SUBJECT: Isle of Wight Crash Data Analysis

DATE: July 31, 2025

WM Project No.: **224056.0001**

Introduction

Isle of Wight County (the "County") received a federal grant to create a Safe Streets for All Safety Action Plan (SS4A) that details a holistic, well-defined set of strategies to prevent roadway fatalities and serious injuries.

As a part of the Safety Action Plan, Wallace Montgomery (WM) has reviewed and analyzed the best available existing crash data and has outlined the findings of the safety assessment in this memorandum.

A. Crash Data Summary

Police reported crash data was obtained through VDOT's Open Data Portal, Virgina Roads using the Crash Data Map. The analysis period was from January 1, 2020, to December 31, 2024. Crash rates were calculated for all roadways and intersections within the County based on the historic crash data. The crash rate describes the crash density along roadway links calculated by the number of crashes per mile. Additionally, the crash rate calculated at intersections is defined by the density of crashes that occurred within a quarter mile of all intersections. The crash rates for the County's Transportation network are shown in **Figure 1**.

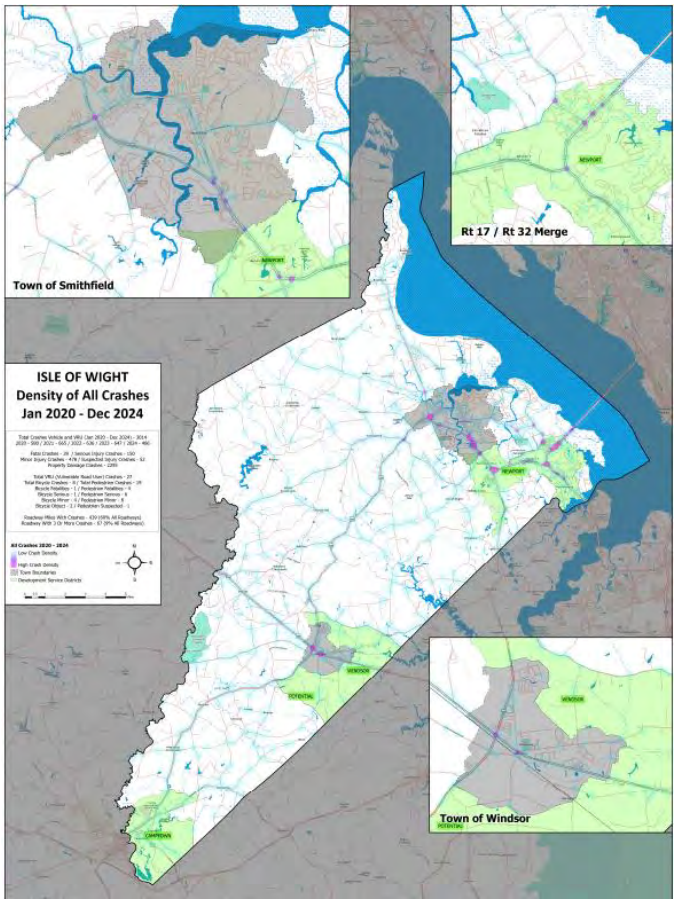
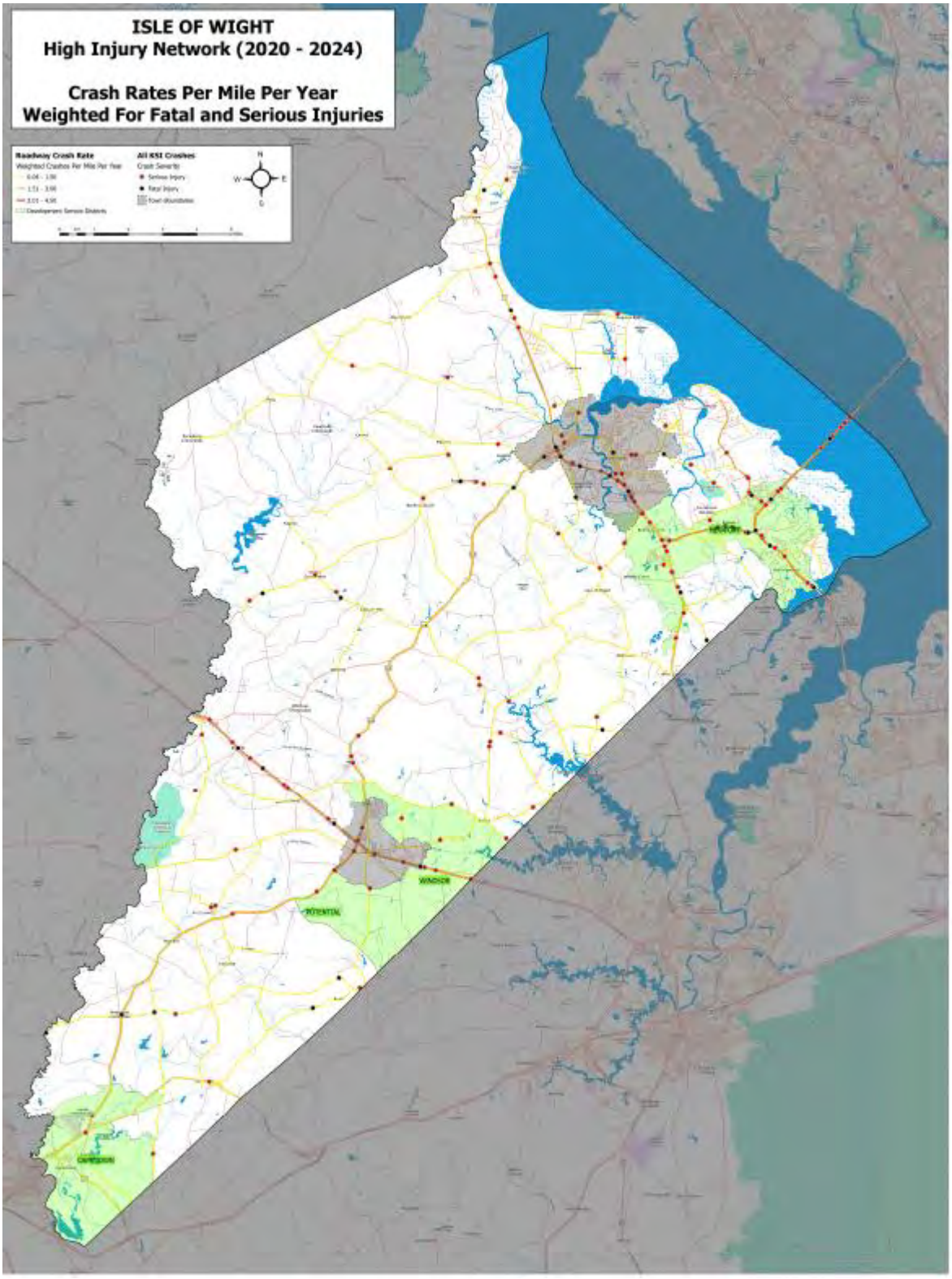


Figure 1 – Crash Rates Per Year

A High Injury Network (HIN) was developed using the historic crash data to identify the roadway segments within the County that experienced the most severe crashes. The crash severity analysis considers all documented fatal and serious injuries that occurred over the study period. **Figure 2** shows the County's HIN which displays the density of severe crashes on the County's Transportation network. The analysis shows that locations with the highest degree of fatal and severe injuries occurred near intersections and are largely located in the denser parts of the County, specifically in the Town of Smithfield and Town of Windsor. The data shows that the pattern of severe crashes is shaped in a clustered form around nodes within the limits of the Towns indicating intersection-related safety concerns that can be attributed to traffic operational deficiencies as well a major conflict points between vehicles and non-motorized travelers. Crashes at these locations potentially occur as vehicles approach or depart from intersections or other roadway connections (such as driveways). The most severe crashes that occurred along roadway links are generally

clustered on higher classification roadways which are characterized by higher speeds and high volumes of vehicle traffic.

