

SAFE STREETS MONMOUTH

Safety Action Plan



U.S. Department of Transportation
Federal Highway
Administration

S | S
4 | A

JULY 2026



ACKNOWLEDGMENTS

MONMOUTH COUNTY BOARD OF COUNTY COMMISSIONERS

Thomas A. Arnone, Director
 Dominick “Nick” DiRocco, Deputy Director
 Susan M. Kiley
 Ross F. Licitra
 Erik Anderson

MONMOUTH COUNTY PLANNING BOARD

Members

Chairman Charles Casagrande
 Vice Chairperson Marcy McMullen
 Judy Martinelly
 Lori Ann Davidson
 Joseph J. Layton
 James C. Schatzle
 Commissioner Ross F. Licitra
 Commissioner Erik Anderson
 County Engineer Joseph M. Ettore, PE

Alternates

Commissioner Susan M. Kiley, Commissioner Alternate
 Michael Nei, Alternate to the County Engineer

The project team would like to recognize the contributions of the numerous individuals, groups, and organizations which contributed to the development of this plan. This includes attending meetings, participating in our public outreach process, or otherwise providing input.

Disclaimer:

This report was funded by a grant from the U.S. Department of Transportation’s Safe Streets and Roads for All (SS4A) program as administered by the County of Monmouth. The opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Transportation.

Special thanks to the Technical Advisory Committee (TAC) and 4 All Advisory Committee (4AC) for their detailed, consistent feedback and commitment to improving road safety in Monmouth County.

TECHNICAL ADVISORY COMMITTEE (TAC)



4 ALL COMMITTEE (4AC)



Project Team



ZERO FATALITY GOAL ADOPTION

Administrator

RESOLUTION ADOPTING GOAL TO ELIMINATE FATALITIES AND SERIOUS INJURIES ON COUNTY ROADS BY THE YEAR 2040

WHEREAS, the County of Monmouth is committed to preventing all serious injuries and fatal injury crashes occurring along Monmouth County roadways; and

WHEREAS, the County of Monmouth is responsible for providing and maintaining safe transportation infrastructure; and

WHEREAS, the County of Monmouth applied for and was awarded a U.S. Department of Transportation Safe Streets and Roads for All (SS4A) grant to develop a Comprehensive Safety Action Plan for the County; and

WHEREAS, the State of New Jersey has adopted a statewide Vision Zero Action Plan with a goal of eliminating traffic fatalities and serious injuries on New Jersey's roads by the year 2040; and

WHEREAS, the County of Monmouth's Comprehensive Safety Action Plan, Safe Streets Monmouth, is being developed through data analysis, community outreach, and design with the intended outcome of reducing crash severity, fatalities, and serious injuries; and

WHEREAS, the development of Safe Streets Monmouth includes a zero fatality strategy that sets a goal of zero fatalities and serious injuries on County roads by the year 2040; and

WHEREAS, successful implementation of the County of Monmouth's zero fatality strategy will require coordination between and support from Monmouth County, the constituent municipalities of Monmouth County, and the community of Monmouth County; and

Introduced on: April 23, 2025
Adopted on: April 23, 2026
Official Resolution#: 2026-0330

WHEREAS, the Board of County Commissioners of the County of Monmouth wish to implement the County of Monmouth's Comprehensive Safety Action Plan, Safe Streets Monmouth, with the goal to eliminate crash related fatalities and serious injuries on County roads by the year 2040.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of the County of Monmouth that Monmouth County hereby sets a zero fatality goal and aims to eliminate crash related fatalities and serious injuries on County roads by the year 2040.

BE IT FURTHER RESOLVED that the Clerk of the Board shall forward a certified true copy of this resolution to the Governor of the State of New Jersey; Lieutenant Governor of the State of New Jersey; the New Jersey State Legislature; the members of the Monmouth County Legislative Delegation; New Jersey League of Municipalities; all County Boards of County Commissioners; the Mayor and Council of all towns within the County of Monmouth.

Introduced on: April 23, 2026
Adopted on: April 23, 2026
Official Resolution#: 2026-0330

Intentionally left blank

TABLE OF CONTENTS

Glossary	vii
Acronyms	ix

INTRODUCTION 1

Project Background	2
Safe Streets Monmouth Planning Process & Components.....	6
Leadership Commitment and Safety Goal.....	8

SAFETY ANALYSIS 11

Overview	12
Crash Analysis	12
High-Injury Network Development	18
Systemic Analysis	26
Near-Miss Data & Analysis.....	31

PUBLIC ENGAGEMENT AND COLLABORATION 37

Planning Structure	40
Outreach Tools	41

4 ALL ANALYSIS 51

Factors.....	52
Exposure Data	55
Priority Areas.....	57

POLICY AND PROCESS REVIEW 61

Introduction	62
Assessment of Current Policies and Practices.....	62
County Peer and Best Practices Assessment	65
Policy Recommendations	68

STRATEGY AND PROJECT SELECTIONS 71

Overview	72
Prioritization Process.....	72
Supplemental Corridors	80
Action Plan Projects and Strategies (APPS)	83
Supplemental Corridors Concepts.....	90

CULTURE OF SAFETY CAMPAIGN 115

Introduction	116
Campaign Alignment	117
Campaign Foundations	118
Carrying This Process Forward	124

PROGRESS AND TRANSPARENCY 127

Measuring Progress	128
Transparency.....	128

APPENDIX 131

TABLES

Table 1: New Jersey Counties- Target Safety Goals Comparison ...	9
Table 2: Equivalent Property Damage Only (ePDO) Score Rates	18
Table 3: High-Injury Network Refinement Results.....	19
Table 4: Top 10 All Modes HIN Segments	21
Table 5: Top 10 Pedestrian HIN Segments.....	23
Table 6: Top 10 Bicyclist HIN Segments.....	25
Table 7: Systemic Analysis: Relative ePDO by Risk Factor	27
Table 8: Systemic Analysis Recommendations by High-Risk Roadway Factor	28
Table 9: Systemic Analysis: Proven Safety Countermeasures	29
Table 10: Top 15 Near Miss Locations	33
Table 11: Outreach Timeline.....	38
Table 12: Access 4 All Benchmarks (Select Factors)	53
Table 13: Priority Areas	55
Table 14: Priority Areas compared to all HINs.....	57
Table 15: Prioritization Factors by Percentage	72
Table 16: Prioritized All Modes HIN - Top 10 Segments	74
Table 17: Prioritized Pedestrian HIN - Top 10 Segments.....	76
Table 18: Prioritized Bicycle HIN - Top 10 Segments.....	78
Table 19: Supplemental Corridors	80
Table 20: Action Plan Matrix.....	84
Table 21: Supplemental Corridors List	92

MAPS

Map 1: All KAB Crashes (2017-2021)	3
Map 2: All KAB Crashes on County Roads (2017-2021).....	13
Map 3: All Modes High Injury Network (HIN).....	20
Map 4: Pedestrian High Injury Network (HIN)	22
Map 5: Bicyclist High Injury Network (HIN)	24
Map 6: Near-Misses (2025)	34
Map 7: Sliding Window Analysis - Top Locations (5+)	35
Map 8: Access 4 All Composite Score	54
Map 9: Spatial Distribution of Priority Areas.....	58
Map 10: Priority Areas.....	59
Map 11: Prioritized All Modes HIN	75
Map 12: Prioritized Pedestrian HIN.....	77
Map 13: Prioritized Bicycle HIN	79
Map 14: Supplemental Corridors	82

FIGURES

Figure 1: Safe System Approach, FHWA.....4

Figure 2: Annual KSI Reduction - Target Safety Goal (2040).....8

Figure 3: County Safety Plans, NJBIKEPED.org9

Figure 4: KAB Crash Trends 12

Figure 5: Sliding Window Analysis Process 18

Figure 6: Systemic Analysis Methodology, FHWA 26

Figure 7: Project Website - Dashboard Snapshot.....41

Figure 8: Safety Survey42

Figure 9: Age Group Distribution42

Figure 10: Interactive Mapping Tool45

Figure 11: Priority Areas Selection Methodology57

Figure 12: Prioritization Factors 73

Figure 13: Supplemental Corridors Key Map 92

Glossary

4All Analysis

An analysis of socioeconomic and demographic factors to identify areas that have a higher concentration of underserved communities in the County.

Complete Streets

Complete Streets are streets designed to safely support all road users. This applies to all modes of travel and road users of all abilities, including people with disabilities, children, and seniors. Complete Streets require varying degrees of intervention depending on the context, both in terms of land use and in terms of traffic volumes and speeds.

County Road

A roadway that is owned and maintained by the County is a County road.

Crash Modification Factor (CMF)

A multiplier used to estimate how a specific safety treatment will affect crash frequency.

Crash Reduction Factor (CRF)

The percentage reduction in crashes expected after implementing a safety treatment.

Crash Severity

A classification of crashes based on outcomes of the crash (fatal, serious injury, minor injury, and property damage only).

Curb Extension (Bulb-Out)

An expansion of the curb line into the lane of the roadway adjacent to the curb (typically a parking lane) for a portion of a block either at a corner or mid-block. Also known as curb extensions can enhance pedestrian safety by reducing crossing distances, can relieve sidewalk crowding, and can provide space for functional elements such as seating, plantings, bike share stations, and furniture (NYC DOT).

Equivalent Property Damage Only (ePDO)

Equivalent Property Damage Only (ePDO) score is a metric utilized to evaluate and rank the severity of crashes. Crashes of different severities are converted to “equivalent” Property Damage Only (PDO) crashes using weighting factors. These weights are typically based on the relative societal costs (economic, human costs like pain/suffering, medical costs, lost productivity, etc.) of each severity level compared to a baseline PDO crash.

High-Injury Network (HIN)

Safety/Vision Zero Action Plan identify a High-Injury Network (HIN), the roadways within a jurisdiction’s road system with the highest prevalence of crashes or greatest crash severity. Actions to address these issues are concentrated on the HIN to minimize the impact of safety interventions.

KABCO Crash

KAB crash is a term used to define a group of crashes with different levels of severities as defined in the KABCO scale by the Model Minimum Uniform Crash Criteria, also known as MMUCC. The KABCO scale is a functional measure of the injury severity of any person involved in a crash.

- (K)Fatal Injury,
- (A)Suspected Serious Injury,
- (B)Suspected Minor Injury,
- (C)Possible Injury,
- (O)No Apparent Injury.

Several agencies also use the term KSI or FSI crashes for crashes where a person was killed (K or F) or seriously injured (SI).

Near-Miss

A traffic event in which a collision is narrowly avoided between road users, such as motorists, pedestrians, bicyclists, or other travelers. Near misses can indicate locations with elevated safety risks, even when crashes have not occurred.

Performance Measures

Metrics used to track progress towards safety goals.

Proven Safety Countermeasures

The Federal Highway Administration (FHWA) has identified 28 countermeasures and strategies with proven effectiveness in reducing crash rates and/or crash severity. These are context- and user-specific strategies or interventions that can make significant improvements to the safety of a road system when appropriately applied within a jurisdiction.

Quick-Build Projects

Low-cost and easy to build safety improvements used to test and implement potential safety countermeasures utilizing temporary materials (chalk, paint, cones, etc.)

Risk Factors (High-Risk Roadway Factors)

Roadway characteristics such as lack of sidewalks, wide lanes, no shoulders, etc. that increase the likelihood or severity of crashes.

Road Diet

A Road Diet typically involves converting an existing four-lane undivided roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane (TWLTL).

Safe System Approach

The Safe System Approach is a framework to address roadway safety that has been adopted by the US Department of Transportation. It builds multiple layers of protection for road users to both prevent crashes and mitigate the harm caused in crashes.

Systemic Safety Analysis

A proactive approach to safety analysis that identifies high-risk roadway features across a network rather than focusing only on locations where crashes already occurred.

Target Speed

A target speed is the highest operating speed at which drivers should ideally operate on a roadway given a specific context.

Traffic Calming

The primary purpose of traffic calming is to support the livability and vitality of residential and commercial areas through improvements in non-motorist safety, mobility, and comfort. These objectives are typically achieved by reducing vehicle speeds or volumes on a single street or a street network. Traffic

calming measures consist of horizontal, vertical, lane narrowing, roadside, and other features that use self-enforcing physical or perception means to produce desired effects.

Vulnerable Road Users

A Vulnerable Road User (VRU) is defined by the Federal Highway Administration (FHWA) as a person walking, biking, or rolling (e.g., via a scooter, skateboard, wheelchair), in effect a non-motorist. In addition, Vulnerable Road Users also encompass mature drivers, younger drivers, motorcyclists, work zone workers and other road workers (NJDOT).

Acronyms

AADT - Annual Average Daily Traffic

AAPS - Action Plan Projects and Strategies

ADA - Americans with Disabilities Act

CMF - Crash Modification Factor

CRF - Crash Reduction Factor

DVRPC - Delaware Valley Regional Planning Commission

GIS - Geographic Information Systems

HIN - High-Injury Network (HIN)

INRIX - Traffic data and analytics provider for Near-Miss Data

KAB - Fatal, Serious Injury or Minor Injury Crash

KSI - Fatal or Serious Injury Crash

NJDHTS - New Jersey Department of Highway Traffic Safety

NJDOT - New Jersey Department of Transportation

NJTPA - North Jersey Transportation Planning Authority

PIO - County Public Information Office

RRFB - Rectangular Rapid Flashing Beacon

SS4A - Safe Streets and Roads For All

USDOT - US Department of Transportation

Intentionally left blank



1

INTRODUCTION

INTRODUCTION

Project Background

Monmouth County has a unique mix of thriving communities, rural landscapes, and iconic beach towns that attract thousands of visitors annually. Busy highways like the Garden State Parkway, I-195, and US-9 connect and cut through many of these communities and surrounding landscapes of preserved farmland, forests, and wetlands. The County's large population, status as a popular destination for visitors, and its proximity to New York City and Philadelphia metro areas contribute to high volumes of travel. As a result, the County experiences significant activity across all modes of travel including pedestrians, bicyclists, motorists, and transit users that is further intensified in the summer months.

This high level of activity combined with new developments, commercial growth and destinations, has resulted in traffic safety as a critical and growing concern. Like the rest of New Jersey and across the country, Monmouth County has also experienced an increase in fatal and serious injury crashes over time.

Between 2017 and 2021, 43 fatal crashes and 131 crashes resulting in serious injury occurred on County roads. Vulnerable road users such as bicyclists and pedestrians are disproportionately affected by these crashes.

Pedestrians were involved in almost 6% of all crashes but almost 14% of fatal crashes (6) and more than 9% of serious injury crashes (12). Bicyclists were involved in more than 6% of all crashes and more than 6% of serious injury crashes (8).

Over the years, the County has implemented numerous safety improvement projects and in a continuing effort to further improve safety, the County applied to USDOT's Safe Streets

KAB Crashes Overview

5,404 total KAB crashes

193 fatal injuries

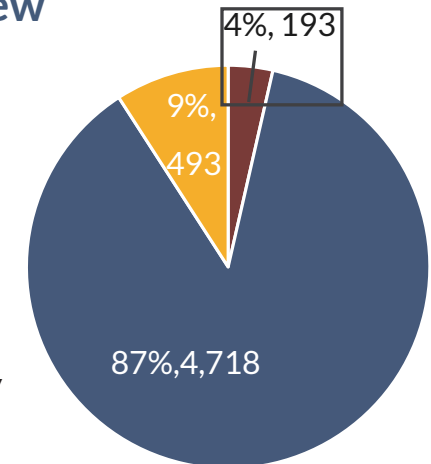
493 serious injuries

4,718 minor injuries

■ K = Fatal Injury

■ A = Suspected Serious Injury

■ B = Suspected Minor Injury



and Roads for All (SS4A) Program to develop this safety action plan- Safe Streets Monmouth. The purpose of Safe Streets Monmouth is to create an actionable data-driven roadway safety plan that is based on the principles and elements of the Safe System Approach. The plan is informed by a robust public and stakeholder engagement and has a strong focus on the culture of safety through the development of a safety campaign.

ZERO DEATHS AND FATALITIES

ON COUNTY ROADS BY 2040

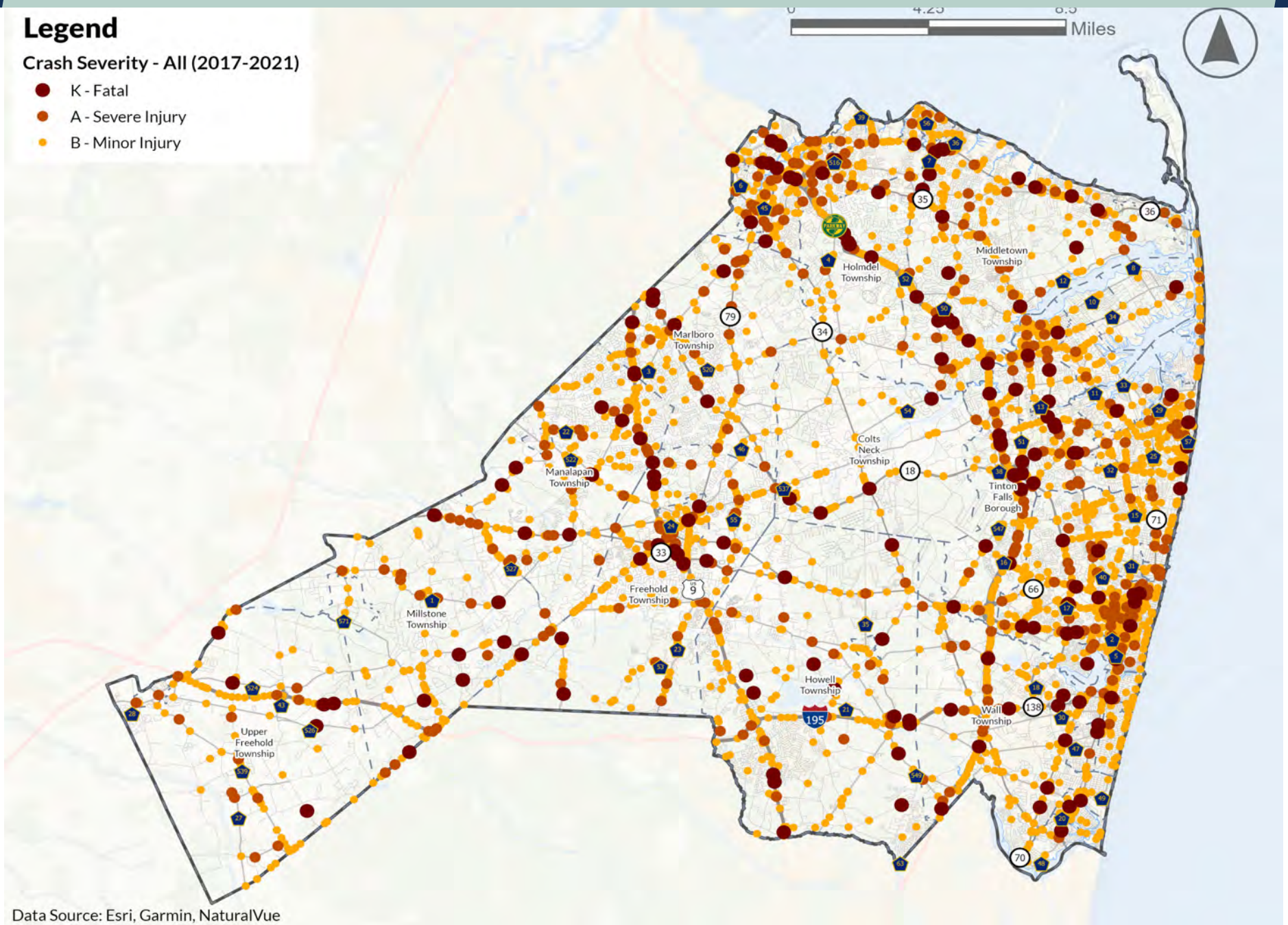
The Safe System approach is a data-driven holistic approach that addresses safety through coordinated systemwide improvements, and has been adopted widely in the US and abroad. It posits that even one life lost or changed forever is too many, and this plan will serve as the blueprint to eliminate traffic fatalities and serious injuries in Monmouth County by the year 2040.

Map 1: All KAB Crashes (2017-2021)

Legend

Crash Severity - All (2017-2021)

- K - Fatal
- A - Severe Injury
- B - Minor Injury



Data Source: Esri, Garmin, NaturalVue

SAFE SYSTEM APPROACH

In January 2022, USDOT published its National Roadway Safety Strategy (NRSS) that noted the department-wide approach to working with stakeholders across the country to achieve its ambitious long-term goal of reaching zero roadway fatalities and significantly reducing serious injuries on all highways, roads and streets.

The rate of fatalities on US roadways decreased consistently from 1980 to 2010, but stagnated after 2010 and spiked nationwide in 2020. An estimated 38,680 people died in motor vehicle crashes in 2020, of which an estimated 6,236 were pedestrians. In 2021, this increased by an additional 10.5 percent to 42,915 fatalities including 7,342 pedestrian fatalities. These alarming statistics presented a call to action to make the US roadway system safer for all users, which is why the NRSS sets a vision and goal for the safety of US roadways: zero roadway fatalities.

As stated in the NRSS document, “zero is the only acceptable number of deaths on our highways, roads and streets.” The Safe System Approach was promoted as a strategy to achieve this safety goal. Many countries have seen success in reducing or eliminating fatalities and serious injuries after adopting the Safe System Approach.

The Safe System Approach involves anticipating human error by designing the roadway system to keep the risk/impact of the human error low. It takes into account human vulnerability and consists of six principles and five elements.

Six Principles

DEATH AND SERIOUS INJURIES ARE UNACCEPTABLE. While no crashes are desirable, the Safe System Approach prioritizes the elimination of crashes that result in death and serious injuries since no one should experience either when using the transportation system.

HUMANS MAKE MISTAKES. People will inevitably make mistakes and decisions that can lead or contribute to crashes, but the transportation system can be designed and operated to accommodate certain types and levels of human mistakes, and avoid death and serious injuries when a crash occurs.



Figure 1: Safe System Approach, FHWA

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

RESPONSIBILITY IS SHARED. All stakeholders – including government at all levels, industry, non-profit/advocacy, researchers, and the public – are vital to preventing fatalities and serious injuries on our roadways.

SAFETY IS PROACTIVE. Proactive tools should be used to identify and address safety issues in the transportation system, rather than waiting for crashes to occur and reacting afterwards.

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

Five Elements

The Safe System Approach aims to address all aspects of crash risks through five elements or layers of safety. Each element or layer attempts to minimize impact to reduce the likelihood of a crash becoming a fatal or serious injury.

The five elements of the Safe System Approach are:



Safer Roads: Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.



Safer Speeds: Promote safer speeds in all roadway environments through a combination of thoughtful, equitable, context-appropriate roadway design, appropriate speed limit setting, targeted education, outreach campaigns, and enforcement.



Safer People: Encourage safe, responsible driving and behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.



Safer Vehicles: Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants.



Post-Crash Care: Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.¹

¹ Source: <https://www.transportation.gov/safe-system-approach>

SAFE STREETS AND ROADS FOR ALL (SS4A) PROGRAM

The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway fatalities and serious injuries. It was established through the Infrastructure Investment and Jobs Act (IIJA) as a competitive grant program with \$5 billion in appropriated funds over 5 years (2022-2026). This program supports the USDOT's NRSS and the collective goal of zero roadway deaths using the Safe System Approach.

Over 2,000 communities in all 50 states and Puerto Rico have been received funding through this program. Several communities in New Jersey have received funding for both planning and implementation.

In addition to Monmouth County's SS4A award, five other communities have received a grant to develop a safety action plan. Highlands, Holmdel, Bradley Beach, Red Bank and Asbury Park are developing or will be developing their own safety action plans.

Safe Streets Monmouth Planning Process & Components

The SS4A Program requires that all SS4A-funded safety action plans have eight key components. The development of the Safe Streets Monmouth plan follows all eight required components and includes an additional Culture of Safety Campaign component.



LEADERSHIP COMMITMENT/GOAL SETTING (page 8)

- Identify target for zero roadway fatalities and serious injuries.
- Resolution to adopt a safety goal for the County.



PUBLIC ENGAGEMENT AND COLLABORATION (page 37)

- Community outreach for local insight on safety issues.
- Raise awareness of traffic safety trends and factors.



PLANNING STRUCTURE (page 40)

- Establish a diverse working group to provide input throughout the plan development.
- Safe Streets Monmouth included two groups - Technical Advisory Committee (TAC) and 4 All Committee (4AC)



4 ALL ANALYSIS (page 51)

- Analyzing demographic data to assess location and needs of vulnerable road users and underserved populations.



SAFETY ANALYSIS (page 11)

- Review crash data to identify crash trends, types and risks.
- Develop a high-injury network (HIN) and identify HIN prioritization factors.
- Conduct a systemic analysis and identify high risk features.
- Safe Streets Monmouth also included near-miss data collection and analysis.



POLICY AND PROCESS CHANGES (page 61)

- Understand County policies, standards, plans and processes relating to safety and project implementation.



STRATEGY AND PROJECT SELECTIONS (page 71)

- Identify policies, strategies and actions to achieve the safety goal of zero fatalities and serious injuries.
- Develop site-specific and systemic countermeasures for implementation.



PROGRESS AND TRANSPARENCY (page 127)

- Develop performance measures to track progress towards the safety goals.
- Develop a public-facing dashboard to share data and progress.



CULTURE OF SAFETY CAMPAIGN (page 115)

- Identify priority audiences, key behavioral focus areas through an understanding of the crash data, outreach results and county input.
- Develop a Culture of Safety Campaign framework with multiple concepts to advance for campaign development.

Leadership Commitment and Safety Goal

Monmouth County is committed to eliminating traffic-related fatal and serious injury crashes on all county roads by the year 2040.

This goal is ambitious, but the County is not alone in its ambition. The State of New Jersey has made the same commitment for all roads through its statewide Vision Zero Action Plan. Every county in New Jersey has a completed or almost complete safety action plan with an aggressive and ambitious safety goal.

Middlesex County has a goal of zero on all roads by the year 2040, Hudson County has a goal of zero by 2034 on all county roads and Several other counties in the state have a target of zero fatalities and serious injuries by 2050 on local and county roads.

Safe Streets Monmouth is focused on crashes on county roads and a range of safety goal scenarios and best practices were

presented to the County and Technical Advisory Committee (TAC). **The goal selected by the County and TAC is zero fatalities and serious injuries on all County roads by the year 2040.** This goal results in an average annual reduction of KSI crashes by 21% every year¹. It is recommended that the County assesses the crash data every 2 years to track the progress towards the goal of zero.

This goal was presented in a resolution at the County Commissioners Meeting in April 2026 and was voted and passed by resolution (as presented on page 4 of the report).

Table 1 includes information about the goals, plans, road jurisdiction, and recorded crashes for the State and 10 other counties in the State.

¹ Target safety goal value is based on a logistic (S-curve) reduction model, which assumes slower progress at the beginning, accelerated reduction around the mid point and a gradual decrease as the County approaches the goal of zero by 2040.

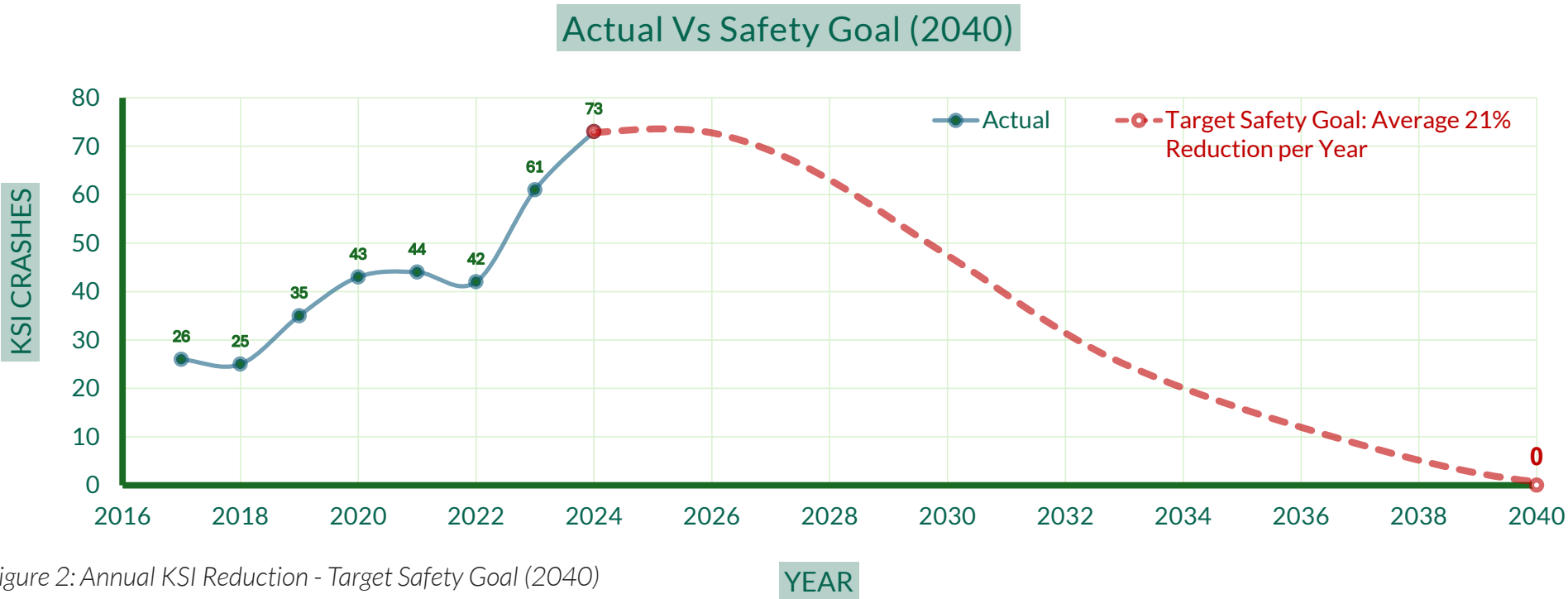


Figure 2: Annual KSI Reduction - Target Safety Goal (2040)

Jurisdiction	Plan Date	Target Year	Roads	KSI (2021)
Middlesex County	2022	2040	All roads	280
Hudson County	2024	2034	County only	216
Bergen County	2025	2050	County and Local	315
Atlantic County	2024	2050	County and Local	215
Passaic County	2025	2050	County and Local	157
Morris County	2025	2050	County and Local	153
Cumberland County	2024	2050	County and Local	125
Somerset County	2025	2050	County and Local	112
Salem County	2024	2050	County and Local	81
Cape May County	2024	2050	County and Local	74
Hunterdon County	2025	2050	County and Local	49

Table 1: New Jersey Counties- Target Safety Goals Comparison



Figure 3: County Safety Plans, NJBIKEPED.org



2

SAFETY ANALYSIS

SAFETY ANALYSIS

Overview

Safety analyses are the core of all safety action plans and understanding the crash patterns, trends and roadway characteristics are key to the development of a successful action plan.

