.	Short Term Long Term	WVDOH/ City of New Martinsville	+			
1.8. Modify intersection traffic control.	Evaluate unsignalized intersections for all-way stop control, roundabouts, or signalization or signalized intersections for updated phasing or roundabouts; and apply the current signage and pavement marking standards. Implement recommended traffic control changes.	Medium Term Long Term	WVDOH/ City of New Martinsville	+			
1.9. Secure funding for large scale infrastructure that prioritizes pedestrian, bicycle, and other vulnerable road users.	Apply for federal or state funds for large scale safety projects (SS4A, HSIP, etc.).	Long Term	WVDOH/ City of New Martinsville	+			
1.10. Implement roundabouts at priority intersections.	Determine intersections in which a roundabout would be beneficial then implement said roundabouts.	Long Term	WVDOH/ City of New Martinsville	+			
1.11. Improve railroad crossing on WV 2 (reduce queuing caused by train stoppage, etc.)	Determine locations to determine railroad crossings by building a bridge over a railroad or adding a connector road to bypass crossing the railroad.	Long Term	City of New Martinsville				

Short Term: 1 Year | Medium Term: 2-5 Years | Long Term: 5+ Years

				EMPHASIS AREA ADDRESSED			
ACTION	**OUTCOME**	**TIMEFRAME**	**LEAD AGENCY**	**INT.**	**SPEED & AGGR.**	**VRU**	**DIST.**
Strategy 2: Address the safety of all road users, including those who walk, bike, drive, and travel by other modes by providing education on transportation safety and enforcement of related rules.							
2.1. Create and implement public awareness and education campaign tailored to awareness for people walking, biking, and driving (particular focus on distractions and speed/aggressive driving).	Identify partner agencies to plan and create a regional traffic safety campaign targeting demographics outlined in this plan utilizing social media and other available high impact communication resources.	Short Term, then ongoing	City of New Martinsville				
2.2. Provide distracted driving education in schools.	Research existing age-appropriate distracted driving educational resources and integrate safe driving curricula.	Short Term, then annually	Wetzel County School District				
2.3. Inform out-of-state drivers on distracted laws	Post informational signage at state point of entry.	Short Term	City of New Martinsville				
2.4. Continue consistent, high visibility enforcement of speed limit and distracted driving laws	Enforcement and compliance of traffic laws.	Ongoing	State and Local Law Enforcement				
2.5. Support the State's efforts to explore the viability of automated speed enforcement and automated red-light running enforcement programs.	Collaboration with the State.	Ongoing	City of New Martinsville				

Short Term: 1 Year | Medium Term: 2-5 Years | Long Term: 5+ Years

				EMPHASIS AREA ADDRESSED			
ACTION	**OUTCOME**	**TIMEFRAME**	**LEAD AGENCY**	**INT.**	**SPEED & AGGR.**	**VRU**	**DIST.**
Strategy 3: Assess speeds and adjust where needed or consider changes to the roadway to accommodate human injury tolerance, reduce impact forces, and provide additional time for drivers to stop.							
3.1. Conduct a citywide review of speeds to understand where average speeds are higher than posted speeds to prioritize locations for review.	Prioritize and review locations.	Short Term	City of New Martinsville	+	◔	♿	
3.2. Continue use of speed feedback signs near schools.	Continue to deploy signs near schools.	Short Term	City of New Martinsville		◔	♿	
3.3. Implement use of speed feedback signs at high-speed priority locations.	Deploy speed signs at priority locations.	Medium Term	City of New Martinsville		◔		
3.4. Implement High-Visibility Enforcement (HiVE) Campaign to alert the community about increased law enforcement presence at priority locations.	Identify partner media and other outreach methods to propagate HiVE messaging to the community.	Medium Term	City of New Martinsville	+	◔	♿	

Refer to **Appendix A** for information about project priorities and identified infrastructure improvement projects.

Next Steps

The New Martinsville CSAP is a dynamic document, intended to be used by stakeholders and partners to continually advance safety via the countermeasures and actions listed herein.

Plan Leadership: The City of New Martinsville assumes leadership of this plan and will support implementation. In this role, they are responsible for identifying engineering improvements on city roads to address safety needs, but also convening stakeholders involved in this plan on a regular basis to discuss all implementation activities.

Implementation Meetings: The City of New Martinsville will convene stakeholders, either in person or virtually at a minimum of one time per year to discuss progress and associated challenges with implementing the Action Plan. The meeting will focus on the "outcomes" for each action. Upon conclusion of the meeting(s), progress will be documented, and the Action Plan updated, as needed.

Stakeholders/Champions: The key stakeholders for this plan reviewed the data, discussed other known challenges, and collectively agreed to the strategies found within. And while they each take responsibility for traffic safety in different ways, crashes occur for a multitude of reasons. So, they committed to implementing the policies, programs, and projects that pertain to them as well as supporting the efforts of others. They will do this by:

- Being champions for safety in job responsibilities
- Participating in events and campaigns relevant to this plan
- Sharing information about transportation safety within our agencies and to peers
- Meeting annually to share progress on safety activities

Annual Evaluation: When the previous year's crash data is available, the City of New Martinsville will evaluate progress toward the goal of toward zero deaths by assessing city-wide fatal and serious injury crashes as well as crashes for each of the four emphasis areas.

Other Planning Efforts: The City of New Martinsville will remain informed of current and new WVDOH safety programs, policies, plans, guidelines, and/or standards. Based on this information, the City can continue to identify opportunities to build upon the current Action Plan. Neighboring Belomar MPO is actively seeking to develop a CSAP for their region. There may be opportunities to collaborate on strategy implementation, especially in education and messaging campaigns.

Refreshing the Plan: From the date of adoption, the New Martinsville Safety Plan will be refreshed or fully updated every five years. This update will ensure crash data is up to date and the solutions are revised to meet evolving implementation of policies, programs, and projects.

Appendix

Appendix

Appendix A: Project and Grant Identification

Appendix B: Additional Crash Information

Appendix C: Highway Injury Network Maps, Segments, and Intersections

Appendix D: Systemic Analysis Segments

Appendix E: Equity Maps

Appendix F: Public Survey Results

Appendix G: Stakeholder Meeting Summaries

Appendix A: Project and Grant Identification

Project List

This section is comprised of a short list of projects and recommendations for safety solutions that can be included in already planned projects or be implemented as standalone projects to enhance safety for all users. This appendix is meant to be a living document and updated regularly. Projects were identified using the crash data from the Comprehensive Safety Action Plan and feedback on focus areas from stakeholders. This project list is not exhaustive but a starting point for safety improvements in the area. All projects conducted in the City of New Martinsville should look to use the countermeasures and priorities identified in the Comprehensive Safety Action Plan to improve safety for all users.

The project list on the next page summarizes projects that address some of the highest crash segments and intersections in New Martinsville. Additionally, potential grant funding sources are also listed for the recommended projects. This project list has been reviewed by stakeholders and is revised from the original larger list of projects. The original projects included:

- **Pedestrian improvement between Walmart and O'Reilly's along WV-2:** Three options were evaluated for this project. Options included: sidewalk along WV-2 (Option 1), sidewalk along the on ramps of WV-7 and crossing at the top of the ramps (Option 2), and sidewalk/pathway along WV-2 and under WV-7, weaving through the neighborhood behind Walmart (Option 3). Option 2 was eliminated from consideration by stakeholders.
- **Railroad Crossing Options:** Currently, trains stop on the at-grade rail crossing on the south side of the city and block traffic on WV-2. Three options for crossing improvements were considered: Grade separated crossing of WV-2 over the railroad (Option 1), new alternate route with grade separated crossing over rail yard south of town with connection to Main Street (Option 2), new alternative route from WV-2 connecting to WV-7 south of town (Option 3). Options 2 and 3 were eliminated by stakeholders.
- **Rosary Road Intersection Improvements:** This included striping and access management improvements along Rosary Road and at the intersection of Rosary Road and WV-7. This project was eliminated because it has already been completed.
- **Leap Street and WV-7 Intersection Improvements:** This project included reconstructing the intersection of Leap Street and WV-7 into a single lane roundabout. This project was eliminated by stakeholders at this time due to the amount of right-of-way required for the improvement.
- **Pedestrian Improvements along Howard Jeffers Drive:** This project included two alternatives for connecting the Hydro Soccer Field to West Duerr Street with pedestrian facilities along Howard Jeffers Drive. Both alternatives were carried forward.
- **WV-2 and North Street Intersection Improvements:** This project included reconstructing the existing intersection to a single lane roundabout. Stakeholders chose to not move forward with this project at this time due to the potential right-of-way impacts and other higher priority projects needed within the city.
- **Pedestrian Improvements from O'Reilly's to Save A Lot:** This project includes constructing pedestrian improvements along WV-2 from O'Reilly's to Save A Lot. The recommended buffered sidewalk on the west side of WV-2 will be carried forward.
- **Pedestrian Improvements from North Street to Walmart:** this project includes constructing sidewalks, performing access management, addressing stormwater, and relocating overhead utilities from North Street to Walmart. This project will be carried forward.

Potential Project	Project Description	Potential Grant Funding Resources
Railroad Crossing Improvements – Option 1	This project includes creating a grade separate crossing of WV-2 over the railroad. Includes sidewalks along the structure. Cost: Approximately $21,500,000	Rail Crossing Elimination, CRISI, RAISE
Pedestrian Improvements: Walmart to O'Reilly's Option 1	Implementing pedestrian facilities along WV-2 between Walmart and the O'Reilly's. Assumes a combination of sidewalk and separated pathway. Enhanced crossings to cross WV-7 ramps are included. Right-of-way costs not included. Utility relocation costs not included. Cost: Approximately $2,000,000	Reconnecting Communities, SS4A Implementation, RAISE
Pedestrian Improvements: Walmart to O'Reilly's Option 3	Implementing pedestrian facilities between Walmart and O'Reilly's. Includes crossing under WV-7 and routing a pathway through neighborhoods rather than adjacent to WV-2. Right-of-way costs not included. Utility relocation costs not included. Cost: Approximately $2,000,000	Reconnecting Communities, SS4A Implementation, RAISE
Howard Jeffers Pedestrian Improvements Options 1 and 2	Pedestrian facilities along Howard Jeffers Road that will connect Hydro Park to Duerr Street. Includes two pathway options through open lots. Right-of-way costs not included. Utility relocation costs not included. Cost: Approximately $830,000	SS4A Implementation, RAISE – Most likely will need to bundle with another project due to lower cost.
Pedestrian Improvements: O'Reilly's to Save A Lot	Pathway on west side of roadway connecting O'Reilly's to Save A Lot. Includes enhanced crossings. Right-of-way costs not included. Utility relocation costs not included. Cost: Approximately $2,000,000	SS4A Implementation, RAISE
Pedestrian Improvements: North Street to Walmart	This project includes reconstruction of WV-2 to lower roadway to accommodate curb and gutter, sidewalk, and minimize right-of-way impacts. Driveways will need to be reconstructed. The estimated cost is approximately $5,000,000 per mile. This cost does not include storm sewer trunkline work that is expected to be required. The condition and size of existing storm sewer system is unknown. Additionally, the cost to bury utilities or relocate overhead utilities was not included.	SS4A Implementation, RAISE

Future Project Prioritization Process

Future projects within the New Martinsville area are prioritized based on the following questions:

- Is the project location on the High Injury Network?
- Is the project location identified as a systemic analysis segment?
- Does the project align with at least one of the emphasis areas?

The more features that apply to the project, the higher priority the project receives.

Grant Funding Information

Several grants were identified above as potential funding sources for all projects identified. For federally identified grants, the notification of funding release date can vary year to year. A resource to track potential funding sources at the federal level is this calendar that is routinely updated by AMPO (Association of MPOs): https://ampo.org/resources-publications/ampo-nofo-tracker/

Grant programs identified above that are federal programs include:

SS4A – Safe Streets for All Program: this is a program that focuses on safety improvements to reduce serious and fatal crashes. A 20% match is required for this program. https://www.transportation.gov/rural/grant-toolkit/safe-streets-and-roads-all-ss4a-grant-program

RAISE – Rebuilding American Infrastructure with Sustainability and Equity: This is a program that focuses on a variety of things from improving roadway safety to revitalizing communities and creating economic opportunities. New Martinsville is considered rural and has a reduced match requirement for this program. https://www.transportation.gov/RAISEgrants

Reconnecting Communities Program (RCP) – The RCP Program focuses on improving access to daily needs such as jobs, education, healthcare, food, nature, and recreation, and foster equitable development and restoration, and provide technical assistance to further these goals. This program has currently been fully allocated through 2026; however additional funds may become available with future funding bills. https://www.transportation.gov/reconnecting

Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program – CRISI provides funding for projects that improve freight or passenger rail transportation systems in terms of safety, efficiency, or reliability. https://railroads.dot.gov/grants-loans/consolidated-rail-infrastructure-and-safety-improvements-crisi-program

Rail Crossing Elimination Program - The Railroad Crossing Elimination (RCE) Grant Program provides funding for highway-rail or pathway-rail grade crossing improvement projects that focus on improving the safety and mobility of people and goods. https://railroads.dot.gov/grants-loans/railroad-crossing-elimination-grant-program

Active Transportation Infrastructure Investment Program (ATIIP) – ATIIP is a new competitive grant program created by the Bipartisan Infrastructure Law to construct projects to provide safe and connected active transportation facilities in active transportation networks or active transportation spines. ATIIP projects will help improve the safety, efficiency, and reliability of active transportation networks and communities; improve connectivity between active transportation modes and public transportation; enhance the resiliency of on- and off-road active transportation infrastructure; help protect the environment; and improve quality of life in disadvantaged communities through the delivery of connected active transportation networks and expanded mobility opportunities. Currently ATIIP has only been funded for FY2024, however congress could choose to fund it again in future years. https://www.transportation.gov/rural/grant-toolkit/active-transportation-infrastructure-investment-program-atiip

APEX OF BRIDGE

START OF VERTICAL PROFILE

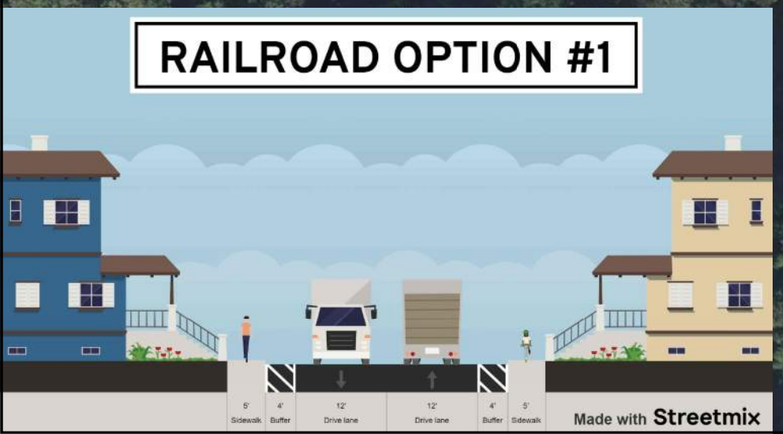
ABUTMENT END

START OF VERTICAL PROFILE

ABUTMENT END

STATE ROUTE 2

20'



NEW MARTINSVILLE
COMPREHENSIVE SAFETY ACTION PLAN

RAILROAD CROSSING
OPTION #1:
CREATE BRIDGE OVER RAILROAD

THE CITY OF NEW MARTINSVILLE WV 1838

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

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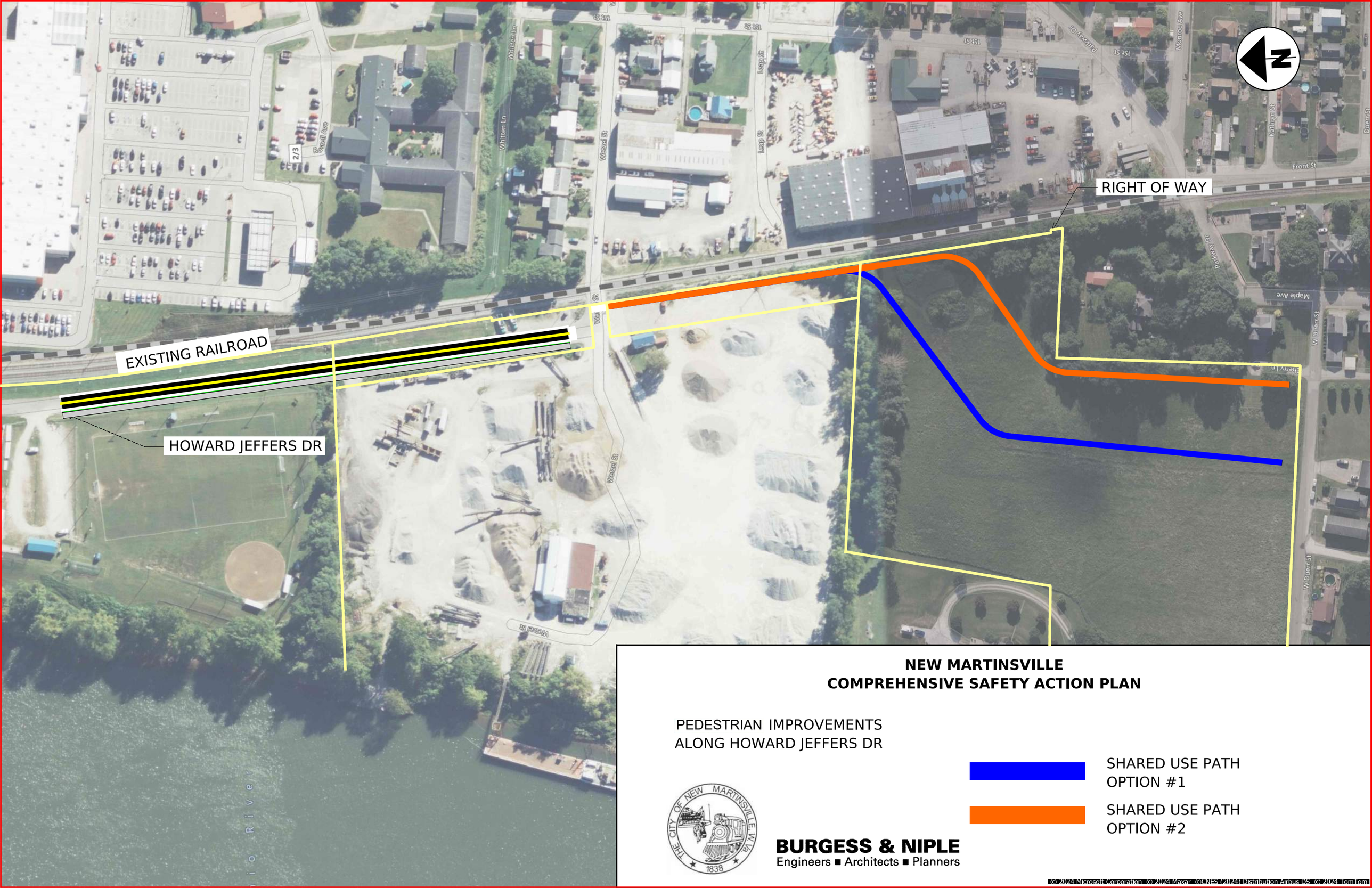
New Martinsville CSAP
Conceptual Improvements Cost Estimate
Railroad #1

DESCRIPTION		UNIT	UNIT PRICE	TOTAL PRICE (2024 dollars)
ROADWAY				
Excavation	2,378	CU YD	$15.00	$35,670
Embankment	12,605	CU YD	$15.00	$189,075
curb ramps	4	each	$1,600.00	$6,400
Curb and Gutter	3,782	FT	$35.00	$132,370
4" Concrete Walk	15,098	SQ FT	$9.00	$135,882
			ROADWAY SUBTOTAL	**$499,400**
DRAINAGE				
Drainage	1	LUMP	$200,000.00	$200,000
			DRAINAGE SUBTOTAL	**$200,000**
EROSION CONTROL & BMP ELEMENTS				
Seeding and mulching	2,500	SQ YD	$3.50	$8,750
Topsoil	278	CU YD	$24.00	$6,667
Erosion Control	150,000	LUMP	$1.00	$150,000
			EROSION CONTROL SUBTOTAL	**$165,500**
PAVEMENT				
surface course	163	CU YD	$180.00	$29,400
Asphalt Pavement Build-up	5,183	SQ YD	$85.00	$440,555
Asphalt Resurfacing	1,960	SQ YD	$8.00	$15,680
Pavement Removed	7,143	SQ YD	$9.00	$64,287
			PAVEMENT SUBTOTAL	**$550,000**
MAINTENTANCE OF TRAFFIC				
MOT	1	LUMP	$100,000.00	$100,000
			MAINTENANCE OF TRAFFIC SUBTOTAL	**$100,000**
TRAFFIC CONTROL				
Traffic Control	1	LUMP	$50,000.00	$50,000
			TRAFFIC CONTROL SUBTOTAL	**$50,000**
LIGHTING				
Lighting	1	LUMP	$80,000.00	$80,000
			LIGHTING SUBTOTAL	**$80,000**
STRUCTURES				
Retaining Wall	40040	SQ FT	$160.00	$6,406,400
Structures	1	LUMP	$4,000,000.00	$4,000,000
Railroad Coordination	1	LUMP	$100,000.00	$100,000
			STRUCTURES SUBTOTAL	**$10,506,400**
CONSTRUCTION MISC.				
FIELD OFFICE, TYPE A	12	MONTH	$1,650.00	$19,800
CONSTRUCTION LAYOUT STAKES (0.75% of Total)	1	LUMP	$91,134.75	$91,135
MOBILIZATION	1	LUMP	$1,000,000.00	$1,000,000
			CONSTRUCTION MISC. SUBTOTAL	**$1,111,000**
			CONSTRUCTION COST SUBTOTOAL	**$13,262,300**
COST CONTINGENCY - PRELIMINARY ENGINEERING (30%)				**$3,978,690**
TOTAL CONSTRUCTION COST, 2024 DOLLARS				**$17,241,000**
Engineering	25%			$ 4,310,250.00
CONSTRUCTION COST, 2024 DOLLARS				**$21,552,000**

- ESTIMATE DOES NOT INCLUDE COSTS FOR RIGHT OF WAY ACQUISITIONS OR UTILITY RELOCATIONS.



NEW MARTINSVILLE
COMPREHENSIVE SAFETY ACTION PLAN

PEDESTRIAN IMPROVEMENTS
ALONG HOWARD JEFFERS DR

SHARED USE PATH
OPTION #1

SHARED USE PATH
OPTION #2

THE CITY OF NEW MARTINSVILLE W.VA. 1838

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New Martinsville CSAP
Conceptual Improvements Cost Estimate
Howard Jeffers option #1

DESCRIPTION		UNIT	UNIT PRICE	TOTAL PRICE (2024 dollars)
ROADWAY				
Driveway - Asphalt	1,126	SQ FT	$50.00	$56,300
Excavation	1,770	CU YD	$15.00	$26,550
Embankment	177	CU YD	$15.00	$2,655
10' SUP	2,911	SQ YD	$75.00	$218,325
curb ramps	6	each	$1,600.00	$9,600
Clearing and Grubbing	.57	ACRE	$15,000.00	$8,517
			ROADWAY SUBTOTAL	**$322,000**
DRAINAGE				
Drainage	1	LUMP	$25,000.00	$25,000
			DRAINAGE SUBTOTAL	**$25,000**
EROSION CONTROL & BMP ELEMENTS				
Topsoil	741	CU YD	$24.00	$17,778
Seeding and mulching	4,444	SQ YD	$3.50	$15,556
Erosion Control	1	LUMP	$12,000.00	$12,000
			EROSION CONTROL SUBTOTAL	**$45,400**
PAVEMENT				
			PAVEMENT SUBTOTAL	**$0**
MAINTENTANCE OF TRAFFIC				
MOT	1	LUMP	$10,000.00	$10,000
			MAINTENANCE OF TRAFFIC SUBTOTAL	**$10,000**
TRAFFIC CONTROL				
Traffic Control	1	LUMP	$10,000.00	$10,000
RRFB	1	LUMP	$30,000.00	$30,000
			TRAFFIC CONTROL SUBTOTAL	**$40,000**
LIGHTING				
			LIGHTING SUBTOTAL	**$0**
STRUCTURES				
			STRUCTURES SUBTOTAL	**$0**
CONSTRUCTION MISC.				
FIELD OFFICE, TYPE A	3	MONTH	$1,650.00	$4,950
CONSTRUCTION LAYOUT STAKES (0.75% of Total)	1	LUMP	$12,000.00	$12,000
MOBILIZATION	1	LUMP	$35,000.00	$35,000
			CONSTRUCTION MISC. SUBTOTAL	**$52,000**
			CONSTRUCTION COST SUBTOTOAL	**$494,400**
COST CONTINGENCY - PRELIMINARY ENGINEERING (30%)				**$148,320**
TOTAL CONSTRUCTION COST, 2024 DOLLARS				**$643,000**
Engineering	30%			$ 192,900.00
CONSTRUCTION COST, 2024 DOLLARS				**$836,000**

- ESTIMATE DOES NOT INCLUDE COSTS FOR RIGHT OF WAY ACQUISITIONS OR UTILITY RELOCATIONS.

New Martinsville CSAP
Conceptual Improvements Cost Estimate
Howard Jeffers option #2

DESCRIPTION		UNIT	UNIT PRICE	TOTAL PRICE (2024 dollars)
ROADWAY				
Driveway - Asphalt	1,126	SQ FT	$50.00	$56,300
Excavation	1,770	CU YD	$15.00	$26,550
Embankment	177	CU YD	$15.00	$2,655
10' SUP	2,856	SQ YD	$75.00	$214,200
curb ramps	6	each	$1,600.00	$9,600
Clearing and Grubbing	.56	ACRE	$15,000.00	$8,347
			ROADWAY SUBTOTAL	**$317,700**
DRAINAGE				
Drainage	1	LUMP	$25,000.00	$25,000
			DRAINAGE SUBTOTAL	**$25,000**
EROSION CONTROL & BMP ELEMENTS				
Topsoil	741	CU YD	$24.00	$17,778
Seeding and mulching	4,444	SQ YD	$3.50	$15,556
Erosion Control	1	LUMP	$12,000.00	$12,000
			EROSION CONTROL SUBTOTAL	**$45,400**
PAVEMENT				
			PAVEMENT SUBTOTAL	**$0**
MAINTENTANCE OF TRAFFIC				
MOT	1	LUMP	$10,000.00	$10,000
			MAINTENANCE OF TRAFFIC SUBTOTAL	**$10,000**
TRAFFIC CONTROL				
Traffic Control	1	LUMP	$10,000.00	$10,000
RRFB	1	LUMP	$30,000.00	$30,000
			TRAFFIC CONTROL SUBTOTAL	**$40,000**
LIGHTING				
			LIGHTING SUBTOTAL	**$0**
STRUCTURES				
			STRUCTURES SUBTOTAL	**$0**
CONSTRUCTION MISC.				
FIELD OFFICE, TYPE A	3	MONTH	$1,650.00	$4,950
CONSTRUCTION LAYOUT STAKES (0.75% of Total)	1	LUMP	$12,000.00	$12,000
MOBILIZATION	1	LUMP	$35,000.00	$35,000
			CONSTRUCTION MISC. SUBTOTAL	**$52,000**
			CONSTRUCTION COST SUBTOTOAL	**$490,100**
COST CONTINGENCY - PRELIMINARY ENGINEERING (30%)				**$147,030**
TOTAL CONSTRUCTION COST, 2024 DOLLARS				**$638,000**
Engineering	30%			$ 191,400.00
CONSTRUCTION COST, 2024 DOLLARS				**$830,000**

- ESTIMATE DOES NOT INCLUDE COSTS FOR RIGHT OF WAY ACQUISITIONS OR UTILITY RELOCATIONS.


N
Pedestrian Improvements
Wal-Mart to O'Reilly
Path: Option 1
Path: Option 2
Path: Option 3
Path: Option 1,2,3
Path: Option 1,2
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New Martinsville Study
Preliminary Construction Cost Estimate
Pedestrian Improvement 1

DESCRIPTION		UNIT	UNIT PRICE	TOTAL PRICE (2024 dollars)
ROADWAY				
Excavation	3,552	CU YD	$17.00	$60,381
Embankment	99	CU YD	$17.00	$1,675
Retaining Wall	1,195	SQ FT	$50.00	$59,759
Excavation	3,552	CU YD	$17.00	$60,381
Embankment	99	CU YD	$17.00	$1,675
Standard Curb and Gutter	6,402	FT	$25.00	$160,045
RRFB	4	EACH	$10,000.00	$40,000
Sidewalk	61,543	SQ FT	$9.00	$553,888
			ROADWAY SUBTOTAL	**$937,900**
DRAINAGE				
Drainage	1	LUMP	$30,000.00	$30,000
			DRAINAGE SUBTOTAL	**$30,000**
EROSION CONTROL & BMP ELEMENTS				
Seeding and Mulching	124	SQ YD	$3.50	$433
Top Soil	557	CU YD	$20.00	$11,140
Erosion Control	15,000	LUMP	$1.00	$15,000
			EROSION CONTROL SUBTOTAL	**$26,600**
PAVEMENT				
			PAVEMENT SUBTOTAL	**$0**
MAINTENTANCE OF TRAFFIC				
MOT	1	LUMP	$86,480.00	$86,480
			MAINTENANCE OF TRAFFIC SUBTOTAL	**$86,500**
TRAFFIC CONTROL				
TC	1	LUMP	$25,932.00	$25,932
			TRAFFIC CONTROL SUBTOTAL	**$26,000**
LIGHTING				
			LIGHTING SUBTOTAL	**$0**
STRUCTURES				
			STRUCTURES SUBTOTAL	**$0**
CONSTRUCTION MISC.				
FIELD OFFICE, TYPE A	1	MONTH	$1,650.00	$1,650
CONSTRUCTION LAYOUT STAKES (0.75% of Total)	1	LUMP	$8,302.50	$8,303
MOBILIZATION	1	LUMP	$100,000.00	$100,000
			CONSTRUCTION MISC. SUBTOTAL	**$110,000**
			CONSTRUCTION COST SUBTOTOAL	**$1,217,000**
COST CONTINGENCY - PRELIMINARY ENGINEERING (30%)				**$365,100**
TOTAL CONSTRUCTION COST, 2024 DOLLARS				**$1,583,000**
Engineering	25%			$ 395,750.00
CONSTRUCTION COST, 2024 DOLLARS				**$1,979,000**

- ESTIMATE DOES NOT INCLUDE COSTS FOR RIGHT OF WAY ACQUISITIONS OR UTILITY RELOCATIONS.

New Martinsville Study
Preliminary Construction Cost Estimate
Pedestrian Improvement 3

DESCRIPTION		UNIT	UNIT PRICE	TOTAL PRICE (2024 dollars)
ROADWAY				
Excavation	2,484	CU YD	$17.00	$42,236
Retaining Wall	660	SQ FT	$50.00	$33,000
Sidewalk	67,081	SQ FT	$9.00	$603,725
Driveway	7	EACH	$4,000.00	$28,000
Clearing & Grubbing	1	LUMP	$20,000.00	$20,000
Standard Curb and Gutter	6,930	FT	$25.00	$173,250
RRFB	2	EACH	$10,000.00	$20,000
			ROADWAY SUBTOTAL	**$920,300**
DRAINAGE				
			DRAINAGE SUBTOTAL	**$0**
EROSION CONTROL & BMP ELEMENTS				
Seeding and Mulching	11,550	SQ YD	$3.50	$40,426
Top Soil		CU YD	$20.00	$0
Erosion Control	15,000	LUMP	$1.00	$15,000
			EROSION CONTROL SUBTOTAL	**$55,500**
PAVEMENT				
			PAVEMENT SUBTOTAL	**$0**
MAINTENTANCE OF TRAFFIC				
MOT	1	LUMP	$40,255.00	**$40,255**
			MAINTENANCE OF TRAFFIC SUBTOTAL	
TRAFFIC CONTROL				
TC	1	LUMP	$16,102.00	$16,102
			TRAFFIC CONTROL SUBTOTAL	**$16,200**
LIGHTING				
Lighting	1	LUMP	$30,000.00	$30,000
			LIGHTING SUBTOTAL	**$30,000**
STRUCTURES				
			STRUCTURES SUBTOTAL	**$0**
CONSTRUCTION MISC.				
FIELD OFFICE, TYPE A	3	MONTH	$1,650.00	$4,950
CONSTRUCTION LAYOUT STAKES (0.75% of Total)	1	LUMP	$7,966.91	$7,967
MOBILIZATION	1	LUMP	$100,000.00	$100,000
			CONSTRUCTION MISC. SUBTOTAL	**$113,000**
			CONSTRUCTION COST SUBTOTOAL	**$1,175,255**
COST CONTINGENCY - PRELIMINARY ENGINEERING (30%)				**$352,577**
TOTAL CONSTRUCTION COST, 2024 DOLLARS				**$1,528,000**
Engineering	25.0%			$ 382,000
CONSTRUCTION COST, 2024 DOLLARS				**$1,910,000**

- ESTIMATE DOES NOT INCLUDE COSTS FOR RIGHT OF WAY ACQUISITIONS OR UTILITY RELOCATIONS.