Figure 2 – High Injury Network



The crash analysis also considered severe crashes that involved Vulnerable Road Users, which are defined by the Federal Highway Administrations (FHWA), as crashes that involve persons that are more likely injured or killed in a collision because they are not protected by a vehicle. For the purpose of this analysis, the VRU assessment considers all crashes involving a pedestrian or bicyclist. The locations of the VRU crashes are provided in **Figure 3**. As shown, the VRU crashes have a spatial distribution throughout the County but more than half of VRU crashes occurred at intersections, typically in the denser areas of the County. The remaining VRU crashes outside of the Towns occurred in areas with inadequate bicycle and/or pedestrian infrastructure.

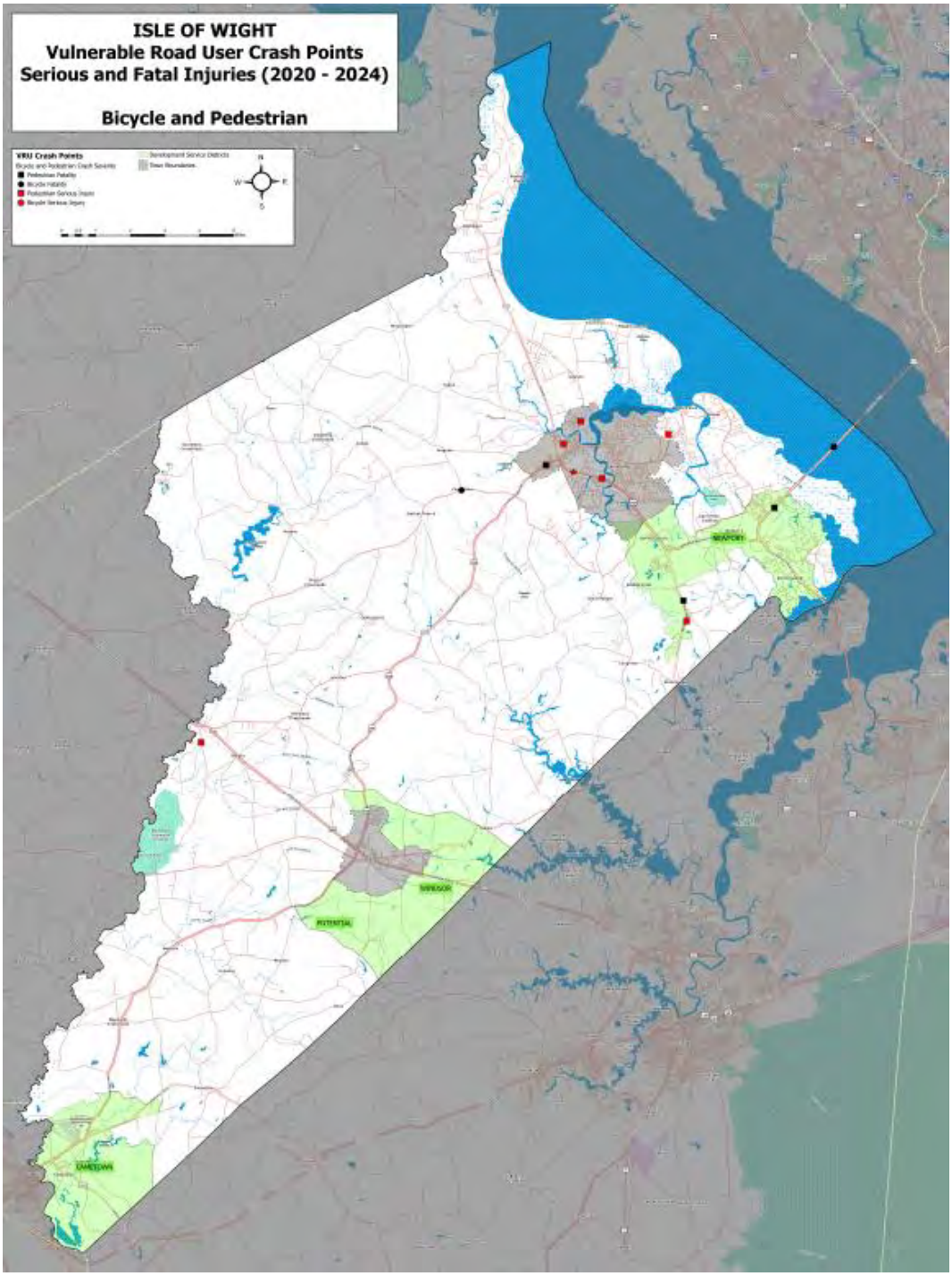


Figure 3 – VRU Crashes

B. Context Driven Analysis

From the Spring to the Fall of 2025, WM conducted a citizen mapping survey, using ArcGIS Survey 123 to obtain public feedback to identify the community's experienced high risk safety locations. Community feedback is an essential component of the Safety Action Plan as it fosters a context driven approach to address systemwide safety concerns on the transportation network. At the time of the crash safety assessment, a total of 255 residents participated in the mapping survey. The results of the survey which shows the community's locations of concern are provided in **Figure 4**. The community's high-risk locations were generally consistent with the density of crashes derived from the data driven analysis that was based on the historical crash data. The preliminary community survey results show that high risk locations are prominent within the limits of the Towns and along roadways that are classified with higher speeds and high volumes of vehicle traffic.