The safety analysis component for Safe Streets Monmouth includes three key components:

- Comprehensive Crash Analysis
- High Injury Network Development
- Systemic Analysis & Near-Miss Data Analysis

Safety action are developed in direct response to crash data analyses that identify key crash trends, patterns, and contributing factors. An understanding of the crash data provides insight on where targeted safety initiatives and investments will have the greatest impact on safety.

The crash data utilized for Safe Streets Monmouth was sourced using the New Jersey Department of Highway Traffic Safety (NJDOTS) Numetric tool, which included verified and complete data up to 2021. The time period for this analysis is 2017 to 2021.

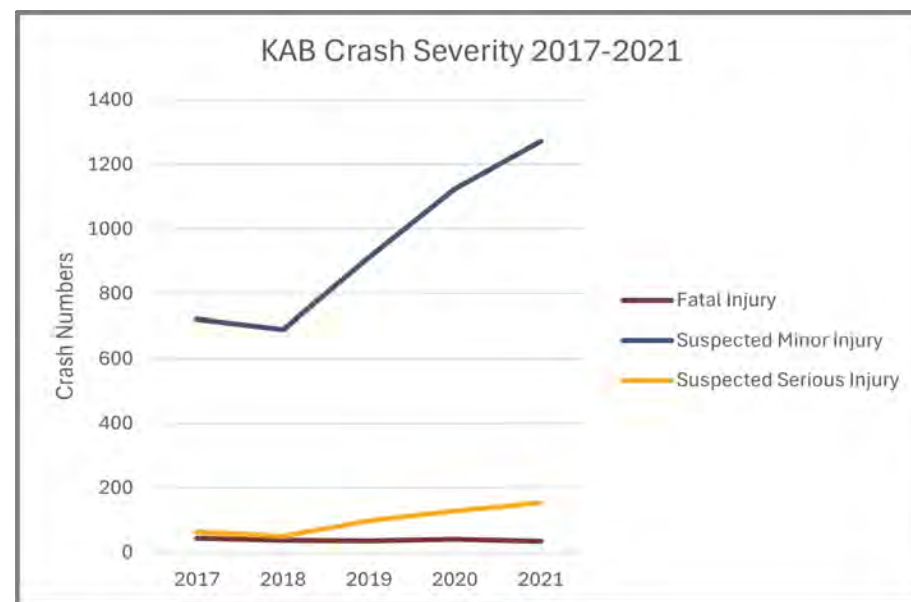
While all crashes were downloaded and reviewed, for this analysis, fatal, serious injury, and minor injury crashes, or KAB crashes using the KABCO scale are the primary focus. This is particularly relevant with regards to vulnerable road users (pedestrians and bicyclists) where the difference between a minor injury crash and a more serious or fatal crash can be a minimal change in the roadway environment such as slightly higher speed or different angle of impact.

Crash Analysis

Between 2017-2021, Monmouth County recorded a total of 83,363 crashes of which 5,404 were KAB crashes. On average, this amounts to almost 1,100 people either killed, seriously injured or had minor injuries every year or almost 3 people every day.

Safe Streets Monmouth focuses on county roads as part of the project and high-injury network development. A detailed crash analysis memo is attached in the Appendix A.

Figure 4: KAB Crash Trends

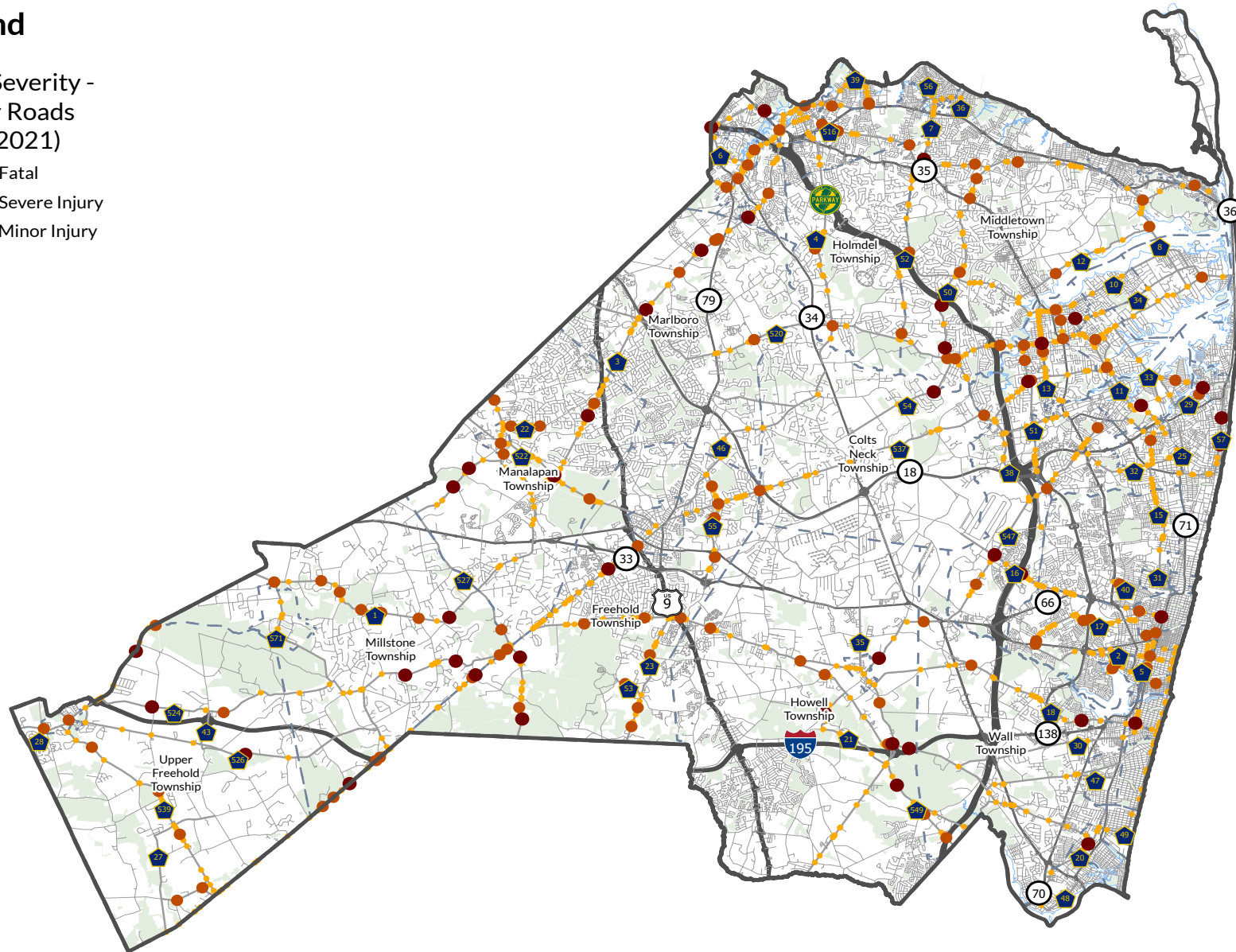


Map 2: All KAB Crashes on County Roads (2017-2021)

Legend

Crash Severity -
County Roads
(2017-2021)

- K - Fatal
- A - Severe Injury
- B - Minor Injury



Data Source: NJ DOT Crash Records Database (2017-2021)



0 1 2
Miles

Overall Findings

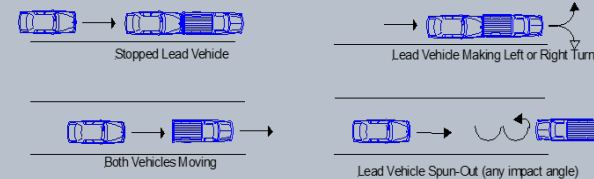
These findings are based on absolute crash numbers and do not factor in exposure or activity data. For example, areas with more pedestrian activity may experience more crashes and vice versa for areas with low pedestrian activity. However, this analysis does provide insight into the key crash trends, factors, locations, and several other statistics that will guide the selection of recommendations to improve safety in the County.

- Between 2017 and 2021, there were a total of 83,363 crashes in the County. Of those, 5,404 or 6.5% were KAB crashes averaging to over 1,000 KAB crashes every year on all roads in the County.
- Overall, there has been a downward trend in all crashes and fatal crashes in the County from 2017-2021. However, KAB crashes have been trending upwards from 2017 (829 crashes) to 2021 (1,459 crashes).
- The most common crash types across the county were Right Angle crashes (1,153, 21.3%), Rear End crashes (1,107, 20.5%), and Fixed Object crashes (1,077, 19.9%).
- There were 352 or 6.5% pedestrian KAB crashes and 317 or 5.9% bicyclist KAB crashes reported in the County.
- Municipalities vary significantly by size and population. The municipalities with the most crashes per 1,000 people were Deal Borough (31 crashes or 34.4 per 1,000 people), Allenhurst Borough (15 crashes or 31.8 per 1,000 people), and Upper Freehold Township (162 crashes or 22.3 per 1,000 people). The municipalities with the most crashes per square mile were Asbury Park (146 crashes or 102.8 crashes per square mile), Neptune City (79 crashes or 83.2 crashes per square mile), and Red Bank (135 crashes or, 77.6 crashes per square mile).

Top Crash Types In Monmouth County

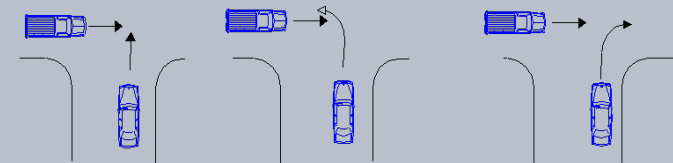
Same Direction (Rear-End) Crash– Two vehicles moving one behind the other and collide, regardless of what forward movements either vehicle was in the process of making. This would include a collision in which the leading vehicle spun out and became turned 180 degrees around such that the resulting same direction collision had it strike front end to front end with the following vehicle.

Same Direction, Rear End



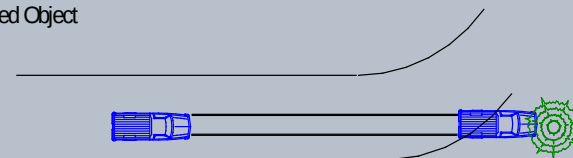
Right Angle Crash– Two vehicles approaching from non-opposing angular directions collide, typically resulting as one vehicle failed to either stop or yield right of way from a Stop or Yield sign, ran a red light, or was not cleared from the intersection upon the onset of the conflicting movement's green signal.

Right Angle



Fixed Object Crash - A motor vehicle in transport strikes an impact attenuator/crash cushion, bridge overhead structure, bridge pier or support, bridge rail, culvert, curb, ditch, embankment, guardrail face or end, concrete traffic barrier, standing tree, utility pole/light support, traffic sign or signal support, fence, mailbox, pothole, or other fixed object.

Fixed Object



<https://www.nj.gov/transportation/refdata/accident/pdf/NJTR-1CrashReportManual2023.pdf>

County Roads: Crash Trends

- More than 22% or 18,460 crashes occurred on County roads. Of those, 1,415 were KAB crashes (6.7% of all County Road crashes, 26.2% of all KAB crashes) averaging 283 KAB crashes every year on County roads.
- County roads were the second-highest in KAB crashes by road system (behind state roads) and bicyclist crashes (behind municipal roads), and third-highest in pedestrian crashes (behind state and municipal roads).
- County roads exhibit a higher overall and KSI crash rate per mile when compared to the total roadway network in the County.
- County roads exhibit a lower KAB bicyclist and pedestrian crash rate per mile when compared to the total roadway network in the County.
- Like on all roads, the top three most common crash types on county roads were Right Angle (25.6%), Rear End (18.1%), and Fixed Object (9.0%).
- The most common crash contributing factor for motorists on county roads was Driver Inattention (23.0%).
- The most common roads for KAB crashes on the county road system were County Route 537 (161), County Route 3 (84), County Route 524 (84), County Route 520 (81), and County Route 516 (80).

Vulnerable Road Users

- Pedestrians stand out with a disproportionately high fatality rate compared to other travel modes (14.9%).
- Among non-motorist crashes, a significant number involve children under the age of 16.

- Overall, most fatal and injurious crashes are located on NJDOT-maintained roadways (1,827 of 5,404, 34%). These are typically high-volume and high-speed roadways.
- Pedestrian crashes are concentrated on NJ 35 and US 9.
- The top five corridors of NJ 35, US 9, NJ 36, NJ 71, and NJ 33 account for more than one-third of all pedestrian crashes.
- Bicyclist crashes follow a similar pattern, with over one-third occurring along just four key roadways: NJ 35, NJ 71, NJ 36, and Monmouth County Route 18 III.
- Bicyclist and Pedestrian crashes were both highest overall in Middletown Township, Neptune Township, and Freehold Township.

Seasonal Crash Trends

- A third of all KAB crashes in the County occurred in the summer months likely a factor of exposure due to more activity in those months (June-August).
- Pedestrian KAB crashes were higher in the fall/autumn months (September-November).
- Bicyclist KAB crashes were higher in the summer months potentially also a factor of exposure due to more activity during those months.
- Middletown Township, Neptune Township and Wall Township had the highest number of KAB crashes in the summer.
- The majority of the crashes in the summer were right angle crashes followed by same direction-rear end and fixed object crashes.

Overall Crash Trend



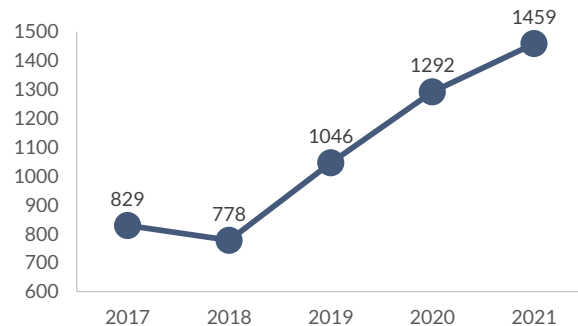
2017 -2021:

83,363 total crashes

5,404 KAB crashes (6.5%)

Average 1,081 KAB per year

KAB Crash Trend Year-over-Year



Top Municipalities



KAB Crashes per 1000 people

Deal (34.4)

Allenhurst (31.8)

Upper Freehold (22.3)

KAB Crashes per square mile

Asbury Park (102.8)

Neptune City (83.2)

Red Bank (77.6)

Top KAB Crash Types on All Roads



Right Angle

21% of all KAB Crashes



Same Direction - Rear End

20% of all KAB Crashes



Fixed Object

20% of all KAB Crashes

County Road Crashes



22% or 18,480 crashes occurred on County roads. 1,415 were KAB crashes (6.7% of all County Road crashes, 26.2% of all KAB crashes), averaging 283 KAB crashes every year on County roads.



Driver Inattention (23%) was the most common contributing factor for motorists in crashes.



Highest crashes county roads:

County Route 537 (161)

County Route 3 (84)

County Route 524 (84)

County Route 520 (81)

County Route 516 (80)



KSI per mile is higher on county roads than on all roads.



Fewer bicycle and pedestrian KAB per mile on county roads than on all roads.

Top KAB Crash Types on County Roads



Right Angle

26% of all KAB Crashes



Same Direction - Rear End

18% of all KAB Crashes



Fixed Object

9% of all KAB Crashes

Vulnerable Road Users



Among non-motorist crashes, a significant number involve children under the age of 16 (100).



Higher bicycle and pedestrian crashes:

Middletown (936)

Neptune Township (794)

Freehold (738)



Most fatal and injurious crashes are on State and Interstate roads (1,827 of 5,404, 34%).

Pedestrian



There were 352 or 6.5% pedestrian KAB crashes in the County.



Pedestrians have a disproportionately high fatality rate compared to other travel modes (14.9%).



Top 5 corridors (NJ 35, US 9, NJ 36, NJ 71, NJ 33) account for over one-third of all pedestrian crashes

Bicyclist



There were 317 or 5.9% bicyclist KAB crashes in the County.



NJ 35, NJ 71, NJ 36, and Monmouth County Route 18 III account for more than one-third of bicyclist KAB crashes.

Seasonal Crash Trends



A third of all KAB crashes in the County occurred in the summer months, likely a factor of exposure due to more activity in those months (June-August).



Pedestrian KAB crashes were higher in the fall/autumn months (September-November).



Bicyclist KAB crashes (157) were higher in the summer months.



Middletown Township, Neptune Township, and Wall Township had the highest number of KAB crashes in the summer.



Top summer crash types:

Right Angle (1,153)

Same Direction (1,107)

Fixed Object (1077)

High-Injury Network Development

Utilizing the data obtained in the crash analysis, a sliding window analysis was performed on the county road network in Monmouth County. The output from each sliding window analysis was then used to create High-Injury Network (HIN), a subset of the study area roads where crashes are most concentrated.

Three separate high-injury networks (HINs) were developed separated by travel mode (all modes, pedestrians and bicyclists). The sliding window analysis segments were ranked based on their ePDO, a scoring system which weighs crashes based on their severity.

Each HIN was created by identifying an Equivalent Property Damage Only (ePDO) value where all sliding window segments above that value combined for the same total ePDO as those below it. In each HIN, this exercise removed 70-80% of the road mileage from the initial sliding window analysis output, therefore more precisely identifying segments with higher crash occurrences.

This process retained the majority of KAB crashes for each HIN while reducing the mileage significantly. The All Modes HIN reduced its mileage by 74%, the Pedestrian HIN by 78%, and the Bicycle HIN by 80%.

KABCO Scale	ePDO Value
(K) Fatal Injury	55.0
(A) Suspected Serious Injury	55.0
(B) Suspected Minor Injury	16.7
(C) Possible Injury	10.6
(O) Property Damage-Only	1.0

Table 2: Equivalent Property Damage Only (ePDO) Score Rates

Source: NJDOT Screening Lists

WHAT IS A SLIDING WINDOW ANALYSIS?

Sliding window analysis is a network screening method that combines the number of crashes within a set length of a roadway, referred to as a “window.” In this plan, the window (set to one mile) was run along the roadway network (making it a sliding window) to find the highest sum of crashes, weighted by ePDO (equivalent property damage only; see Table 2) in any one window.

The ePDO metric serves as a weight to compare crash severity, and in this project, fatal and serious injury crashes weighed an ePDO of 55.0, minor injury crashes weighed 16.7, possible injury crashes weighed 10.6 ePDO, and crashes with no apparent injury weighed 1 ePDO. Thus, each severity’s rating can also be viewed as its proportional severity relative to a crash with no apparent injury, which are also known as “property damage only” crashes, leading to the term “equivalent property damage only”.

Windows were generated every 0.1 miles to identify scores to generate one-mile segments of County-owned roadways with 0.1 mile spacing between segments. Figure 6 shows how these appear, and the sliding window analysis process used in this plan removes overlapping windows, which ensures that in the final set of sliding windows each crash is counted exactly once.



Figure 5: Sliding Window Analysis Process

	All Modes		Pedestrian		Bicycle	
	Total Sliding Window Analysis	Segments above 155.13 ePDO	Total Sliding Window Analysis	Segments above 55.04	Total Sliding Window Analysis	Segments above 34.36 ePDO
Number of HIN Windows/Miles	284	75	90	20	119	24
KAB Crashes	1432	756	85	46	91	49
Fatal Crashes (K)	44	25	7	7	0	0
Serious Injury Crashes (A)	136	89	13	13	8	8
Minor Injury Crashes (B)	1252	642	65	26	83	41
Possible Injury Crashes (C)			58	19	91	44
Property Damage Only Crashes (O)			51	14	71	20

Table 3: High-Injury Network Refinement Results

Additional information gathered through the other tasks of this project, including further data collection, public outreach, and the 4 All analysis, all served to further enhance the utility of the HIN and identify priority areas.

A detailed memorandum describing the high-injury network development is included in the Appendix A.

Map 3: All Modes High Injury Network (HIN)

Legend

- Monmouth County
- Monmouth County
- Municipalities

All Modes High Injury Network

ePDO Range

- 155.13 - 171.81
- 171.81 - 238.53
- 238.530 - 620.50

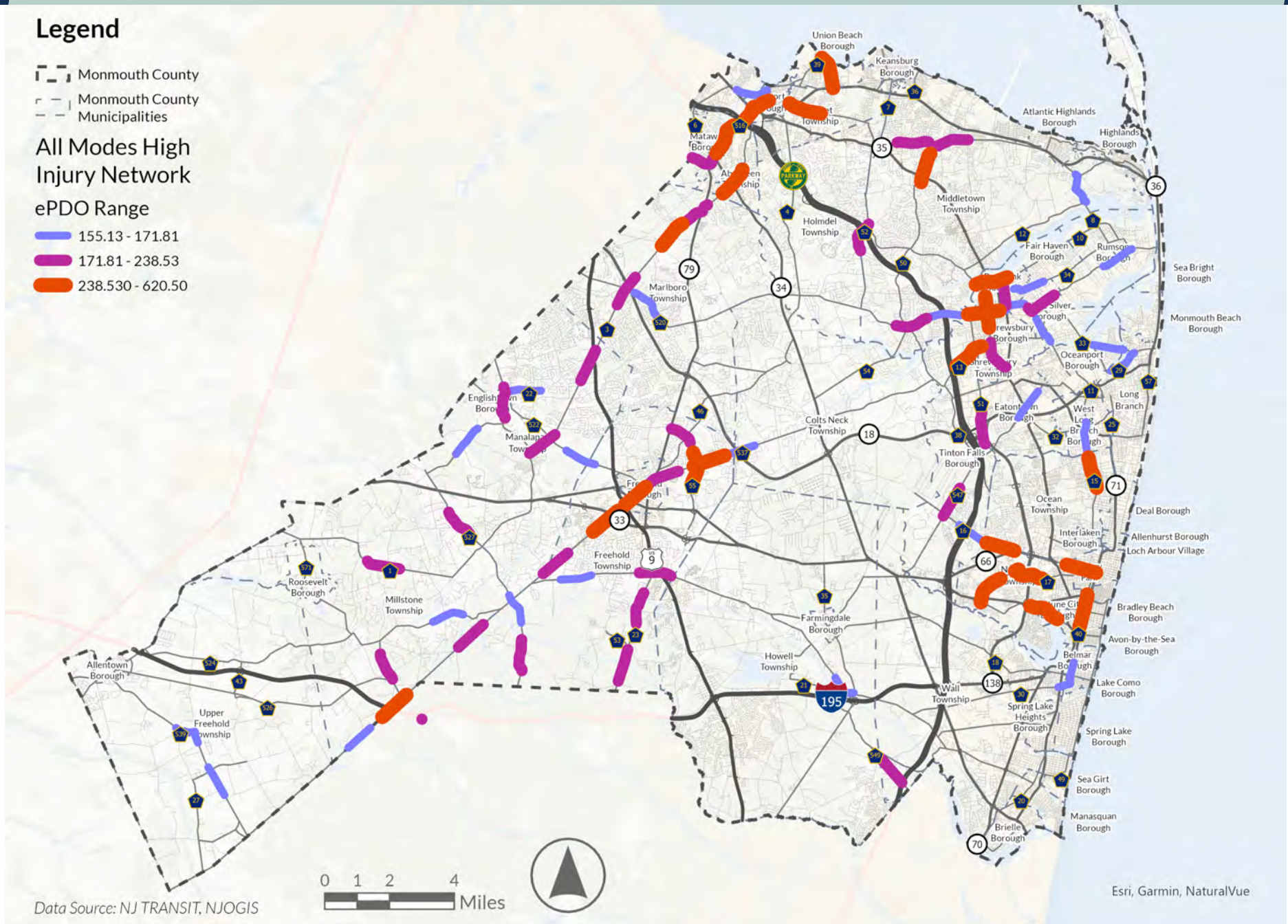


Table 4: Top 10 All Modes HIN Segments

Municipality	Road Name	Start/End	Fatal Crashes	Serious Crashes	Minor Crashes	ePDO
Freehold Township	W. Main Street (County Route 537)	MP 50 – MP 51	2	2	24	620.50
Neptune Township Neptune City Bradley Beach Avon-by-the-Sea	Memorial Drive (County Route 40-A)	MP 0.6 – MP 1.6	0	3	22	532.10
Freehold Borough	W. Main Street (County Route 537)	MP 51.3 – MP 52.3	1	2	15	415.34
Neptune Township	W. Bangs Avenue (County Route 17-2)	MP 1.5 – MP 2.5	0	3	13	381.97
Red Bank Tinton Falls Shrewsbury Borough	Newman Springs Road (County Route 520)	MP 15.6 – MP 16.6	1	1	16	376.97
Asbury Park Neptune Township	Asbury Avenue (County Route 16)	MP 5.2 – MP 6.2	1	2	12	365.29
Red Bank Tinton Falls Shrewsbury Borough	Shrewsbury Avenue (County Route 13)	MP 1.4 – MP 2.4	0	2	13	326.93
Freehold Township	Kozloski Road (County Route 55)	MP 1.4 – MP 2.4	0	2	13	326.93
Ocean Neptune Township	Asbury Avenue (County Route 16)	MP 2.6 – MP 3.6	0	0	19	316.93
Matawan	Broad Street (County Route 516)	MP 7.3 – MP 8.3	0	2	12	310.25

Map 4: Pedestrian High Injury Network (HIN)

Legend

- Monmouth County
- Monmouth County
- Municipalities

Pedestrian High-Injury Network (All Crashes)

ePDO Range

- 55.04 - 56.04
- 56.04 - 87.83
- 87.83 - 195.79

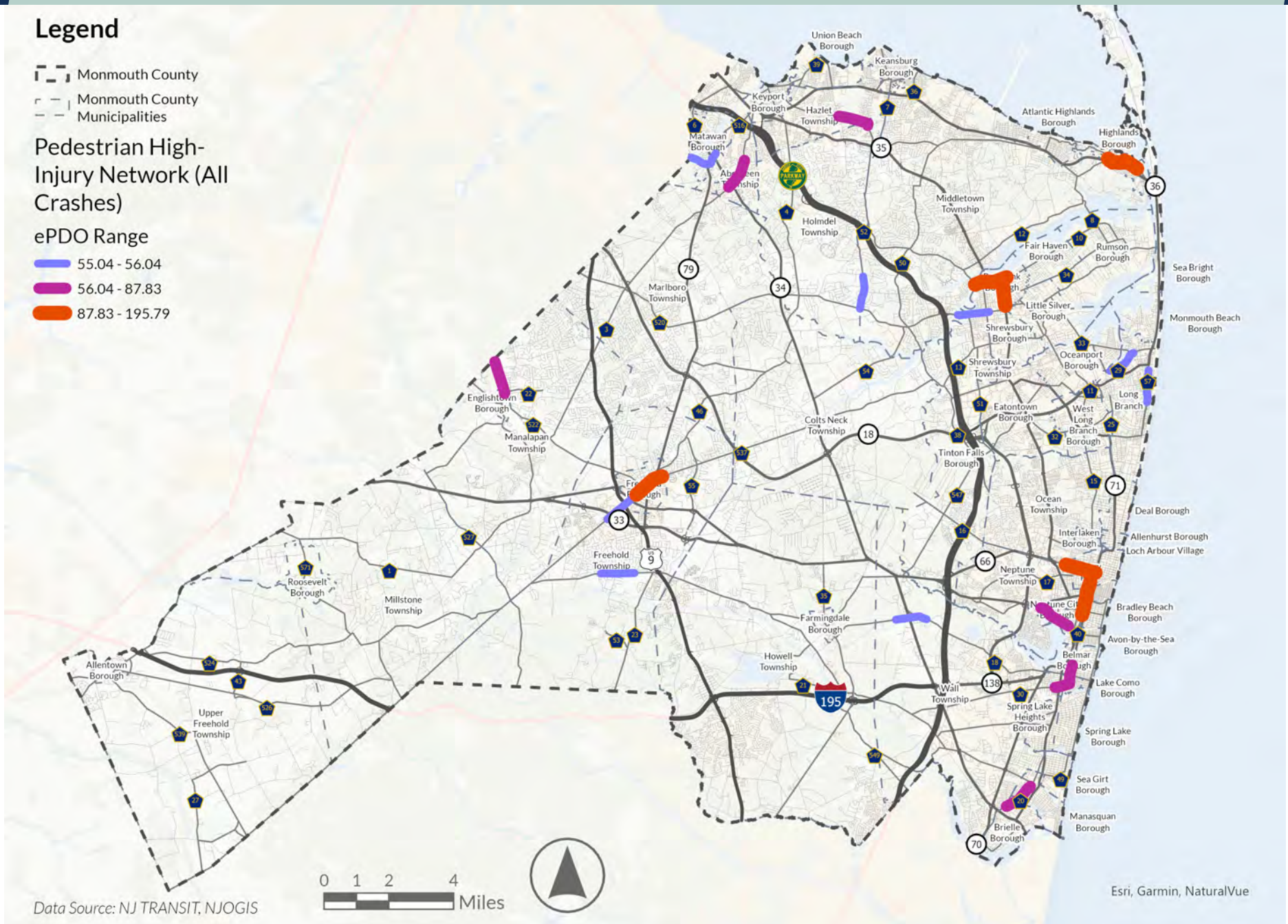


Table 5: Top 10 Pedestrian HIN Segments

Municipality	Road Name	Start/End	Fatal Crashes	Serious Crashes	Minor Crashes	Possible Injury Crashes	Property Damage Only	ePDO
Freehold Borough	E. Main Street (County Route 537)	MP 51.8 – MP 52.8	1	1	3	3	4	195.79
Red Bank Middletown	W. Front Street (County Route 10)	MP 0 – MP 1	0	1	5	3	1	171.11
Neptune Township Neptune City Asbury Park Bradley Beach	Memorial Drive (County Route 40-A)	MP 0.2 – MP 1.2	0	1	5	2	2	161.55
Red Bank	Broad Street (County Route 11-1)	MP 0 – MP 1	0	1	4	1	0	132.32
Highlands	Scenic Drive/Linden Avenue/ Waterwich Avenue/Bay Avenue (County Route 8)	MP 2.8 – MP 3.8	0	1	2	1	0	98.96
Asbury Park Neptune Township	Asbury Avenue (County Route 16)	MP 5.2 – MP 6.2	1	0	1	2	1	93.83
Neptune City	W. Sylvania Avenue (County Route 17-3)	MP 0 – MP 1	0	0	4	2	0	87.83
Hazlet Holmdel	Middle Road (County Route 516)	MP 12.2 – MP 13.2	0	1	1	1	0	82.28
Aberdeen	Lloyd Road (County Route 3)	MP 10.6 – MP 11.6	0	1	1	1	0	71.72
Belmar Lake Como Wall	18th Avenue/ Main Street (County Route 30-2)	MP 3.4 – MP 4.4	1	0	0	1	2	67.60