Appendix B: Additional Crash Information

Locations of Focus

Intersections

Based on frequency of fatal and injury crashes, the following are High Injury Network intersections:

- Mount Street & WV-2
  - Recently upgraded to include left turn lane – continue monitoring to determine if the improvement has reduced fatal and injury crashes.
- Harlan Drive & WV-2
- Brickyard Alley & WV-2
- North Street & WV-2
- Rosary Road & WV-2

Corridor Segments

Based on frequency of fatal and injury crashes, the following are High Injury Network roadway segments along WV-2:

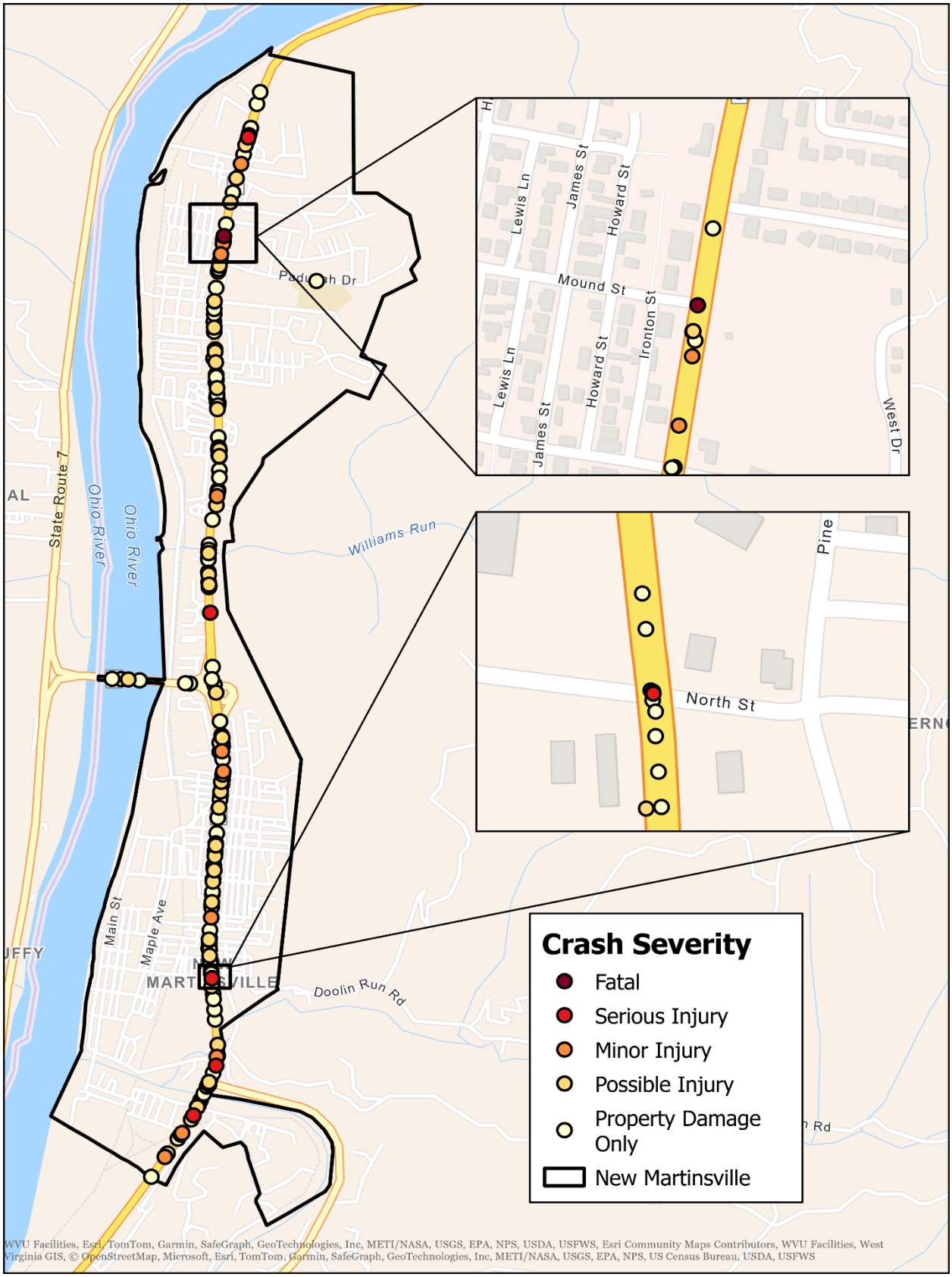
- Between Franklin Street & North Street
- Between Orchard Drive & Mound Street
- Between Foundry Street & Central Street
- Between Rosary Road & Northview Cemetery
- In front of Riverview Plaza Shopping Center
- Between N Bridge Street & Chapel View Apartments
- Between Harlan Drive & County WV-7 (Mountaineer Highway)
- Between Wetzel Street & Russell Avenue
- Between Rose Street & Sampson Drive

Vulnerable Road User (VRU) Segments

Roadway segments that have higher interactions between VRUs (i.e., pedestrians, cyclists) and motorized vehicles have increased risk of serious injury or fatal crashes between the two. The following segments along WV-2 were identified as having high VRU presence:

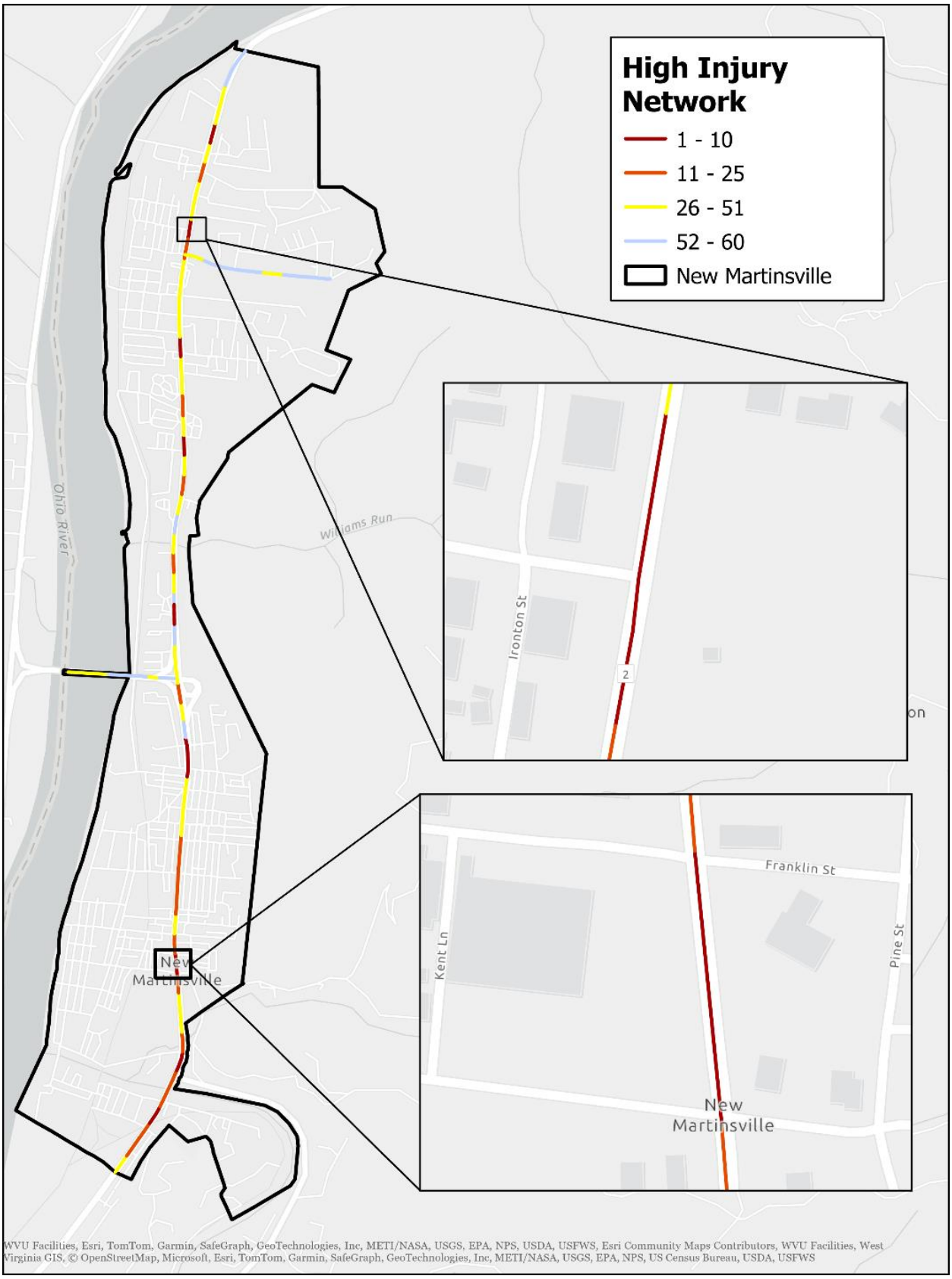
- Between Bengamin Drive to Northview Cemetery
- Between North Street to McEldowny Avenue
- Riverside Village Shopping Center to Russel Avenue (Walmart access)

Reported Crashes in New Martinsville (2017-2021)

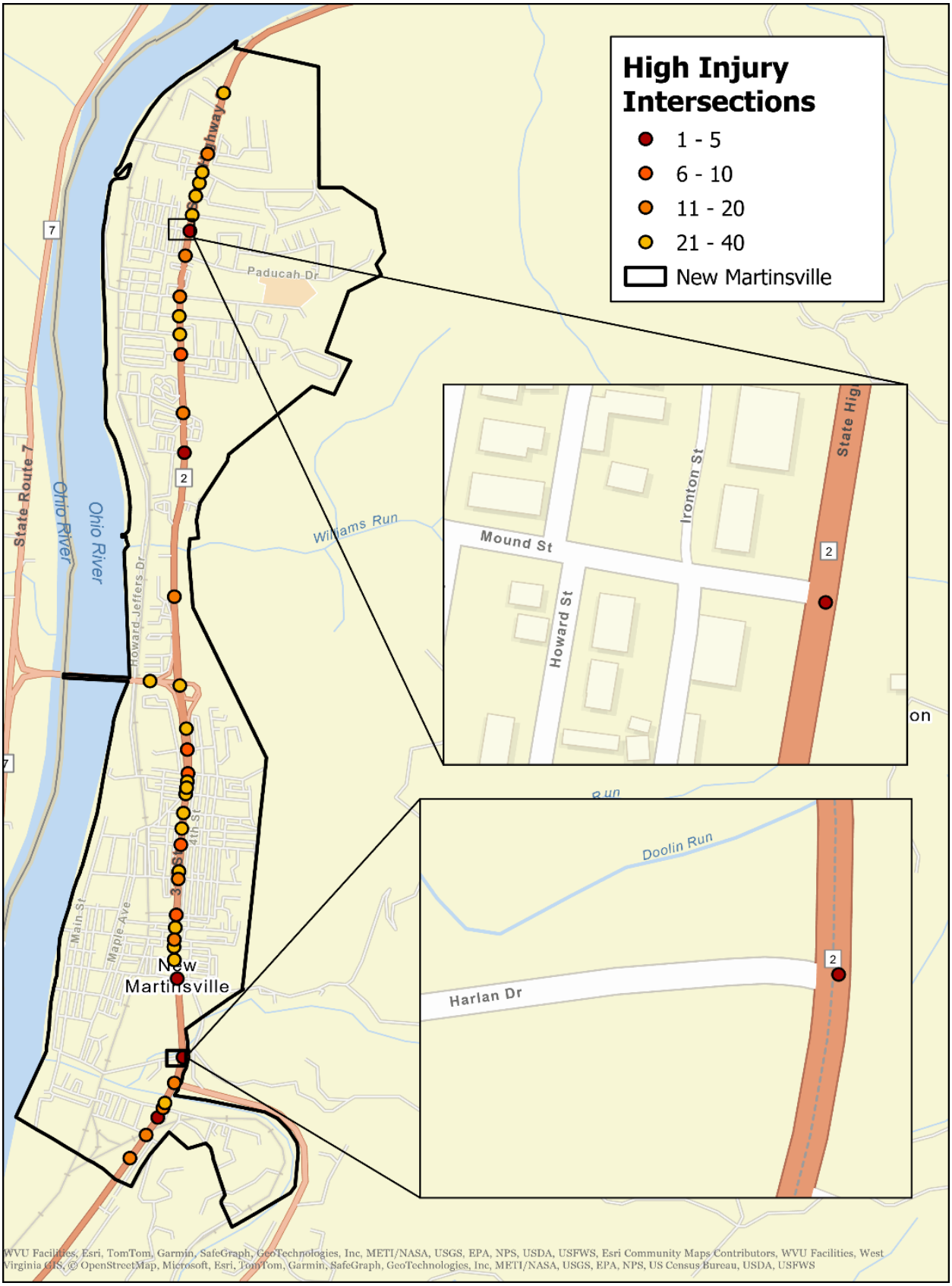


Appendix C: Highway Injury Network Maps, Segments, and Intersections

High Injury Network Roadway Segments in New Martinsville



High Injury Network Intersections in New Martinsville



High Injury Network Segments

Rank	Segment	Frequency	Fatal	Serious Injury	Injury	Possible Injury	Property Damage	EPDO Weight	EPDO per Crash	Crash Frequency Rank	EPDO Total Rank	EPDO per Crash Rank	Priority Score
1	WV 2 from Franklin St to North St	9	0	1	1	2	5	95.5	10.611111	8	3	2	13
2	WV 2 from Orchard Dr to Mound St	5	1	0	1	1	2	959.3	191.86	12	1	1	14
3	WV 2 from Foundry St to Central St	10	0	1	1	0	8	78.3	7.83	7	5	7	19
4	WV 2 from Rosary Rd to Northview Cemetery	11	0	0	0	7	4	74.7	6.7909091	6	6	9	21
4	WV 2 in front of Riverview Plaza	7	0	1	0	1	5	68.3	9.7571429	10	7	4	21
4	WV 2 in front of J.C. Mensore Distributor, Inc.	33	0	1	0	5	27	130.7	3.9606061	1	2	18	21
7	WV 2 from Mountaineer Hwy to Harlan Dr	6	0	1	0	0	5	58.2	9.7	11	8	5	24
8	WV 2 from Wetzel St to Western Union	5	0	0	1	3	1	48.4	9.68	12	9	6	27
9	WV 2 in front of Wal-Mart (Russell Ave)	33	0	0	2	2	29	83.4	2.5272727	1	4	26	31
10	WV 2 from Rose St to Sampson Dr	11	0	0	0	4	7	47.4	4.3090909	6	10	16	32
11	WV 2 from Center St to Amoco	7	0	0	1	2	4	41.3	5.9	10	11	12	33
12	WV 2 from NTB to Duerr St	13	0	0	0	3	10	40.3	3.1	4	12	22	38
13	WV 2 from Franklin St to Virginia St	11	0	0	0	3	8	38.3	3.4818182	6	13	20	39
14	WV 2 from Robinson St to 200 Vine St (WV 2)	5	0	0	1	1	3	30.2	6.04	12	17	11	40
15	WV 2 from Harlan Dr to 250 3rd St (WV 2)	7	0	0	1	1	5	32.2	4.6	10	16	15	41
16	WV 2 from Russell Ave to Bridge Street Church of Christ	3	0	0	0	2	1	21.2	7.0666667	14	23	8	45
17	WV 2 from Crothers Memorial Bridge to Mountaineer Highway (WV 7)	16	0	0	0	2	14	34.2	2.1375	3	15	28	46
17	WV 2 from 450 3rd St (WV 2) to Doolin Run Rd	26	0	0	0	1	25	35.1	1.35	2	14	30	46
17	WV 2 from Amoco to McEldowny Ave	16	0	0	0	2	14	34.2	2.1375	3	15	28	46
20	WV 2 from 200 Vine St (WV 2) to Central St	3	0	0	1	0	2	19.1	6.3666667	14	25	10	49
20	WV 2 from New Martinsville Villas to Carter Lumber	3	0	0	1	0	2	19.1	6.3666667	14	25	10	49
20	WV 2 from Paducah Dr/Helen St to Mound St	3	0	0	1	0	2	19.1	6.3666667	14	25	10	49
23	WV 2 from Foundry St to Crothers Memorial Bridge	11	0	0	0	2	9	29.2	2.6545455	6	19	25	50
23	WV 2 from McEldowny Ave to NTB	7	0	0	0	2	5	25.2	3.6	10	21	19	50
23	WV 2 from New Martinsville Inn to Bob Evans	12	0	0	0	2	10	30.2	2.5166667	5	18	27	50
23	WV 2 from Gravel Ln to Greenlawn Memorial Park	6	0	0	0	2	4	24.2	4.0333333	11	22	17	50
23	WV 2 from Florida St to Steelton St	1	0	0	0	1	0	10.1	10.1	16	31	3	50
23	WV 2 from WV 7 Off Ramp to WV 7 Overpass	1	0	0	0	1	0	10.1	10.1	16	31	3	50
29	WV 2 from N Bridge St to New Martinsville Inn	9	0	0	0	2	7	27.2	3.0222222	8	20	23	51
29	WV 2 from Benjamin Rd to State Run Rd	9	0	0	0	2	7	27.2	3.0222222	8	20	23	51
29	WV 2 from Steelton St to Union St/Oriole Dr	4	0	0	1	0	3	20.1	5.025	13	24	14	51
32	WV 2 from Williams Cemetery to New Martinsville Villas	2	0	0	0	1	1	11.1	5.55	15	30	13	58
32	WV 7 from Howard Jeffers Dr Overpass to Midway on Bridge	2	0	0	0	1	1	11.1	5.55	15	30	13	58
34	WV 2 from Virginia St to Center St	3	0	0	0	1	2	12.1	4.0333333	14	29	17	60
34	WV 2 from State Run Rd to Helen St/Paducah Dr	3	0	0	0	1	2	12.1	4.0333333	14	29	17	60
34	WV 2 from Ada Dr to Florida St	3	0	0	0	1	2	12.1	4.0333333	14	29	17	60
37	WV 2 from Greenlawn Memorial Park to Rose St	10	0	0	0	1	9	19.1	1.91	7	25	29	61
38	WV 2 from Sampson Dr to Thistle Dr	4	0	0	0	1	3	13.1	3.275	13	28	21	62
39	WV 2 from Leap St to Wetzel St	8	0	0	0	1	7	17.1	2.1375	9	26	28	63
39	WV 2 from Long St to Leap St	5	0	0	0	1	4	14.1	2.82	12	27	24	63
39	WV 2 from Bob Evans to Williams Cemetery	5	0	0	0	1	4	14.1	2.82	12	27	24	63
42	WV 2 from Thistle Dr to Benjamin Dr	8	0	0	0	0	8	8	1	9	32	31	72
43	WV 7 from WV 2 On Ramp to Howard Jeffers Dr Overpass	6	0	0	0	0	6	6	1	11	33	31	75
44	WV 2 from Arby's to Rose St	4	0	0	0	0	4	4	1	13	34	31	78

Rank	Segment	Frequency	Fatal	Serious Injury	Injury	Possible Injury	Property Damage	EPDO Weight	EPDO per Crash	Crash Frequency Rank	EPDO Total Rank	EPDO per Crash Rank	Priority Score
45	WV 2 from 350 3rd St (WV 2) to 450 3rd St (WV 2)	2	0	0	0	0	2	2	1	15	35	31	81
45	WV 2 from Carter Lumber to Rosary Rd	2	0	0	0	0	2	2	1	15	35	31	81
45	WV 2 from Orchard Dr to Ada Dr	2	0	0	0	0	2	2	1	15	35	31	81
45	WV 2 from Club Dr to Murray Rd	2	0	0	0	0	2	2	1	15	35	31	81
45	WV 2 from WV 7 On Ramp to WV 7 Underpass	2	0	0	0	0	2	2	1	15	35	31	81
45	WV 7 from Midway on Bridge to State Line	2	0	0	0	0	2	2	1	15	35	31	81
51	WV 2 from Almond St to Robinson St	1	0	0	0	0	1	1	1	16	36	31	83
51	WV 2 from 250 3rd St (WV 2) to 350 3rd St (WV 2)	1	0	0	0	0	1	1	1	16	36	31	83
51	WV 2 from Duerr St to Monroe Ave	1	0	0	0	0	1	1	1	16	36	31	83
51	WV 2 from Northview Cemetery to Greenlawn Memorial Park	1	0	0	0	0	1	1	1	16	36	31	83
51	WV 2 from Riverview Plaza to Murray Rd	1	0	0	0	0	1	1	1	16	36	31	83
51	WV 2 from WV 7 On Ramp to WV 7 Off Ramp	1	0	0	0	0	1	1	1	16	36	31	83
51	WV 2 from WV 7 On Ramp to N Bridge St	1	0	0	0	0	1	1	1	16	36	31	83
51	Paducah Dr from WV 2 to West Dr	1	0	0	0	0	1	1	1	16	36	31	83
51	Paducah Dr from Wetzel County Senior Center to Wetzel County Hospital	1	0	0	0	0	1	1	1	16	36	31	83

High Injury Network Intersections

Rank	Intersection	Frequency	Fatal	Serious Injury	Injury	Possible Injury	Property Damage	EPDO Weight	EPDO per Crash	Crash Frequency Rank	EPDO Total Rank	EPDO per Crash Rank	Priority Score
1	WV 2 & Mound St	5	1	0	1	1	2	959.323	191.8646	11	1	1	13
2	WV 2 & Harlan Dr	9	0	1	1	1	6	86.452	9.60577778	8	4	4	16
3	WV 2 & Brickyard Alley	10	0	1	1	0	8	78.343	7.8343	7	5	5	17
4	WV 2 & North St	34	0	1	1	3	29	129.67	3.81382353	1	2	15	18
5	WV 2 & Rosary Rd	14	0	0	0	7	7	77.763	5.5545	4	6	10	20
6	WV 2 & Russell Ave	34	0	0	2	3	29	93.517	2.7505	1	3	21	25
7	WV 2 & Whitten Ln	3	0	0	1	2	0	37.313	12.4376667	13	11	2	26
7	WV 2 & Rose St	16	0	0	0	4	12	52.436	3.27725	3	7	16	26
7	WV 2 & Elm St	7	0	0	1	2	4	41.313	5.90185714	9	9	8	26
10	WV 2 & Duerr St	13	0	0	0	3	10	40.327	3.10207692	5	10	17	32
11	WV 2 & Robinson St	5	0	0	1	1	3	30.204	6.0408	11	15	7	33
11	WV 2 & McEldowny Ave	19	0	0	0	3	16	46.327	2.43826316	2	8	23	33
13	WV 2 & Helen St/Paducah Dr	7	0	0	1	1	5	32.204	4.60057143	9	14	13	36
14	WV 2 & WV 7	19	0	0	0	2	17	37.218	1.95884211	2	12	26	40
14	WV 2 & Central St	3	0	0	1	0	2	19.095	6.365	13	21	6	40
16	WV 2 & Gravel Ln	14	0	0	0	2	12	32.218	2.30128571	4	13	24	41
17	WV 2 & Virginia St	5	0	0	0	2	3	23.218	4.6436	11	19	12	42
18	WV 2 & Union S t/Oriole Dr	4	0	0	1	0	3	20.095	5.02375	12	20	11	43
18	WV 2 & Foundry St	10	0	0	0	2	8	28.218	2.8218	7	17	19	43
20	WV 2 & N Bridge St	9	0	0	0	2	7	27.218	3.02422222	8	18	18	44
20	WV 2 & Benjamin Dr	11	0	0	0	2	9	29.218	2.65618182	6	16	22	44
22	WV 2 & Florida St	1	0	0	0	1	0	10.109	10.109	15	27	3	45
22	WV 2 & Dairy Ln	1	0	0	0	1	0	10.109	10.109	15	27	3	45
24	WV 2 NB & WV 7 On Ramp	2	0	0	0	1	1	11.109	5.5545	14	26	9	49
24	WV 2 & Ada Dr	2	0	0	0	1	1	11.109	5.5545	14	26	9	49
24	WV 2 NB & WV 7 Off Ramp	2	0	0	0	1	1	11.109	5.5545	14	26	9	49
27	WV 2 & National Tire & Battery/All Seasons Powersports Can-Am Honda	4	0	0	0	1	3	13.109	3.27725	12	24	16	52
27	WV 2 & Wetzel St	3	0	0	0	1	2	12.109	4.03633333	13	25	14	52
29	WV 2 & Franklin St	5	0	0	0	1	4	14.109	2.8218	11	23	20	54
29	WV 2 & Lee Ln	5	0	0	0	1	4	14.109	2.8218	11	23	20	54
29	WV 2 & Long St	5	0	0	0	1	4	14.109	2.8218	11	23	20	54
32	WV 2 & Thistle Dr	9	0	0	0	1	8	18.109	2.01211111	8	22	25	55
33	WV 7 EB & WV 2 SB On Ramp	6	0	0	0	0	6	6	1	10	28	27	65
33	WV 2 & Leap St	6	0	0	0	0	6	6	1	10	28	27	65
35	WV 2 & Orchard Dr	2	0	0	0	0	2	2	1	14	29	27	70
35	WV 2 & Foundry St	2	0	0	0	0	2	2	1	14	29	27	70
35	WV 2 & Club Dr	2	0	0	0	0	2	2	1	14	29	27	70
38	WV 2 & Monroe Ave	1	0	0	0	0	1	1	1	15	30	27	72
38	WV 2 & Florida St	1	0	0	0	0	1	1	1	15	30	27	72
38	WV 2 & Sampson Dr	1	0	0	0	0	1	1	1	15	30	27	72
38	WV 2 & Locust St	1	0	0	0	0	1	1	1	15	30	27	72

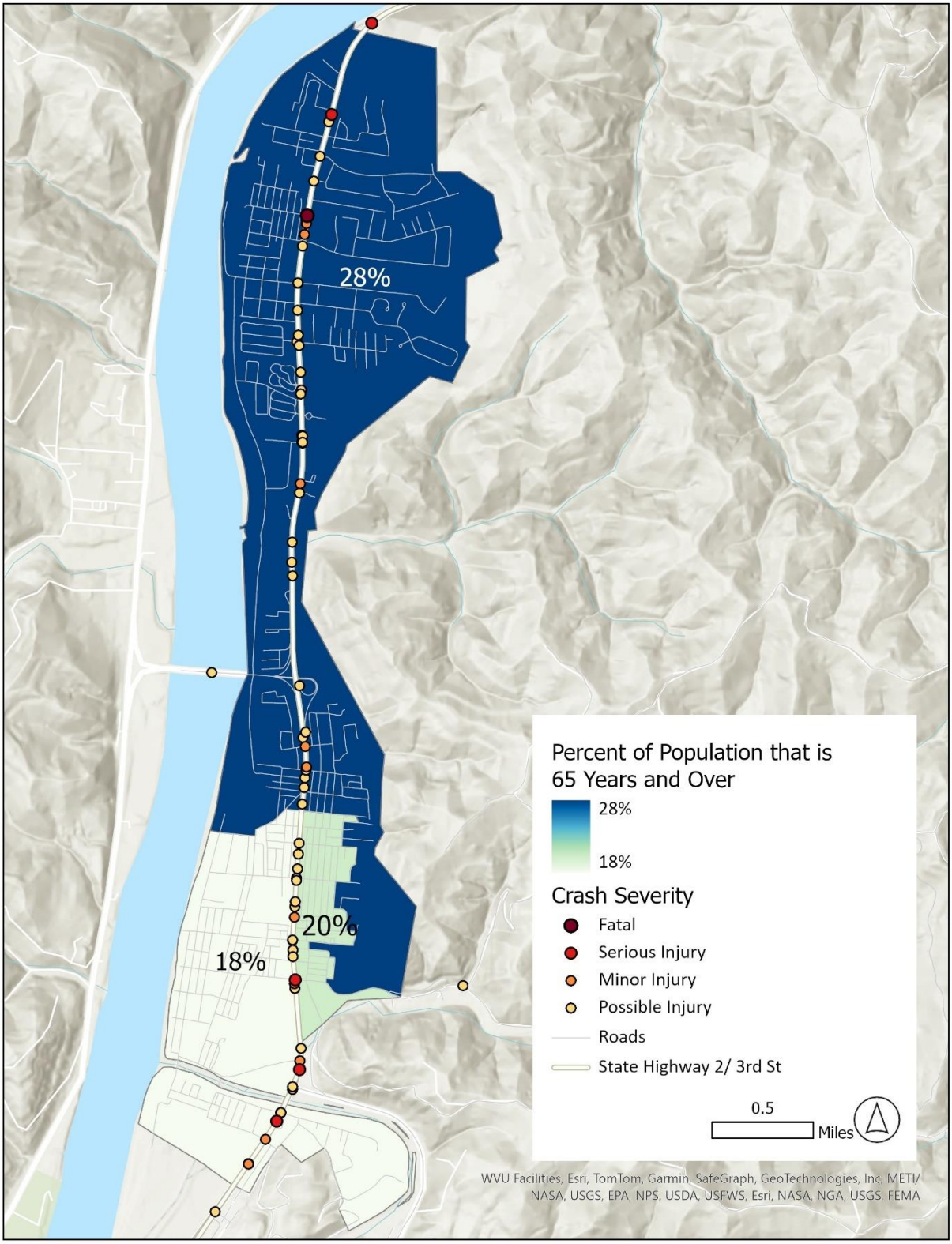
Appendix D: Systemic Analysis Segments

Top 25 Systemic Analysis Segments

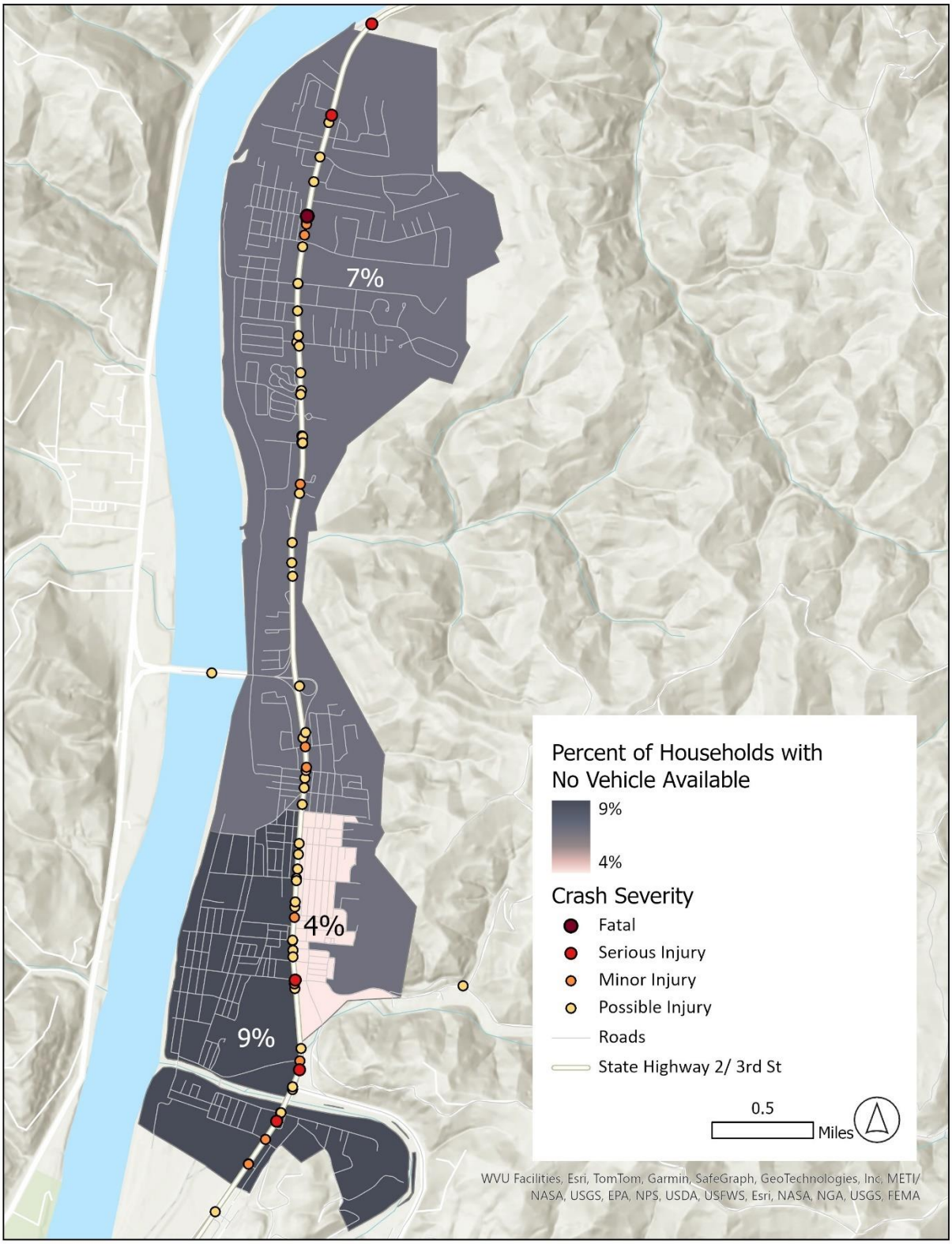
Rank	Route	Segment
1	WV 2	North St to McEldowny Ave
2	Main St	Sports Fields to College St
3	WV 2	E Benjamin Dr to Cemetery
4	North St	Maple Ave to WV 2
5	North St	Pine St to Beech St
6	Main St	Main St Bridge to Baristas Café
7	Maple Ave	Elm St to McEldowny Ave
8	North St	Main St to Martin Ave
9	Maple Ave	Cox St to North St
10	McEldowny Ave	Dogwood St to Bruce Park Rd
11	Martin Ave	Jefferson St to North St
12	Washington St	Main St to Maple Ave
13	Parkway Dr	Monroe Ave to Front St
14	Rose St	Albert St to Rose St
15	WV 2	Russell Ave to N Bridge St
16	WV 2	N Bridge St to McDonalds
17	Jefferson St	Main St to Martin Ave
18	Maple Ave	Harlan Dr to Cox St
19	WV 7	WV 2 to Entrance Ramp
20	WV 7	WV 7 Exit Ramp onto WV 2
21	WV 2	N Bridge St to JC Mensore Distributor
22	E Benjamin Dr	Wetzel County Hospital
23	WV 7	Entrance Ramp to State Line
24	WV 7	WV 2
25	WV 7	WV 7 Entrance Ramp from WV 2