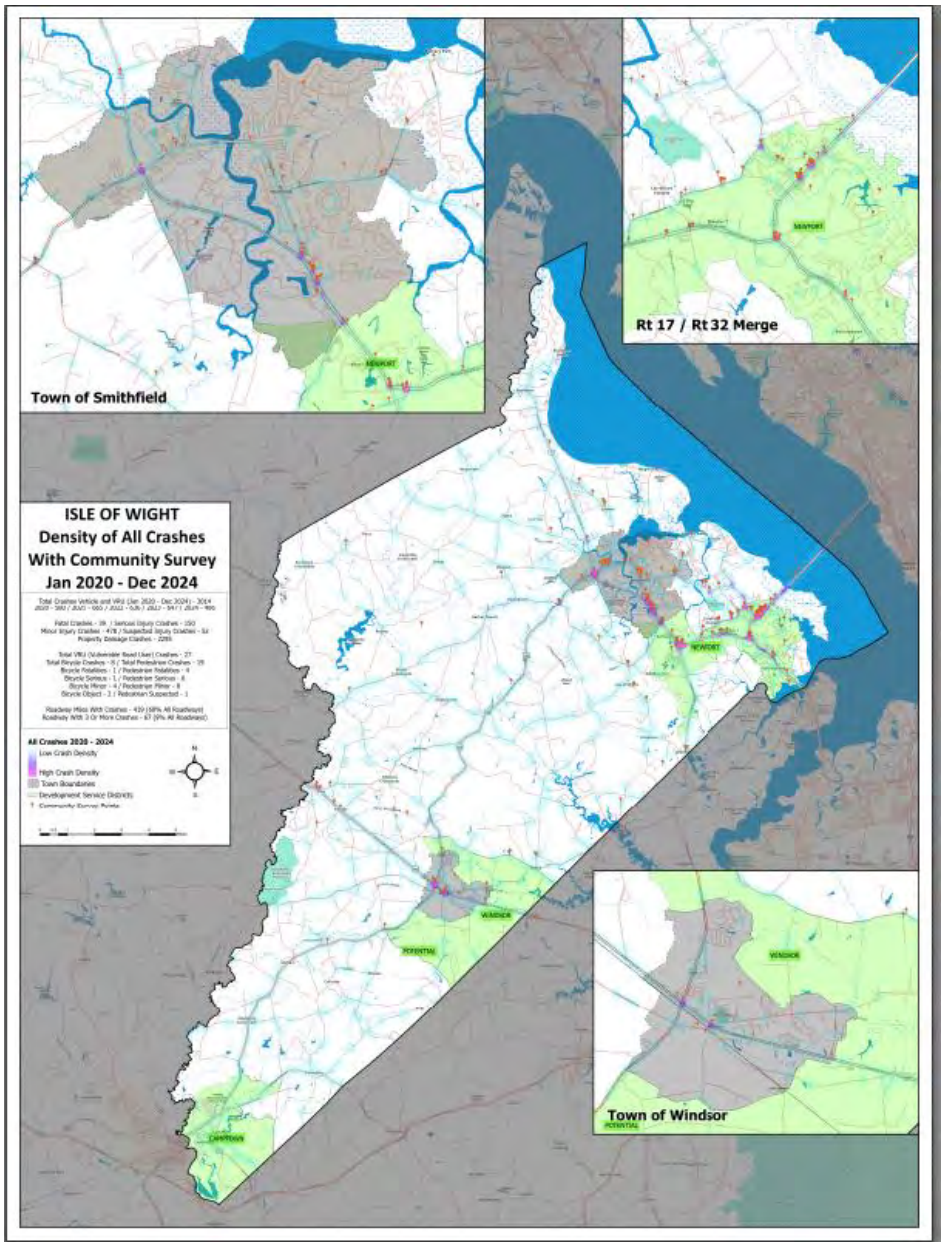


Figure 4 – Citizen Crash Survey

C. Safety Prioritized Locations

The Safety Action Plan intends to mitigate safety impacts at the most severe locations within the County. The Safety Action Plan prioritized locations (Focus Areas) were developed based on both the data driven and context driven analyses and overlay the most critical locations where there is a high rate of crashes and severe crashes; VRU involved crashes; and the community reported high risk locations. Based on the crash data within the study period, the following roadway sections below were found to be the highest priority based on the crash rate. The locations and limits of the Focus Area locations are provided in **Figure 5.**

1. Windsor Blvd – from County limits (west) to Town of Windsor limits (west)
2. W Windsor Blvd – from Town of Windsor limits (west) to Town of Windsor limits (east)
3. Windsor Blvd – from County limits (east) to Town of Windsor limits (east)
4. Prince St – from Bank St to Joyner Town Lane
5. Broadwater Rd – from Beale Pl Dr to Central Hill Rd
6. Foursquare Rd – from Comment Rd to Central Hill Rd to Courthouse Hwy
7. US 10 Bypass – from Smithfield Town limits (north) to Smithfield Town limits (south)
8. Old Stage Rd – from Burwells Bay Rd to Smithfield Town limits (north)
9. Benns Church Blvd – from Smithfield town limits (south) to County limits (east)
10. Brewers Neck Blvd – from Benns Church to County limits (east)
11. Carrollton Blvd / James River Bridge – from Brewers Neck Blvd to Church to County limits
12. Smith Neck Rd – from Rescue Rd to Carrollton Blvd
13. Route 603 (Blackwater Rd) – 1/4 mile east of Pear Tree Rd
14. Route 620 (Scotts Factory Rd) – east of Courthouse Hwy
15. Intersection of Joyners Bridge Rd and Holly Run Dr