Map 5: Bicyclist High Injury Network (HIN)

Legend

- Monmouth County
- Monmouth County
- Municipalities

Pedestrian High-Injury Network (All Crashes)

ePDO Range

- 55.04 - 56.04
- 56.04 - 87.83
- 87.83 - 195.79

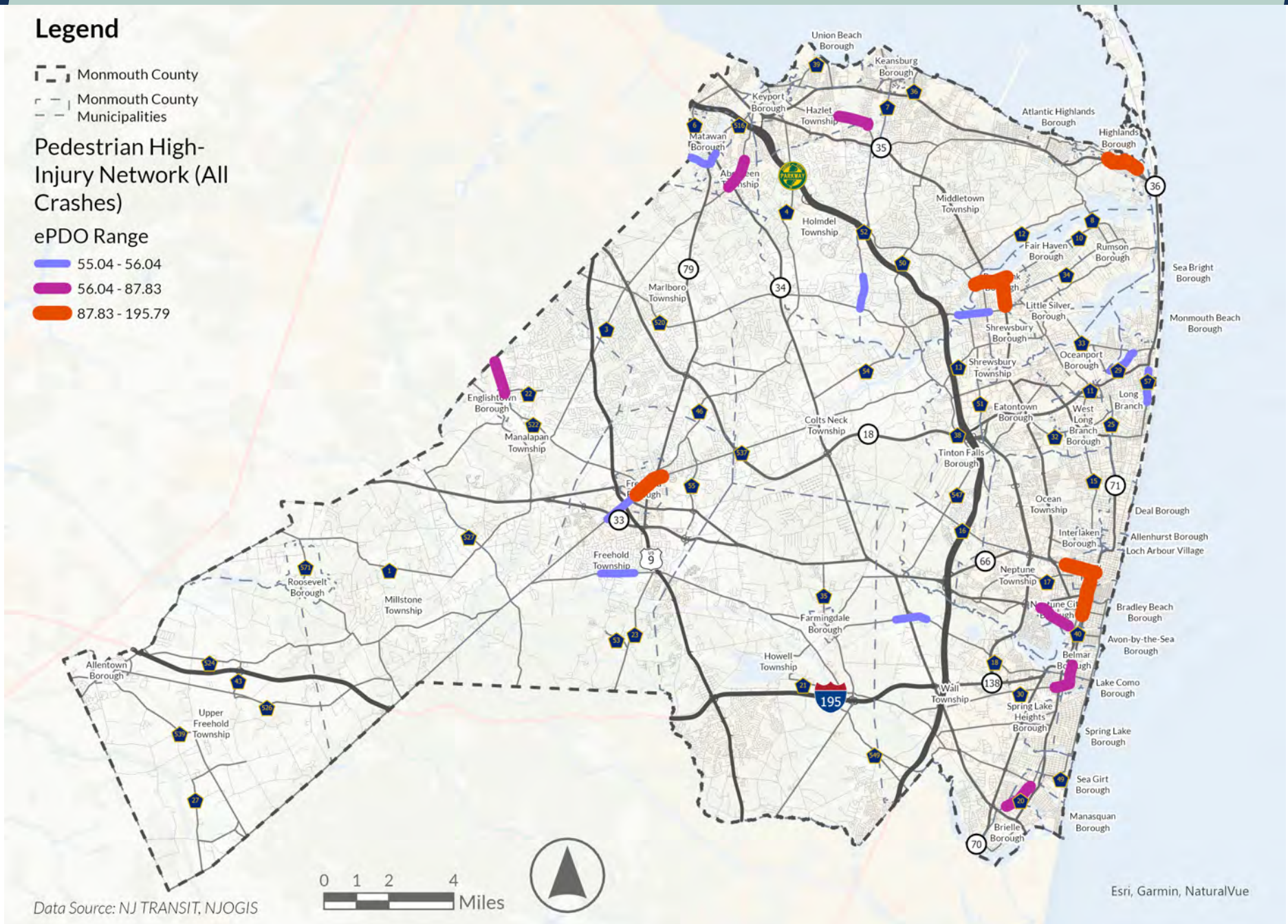


Table 6: Top 10 Bicyclist HIN Segments

Municipality	Road Name	Start/End	Fatal Crashes	Serious Crashes	Minor Crashes	Possible Injury Crashes	Property Damage Only	ePDO
Belmar Lake Como	Ocean Avenue (County Route 18-3)	MP 2.3 – MP 3.3	0	0	5	12	1	211.06
Matawan Aberdeen Township	Lower Main Street/Atlantic Avenue (County Route 516)	MP 7.9 – MP 8.9	0	1	1	2	0	92.83
Bradley Beach Avon-by-the-Sea	Ocean Avenue (County Route 18-3)	MP 3.9 – MP 4.9	0	0	4	2	4	91.83
Middletown Township	Church Street/Kings Highway/ New Monmouth Road (County Route 50)	MP 6.2 – MP 7.2	0	1	1	1	0	82.28
Ocean Township	Monmouth Road (County Route 15)	MP 2 – MP 3	0	0	4	1	3	80.28
Keansburg Hazlet Holmdel Middletown	Main Street/Palmer Avenue (County Route 7-1)	MP 1.1 – MP 2.1	0	0	2	4	2	77.58
Marlboro Colts Neck	Newman Springs Road (County Route 520)	MP 6.9 – MP 7.9	0	1	1	0	0	71.72
Freehold Township	W. Main Street (County Route 537)	MP 50 – MP 51	0	1	1	0	0	71.72
Middletown Township	Locust Point Road (County Route 8-A)	MP 2 – MP 3	0	1	1	0	0	71.72
Spring Lake	Ocean Avenue (County Route 18-3)	MP 0.1 – MP 1.1	0	0	2	3	1	66.03

Systemic Analysis

A systemic analysis supports the Safe System Approach principle: Safety is Proactive. The systemic approach is a proactive tool in addressing safety as compared to the previous crash data analysis that focuses on locations where crashes have already occurred. Based on the systemic analysis, the County can prioritize safety improvements for similar locations and roadway types that have high crash risks, despite a low crash history at those locations.

The FHWA identifies a 6 step approach to systemic safety analysis.

- Step 1 - Identify Focus Crash Types, Facility Types and Risk Factors
- Step 2 - Screen and Prioritize Candidate Locations
- Step 3 - Identify and Select Countermeasures
- Step 4 - Prioritize Systemic Projects
- Step 5 - Deliver Systemic Projects
- Step 6 - Evaluate Systemic Safety Results

The systemic analysis for Safe Streets Monmouth involved identifying risk factors, locations and countermeasures. The County will implement systemic improvements and evaluate safety results based on the recommendations in this plan.

Methodology

The HIN segment identified in all three networks were then further analyzed to identify the high-risk roadway features in the County. The high-risk roadway features are identified through a systemic analysis of risk factors commonly associated with high injury crashes.

As a first step, extensive data collection and information was collected for the HIN segments. The data collection process involved reviewing NJOGIS roadway data, NJDOT Straight Line Diagrams and additional desktop data collection efforts. The resulting data was collected and added to the GIS database.



Figure 6: Systemic Analysis Methodology, FHWA

The following data was collected for the HIN segments in all three HINs:

- Roadway Segment Data
 - Municipality Crossing
 - Functional Class
 - Number of Lanes
 - Lane Count Change
 - Width of Traveled Way
 - Travel Width Change
 - Speed Limit (Posted)
 - Speed Limit Change
 - Median Type
 - Width of Median
 - Median Change
 - Shoulder Present
 - Width of Shoulder
 - Shoulder Change
 - Rail Crossing
 - Railway Station Present
 - Truck Parking Location
 - Bike Lanes Present
 - Width of Bike Lanes
 - Bike Lanes Change
 - Sidewalk/Pedestrian Pathways Present
 - Marked Crosswalks
 - Number of Signalized Intersections
 - Percent of signalized Intersections
 - Schools
- Traffic Data
 - AADT
 - Volumes
 - Trucks

Each of the factors were then evaluated to identify roadway characteristics that have a higher relative ePDO score (or severity) by factor for each of the three HINs. The table below summarizes the ePDO calculation comparison for roadway risk factors across Monmouth County's HINs. Some factors, such as presence of a curbed median, only have a high EPDO value for one HIN. Others, like presence of a rail crossing, have high EPDO values across all three HINs.

Roadway Risk Factor	All-Modes HIN relative EPDO	Pedestrian HIN relative EPDO	Bicyclist HIN relative EPDO
Curbed median	HIGH		
No Median		HIGH	HIGH
Speed Limit 25 MPH		HIGH	HIGH
Speed Limit 30 MPH	HIGH		HIGH
Urban Major Collector			HIGH
Urban Principal Arterial	HIGH	HIGH	
Urban Principal Arterial/Urban Minor Arterial	HIGH		
Two (2) travel lanes			HIGH
Four (4) travel lanes	HIGH		HIGH
Roadway width > 40'	HIGH	HIGH	HIGH
AADT < 10,000			HIGH
AADT 10,000 – 19,999		HIGH	
AADT > 30,000	HIGH		
At a rail crossing	HIGH	HIGH	HIGH
0% of intersections signalized			HIGH
21% to 41% of intersections signalized		HIGH	
41% to 60% of intersections signalized	HIGH		
Presence of pedestrian path		HIGH	
Presence of Marked Crosswalks		HIGH	
No shoulder	HIGH	HIGH	HIGH

Table 7: Systemic Analysis: Relative ePDO by Risk Factor

High-EPDO risk factors were evaluated based upon their relative EPDO across HINs, relative EPDO for Vulnerable Road User (VRU) HINs, number of KAB crashes and VRU crashes on HIN roadways with each risk factor, and potential for systematic countermeasure application across Monmouth County's roadway

network. This evaluation resulted in the identification of five Priority High-Risk Roadway Factors (PHRRFs):

These five Priority High-Risk Roadway Factors form the basis of the approach to systemic countermeasure implementation across Monmouth County.

Evaluating Proven Safety Countermeasures

Using the Clearinghouse, Practitioners can identify PSCs based on targeted criteria, defined applicability, and effectiveness measured by a Crash Modification Factor (CMF) and/or a Crash Reduction Factor (CRF). When examined in context, CMF and CRF values provide insight into how effective a given countermeasure is likely to be when implemented within specific roadway contexts.



1. Presence of rail crossing



2. Urban Principal Arterial



3. Presence of pedestrian path



4. Presence of marked crosswalk



5. <40% of intersections signalized



6. No Shoulder

Identifying Systemic Proven Safety Countermeasures

Appropriate PSCs were identified based on the five High-Risk Roadway Factors identified using the EPDO analysis. In total, 32 unique PSCs were identified for systemic implementation.

	Advance Signs & Markings	New & Refreshed Pavement Markings	New & Upgraded Retroreflective Treatments	Pedestrian-focused signal phasing	Raised pedestrian crosswalks	New & widened sidewalks	New & Upgraded Intersection Controls	New & Upgraded Turn Lane Treatments	Bike Facility Treatments at Intersections	Conversion to Mini-Roundabouts	New & widened shoulders	Transverse rumble strips
Railroad Crossings	✓	✓	✓			✓						✓
Urban Minor Arterial	✓	✓	✓	✓		✓		✓	✓			
Has Pedestrian Path	✓	✓	✓	✓	✓							✓
Has Marked Crosswalks	✓	✓	✓	✓	✓							
<40% of Intersections are Signalized						✓	✓	✓		✓		
No Shoulder						✓					✓	✓

Table 8: Systemic Analysis Recommendations by High-Risk Roadway Factor

Table 9: Systemic Analysis: Proven Safety Countermeasures

PHRRF	KAB Crash Types	Systemic Interventions	CMF ID	CMF Value	CRF Value
Rail Crossing 	Distracted Driver: 80% Pedestrian: 11% Bicycle: 10% Unsafe Speed: 8%	Backplates with Retroreflective Borders	1410	0.85	15
		Double-up intersection warning signs	8867	0.89	10.1
		Retroreflective strips on sign posts	8867	0.89	10.1
		Implement transit signal priority	9820	0.949	5.1
		Install advanced yield or stop markings and signs	9019	0.8	20
		Remark all existing stop bars, crosswalks, arrows and word messages	8867	0.89	10.1
		Implement signs and crossbucks at unprotected crossings	481	0.75	25
		Install flashing lights and sound signals	482	0.5	50
		Install automatic gates at crossings with passive traffic control	488	0.33	67
		Install transverse rumble strips as traffic calming device	138	0.66	34
		Install sidewalk	11246	0.598	40.2
Urban Principal Arterial 	Right Angle: 24% Rear End: 22% Distracted Driver: 52%	Backplates with Retroreflective Borders	1410	0.85	15
		Yellow Change Intervals	384	0.88	12
		Double-up intersection warning signs	8867	0.89	10.1
		Advance street name plaques	8867	0.89	10.1
		Double-up STOP or YIELD signs	8867	0.89	10.1
		Retroreflective strips on sign posts	8867	0.89	10.1
		Install advanced yield or stop markings and signs	9019	0.8	20
		Add dashed white edge-lines along major roads through intersections	8867	0.89	10.1
		Remark all existing stop bars, crosswalks, arrows and word messages	8867	0.89	10.1
		Mark all turn lanes with lane arrows and ONLY text	8867	0.89	10.1
		Install sidewalk	11246	0.598	40.2
		Install bicycle lanes at signalized intersections with exclusive right turn lanes	3257	0.97	3
		Install bicycle lanes at signalized intersections with shared through/right turn lanes	3255	0.6	40

Has Pedestrian Path 	Right Angle: 28%	Install advanced yield or stop markings and signs	9019	0.8	20
	Rear End: 17%	Double-up STOP or YIELD signs	8867	0.89	10.1
	Pedestrian: 10%	Remark all existing stop bars, crosswalks, arrows and word messages	9019	0.8	20
	Bicycle: 9%	Install raised pedestrian crosswalks	8867	0.89	10.1
		Install transverse rumble strips as traffic calming device	138	0.66	34
		Prohibit right-turn-on-red	5194	f(x)	-
		Install pedestrian hybrid beacon (PHB or HAWK) with advanced yield or stop markings and signs	9023	0.876	12.4
	Has Marked Crosswalks 	Right Angle: 28%	Add exclusive pedestrian phasing	5244	0.65
Rear End: 17%		Increase length of pedestrian signal phases	5253	0.89	11
Distracted Driver: 53%		Provide split phases	5247	0.85	15
Pedestrian: 11%		Double-up STOP or YIELD signs	8867	0.89	10.1
Bicycle: 10%		Prohibit right-turn on red	5194	f(x)1	-
		Remark all existing stop bars, crosswalks, arrows and word messages	8867	0.89	10.1
		Install raised pedestrian crosswalks	136	0.55	46
		Install advanced yield or stop markings and signs	9019	0.8	20
		Install pedestrian hybrid beacon (PHB or HAWK) with advanced yield or stop markings and signs	9023	0.876	12.4
<40% of intersections signalized 	Right Angle: 27%	Install supplemental intersection shaped pavement markings	9058	0.58	42
	Rear End: 16%	Install right-turn lane	5650	0.7	30
	Distracted Driver: 50%	Install Sidewalk	11246	0.598	40.2
		Convert all-way, stop-controlled intersection to mini roundabout	11534	0.8813	11.87
		Convert all-way, stop-controlled intersection to mini roundabout	11538	0.5422	45.78
		Convert intersection with minor-road stop control to modern roundabout	232	0.19	81
		Install a traffic signal	320	0.33	67
		Provide "Stop Ahead" pavement markings	396	0.78	22
No Shoulder 	Pedestrian: 12%	Install Sidewalk	11246	0.598	40.2
	Bicycle: 11%	Place edgeline and centerline markings	101	0.76	24
		Widen shoulder	8712	f(x)	-
		Install transverse rumble strips as traffic calming device	138	0.66	34
			138	0.66	34

Near-Miss Data & Analysis

Safe Streets Monmouth adopted a proactive approach to safety by incorporating and utilizing innovative data on near-misses. INRIX's Safety View, developed in collaboration with GM Future Roads, is a cutting-edge cloud-based safety analytics platform designed to help agencies identify and prioritize high-risk areas, corridors, intersections, and sidewalks. This platform provides comprehensive safety data and sophisticated analytical tools that are used to develop informed safety action plans. By integrating crash data, information on vulnerable road users, demographic insights, traffic volumes, traffic speeds, true near-miss detection, and risky maneuvers, Safety View offers a holistic perspective on road safety, with downloadable datasets. This data was used in tandem with all other available data to create a robust picture of safety in Monmouth County today.

Near miss data for Safe Streets Monmouth was included in several ways:

- **Top Near Miss Locations:** A list of top near miss locations were identified using a sliding window analysis.
- **Prioritization of the initial High-Injury Network:** Hard-Braking Score data was downloaded and utilized as one of the 10 prioritization factors.
- **Supplemental Corridors:** Near miss data was incorporated when developing recommendations for the supplemental corridors.

The HIN prioritization and the supplemental corridors are discussed in Chapter 6: Strategy and Project Selections.

Top Near-Miss Locations

The team manually geocoded the full set of near misses for the 2025 calendar year, totaling 2,235 near misses. For each near miss, three factors were included in the INRIX data:

1. **Maximum Speed** - The fastest speed recorded for the host vehicle in an incident.
2. **Maximum Closing Speed** - The fastest speed recorded for the host vehicle in an incident while on a collision course with the detected object.
3. **Minimum Time to Collision** - The time it would have taken for a crash to occur if the collision course was not corrected, based on the closing speed and distance from the detected object.

Additionally, four types of near miss are collected, which fall into two groups:

1. **Alerts** – where the vehicle alerted the driver of a possible crash and the driver took corrective action
 - Forward Collision Alert
 - Pedestrian Collision Mitigation Alert
2. **Automatic Braking** – where the vehicle took corrective action due to the circumstances of the collision course
 - Automatic Pedestrian Braking
 - Automatic Emergency Braking

Although these provide less information and context compared to reported crashes, which include a police report and detailed description of the crash and its related circumstances, these characteristics allow for a non-trivial evaluation of each near-miss instance. Using this data, the project team developed multiple ways to summarize this data and interpret the results with respect to Monmouth County's unique conditions.

Sliding Windows Analysis

The first form of analysis was to conduct a sliding window analysis in order to find locations with the highest concentrations of near-misses. This process utilized the Safer Streets Priority Finder tool, placing all near-misses at the same "severity level" to identify

SAFETY VIEW

Safety View offers a unique data set that identified true-near miss data. True near-miss detection displays events from GM vehicles built in model year 2021 and later, which are equipped with Advanced Driver Assist Systems (ADAS). These vehicles use sensors and onboard control systems to detect and classify objects in the path of the vehicle, determine the risk of a collision, and act to either alert the driver or automatically apply the brakes. ADAS features first function by identifying objects such as vehicles or pedestrians on the road using forward facing cameras. These objects are detected, classified, and their position and velocity relative to the vehicle is calculated. Based on these parameters, a risk of collision is computed. If the risk is such that the control system identifies the potential for a collision, the appropriate feature is activated. This data can help to identify locations that have not experienced a crash but still experience unsafe conditions.

The INRIX Near-Miss data has multiple datapoints available to view and some factors can be downloaded to provide a systemwide dataset. The following datasets are included:

- Speed Distribution Profile uses observed speeds to provide a statistical distribution of speeds on individual road segments. The distribution is built by taking speeds for observed vehicles over a segment for a particular timespan or subset of days of the week or hours of the day.
- Volume Profile describes the typical on-road vehicle count for each day of week and time of day for over 3,000,000 miles of highways and roads across the USA. Data includes vehicle volume by segment direction, time of day, and day of the week, averaged over a quarter.
- The Vulnerable Road User (VRU) Index describes the relative proportion of non-vehicular road and street users – cyclists, pedestrians, and other users – on roads. This is expressed as an index value relative to the average non-vehicular travel on segments across a selected area.
- Risk Score provides users with an overview of which areas on their road network are experiencing relatively higher levels of risk across five different factors: crashes, speeding, hard-braking, seatbelt usage, and the size of vehicles driving on the road. By comparing the risk on road segments to each other and other road segments across the United States, Total Risk Score and its sub-scores highlight which segments of road are in most need of intervention.
- True Near-Miss Detection displays events from GM vehicles built in model year 2021 and later, which are equipped with Advanced Driver Assist Systems (ADAS). These vehicles use sensors and onboard control systems to detect and classify objects in the path of the vehicle, determine the risk of a collision, and act to either alert the driver or automatically apply the brakes.
- Risky Maneuvers data highlights areas where drivers are performing maneuvers with high acceleration rates. There are three types of events presented in Safety View - Hard Acceleration, Hard Braking, and Hard Cornering.

these areas based on their absolute near-miss counts. A list of the top high near-miss segments (half-mile) was created. This true near-miss network consisted of 1,529 sliding windows (764.5 miles across all road jurisdictions).

From this network, the top 95 segments were isolated, which had five or more near-misses within their extent. Of these, 30 were

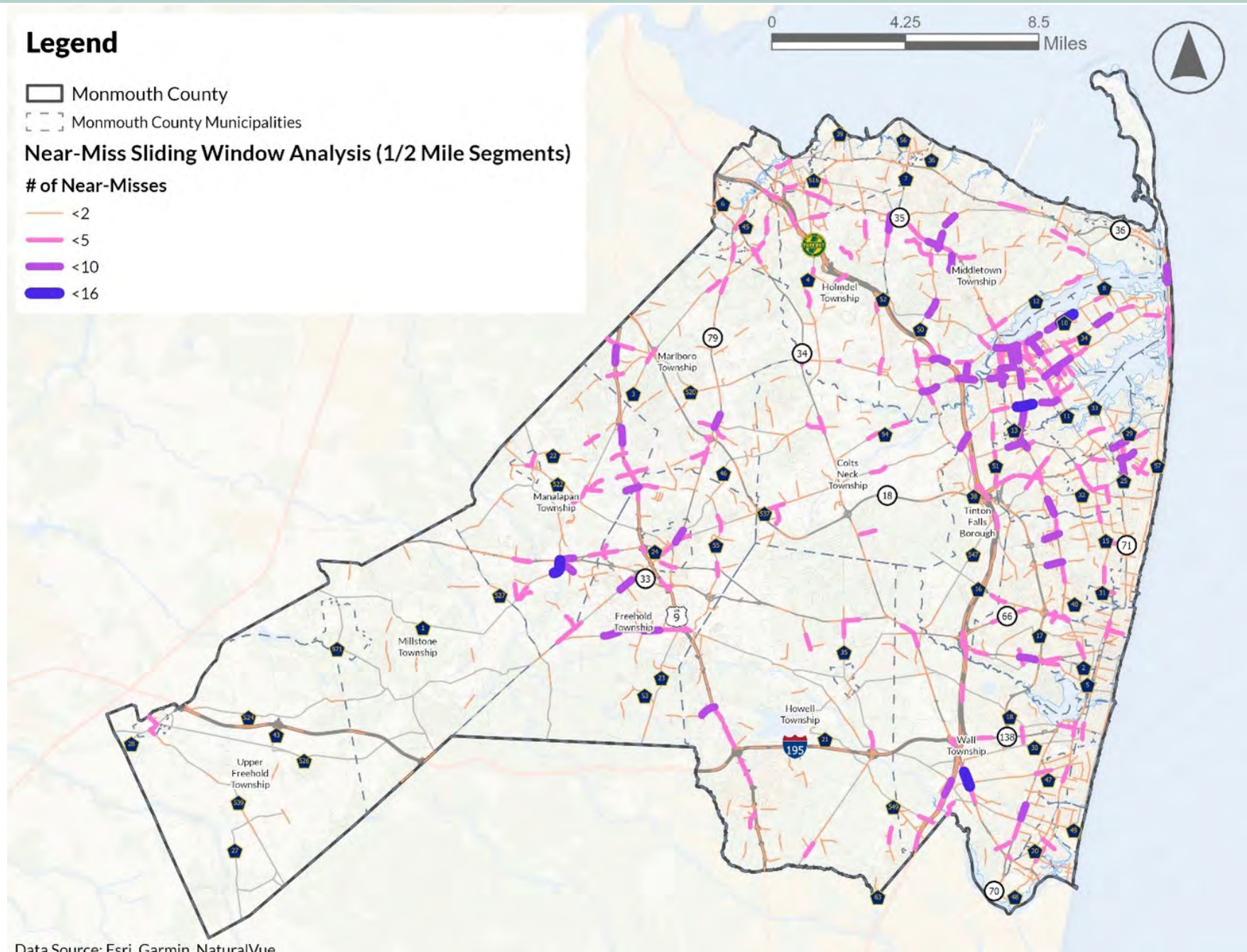
on state or US roads, 45 on county roads, and 20 on local roads. Overall, 33 near miss segments intersect or overlap with HIN segments (35%), and of the near miss segments on county roads 24 (53% of county road segments) overlap with HIN segments.

The detailed technical memorandum is in Appendix A.

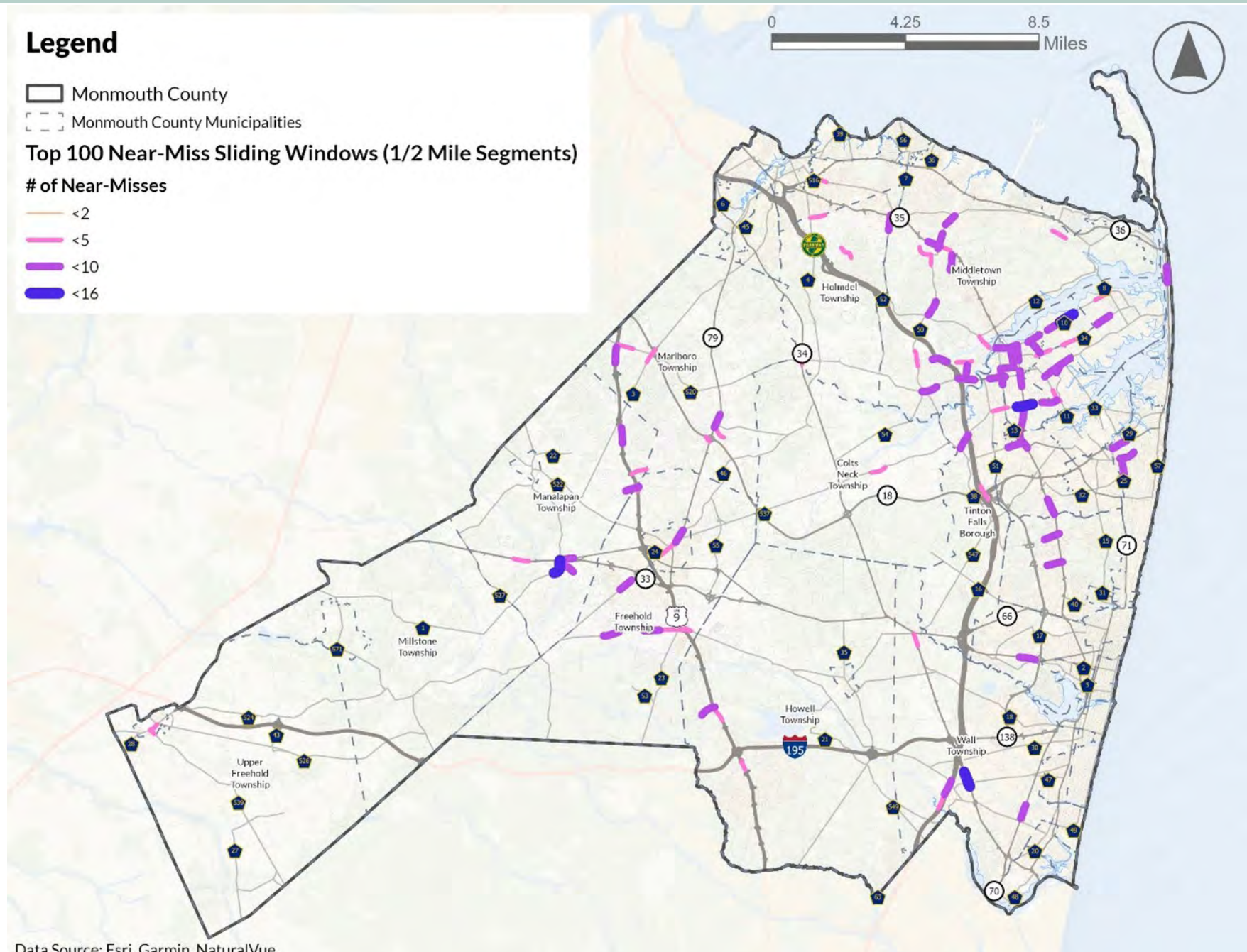
Table 10: Top 15 Near Miss Locations

Municipalities	Road Name	Start	End	No. of Near Misses	Jurisdiction	Intersects a HIN Segment
Wall Twp	State Highway 34	Terra Professional Plaza	South of Allaire Road	16	State	
Fair Haven	River Road	Battin Road	Elm Place	13	County	
Manalapan	Sweetmans Lane	Oakland Mills Road	NJ-33	11	County	
Shrewsbury Borough	Sycamore Avenue	Beech Tree Lane	Between Colonial Drive and Rosewood Drive	11	County	
Ocean Township	Deal Road	Poplar Road/Roller Road	NJ-35	10	Municipal	
Shrewsbury Borough, Little Silver, Red Bank	Broad Street	Pinckney Road	Between Monroe Avenue and Meadow Drive	10	State/County	Yes
Tinton Falls, Red Bank	Shrewsbury Avenue	Parker Boulevard	Patterson Avenue	10	County	Yes
Howell	West Farms Road	Between N. American Drive and Secretariat Street	US-9	10	Municipal	
Middletown	Spruce Drive	Buttonwood Road	Rings Highway	9	Municipal	
Freehold Township	Elton Adelphia Road	Georgia Road	Freehold Township High School - East Driveway	9	County	Yes
Wall	Garden State Parkway	Near Allaire Road	Near Monmouth Highway Department District #4 Office	9	State	
Eatontown, Tinton Falls, Shrewsbury Borough	Broad Street	Register Plaza/ Shrewsbury Plaza	Between Abbey Avenue and Tinton Avenue/ Avenue of Memories	9	State	Yes
Red Bank	Maple Avenue	Water Street	Between Irving Place and E. Bergen Place	9	State	
Middletown	Newman Springs Road	Garden State Parkway	Parkway Drive	9	County	
Wall	State Highway 35	Tarpon Drive	Atlantic Avenue	9	State	

Map 6: Near-Misses (2025)



Map 7: Sliding Window Analysis - Top Locations (5+)





3

PUBLIC ENGAGEMENT AND COLLABORATION

PUBLIC ENGAGEMENT AND COLLABORATION

A robust community and stakeholder engagement program was a key component of Safe Streets Monmouth. The goals were simple - to build awareness about Safe Streets Monmouth and traffic safety; engage stakeholders to build support for future implementation and provide opportunities to identify key traffic safety concerns in the County.