Appendix E: Equity Maps

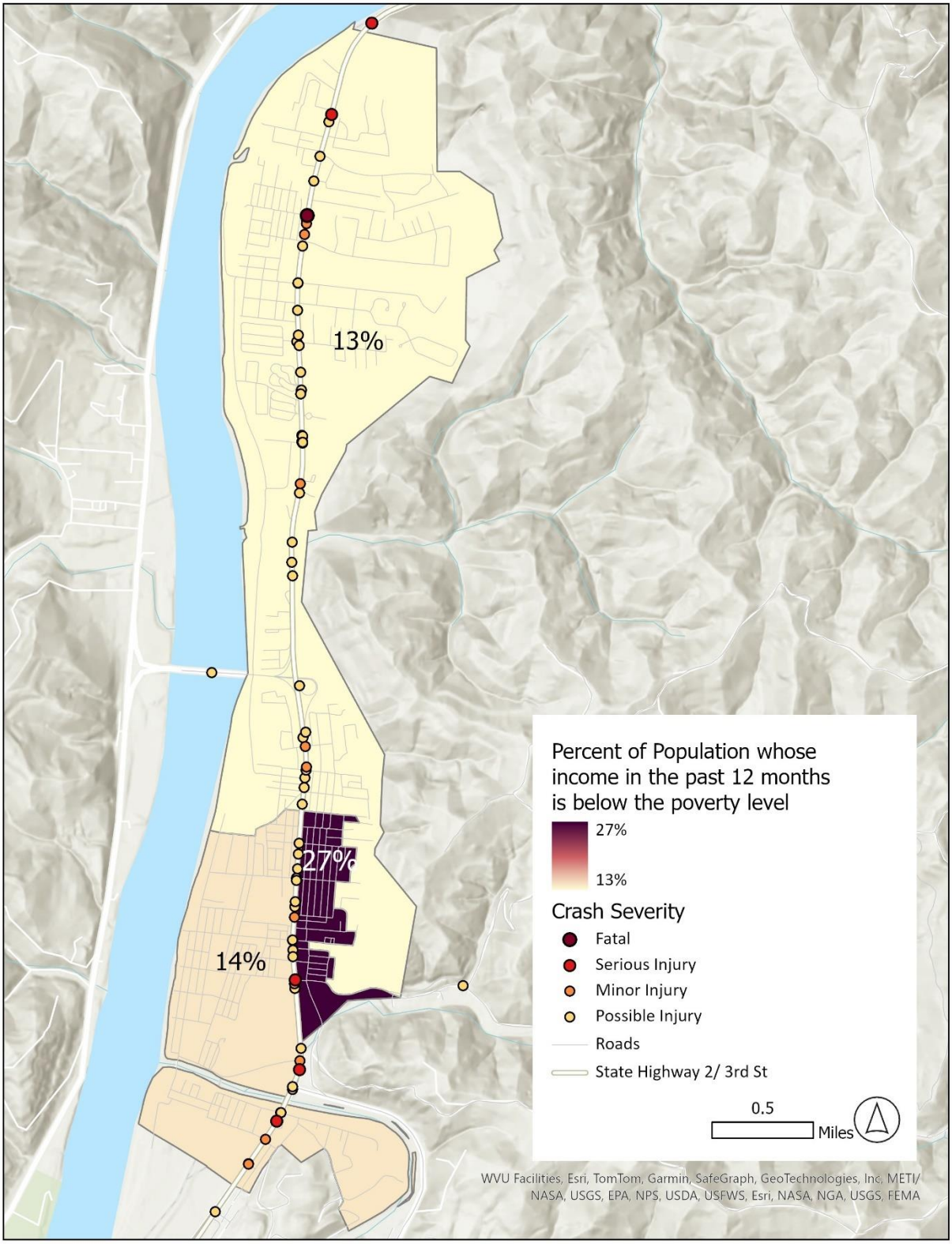
Percent of Population 65 and Over



Percent of Households with No Vehicle Available



Percent of Population Below the Poverty Line

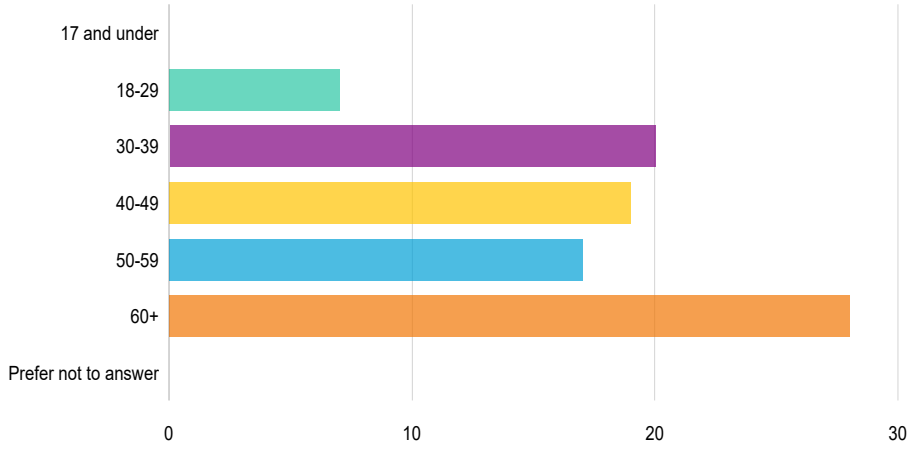


Appendix F: Public Survey Results

New Martinsville Transportation Safety Survey

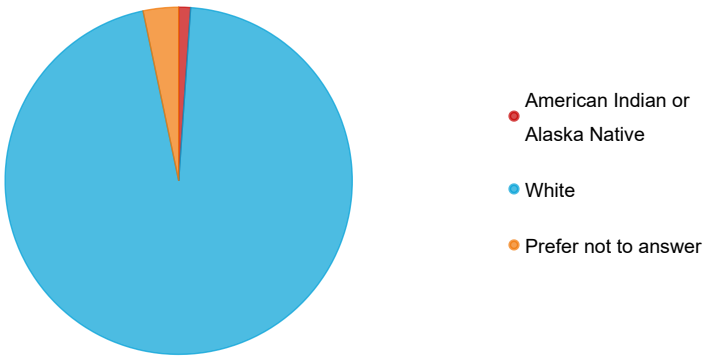
Demographics

Age *



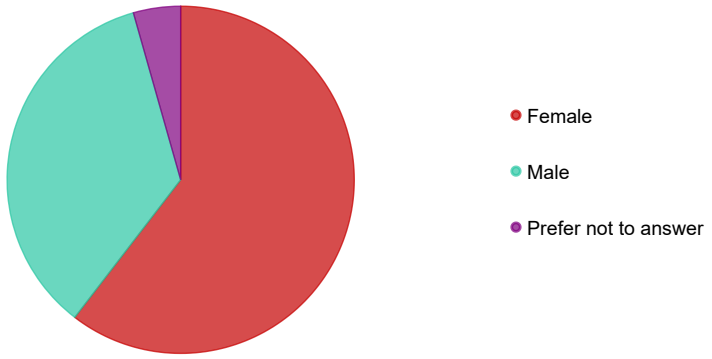
Answered: 91 Skipped: 0

Race *



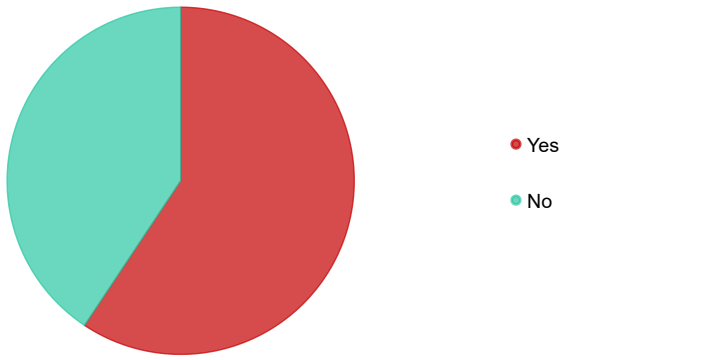
Answered: 91 Skipped: 0

Gender *



Answered: 91 Skipped: 0

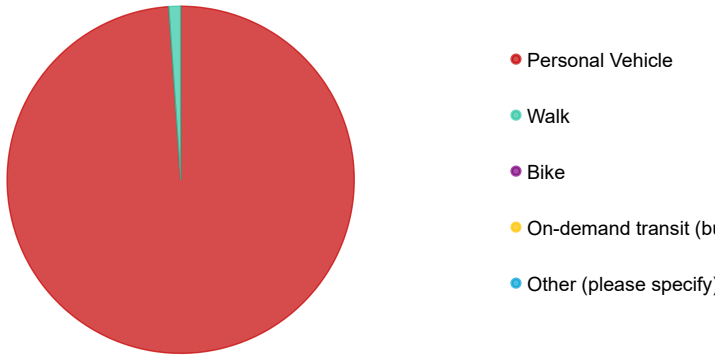
Do you work in New Martinsville? *



Answered: 91 Skipped: 0

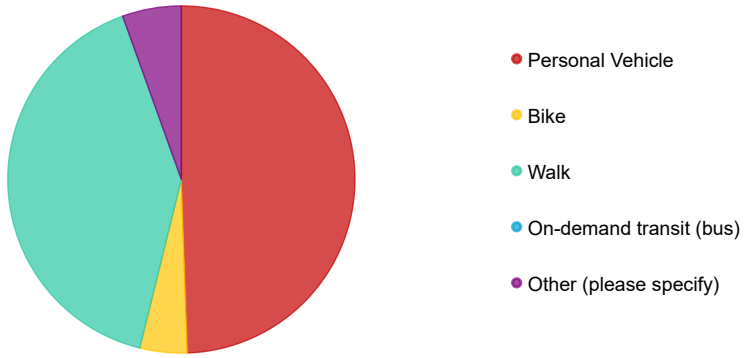
Modes of Travel

How do you regularly or most frequently commute? *



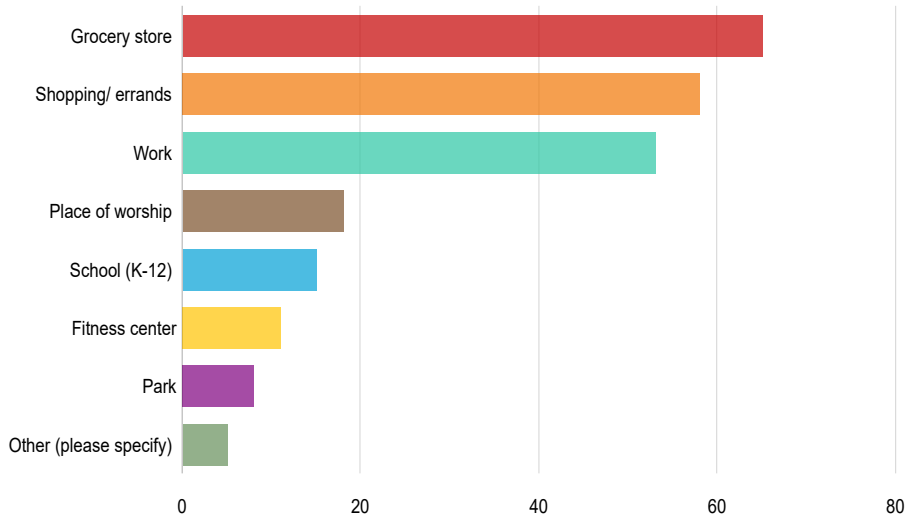
Answered: 91 Skipped: 0

What is your second most used form of transportation? *



Answered: 91 Skipped: 0

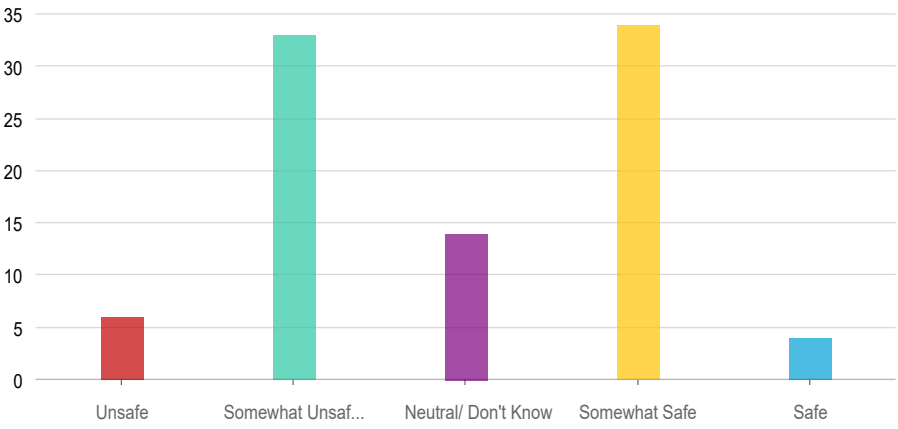
Where do you commute to the most? *



Answered: 91 Skipped: 0

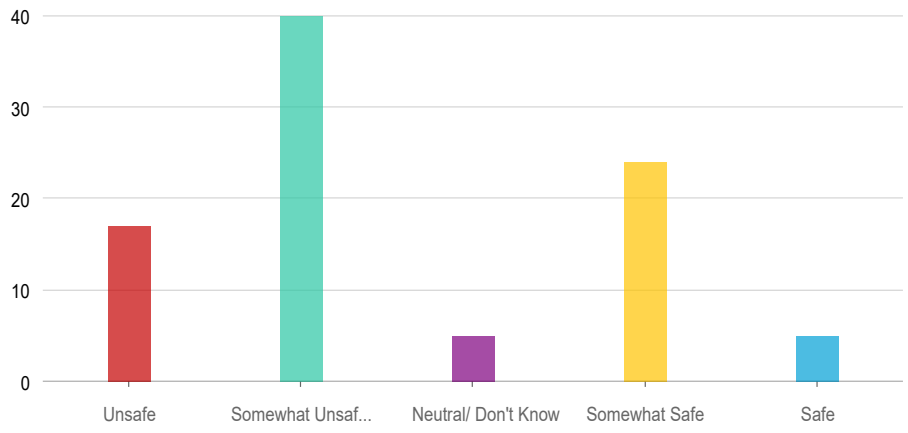
Traffic Safety

How safe are other motorists when driving? *



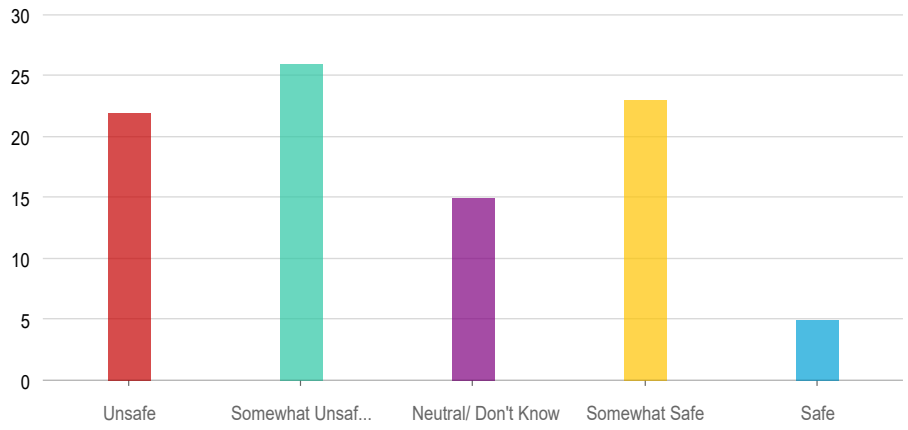
Answered: 91 Skipped: 0

How safe are pedestrians behaving? *



Answered: 91 Skipped: 0

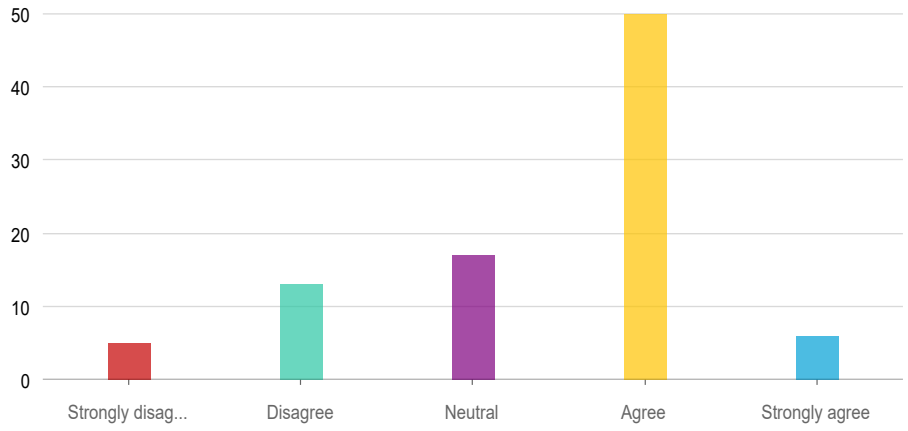
How safe are bicyclists behaving? *



Answered: 91 Skipped: 0

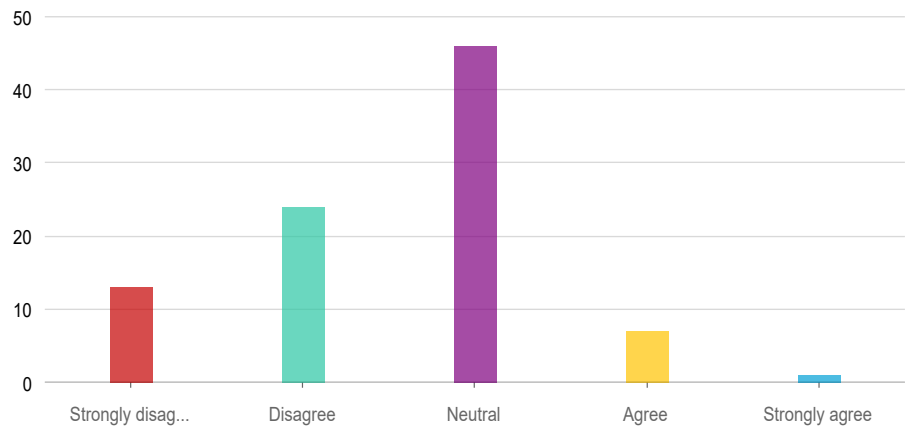
Traffic Safety > Travel in New Martinsville

I feel safe traveling by car *



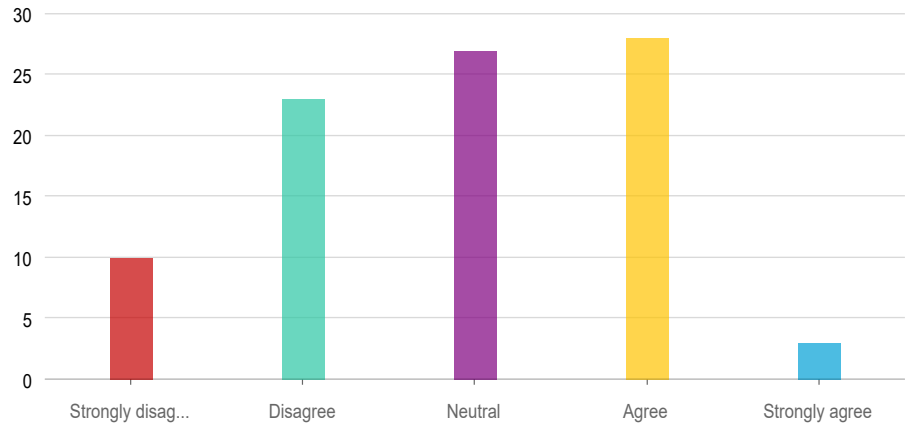
Answered: 91 Skipped: 0

I feel safe when biking *



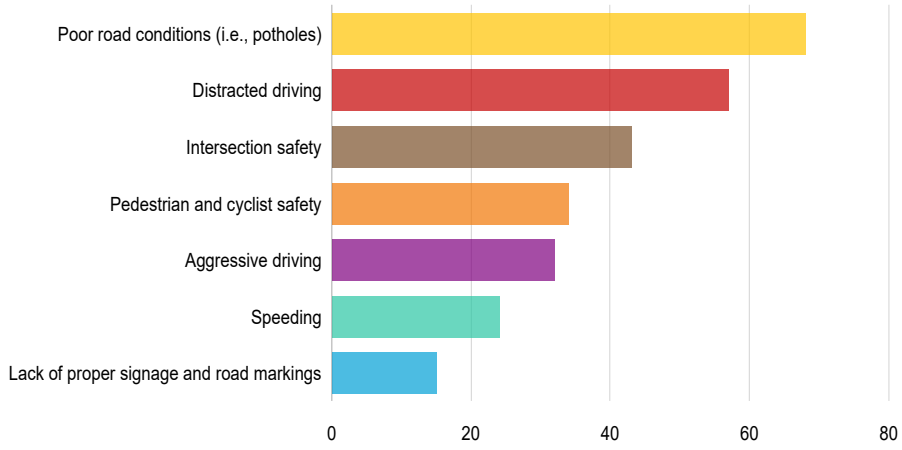
Answered: 91 Skipped: 0

I feel safe when walking *



Answered: 91 Skipped: 0

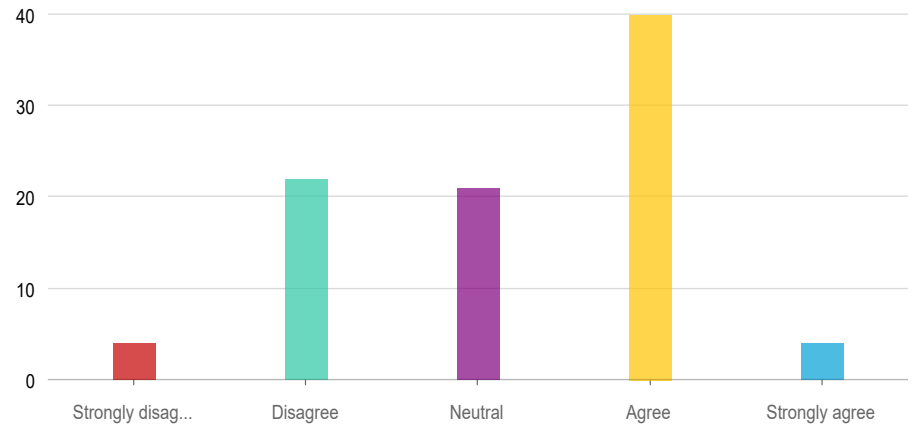
Which roadway safety issues in New Martinsville concern you the most? *



Answered: 91 Skipped: 0

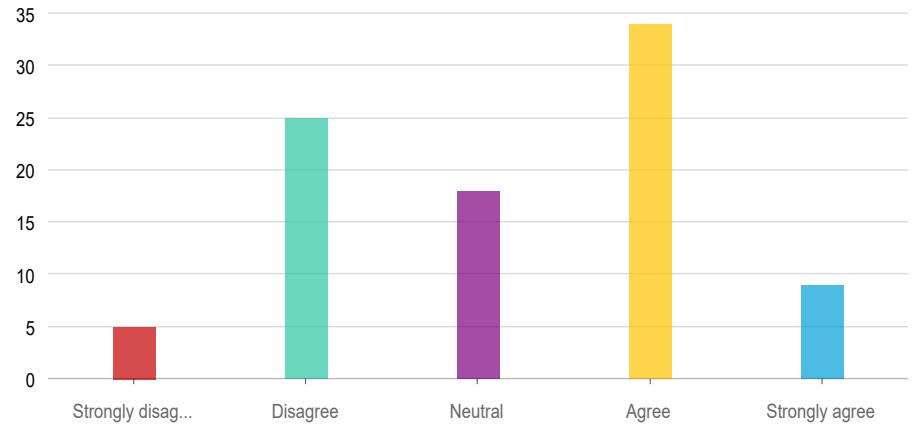
Traffic Safety > Safety in New Martinsville

Cars tend to travel at safe speeds *



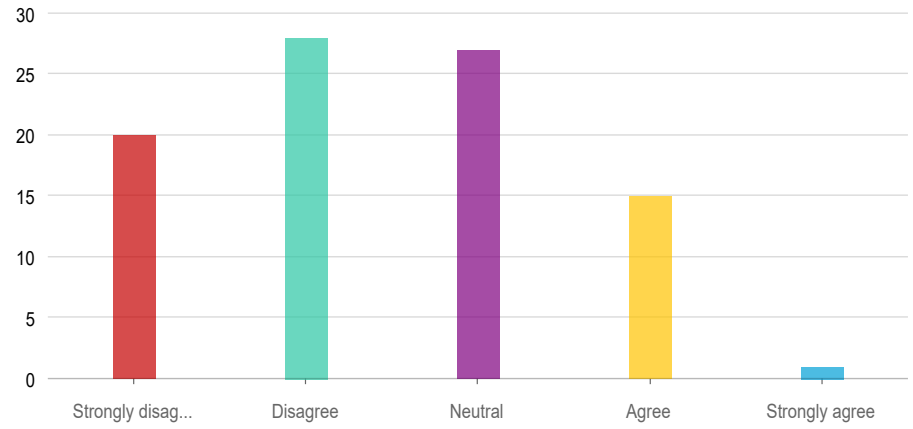
Answered: 91 Skipped: 0

There is sufficient traffic law enforcement in New Martinsville *



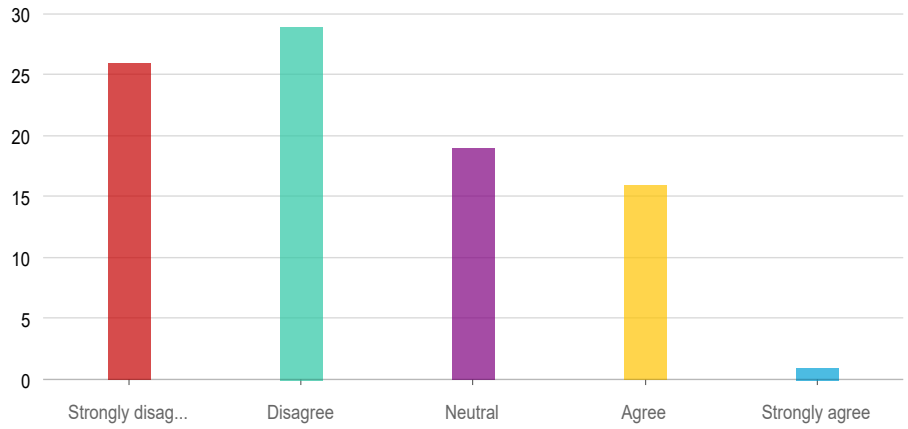
Answered: 91 Skipped: 0

Infrastructure in New Martinsville (bikeways, paths, etc.) is generally… *



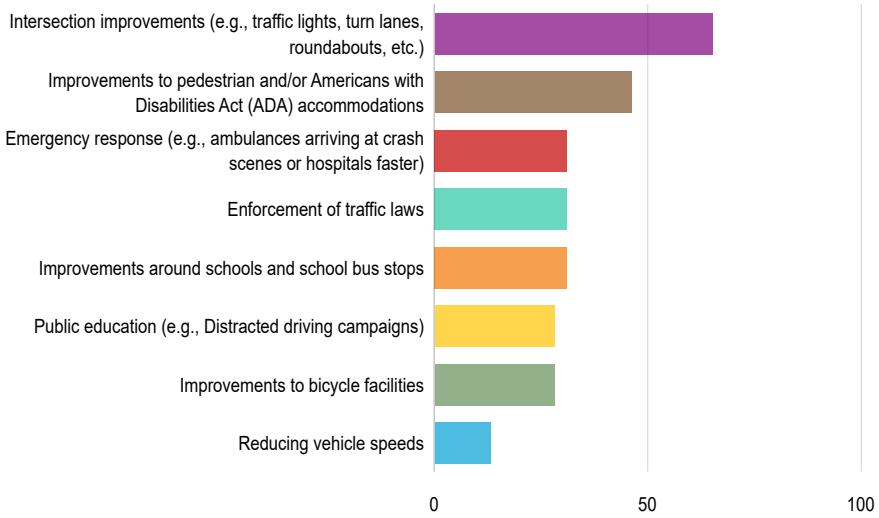
Answered: 91 Skipped: 0

Infrastructure in New Martinsville (sidewalks, crosswalks, etc.) is generally… *



Answered: 91 Skipped: 0

Choose your 3 top priorities for investment for the City of New Martinsville *



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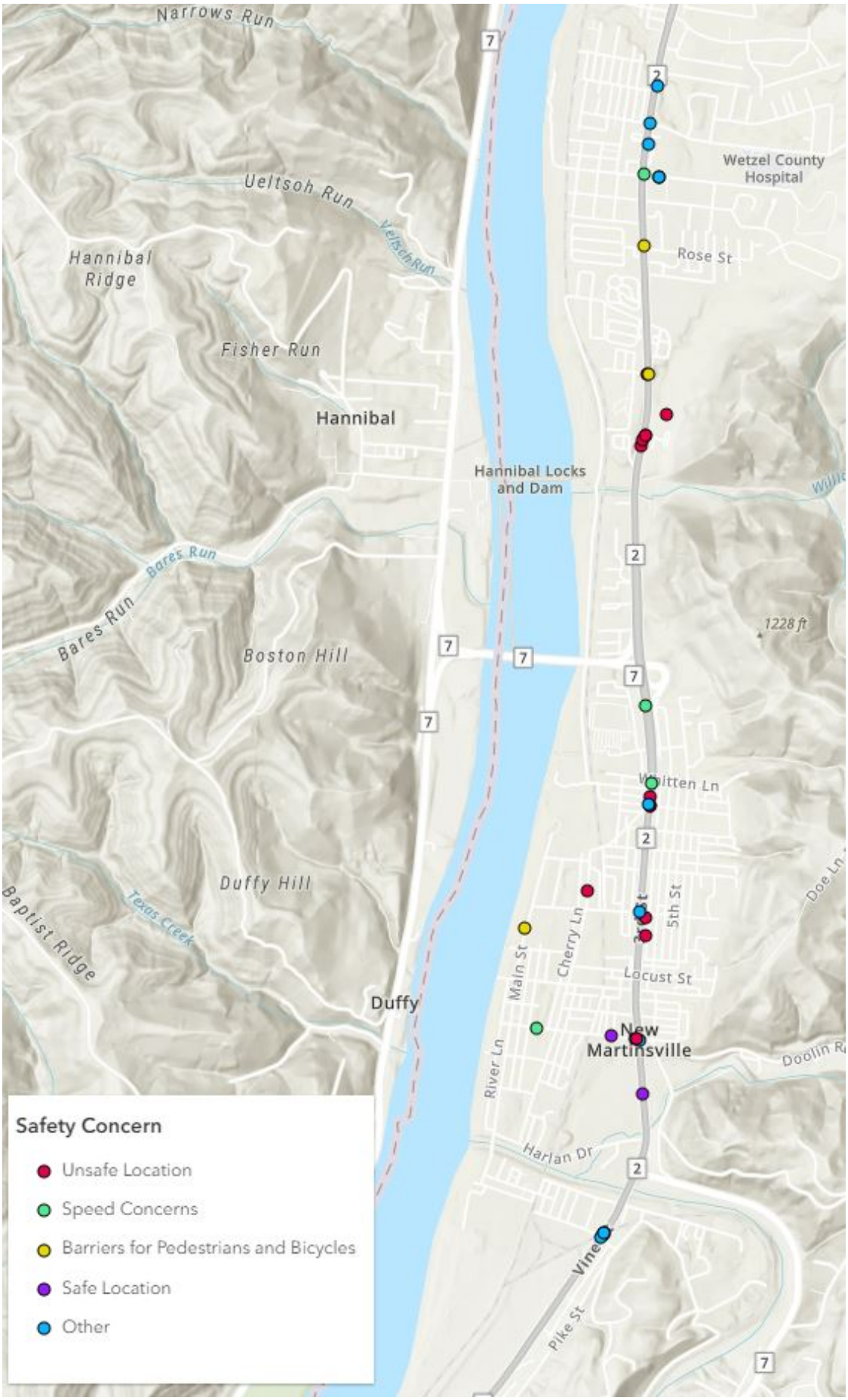
Narrows Run
Ueltsoh Run
Ueltsoh Run
Hannibal Ridge
Fisher Run
Hannibal
Hannibal Locks and Dam
Wetzel County Hospital
Rose St
Bares Run
Bares Run
Boston Hill
1228 ft
Whitten Ln
Duffy Hill
Texas Creek
Baptist Ridge
Duffy
Main St
Cherry Ln
5th St
Locust St
New Martinsville
River Ln
Harlan Dr
Vine
Pike St
Doe Ln
Safety Concern
Unsafe Location
Speed Concerns
Barriers for Pedestrians and Bicycles
Safe Location
Other

Appendix G: Stakeholder Meeting Summaries

Stakeholder Meeting #1 Summary

January 29, 2024
New Martinsville City Hall Council Chambers
191 Main Street
New Martinsville, WV 26155
1:30-3:00 PM

Attendees:

- Sean Snyder, WV Government Highway Safety Program
- Dwight Law, New Martinsville Planning Commission
- Michael Seckman, Congressman Alex Mooney's Office
- Kim Whiteman, New Martinsville City Recorder
- Iris Isaacs, New Martinsville City Council
- Steve Pallisco, New Martinsville City Council
- Tom Lemons City of New Martinsville – Street Department
- Brady Vannest WVDOH Traffic Engineering
- Michelle Casto WVDOH Traffic Engineering
- Joe Smith, New Martinsville City Council
- Dawn Myers, New Martinsville Electric Department
- Bill Glover New Martinsville Planning Commission
- Sharon Campbell, Wetzel-Tyler Chamber of Commerce
- John Yevuta, Citizen
- Jeff Gieseke, New Martinsville City Council
- Jeffrey Shade, Resident
- Bob McClure, Resident
- Timothy Cecil, New Martinsville Chief of Police
- Kendra Schenk, Burgess and Niple (B&N)
- Rodney Holbert, Burgess and Niple (B&N)
- Maria Cantrell, Burgess and Niple (B&N)

Welcome and Introductions

The meeting was opened with introductions of all attendees. Kendra Schenk (B&N) gave a general overview of the Comprehensive Safety Action Plan (CSAP), emphasizing a focus on the PEOPLE and ensuring they can commute safely throughout New Martinsville. The plan is necessary to be able to compete for implementation funding through the US Department of Transportation Safe Streets and Roads for All Program.

Transportation Safety Plan Focus and Approach

From 2017-2021, one person was killed, and 90 crashes resulted in injury in New Martinsville. To reduce fatal and serious injury crashes, it will take a multidisciplinary approach with the help of everyone who was a part of this meeting. The process for this plan will involve a crash analysis, three stakeholder meetings, a systemic analysis, an action plan, and a report which all lead to the implementation of safety strategies to reduce fatalities and serious injuries:

A requirement of the federally funded plan is to pursue traffic safety through the Safe System Approach (SSA). This shift in approach to traffic safety is based on the following *fundamental principles*:

- Death and Serious Injuries Are Unacceptable
- Humans Make Mistakes
- Humans Are Vulnerable
- Responsibility is Shared
- Safety is Proactive
- Redundancy is Critical

This redundancy is achieved by working to optimize the 5 elements of the SSA:

- Safe Road Users – People who walk, bike, and drive understand and follow the rules of the road
- Safe Vehicles – safety mechanisms within the vehicles themselves and new technologies to connect vehicle to infrastructure
- Safe Speeds – setting and encouraging appropriate safe speeds
- Safe Roads – designing and building roads to achieve safe speeds and accommodating all road users
- Post Crash Care – working with emergency responders to support their efforts to arrive timely and working with improving documentation of incidents.
- Equity and Culture are also critical components of this Comprehensive Safety Action Plan to advocate for all road users equally and optimize investments in the region and to prioritize safety over other competing demands of the roadway system.

There was discussion about zero fatalities and serious injuries being feasible in the region. In 2019, there were ZERO days with a fatal or serious injury in the city. In fact there were 708 consecutive days from February 25, 2018 – February 3, 2020 that were without anyone killed or seriously injured. Building upon the successes that occurred during here, elimination of traffic fatalities and serious injuries could be achieved in future years.