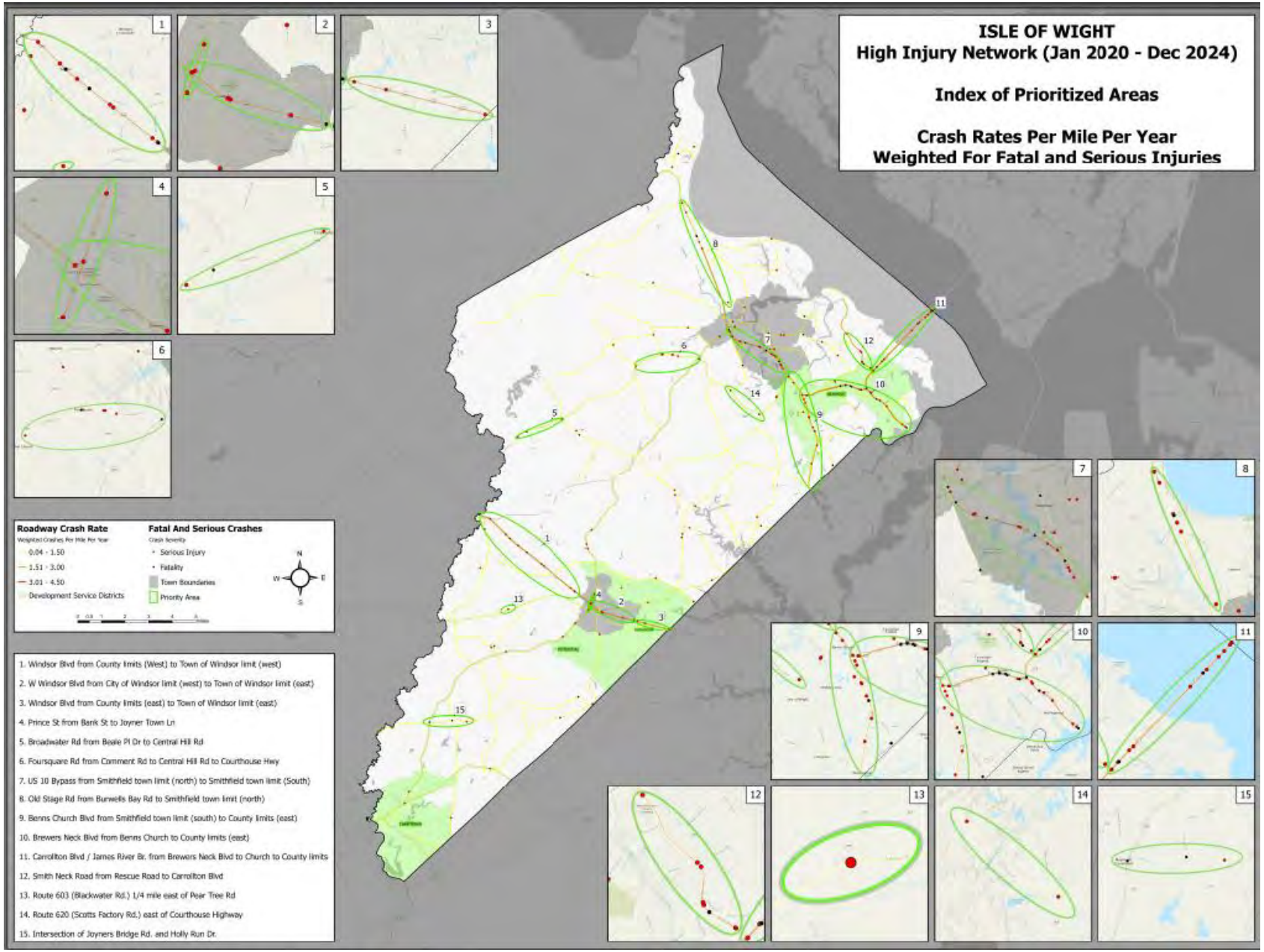


Figure 5 – Prioritized Locations

The crash data for the prioritized focused locations that were reported during the study period were further evaluated to identify trends, patterns and causation.

Crash Trends

Crash Severity

The SS4A program seeks to identify the most severe crashes, which as previously noted are defined fatal and serious injury crashes. **Table 1** summarizes the most severe crashes at each of the prioritized locations, which outlines the crashes within the areas that were categorized as either fatal (denoted as “A”) or serious injury (denoted as “K”). As indicated, Focus Area 10 (Brewers Neck Blvd – from Benns Church to the County limits) has the highest number of fatal crashes as well as the highest combined total of fatal and serious injury crashes. The table also shows that Focus Area 9 (Benns Church Blvd– from Smithfield town limits-south to County limits -east) has the highest reported serious injuries crashes.

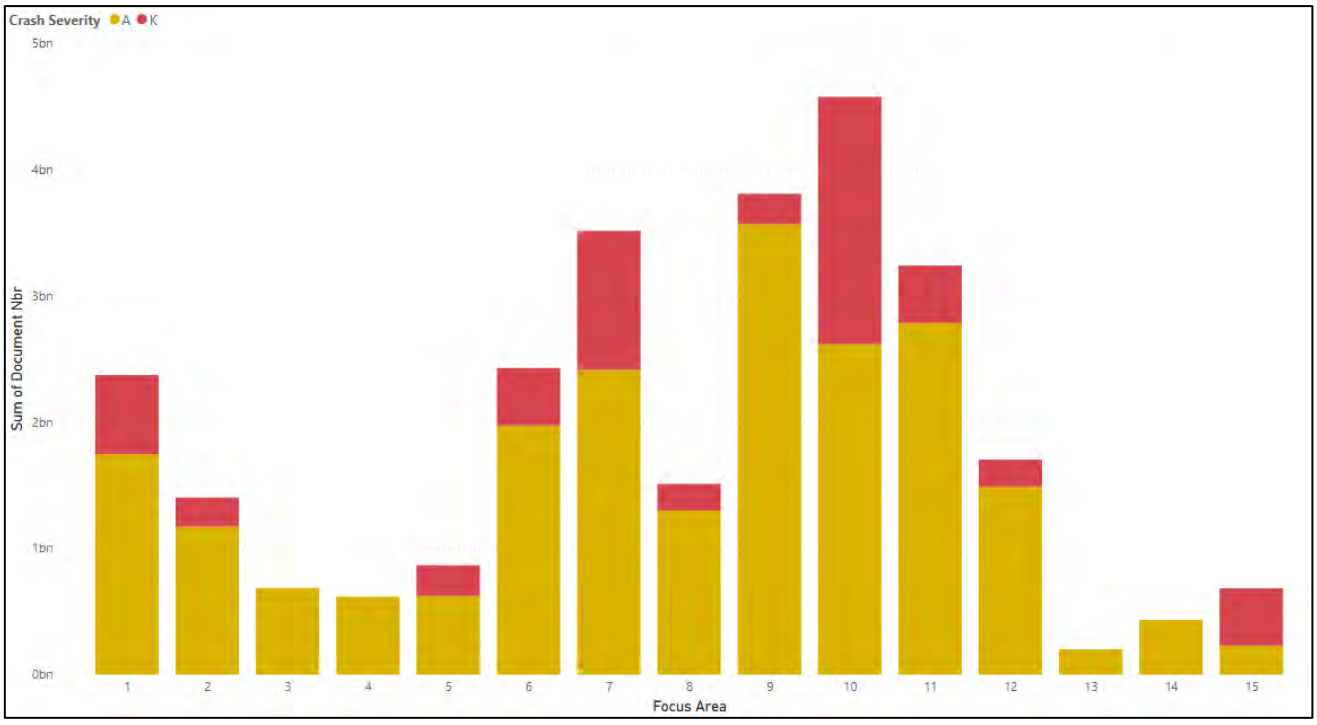


Table1 – Fatal and Serious Injury Crashes by Focus Area

Collision Types

Table 2 presents the crash types within each focus area, while **Table 3** summarizes the overall crash types. Rear-end and angle crashes are the most common, accounting for 30% and 21% of total crashes, respectively. Across all locations, angle crashes consistently remained the dominant

collision type, but some focused areas experienced a large amount of rear-end crashes and fixed-object crashes.