Outreach is critical for Safety Action Plans because the experience of the community does not always show up in underlying crash data. It uncovers why individuals decide to travel or not travel to specific places, through specific routes, or using specific travel modes. By understanding “why” people travel the way they do provides insight into the perspectives of residents that travel throughout Monmouth County on a daily basis.

Safe Streets Monmouth was guided by two expert and insightful two committees - a Technical Advisory Committee (TAC) and a 4 All Committee (4AC).

Public and stakeholder engagement included the use of outreach tools, attending pop-up events, committee meetings, and holding informational meetings. The municipalities in the County were engaged through an informational meeting. Public outreach activities were conducted from October 2025 to January 2026.

1. Outreach tools:

- Project website
- Safety survey
- Interactive mapping tool
- Flyers and printed promotional material
- Social media sharekit.

2. Outreach events:

- Pop-Up Events
- Workshop In a Box
- Municipal Informational Meeting

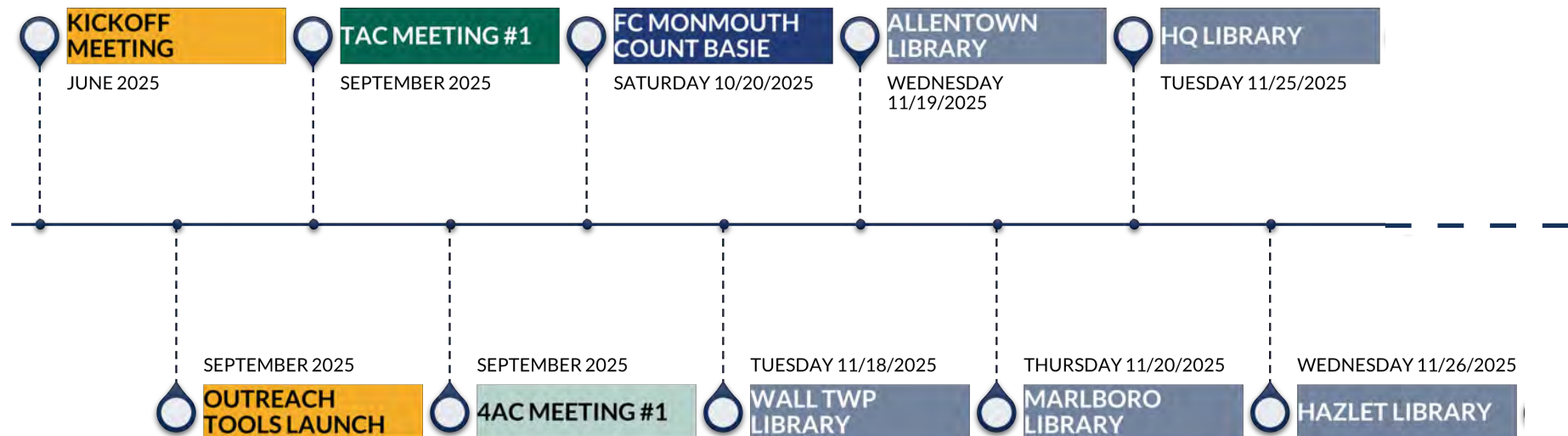
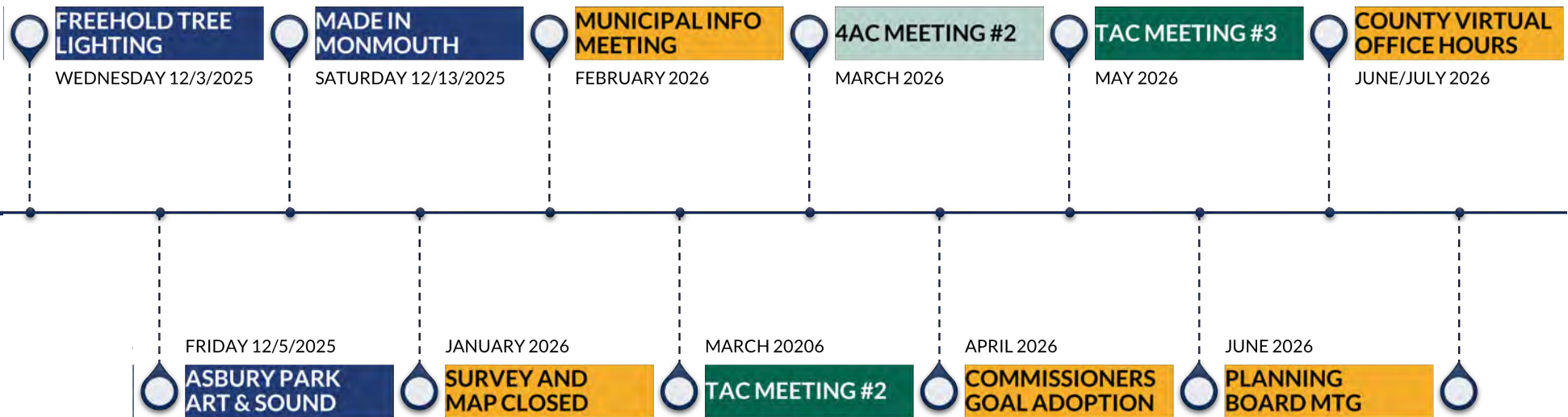


Table 11: Outreach Timeline



Pop-Up Outreach Event - FC Monmouth at Count Basie Park



Planning Structure

As noted earlier, there were two committees that guided the development of Safe Streets Monmouth. The TAC and 4AC committees provided input and guidance throughout the process and assisted in sharing outreach materials with their communities.

Project Team

Throughout the development of the plan, the project team met bi-weekly with key County staff including planning and engineering departments. This group's responsibilities were to provide overall technical oversight; help develop the vision and goal for the plan; guide the outreach process; discuss policies; share County's needs and priorities; and provide information about County's planned, proposed and completed safety projects.

Technical Advisory Committee (TAC)

The TAC consisted of governmental and non-governmental representatives. Their primary purpose was to provide input on the overall development of the plan, gather ideas from their communities and support future implementation and progress of Safe Streets Monmouth. Three TAC meetings were held at different stages of plan development.



4 All Committee (4AC)

The 4AC committee consisted of a diverse group of representatives that serve vulnerable and underserved populations in the County. Their primary purpose was to guide the demographic analysis, provide input on 4All methodology and ensure the results reflect their local insight in identifying underserved populations and areas in the County. Two 4AC meetings were held at different stages of the plan development.



TAC MEETINGS & 4AC MEETINGS

TAC Meeting #1 (9/10/2025) - Introductions, Project Overview, SS4A Components, Crash Analysis

4AC Meeting #1 (9/10/2025) - Introductions, Project Overview, SS4A Components, Focus on 4 All Analysis Factors and Process

TAC Meeting #2 (3/19/2026) - Goal Setting, Outreach Summary, HIN Development, Systemic Analysis Overview, 4 All Analysis and Policy Review

4AC Meeting #2 (3/19/2026) - Outreach Summary, HIN Development, Focus on 4 All Analysis Methodology and Findings

TAC Meeting #3 (5/21/2026) - Adopted Safety Goal announcement, Near-Miss Analysis, HIN Prioritization results, Policy review and Culture of Safety Campaign framework



Technical Advisory Committee (TAC) Meeting #1



4 All Committee (4AC) Meeting #1

Outreach Tools

Project Website

A project website was created to make information about the project available to the public in an accessible way. It provided baseline information, statistics, project resources, and links to the following interactive outreach tools:

- A survey, which was hosted online and also provided on paper during in-person outreach.
- An interactive mapping tool, where participants could place points and lines at locations they wished to flag due to safety concerns or locations in need of improvement.

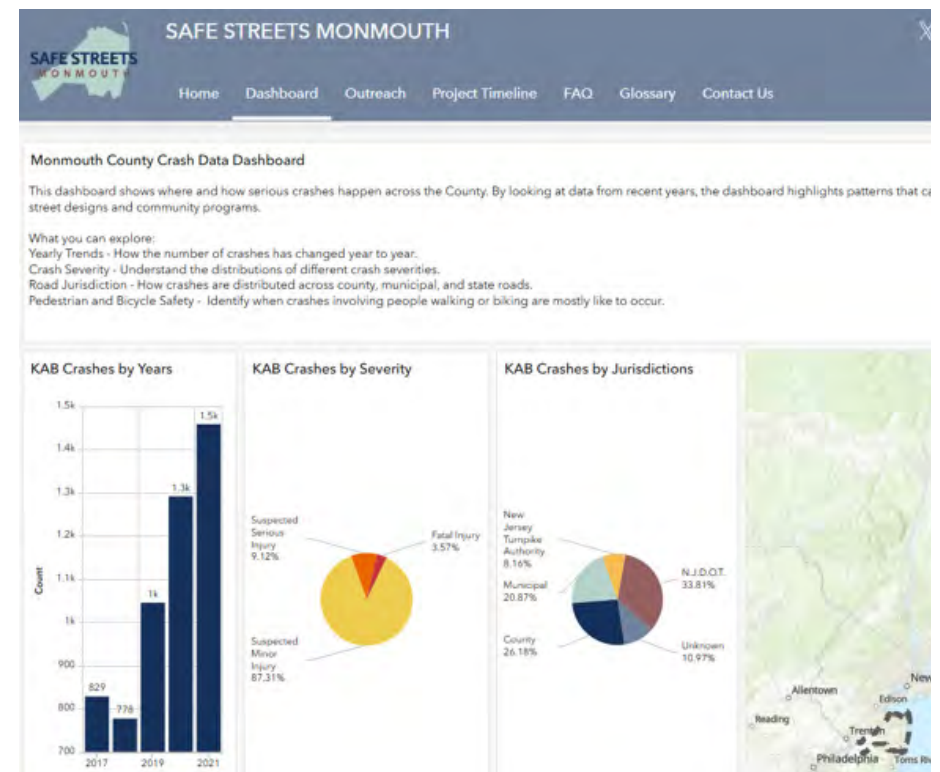


Figure 7: Project Website - Dashboard Snapshot

Survey

A community survey was created for the project. It contained questions about general travel modes; roadway safety concerns; crash experience and impacts; near misses and non-motorized safety in the County. It was completed by 350 respondents from every municipality within the County.. Key findings from the survey include:

- Driving is the dominant typical mode of travel, but bicycling, followed by walking, are not uncommon (see Figure 7).
- The most commonly cited concerns about roads in Monmouth County were distracted driving (67%) and speeding on neighborhood streets (65%).
- Most respondents (74%) were “concerned” or “extremely concerned” about day-to-day traffic safety in Monmouth County.
- A majority of respondents (67%) avoid certain roads or



Figure 8: Safety Survey

intersections for safety reasons, and nearly half (48%) noted avoiding driving at certain times.

- Approximately 2/3 of respondents avoid certain intersection/corridors based on safety.
- Conditions for vulnerable road users are perceived as largely unsafe.
- Half of respondents personally knew someone involved in a crash, and 80% of respondents had experienced or knew someone who has experienced a near miss incident. Frequently noted conditions at these locations included:
 - Merging at high speeds.
 - Poor intersection control.
 - Lack of pedestrian accommodation.
 - Limited sightlines.
 - Driveway conflict.
- When asked about tradeoffs, participants supported stronger law enforcement and implementing neighborhood “slow zones.”

The majority of participants were within the 50–64 age group (34%), followed by those aged 30–49 (30%) and 65–74 (22%). Younger respondents (18–29) represented 6% of participants, 5% were 75 or older, less than 1% were under 18, and 2% preferred not to respond.

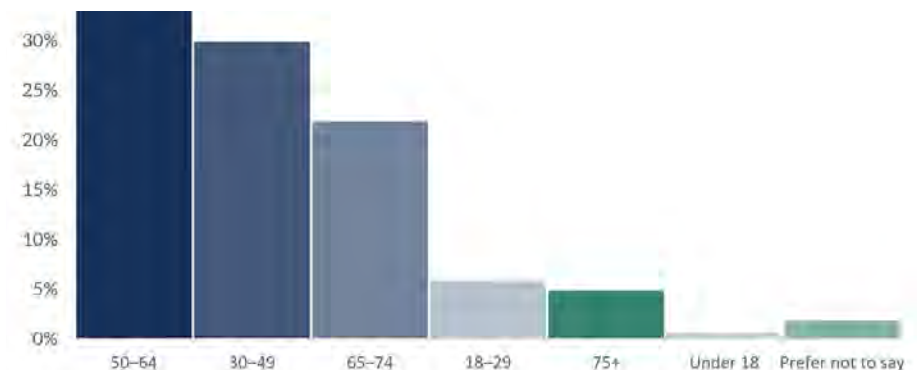


Figure 9: Age Group Distribution

Travel Behavior



Driving

90% of respondents identify driving as their most frequent travel mode



Walking

Walking is the most common non-motorized mode (used “most often” or “sometimes”)



Biking

Biking occurs periodically but is not a primary mode for most residents

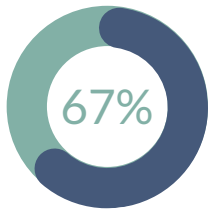


Other

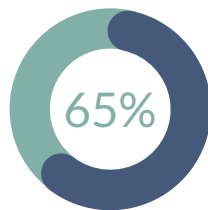
Transit, rideshare, scooters, motorcycles, and other modes see minimal regular use

Traffic Safety Concerns

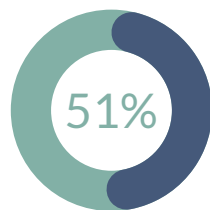
Top Safety Issues



Distracted driving



Speeding on neighborhood streets



Speeding on major roadways

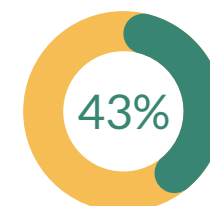
Infrastructure Gaps



Incomplete or poorly maintained sidewalks



Lack of safe bicycle facilities



Unsafe pedestrian crossings

Daily Traffic Safety Concern

74% feel concerned or extremely concerned about traffic safety

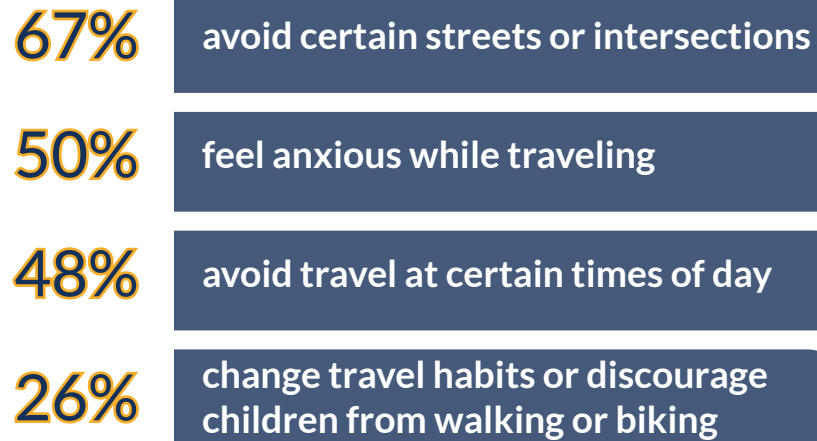
Crash Exposure

56% have personally been involved in or know someone involved in a crash (past 10 years)

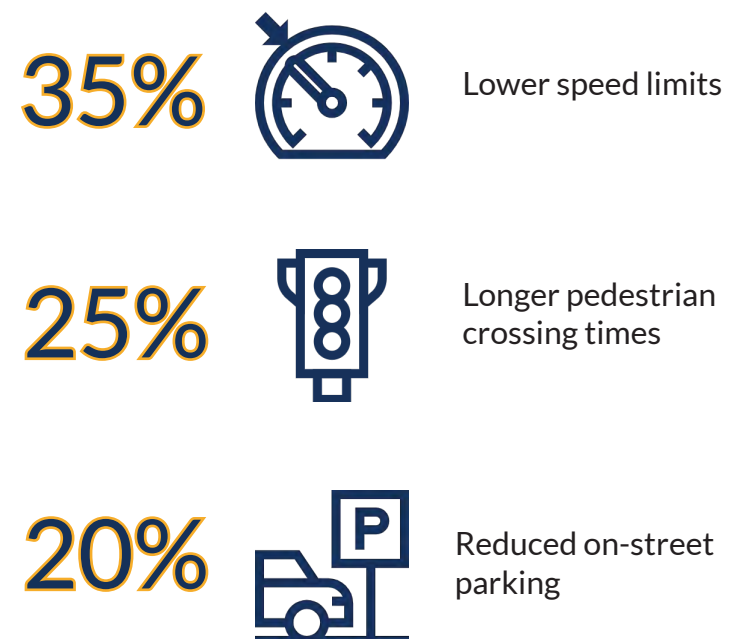
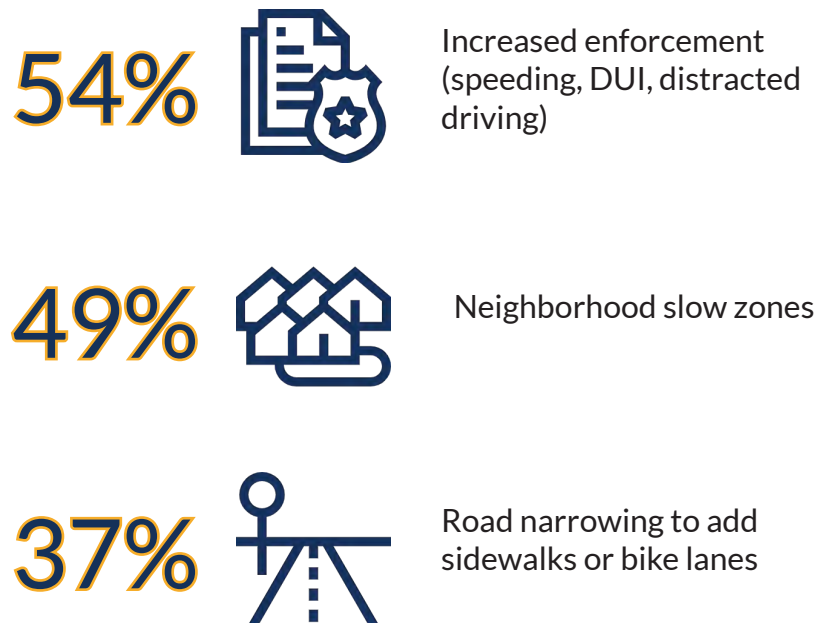
Near Misses

80% experienced or witnessed a near miss in the past year

How Unsafe Roads Impact Travel Behavior



Safety Priorities



Interactive Web Map

The project team created a web mapping tool using WikiMapping. The tool allows users to identify locations and mark them for comment, including how safe they are or feel, what type of mode they use to travel in that location, and additional comments.

Respondents categorized each submission by mode, including driving, walking, e-bike/scooter, bicycling, key destination, transit, and equestrian, and selected applicable issue types such as excessive speeding, dangerous behavior, complex intersections or crossings, poorly maintained roadway surfaces, poor visibility or limited sightlines, heavy traffic, crossing or turning conflicts, personal safety concerns, the need for improved wayfinding, pickup issues or double-parking, poor lighting, and other location-specific concerns.

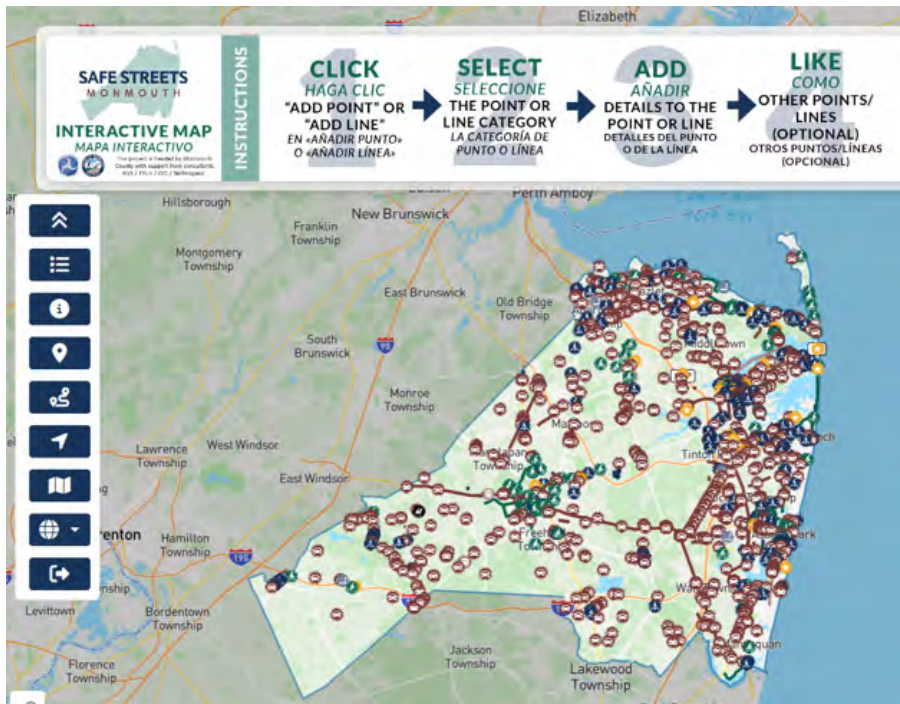
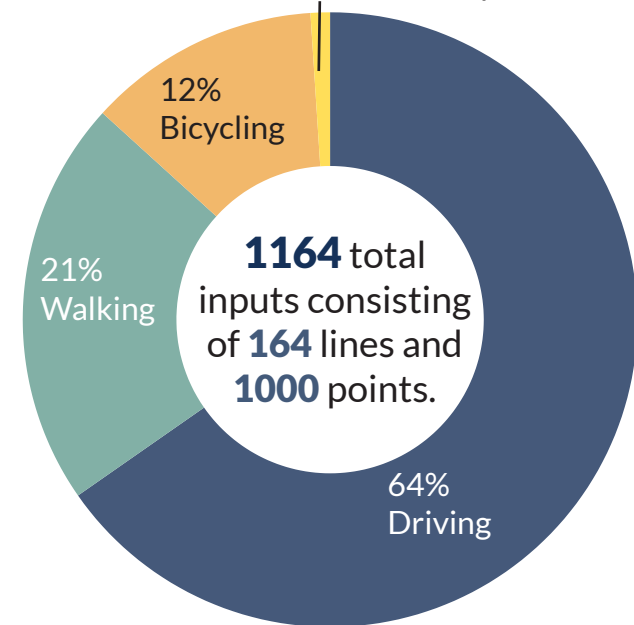


Figure 10: Interactive Mapping Tool

Concerns by Mode

1% Transit, e-bike/scooter, equestrian



Word Cloud

When put into a word cloud, the comments compiled show the most common words being used.



Interactive Web Map Responses by Location

Driver Safety Concern Corridors

- Route 9
- Route 18
- Route 33
- Route 35 / 36
- I-195
- County Route 54



Pedestrian Hotspots

- Red Bank (highest concentration)
- Roosevelt Township (North Rochdale Ave)
- Asbury Park (Main Street)
- County activity centers



Bicycle Hotspots

- Freehold Township (West Main St, Wemrock Rd)
- Interlaken neighborhood streets
- Route 36 corridor



Core Issues Shared Across All Modes



Complex Intersections & Crossing Conflicts

- Confusing geometry
- Multiple turning movements
- Jughandles
- Short signal phases



Poor Lighting

- At crossings
- Along long corridors
- Near transit routes



Heavy Traffic & Congestion

- High vehicle volumes overwhelm corridors and intersections



Incomplete Networks Gaps

- Sidewalk systems
- Bike lanes
- Multi-use paths
- Safe transit access routes



Dangerous Behavior

- Speeding
- Aggressive driving
- Failure to yield
- Red-light running
- Illegal turns



Poorly Maintained Infrastructure

- Potholes
- Worn markings
- Uneven sidewalks
- Faded crosswalks



Poor Visibility / Sightlines

- Hills, curves, vegetation, parked cars, poles, signage clutter



Insufficient Safe Travel Space

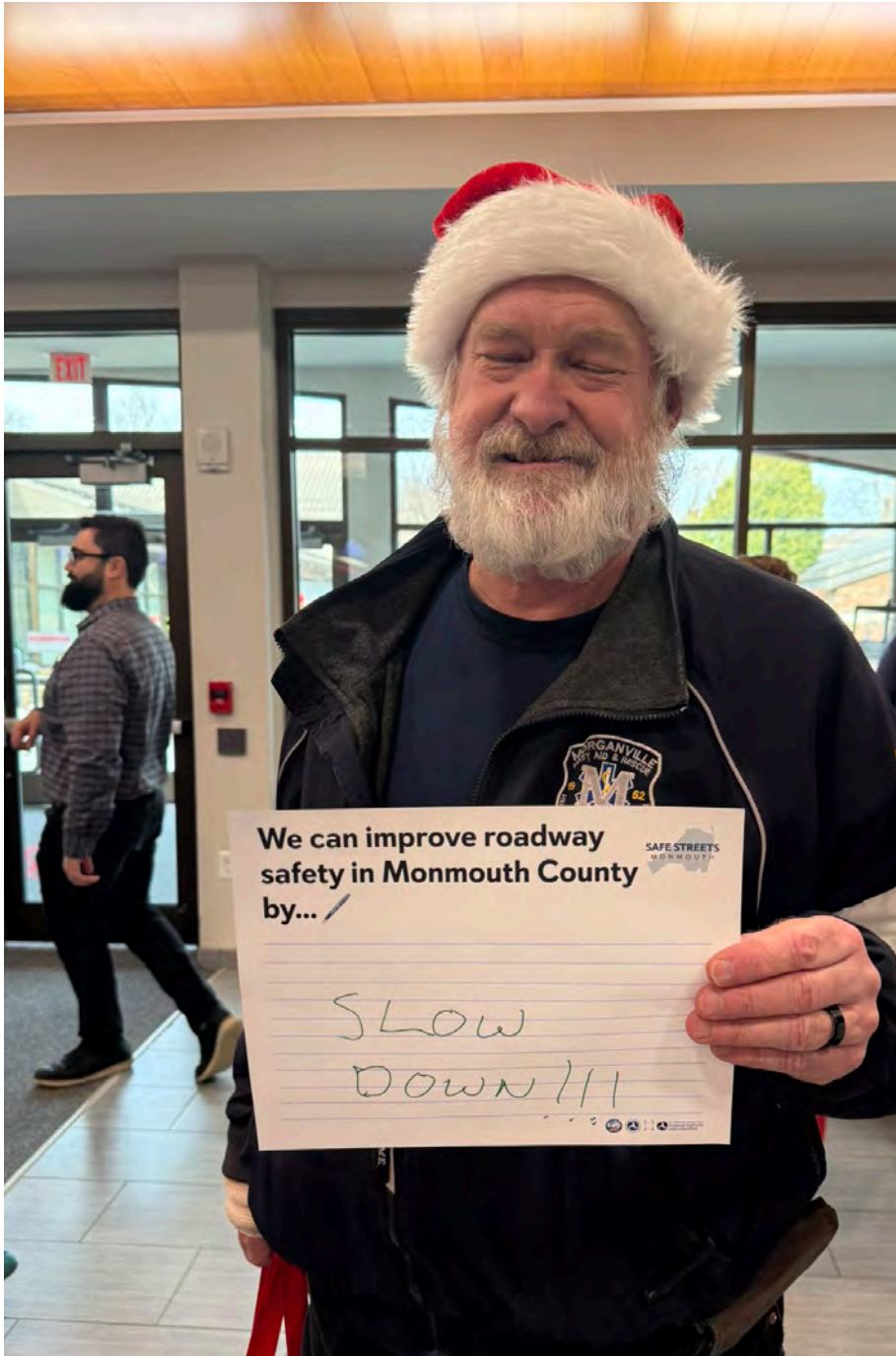
- Roads designed almost entirely for vehicles
- Sidewalks too narrow or missing
- No shoulders or bike lanes
- Shared space without protection

Pop-up Events

Unlike formal planning events or public meetings, pop-up events tend to provide opportunities to meet residents that may not attend a more formal meeting, allowing for a broader swath of feedback from individuals that may not otherwise participate in the planning process. The project team attended four (4) in-person pop-up events to solicit feedback regarding transportation safety. The project team obtained survey and mapping input were during these events, both digitally and on paper.

- Count Basie Park in Red Bank, New Jersey on October 25, 2025.
- Freehold Borough Christmas Tree Lighting on Wednesday, December 3rd, 2025.
- First Friday Art & Sound in Asbury Park, New Jersey on Friday, December 5th, 2025.
- Made in Monmouth in Lincroft (Middletown Township), New Jersey on Saturday, December 13th, 2025.





Translations

All outreach materials including the website, survey, flyers and interactive mapping tool were translated in Spanish to ensure engagement efforts reached a wide-variety of stakeholders. The social media sharekit was also translated in Spanish for the TAC members to share with their community members.

Workshop In a Box

The County staff conducted additional outreach across the county at different libraries. The project team created a package of all the outreach materials including flyers, boards, coloring pages and other materials to provide the County with a “workshop in a box”. The County team set up a table similar to the pop-up events with project materials, flyers, survey and map QR codes. They engaged with the library patrons and posted flyers to capture additional input after the outreach.

The County team visited the following county libraries:

- Wall Township Library (TUESDAY 11/18/25)
- Allentown Library (WEDNESDAY 11/19/25)
- Marlboro Library (THURSDAY 11/20/2025)
- County Headquarters Library (TUESDAY 11/25/25)
- Hazlet Township Library (WEDNESDAY 11/26/25)





4

4 ALL ANALYSIS

4 ALL ANALYSIS

The 4 All analysis is designed to assess the barriers to safe travel experienced by specific populations on the Monmouth County road network. It plays a central role in prioritizing safety initiatives in specific areas with concentrations of these populations in the County. By examining demographic factors alongside transportation conditions, the analysis highlights where specific populations may be disproportionately exposed to higher-volume or higher-risk roadways and conditions. These data-driven insights ensure that future safety investments aligned with the County's commitment to providing safe access for all road users.