Vision and Goal Overview

As part of this plan, we look to have a vision and goal to drive progress. A Vision Statement is intended as a look to the future of an ideal condition and an agency's values. A Goal Statement is intended to be more specific pursuits to reach the vision. Example Vision and Goal statements for traffic safety plans were provided.

Ideally, everyone agrees that they want people to travel safely to their destination, but skepticism was found when factors outside of the influence of these stakeholders contributes to

crashes. The team was encouraged to focus on the things the stakeholders CAN affect, such as roadway design and creating a culture of safety.

Kendra asked that the team continue to ponder vision and goals and some suggestions would be presented before the next meeting.

Current Safety Opportunities and Challenges & Problem identification

The group was next asked to identify challenges and opportunities in the area. What are things we wish we could do differently? What's already happening that should continue or further expand? The group identified the following:

Opportunities

- Governor's Highway Safety program has funding opportunities through NHTSA; particularly for targeting impaired driving
- State is revising roadway departure standards and signage
- Technology opportunities like speed tracking
- Schools are monitored for traffic patterns and behavior
- DUI checkpoints
- Local drivers do seem to understand the rules of the road better

Challenges

- Speeding and lack of seatbelt use
- Pavement markings are faded/missing/mis-aligned
- Lack of sidewalk, lighting, working crosswalks
- Lack of safe places for law enforcement to pull drivers over
- Law enforcement officer staffing
- Lack of speed cameras
- General funding and staffing
- Work zone enforcement
- Drivers do not understand proper use of center left turn lane
- Gridlock at locations (including at railroad crossings) with no alternate route – especially difficult for emergency response
- Speed limits set to 85th percentile – i.e. the faster the general public travels yields a higher speed limit setting
- Utility poles too close to the road (challenges for turning trucks to maneuver safely)
- Street drainage – storm system pipes too small to accommodate rain events resulting in ponding in street
- Bridge from Ohio and adjacent exit lanes dirty, muddy - poor conditions for bicycle riding
- Tree removal on medians
- Non-local unfamiliar drivers

Problem areas (Route 2)

- Vehicles coming off the bridge from Ohio
- Walmart intersection is challenging, especially for turning trucks
- 5-way intersection at Leap St – new striping of lanes seems mis-aligned and needs review
- Lots of pedestrians headed to/from New Martinsville Villas area

Crash Data Trends

An overview of crash data trends was provided:

2017-2021 - 411 Reported Crashes

- 1 Fatal
- 6 Serious Injury
- 84 Lesser Injury
- 320 Property Damage Only

Trends:

- The majority are rear end, angle crashes, sideswipe, and roadway departure
- 75% occur during daylight
- 81% occur during dry weather (very few during snow/ice)
- Time of day peaks around noon and late afternoon/early evening
- Generally, younger drivers were cited most often
- Most crashes are intersection related, speed related, and/or involve someone over age 65

Next Steps

A traffic safety public survey will be circulated in the next couple of weeks. It will be an online format but can also be printed. Stakeholders are asked to share the survey with their network to seek as much input as possible. B&N will continue to further delve into the data to identify crash hots spots and priority locations for evaluation. An equity analysis will also be completed. When the Stakeholder group reconvenes in March, we will revisit the Vision and Goals, review the public input, and begin talking about potential strategies for the safety plan.

Stakeholder Meeting #2 Summary

March 19, 2024
New Martinsville City Hall Council Chambers
191 Main Street
New Martinsville, WV 26155
9:30-11:30 AM

Attendees:

- Sandy Hunt, New Martinsville Mayor
- Steve Pallisco, New Martinsville City Council
- Joe Smith, New Martinsville City Council
- Jeff Gieseke, New Martinsville City Council
- Tom Lemons, City of New Martinsville – Street Department
- Bryan Ensinger, New Martinsville Planning Commission
- Michael Seckman, Congressman Alex Mooney's Office
- Dawn Myers, New Martinsville Electric Department
- Jeffrey Shade, Resident
- Charles Sheedy, WV Delegate 7th District
- James Benner, Belomar
- Kendra Schenk, Burgess and Niple (B&N)
- Rodney Holbert, Burgess and Niple (B&N)
- Maria Cantrell, Burgess and Niple (B&N)

Welcome and Recap of Meeting #1

The meeting opened with attendee introductions. Kendra Schenk (B&N) gave a high-level recap of the first stakeholder meeting held in January. This plan is rooted in the Safe System Approach which will serve as the basis for crash mitigation strategies within the City of New Martinsville. Zero fatalities and serious injuries is attainable in New Martinsville. In fact, there were no fatalities or serious injuries reported in 2019. As part of the plan, reasons for this success can be identified, evaluated, and replicated.

Safety Vision and Goals

As part of this plan, we look to have a vision and goal to drive progress. The objective identified in the West Virginia Strategic Highway Safety Plan (SHSP) was presented to the group. Based on the crash data for the City and the famous Back Home festival, B&N proposed the following vision statement for the plan:

Getting Everyone Back Home! Striving for zero deaths and serious injuries by 2045.

To facilitate further discussion about the vision statement, B&N presented several timeframe scenarios to achieve zero fatalities and serious injuries. To achieve zero deaths and serious injuries by 2050, a 3.8% annual reduction would be required. This is lower than the state's goal

of a 4% annual reduction. Conversely, a 4.8% annual reduction would result in zero fatalities and serious injuries by 2045.

There was discussion about the feasibility of achieving zero deaths and serious injuries by 2045 without autonomous vehicles. The Safe System Approach will help account for human error and provide redundancies so that if a human mistake is made, the result is not fatal or life-altering. While this goal may be viewed as aggressive, the group agreed that the plan should have a goal of zero fatalities and serious injuries within a reasonable timeframe. The strategies in the plan will help guide the process to achieve this goal.

Additionally, the group discussed the number of out of state drivers who travel through New Martinsville and how they factor into the City's safety. B&N explained that the City of New Martinsville is not alone in their efforts to develop an aggressive safety plan such as this one. The safety culture being built by New Martinsville and other communities across the country will influence all drivers. Furthermore, there are strategies that can be explored such as narrower roadway widths and traffic calming improvements that will reduce vehicular speeds regardless of the driver's origin.

The oil and gas trucks that travel through the City strike safety barriers, guardrails and poles that ultimately require maintenance and repair at the expense of the taxpayers of New Martinsville. These property damage crashes often go unreported. One suggestion for this plan is to reach out to these trucking companies to discuss these safety issues and identify crash mitigations.

The West Virginia Legislature is considering legislation that will allow larger trucks on state routes, including Route 2. Strategies identified in the plan can consider the potential for larger vehicles in New Martinsville.

There was discussion about which age groups are contributing to the crashes in the area. The emphasis area analysis will shed more light on these age groups along with the other contributing factors.

After completing the discussion, the vision and goal for New Martinsville will be the following:

Vision: Getting Everyone Back Home! Striving for zero deaths and serious injuries by 2045.
Goal: Reduce fatalities and serious injuries by 5% annually.

Preliminary Public Survey Results

The preliminary public survey results were presented. As of Thursday, March 14, there were 86 survey responses and 32 individual points on the concerns map. The survey results indicated that the majority of respondents feel safe traveling by car, but most feel neutral or unsafe when walking. It is important to note that these results were not correlated with the respondents who said they did not walk as a primary mode of transportation. It is believed that several of those respondents likely indicated they felt neutral to walking safety in the community.

The most identified safety issues were poor road conditions (e.g., potholes), distracted driving, intersection safety, and pedestrian and cyclist safety. Respondents also indicated where they

felt the safety improvement investment priorities should be placed. Top results were intersection improvements, improvements to pedestrian facilities, and emergency response.

Some respondents also provided write-in comments about their feelings on New Martinsville's safety concerns. Several of these respondents indicated concerns with traffic queueing at the railroad crossing on Route 2. When trains stop for long periods of time over the crossing, emergency vehicles are delayed, traffic backs up, and access to and from New Martinsville is obstructed. These concerns will be reviewed, and strategies will be identified as part of the plan's next steps.

Focus Area Discussion

The seven West Virginia SHSP emphasis areas (i.e., contributing factors) were compared with the crash occurrences in New Martinsville. Meeting participants were asked what the plan's top three focus areas should be by placing "dot" stickers on the presentation activity. While distracted driving is not a specified emphasis area for the state (likely because it is vastly underreported), it was added for consideration as a focus for the City of New Martinsville. The results of this activity are as follows:

Emphasis Area	Statewide Fatal and Serious Injury*	New Martinsville Fatal and Serious Injury**	New Martinsville All Crashes***	Priority
Speed and Aggressive Driving	57%	29%	23%	(9)
Roadway Departure	55%	0%	5%	
Occupant Protection	32%	29%	1%	
Older Driver	22%	43%	24%	
Alcohol and Drug Impaired	22%	29%	3%	
Intersections	18%	43%	37%	(9)
Pedestrians	7%	0%	0%	(3)
Distracted Driving				(9)

*From 2016-2020 Strategic Highway Safety Plan
** 2017-2021 Crash Data (7 fatal and serious injury crashes)
*** 2017-2021 Crash Data (411 total crashes)

As part of the next steps of the plan, B&N will evaluate Speed and Aggressive Driving, Intersections, Pedestrians, and Distracted Driving crashes in more detail and determine contributing factors.

Top Location Priorities

To identify the priority locations within the City of New Martinsville, B&N evaluated the roadway network using a reactive and proactive method. First, a High Injury Network was identified by determining the Equivalent Property Damage Only (EPDO) factors for intersections and segments. This EPDO factor weights injury crashes in terms of an equivalent number of property damage crashes. The weighting factors are determined using the economic crash costs determined and used by West Virginia DOH in their AASHTOWare Safety analysis tool. A composite scoring comprised of the ranks for the EPDO value per crash, total EPDO value at

the location, and the crash frequency was used to determine the priorities for New Martinsville roadway segments and intersections.

A systemic analysis was also conducted for roadway segments in New Martinsville for Vulnerable Road Users (VRUs). VRUs are defined as bicyclists, pedestrians, and other road users not in a motor vehicle. West Virginia's VRU Assessment methodologies were used for this analysis due to the lack of sufficient pedestrian and bicycle crash data in New Martinsville. Risk factors such as posted speed limit, bicycle and pedestrian volumes, traffic volumes, and roadway functional classification were used to identify segments that may be more susceptible to VRU crashes based on their characteristics.

Both reactive and proactive priority lists were provided to the stakeholders for discussion. Attendees provided comments by marking up a map. Comments included the following:

- The highest-ranking priority intersection, Route 2 and Mound Street, has been upgraded recently to include a turn lane.
- Lighting is needed throughout the city, particularly along Route 2.
- There is notable pedestrian and truck traffic along Route 2 between Ada Drive and Murray Road.
- There is also observed pedestrian traffic around the senior and affordable housing complexes between Rosary Road and Bridge Street.
- Cement trucks routinely make slow moving turns at the intersection of Route 2 and Rosary Road which may be contributing to crashes at this location.
- There is a weaving concern between the bridge and Leap Street on Route 2. Traffic coming from the bridge, particularly truck traffic, routinely travels southbound through town which requires two lane changes (toward the inside lanes) within a short distance. Additionally, southbound traffic coming from New Martinsville from the north on Route 2 is often destined for businesses in town. This traffic wants to be in the outside lane. Crashes in this area could be caused by these lane changes.
- Large trucks have difficulty turning at the Route 2 and Russell Avenue intersection.
- There is a desired connection for pedestrians between Wetzel Street (near the Martin Marietta Gravel Yard) to Duerr Street. This would provide better connectivity between the sports fields, Hydro Park, and downtown.
- There is a concern about the lack of pedestrian accommodations and the common flooding issues that occur between Harlan Drive and North Street.
- The 45-mph speed limit on Route 2 when entering New Martinsville from the south is thought to be too high.
- The train blockage results in traffic backups that may be contributing to crashes at Route 2 and Harlan Drive. Additionally, the northbound left-turn movements at this intersection are problematic without an exclusive signal phase.
- In general, gas and sand trucks travel through town on Route 2 during all hours of the day, many and are often destined to and from Route 7 (Mountaineer Highway).

Next Steps

To wrap up the meeting, Kendra provided an overview of the next steps in the planning process. B&N will review the data for the identified focus areas. The priority locations based on the crashes and risk factors will be overlaid with information received from the public and stakeholders to help formulate ideas for potential strategies. Draft strategies will be identified in preparation for the next stakeholder meeting in June.

NEW MARTINSVILLE COMPREHENSIVE SAFETY ACTION PLAN STAKEHOLDER MEETING #2

Location: New Martinsville City Hall

Date: Tuesday, March 19, 2024

Time: 9:30 AM to 11:30 AM

Agenda

Welcome and Introductions
(9:30 AM – 9:45 AM)

Introductory remarks and participant introductions

Recap of Stakeholder Meeting #1
(9:45 AM – 9:55 AM)

Summary of the first stakeholder meeting

Safety Vision and Goals
(9:55 AM – 10:20 AM)

Group discussion on the draft safety vision and goals for New Martinsville

Public Survey Summary
(10:20 AM – 10:25 AM)

Preliminary results from the public survey

Focus Area Discussion and Exercise
(10:25 AM –10:55 AM)

Review and discussion of New Martinsville Focus Areas for the action plan

Top Location Priorities
(10:55 AM – 11:25 AM)

Presentation and discussion of ranked priority locations based on crash frequencies and risk factors

Wrap Up and Next Steps
(11:25 AM – 11:30 AM)

Summary of meeting and next steps for the plan

New Martinsville Comprehensive Safety Action Plan

Stakeholder Meeting #2

March 19th, 2024

BURGESS & NIPLE

1

Agenda

- Welcome and Introductions
- Recap of Stakeholder Meeting #1
- Safety Vision and Goals
- Public Survey Summary
- Focus Areas
- Top Intersections
- Wrap Up and Next Steps

BURGESS & NIPLE

2

Welcome and Introductions

- Name, Agency, Role

BURGESS & NIPLE

3

Recap of Stakeholder Meeting #1

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4

Zero is Attainable!

NEW MARTINSVILLE

had

ZERO

FATALITIES OR SERIOUS INJURIES

IN 2019

New Martinsville had

zero fatalities or serious injuries for

708 CONSECUTIVE DAYS

(February 25, 2018 – February 3, 2020)

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5

What to Consider in the Plan

- Opportunities to **make roads safer – ZERO fatalities and serious injuries**
- Ensure we all take **personal responsibility**
- Address **speed**
- Reliable **post-crash care**
- **Innovations/Technology**
- Safety is **Equitable**
- Create a **Culture** of safety

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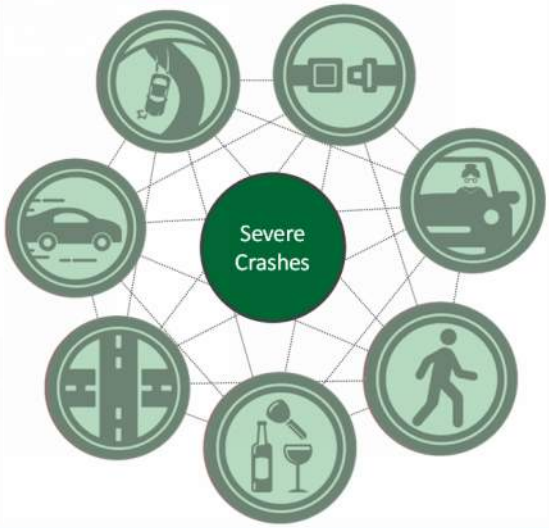
6

Multidisciplinary Approach



Severe crashes occur for a multitude of reasons. By collaborating with transportation and safety practitioners with diverse backgrounds and perspectives, we can think more holistically about solutions.

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7

Comprehensive Safety Action Plan Process

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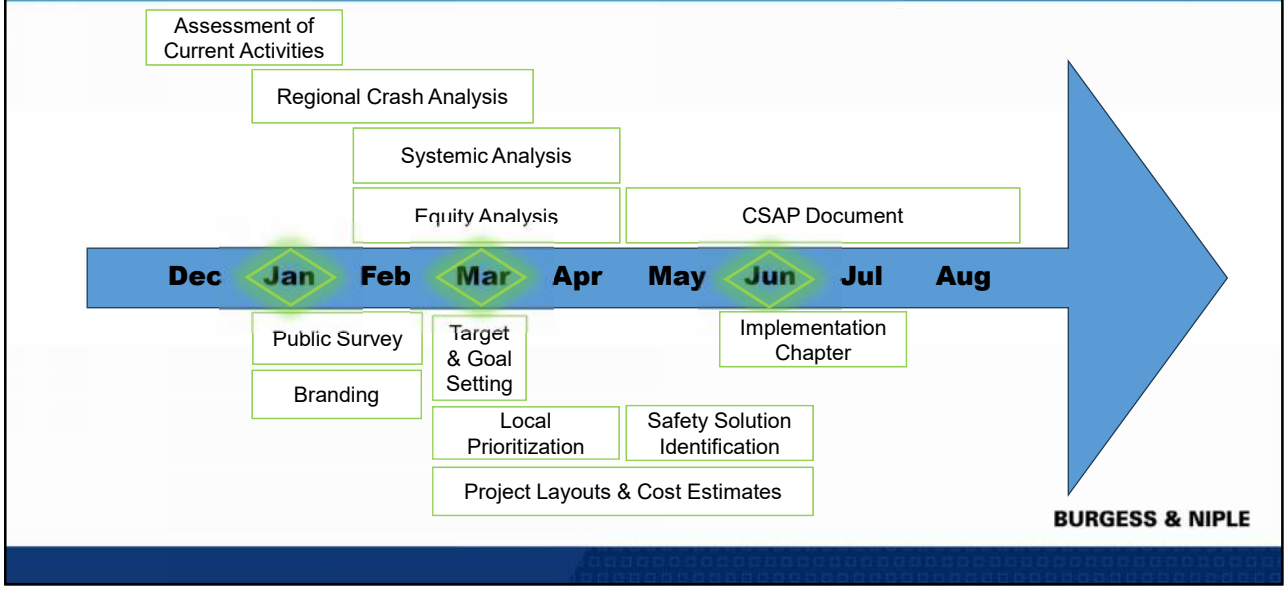
8

Plan Schedule



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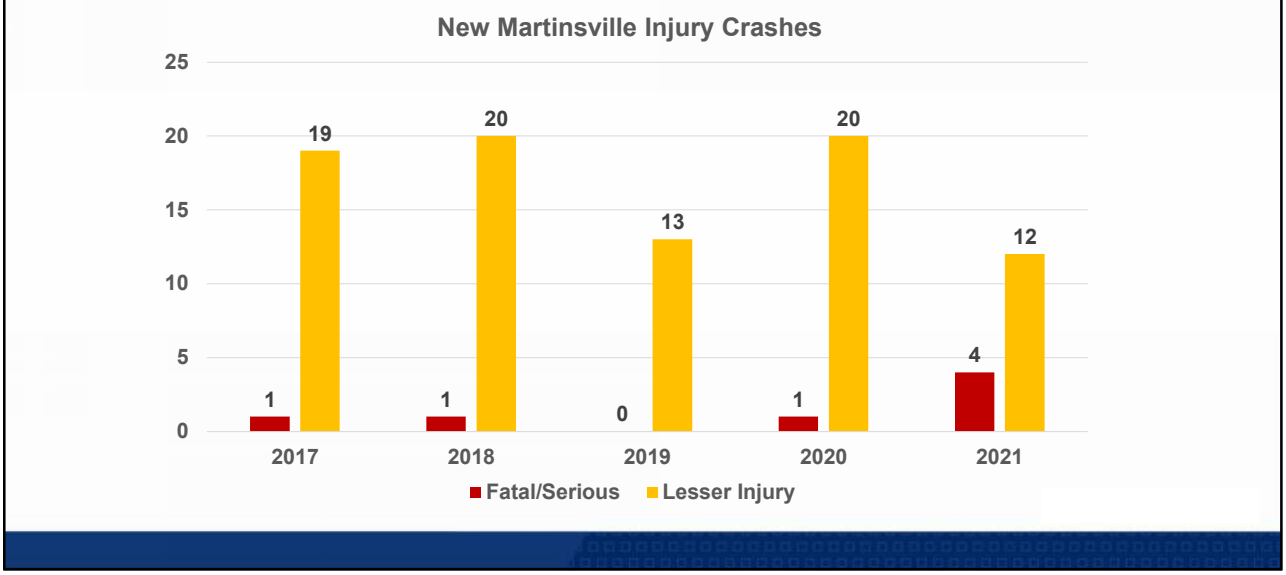
Traffic Crashes 2017-2021

- 411 Reported Crashes
  - 1 Fatal
  - 6 Serious Injury
  - 84 Lesser Injury
  - 320 Property Damage Only

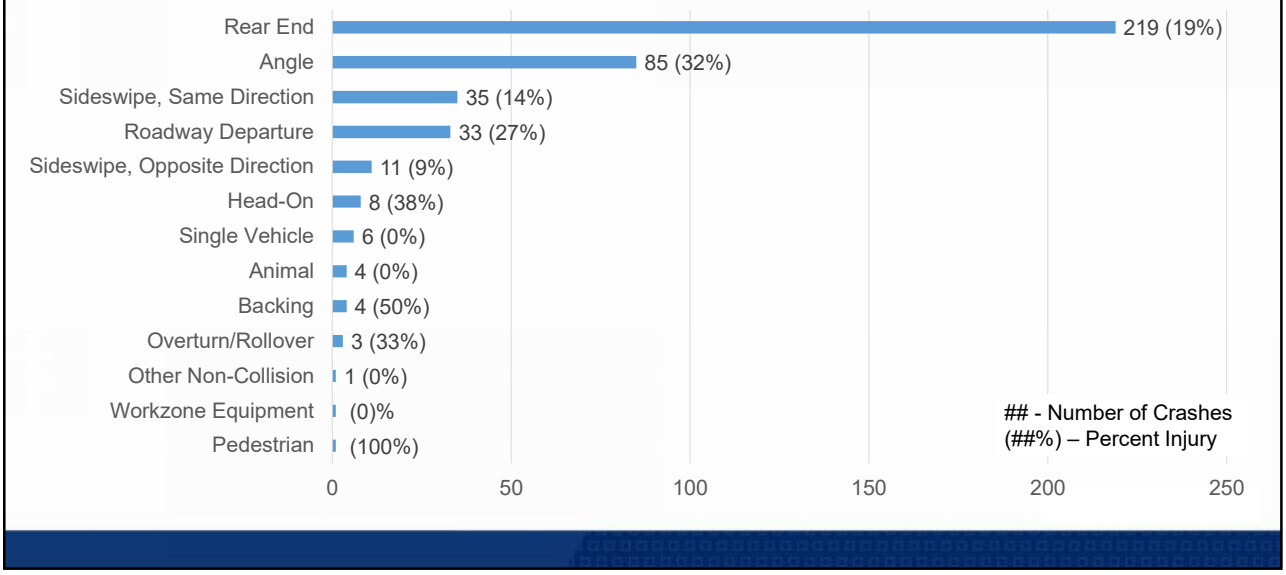
10

New Martinsville Injury Crashes (2017-2021)



11

New Martinsville Crash Types (2017-2021)



12

Safety Vision and Goals

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13

West Virginia's Vision

OVERALL OBJECTIVE

The objective of the **2022-2026 West Virginia Strategic Highway Safety Plan** is to achieve zero fatalities by 2050 and ultimately zero serious injuries on our roadways, by **reducing fatalities and serious injuries 4%** annually over the next five years.

14

New Martinsville Vision

Getting Everyone Back Home!

Striving for zero deaths and serious injuries by 2045.

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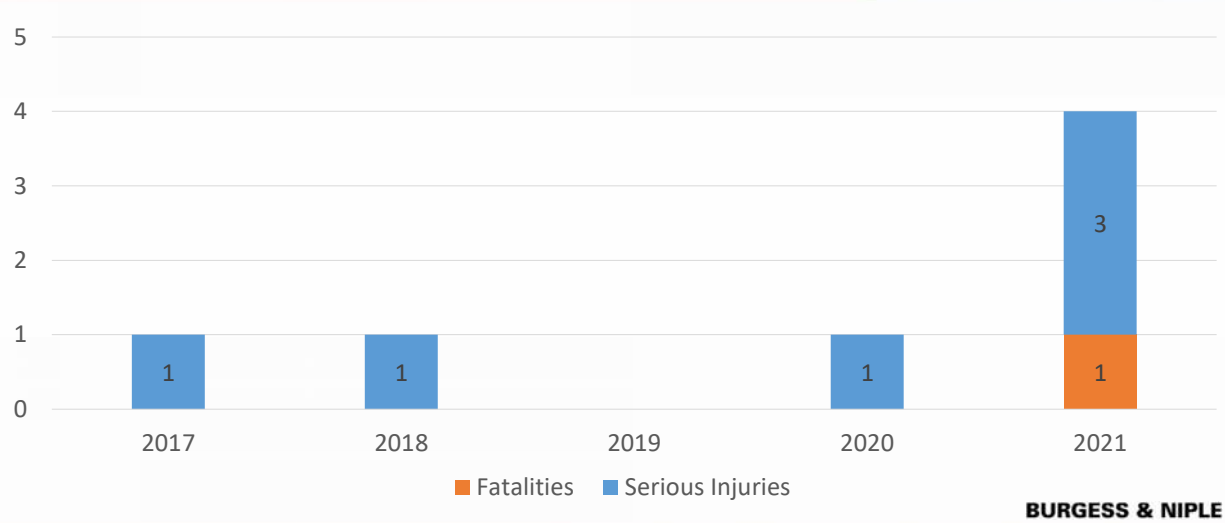
15

Goals



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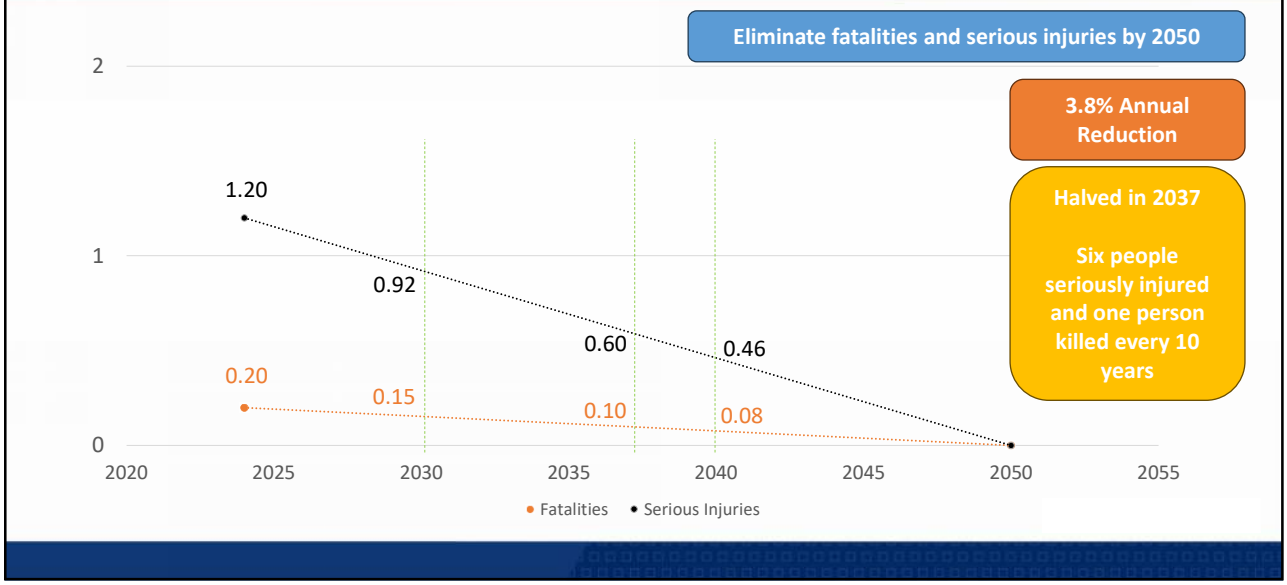
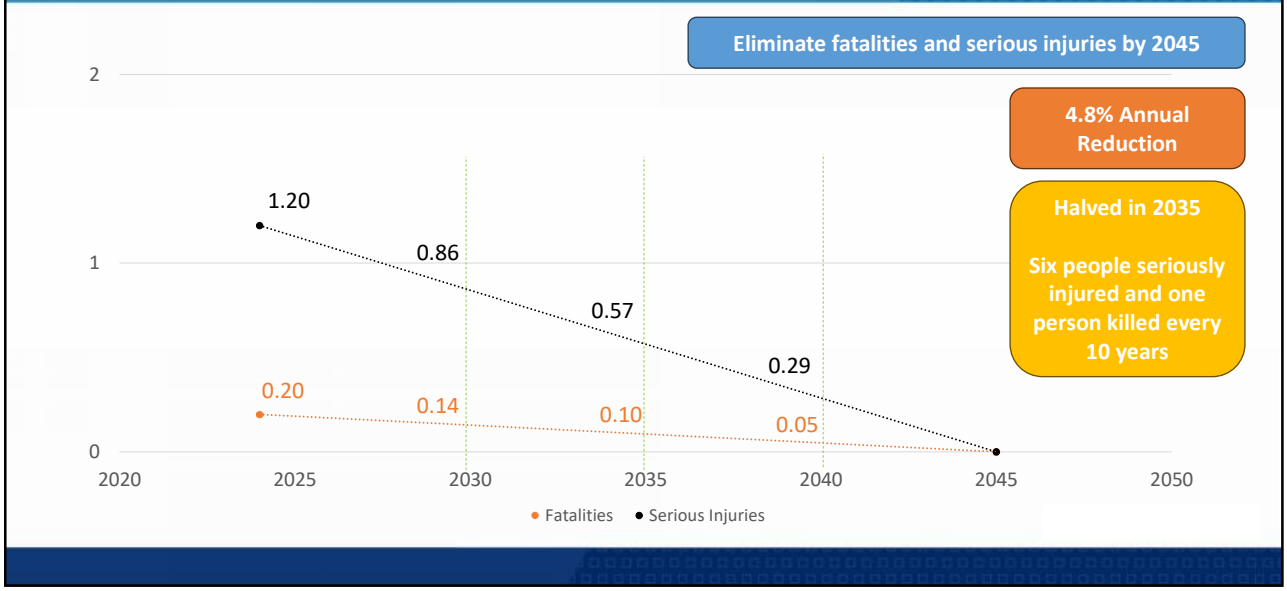
16

Eliminate Fatalities and Serious Injuries by 2050



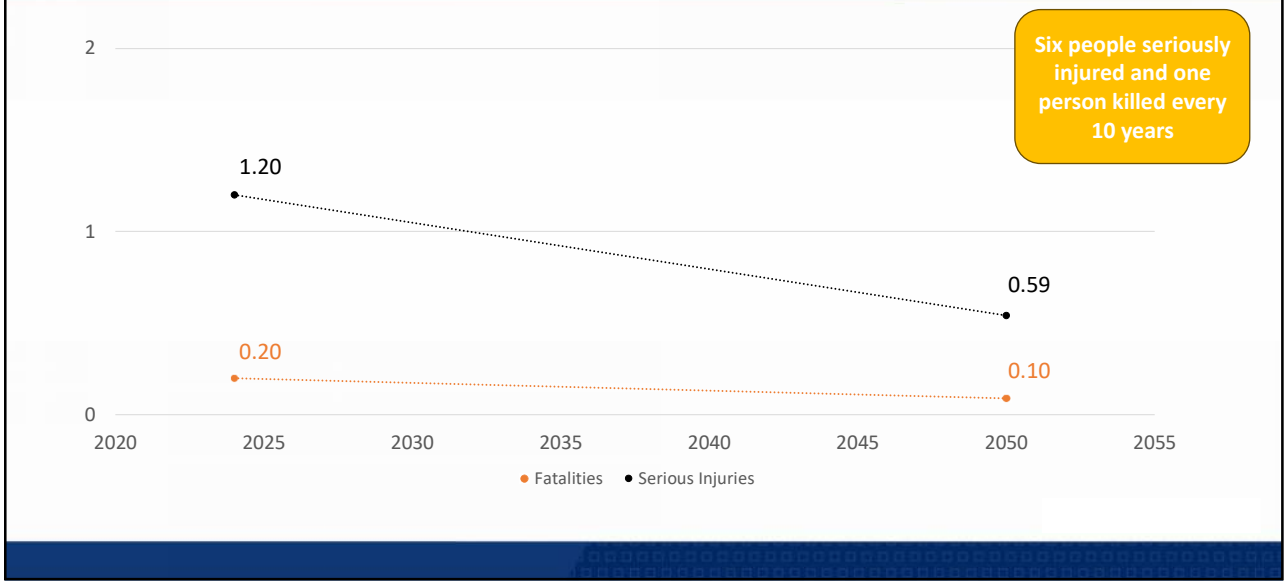
17

Eliminate Fatalities and Serious Injuries by 2045



18

Reduce Fatalities and Serious Injuries by 2% Annually



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Public Survey Summary

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20

Public Survey

Survey will remain open until March 22, 2024

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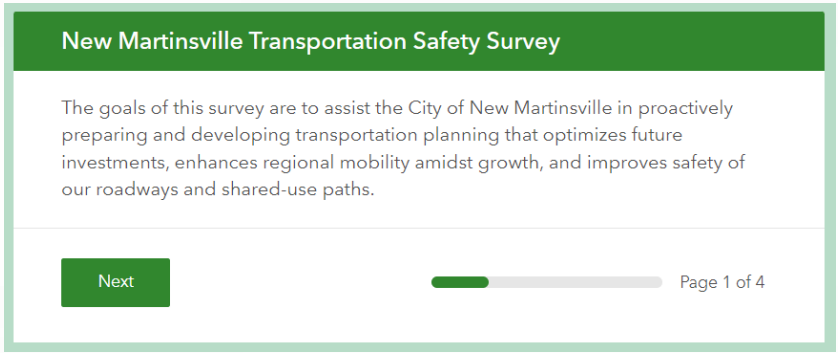
Initial Public Survey Results

- 86 respondents
- 32 map points



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As of Thursday, March 14, 2024