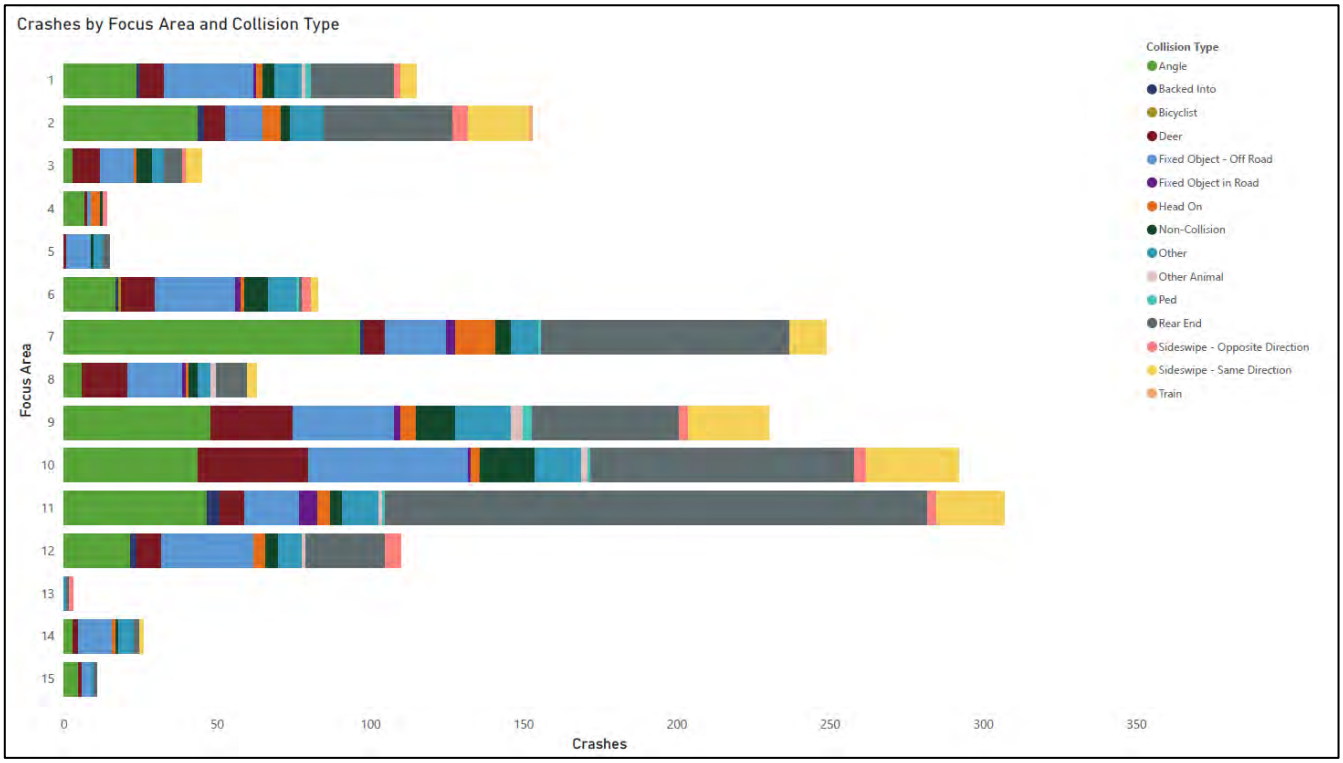


Table 2. Crash Type by Location

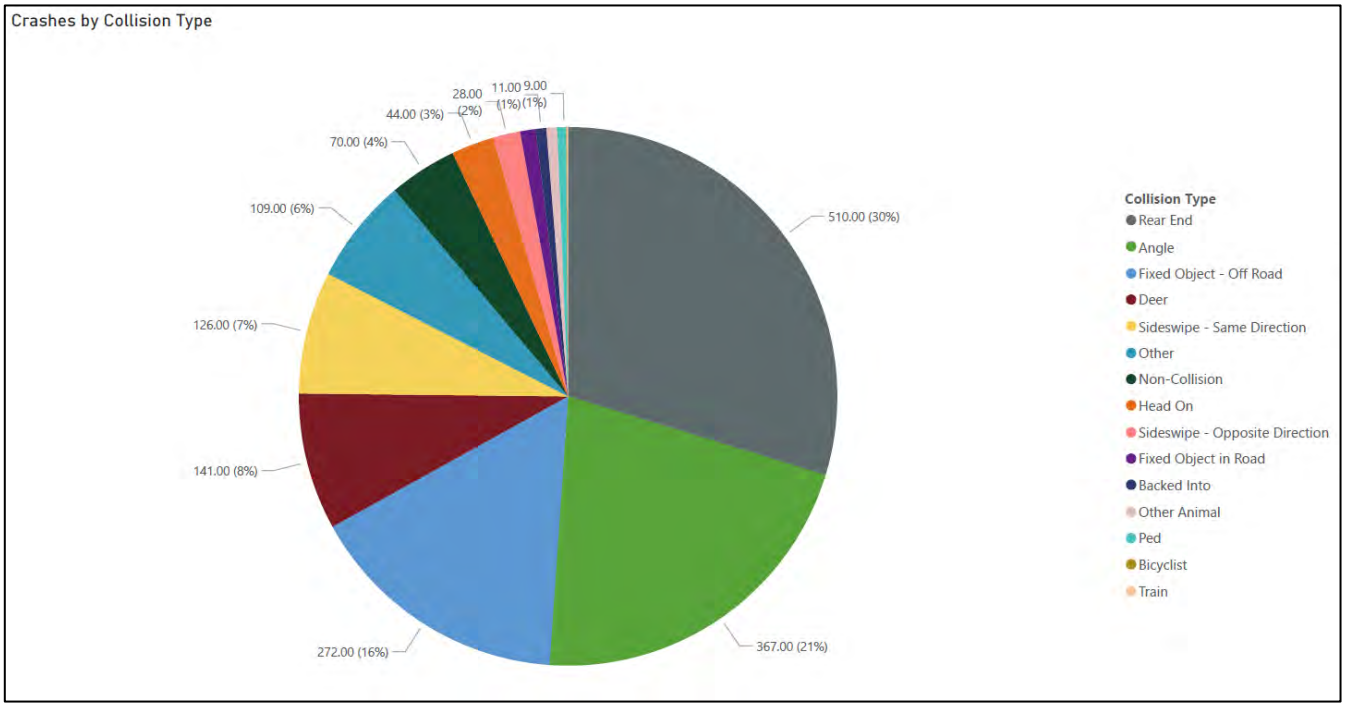


Table 3. Overall Crash Types

Table 4 shows the trend in collision types. The data shows that the total number of crashes decreased from 368 in 2023 to 289 in 2024. This decrease is reflected in the reduction of both rear-end and angle crashes. VDOT and Isle of Wight County have implemented several countywide safety improvements which may attribute to the downward trend in crashes within the study period.