The analysis is built on a range of socioeconomic and demographic factors to comprehensively understand the distribution of specific communities within the County. The spatial distribution is further compared with geographic trip patterns to highlight potential disparities and inform safety investments that improve accessibility for all communities in Monmouth County.

Factors

The 4 All analysis approach is primarily based on the North Jersey Transportation Planning Authority (NJTPA) Demographic Analysis Tool, which includes 11 demographic and socioeconomic factors. A 12th factor, single-parent households, was analyzed based on input from the County, the Technical Advisory Committee (TAC), and the Access 4 All (4AC) Committee. This analysis captures factors specific to Monmouth County and is used to calculate a Composite Score (see the following page).

Select factors are listed below:

1. Low-Income Population: People with household income less than twice the federal poverty line
2. Disability Status: People with any physical or mental disability
3. Young Children: People who are below the age of 5 years
4. Children: People who are between the ages of 5 and 17 years
5. Seniors: People who are 65 years and older
6. No Vehicle Access: Households that do not have any vehicles
7. Female Population: People who identified as female
8. Highest Education Attainment: People who have less than a 12th-grade diploma or no diploma
9. Single-Parent Households: Households with children under the age of 18 and a single spouse or partner

The population and proportion of the total for each factor for Monmouth County and compared with the North Jersey Transportation Planning Authority (NJTPA) region and across New Jersey, can be found in Table 15 on the following page.

To distill the information simply, scores were calculated for each factor for every census tract in Monmouth County. This scoring system, which is the same as that used in the demographic analysis conducted for the NJTPA region and for the DVRPC region, compares a factor's prominence in a census tract to all census tracts in the county, and is scored 0-4, with 0 indicating "very below average", 1 indicating "below average", 2 indicating

“average”, 3 indicating “above average”, and 4 indicating “very above average”. A composite score was also calculated, which combines each factor’s score. Scores ranged from 15 to 42 (see Figures 16 and 17).

The three highest scoring tracts were located in Neptune Township (42; Tract 8076), Freehold Borough (39; Tract 8108), and Asbury Park (39; Tract 8073).

Monmouth County has a population of approximately 643,600 residents, accounting for about nine percent of the NJTPA region’s total population. Socioeconomic indicators point to strong economic and educational conditions. The share of low-income households (15 percent) and residents without a high

school diploma (6 percent) is lower than both regional and statewide averages, suggesting comparatively higher income and education levels. The County also has a lower proportion of single-parent households (4 percent) than the state (6 percent).

The County’s age profile skews slightly older, with 19 percent of residents aged 65 or older, compared to about 17 percent regionwide. While only 6 percent of households lack access to a vehicle, compared to 11 percent statewide, this indicates widespread overall vehicle access and is generally consistent with a low regional share of 5 percent. About 10 percent of residents report a disability, aligning with state averages and matching the regional share.

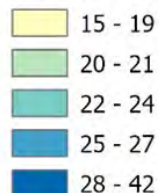
Table 12: Access 4 All Benchmarks (Select Factors)

Select Factors	Monmouth County		NJTPA region		New Jersey	
	Number	Percentage	Number	Percentage	Number	Percentage
Total Population	643,615	-	7,003,128	-	9,267,014	-
Low-Income Population	94,685	15%	1,467,762	21%	1,982,535	22%
Disability Status	66,772	10%	686,645	10%	975,308	11%
Young Children	32,114	5%	403,244	6%	526,400	6%
Children	103,353	16%	1,137,687	16%	1,504,922	16%
Seniors	119,488	19%	1,165,376	17%	1,559,816	17%
No Vehicle Access	16,233	6%	316,937	5%	391,842	11%
Female Population	328,027	51%	3,555,969	51%	4,708,343	51%
Highest Education Attainment	26,484	6%	457,382	7%	600,736	13%
Single-Parent Households	10,218	4%	-		198,943	6%

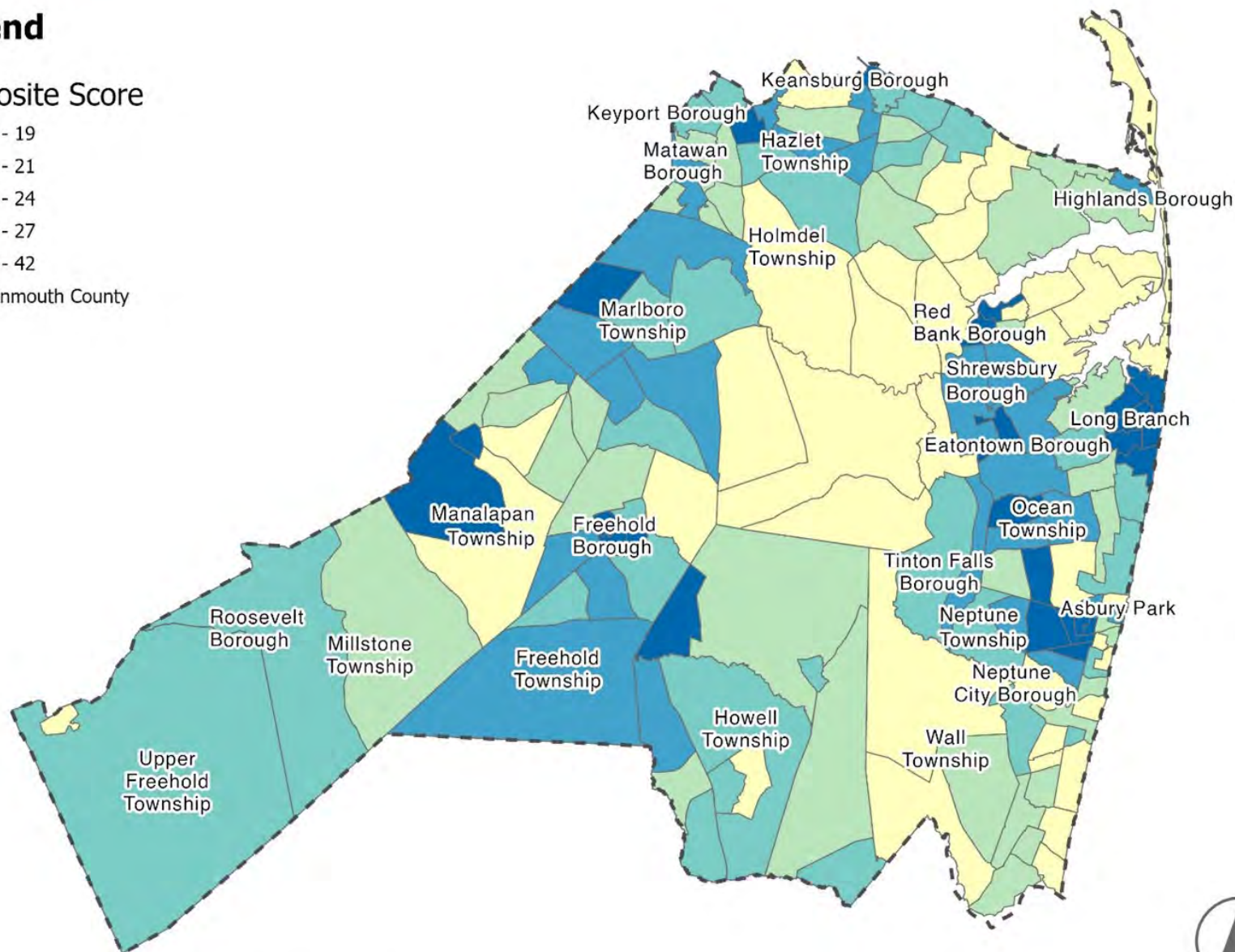
Map 8: Access 4 All Composite Score

Legend

Composite Score



Monmouth County



Data Source: United States Census Bureau 2023, 5-Year ACS



Exposure Data

To evaluate travel patterns across Monmouth County, the exposure analysis utilized Replica HQ's 2023 Monthly Trip Origin and Destination (OD) dataset. Typical weekday travel data were used for this analysis to reflect routine, recurring travel patterns that residents experience most consistently throughout the year. Safe Streets planning focuses on systemic safety risk and everyday exposure conditions rather than short-term or event-driven traffic surges. Data indicating where trips begin and end was analyzed at the census tract level.

This data was compared to the population in each census tract to identify locations where the trips per person were highest, i.e. the highest exposure to traffic. The highest-exposure census tracts were in Red Bank (Tract 8036.01), Eatontown (Tract 8051), and Ocean Township (Tract 8065.04).

Table 13: Priority Areas

Census Tract	Municipality	Composite Score	Exposure Rate
Census Tract 8036.01	Red Bank borough	30	3.16
Census Tract 8051	Eatontown borough	26	2.23
Census Tract 8065.04	Ocean township	33	2.16
Census Tract 8105.03	Freehold township	27	1.94
Census Tract 8077	Neptune township	29	1.91
Census Tract 8032.01	Holmdel township	26	1.78
Census Tract 8070.06	Asbury Park city	27	1.74
Census Tract 8048.02	Tinton Falls borough	26	1.71
Census Tract 8058	Long Branch city	35	1.65
Census Tract 8023	Hazlet township	26	1.41
Census Tract 8095.06	Marlboro township	28	1.4
Census Tract 8109	Freehold borough	32	1.38
Census Tract 8126	Tinton Falls borough	26	1.33
Census Tract 8020	Keyport borough	28	1.27
Census Tract 8097.01	Marlboro township	27	1.22
Census Tract 8105.04	Freehold township	27	0.8

SEASONAL VARIATION IN TRIP ACTIVITY

Monmouth County's coastal setting, with its beaches, boardwalks, parks, and waterfront destinations, contributes to notable seasonal variation in travel patterns. Travel demand fluctuates throughout the year as recreation, tourism, and weather influence how people move within and through the county. Based on input from the Technical Advisory Committee (TAC), a seasonal analysis was conducted to better understand how these fluctuations affect travel exposure and potential traffic safety conditions.

Seasonal trip activity was evaluated across four periods: Winter (December–February), Spring (March–May), Summer (June–August), and Fall (September–November). Exposure estimates were derived from Replica typical weekday travel data, which represent modeled average weekday conditions for each season. This approach captures recurring travel patterns, such as commuting, school trips, and other routine daily travel, that define the baseline roadway exposure experienced by residents.

Overall, most municipalities show a consistent pattern of increasing exposure from spring through summer, even when considering weekday-only data. This trend is particularly pronounced in coastal communities, where seasonal visitation begins to rise around Memorial Day, marking the unofficial start of the summer tourism season.

Municipalities including Belmar, Bradley Beach, Asbury Park, Manasquan, Lake Como, Spring Lake, and Monmouth Beach exhibit clear increases in exposure during the spring and summer, reflected by a shift toward yellow in the table. These patterns highlight the influence of recreational and visitor-related travel associated with shoreline destinations. Elevated summer exposure is also observed in areas such as Middletown/Sea Bright, where seasonal access to coastal corridors contributes to increased travel demand.

While seasonal patterns are most evident along the coast, some municipalities show relatively higher exposure during the winter months. These increases are generally associated with employment centers, commercial corridors, and areas with schools or higher education institutions, where travel demand remains more consistent year-round.

It is important to note that this analysis is based on typical weekday conditions and does not capture weekend travel, when beach visitation and recreational trips are at their peak. As a result, the magnitude of seasonal variation, particularly in coastal areas, is likely understated, and actual summer exposure may be higher than reflected in these findings.

Priority Areas

To identify census tracts with both elevated demographic and socioeconomic vulnerability and traffic exposure, the analysis combined the 4 All composite score with the exposure metric to highlight those that warrant targeted investment. These priority areas, represent communities that may face disproportionate demographic and social challenges and experience higher levels of traffic activity conditions that together increase risk and underscore the need for accessibility and safety improvements.

The Priority Areas were compared with the HINs to reveal the overlap between the two. It was found that the Pedestrian HIN in particular had the most overlap with the Priority Areas compared to the Bicyclist HIN or the All Modes HIN, the latter of which had the least overlap.

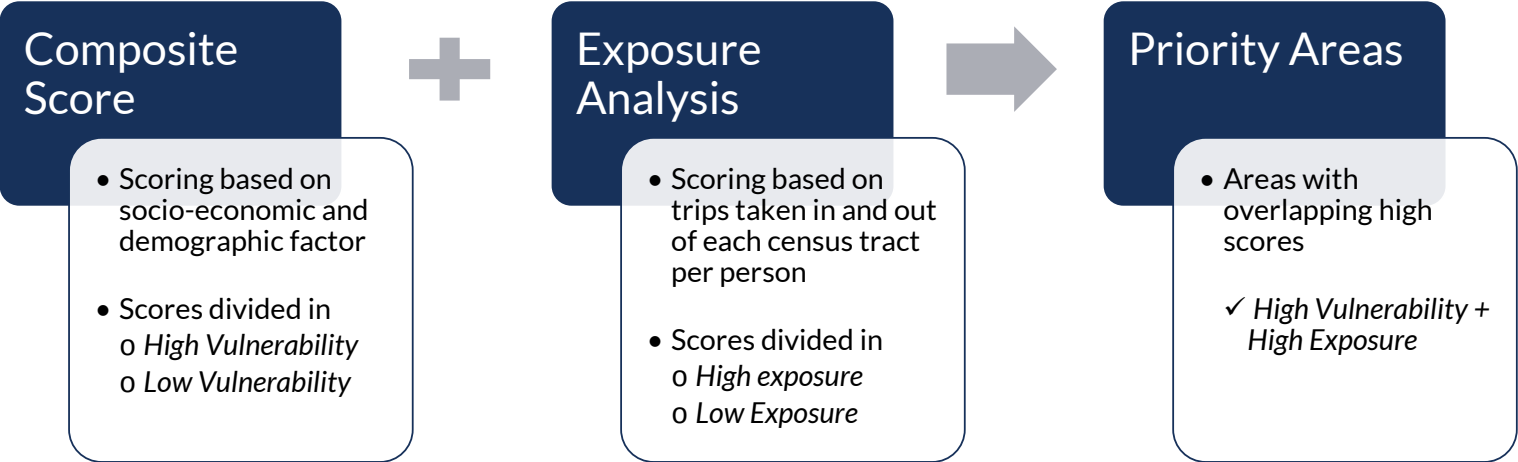


Figure 11: Priority Areas Selection Methodology

	Priority Areas (miles)	Countywide (miles)	Share (%)
Pedestrian HIN	6.5	28.1	23%
Bicyclist HIN	5.5	30.8	18%
All Modes HIN	14.1	104.5	14%

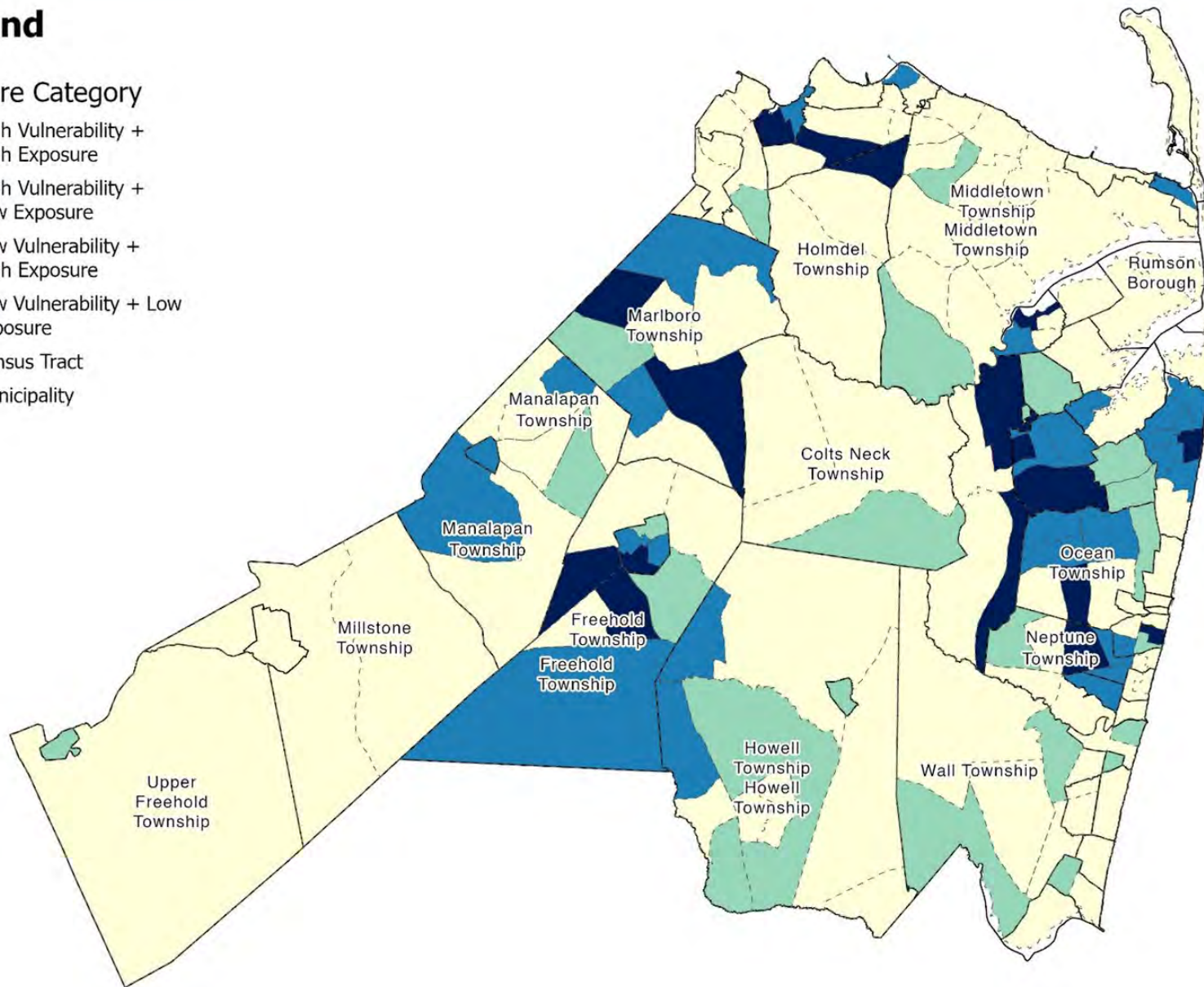
Table 14: Priority Areas compared to all HINs

Map 9: Spatial Distribution of Priority Areas

Legend

Exposure Category

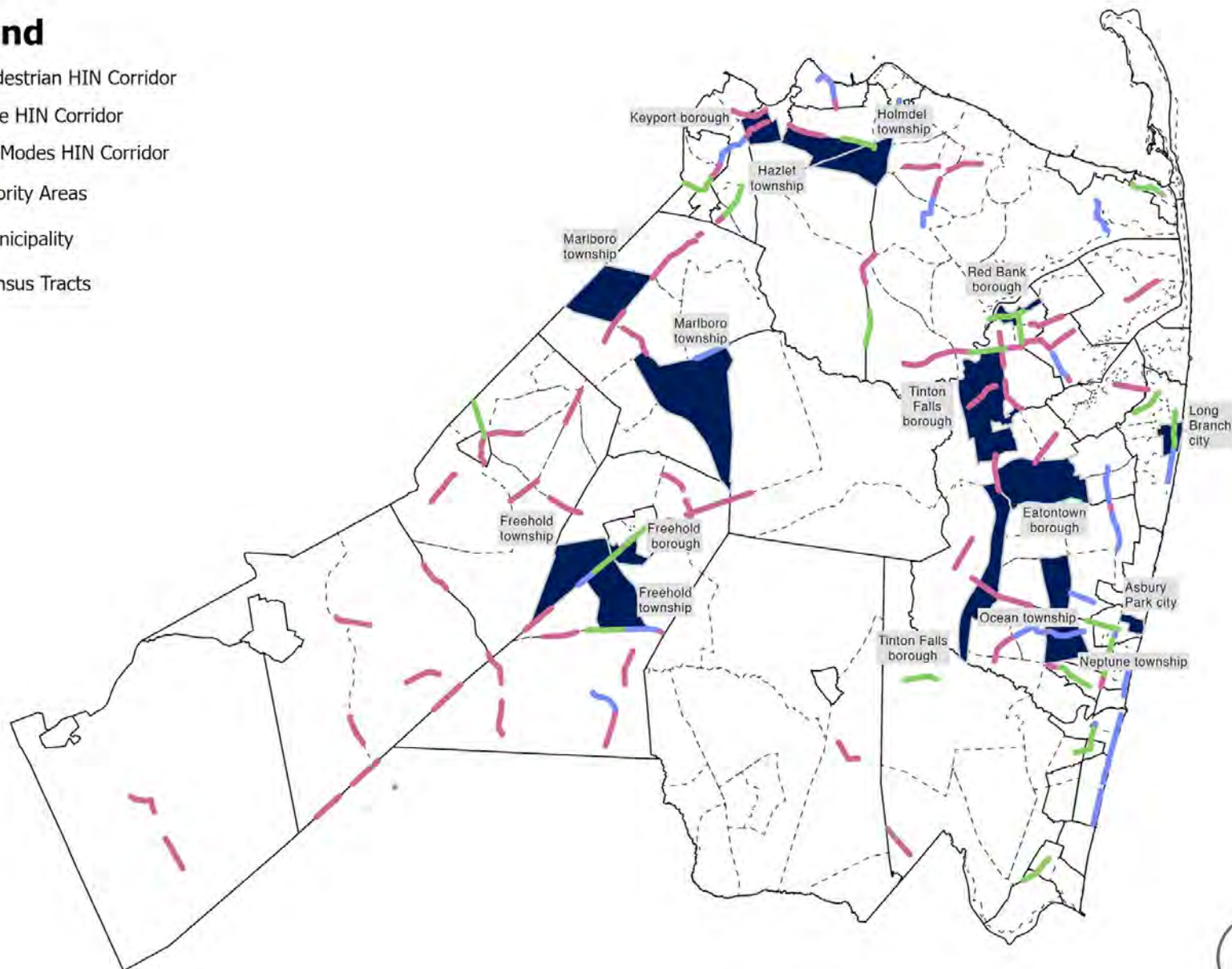
- High Vulnerability + High Exposure
- High Vulnerability + Low Exposure
- Low Vulnerability + High Exposure
- Low Vulnerability + Low Exposure
- Census Tract
- Municipality



Map 10: Priority Areas

Legend

- Pedestrian HIN Corridor
- Bike HIN Corridor
- All Modes HIN Corridor
- Priority Areas
- Municipality
- Census Tracts



Data Source: United States Census Bureau 2023, 5-Year ACS



5

POLICY AND PROCESS REVIEW

POLICY AND PROCESS REVIEW

Introduction

Policy and process review constitute one of the eight action plan components required by the U.S. Department of Transportation's (USDOT) Safe Streets and Roads for All (SS4A) program.

Aligning policies and processes with the Safe System approach and operationalizing Safe System principles within standards, guidance, and plans are critical steps agencies can take to eliminate serious and fatal crashes.

Through the Safe Streets Monmouth Plan, Monmouth County can cultivate a countywide culture of traffic safety and build capacity to address the root causes of crashes through ongoing programs, partnerships, and investments. While certain policies and processes may be outside of the County's direct control, County officials can play a key role in coordinating with municipalities, regional partners, and state agencies, and in advocating for the adoption of goals, strategies, and actions that advance safer streets for all users.

This chapter documents existing safety-related policies and processes within Monmouth County and provides recommendations to be advanced through the Safe Streets Monmouth Plan.

Assessment of Current Policies and Practices

Monmouth County Plans & Efforts

Monmouth County Master Plan (2016)

The goals around traffic safety in the 2016 Monmouth County Master Plan build on the countywide Complete Streets policy adopted in 2010 to facilitate Safe Routes to Schools/ Transit, Transit Villages, create trail crossings, and build bicycle connections. Multimodal facilities should be built to support regional connections, such as bike lanes, trails, and walkways between communities. Likewise, the County should support municipalities in their multimodal efforts. Finally, the County aims to support the New Jersey Transportation Planning Authority (NJTPA) and New Jersey's statewide safety campaigns and education programs.

Monmouth PATHS Access for All (2024)

The 2024 Monmouth PATHS Access for All Plan identified mobility and accessibility barriers in Monmouth County and recommended strategies to address them. The plan noted that safety barriers including high vehicle speeds, unsafe passing, lack of yielding at crosswalks, and limited lighting, among other challenges, reduced mobility. Limited lighting, safe crossings, and low-stress facilities are particularly challenging for active travel. The lack of or poor condition of sidewalks were identified as a challenge in suburban and rural locations.

The plan listed several mitigation strategies to improve traffic safety conditions. This included prioritizing proven

safety countermeasures, conducting Safe Routes to School programming, supporting the adoption of local municipal complete streets policies, updating speed limit policies, improving lighting and active transportation facilities and trails, and adopting a comprehensive safety action plan.

Monmouth County Complete Streets Resolution

The Monmouth County Complete Street Policy was adopted in 2010 and was the first countywide policy in New Jersey. The policy outlines several key elements, including creating a comprehensive, multimodal network for active transit, ensuring roadways are designed safely and accessible for all road users, incorporating Complete Streets principles into upcoming projects and projections, and implementing connections through Safe Routes to Schools and Safe Routes to Transit. To make this a reality, the policy outlines several procedures to embed Complete Streets elements into daily operations, including a checklist of multimodal accommodations for projects under county jurisdiction, a procedure for evaluating resurfacing projects for Complete Streets inclusion, and exemption requirements. The policy does not outline reporting requirements to track ongoing progress.

Related Plans

Monmouth County within Reach (2021) – Tourism and Events Travel Demand Management Study – Outlines several transportation demand management strategies for tourist destinations that impact safety including: creating dedicated managed crossings in areas with high volumes of pedestrians to reduce non-compliant crossings, promoting non-vehicular travel (such as shuttles or bike rentals), and designing public space for smoother rideshare operations.

Monmouth County Open Space Plan (2019) – Outlines the importance of improving and expanding greenways, parks, and public spaces, particularly by contributing to the countywide trail

network and to connectivity across the County. Connectivity and access are components within the plan, with recommendations to increase bicycle and pedestrian access via roadway upgrades, sidewalk network expansion, and improved crosswalks. This includes collaboration between Monmouth County, the State of New Jersey, and local municipalities to increase funding for these projects, such as participating in a Safe Routes to Schools program.

Aging Population Study (2017)

The 2017 Monmouth County Aging Population Study was developed to help decision-makers understand demographic changes, address challenges associated with a growing older adult population, and identify opportunities to improve livability throughout the County. Focusing on housing and transportation, the study found that many older adults wish to age in place, yet many age-restricted and senior housing communities are located in automobile-dependent areas with limited transportation alternatives. To better understand these accessibility challenges, the study evaluated factors such as walkability, transit availability, vehicle access, and community connectivity to identify areas where older adults may face barriers to accessing services and destinations.

Regional Plans & Efforts

North Jersey Regional Active Transportation Plan, NJTPA

The 2023 North Jersey Transportation Planning Authority (NJTPA) Regional Active Transportation Plan includes a goal to reduce the risks and barriers associated with walking and biking in the region. advocates for utilizing regional data to support local efforts to make infrastructure safer and more accessible for walking and biking. The plan also advocates for additional focus on regional significant pedestrian destinations to ensure access is being assessed on the regional level.

FY 2026 – FY 2029 Transportation Improvement Program, NJTPA

The NJTPA Transportation Improvement Program (TIP) details the funding, schedule, and purpose of upcoming transportation projects in the region. Projects fall into three categories (system improvement, preservation, or support), and there are subcategories for ‘direct safety’ and ‘pedestrian and bicycle’ related categories. Likewise, safety is among several of the performance measures included in the TIP. Several projects with safety relevance are slated to occur during FY 2026 – FY 2029, including bringing roadways on several roads up to ADA compliance (including segments of Route 1, 27, 33, 35, 36, and others. Other projects include roadway resurfacing on Route 36 to include new bicycle lanes; signal, guardrail, and ADA upgrades on Route 138; and provide a grade separated crossing at School House Road, near the bridge over Route 35.

Long-Range Transportation Plan 2050, NJTPA

The NJTPA Long Range Transportation Plan provides information about the long-range transportation planning and investments occurring in the North Jersey region. Safety is a key priority of the plan, with the aim of reducing crashes and improving the safety of all road users. Objectives of the plan align with those laid out in the 2025 NJ Strategic Highway Safety Plan. Strategies broadly aim to create safe bicycle and pedestrian environments.

Statewide Plans & Efforts

New Jersey Strategic Highway Safety Plan, NJDOT, 2025

The 2025 New Jersey Strategic Highway Safety 5-Year Plan details the state’s commitment to zero highway fatalities by 2040 and other safety efforts on NJ’s public roads. Strategies include working with counties to adopt Complete Streets

policies/designs, increasing the implementation of signal pre-emption, enhancing procurement efforts for safer vehicle fleets, and utilizing countermeasures to address lane departure and intersection crash fatalities as well as pedestrian fatalities and serious injuries.

Complete Streets Policy, NJDOT 2024 Update

In 2024, NJDOT updated the 2009 state Complete Streets Policy to require that all NJDOT projects funded under NJDOT’s Capital Program incorporate safer infrastructure for all users, including pedestrians, cyclists, transit riders, and individuals with disabilities. This raises the bar for safety for all users, and creates an expectation that implementation follows guidance developed by NJDOT and leading sources.

New Jersey Rail Plan, NJDOT, 2025 Update

New Jersey’s 2025 Rail Plan highlights that, from 2012-2021, Monmouth County had the most highway-rail grade crossing fatalities of any county in the state at seven. The County also saw the second-highest number of highway-rail grade crossing crashes at 15 during this period. Monmouth County does not have sole authority over improvements at rail crossings. Any modifications near a rail crossing require review and approval through NJDOT’s diagnostic team process, with oversight by NJDOT’s Railroad Engineering and Safety Unit, which is responsible for coordinating rail crossing reviews and improvements in accordance with Federal Railroad Administration guidelines. Hence, long-term safety goals included in the plan detail the improvement of grade safety crossings through education and equipment.

New Jersey Bicycle & Pedestrian Plan, NJDOT, 2016

The goal of the New Jersey Bicycle and Pedestrian Plan is to ensure New Jersey is a state where people of all ages and abilities can bike and walk. Safety goals include eliminating pedestrian and bicycle fatalities and serious injuries and improving the sense

of safety for active transportation users. This entails prioritizing vulnerable road users, increasing the number of pedestrian and bike safety projects, supporting the state's Pedestrian and Bicycle Safety Action Plans, as well as investment in public traffic safety education and Safe Routes to Schools initiatives.