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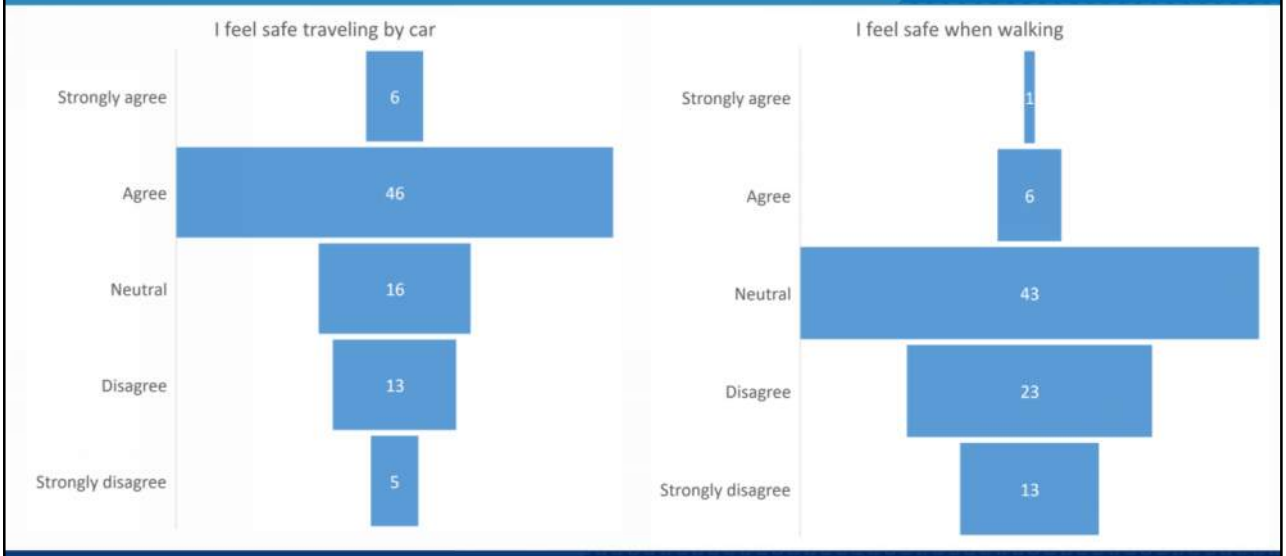
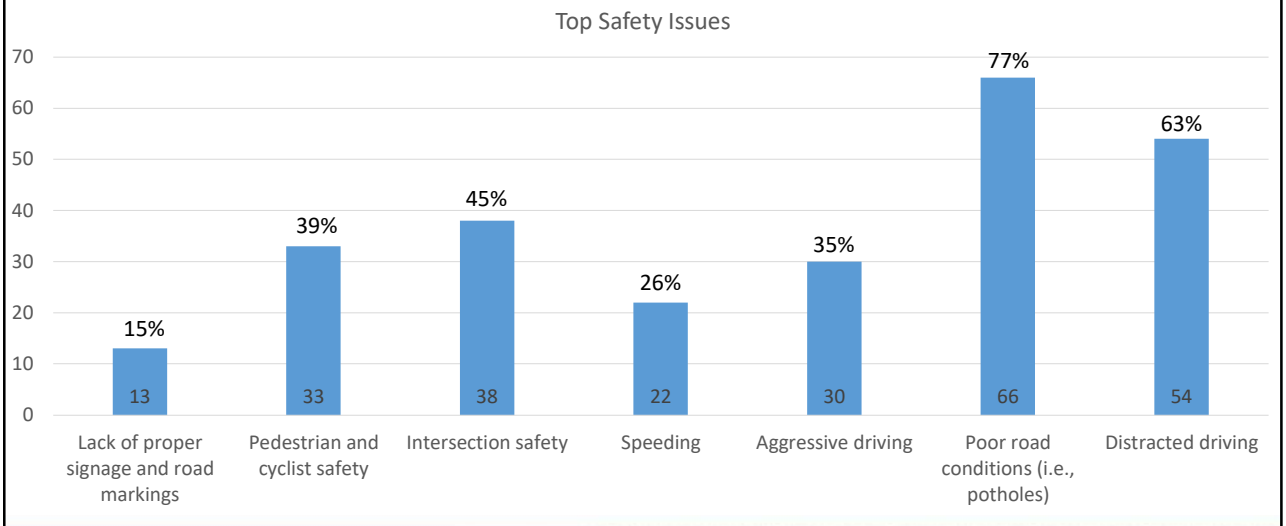
Initial Public Survey Results



As of Thursday, March 14, 2024 – 86 Respondents

23

Initial Public Survey Results



As of Thursday, March 14, 2024 – 86 Respondents

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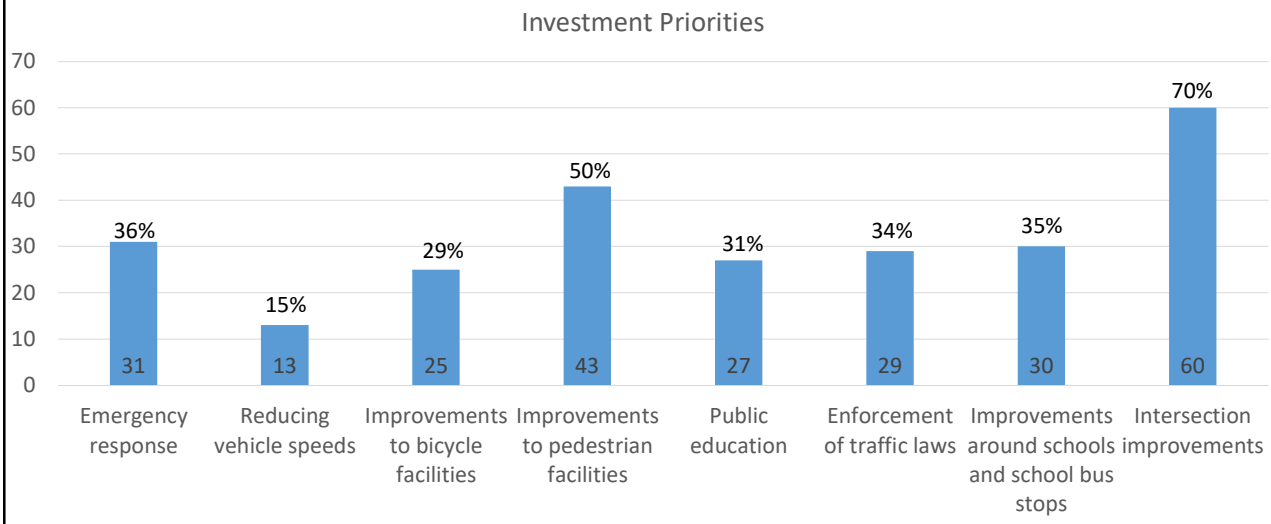
Initial Public Survey Results



As of Thursday, March 14, 2024 – 86 Respondents

25

Initial Public Survey Results

The CSX railroad crossing is a hazard. It stops traffic, therefore restricting the flow of traffic and delaying emergency response vehicles from getting to the hospital in an emergency situation.

Oh, the CSX railroad crossing!

Trains blocking RR crossings hampering first responders and public transit no reasonable alternatives

Route 2 being blocked by trains.

The train is a huge safety issue when it blocks route 2 and/or traps people downtown when the marina is flooded.

Do something about the trains holding traffic up for long periods of time!

The biggest concern is the railroad crossing at the south end of town. It could literally cost someone their life when trains stop all traffic for 10 to 20 minutes or more.

Reduce the bottlenecks created by stopped or moving trains. Harlan Drive is often flooded and even when open doesn't affect the Choo-choo's train crossing bottleneck.

The train crossing on rt 2 HAS TO GO

BURGESS & NIPLE

As of Thursday, March 14, 2024 – 86 Respondents

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Focus Area Discussion

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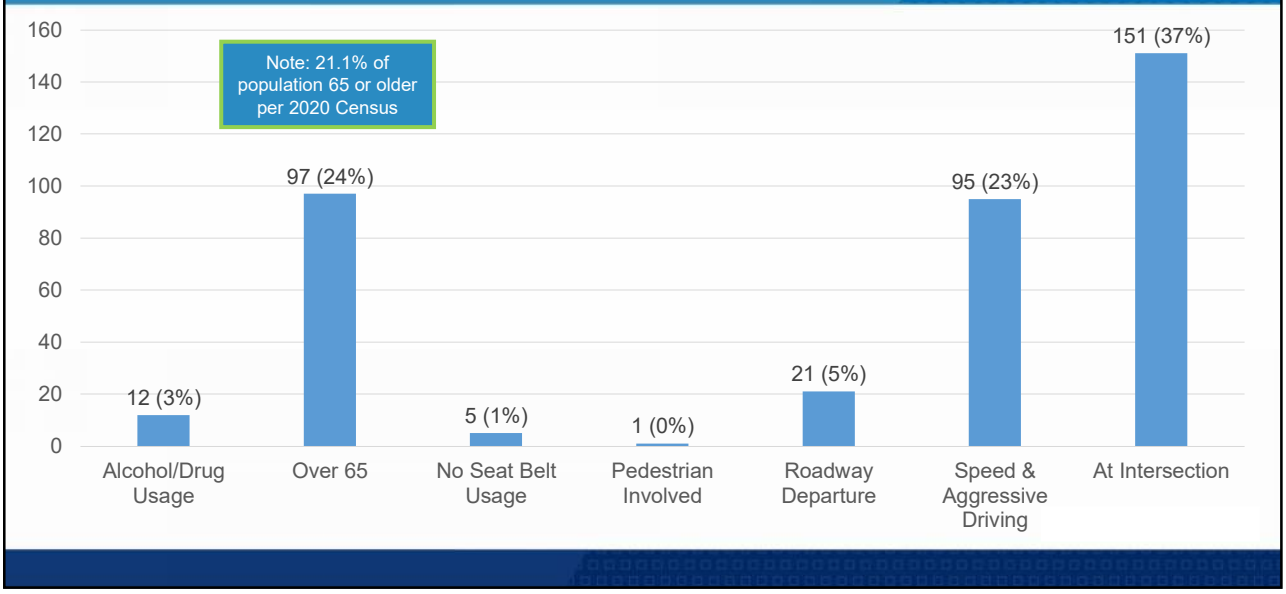
27

New Martinsville Crash Contributing Factors All Crashes (2017-2021)



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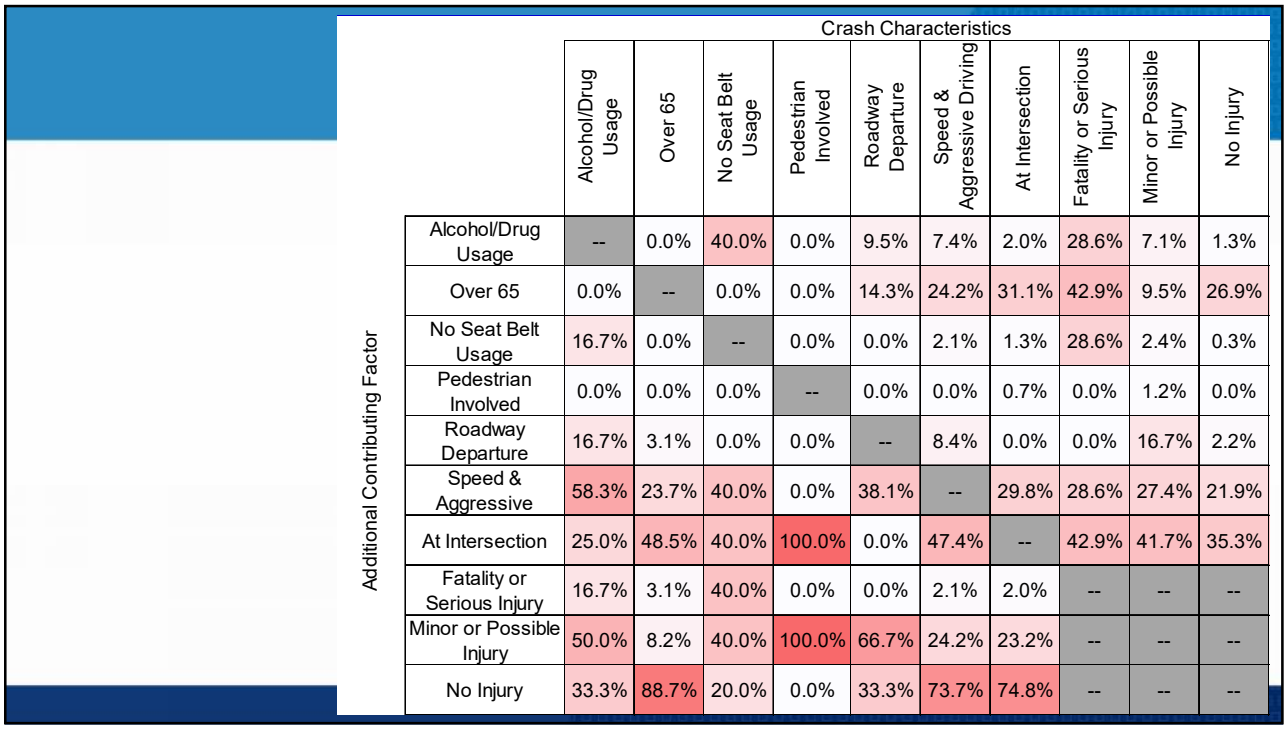
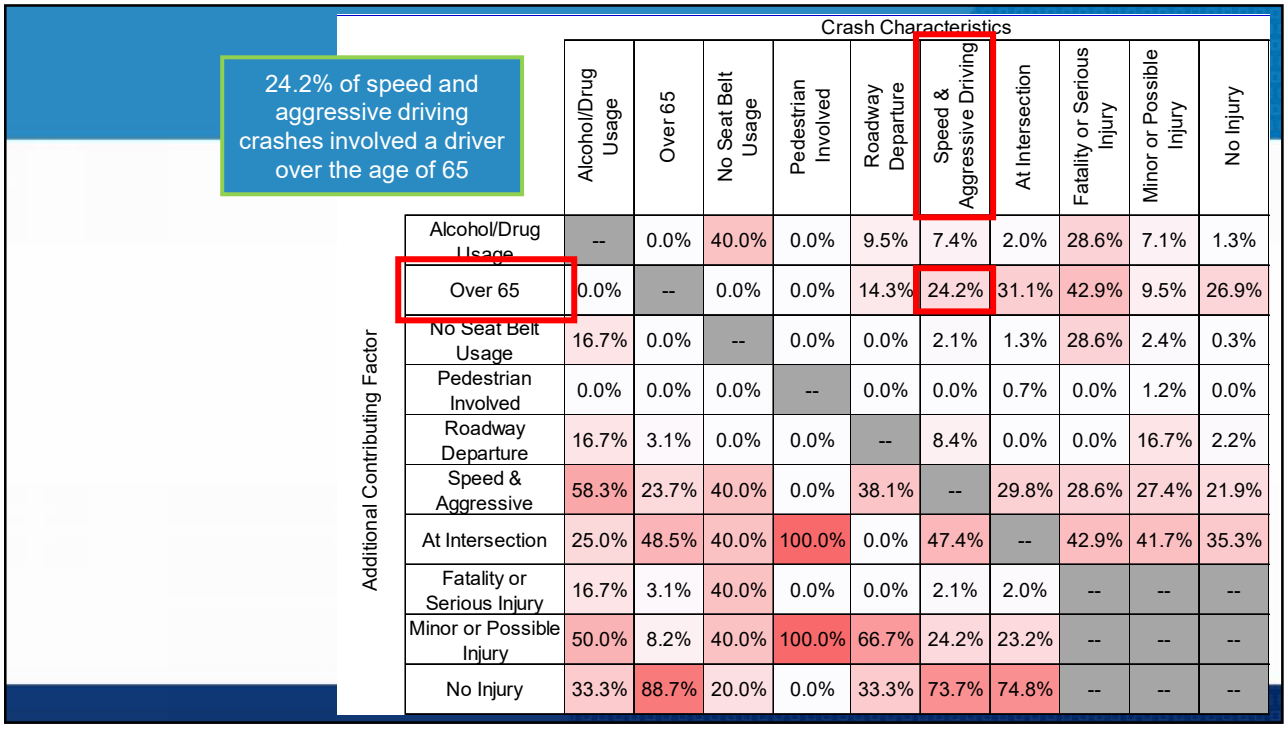

Crash Characteristics
Alcohol/Drug Usage
Over 65
No Seat Belt Usage
Pedestrian Involved
Roadway Departure
Speed & Aggressive Driving
At Intersection
Fatality or Serious Injury
Minor or Possible Injury
No Injury
Additional Contributing Factor
Alcohol/Drug Usage -- 0.0% 40.0% 0.0% 9.5% 7.4% 2.0% 28.6% 7.1% 1.3%
Over 65 0.0% -- 0.0% 0.0% 14.3% 24.2% 31.1% 42.9% 9.5% 26.9%
No Seat Belt Usage 16.7% 0.0% -- 0.0% 0.0% 2.1% 1.3% 28.6% 2.4% 0.3%
Pedestrian Involved 0.0% 0.0% 0.0% -- 0.0% 0.0% 0.7% 0.0% 1.2% 0.0%
Roadway Departure 16.7% 3.1% 0.0% 0.0% -- 8.4% 0.0% 0.0% 16.7% 2.2%
Speed & Aggressive 58.3% 23.7% 40.0% 0.0% 38.1% -- 29.8% 28.6% 27.4% 21.9%
At Intersection 25.0% 48.5% 40.0% 100.0% 0.0% 47.4% -- 42.9% 41.7% 35.3%
Fatality or Serious Injury 16.7% 3.1% 40.0% 0.0% 0.0% 2.1% 2.0% -- -- --
Minor or Possible Injury 50.0% 8.2% 40.0% 100.0% 66.7% 24.2% 23.2% -- -- --
No Injury 33.3% 88.7% 20.0% 0.0% 33.3% 73.7% 74.8% -- -- --

29


24.2% of speed and aggressive driving crashes involved a driver over the age of 65
Crash Characteristics
Alcohol/Drug Usage
Over 65
No Seat Belt Usage
Pedestrian Involved
Roadway Departure
Speed & Aggressive Driving
At Intersection
Fatality or Serious Injury
Minor or Possible Injury
No Injury
Additional Contributing Factor
Alcohol/Drug Usage -- 0.0% 40.0% 0.0% 9.5% 7.4% 2.0% 28.6% 7.1% 1.3%
Over 65 0.0% -- 0.0% 0.0% 14.3% 24.2% 31.1% 42.9% 9.5% 26.9%
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Roadway Departure 16.7% 3.1% 0.0% 0.0% -- 8.4% 0.0% 0.0% 16.7% 2.2%
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Fatality or Serious Injury 16.7% 3.1% 40.0% 0.0% 0.0% 2.1% 2.0% -- -- --
Minor or Possible Injury 50.0% 8.2% 40.0% 100.0% 66.7% 24.2% 23.2% -- -- --
No Injury 33.3% 88.7% 20.0% 0.0% 33.3% 73.7% 74.8% -- -- --

30

23.7% of crashes with a driver over the age of 65 also involved speed and aggressive driving

Additional Contributing Factor	Alcohol/Drug Usage	Over 65	No Seat Belt Usage	Pedestrian Involved	Roadway Departure	Speed & Aggressive Driving	At Intersection	Fatality or Serious Injury	Minor or Possible Injury	No Injury
	Crash Characteristics									
Alcohol/Drug Usage	--	0.0%	40.0%	0.0%	9.5%	7.4%	2.0%	28.6%	7.1%	1.3%
Over 65	0.0%	--	0.0%	0.0%	14.3%	24.2%	31.1%	42.9%	9.5%	26.9%
No Seat Belt Usage	16.7%	0.0%	--	0.0%	0.0%	2.1%	1.3%	28.6%	2.4%	0.3%
Pedestrian Involved	0.0%	0.0%	0.0%	--	0.0%	0.0%	0.7%	0.0%	1.2%	0.0%
Roadway Departure	16.7%	3.1%	0.0%	0.0%	--	8.4%	0.0%	0.0%	16.7%	2.2%
Speed & Aggressive	58.3%	23.7%	40.0%	0.0%	38.1%	--	29.8%	28.6%	27.4%	21.9%
At Intersection	25.0%	48.5%	40.0%	100.0%	0.0%	47.4%	--	42.9%	41.7%	35.3%
Fatality or Serious Injury	16.7%	3.1%	40.0%	0.0%	0.0%	2.1%	2.0%	--	--	--
Minor or Possible Injury	50.0%	8.2%	40.0%	100.0%	66.7%	24.2%	23.2%	--	--	--
No Injury	33.3%	88.7%	20.0%	0.0%	33.3%	73.7%	74.8%	--	--	--

31

New Martinsville Focus Areas

Emphasis Area	Statewide Fatal and Serious Injury*	New Martinsville Fatal and Serious Injury**	New Martinsville All Crashes***
Speed and Aggressive Driving	57%	29%	23%
Roadway Departure	55%	0%	5%
Occupant Protection	32%	29%	1%
Older Driver	22%	43%	24%
Alcohol and Drug Impaired	22%	29%	3%
Intersections	18%	43%	37%
Pedestrians	7%	0%	0%

* From 2016-2020 Strategic Highway Safety Plan
** 2017-2021 Crash Data (7 fatal and serious injury crashes)
*** 2017-2021 Crash Data (411 total crashes)

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New Martinsville Focus Areas

- What should the focus areas be for New Martinsville?
- Place your dots!
- No rules and no wrong answers!

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Top Location Priorities

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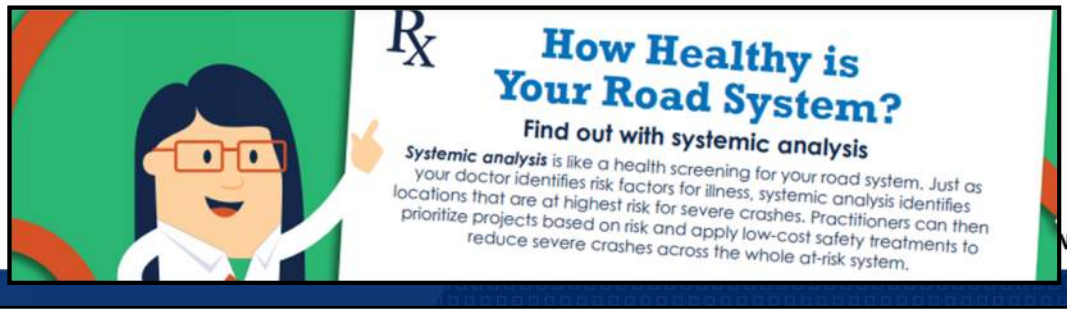
Network-Level Analyses

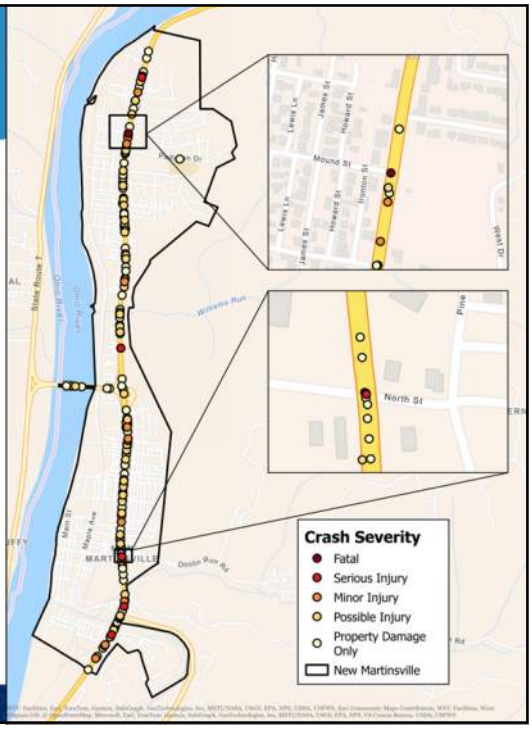
- **High-Injury Network (REACTIVE)**
  - Segments and Intersections where crashes have occurred regardless of contributing factors
- **Systemic Analysis (PROACTIVE)**
  - Segments where factors contributing to crashes are present regardless of crash history



35

Crash Locations

- 411 Reported Crashes
  - 1 Fatal
  - 6 Serious Injury
  - 84 Lesser Injury
  - 320 Property Damage Only



36

High Injury Network

Equivalent Property Damage Only (EPDO) Factors

	Costs	Weight
Fatal Crash (K)	$9,646,264	930.119
Serious Injury Crash (A)	$552,237	53.248
Minor Injury Crash (B)	$177,292	17.095
Possible Injury Crash (C)	$104,838	10.109
Property Damage Only (O)	$10,371	1.00

Int. A
65
Crashes

5 Minor Injury Crashes
10 Possible Injury Crashes
50 Property Damage Only Crashes

(5 x 17.095) + (10 x 10.109) + (50 x 1) =
236.6 PDO Crashes

15 Minor Injury Crashes
25 Possible Injury Crashes
10 Property Damage Only Crashes

(15 x 17.095) + (25 x 10.109) + (10 x 1) =
519.15 PDO Crashes

Int. B
50
Crashes

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High Injury Network

Ranking Based on EPDO Total

Intersection	Crash Frequency	Fatal/Injury %	EPDO (Total)
North St & 3rd St (WV 2)	34	15%	129.67
Russell Ave & 3rd St	34	15%	93.52
Whitten Ln & 3rd St	3	100%	37.31

Ranking Based on EPDO per Crash

Intersection	Crash Frequency	Fatal/Injury %	EPDO (per crash)
Whitten Ln & 3rd St	3	100%	12.44
North St & 3rd St (WV 2)	34	15%	3.81
Russell Ave & 3rd St	34	15%	2.75

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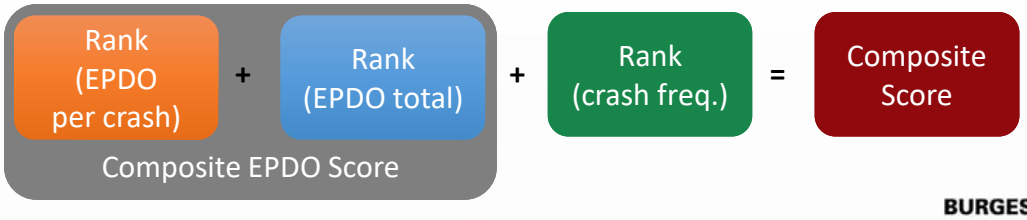
High Injury Network

Example Ranking

Intersection	Crash Frequency	Composite EPDO Score	Crash Frequency Rank	Composite Score	Final Rank
Mound St & WV 2	5	2	11	13	1
Harlan Dr & WV 2	9	8	8	16	2



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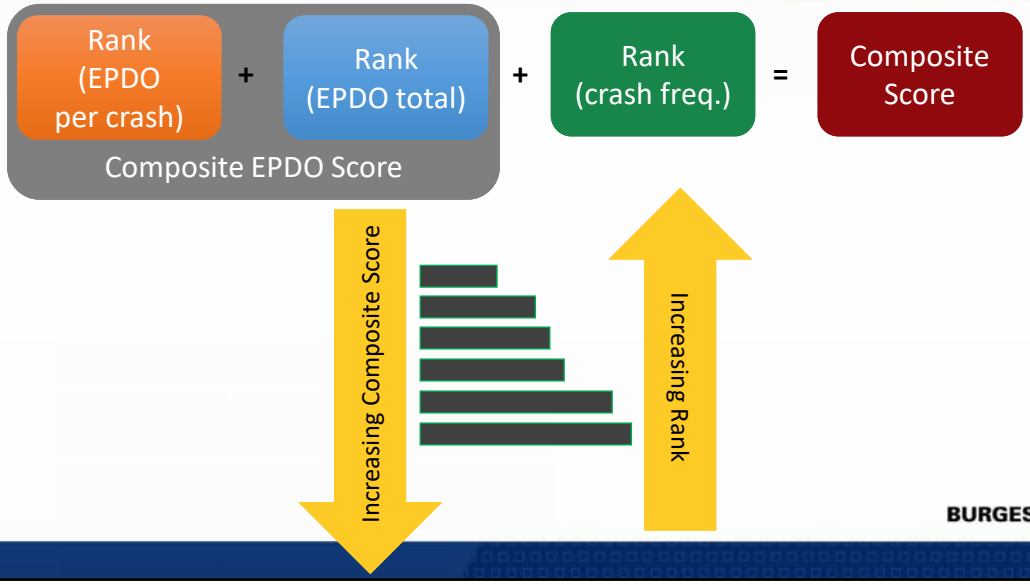
High Injury Network



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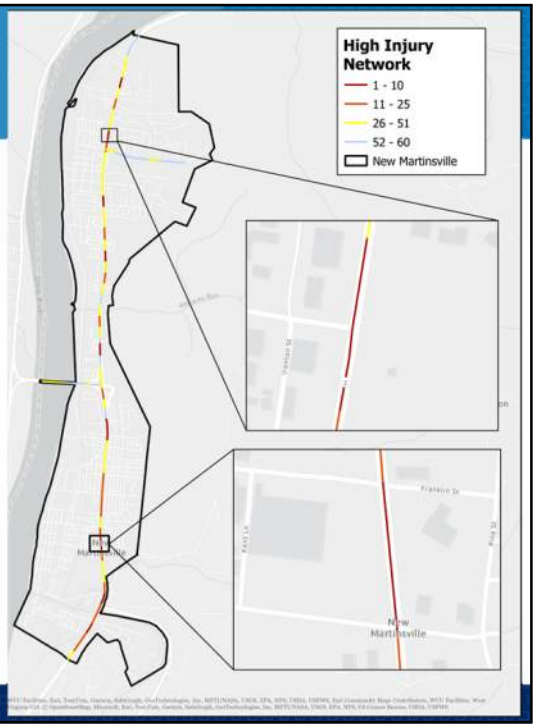
High Injury Network Roadway Segments

Road	Location	Ranking
WV 2	Between Franklin St & North St	1
WV 2	Between Orchard Dr & Mound St	2
WV 2	Between Foundry St & Central St	3
WV 2	Between Rosary Rd & Cemetery	4
WV 2	In front of Riverview Plaza	5



(0.1-mile segments)

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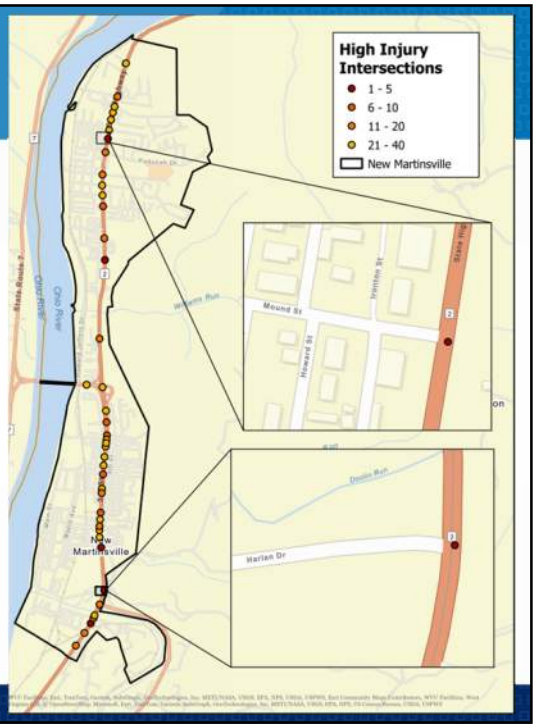
High Injury Network Intersections

Intersection	HIN Ranking
Mound St & WV 2	1
Harlan Dr & WV 2	2
Brickyard Aly & WV 2	3
North St & WV 2	4
Rosary Rd & WV 2	5



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High Injury Network Comparison

Comment Type	Location	Comment
Point	WV 7 & 2 Interchange	Confusion with drivers merging
Point	Leap St & WV 2	Lane realignment issue with resurfacing
Point	Russell Ave & WV 2	High crash location
Point	North St & WV 2	High crash location
Line	Whitten Ln to Leap St	Lighting/Utility poles
Line	New Martinsville Elementary	Drainage Issues

(0.1-mile segments)

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Systemic Analysis

- Performed for Vulnerable Road Users (Bicycles and Pedestrians)
- Methodologies from WVDOT Vulnerable Road User Assessment
- Identified Risk Factors
  - Speed Limit
  - Bicycle/Pedestrian Volumes
  - Traffic Volumes
  - Roadway Functional Classification
  - Urban/Rural Area Types

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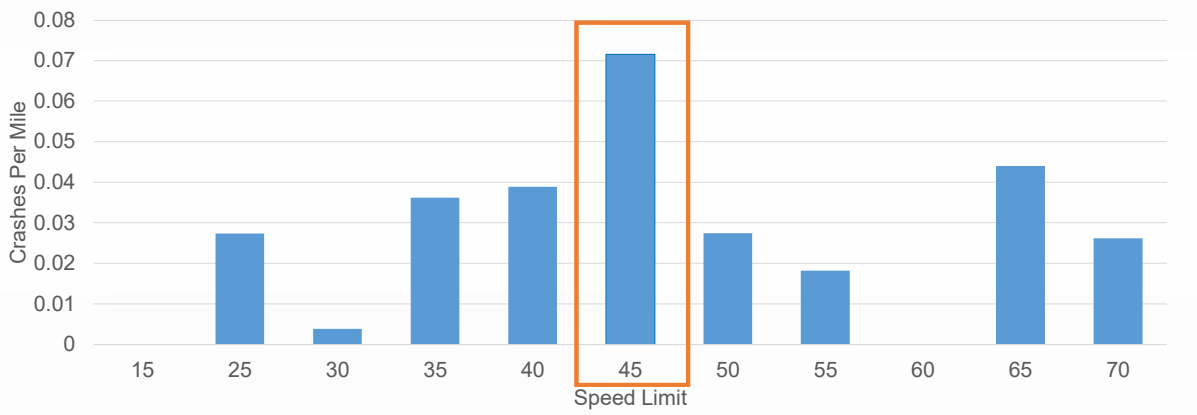
Systemic Analysis



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Systemic Analysis Results for VRUs

Road	Location	VRU Ranking
WV 2	Between McEldowney Ave & North St	1
Main St	Between Sports Fields & College St	2
WV 2	Between E Benjamin Dr & Cemetery	3
North St	Between Maple Ave & WV 2	4
Norht St	Between Pine St & Beech St	5

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High Injury Network

- Review the maps
- Provide comments on locations
  - Does this location make sense?
  - What are the potential contributing issues at these locations?