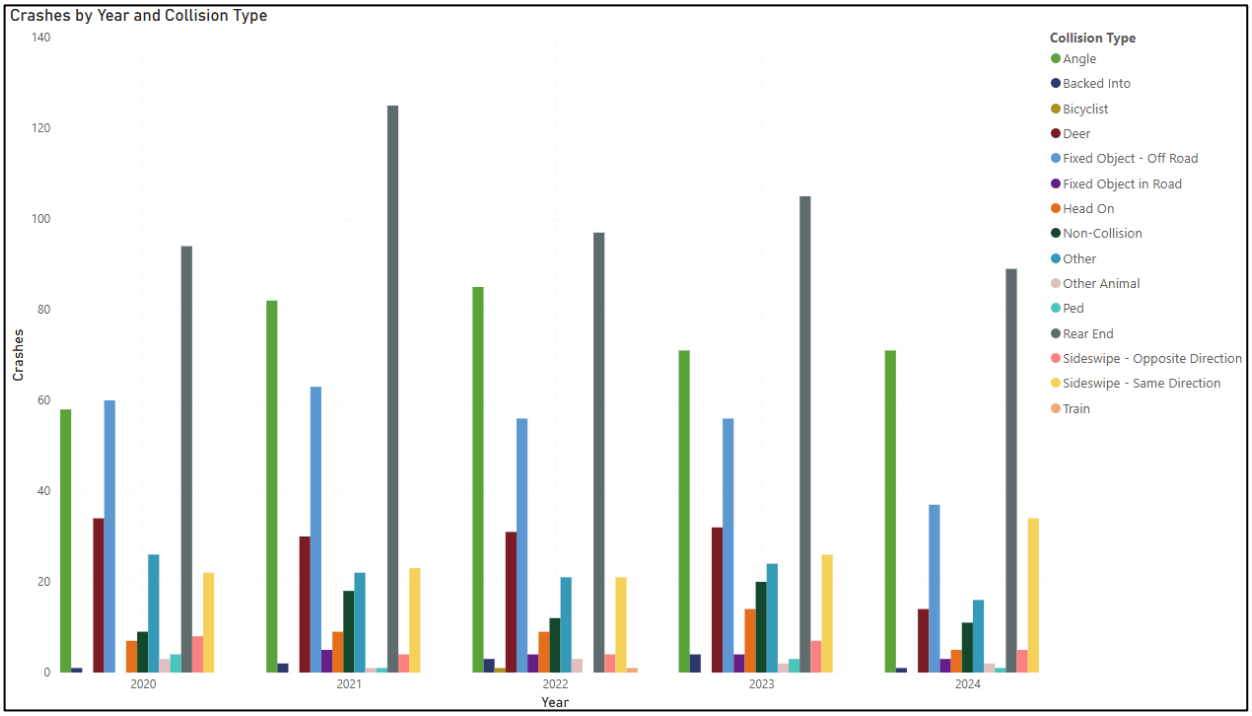


Table 4. Crashes by year and collision type

VRU Crashes

The analysis considers the number of VRU crashes that occurred in the focused areas during the study period. VRU crashes are categorized by crashes that involved pedestrians and cyclists. **Table 5** shows the total number of VRU crashes in the prioritized locations where there are reported crashes involving a pedestrian or cyclist over the study period. Focus Area 7 experienced the highest number of VRU crashes (4), followed by Focus Areas 1 and 9, each with 3 crashes. Focus Areas 6 and 11 recorded 2 VRU crashes, while Focus Area 10 only 1 VRU crash. Similar to the overall trend of VRU crashes in the County, crashes involving a pedestrian and/or cyclist occurred at locations that may not have sufficient pedestrian and bicycle infrastructure mainly in the parts of the County where the roadway network is designed for high speed and high volume vehicle travel.

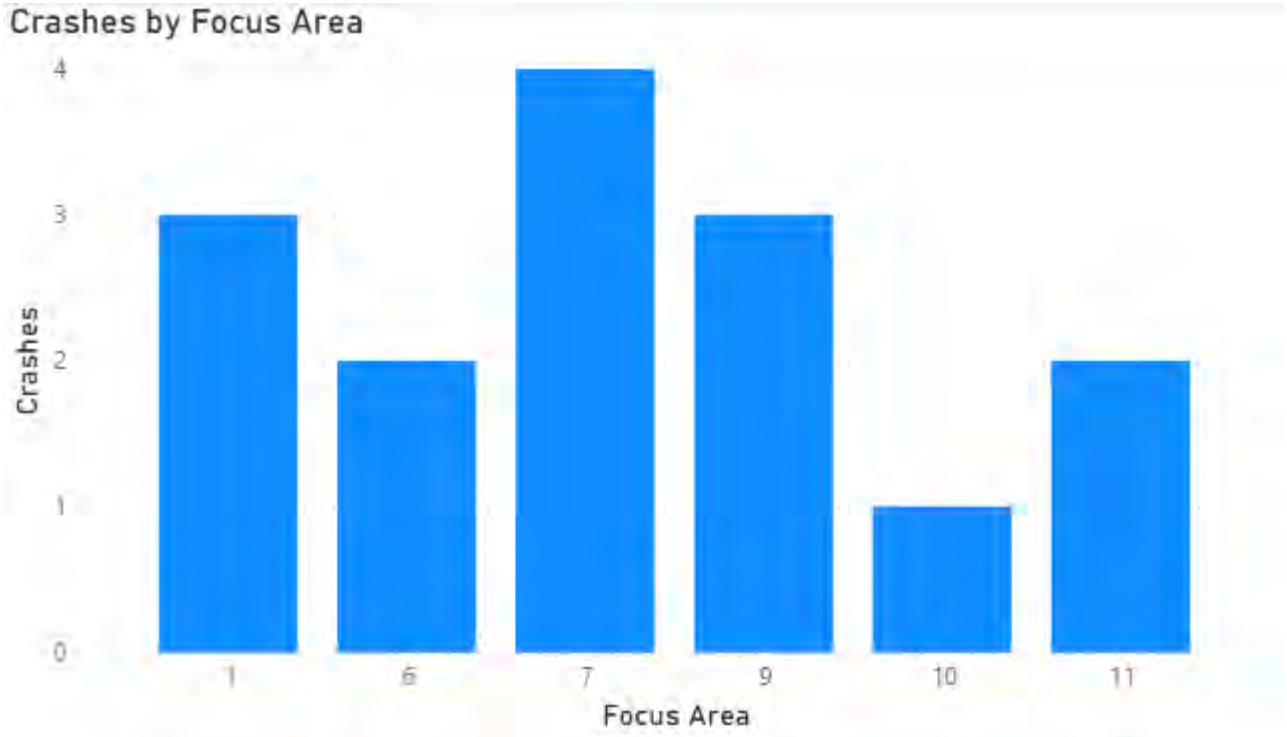


Table 5. VRU Crashes by Location

Table 6 displays the number of VRU crashes over the study period by year, indicating a declining trend over time. The highest number of crashes occurred in 2020 with 5 incidents, followed by 4 crashes in 2023. VRU crashes continued to decrease, with 3 in 2021, 2 in 2022, and just 1 crash reported in 2024.