NJ Bicycle and Pedestrian Access Study, NJ TRANSIT, 2018

In this study, NJ TRANSIT reviewed the bicycle and pedestrian access of several stations, including Red Bank Station in Monmouth County. The station currently has pedestrian infrastructure that is in good condition but could be enhanced for pedestrian and cyclist safety and comfort. Recommendations include increasing crosswalk visibility, installing ADA-compliant curb ramps, and adding on-road bicycle facilities and bicycle parking.

County Peer and Best Practices Assessment

Peer Scan

The consulting team assessed Monmouth County's peers and identified several county-level safety action plans that represent the state of practice and reveal policy/programmatic options for the County to consider. The goal of identifying peer counties is to draw insights from jurisdictions in similar contexts that may be at the same point or further along in implementation of their safety programs. Highlighting best practices that are both aspirational and achievable will illustrate successful strategies to consider for Monmouth County.

County Policy Assessment

As a part of Safe Streets Monmouth, the project team conducted a comprehensive review of Monmouth County's transportation safety-related policies and procedures. The project team conducted multiple discussions with Monmouth County staff and shared a staff survey to understand what policies are currently being used and what could be used in the future. The results were analyzed to identify gaps, barriers, and future opportunities.

Policy Inventory

Through the policy inventory process, the project team reviewed plans and held workshops with Monmouth County staff to understand existing policies and procedures used in traffic safety practice. This section details the results of these analyses and is organized by the Safe System elements to align with the U.S. Department of Transportation's framework to eliminate fatal and serious injury crashes.

Safe Streets

Monmouth County has adopted a variety of policies and procedures aimed at creating safe streets. Monmouth County was the first county in New Jersey to adopt a Complete Street Resolution in July 2010 and utilizes several techniques to make continued roadway improvements. County staff have shared that while many safety projects have been successful, there is a need to institutionalize existing processes to move safety practice from reactive to proactive. These sentiments are echoed in The Monmouth PATHS Access for All document, as demonstrated in the recommendation to formalize a variety of safety projects.

Safe Road Users

Monmouth County has limited control over policies that may support safe road user behavior. Chiefly, Monmouth County cannot change any fines and fees related to traffic violations and dangerous driving behavior that could support curbing these

behaviors. However, the County has invested in other means of encouraging road safety via public safety campaigns, including the County Sheriff's Office's presentations to local schools about bicycle safety, distracted driving, and other selected items.

The County aspires to provide more traffic safety education and training for county residents of all ages. The Monmouth PATHS Access for All recommends addressing knowledge gaps related to biking and scootering with education programs. Staff also shared that such programming could begin with schools under County jurisdiction. Likewise, this could take the form of safety training and education of County staff, particularly addressing safe driving behaviors around pedestrians and cyclists.

Safe Speeds

In previous safety projects, Monmouth County adjusted roadway speeds in line with the Safe System approach, setting speed limits to match the appropriate context of the roadway, following state and national guidance to de-emphasize roadway throughput and AADT. The County implements traffic calming elements in regular maintenance where applicable, particularly making use of narrowing lane widths, rumble strips, and centerline pavement reflectors. In addition, the County has made capital investments for traffic calming including road diets and roundabouts. Though the County understands the safety value of making traffic calming and intersection upgrades, it may make projects prohibitively expensive and time-consuming. Staff expressed that there is a desire to expand traffic calming tools and overall investment but would need to implement policies that streamline this effort.

Safe Vehicles

Monmouth County currently follows New Jersey's standards of safety in vehicle procurement. County staff noted that future policies could encourage vehicle "right-sizing" with latest technology features, where available and appropriate. Changes at

the state level would likely have a trickle-down effect to counties and local agencies.

County Survey Results

A Policy & Process Benchmarking and Needs survey was shared with teams involved in Monmouth County's traffic safety efforts to gain further insight into the County's policies and procedures. This survey was designed to give staff an opportunity to share their thoughts on areas where transportation safety practice could be improved by addressing gaps in policy and legislation, streamlining processes, and removing internal/external barriers to safety practice.

County Gaps, Barriers, and Opportunities

The following summary of identified gaps, barriers, and opportunities in traffic safety policy in Monmouth County is based on the review of recent plans, policy documents, workshops with staff, and survey. The items in gaps and barriers represent existing gaps in policy or barriers to policy implementation, organized by themes that emerged through staff surveying and workshops. The opportunities section synthesizes these results to identify key areas and procedures that the County can focus on to forge new policies and make existing policies stronger.

Policy Strengthening:

- Safety policies can be created or improved to prevent the potential for missed opportunities.
- Continued training and education would promote better implementation of the County's existing policies.
- Safety policies could be enhanced to target intersection safety and investment in safe facilities for pedestrians and cyclists.
- Capital Improvement Program listed projects are typically informed by NJTPAs Network Screening Lists, and focus on state-of-good-repair projects for roads and bridges.
- The existing county roadway plan can be enhanced by taking the surrounding land use context into account, especially downtowns and mixed-use commercial districts. This would allow for roadway standards to vary based on the context throughout the county.
- Monmouth County's development regulations should require new developments to install sidewalks along street frontages, based on increased pedestrian volumes.

Operations:

- Potential to formalize safety training for new Monmouth County office staff that operate County-owned vehicles.
- Developers do not consistently incorporate temporary pedestrian and bicyclist accommodations during roadway, bridge, and sidewalk construction activities, which can reduce safe and accessible travel options for non-motorized users during construction
- Traffic calming projects are installed with routine maintenance, but the suite of tools used is typically limited to lane narrowing, speed bumps, and roundabouts. There are opportunities to explore new approaches and utilize other tools that could be particularly effective in Monmouth County.
- Safety project selection can be enhanced by complementing community and stakeholder insights with crash and safety data.

Crash Data

- Formalizing communications between the county's fatal crash response team and engineering could result in increased coordination.
- Communications could be improved between the NJSP served communities and the County to improve awareness of serious crashes on county roads.

Internal Barriers:

- Updating the development regulations and other procedural documents takes a significant investment in time and effort.
- Safety funding is limited and grant funding is typically competitive.
- An updated community engagement process matched with an updated internal process and structure will support consistent and comprehensive follow up with and respond to public input.
- Investment in vehicle procurement with advanced technology may require significant collaboration with additional County departments.

External Barriers:

- ROW acquisition is a barrier to working on larger-scale safety improvement projects.
- Projects that overlap with New Jersey State roads require additional collaboration, approvals, and permitting to make safety upgrades that meet New Jersey's state standards and meet the needs of Monmouth County. Often, this bureaucracy can slow projects and increase their costs. The environmental review process for ROW acquisition on state intersections makes installing safety interventions requiring ROW procurement, such as roundabouts, time-consuming and expensive.
- Daylighting is used in most County projects following NJ Title 39, but local jurisdictions are concerned about losing parking, leading to inconsistent usage.

- The Division of Planning would benefit from increased capacity to continue to identify safety improvement opportunities.
- The County Administrative Code could be considered for amendment to include design policy and engineering guidelines including but not limited to sidewalk requirements, and latest roadway design standards (NACTO, AASHTO, etc).
- The County's Complete Streets policy can be bolstered to increase the volume and scope of safety investments.
- An updated community engagement program would support the identification and firm up justifications for safety projects.
- Monmouth County may be able to integrate driver's education and training in the curriculum at vocational schools in the County.

Policy Recommendations

Safety policy recommendations for Monmouth County are built on best practice, and existing policy efforts for further consideration and evaluation. Based on the assessment of the County's plans, policies and procedures, the project team identified strategies and policies for Safe Streets Monmouth.

Policies are organized around the Safe Systems approach and an additional category of interagency collaboration. This presents a holistic approach to safety policy, addressing the key categories that make the biggest difference in limiting the volume and severity of crashes, while building up internal procedures to bolster these efforts. The recommended policies are incorporated into the action matrix in the next chapter.

Intentionally left blank



6

STRATEGY AND PROJECT SELECTIONS

STRATEGY AND PROJECT SELECTIONS

Overview

A culmination of all of the information collected and analyzed for Safe Streets Monmouth, a comprehensive set of action plan projects and strategies (APPS) were identified to advance towards the goal of zero deaths and serious injuries on County roads.

A robust prioritization process was conducted as a first step in identifying projects and corridors within the larger County network. These 8 supplemental corridors were then examined further to identify safety countermeasures and improvements.

The projects and strategies in the APPS matrix are organized utilizing the FHWA Safe System Approach which focuses on a holistic view of the roadway system, noting that humans will make mistakes and are vulnerable, but the system should be designed with multiple “safety nets” with the goal of eliminating deaths and serious injuries. The projects and strategies are aligned with the elements of the Safe System Approach – Safer Roads, Safer Speeds, Safer People, Safer Vehicles and Post-Crash Care.

Each strategy in the APPS matrix includes a timeframe for implementation, responsible parties and estimated costs. Actions will not be limited to infrastructure improvements but also include behavioral and/or operational strategies.

The projects and strategies range from low-cost/low-tech improvements such as painted curb extensions and crosswalk striping to complex high-cost improvements such as multi-lane roundabouts and include overall actions/strategies to improve safety such as the development of a safety campaign, pilot demonstration projects, etc.

Prioritization Process

The initial High-Injury Network (HIN) clearly identifies areas with high concentrations of crashes. This initial HIN was then adjusted to include demographic analysis, outreach results and other priorities identified by the County and its stakeholders. The priority factors were identified and developed with input from the county, TAC, and 4AC. The factors, which are all location-based, and capable of being compared to the HINs.

The aforementioned factors were incorporated into the HINs, and were weighted as follows:

Prioritization Factors	Weight
<i>Crash Score (ePDO)</i>	30%
<i>Proximity to Schools</i>	10%
<i>Proximity to Transit</i>	10%
<i>Proximity to Recreation</i>	10%
<i>4 All Priority Areas</i>	10%
<i>INRIX Hard Braking Risk Score</i>	10%
<i>Identification in Outreach</i>	5%
<i>Overlap between HINs</i>	5%
<i>NJTPA Land Use Mix</i>	5%
<i>New Fatal and Severe Crashes (2022-2025)</i>	5%

Table 15: Prioritization Factors by Percentage

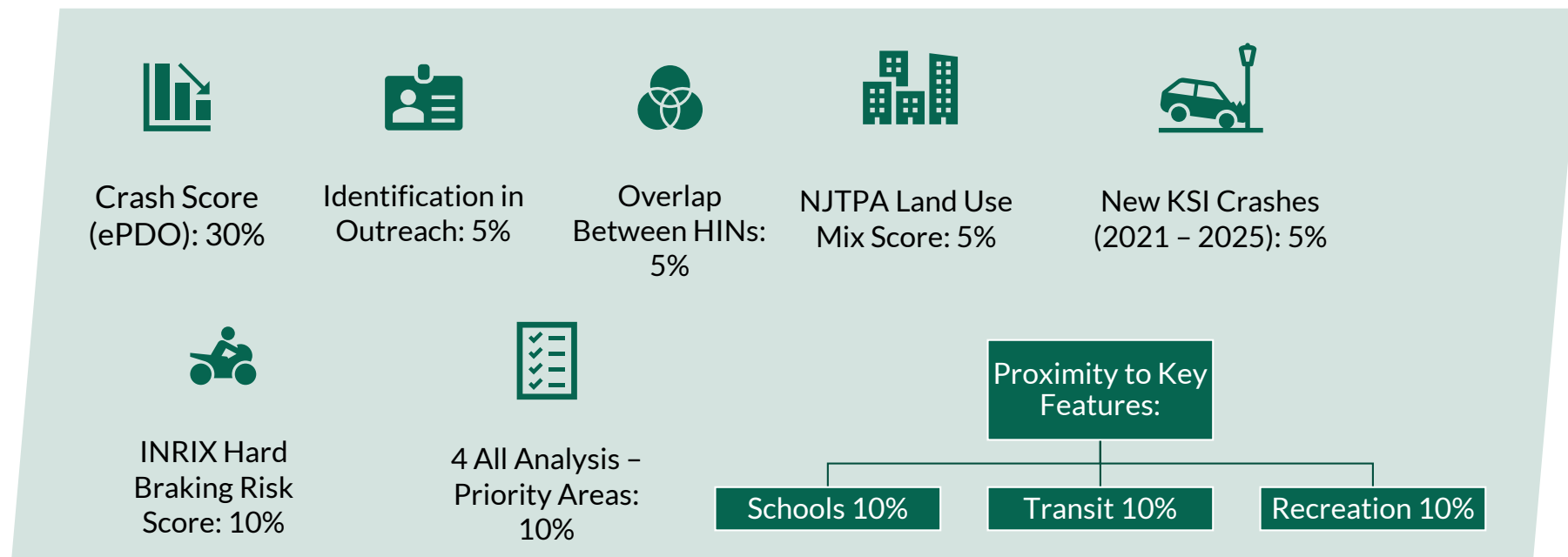


Figure 12: Prioritization Factors

LAND USE MIX SCORE

The NJTPA Active Transportation Plan (2023) was a multifaceted plan for improving active transportation in the NJTPA region. Part of this process was the development of several datasets which synthesize numerous factors and seek to predict actual and potential transportation. One of these was the Trip Potential analysis, which combined a number of factors which should contribute to higher bicycle or pedestrian travel rates to create a composite map of both a Bicycle Trip Potential score and a Pedestrian Trip Potential score. Both these scores utilized a metric called “Land Use Mix”, which weighed both the equal presence of several land uses and community facilities which could contribute to active transportation, with the assumption that a rich blend of these elements in a small area would inherently make car-free living possible and prominent.

These land uses are:

- Retail space
- Office space
- Community
- Health and Welfare (hospital/clinic/ pharmacy/ doctor/ dentist, community center, library, post office, school/ college/university)
- Residential Area
- Recreation (Park Space)

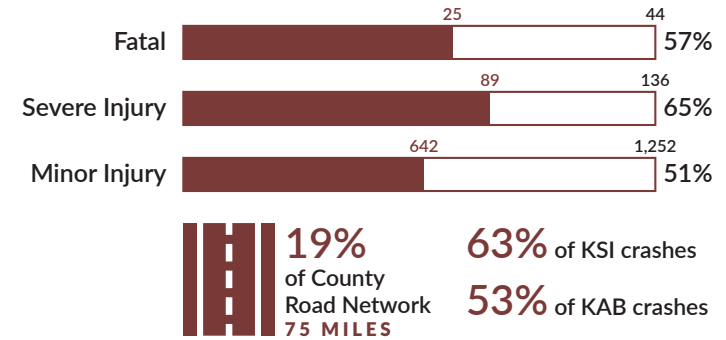
These criteria all have their importance in the prioritization process. The 4 All Analysis is a core component of the Safe Streets Monmouth plan, as is the outreach process; both seek to reflect the needs of Monmouth County residents. The INRIX Hard Braking Risk Score is a key identifier of locations that may have the potential for even more crashes and is an opportunity for Monmouth County to get ahead of crashes, while HIN overlap shows locations which are broadly dangerous for all road users. Proximity to the specified key features, along with Land Use Mix, is also a lens for Monmouth County to use to ensure that roads providing access important community facilities, including but not limited to those that it operates, are safely accessible for its residents.

The resulting reordered HINs are shown in the maps on the following pages. Some notable changes in the order of each HIN include:

All Modes HIN

- The top three (3) segments stayed largely the same:
 - CR 537 (W. Main Street, MP 50 to MP 51) remained at #1
 - The second- and third-ranked segments in the initial All Modes HIN switched places, as CR 537 (W. Main Street, MP 51.3 to MP 52.3) moved to #2 and CR 40-A (Memorial Drive, MP 0.6 to MP 1.6) fell to #3.
- Some major changes in ranking included:
 - CR 524 (Elton Adelphia Road, MP 24.6 to MP 25.6) jumped 37 spots to #6
 - CR 11-I (Broad Street, MP 0 to MP 1) rose 16 spots to #8
 - CR 17-II (W. Bangs Avenue, MP 1.5 to MP 2.5) fell five (5) spots to #9

Share of all crashes on the All Modes HIN



*West Main Street is municipally owned from MPs 51.55-52.38. Safety improvements to this segment will require multi-jurisdictional effort and cooperation between the County and Freehold Borough. Between South Street and Spring Street, East Main Street is owned by NJDOT (Rt 79) requiring coordination with NJDOT. These segments were retained on the HIN given their high ePDO and prioritization scores.

Municipality	Road Name	County Route Number	Starting Milepost	Ending Milepost	ePDO	ePDO Rank	Final Priority Score	Final Rank	Rank Change	County Projects
Freehold Township	West Main Street	CR 537	50	51	620.50	1	80.5	1	0	Yes
Freehold Borough	West Main Street*	CR 537	51.3	52.3	415.34	3	72.0	2	1	No
Avon-by-the-Sea Neptune City Bradley Beach Neptune Township	Memorial Drive	CR 40-A	0.6	1.6	532.10	2	69.5	3	-1	Yes
Tinton Falls Shrewsbury Borough Red Bank	Newman Springs Road	CR 520	15.6	16.6	376.97	5	66.6	4	1	Yes
Keyport Aberdeen	Maple Place	CR 516	8.8	9.8	271.89	12	63.7	5	7	No
Freehold Township	Elton Adelphia Road	CR 524	24.6	25.6	188.49	43	63.1	6	37	No
Red Bank Middletown	West Front Street	CR 10	0	1	271.89	13	62.6	7	6	Yes
Red Bank	Broad Street	CR 11-I	0	1	238.53	24	62.0	8	16	No
Neptune Township	West Bangs Avenue	CR 17-II	1.5	2.5	381.97	4	60.6	9	-5	Yes
Tinton Falls Shrewsbury Borough Red Bank	Shrewsbury Avenue	CR 13	1.4	2.4	326.93	7	60.1	10	-3	Yes

Table 16: Prioritized All Modes HIN - Top 10 Segments

Map 11: Prioritized All Modes HIN

Legend

Monmouth County

Monmouth County Municipalities

All Modes High Injury Network

Priority Score

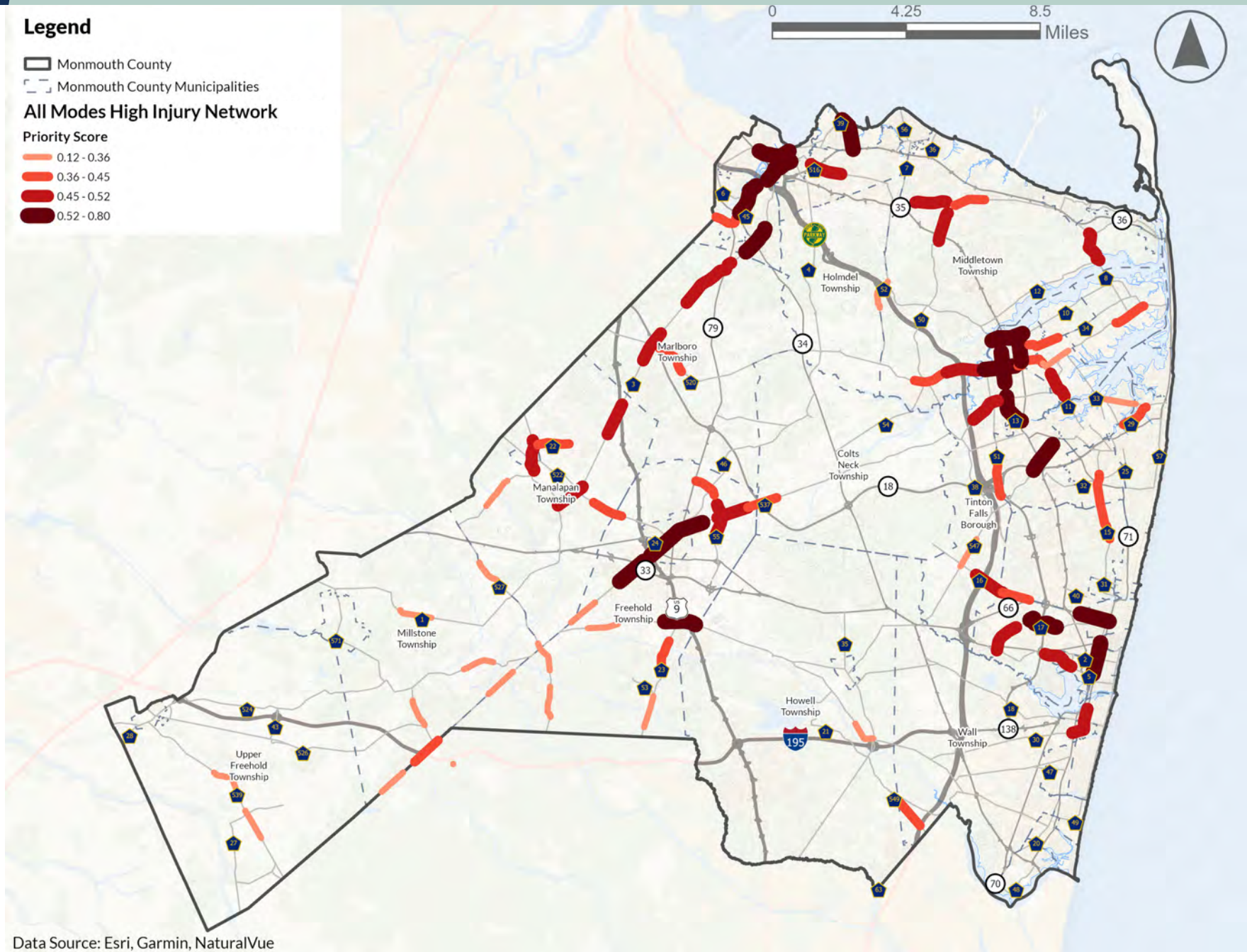
0.12 - 0.36

0.36 - 0.45

0.45 - 0.52

0.52 - 0.80

0 4.25 8.5 Miles

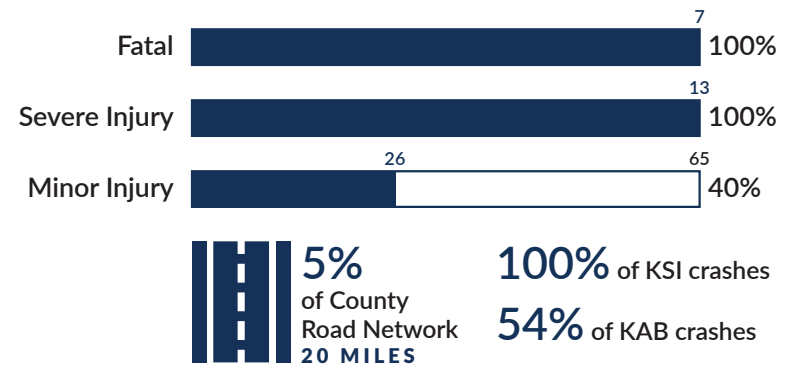


Data Source: Esri, Garmin, NaturalVue

Pedestrian HIN

- The top four (4) segments largely stayed the same:
 - The first- (CR 537 [E. Main Street, MP 51.8 to MP 52.8]) and second-ranked (CR 10 [W. Front Street, MP 0 to MP 1]) segments both retain their initial HIN ranking
 - The third- (CR 11-I [Broad Street, MP 0 to MP 1]) and fourth-ranked (CR 40-A [Memorial Drive, MP 0.2 to MP 1.2]) segments swapped places from the initial HIN
- Four (4) other segments rose considerably after prioritization:
 - CR 537 (W. Main Street, MP 50.6 to MP 51.6), CR 524 (Elton Adelphia Road, MP 23.4 to MP 24.4), and CR 520 (Newman Springs Road, MP 15.3 to MP 16.3) each rose eight (8) places to be ranked 5th, 7th, and 8th
 - CR 57 (Ocean Boulevard, MP 1 to MP 2) rose seven (7) places to rank 10th

Share of pedestrian crashes on the Pedestrian HIN



*West Main Street is municipally owned from MPs 51.55-52.38. Safety improvements to this segment will require multi-jurisdictional effort and cooperation between the County and Freehold Borough. Between South Street and Spring Street, East Main Street is owned by NJDOT (Rt 79) requiring coordination with NJDOT. These segments were retained on the HIN given their high ePDO and prioritization scores.

Municipality	Road Name	County Route Number	Starting Milepost	Ending Milepost	ePDO	ePDO Rank	Final Priority Score	Final Rank	Rank Change	County Projects
Freehold Borough	East/West Main Street*	CR 537	51.8	52.8	195.79	1	93.3	1	0	No
Red Bank Middletown	West Front Street	CR 10	0.0	1.0	171.11	2	87.3	2	0	Yes
Red Bank	Broad Street	CR 11-I	0.0	1.0	132.32	4	80.7	3	1	No
Neptune City Asbury Park Neptune Township	Memorial Drive	CR 40-A	0.2	1.2	161.55	3	78.5	4	-1	Yes
Freehold Borough Freehold Township	West Main Street*	CR 537	50.6	51.6	56.04	13	68.8	5	8	Yes
Asbury Park Neptune Township	Asbury Avenue	CR 16	5.2	6.2	93.83	6	68.6	6	0	Yes
Freehold Township	Elton Adelphia Road	CR 524	23.4	24.4	55.04	15	68.4	7	8	No
Tinton Falls Shrewsbury Borough Red Bank, Middletown	Newman Springs Road	CR 520	15.3	16.3	55.04	16	66.8	8	8	Yes
Aberdeen	Lloyd Road	CR 3	10.6	11.6	82.28	8	66.2	9	-1	Yes
Long Branch	Ocean Boulevard	CR 57	1.0	2.0	55.04	17	65.5	10	7	Yes

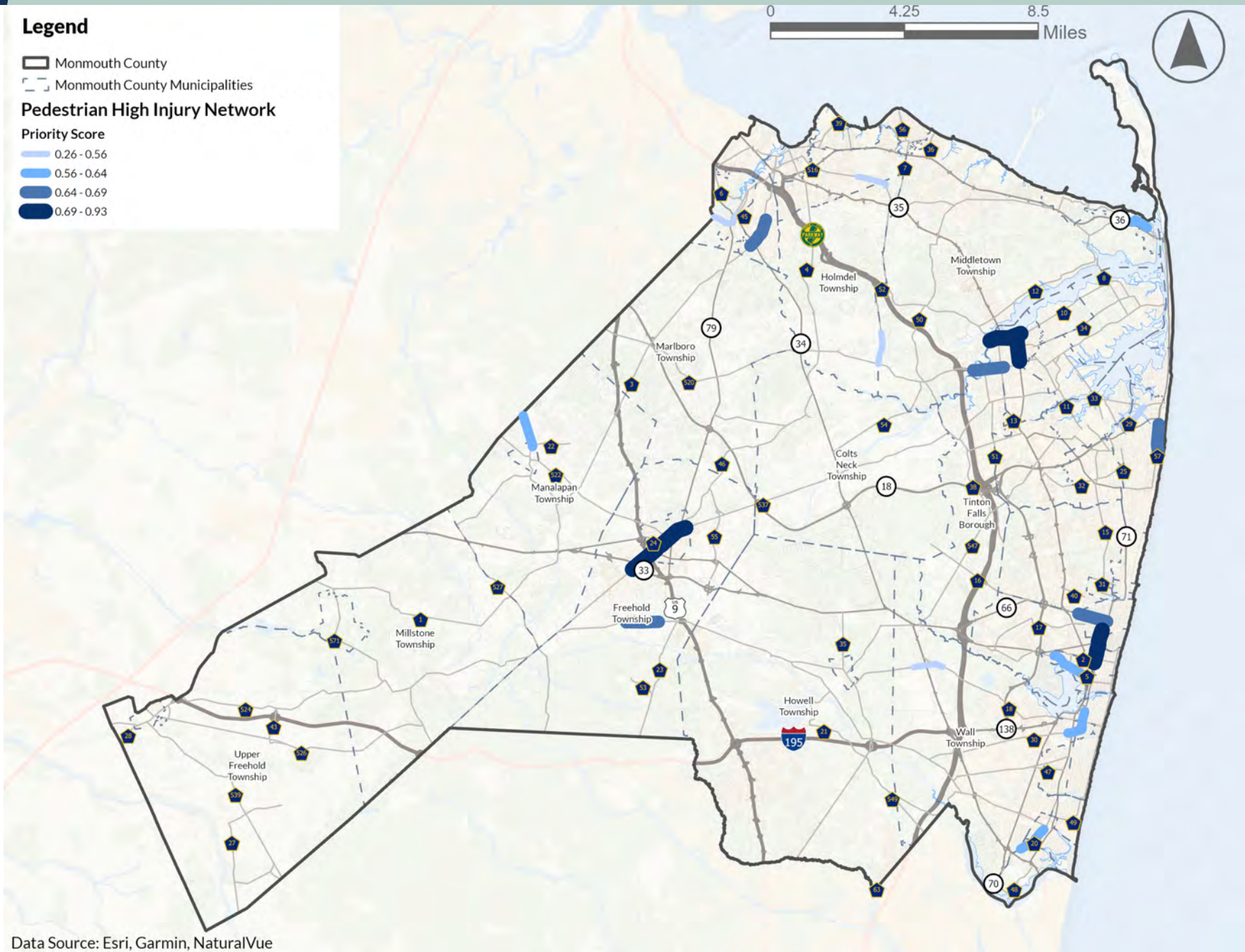
Table 17: Prioritized Pedestrian HIN - Top 10 Segments

Map 12: Prioritized Pedestrian HIN

Legend

- Monmouth County
- Monmouth County Municipalities
- Pedestrian High Injury Network**
- Priority Score**
- 0.26 - 0.56
- 0.56 - 0.64
- 0.64 - 0.69
- 0.69 - 0.93

0 4.25 8.5 Miles

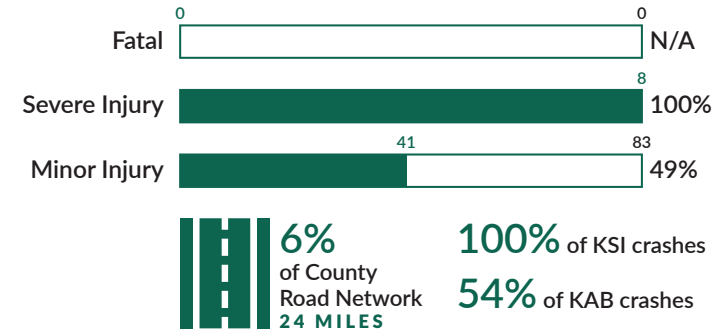


Data Source: Esri, Garmin, NaturalVue

Bicycle HIN

- The prioritized Bicycle HIN saw the most significant re-ranking of segments. Of the top ten segments, only CR 7-I (Palmer Avenue, MP 1.1 to MP 2.1) remained in the same placement (#3)
- The top segment, CR 537 (W. Main Street, MP 50 to MP 51) rose six spots to be ranked #1
- Also notable in the top five (5) were:
 - CR 524 (Elton Adelpia Road, MP 24.4 to MP 25.4) rose 21 places to #2
 - CR 17-II (W. Bangs Avenue, MP 2.2 to MP 3.2) rose 20 places to #4

Share of bicycle crashes on the Bicycle HIN



*Broad Street is municipally owned from MPs 0.48-1.00. Safety improvements to this segment will require multi-jurisdictional effort and cooperation between the County and Red Bank Borough. These segments were retained on the HIN given their high ePDO and prioritization scores.