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Next Steps

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Next Steps

- Finalize priority locations
- Deeper dive into emphasis areas
- Strategy/project identification
- Draft Safety Plan

Next Stakeholder Meeting

(June 2024)

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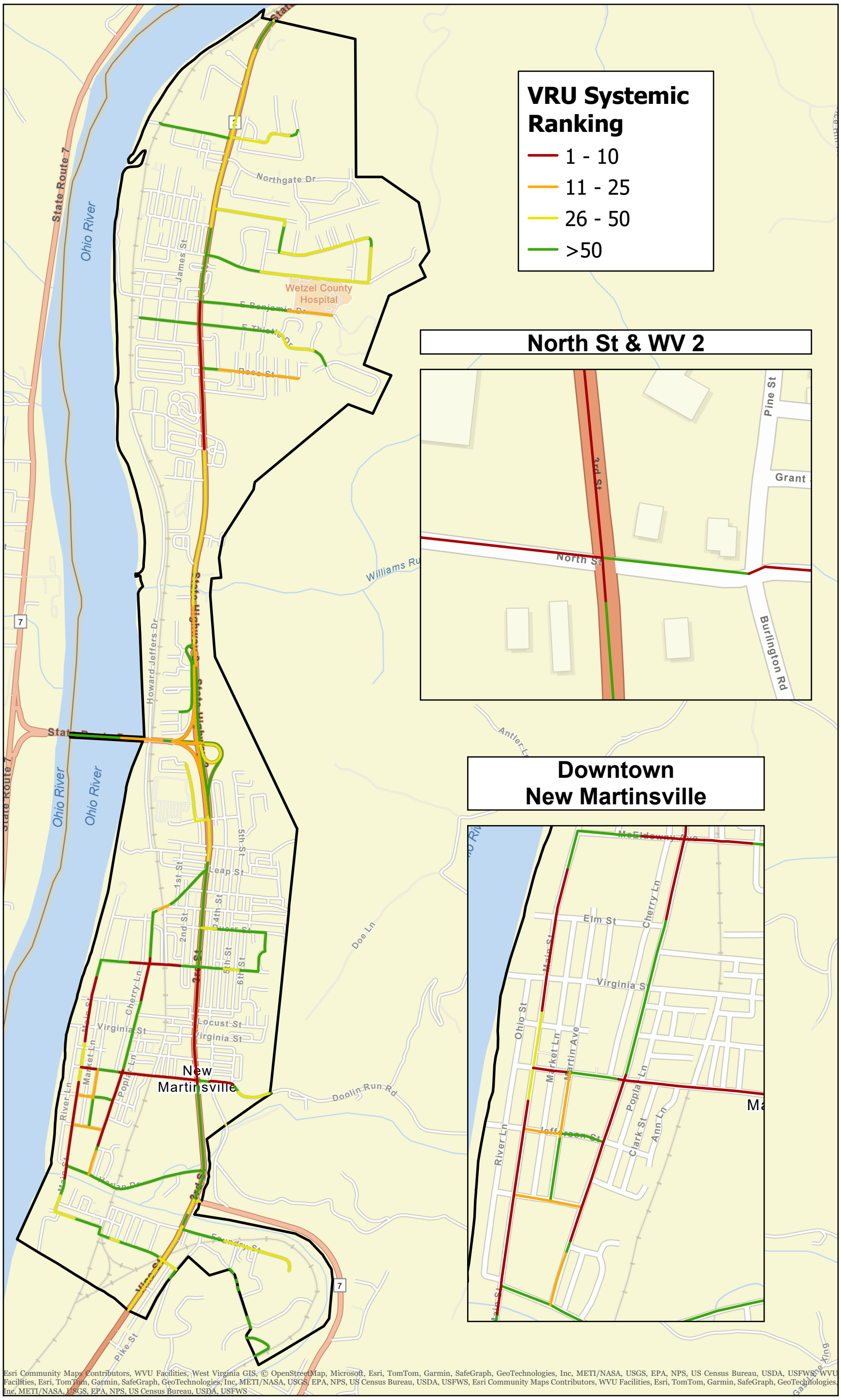

VRU Systemic Ranking
1 - 10
11 - 25
26 - 50
>50
North St & WV 2
Downtown New Martinsville
State Route 7
Ohio River
James St
Northgate Dr
Wetzel County Hospital
E Benjamin Dr
E Thistle Dr
Rose St
Howard Jeffers Dr
State Highway 2
Williams Ru
Antler Ln
Doe Ln
Doolin Run Rd
Foundry St
Pike St
Leap St
1st St
2nd St
3rd St
4th St
5th St
6th St
Locust St
Virginia St
Cherry Ln
Market Ln
Poplar Ln
River Ln
Main St
New Martinsville
Pine St
Grant
North St
Burlington Rd
McElhenny Ave
Elm St
Ohio St
Martin Ave
Clark St
Ann Ln
Esri Community Maps Contributors, WVU Facilities, West Virginia GIS, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, WVU Facilities, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, Esri Community Maps Contributors, WVU Facilities, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Stakeholder Meeting #3 Summary

June 25, 2024
New Martinsville City Hall Council Chambers
191 Main Street
New Martinsville, WV 26155
1:30-3:30 PM

Attendees:

- Sandy Hunt, New Martinsville Mayor
- Bev Gibb, City of New Martinsville
- Joe Smith, New Martinsville City Council
- Tom Lemons, City of New Martinsville – Street Commissioner
- Sharon Campbell, Wetzel-Tyler Chamber of Commerce
- Michael Seckman, Congressman Alex Mooney's Office
- Dawn Myers, New Martinsville Electric Department
- Tim Cecil, New Martinsville Police Chief
- Michele Casto, WVDOH Traffic Engineer
- Brady Vannest, WVDOH District 6 Traffic Engineer
- James Benner, Belomar
- Kevin Buettner, Belomar
- Kendra Schenk, Burgess and Niple (B&N)
- Maria Cantrell, Burgess and Niple (B&N)
- Emilee Hitt, Burgess and Niple (B&N)

Welcome and Introductions
The meeting was opened by Maria Cantrell from Burgess & Niple (B&N). Each of the attendees were then asked to introduce themselves, their agency and their role.

Recap of Meetings #1 and #2 and Outcomes for Meeting #3
Maria reviewed the agenda, CSAP schedule, and emphasis areas of focus in the plan. The vision and goal developed at the second meeting was also reviewed.

Vision: *"Getting Everyone Back Home! Striving for zero deaths and serious injuries by 2045."*
Goal: *"Reduce fatalities and serious injuries by 5% annually."*

The goal for meeting #3 was to identify strategies to address crashes within the four emphasis areas.

Branding
The following logo was developed and presented to the group.

Strategies Discussion
For each of the four strategies – Intersections, Speeding and Aggressive Driving, Pedestrians, and Distracted Driving – crash statistics and potential strategies were presented. In addition, railroad improvements were presented.

Railroad Improvements
Four railroad improvement options – one short-term and three long-term - were presented to the group. The short-term improvement option consists of implementing TRAINFO which is a software that uses sensors to alert drivers and first responders of trains that are blocking roadways. The first long-term option is adding a bridge over the railroad tracks on the south end of the city on WV 2. The second option is adding a connector from WV 2 to Main Street with a bridge over the railroad. The last option is adding connecting WV 2 and WV 7 to bypass the railroad.

The following feedback was provided about the railroad improvements:

- TRAINFO was liked, but there were concerns about how the EMS north of the tracks serves both sides. The southern EMS department is not going to be sent to the northern side because they often do not have the resources.
- TRAINFO could alert EMS to call CSX and make them either move or unhook the train.
- Long-term option #1 was liked.
- Long-term option #3 needs to be moved away from railyard because it may cause hazmat incidents there.

Intersections
Crash trends and strategies for intersections were reviewed. Three intersection improvements were presented. The first improvement consists of adding a roundabout at WV 2 and North Street. The second improvement consists of adding a roundabout at WV 2 and Leap Street. The third improvement is adding striping onto Rosary Road to mitigate the confusion at the intersection of Rosary Road and WV 2.

The following feedback was provided about intersection improvements:

- There were concerns about the truck traffic at roundabouts.
- There were concerns about older drivers' use of the roundabouts.
- Signal coordination and detection would be a good short-term improvement.

Speeding & Aggressive Driving

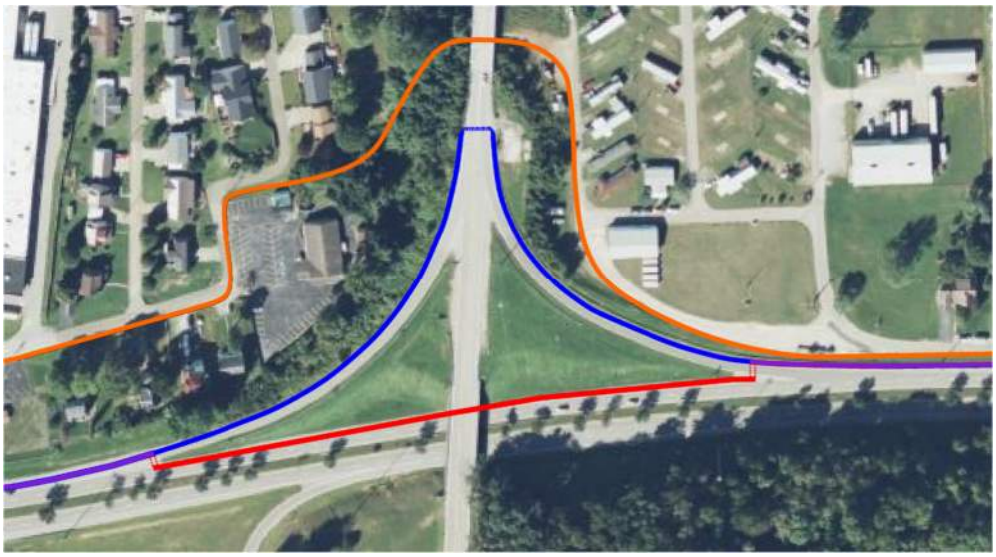
Crash trends and strategies for speeding and aggressive driving crashes in New Martinsville were reviewed.

The following feedback was provided about speeding and aggressive driving improvements:

- The police department just purchased speed feedback signs for use near schools.

Pedestrians

Information about the pedestrian crash that occurred from 2017-2021 was presented. It occurred at night, in the rain, and the pedestrian was intoxicated. The driver was a 27-year-old male, and the pedestrian was a 52-year-old male. Statewide data from West Virginia's Vulnerable Road User Assessment was reviewed since there was only 1 pedestrian crash. Pedestrian sidewalk connections from North Street to Wal-Mart, Wal-Mart to O'Reilly Auto Parts, and O'Reilly Auto Parts to Club Drive were discussed. Within the proposed sidewalk connection between O'Reilly Auto Parts and Wal-Mart, there were three path options as shown below.



Additionally, shared use path options were presented to connect the pedestrian resources along Howard Jeffers Drive.

The following feedback was provided about pedestrian improvements:

- Can the pedestrian crossing be built on the east side for the proposed connection between O'Reilly Auto Parts and Walmart?
- Concerns about pedestrians using the "blue" and "orange" paths (shown above) because it is a longer distance.
- Can we connect the "orange" path to Hydro Park?
- What if we made the "orange" path scenic, well-lit, and signed to direct to Wal-Mart?
- What if we connect the "orange" path on the south end to the pedestrian path at Martin Marietta?
- Be sure to incorporate flashing lights, designated crosswalks, and audible crossing signals.

Distracted Driving

Crash trends and strategies for distracted driving were reviewed. National data was also presented since distracted driving is underreported.

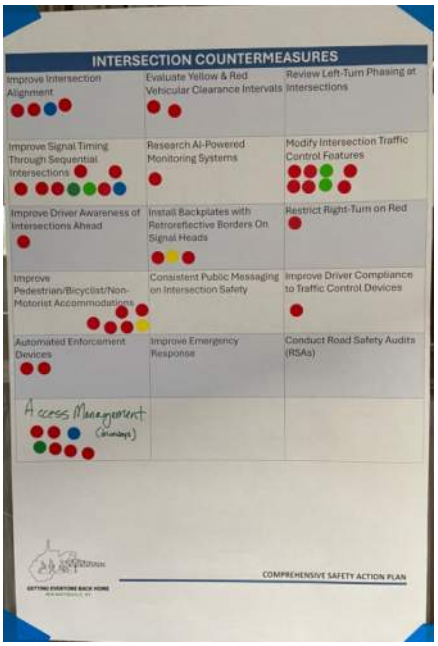
The following feedback was provided about distracted driving improvements:

- Leaf peeping is causing an influx of people and causing people to slow down while peeping leaves.

Dot Exercise

At the conclusion of this discussion, stakeholders were provided dot stickers to indicate which of the countermeasures would be more effective in New Martinsville and would like to see as potential strategies in the plan. The results of the exercise are as follows:

Intersections:



- Improve Signal Timing Through Sequential Intersections (9)
- Modify Intersection Traffic Control Features (8)
- Access Management (7)
- Improve Pedestrian/Bicyclist/Non-Motorist Accommodations (6)
- Improve Intersection Alignment (4)
- Install Backplates with Retroreflective Borders on Signal Heads (3)
- Evaluate Yellow & Red Vehicular Clearance Intervals (2)
- Automated Enforcement Devices (2)
- Research AI-Powered Monitoring Systems (1)
- Improve Driver Awareness of Intersections Ahead (1)
- Restrict Right-Turn on Red (1)
- Improve Driver Compliance to Traffic Control Devices (1)
- Consistent Public Messaging on Intersection Safety (0)
- Review Left-Turn Phasing at Intersections (0)
- Improve Emergency Response (0)
- Conduct Road Safety Audits (RSAs) (0)

Speeding and Aggressive Driving:

- Review Existing Speed Limits (21)
- High-Visibility Enforcement (HiVE) Campaign (12)
- Speed Feedback Signs (8)
- Education Campaigns on Speeding & Aggressive Driving (4)
- Automated Enforcement (2)
- Self-Enforcing Speed Management Techniques (0)
- Establish Safety Corridors (0)
- Establish Speed Management Action Team Summits (0)

Pedestrians:

- Sidewalks/Walkways (15)

- Pedestrian Safety Zones (13)
- Protected Bicycle Lanes (10)
- Overhead Lighting (7)
- Improved Crosswalk Visibility (4)
- Rectangular Rapid Flashing Beacons (RRFB) (3)
- Medians & Pedestrian Refuge Islands (2)
- Install Traffic Calming Measures (2)
- Leading Pedestrian Interval (LPI) & Optimized Pedestrian Signal Timing (2)
- Road Diet/Reconfigurations (1)
- Curb Extensions (1)
- Enforcement Campaigns (0)
- Restrict Right-Turn on Red (0)
- Pedestrian Hybrid Beacons (PHBs) (0)
- Conduct Road Safety Audits (RSAs) (0)
- Improve Safety Awareness & Behavior (0)

Distracted Driving:

- High Visibility Cell Phone and Text Messaging Enforcement (21)
- Modernize WV's Distracted Driving Laws (11)
- Promote Distracted Driving Education in Schools (9)
- Public Distracted Driving Messaging Campaign (7)
- Inform Out-of-State Drivers on Distracted Driving Laws (2)
- Formation of Action Summits (0)
- Research Causes of Distracted Driving (0)
- Establish Safety Corridors (0)

Next Steps

To wrap up the meeting, Maria discussed the next steps for the Comprehensive Safety Action Plan. B&N will provide stakeholders with the Implementation Plan and Draft Safety Plan to meet the needs discussed over the course of the three stakeholder meetings.

New Martinsville Comprehensive Safety Action Plan

Stakeholder Meeting #3

June 25th, 2024

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Agenda

- Welcome and Introductions
- Stakeholder Meeting #1 & #2 Overview and Outcomes needed from Meeting #3
- Branding
- Strategies Discussion
  - Railroad Improvements
  - Intersections
  - Speeding and Aggressive Driving
  - Pedestrians
  - Distracted Driving
- Wrap Up and Next Steps

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2

Welcome and Introductions

- Name, Agency, Role

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3

Steps of Safety Plan

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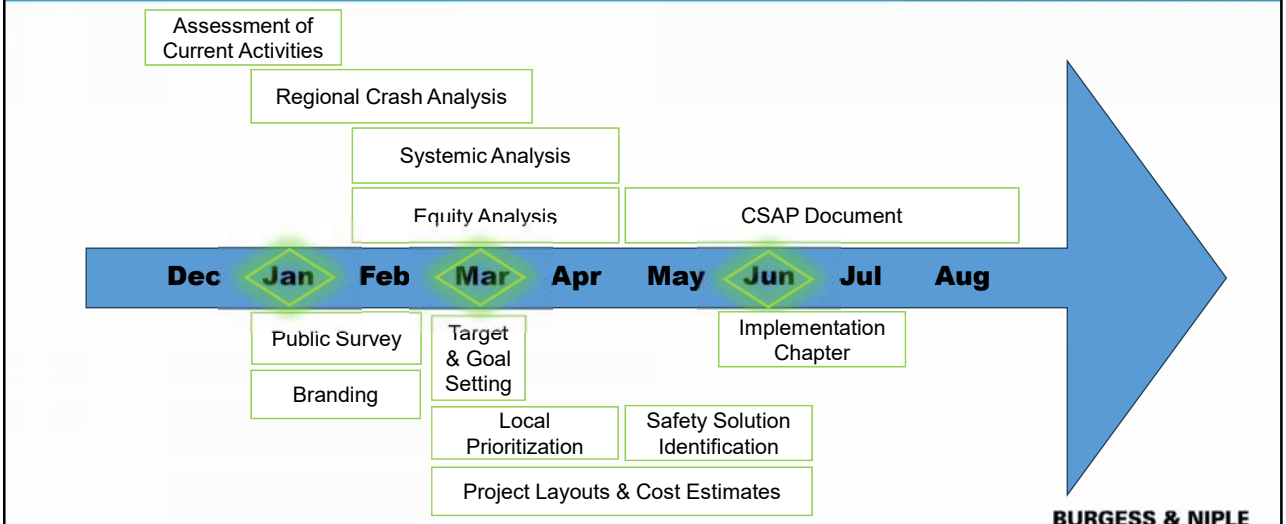
4

Plan Schedule

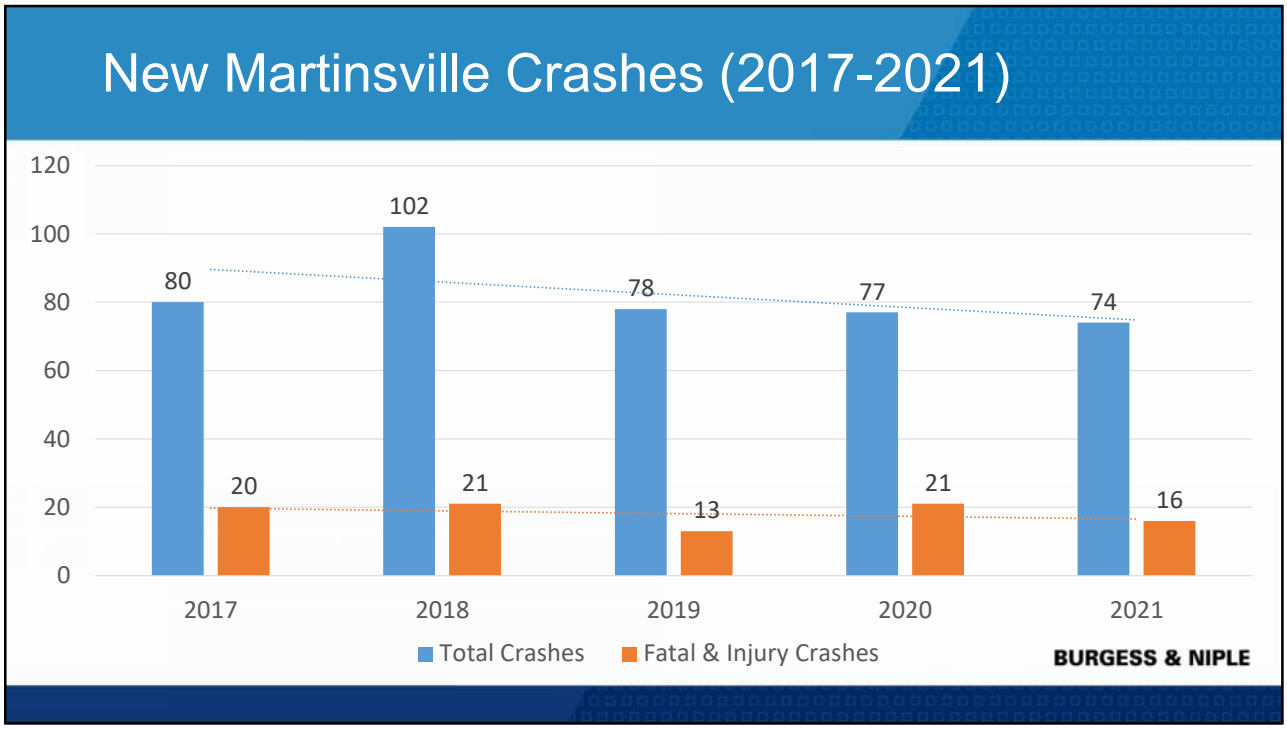


5

What to Consider in the Plan

- Opportunities to **make roads safer – ZERO fatalities and serious injuries**
- Ensure we all take **personal responsibility**
- Address **speed**
- Reliable **post-crash care**
- **Innovations/Technology**
- Safety is **Equitable**
- Create a **Culture** of safety

6


New Martinsville Crashes (2017-2021)
120
100
80
60
40
20
0
80
20
102
21
78
13
77
21
74
16
2017
2018
2019
2020
2021
Total Crashes
Fatal & Injury Crashes
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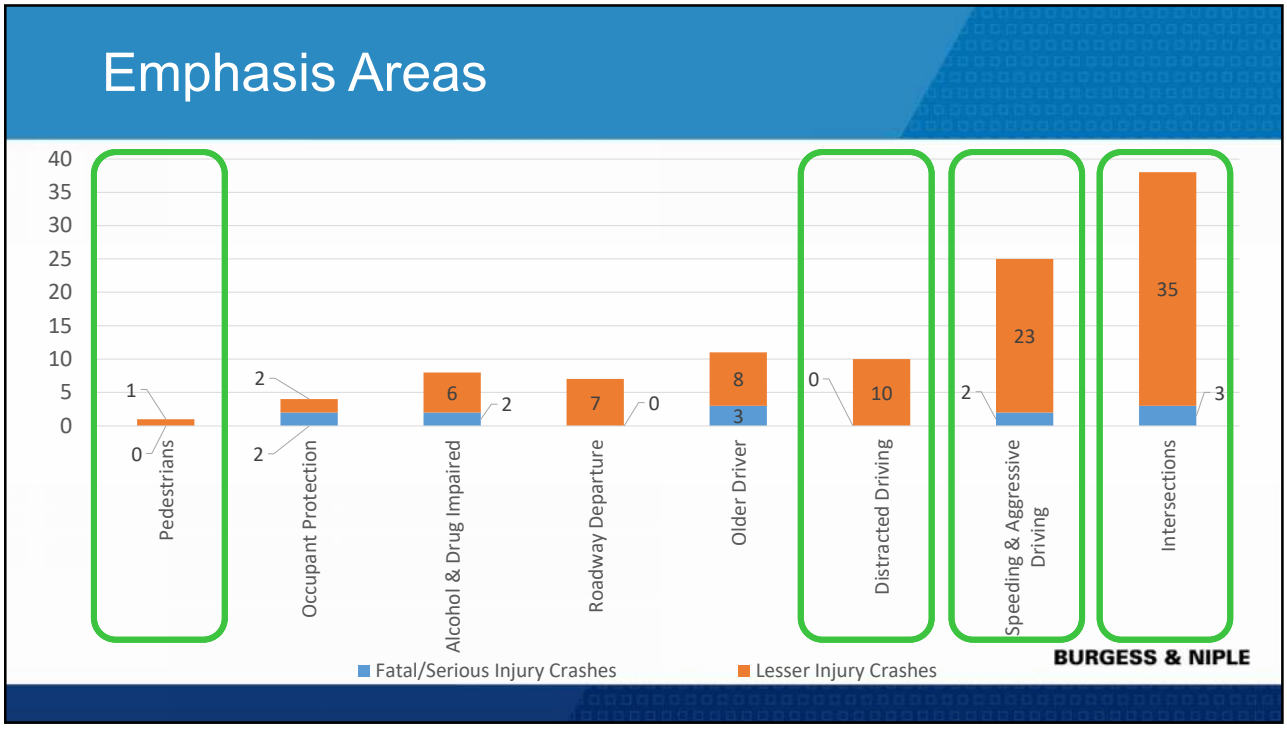
7


Emphasis Areas
40
35
30
25
20
15
10
5
0
1
0
2
2
6
2
7
0
8
3
0
10
2
23
35
3
Pedestrians
Occupant Protection
Alcohol & Drug Impaired
Roadway Departure
Older Driver
Distracted Driving
Speeding & Aggressive Driving
Intersections
Fatal/Serious Injury Crashes
Lesser Injury Crashes
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Vision Statement

Getting Everyone Back Home!
Striving for zero deaths and serious injuries by 2045.

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Objective

Reduce fatalities and serious injuries by 5% annually.

NEW MARTINSVILLE
had
ZERO
FATALITIES OR SERIOUS INJURIES
IN 2019

New Martinsville had
zero fatalities or serious injuries for
708 CONSECUTIVE DAYS
(February 25, 2018 – February 3, 2020)

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Outcome for Meeting #3

Identify strategies for four emphasis areas:

Intersections

Pedestrians

Speeding & Aggressive Driving

Distracted Driving

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Branding

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12

Branding

GETTING EVERYONE BACK HOME

NEW MARTINSVILLE, WV

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Strategies Discussion – Potential Projects and Action Items

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Sample Strategies

Table 3: Action Plan Strategy 1

Strategy 1: Retrofit existing streets and intersections to accommodate human mistakes and injury tolerances to reduce the severity of crashes that do occur and prevent future crashes

Action	Outcome	Lead Agency	Emphasis Areas Addressed			
			Intersections	Young Drivers	Vulnerable Road Users	Speed
1. In school zones and in high pedestrian areas, install no right turn on red and/or yield to pedestrian signage	Identify locations for signage	City of Hilliard – Division of Transportation & Mobility	X		X	
2. Implement proven safety countermeasures at traffic signals and crosswalks to reduce vehicle, bicycle, and pedestrian crashes, especially backplates, countdown pedestrian signal heads, leading pedestrian intervals, rapid flashing beacons, and high visibility crosswalks	Continue systemic and systematic application of countermeasures	City of Hilliard – Division of Transportation & Mobility	X	X	X	
3. Coordinate with COTA to re-evaluate bus layover locations related to mobility and safety concerns close to intersections	Coordination with COTA	City of Hilliard – Division of Transportation & Mobility	X			
4. Review left turn phasing at intersections, prioritizing high crash intersections	Identify locations where existing permissive/protected left turns should be converted to protected only	City of Hilliard – Division of Transportation & Mobility	X			

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Sample Strategies

EDUCATION STRATEGIES AND ACTIONS

Strategy 1: Conduct enforcement and public outreach at selected locations with a significant number of intersection crashes.

Timeline: 0-2 years

Leaders	Description	Performance Measure
Jurisdiction Engineers	Prioritize intersections for combined education and enforcement efforts. Overlay impaired driver, unbelted and young driver crash data on top 20 intersections to further prioritize and select locations.	Map overlays completed
Urbana Daily Citizen	Highlight major intersection safety concerns through media outlets to raise awareness and encourage behavioral changes.	# of media messages shared

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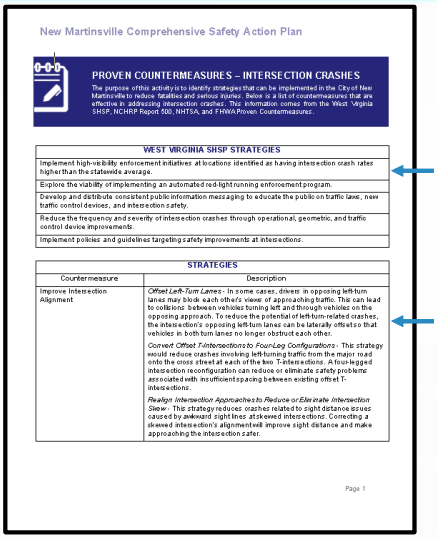
Strategies



New Martinsville Comprehensive Safety Action Plan

PROVEN COUNTERMEASURES – INTERSECTION CRASHES

The purpose of this activity is to identify strategies that can be implemented in the City of New Martinsville to reduce fatalities and serious injuries. Below is a list of countermeasures that are effective in addressing intersection crashes. This information comes from the West Virginia SHSP, NCHRP Report 500, NHTSA, and FHWA Proven Countermeasures.

WEST VIRGINIA SHSP STRATEGIES
Implement high-visibility enforcement initiatives at locations identified as having intersection crash rates higher than the statewide average.
Explore the viability of implementing an automated red-light running enforcement program.
Develop and distribute consistent public information messaging to educate the public on traffic laws, new traffic control devices, and intersection safety.
Reduce the frequency and severity of intersection crashes through operational, geometric, and traffic control device improvements.
Implement policies and guidelines targeting safety improvements at intersections.

STRATEGIES	
Countermeasure	Description
Improve Intersection Alignment	*Offset Left-Turn Lanes* - In some cases, drivers in opposing left-turn lanes may block each other's views of approaching traffic. This can lead to collisions between vehicles turning left and through vehicles on the opposing approach. To reduce the potential of left-turn-related crashes, the intersection's opposing left-turn lanes can be laterally offset so that vehicles in both turn lanes no longer obstruct each other. *Convert Offset T-Intersections to Four-Leg Configurations* - This strategy would reduce crashes involving left-turning traffic from the major road onto the cross street at each of the two T-intersections. A four-legged intersection reconfiguration can reduce or eliminate safety problems associated with insufficient spacing between existing offset T-intersections. *Realign Intersection Approaches to Reduce or Eliminate Intersection Skew* - This strategy reduces crashes related to sight distance issues caused by awkward sight lines at skewed intersections. Correcting a skewed intersection's alignment will improve sight distance and make approaching the intersection safer.

Page 1

Strategies in WVDOT Strategic Highway Safety Plan

Strategies from other research and plans

Which strategies will be most effective in the New Martinsville?