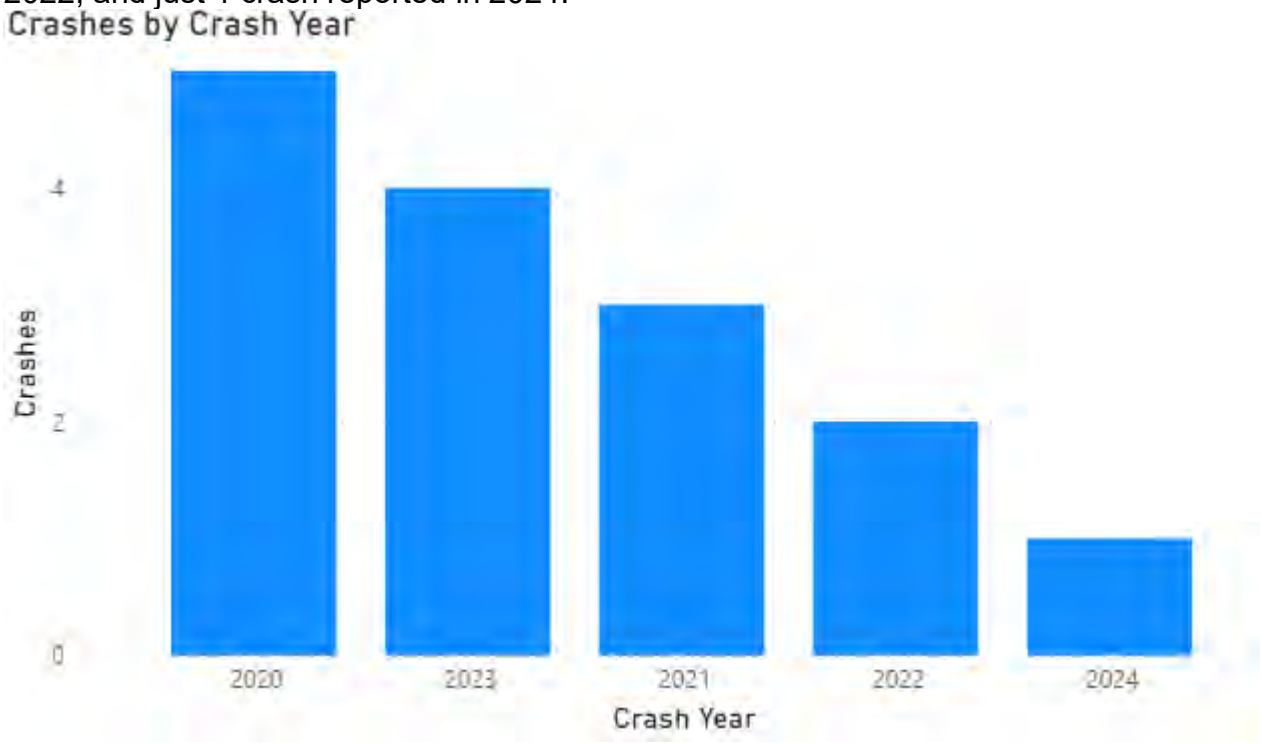


Table 6. VRU Crashes by Location

APPENDIX A: CRASH MAPS

ISLE OF WIGHT
Density of All Crashes
Jan 2020 - Dec 2024

Total Crashes Vehicle and VRU (Jan 2020 - Dec 2024) - 3014
2020 - 580 / 2021 - 665 / 2022 - 636 / 2023 - 647 / 2024 - 486

Fatal Crashes - 39 / Serious Injury Crashes - 150
Minor Injury Crashes - 478 / Suspected Injury Crashes - 52
Property Damage Crashes - 2295

Total VRU (Vulnerable Road User) Crashes - 27
Total Bicycle Crashes - 8 / Total Pedestrian Crashes - 19
Bicycle Fatalities - 1 / Pedestrian Fatalities - 4
Bicycle Serious - 1 / Pedestrian Serious - 6
Bicycle Minor - 4 / Pedestrian Minor - 8
Bicycle Object - 2 / Pedestrian Suspected - 1

Roadway Miles With Crashes - 439 (60% All Roadways)
Roadway With 3 Or More Crashes - 67 (9% All Roadways)

All Crashes 2020 - 2024
- Low Crash Density
- High Crash Density
- Town Boundaries
- Development Service Districts

N W E S

0 0.5 1 2 3 4 5 Miles

Town of Smithfield

Rt 17 / Rt 32 Merge

Town of Windsor

ISLE OF WIGHT
High Injury Network (2020 - 2024)

Crash Rates Per Mile Per Year
Weighted For Fatal and Serious Injuries

Roadway Crash Rate
Weighted Crashes Per Mile Per Year
- 0.04 - 1.50
- 1.51 - 3.00
- 3.01 - 4.50
- Development Service Districts

All KSI Crashes
Crash Severity
- Serious Injury
- Fatal Injury
- Town Boundaries

N
W E
S

0 0.5 1 2 3 4 5 Miles

POTENTIAL

WINDSOR

CAMPTOWN

NEWPORT

ISLE OF WIGHT
Vulnerable Road User Crash Points
Serious and Fatal Injuries (2020 - 2024)

Bicycle and Pedestrian

VRU Crash Points

Bicycle and Pedestrian Crash Severity

- Pedestrian Fatality
- Bicycle Fatality
- Pedestrian Serious Injury
- Bicycle Serious Injury

- Development Service Districts
- Town Boundaries

N
W E
S

0 0.5 1 2 3 4 5 Miles

NEWPORT

WINDSOR

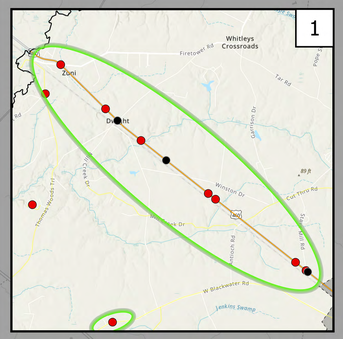
CAMPTOWN

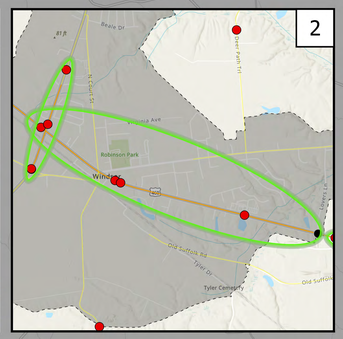
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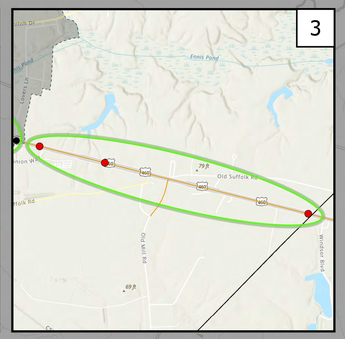
ISLE OF WIGHT
High Injury Network (Jan 2020 - Dec 2024)

Index of Prioritized Areas

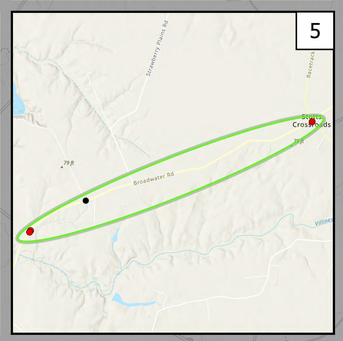
Crash Rates Per Mile Per Year
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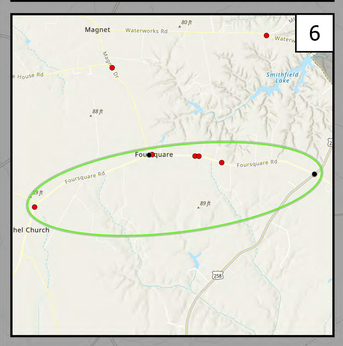