Municipality	Road Name	County Route Number	Starting Milepost	Ending Milepost	ePDO	ePDO Rank	Final Priority Score	Final Rank	Rank Change	County Projects
Freehold Township	West Main Street	CR 537	50.0	51.0	71.72	7	73.2	1	6	No
Freehold Township	Elton Adelpia Road	CR 524	24.4	25.4	34.36	23	70.6	2	21	No
Holmdel Middletown Hazlet Keansburg	Palmer Avenue	CR 7-I	1.1	2.1	77.58	6	68.6	3	3	No
Neptune Township	West Bangs Avenue	CR 17-II	2.2	3.2	34.36	24	68.3	4	20	No
Ocean Township	Sunset Avenue	CR 40	0.0	1.0	65.60	11	67.7	5	6	No
Tinton Falls Shrewsbury Borough Red Bank Middletown	Newman Springs Road	CR 520	15.3	16.3	60.60	14	67.0	6	8	Yes
Middletown	Kings Highway	CR 50	6.2	7.2	82.28	4	63.1	7	-3	No
Asbury Park Neptune Township	Memorial Drive	CR 40-A	0.0	1.0	55.04	16	63.0	8	4	Yes
Matawan Aberdeen	Atlantic Avenue	CR 516	7.9	8.9	82.28	8	62.9	9	-7	No
Middletown	Locust Point Road	CR 8-A	2.0	3.0	55.04	17	59.9	10	-2	Yes

Table 18: Prioritized Bicycle HIN - Top 10 Segments

Map 13: Prioritized Bicycle HIN

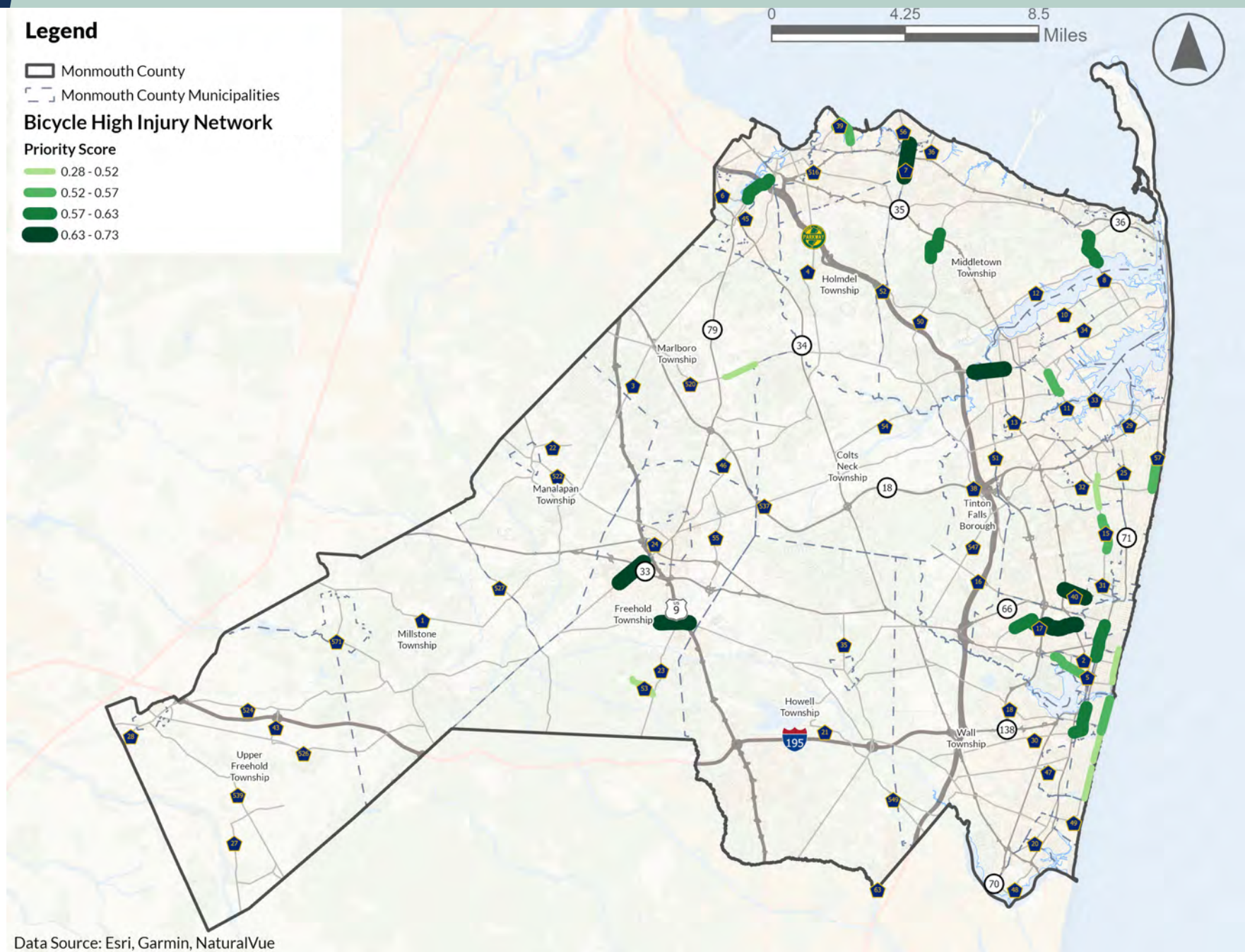
Legend

- Monmouth County
- Monmouth County Municipalities

Bicycle High Injury Network

Priority Score

- 0.28 - 0.52
- 0.52 - 0.57
- 0.57 - 0.63
- 0.63 - 0.73



Data Source: Esri, Garmin, NaturalVue

Supplemental Corridors

The purpose of HIN prioritization is twofold in this planning process. The first is the ranking of the HIN segments/high-crash corridors based on the prioritization factors noted earlier as the county advances towards the goal of zero. The second is to identify supplemental corridors to examine further based the input from the County. These were selected in consultation with the Monmouth County Department of Engineering and its knowledge of ongoing roadway improvements, along with local knowledge of the existing conditions of select corridors.

Supplemental corridors have concept-level improvements identified to advance into road safety improvement projects. The supplemental corridors provide further insight into eight of the HIN segments. The County should evaluate and implement safety projects on all HIN segments to achieve its goal of zero by 2040.

Eight (8) corridors were identified, spanning a total of 15.1 miles. See Table 19 and Map 13.

Municipalities	Route #	Local Name (s)	Start	End	Length (miles)	AADT	AADT Year	Posted Speed (mph)
Aberdeen Keyport	CR 6-I	Amboy Avenue Front Street	Shore Concourse (MP 0)	Main Street (MP 1.1)	1.1	5,661	2025	25/30/35
Middletown	CR 8-A	Bingham Avenue Locust Avenue	Oceanic Bridge North End (MP 2)	Monmouth Avenue (MP 3)	1	10,928	2025	40
Red Bank	CR 11-I	Broad Street	Pinckney Road (MP 0)	E. Front Street (MP 0.8)	0.8	10,695	2025	25/30
Little Silver	CR 11-II	Oceanport Avenue Branch Avenue	Essex Drive (MP 1.2)	Rumson Road (MP 2.4)	1.2	9,086	2025	35
Asbury Park Neptune Township	CR 16	Asbury Avenue	Leonard Avenue (MP 5.2)	Main Street (MP 6.2)	1	5,676	2025	25/35
Neptune Township	CR 17-II	West Bangs Avenue	Old Corlies Avenue (MP 0)	George Street (MP 3.2)	3.2	8,308	2025	30/40
Neptune City	CR 17-III	West Sylvania Avenue	NJ-35 (MP 0)	Brighton Avenue (MP 1.4)	1.4	15,098	2025	35
Tinton Falls Shrewsbury Borough Little Silver Red Bank Middletown	CR 520	Newman Springs Road Broad Street Pinckney Road Branch Avenue Rumson Road	M.T. Thompson Field Exit (MP 13.3)	Mitchell Place (MP 18.7)	5.4	32,622	2018	30/35/40/45

Table 19: Supplemental Corridors

Total Length:

15.1
MILES

16%

of Total HINs combined
(excluding overlap)



Supplemental Corridors Composition



12

All Modes
HIN Segments

19 KSI crashes

17% of All Modes HIN KSI crashes
11% of All KSI crashes

111 KAB crashes

15% of All Modes HIN KAB crashes
8% of All KAB crashes



4

Pedestrian
HIN Segments

3 KSI crashes

17% of Pedestrian HIN KSI crashes
11% of All KSI crashes

12 KAB crashes

15% of Pedestrian HIN KAB crashes
8% of All KAB crashes



6

Bicycle
HIN Segments

2 KSI crashes

25% of Bicycle HIN KSI crashes
25% of All KSI crashes

10 KAB crashes

11% of Bicycle HIN KAB crashes
6% of All KAB crashes

All Modes HIN Rank	Bicycle HIN Rank	Pedestrian HIN Rank	New KSI	Land Use Mix Score	Hard Braking Risk Score	Outreach	Transit Proximity	Overlap	Schools Proximity	4a Priority Area	Recreation Proximity
13			0	98.33	2.61	✓	✓		✓	✓	✓
28	9		0	82.36	2.09	✓	✓	✓	✓		✓
8		3	0	98.26	2.06	✓	✓	✓	✓	✓	✓
31	17		0	98.54	1.75	✓	✓	✓	✓		✓
11		6	3	98.8	1.6	✓	✓	✓	✓		✓
9, 32	4, 11		3	99.9	2.03	✓	✓	✓	✓	✓	✓
22	15	11	0	99.48	2.24	✓	✓	✓	✓		✓
4, 27, 38, 40, 59	5	8	2	99.03	2.22	✓	✓	✓	✓	✓	✓

Map 14: Supplemental Corridors

Legend

Supplemental Corridors

County Route Number (Extent)

- 6-I (MP 0 to MP 1.1)
- 8-A (MP 2 to MP 3)
- 11-I (MP 0 to MP 0.8)
- 11-II (MP 1.2 to MP 2.4)
- 16 (MP 5.2 to MP 6.2)
- 17-II (MP 0 to MP 3.2)
- 17-III (MP 0 to MP 1.4)
- 520 (MP 13.3 to MP 18.7)

Pedestrian HIN - Priority Score

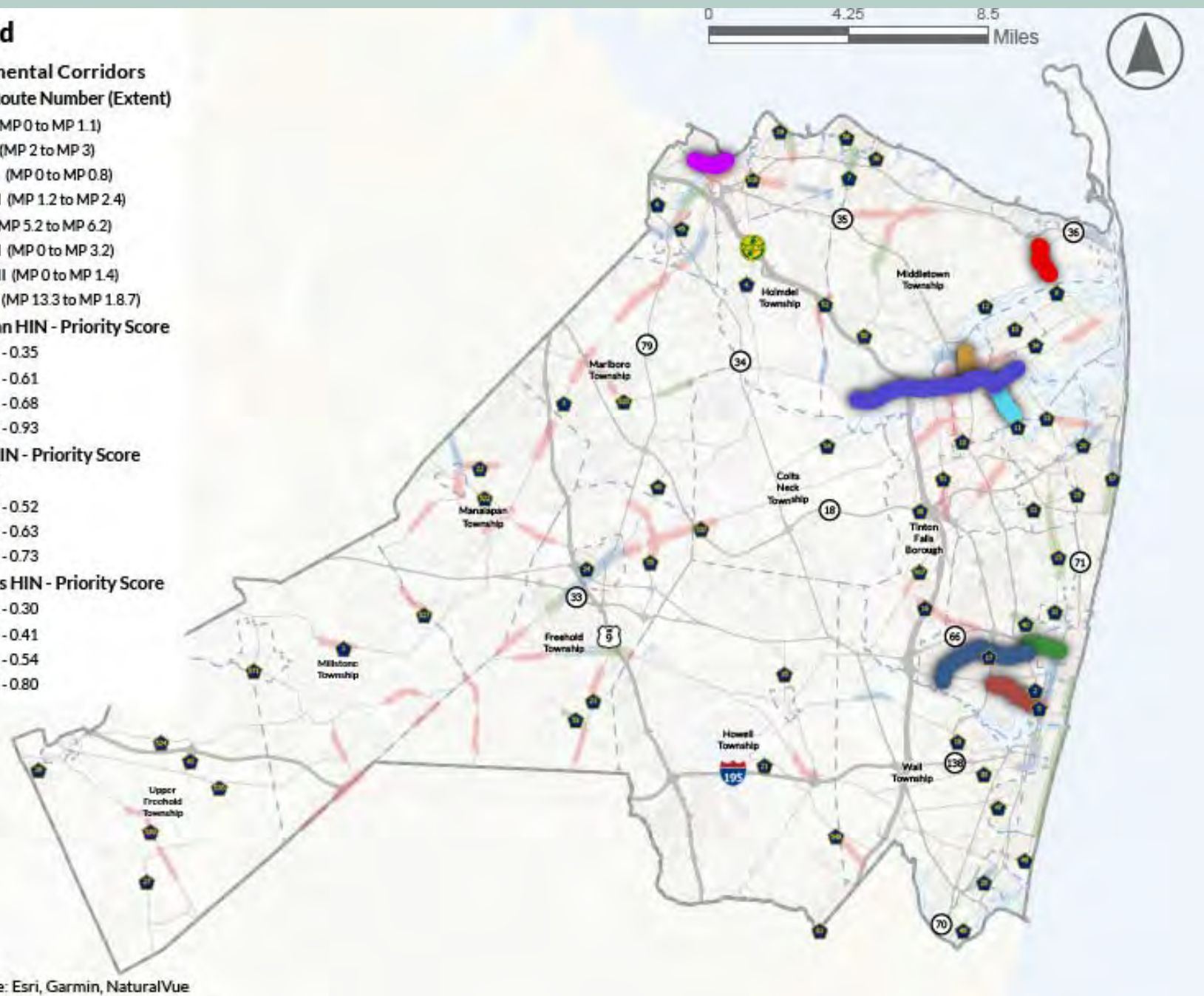
- 0.26 - 0.35
- 0.35 - 0.61
- 0.61 - 0.68
- 0.68 - 0.93

Bicycle HIN - Priority Score

- 0.28
- 0.28 - 0.52
- 0.52 - 0.63
- 0.63 - 0.73

All Modes HIN - Priority Score

- 0.12 - 0.30
- 0.30 - 0.41
- 0.41 - 0.54
- 0.54 - 0.80



Data Source: Esri, Garmin, NaturalVue

Action Plan Projects and Strategies (APPS)

The APPS matrix includes recommendations for Monmouth County assembled from best practices, and existing policy efforts for further consideration.

All actions are organized around the Safe Systems approach and an additional category of interagency collaboration. This presents a holistic approach to safety policy, addressing the key categories that make the biggest difference in limiting the volume and severity of crashes, while building up internal procedures to bolster these efforts. Every action has a description, timeline and estimated costs for implementation.

Estimated Timeline

Short-Term (0-3 yrs)	1
Medium-Term (3-5 yrs)	2
Long-Term (5+ yrs)	3

Estimated Cost

Low (<\$250,000)	\$
Medium (\$250,000-\$1Million)	\$ \$
High (\$1Million+)	\$ \$ \$

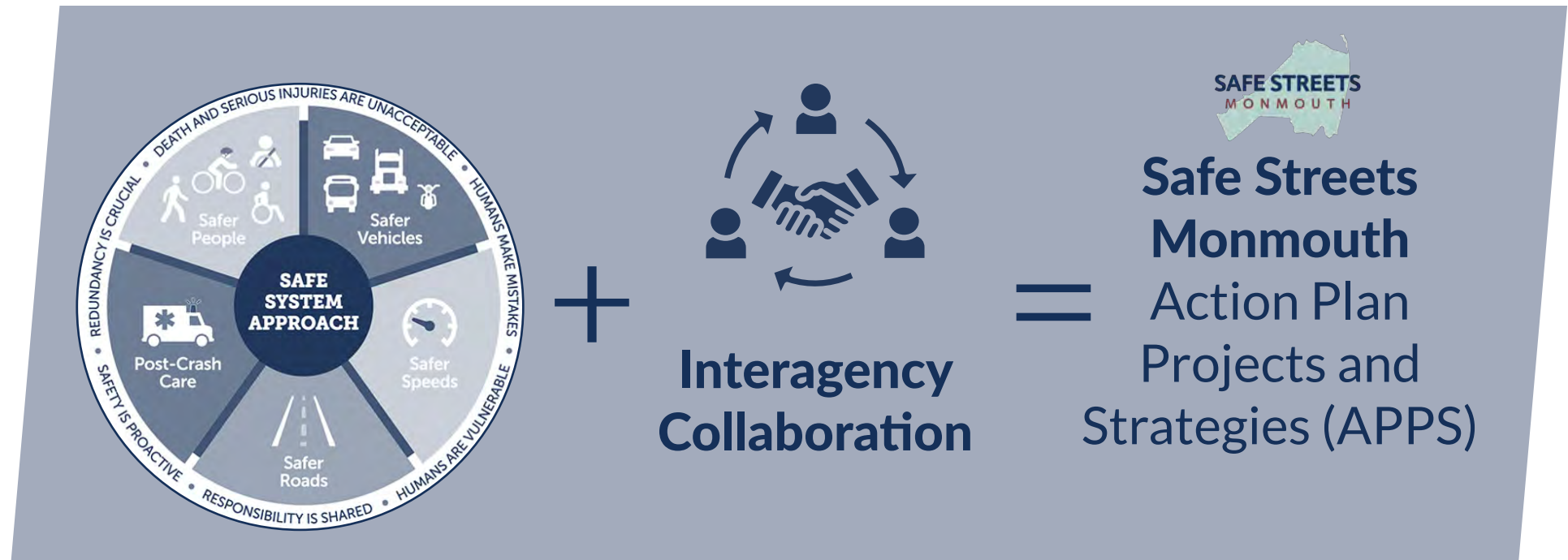


Table 20: Action Plan Matrix

ACTION ID	ACTION	TIMELINE	COST
			
1.1	Advance safety improvements on all High Injury Networks (HINs) with a focus on vulnerable road users (bicyclists and pedestrians). Within the prioritized HIN, develop safety improvements and recommendations for segments that were not included in the initial supplemental corridors list. Address the safety of vulnerable road users by prioritizing the segments identified in the pedestrian and bicyclist HINs.	⬇ ⬇ ⬇	\$\$\$
1.2	Conduct road safety audits and walkability audits on segments within all HINs to develop recommendations.	⬇ ⬇	\$\$
1.3	Identify locations for quick-build and demonstration projects along all HIN segments to build awareness and to test the impact of improvements on safety.	⬇	\$
1.4	Implement systemic countermeasures identified in this plan regularly prioritizing locations with near-misses.	⬇ ⬇	\$\$
1.5	Consider installation of RRFBs along HIN segments near schools, transit, parks and other key destinations.	⬇	\$\$\$
1.6	Identify and Improve street lighting along HIN segments with crashes under low lighting conditions, especially near destinations with vulnerable road users.	⬇ ⬇	\$\$\$
1.7	Advance the network of bicycle infrastructure with a focus on protected and separated facilities along segments on the Bicyclist HIN.	⬇ ⬇ ⬇	\$\$\$
1.8	Enhance the County's Complete Streets Policy to include additional specificity, including considering Complete Streets improvements for all resurfacing projects and establishing reporting protocol to increase effectiveness and accountability. Introduce clear guidance on when, where, and how safety countermeasures should be implemented, including the consideration of Complete Streets improvements during roadway resurfacing projects, operationalized through existing checklist or similar mechanism. Establish reporting requirements as well as project exemptions, to quantify implementation progress and safety outcomes.	⬇	\$
1.9	Evaluate current sidewalk regulations in accordance with the goals set forth in Monmouth PATHS. Ensure that sidewalk policies align with the goals and ideals set forth in Monmouth PATHS, including but not limited to, recommending sidewalk construction along the street frontages of new developments where there is clear need to connect pedestrian generators and attractors, evaluate the inclusion of ADA-compliant sidewalks on all road reconstruction projects, and designating sidewalk width requirements in accordance with ADA standards and the latest national guidance.	⬇	\$

ACTION ID	ACTION	TIMELINE	COST
1.10	Adopt a standard suite of traffic-calming tools to be considered in routine maintenance and rehabilitation projects.	↓	\$
1.11	Update Development Regulations Design Standards to support access and safety for all modes in accordance with goals set forth in Monmouth PATHS.	↓	\$
1.12	Adopt National Standards for Planning and Design of County facilities, including, but not limited to the most recent editions of the following: • FHWA Manual on Uniform Traffic Control Devices for Streets and Highways • FHWA Highway Safety Manual (HSM) • TRB Highway Capacity Manual (HCM) • AASHTO Policy on Geometric Design of Highways and Streets • AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities • AASHTO Guide for the Development of Bicycle Facilities • AASHTO Roadside Design Guide • NCHRP Guide for Roundabouts • FHWA Proven Safety Countermeasures • USDOT National Roadway Safety Strategy • NCHRP Posted Speed Limit Setting Procedure and Tool Ensure new County Staff are trained on their use and can support municipal adoption.	↓	\$
1.13	Adopt standardized safety measures at trail crossings in accordance with the goals set forth in Monmouth PATHS as well as in regulations/best practices in New Jersey law and accepted national standards. Develop a standard suite for scoping and prioritizing safety improvements for trail crossings, including, but not limited to, enhanced lighting, high-visibility markings, curb extensions, and pedestrian hybrid beacons or rapid flashing beacons, where appropriate.	↓	\$
1.14	Within the developed standard suite of traffic-calming tools (Recommendation 1.4) designate specific tools that can be implemented without ROW acquisition and triggering environmental review to expedite the implementation of safety tools. Identify opportunities to make safety improvements that do not require ROW acquisition or environmental review	↓	\$

ACTION ID	ACTION	TIMELINE	COST
1.15	Enhance community engagement protocol to provide a formal method for public feedback on projects or ongoing safety concerns. Implement a community engagement protocol and process that streamlines incoming comments and county responses or hand-offs.	⌄	\$
1.16	Update and formalize the safety metrics in the Capital Improvement Plan (CIP) process. Update the CIP development process to define and consider safety metrics consistent with the County's safety action plan.	⌄	\$
1.17	Formalize the crash data review process with an emphasis on fatal and serious injury crashes. Establish a point of contact and regular cadence to review and analyze county crash data to inform project selection and development and to evaluate project performance.	⌄	\$
1.18	Continue sharing resources and guidance materials to support local municipalities to bolster traffic safety practice. Create mechanisms to provide support to local municipalities to grow their traffic safety practice, including supporting adopting a Complete Streets Policy, accessing grants like Safe Streets for All and Safe Routes to School.	⌄	\$

SAFER ROAD USERS

2.1	Launch the Culture of Safety Campaign throughout the County. Consider piloting the campaign in areas with a high number of underserved populations and high exposure to traffic volumes (priority areas identified in the access 4 all analysis).	⌄	\$\$
2.2	Launch a high-visibility enforcement campaign along top HIN segments and locations with a high concentration of near-misses.	⌄	\$\$
2.3	Regularly engage with the community on Safe Streets Monmouth to share project updates . Develop an online community toolkit to build awareness about traffic safety.	⌄	\$
2.4	Develop and deploy driver safety training for all non-Commercial Driver License (non-CDL) drivers and new county staff that operate County vehicles. Provide standardized training and establish performance monitoring procedures to promote safe driving practices among staff operating County vehicles.	⌄	\$
2.5	Explore opportunities to expand driver safety education and training within County-operated schools. Offer driver's education at all schools under County jurisdiction and advocate for similar efforts at other schools in Monmouth County. Explore opportunities to expand bicycle and pedestrian safety portions of the curriculum.	⌄	\$

ACTION ID	ACTION	TIMELINE	COST
 SAFER SPEEDS			
3.1	Identify and analyze locations for reduced speed limits for schools, parks, and other key destinations along the HIN to implement reduced speed limits, if warranted.	↓	\$ \$
3.2	Develop standard triggers for evaluating posted speed limits to ensure that speed limits are reviewed and updated in a systematic and data-driven manner. Build speed limit evaluation into the standard project implementation process, using applicable State requirements and nationally accepted guidance, including NJ Title 39 and the most recent edition of the Manual on Uniform Traffic Control Devices (MUTCD), as the basis for review and decision-making.	↓	\$
3.3	Within the developed standard suite of traffic-calming tools (Recommendation 1.13), designate specific tools to be specifically considered on roadways where high speeds are an identified safety issue. Identify and formalize the tools to consider when addressing high speeds.	↓	\$ \$
 SAFER VEHICLES			
4.1	Review vehicle procurement standards for county-owned vehicles to include advanced safety features. Conduct a safety assessment of the existing county vehicle fleet and solicit input from public works, fleet services, and parks department to identify what innovative and advanced safety features should be prioritized in upcoming purchases and ongoing maintenance of this fleet.	↓	\$
 POST-CRASH CARE			
5.1	Collaborate with first responders to develop a standard approach to traffic clearance for crashes or traffic incidents and promote it throughout the county.	↓	\$
5.2	Coordinate with the County Prosecutor's Fatal Crash Response Team to include County engineers and planners in reviews on County roads and facilitate knowledge-sharing from review findings.	↓	\$
 INTERAGENCY COLLABORATION			
6.1	Formalize a Safe Street Monmouth Task Force to build support for future projects and share updates.	↓	\$

ACTION ID	ACTION	TIMELINE	COST
6.2	Share crash data, near-miss data and other key datasets with municipalities to support safety improvements. Regularly update the online tracking dashboard to share information in a coordinated way.	↓	\$
6.3	Enhance collaboration between the Planning and Engineering Divisions by integrating Safe Streets Monmouth goals into departmental performance metrics. Goals and actions of Safe Streets Monmouth County should be reflected in the ongoing operations, collaborations, and performance evaluations of the departments involved in public safety, fostering accountability and transparency.	↓	\$
6.4	Formalize existing process for new staff to be trained in safety policies and procedures and for staff to be apprised of changes to safety policies. Ensure staff are up to date with existing safety policies and introduce new staff to them to ensure continuity and consistency.	↓	\$
6.5	Standardize practices with state offices and local officials to ensure that the County receives detailed and timely information on county road crashes after a crash occurs.	↓	\$
6.6	Regularly update Development Regulations and move forward with amendments as needed between updates to reflect evolving safety best practices. Create a standard schedule with participating departments to update development standards and introduce the amendment process to streamline revisions or additions.	↓	\$

Additional Considerations and Emerging Trends

The AAPS matrix provides a wide range of actions for the County to advance towards the goal of zero. The County and the State's transportation system is rapidly evolving in response to new technologies, changing travel behavior and new/emerging trends. It is recommended that future updates and discussions include these considerations.

Emergency Streets

Emergency Streets are a rapid visible response to a fatal crash that is an emerging concept in building the Culture of Safety around a fatal crash. Within 48 hours of a fatal crash, an agency can utilize temporary traffic calming tools such as speed humps, bollards and signs. The measures are installed for two (2) weeks and aim to treat traffic crashes as public health emergencies and allow the community to take visible fast action after a fatality occurs.¹ In the United States, the City of Spokane, Washington has adopted the concept of Emergency Streets.

E-Bikes and Micromobility

The County, like the rest of the state and country, is experiencing a rapid growth of electric bicycles and other micromobility devices across the County as convenient and affordable alternatives to driving. The County should monitor the updates to the recent e-bike law, consider targeted education and enforcement measures for these devices and expand bicycle infrastructure, where possible.

E-Motor Vehicles

E-Motor Vehicles or E-motos are similar yet very different vehicles from e-bikes and are also subject to the latest regulations with minimum age limits and requiring license, registration and insurance. These larger and faster vehicles are also increasing

in popularity, particularly among the young adults and children. These vehicles operate at much higher speeds without much protection and should be carefully regulated.

As the law continues to evolve, the County should monitor and enforce the rules while advocating for the safe usage of these vehicles.

Electric Vehicles

As electric vehicle adoption increases across New Jersey, there are several safety and planning considerations for the County. EVs tend to be quieter and can be less detectable to all pedestrians, but particularly for those with disabilities. EVs can accelerate rapidly potentially increasing risks at intersections. While the crash data did not specifically identify EVs as an issue, anecdotal information with stakeholders indicated a need to further examine this issue. The County can consider promoting awareness of EV-specific safety issues.

¹ <https://www.emergencystreets.org/>

Supplemental Corridors Concepts

Through evaluation of the prioritized HIN, and coordination with Planning and Engineering Department staff at Monmouth County, the team identified eight (8) “supplemental corridors”. These ten County roadway corridors, primarily in the northern and eastern portions of the County, were selected for a more detailed review of appropriate and feasible site-specific improvements, for inclusion in the SS4A plan being developed by NV5.

It is anticipated that the Plan’s inclusion of these location-specific improvements, developed on a data-driven basis and considering FHWA’s “Proven Safety Countermeasures”, will therefore be eligible for Implementation funding upon completion and adoption of the Plan.