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Railroad Improvements

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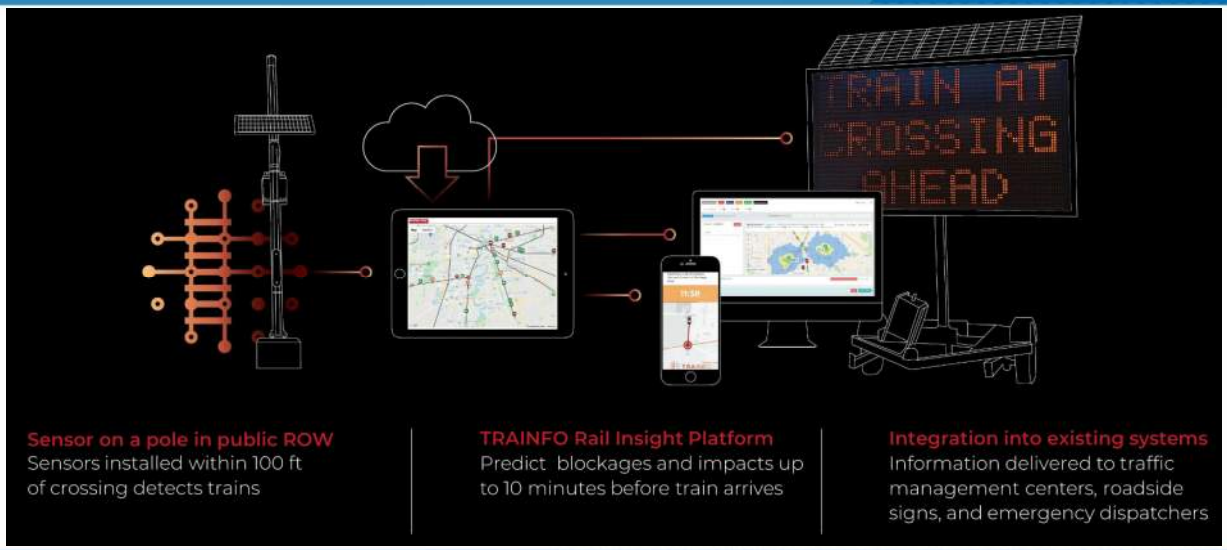
Short-Term Improvement

$10,000 per Sensor
$10,000 - $18,000 per year for Software



Sensor on a pole in public ROW
Sensors installed within 100 ft of crossing detects trains

TRAINFO Rail Insight Platform
Predict blockages and impacts up to 10 minutes before train arrives

Integration into existing systems
Information delivered to traffic management centers, roadside signs, and emergency dispatchers

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Long-Term Improvement
Option 1

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Long-Term Improvement Option 2

21

Long-Term Improvement Option 3

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Intersections

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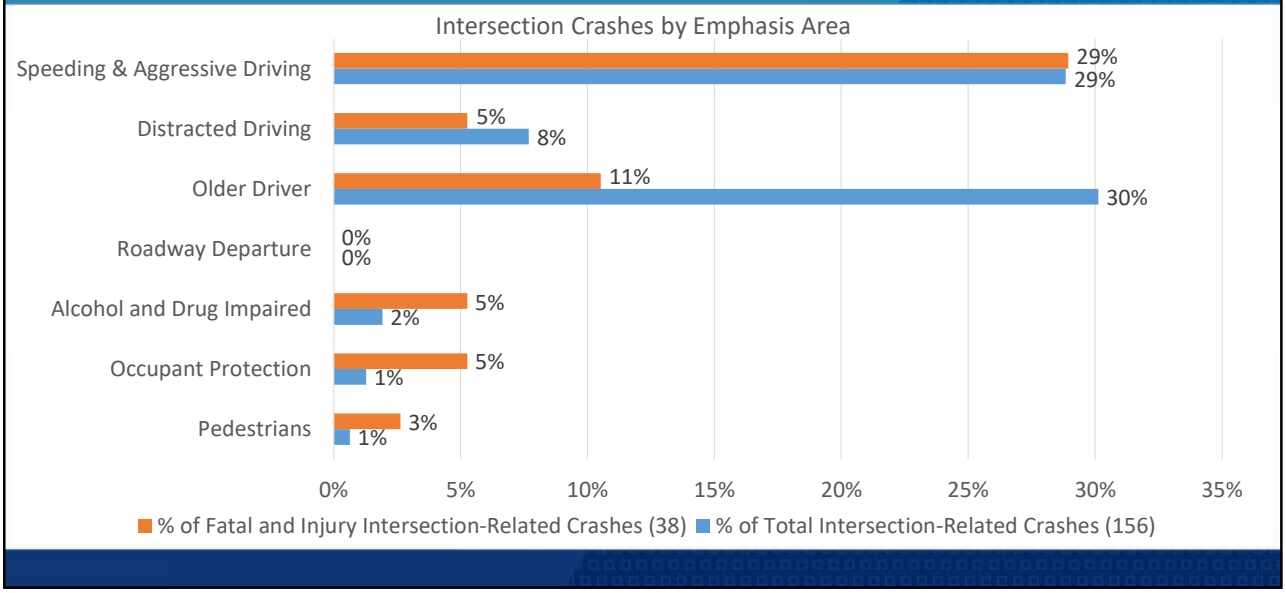
23

Intersection Crash Details



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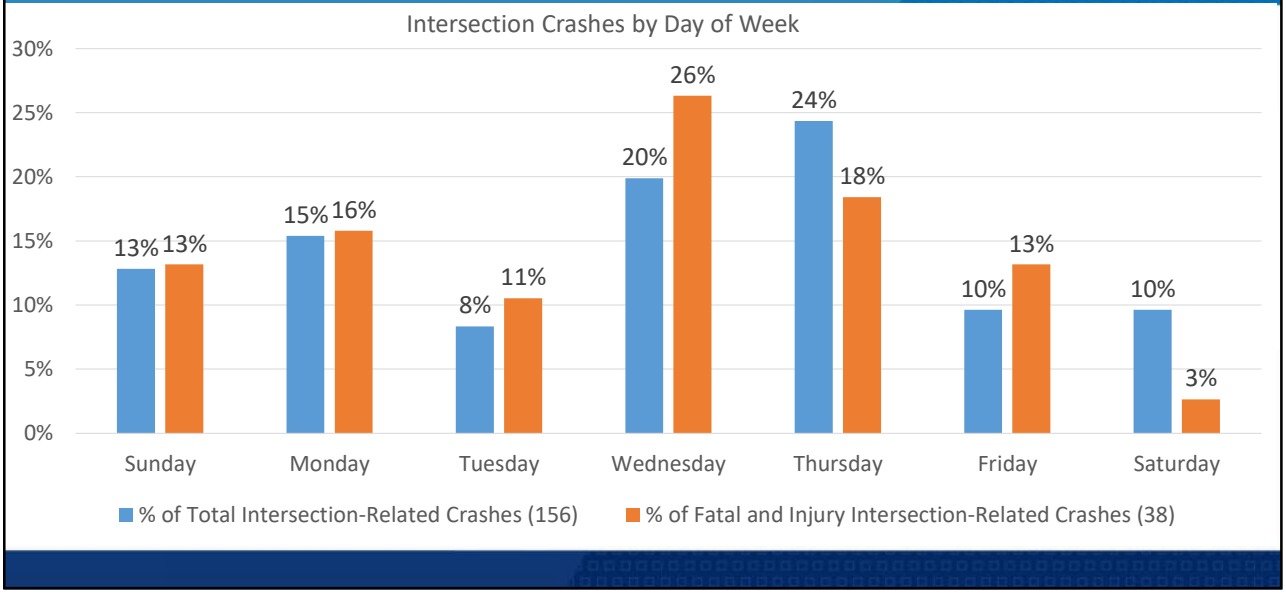
Intersection Crash Details



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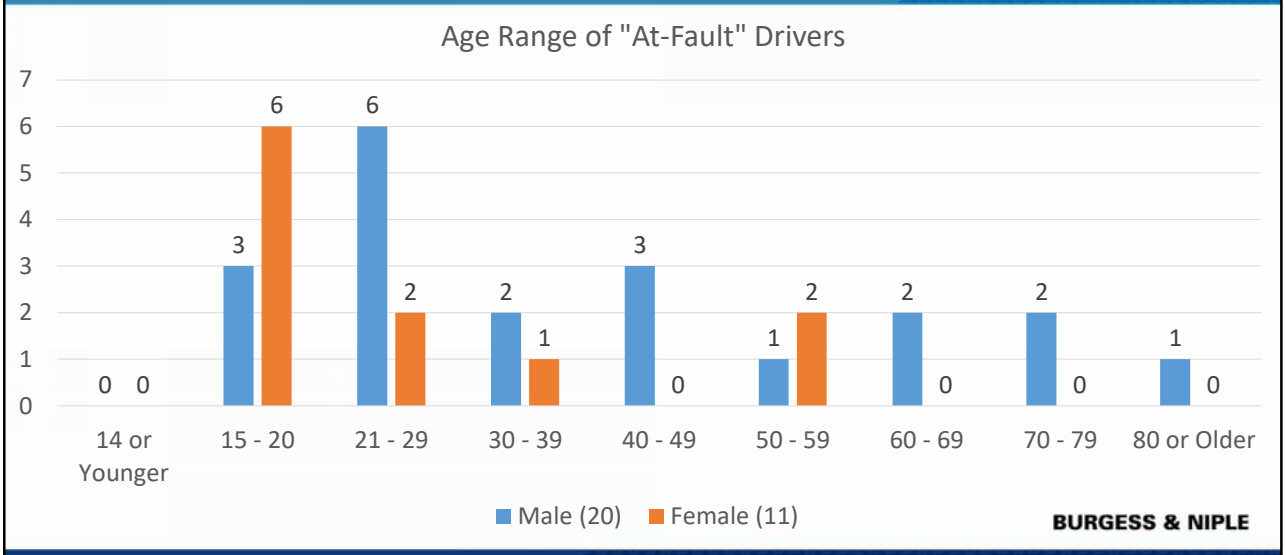
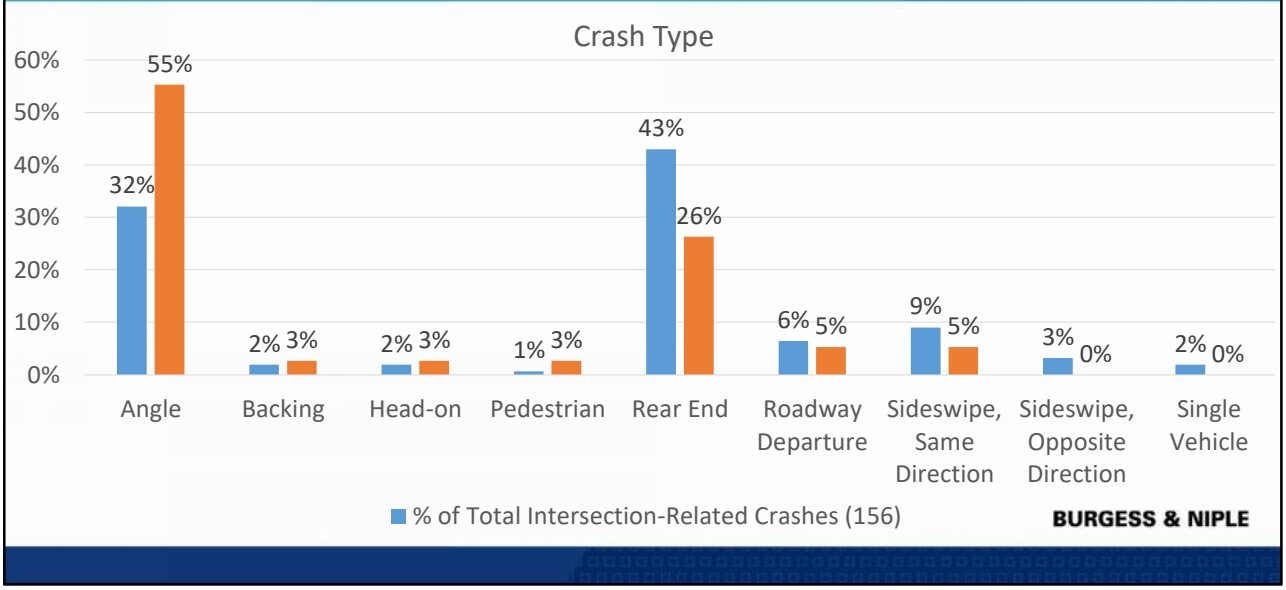
Intersection Crash Details



*Fatal and Injury Crashes Only

26

Intersection Crash Details



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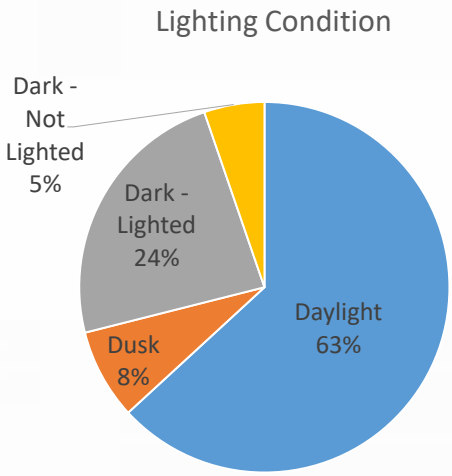
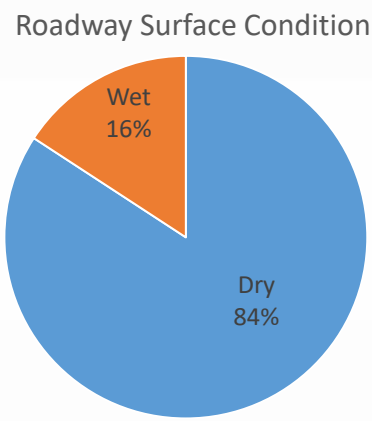
27

Intersection Crash Details





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*Fatal and Injury Crashes Only

28

WV 2 and North Street

#4 on Intersection Priorities

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WV 2 and Leap Street

#33 on Intersection Priorities

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WV 2 and Rosary Road

#5 on Intersection Priorities

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Strategies

- Review strategy handouts
- Questions about strategies listed?
- Are there strategies we missed that could be effective in New Martinsville?

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Speeding & Aggressive Driving

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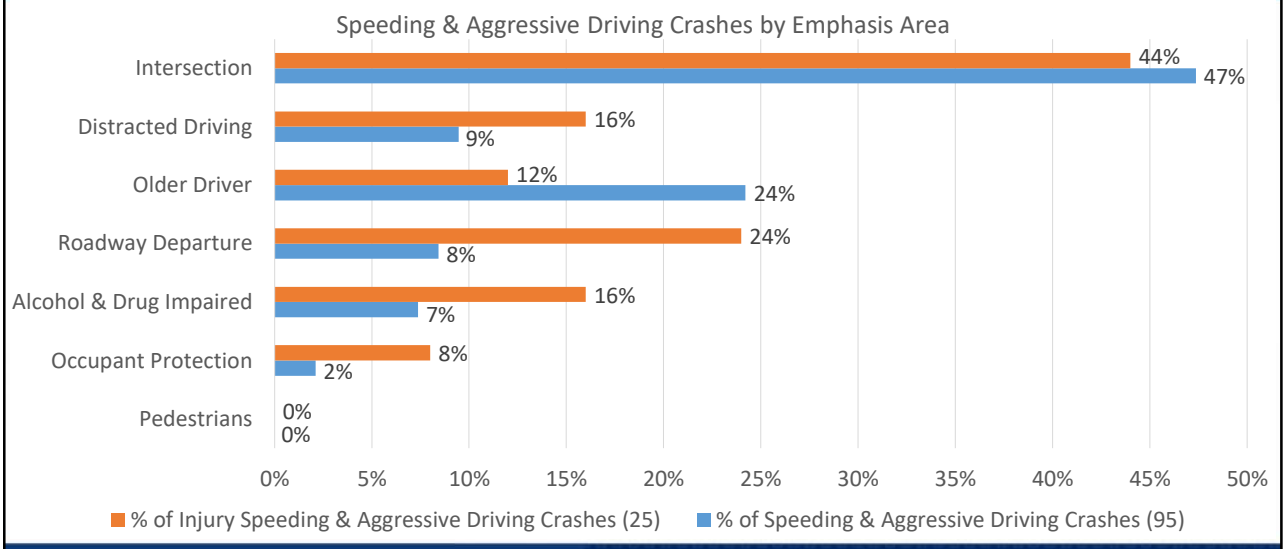
Speeding & Aggressive Driving Crash Details



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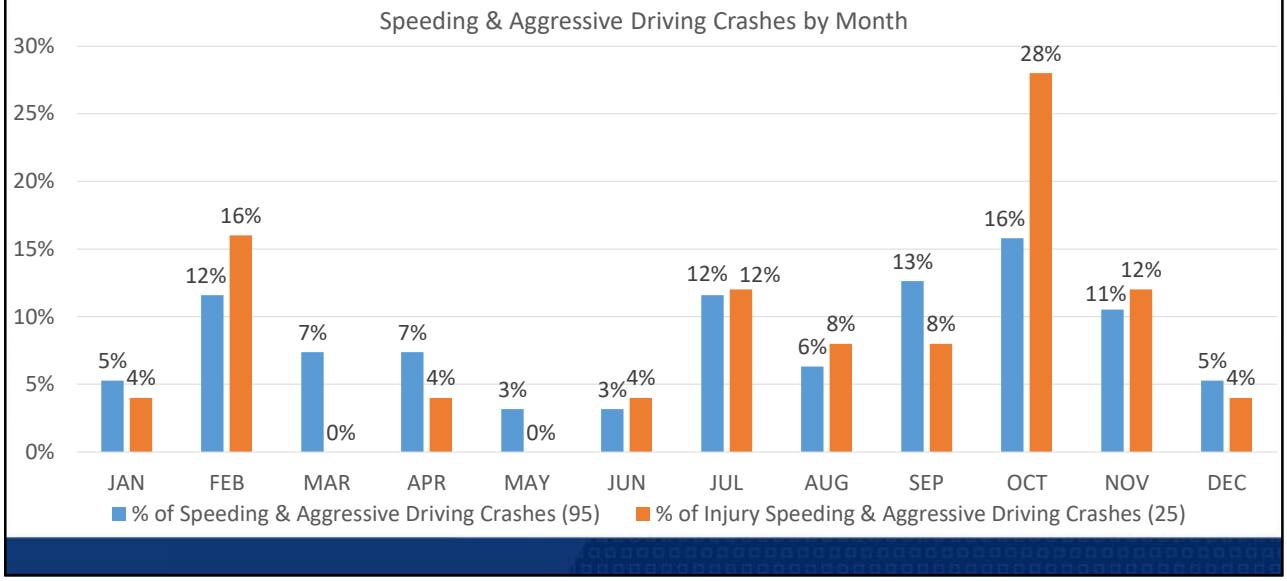
Speeding & Aggressive Driving Crash Details



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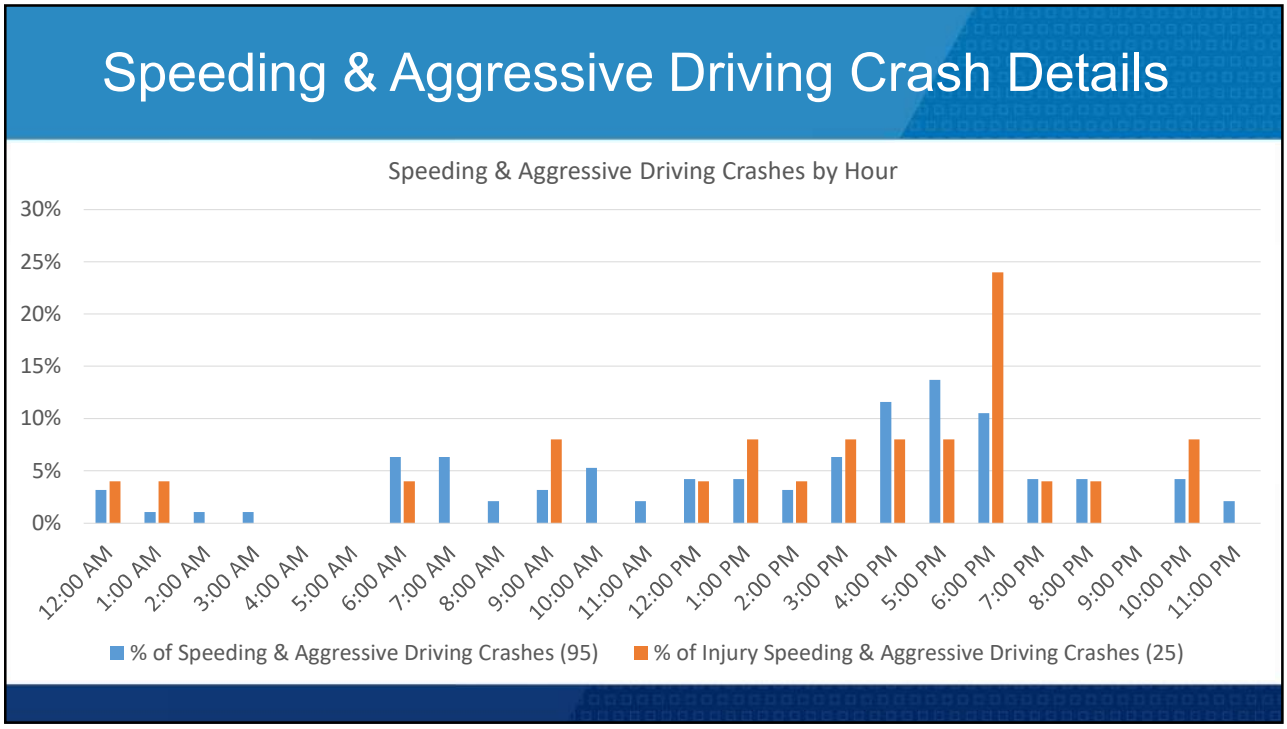
Speeding & Aggressive Driving Crash Details



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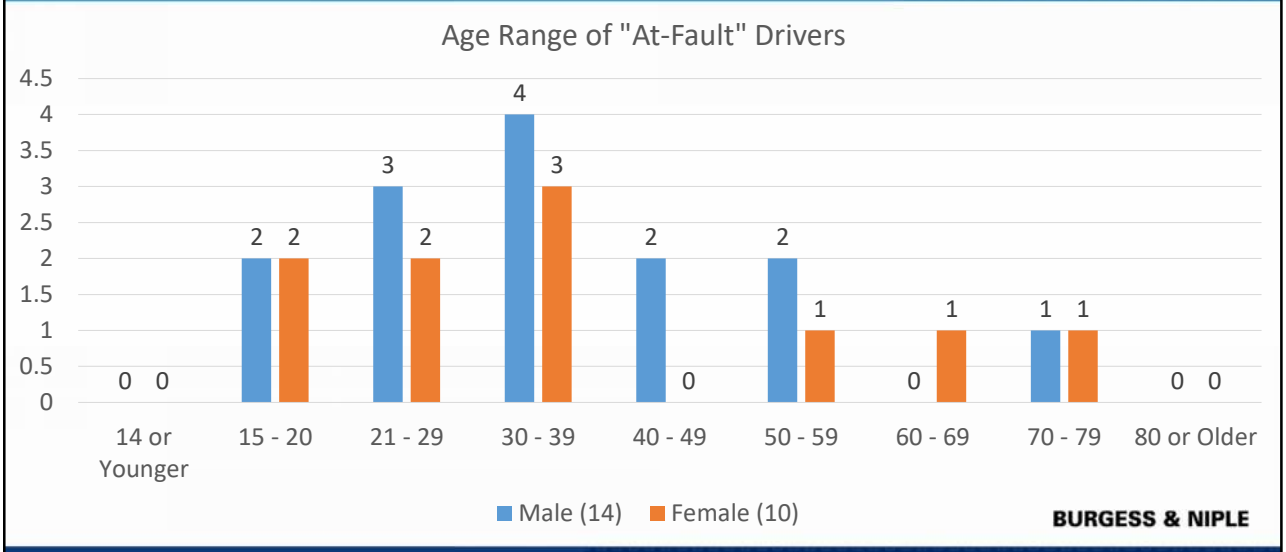
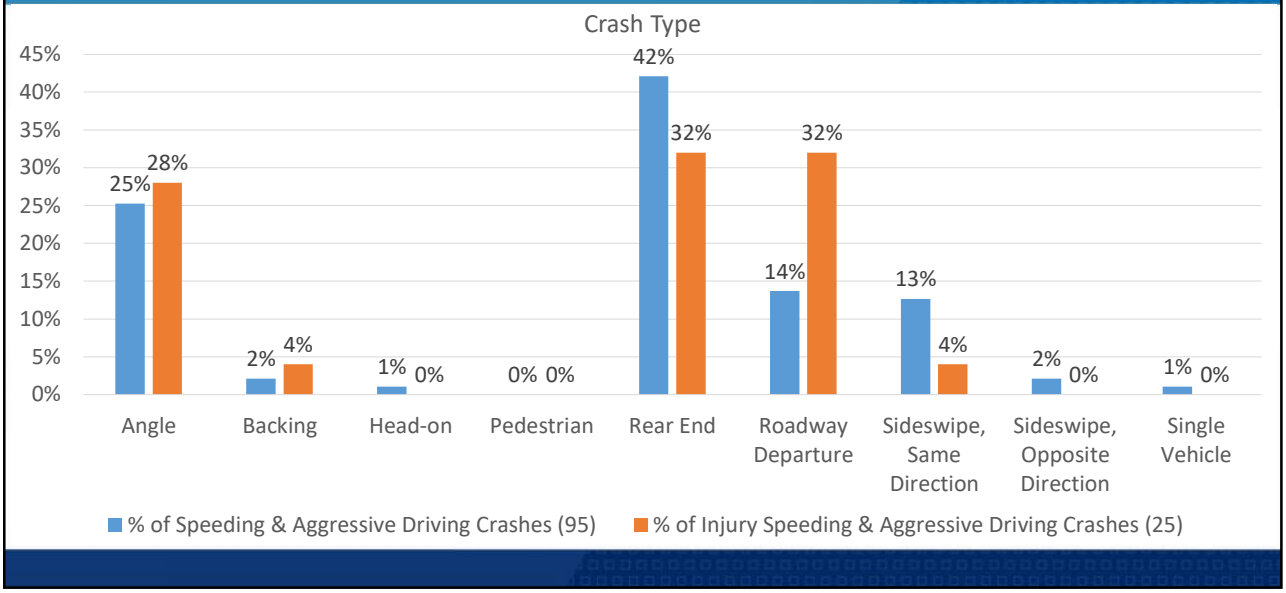
Speeding & Aggressive Driving Crash Details



*Injury Crashes Only

37

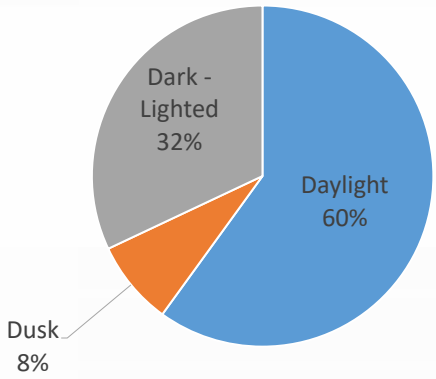
Speeding & Aggressive Driving Crash Details



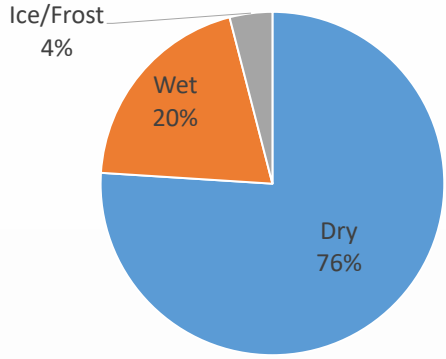
38

Speeding & Aggressive Driving

Lighting Condition



Roadway Surface Condition



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*Injury Crashes Only

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Strategies

- Review strategy handouts
- Questions about strategies listed?
- Are there strategies we missed that could be effective in New Martinsville?

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Pedestrians

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Pedestrian Crash Details

PEDESTRIAN CRASH –
Tuesday February 4, 2020
7:51 pm

- Dark-Not Lighted Conditions (Night)
- Weather-Related (Raining)
- Pedestrian was Intoxicated

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Pedestrian Crash Details

PEDESTRIAN CRASH – Tuesday February 4, 2020 7:51 pm

- Driver – Male, 27 Years Old
- Pedestrian – Male, 52 Years Old
- T-intersection (WV 2 & Industrial Dr)

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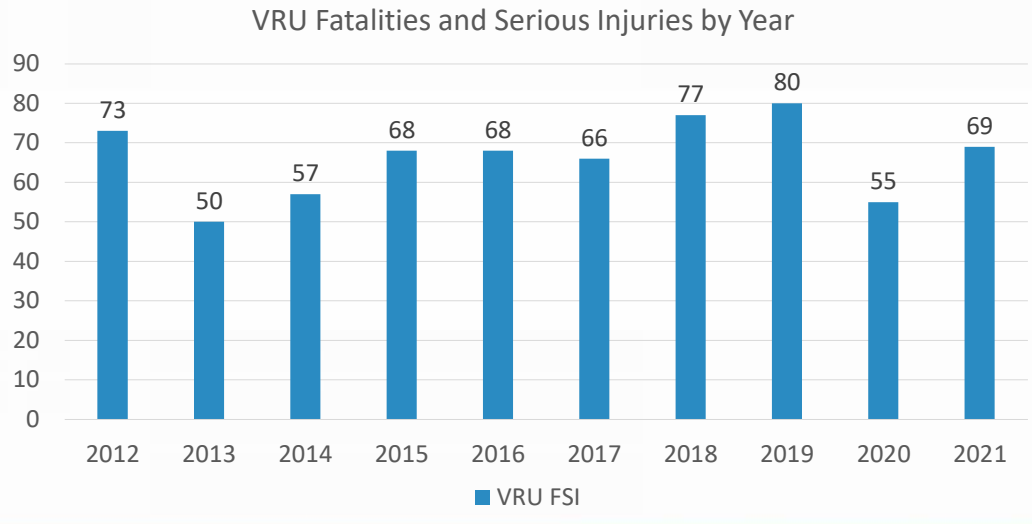
Statewide Vulnerable Road User Crash Details



663 VRU Fatal and Serious Injuries

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*Statewide Data Obtained from WV VRU Assessment

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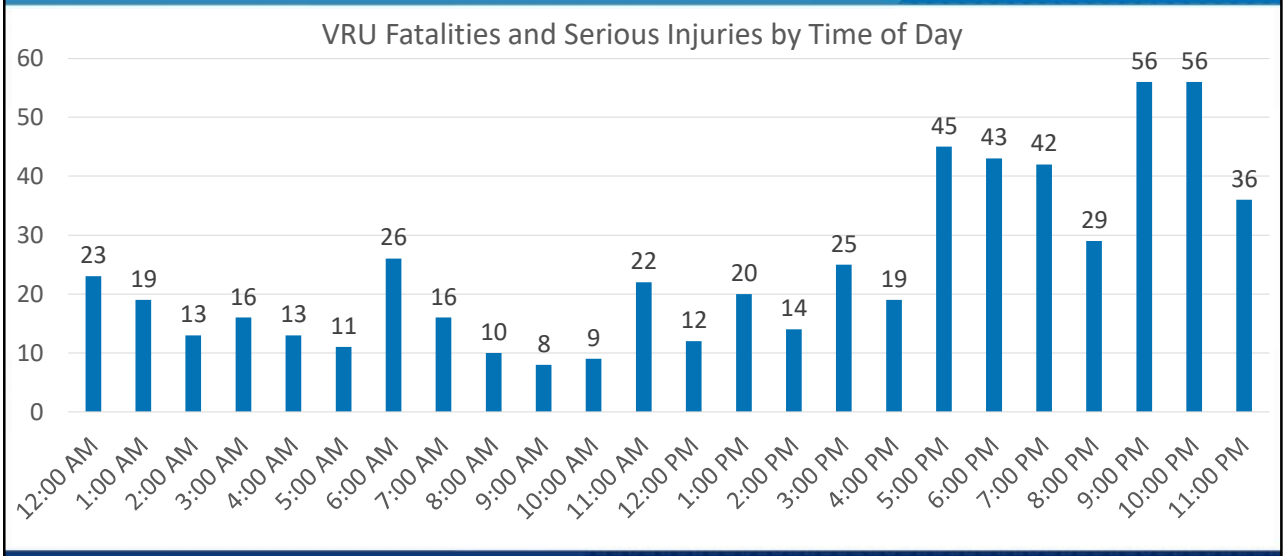
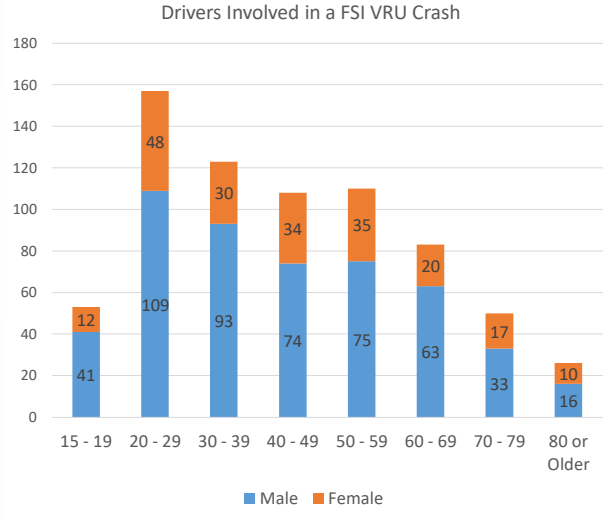
Statewide Vulnerable Road User Crash Details

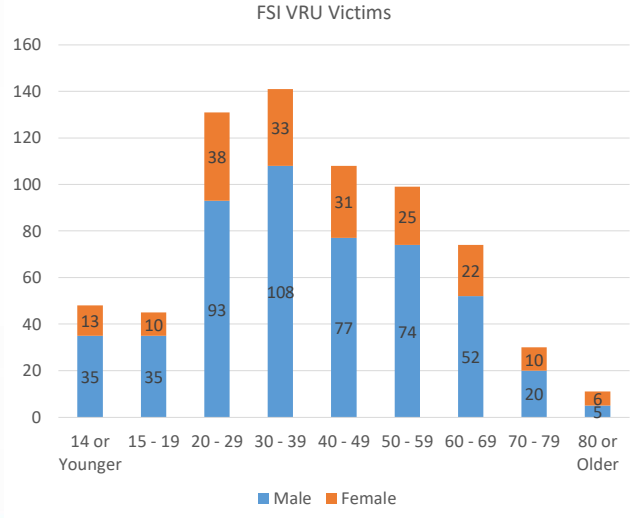


*Statewide Data Obtained from WV VRU Assessment

45

Statewide Vulnerable Road User Crash Details

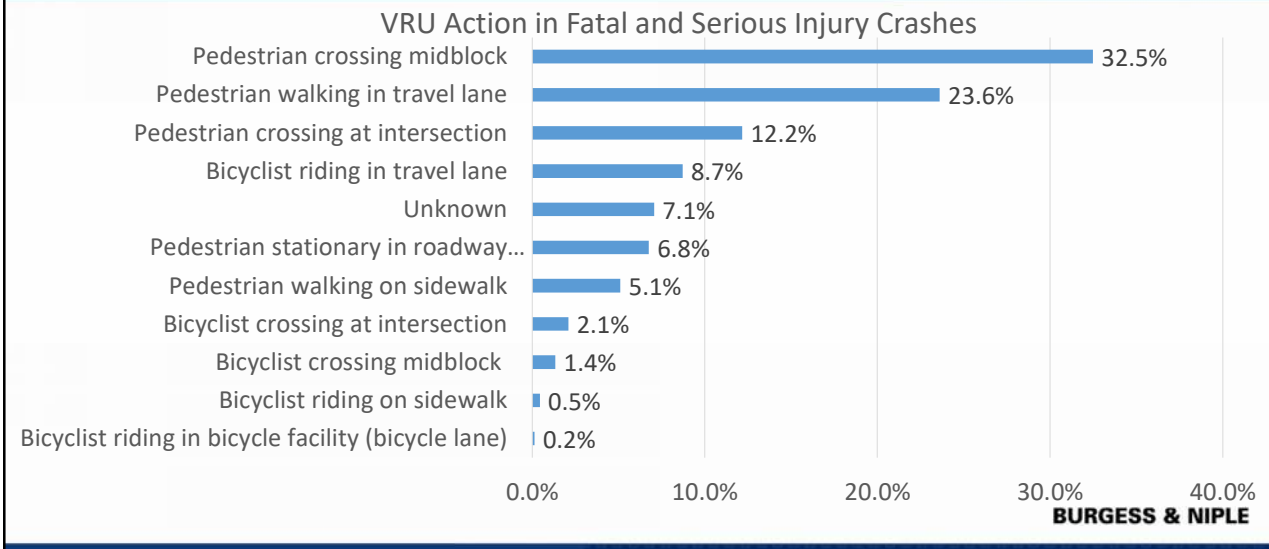




*Statewide Data Obtained from WV VRU Assessment

46

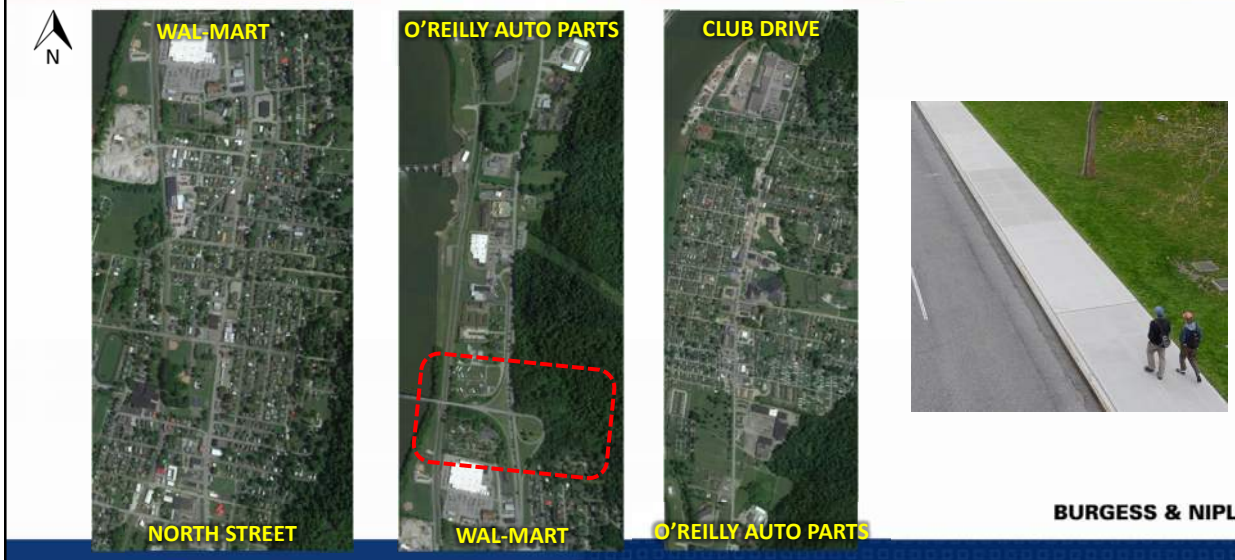
Statewide Vulnerable Road User Crash Details



*Statewide Data Obtained from WV VRU Assessment

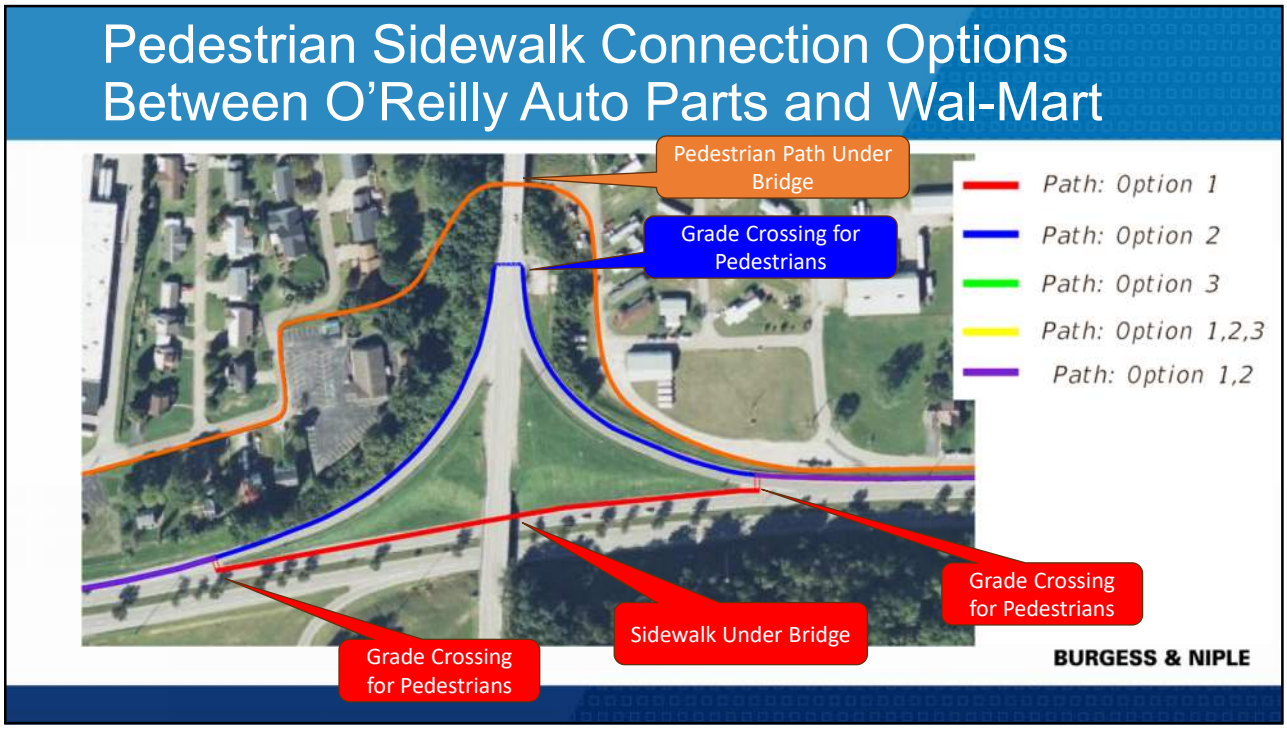
47

Pedestrian Sidewalk Connections



48

Pedestrian Sidewalk Connection Options Between O'Reilly Auto Parts and Wal-Mart



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Pedestrian Connection along Howard Jeffers

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Strategies

- Review strategy handouts
- Questions about strategies listed?
- Are there strategies we missed that could be effective in New Martinsville?