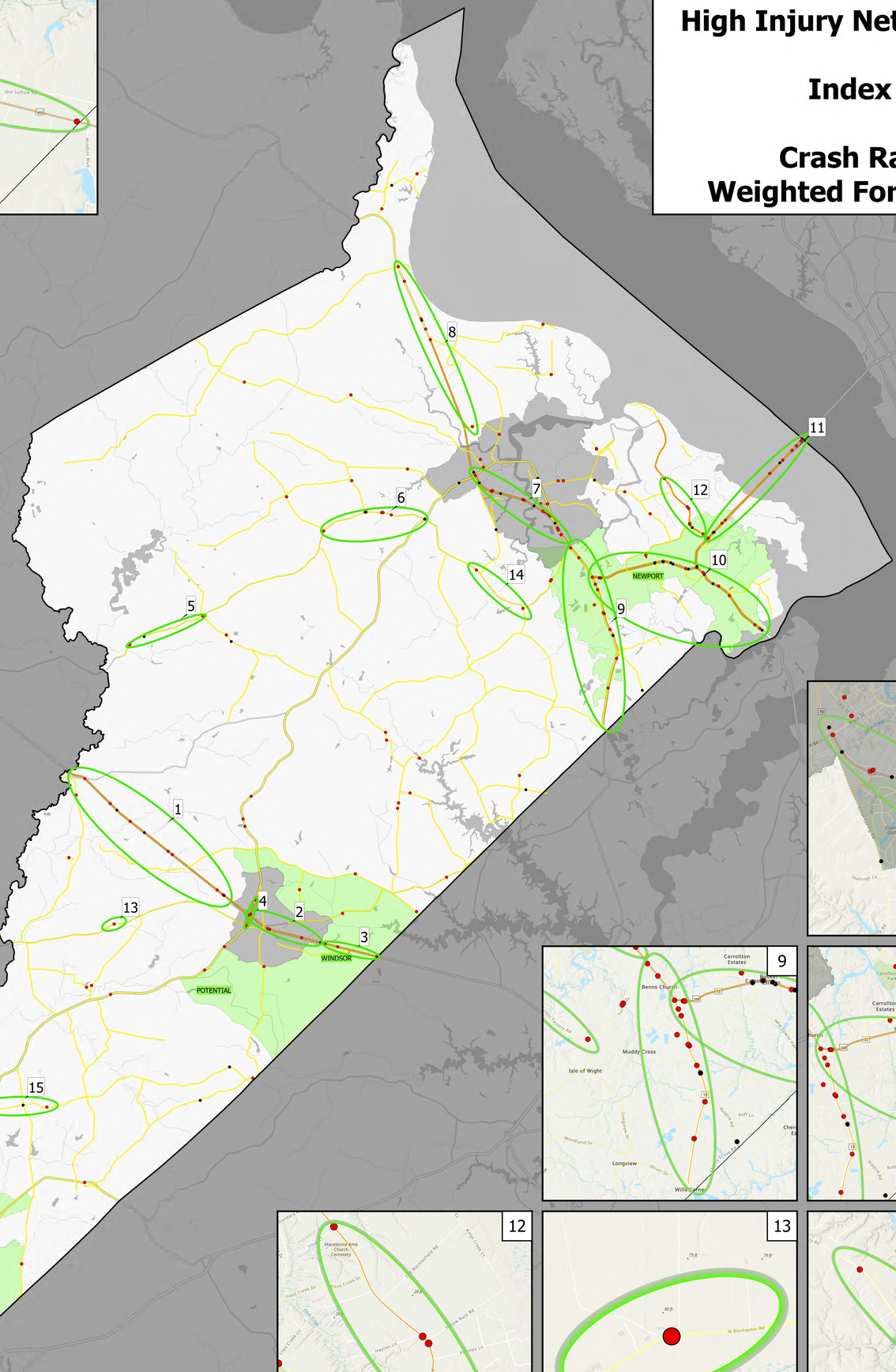












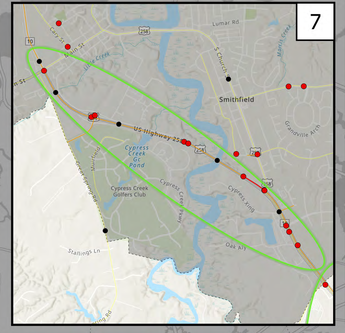
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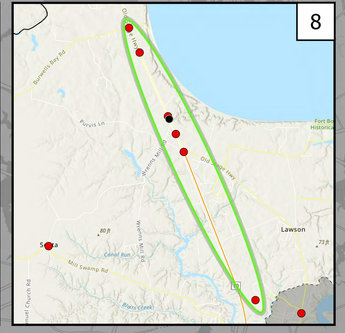
Fatal And Serious Crashes
Crash Severity
- Serious Injury
- Fatality
- Town Boundaries
- Priority Area

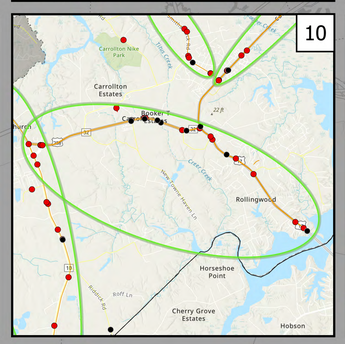
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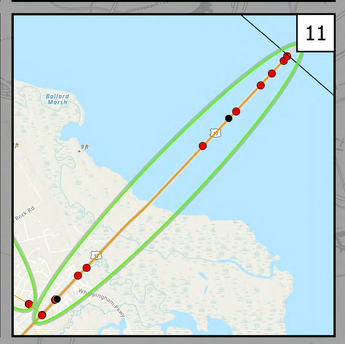
0 0.5 1 2 3 4 5 Miles

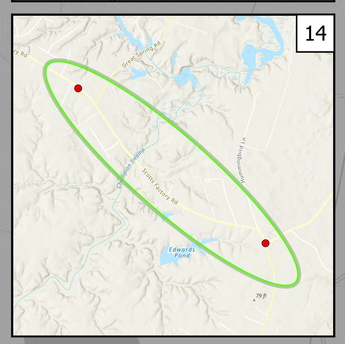
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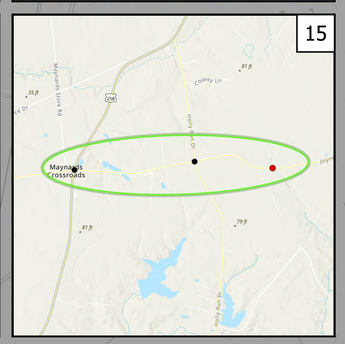












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