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Distracted Driving

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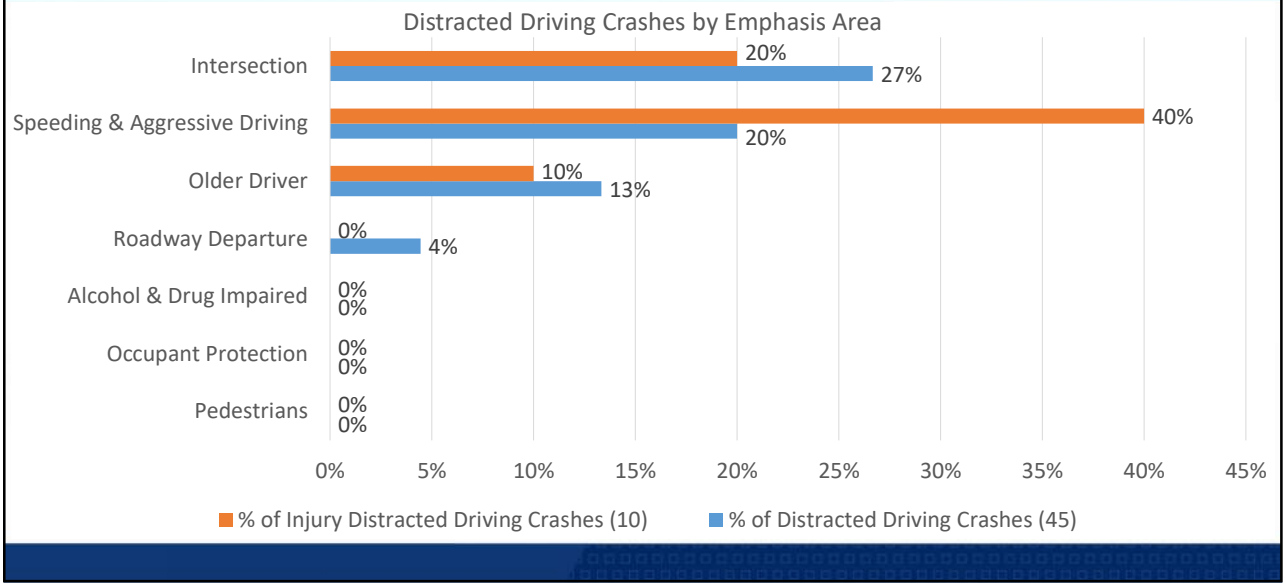
Distracted Driving Crash Details



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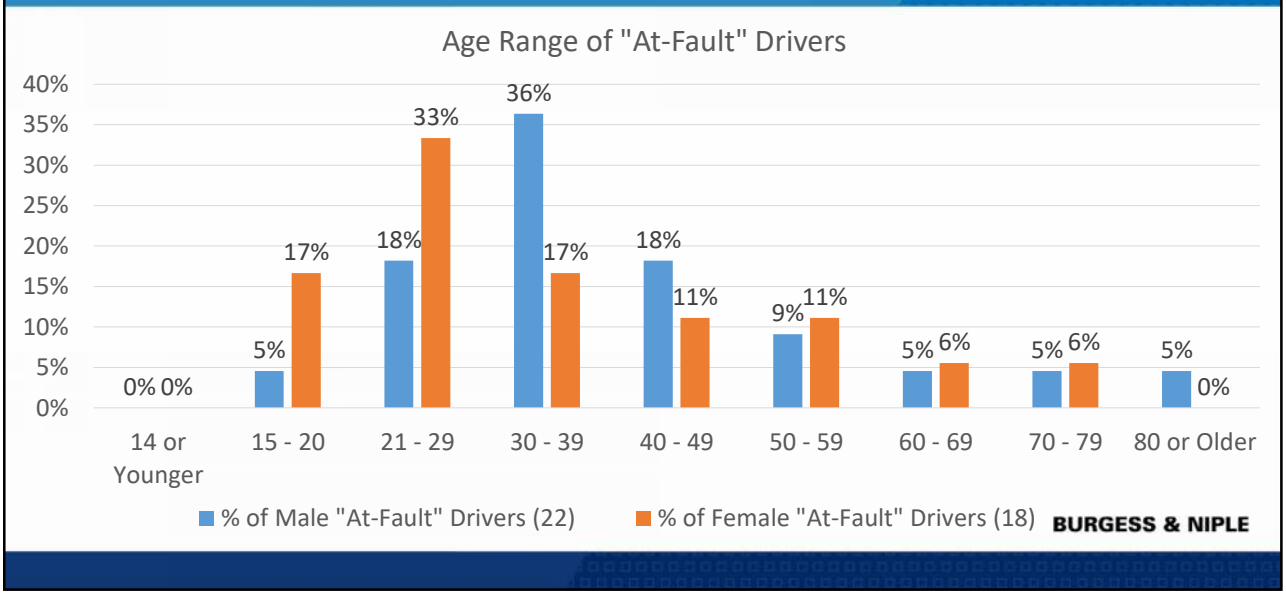
Distracted Driving Crash Details



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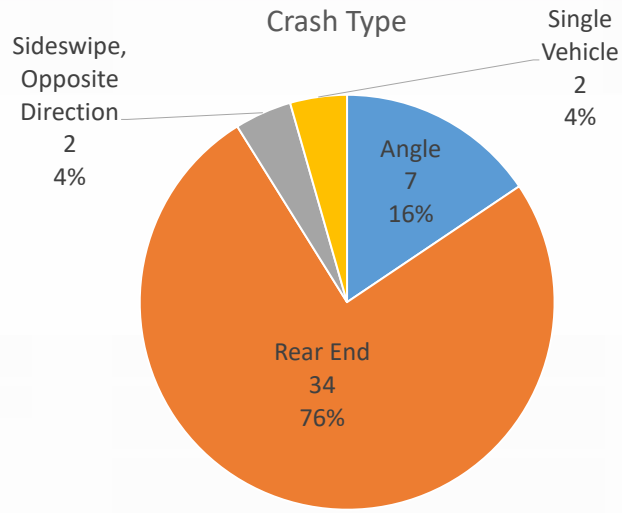
Distracted Driving Crash Details



- 9 Rear End Crashes resulted in an Injury
- 1 Angle Crash resulted in an Injury

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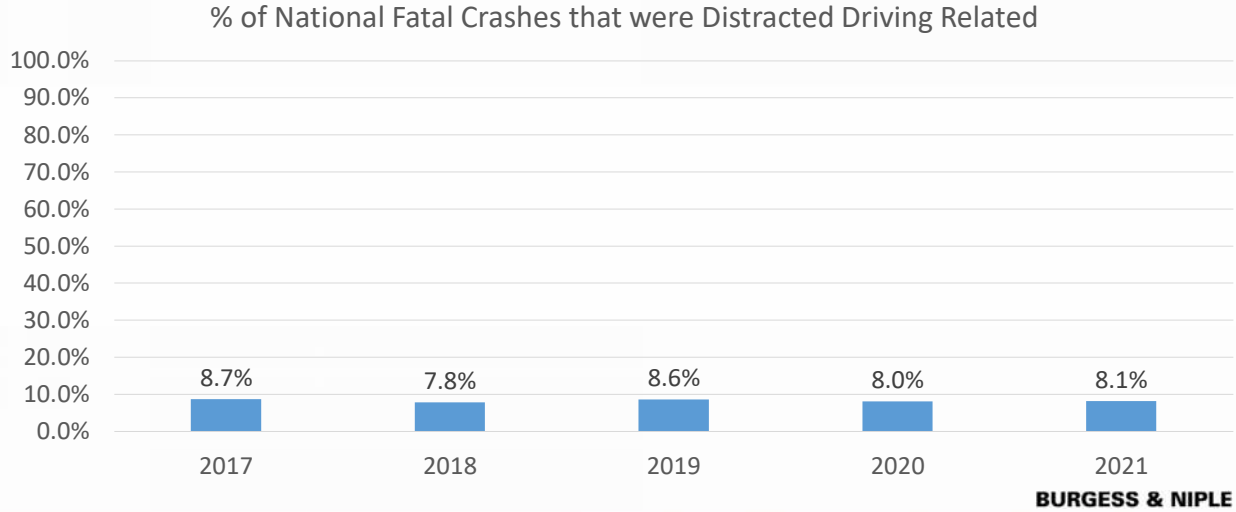
National Distracted Driving Crash Data



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*Obtained from NHTSA Distracted Driving in 2021

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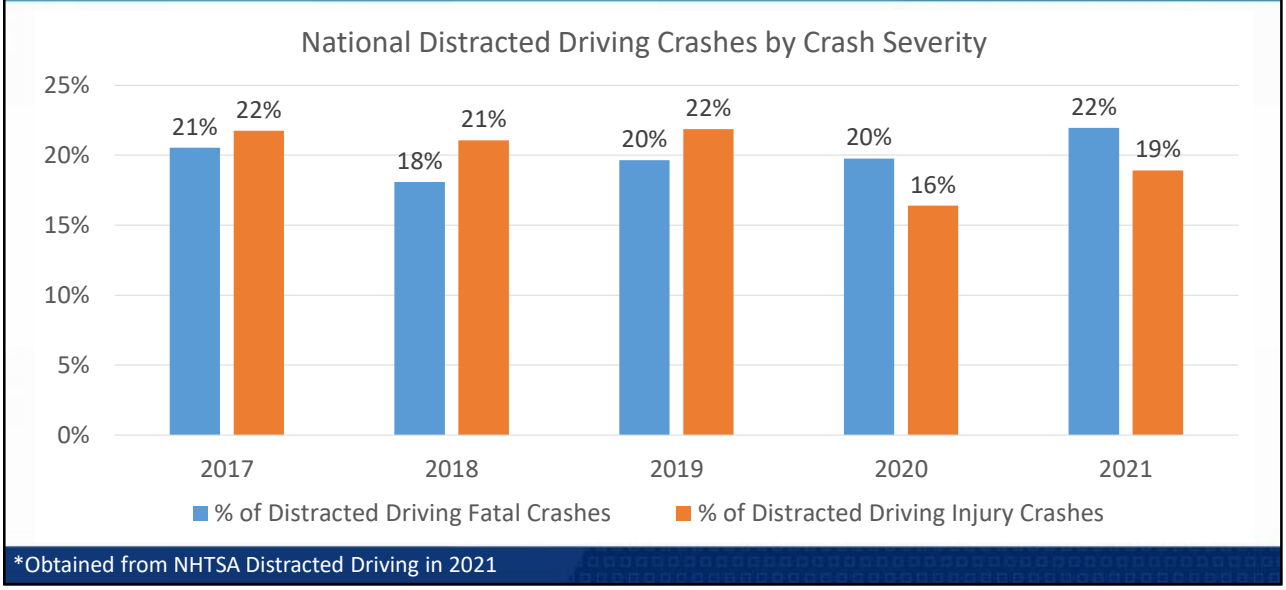
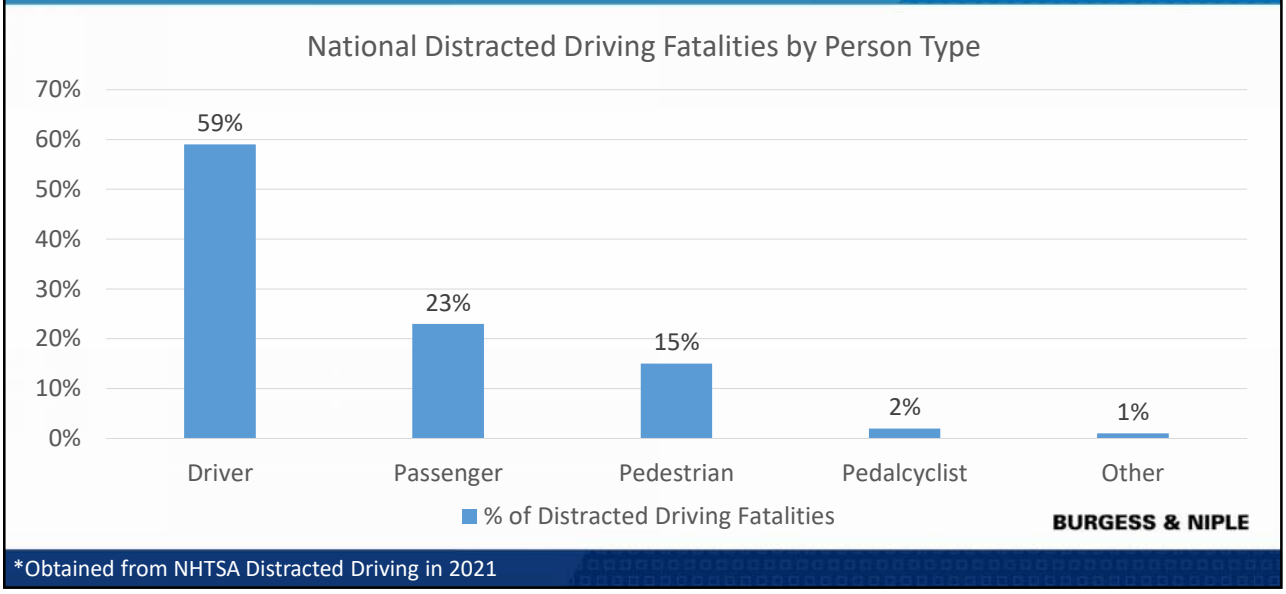
National Distracted Driving Crash Data



*Obtained from NHTSA Distracted Driving in 2021

57

National Distracted Driving Crash Data



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*Obtained from NHTSA Distracted Driving in 2021

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Strategies

- Review strategy handouts
- Questions about strategies listed?
- Are there strategies we missed that could be effective in New Martinsville?

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Dot Exercise

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Dot Exercise

- Put a “dot” next to the strategy you think could me most effective in New Martinsville.
  - 5 “dots” per poster
  - You may double up dots if you believe that strategy is most important/effective

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Next Steps

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Next Steps

- Implementation Plan
- Draft Safety Plan

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PROVEN COUNTERMEASURES – INTERSECTION CRASHES

The purpose of this activity is to identify strategies that can be implemented in the City of New Martinsville to reduce fatalities and serious injuries. Below is a list of countermeasures that are effective in addressing intersection crashes. This information comes from the West Virginia SHSP, NCHRP Report 500, NHTSA, and FHWA Proven Countermeasures.

WEST VIRGINIA SHSP STRATEGIES
Implement high-visibility enforcement initiatives at locations identified as having intersection crash rates higher than the statewide average.
Explore the viability of implementing an automated red-light running enforcement program.
Develop and distribute consistent public information messaging to educate the public on traffic laws, new traffic control devices, and intersection safety.
Reduce the frequency and severity of intersection crashes through operational, geometric, and traffic control device improvements.
Implement policies and guidelines targeting safety improvements at intersections.

STRATEGIES	
Countermeasure	**Description**
Improve Intersection Alignment	*Offset Left-Turn Lanes* - In some cases, drivers in opposing left-turn lanes may block each other's views of approaching traffic. This can lead to collisions between vehicles turning left and through vehicles on the opposing approach. To reduce the potential of left-turn-related crashes, the intersection's opposing left-turn lanes can be laterally offset so that vehicles in both turn lanes no longer obstruct each other. *Convert Offset T-Intersections to Four-Leg Configurations* - This strategy would reduce crashes involving left-turning traffic from the major road onto the cross street at each of the two T-intersections. A four-legged intersection reconfiguration can reduce or eliminate safety problems associated with insufficient spacing between existing offset T-intersections. *Realign Intersection Approaches to Reduce or Eliminate Intersection Skew* - This strategy reduces crashes related to sight distance issues caused by awkward sight lines at skewed intersections. Correcting a skewed intersection's alignment will improve sight distance and make approaching the intersection safer.

Countermeasure	Description
Evaluate Yellow and Red Vehicular Clearance Intervals	Inadequate Yellow or All-Red clearance intervals can lead to motorists running red lights or suddenly braking hard to stop on red. These actions can cause angle crashes and rear end crashes respectively. Better clearance intervals can reduce this behavior and improve safety for all road users.
Review Left-Turn Phasing at Intersections	Reducing left-turn conflicts can simplify decision-making for drivers and minimize the potential for higher severity crash types such as angle crashes. Solutions include protected left-turn phasing, permissive/protected or protected/permissive phasing, or flashing yellow arrows (FYA). The FYA provides a more flexible and safer alternative to the permissive left-turn circular green that can result in the “Yellow Trap”. FYAs have been shown to be more easily understood than the traditional yield on green, and help motorists yield to opposing traffic during high volume periods and reduce delays during low volume periods.
Improve Signal Timing Through Sequentual Intersections	Shorter segments with multiple signalized intersections can benefit from properly synced signals to increase traffic flow and predictability. This in turn reduces driver impatience and risky driving such as running red lights.
Research AI-Powered Monitoring Systems	The future of intersection traffic control is in Artificial Intelligence (AI) systems that direct and monitor live traffic information. Research in such systems is encouraged since AI can now manage traffic systems with greater accuracy than ever before, better optimizing traffic flow as well as improving intersection safety for all road users.
Modify Intersection Traffic Control Features	Modifications include converting an intersection to an all-way stop control, traffic signal, or updating the existing traffic control signal timing. Applying the latest signage and pavement marking standards can also guide drivers through the intersection more effectively. Modifying traffic control may require warrant analysis and traffic studies to analyze the impacts of traffic control improvements.
Improve Driver Awareness of Intersections Ahead	Some intersection-related collisions occur due to drivers being unaware or unprepared for an approaching intersection. The implementation of Intersection Ahead warning signs, Stop Sign Ahead signs, flashing warning beacons, and supplemental signal heads can increase driver awareness and intersection recognition. Having advanced warning about an intersection also decreases potential conflicts with pedestrians or other motorists.
Install Backplates with Retroreflective Borders on Signal Heads	Incorporating reflective backplates to signal heads can improve signal visibility. Reflective backplates also que drivers there is a signalized intersection ahead, especially when the signals are inoperable during a power outage.
Restrict Right-Turn on Red	Restricting right-turn on red can be beneficial in mitigating vehicular crashes when sight distance is limited or obstructed for turning vehicles. Similarly, in areas highly trafficked by pedestrians, restricting right-turn on red decreases the likelihood of pedestrian-vehicle conflicts.

Countermeasure	Description
Improve Pedestrian/Bicyclist/Non-Motorist Accommodations at Intersections	*Improve Crosswalk Visibility* - Painting high visibility crosswalks at intersections can enhance pedestrian and other non-motorist visibility to drivers, especially for drivers making turn movements while non-motorists are crossing. *Leading Pedestrian Interval at Crosswalks* - This gives pedestrians the opportunity to enter the crosswalk 3-7 seconds before vehicles in the parallel direction get the green indication. Positioning pedestrians in the crosswalk sooner than vehicles increases visibility of crossing pedestrians and reduces conflicts with turning vehicles. *Curb Extensions* - Extending the curbs at an intersection reduces the effective roadway width. In turn this decreases vehicle turning speeds, reduces the distance pedestrians need to cross the road, and increases the ability of pedestrians and motorists to see each other. *Adequate Walk and Flashing Don't Walk Timings* - Adequate timing for Walk and Flashing Don't Walk phases would allow pedestrians to completely cross the intersection before opposing traffic is given priority. Phase times should be based on average walking speeds. *Construct Pedestrian Refuge Islands in Medians at Intersections* - For wide intersections, it may be beneficial to construct median refuge islands so pedestrians can cross one direction of traffic at a time. This would reduce pedestrian and vehicle conflicts.
Consistent Public Messaging on Intersection Safety	Consistent public messaging about traffic laws, new traffic control devices, and intersection safety would remind motorists about safety driving behaviors. Messaging would include social media, radio and television ad campaigns, community outreach programs and discussions in driver education classes.
Improve Driver Compliance to Traffic Control Devices	Some crashes at intersections are caused by drivers ignoring traffic control devices or laws. Law enforcement and education are effective measures in reducing traffic law violations caused by motorists, which ultimately increases safety for other motorists and non-motorists alike.
Automated Enforcement Devices	Automated enforcement systems such as cameras can discourage red-light running, speeding and other traffic violations within intersections.
Improve Emergency Response	When a crash does happen, clearing the intersection of traffic is an essential priority for emergency responders. Proactive traffic incident management training would teach responders to communicate with each other more effectively, clear traffic faster, and reach crash victims safer and quicker.
Conduct Road Safety Audits (RSAs) At Intersections	RSAs are formal safety performance assessments performed by an independent multidisciplinary team. These studies estimate and report on intersection safety issues and provide improvement opportunities for all road users.

PROVEN COUNTERMEASURES – SPEED AND AGGRESSIVE DRIVING

The purpose of this activity is to identify strategies that can be implemented in the City of New Martinsville to reduce fatalities and serious injuries. Below is a list of countermeasures that are effective in addressing speed and aggressive driving crashes. This information comes from the West Virginia SHSP, NCHRP Report 500, NHTSA, and FHWA Proven Countermeasures.

WEST VIRGINIA SHSP STRATEGIES
Conduct effective speeding and aggressive driving enforcement activities.
Explore the viability of implementing an automated speed enforcement program.
Develop and distribute consistent public information messages to increase public awareness of the consequences of speeding and aggressive driving.
Implement proven engineering countermeasures to effectively manage speeds.

STRATEGIES	
Countermeasure	**Description**
Review Existing Speed Limits	Speed limits are based on appropriate engineering practices related to roadway design, operations, and driver behavior. Corridors that see higher than average speeds can be reviewed to determine if reducing the posted speed limit can reduce overall speed. Consideration to corridor location, surrounding demographics and local driving behavior should be implemented when analyzing speed limit changes.
Speed Feedback Signs	Dynamic speed feedback signs are used to reduce vehicle speeds by giving drivers who are traveling over the posted speed limit targeted messages such as “YOUR SPEED XX” or “SLOW DOWN”. The device measures vehicle speeds via radar, and an electronic sign displays the messages specifically to speeding vehicles. Speed feedback signs would be placed in areas where speeding and aggressive driving have been reported factors in high-crash locations.
Automated Enforcement	If permitted by state law, automated speed enforcement such as red-light camera systems can be effective in catching and deterring drivers who are speeding. These systems should be used to support traditional enforcement efforts or be deployed in locations where speed feedback signs may be unsafe or impractical.
Self-Enforcing Speed Management Techniques	Narrow lanes, roundabouts, concrete medians, curb bump outs, and other roadway design features can cause drivers to travel at lower speeds.

Countermeasure	Description
High-Visibility Enforcement (HiVE) Campaign	HiVE campaigns are used to deter speeding and aggressive driving by alerting the community about increased law enforcement presence at priority locations. The objective is to communicate to the public that speeding and aggressive driving is more likely to be caught and that offenders will be punished, while improving the public view of enforcement actions. Partnerships with media and other community outreach methods would help propagate HiVE messaging to the community.
Education Campaigns on Speeding and Aggressive Driving	Targeted education campaigns can help remind drivers that speeding and aggressive driving can be harmful and puts the public at risk. Education campaigns would be broadcasted through media, schools, drivers' education classes, and other forms of community outreach.
Establish Safety Corridors	A Safety Corridor is a stretch of road or highway that is designated as a high-risk, well monitored area that reduces instances of risky driving behaviors such as speeding. The corridors are identified based on driving statistics and historical crash data. Signage would be placed at regular intervals to remind drivers to travel at safer speeds.
Establish Speed Management Action Team Summits	Convene an annual forum, summit, roundtable, or similar event to review speed action plan progress. These meetings would involve stakeholders and representatives from the local to state levels to evaluate the success of recommended countermeasures, identify actions that have been successful elsewhere and how to apply them in New Martinsville. The meetings would also identify and implements way to promote continued education on speeding and culture change.

PROVEN COUNTERMEASURES – PEDESTRIAN CRASHES

The purpose of this activity is to identify strategies that can be implemented in the City of New Martinsville to reduce fatalities and serious injuries. Below is a list of countermeasures that are effective in addressing pedestrian crashes. This information comes from the West Virginia Vulnerable Road User Assessment, West Virginia SHSP, NCHRP Report 500, NHTSA, and FHWA Proven Countermeasures.

WEST VIRGINIA VULNERABLE ROAD USER (VRU) ASSESSMENT
Perform site specific VRU Roady Safety Assessments along the High Injury Network.
Install proven VRU countermeasures with road improvement projects.
Proactively implement VRU countermeasures at segments and intersections identified in the systemic analysis.
Improve nighttime lighting conditions for VRUs, especially in underserved areas.
Provide uniformity across West Virginia's multimodal transportation system.
Ensure a connected and efficient multimodal network across West Virginia
Educate the public on VRU safety.
Ensure VRU traffic laws are known and enforced.
Ensure safe use of bicycles and micromobility vehicles.
Slow speeds in areas where VRUs are present.
Stay up to date on latest vehicle technologies especially related to VRU safety.
Improve reporting of VRU crashes.
Provide transparency on the status of VRU safety in West Virginia.

WEST VIRGINIA SHSP STRATEGIES
Develop and distribute consistent public information messages to educate the public about pedestrian safety.
Develop educational training programs to improve pedestrian safety awareness.
Install proven engineering countermeasures to improve pedestrian safety.
Develop policies and/or guidelines to support pedestrian safety measures.

STRATEGIES	
Countermeasure	**Description**
Sidewalks/Walkways	Any form of a walkway such as sidewalk, shared use paths, or roadway shoulders separated from vehicular lanes can support better pedestrian and bicycle accommodation into transportation systems.
Medians and Pedestrian Refuge Islands	A median or pedestrian refuge island in the middle of a roadway allows pedestrians to focus on crossing one direction of traffic at a time. The island then gives pedestrians a place to wait for an adequate gap in traffic to continue crossing the rest of the road.
Enforcement Campaigns	This strategy is primarily directed at motorists who fail to give pedestrians and bicyclists the proper right-of-way. It also targets enforcement of traffic laws for bicyclists and pedestrians using the roadway network.
Install Traffic Calming Measures	Traffic calming measures tend to reduce vehicles speeds using self-enforcing physical features such as signage and roadway configurations. Slower speeds mean reduced pedestrian-vehicle and bicycle-vehicle conflicts and greater survivability for a pedestrian or bicyclist if a crash does occur.
Improved Crosswalk Visibility	High visibility crosswalks with clear signing and pavement markings can enhance visibility and assist not only pedestrian users, but also bicyclists and wheelchair and other mobility users. Crosswalks also caution drivers to slow down and be observant of people walking or biking in the area.
Overhead Lighting	High Lumen overhead street lighting at crosswalks and/or along priority street corridors to aid in visibility of vulnerable road users.
Restrict Right-Turn on Red	Restricting right-turn on red at intersections can be beneficial in areas highly trafficked by pedestrians and decreases the likelihood of pedestrian-vehicle conflicts.
Leading Pedestrian Interval (LPI) and Optimized Pedestrian Signal Timing	LPIs give pedestrians the opportunity to enter the crosswalk at intersections before vehicles get the green indication. This enhances safety for pedestrians and increases visibility of crossing pedestrians. Optimizing Walk and Flashing Don't Walk phases also allow pedestrians to completely cross the intersection before opposing traffic is given priority. Phase times should be based on average walking speeds.
Rectangular Rapid Flashing Beacons (RRFB)	The flashing pattern has been found to be effective in increasing the likelihood of motorists yielding to pedestrians crossing mid-block.
Pedestrian Hybrid Beacons (PHB)	PHBs are especially helpful when it is difficult for pedestrians to cross a roadway mid-block. They have been found to be very effective at locations where three or more lanes are crossed.
Road Diet/Reconfigurations	Roadway reconfigurations can improve safety for all road users as vehicles tend to slow down on narrower roads, while pedestrians have fewer lanes to cross. These configurations also provide opportunities for pedestrian refuge islands, bicycle lanes, and other pedestrian- or bicycle-friendly infrastructure.

Countermeasure	Description
Protected Bicycle Lanes	Providing bicycle-exclusive lanes will increase safety by separating motorized vehicle traffic from cyclists, adding a level of predictability to the actions of both modes of travel.
Pedestrian Safety Zones	Properly designed and implemented pedestrian zone programs have been effective in reducing crashes and injuries. This includes identifying high crash zone areas, then implementing pedestrian safety zones that targets education, enforcement, and engineering measures within those areas.
Curb Extensions	Extending curbs at crosswalks increases pedestrian visibility, reduces speeds of turning vehicles, and reduces the crossing distance for pedestrians.
Conduct Road Safety Audits (RSAs)	RSAs are formal safety performance assessments performed by an independent multidisciplinary team. These studies estimate and report on safety issues surrounding pedestrian facilities and provide improvement opportunities for all road users.
Improve Safety Awareness and Behavior	Targeted education campaigns can help drivers, pedestrians, and bicyclists better understand the rules of the road, drivers be more aware of vulnerable roadway users, and pedestrians and bicyclists to understand the safety features and their purpose.

PROVEN COUNTERMEASURES – DISTRACTED DRIVING CRASHES

The purpose of this activity is to identify strategies that can be implemented in the City of New Martinsville to reduce fatalities and serious injuries. Below is a list of countermeasures that are effective in addressing distracted driving-related crashes. This information comes from NCHRP Report 500, NHTSA, and FHWA Proven Countermeasures.

STRATEGIES	
Countermeasure	**Description**
Public Distracted Driving Messaging Campaign	Consistent awareness campaigns can help inform the public on the dangers of distracted driving. Through public messaging, more drivers would recognize the risks of distracted driving and consciously make decisions to be more engaged behind the wheel.
Inform Out-of- State Drivers on Distracted Driving Laws	Post signs and distribute educational materials on distracted driving restrictions at state borders, vehicle rental businesses and other state points of entry.
Modernize West Virginia's Distracted Driving Laws	Identify ways to update distracted driving laws such as restrictions on cell phone usage as technology advances.
Promote Distracted Driving Education in Schools	Identify, create, and promote distracted driving lesson plans that could be used by teachers for grades 5-12.
Formation of Action Summits	Convene an annual forum, summit, roundtable, or similar event to review distracted driving action plan progress. These meetings would involve stakeholders and representatives from the local to state levels to evaluate the success of recommended countermeasures, identify actions that have been successful elsewhere and how to apply them in Idaho. The meetings would also identify and implements way to promote continued education on distracted driving and culture change.
Research Causes of Distracted Driving	Academic research on what role driving habits, the built environment, legislation, and driver education play in the frequency and severity of distracted driving crashes in New Martinsville. Conducting public surveys and publishing the results would also be a part of this research.
High Visibility Cell Phone and Text Messaging Enforcement	Cell phone usage is one of the most common reasons for distracted driving. Enforcing cell phone usage laws and restrictions would help increase a driver's perceived risk of a ticket. Dedicated law enforcement, along with media and spokespeople, would provide public messaging about the repercussions of cell phone usage while driving. On top of messaging, enforcement officers would actively seek out cell phone users through special roving patrols or through a variety of other enforcement techniques such as distracted driving check points.

Countermeasure	Description
Establish Safety Corridors	A Safety Corridor is a stretch of highway that is designated as a high-risk, well monitored area that reduce instances of risky driving behaviors such as distracted driving. The corridors are identified based on driving statistics. These corridors have signage at regular intervals to encourage drivers to focus on the road.