NV5’s traffic engineering staff reviewed base maps showing the locations of the ten supplemental corridors, and crash history summaries, including fatal and serious injury crashes plus the “near miss” data collected as part of this effort. NV5 observed the existing geometric and operational conditions on these corridors, and considered potential causative factors at these KSI crash and near-miss locations. Other more systematic improvements were also considered, especially on longer corridors such as County Route 520, of which a segment of over five miles in length was studied. Summaries of the Proven Safety Countermeasure types and specific measures recommended for further consideration, are as follows:

Pedestrian/Bicyclist Improvements	
Bicycle Lanes	 A circular blue sign with a white dashed line on the left, a solid white line on the right, and a white bicycle icon with an upward arrow in the center.
Crosswalk Visibility Enhancements	 A circular blue sign with a white silhouette of a person walking across a crosswalk, with a white light pole and a white rectangular sign on the pole to the right.
Leading Pedestrian Intervals	 A circular blue sign with a white traffic light pole and a white pedestrian icon in the center.
Medians & Pedestrian Refuge Islands	 A circular blue sign with a white silhouette of a person walking across a crosswalk, with a white triangle and a white pedestrian icon to the right.
Rectangular Rapid Flashing Beacons	 A circular blue sign with a white diamond-shaped sign in the center, featuring a white silhouette of a person walking across a crosswalk.
Road Diets/Roadway Reconfiguration (including curb extensions)	 A circular blue sign with a white silhouette of a person walking across a crosswalk, with a white dashed line and a white solid line to the right.
Walkways and sidewalks (including ADA accessibility)	 A circular blue sign with a white silhouette of a person walking across a crosswalk, with a white dashed line and a white solid line to the right.

Roadway Departure Improvements	
Enhanced Horizontal Curve Delineation	
Longitudinal Rumble Strips/Stripes	

Intersection & Other Improvements	
Backplates with Retroreflective Borders	
Corridor Access Management	
Left-, Right-Turn Lanes at Intersections	
Roundabouts, or Mini-Roundabouts	
Lighting	

Municipalities	Route #	Local Name (s)
Aberdeen Keyport	CR 6-I	Amboy Avenue Front Street
Middletown	CR 8-A	Bingham Avenue Locust Avenue
Red Bank	CR 11-I	Broad Street
Little Silver	CR 11-II	Oceanport Avenue Branch Avenue
Asbury Park Neptune Township	CR 16	Asbury Avenue
Neptune Township	CR 17-II	West Bangs Avenue
Neptune City	CR 17-III	West Sylvania Avenue
Tinton Falls Shrewsbury Borough Little Silver Red Bank Middletown	CR 520	Newman Springs Road Broad Street Pinckney Road Branch Avenue Rumson Road

Table 21: Supplemental Corridors List

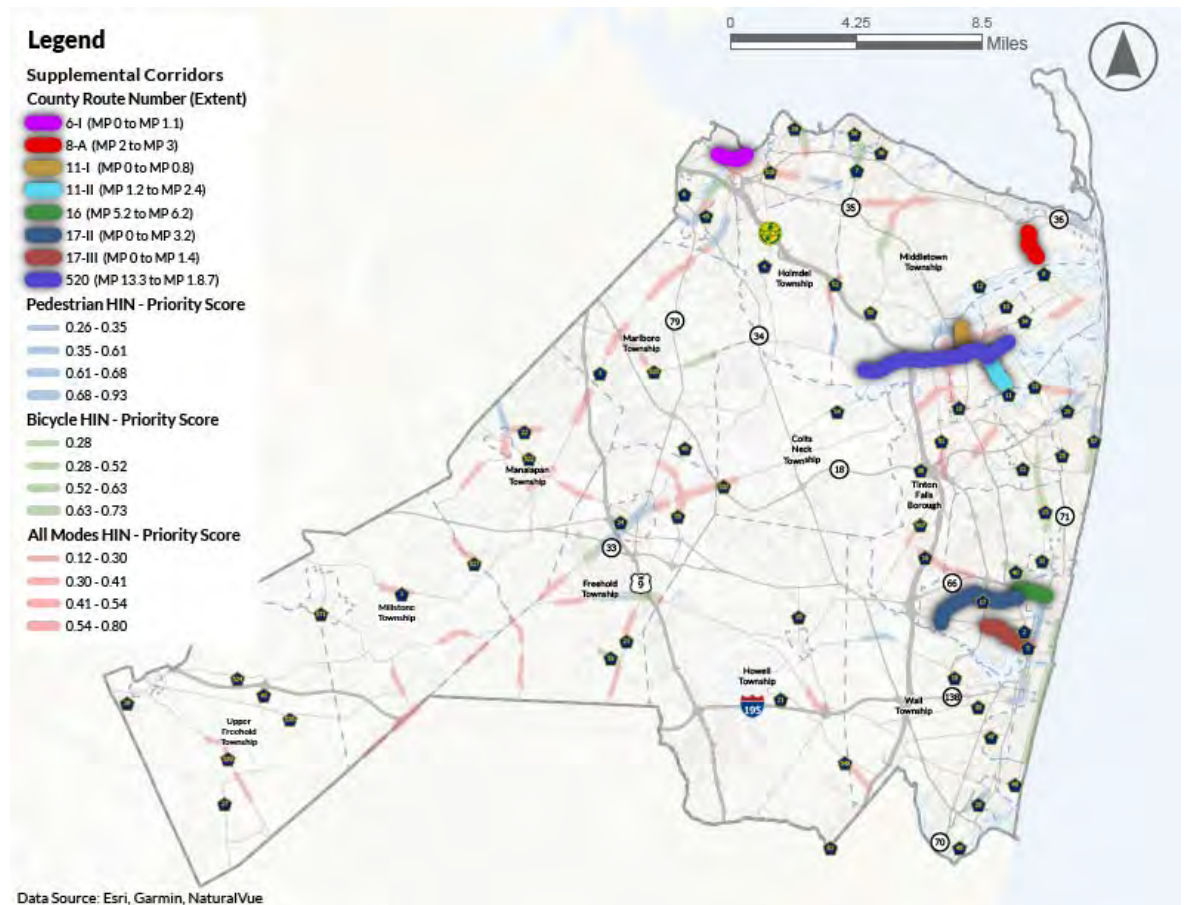


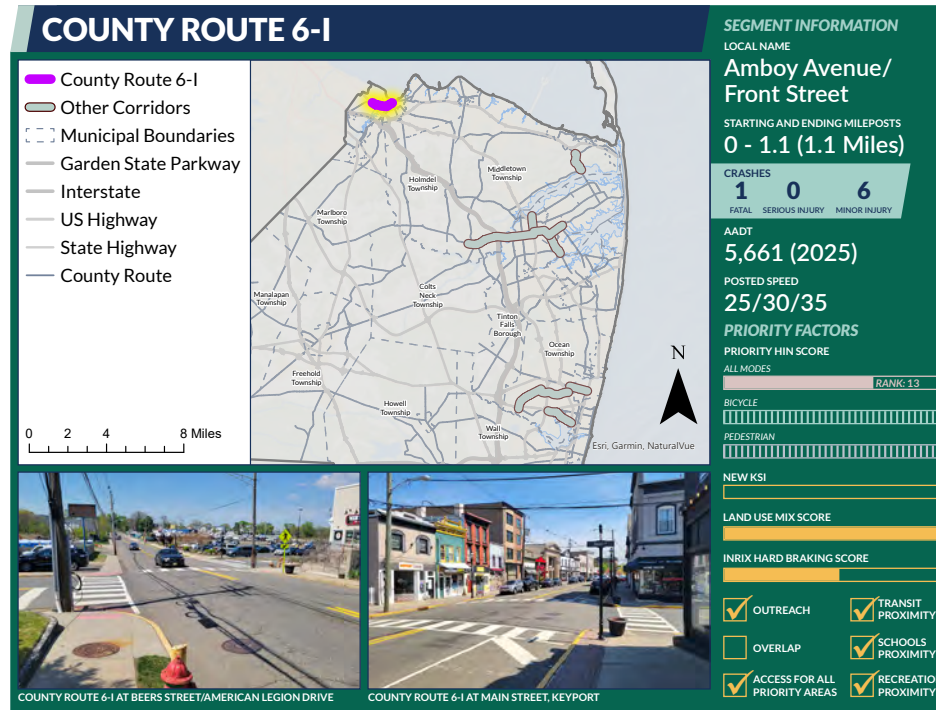
Figure 13: Supplemental Corridors Key Map

Corridor Legend

Street View

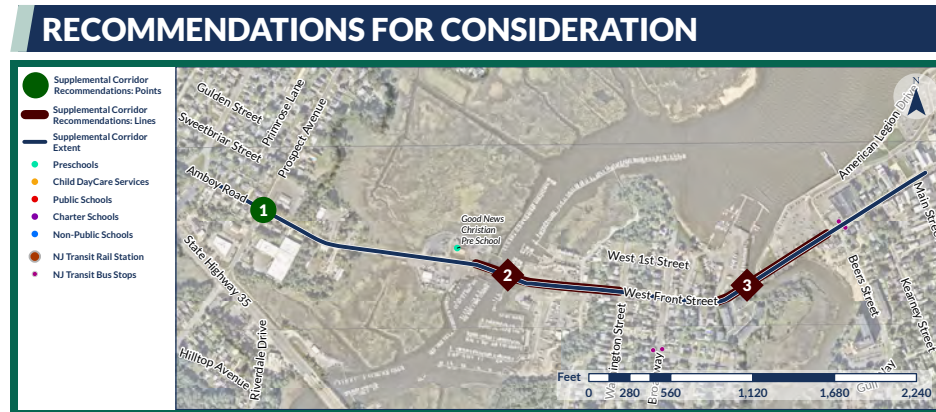
Safety Improvements Map

Location- specific Safety Improvements



Segment Information

Priority Factors



- 1 Prospect Avenue**
- Add crosswalks in all directions.
 - Conduct a 4-way stop analysis, and implement if warranted. If warrant is not met, consider installing RRFs for the County Road crossing.
 - Consider extending sidewalks to connect to destinations
- 2 Bridge over Wilkon Creek to Washington Street**
- Consider 11' travel lanes and adding shoulder markings

- 3 Harbor View Marina to American Legion Drive**
- Consider 11' travel lanes and continuing shoulder markings
- Corridor-wide**
- Consider adding curb extensions at all intersections, as possible

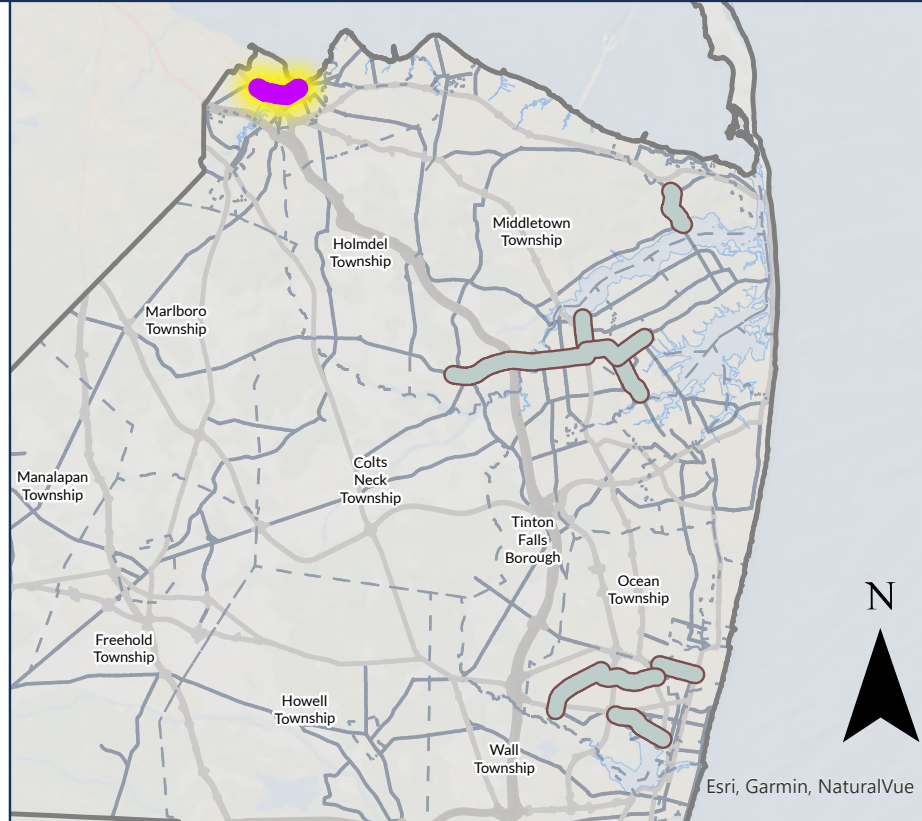
Corridor- wide Safety Improvements

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, roundabouts, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

COUNTY ROUTE 6-I

- County Route 6-I
- Other Corridors
- Municipal Boundaries
- Garden State Parkway
- Interstate
- US Highway
- State Highway
- County Route

0 2 4 8 Miles



SEGMENT INFORMATION

LOCAL NAME

Amboy Avenue/
Front Street

STARTING AND ENDING MILEPOSTS

0 - 1.1 (1.1 Miles)

CRASHES

1

0

6

FATAL

SERIOUS INJURY

MINOR INJURY

AADT

5,661 (2025)

POSTED SPEED

25/30/35

PRIORITY FACTORS

PRIORITY HIN SCORE

ALL MODES

RANK: 13

BICYCLE



PEDESTRIAN



NEW KSI



LAND USE MIX SCORE



INRIX HARD BRAKING SCORE



☒ OUTREACH

☒ TRANSIT PROXIMITY

☐ OVERLAP

☒ SCHOOLS PROXIMITY

☒ ACCESS FOR ALL PRIORITY AREAS

☒ RECREATION PROXIMITY



COUNTY ROUTE 6-I AT BEERS STREET/AMERICAN LEGION DRIVE



COUNTY ROUTE 6-I AT MAIN STREET, KEYPORT

RECOMMENDATIONS FOR CONSIDERATION



- 1** Prospect Avenue
 - Add crosswalks in all directions.
 - Conduct a 4-way stop analysis, and implement if warranted. If warrant is not met, consider installing RRFBs for the County Road crossing.
 - Consider extending sidewalks to connect to destinations
- 2** Bridge over Wilkson Creek to Washington Street
 - Consider 11' travel lanes and adding shoulder markings

- 3** Harbor View Marina to American Legion Drive
 - Consider 11' travel lanes and continuing shoulder markings

Corridor-wide

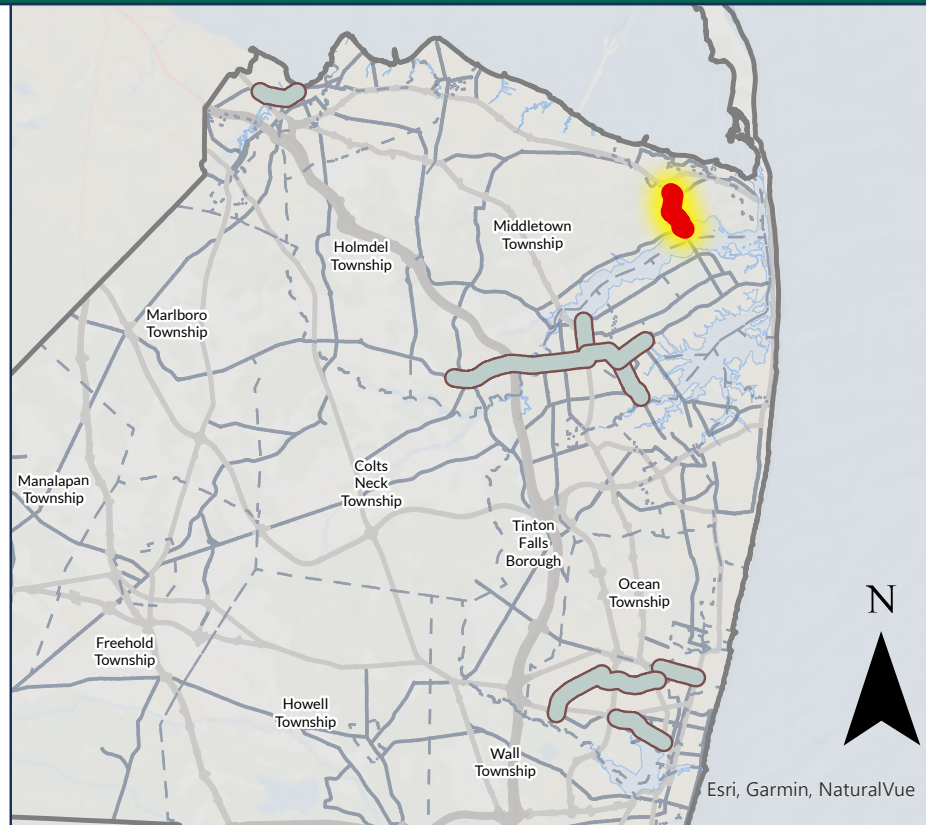
- Consider adding curb extensions at all intersections, as possible

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, roundabouts, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

COUNTY ROUTE 8-A

- County Route 8-A
- Other Corridors
- - - Municipal Boundaries
- Garden State Parkway
- Interstate
- US Highway
- State Highway
- County Route

0 2 4 8 Miles



SEGMENT INFORMATION

LOCAL NAME

**Bingham Avenue/
Locust Avenue**

STARTING AND ENDING MILEPOSTS

2 - 3 (1 Mile)

CRASHES

0 **1** **7**
FATAL SERIOUS INJURY MINOR INJURY

AADT

10,928 (2025)

POSTED SPEED

40 MPH

PRIORITY FACTORS

PRIORITY HIN SCORE

ALL MODES

RANK: 28

BICYCLE

RANK: 9

PEDESTRIAN

NEW KSI

LAND USE MIX SCORE

INRIX HARD BRAKING SCORE

☒ OUTREACH

☒ TRANSIT PROXIMITY

☒ OVERLAP

☒ SCHOOLS PROXIMITY

☐ ACCESS FOR ALL PRIORITY AREAS

☒ RECREATION PROXIMITY



COUNTY ROUTE 8-A AT LINDEN AVENUE, MIDDLETOWN



NORTH ENDING OF CLAYPIT CREEK BRIDGE PEDESTRIAN WALKWAY

RECOMMENDATIONS FOR CONSIDERATION



1 Linden Avenue

- Consider providing a pedestrian crossing and connection to pedestrian path on east side of bridge. Note that this path currently leads into Hartshorne Woods but this route is not ADA accessible and does not provide westward connections.

2 Milepost 2.25

- Consider chevrons to indicate the sharper curve and lower advisory speed

3 Beginning of Oceanic Bridge

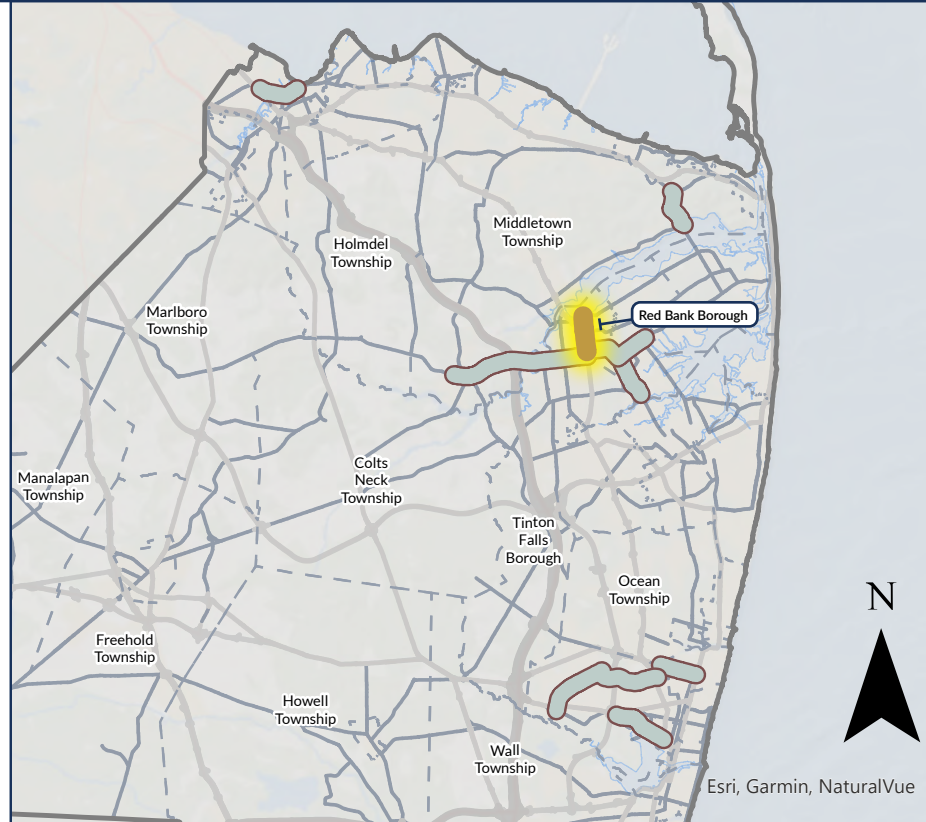
- Evaluate need for Chevrons to accommodate advisory speed (25 MPH, 15 MPH below posted speed)

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry, will require more detailed engineering study prior to implementation.

COUNTY ROUTE 11-I

- County Route 11-I
- Other Corridors
- Municipal Boundaries
- Garden State Parkway
- Interstate
- US Highway
- State Highway
- County Route

0 2 4 8 Miles



SEGMENT INFORMATION

LOCAL NAME

Broad Street

STARTING AND ENDING MILEPOSTS

0 - 0.8 (0.8 Miles)

CRASHES

0

1

14

FATAL

SERIOUS INJURY

MINOR INJURY

AADT

10,695 (2025)

POSTED SPEED

25/30 MPH

PRIORITY FACTORS

PRIORITY HIN SCORE

ALL MODES

RANK: 17

BICYCLE



PEDESTRIAN

RANK: 3

NEW KSI

LAND USE MIX SCORE

INRIX HARD BRAKING SCORE

☒ OUTREACH

☒ TRANSIT PROXIMITY

☒ OVERLAP

☒ SCHOOLS PROXIMITY

☒ ACCESS FOR ALL PRIORITY AREAS

☒ RECREATION PROXIMITY



COUNTY ROUTE 11-I AT HARDING ROAD/RECKLESS PLACE, RED BANK STREET PARKING ON COUNTY ROUTE 11-I

RECOMMENDATIONS FOR CONSIDERATION



1 Leroy Place

- Consider adding RRFBs

Corridor-wide

- Consider updating/improving striping and signage
- Investigate RRFBs at one additional intersection (do not exceed two)
- Consider installing backplates with retroreflective borders on all signals
- Consider installing curb extensions at all intersections

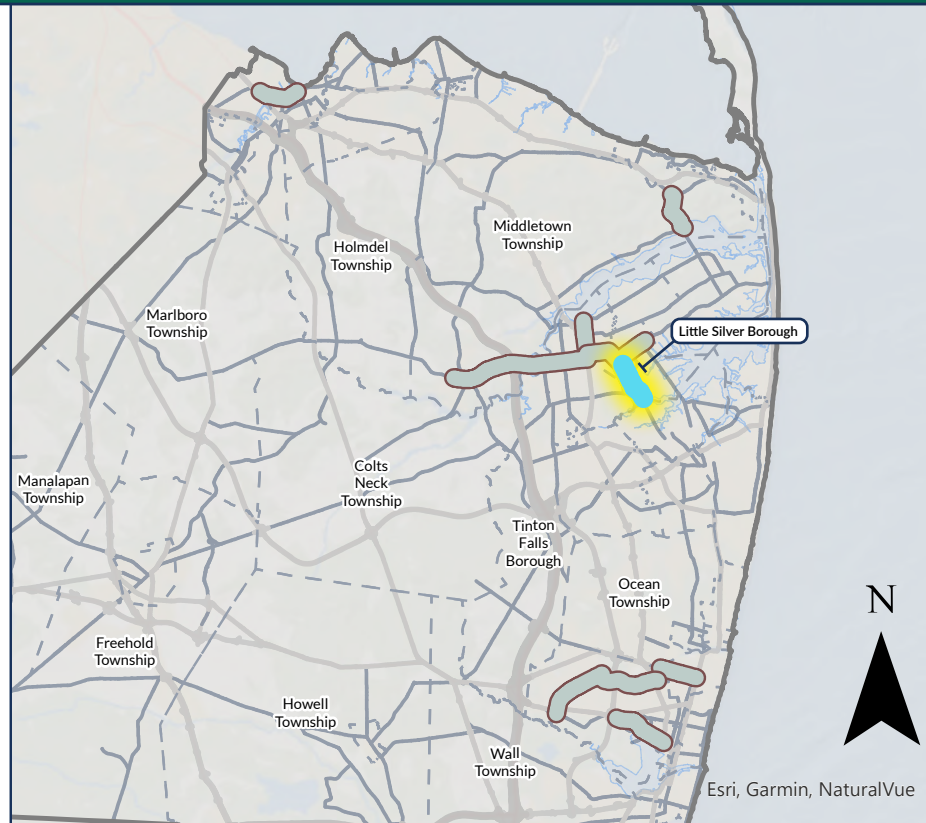
Note - this road is municipally owned from MPs 0 to 0.48. Recommendations still apply but are the responsibility of the Borough of Red Bank to implement.

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

COUNTY ROUTE 11-II

- County Route 11-II
- Other Corridors
- Municipal Boundaries
- Garden State Parkway
- Interstate
- US Highway
- State Highway
- County Route

0 2 4 8 Miles



SEGMENT INFORMATION

LOCAL NAME

Oceanport Avenue/
Branch Avenue

STARTING AND ENDING MILEPOSTS

1.2 - 2.4 (1.2 Miles)

CRASHES

0 1 9
FATAL SERIOUS INJURY MINOR INJURY

AADT

9,086 (2025)

POSTED SPEED

35 MPH

PRIORITY FACTORS

PRIORITY HIN SCORE

ALL MODES

RANK: 31

BICYCLE

RANK: 17

PEDESTRIAN

NEW KSI

LAND USE MIX SCORE

INRIX HARD BRAKING SCORE

✓ OUTREACH

✓ TRANSIT PROXIMITY

✓ OVERLAP

✓ SCHOOLS PROXIMITY

ACCESS FOR ALL
PRIORITY AREAS

✓ RECREATION PROXIMITY



COUNTY ROUTE 11-II AT SYCAMORE AVENUE, FROM ABOVE



COUNTY ROUTE 11-II AT SYCAMORE AVENUE/LITTLE SILVER STATION

RECOMMENDATIONS FOR CONSIDERATION



1 Sycamore Avenue

- Consider installing backplates with retroreflective borders on all signals
- Consider hardened centerline humps
- Evaluate signal timing, and consider adding LPIs

Note: various traffic calming and vulnerable road user safety improvements can be implemented here, but note LOS changes should be anticipated, and a rating of “D” should be the lowest acceptable at this high-volume location.

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

COUNTY ROUTE 16

- County Route 16
- Other Corridors
- - - Municipal Boundaries
- Garden State Parkway
- Interstate
- US Highway
- State Highway
- County Route

0 2 4 8 Miles



SEGMENT INFORMATION

LOCAL NAME

Asbury Avenue

STARTING AND ENDING MILEPOSTS

5.2 - 6.2 (1 Mile)

CRASHES

1 2 14

FATAL SERIOUS INJURY MINOR INJURY

AADT

5,676 (2025)

POSTED SPEED

25/35 MPH

PRIORITY FACTORS

PRIORITY HIN SCORE

ALL MODES

RANK: 11

BICYCLE



PEDESTRIAN

RANK: 6

NEW KSI



LAND USE MIX SCORE



INRIX HARD BRAKING SCORE



☒ OUTREACH

☒ TRANSIT PROXIMITY

☒ OVERLAP

☒ SCHOOLS PROXIMITY

☐ ACCESS FOR ALL PRIORITY AREAS

☒ RECREATION PROXIMITY

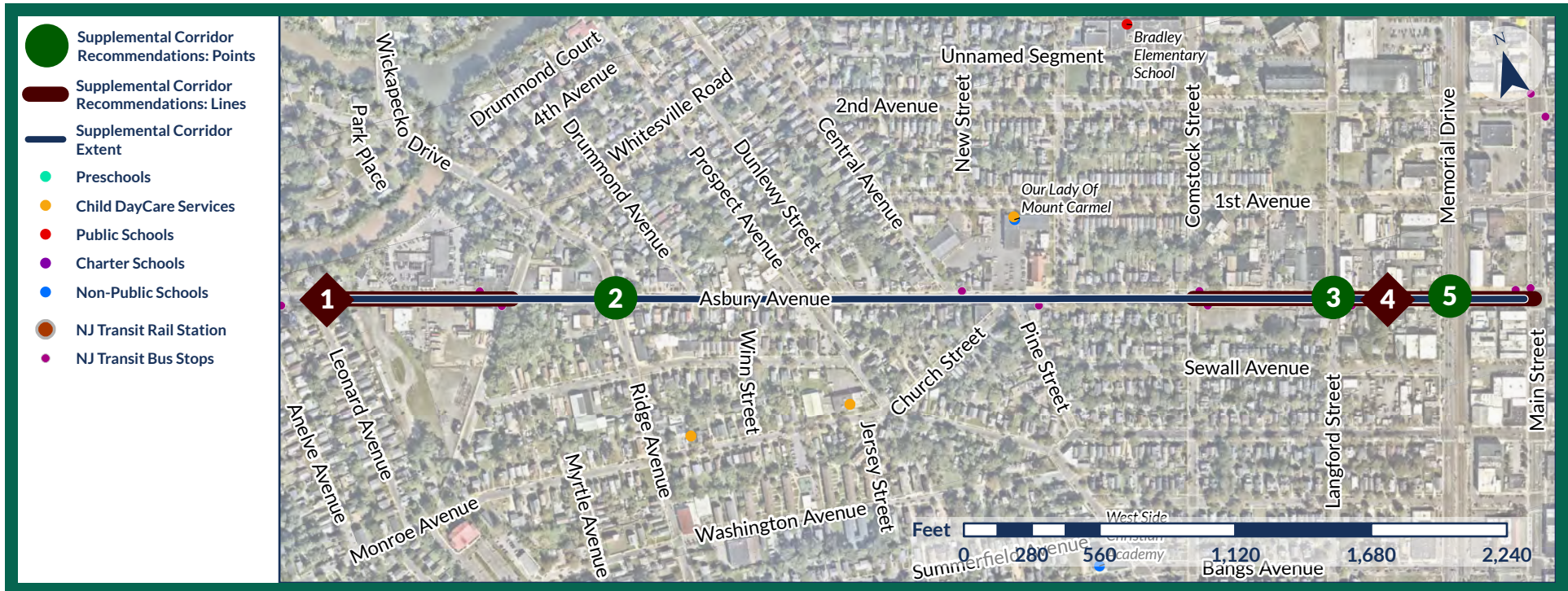


COUNTY ROUTE 16 AT MAIN STREET (STATE HIGHWAY 71)



COUNTY ROUTE 16 AT MEMORIAL DRIVE/NJ TRANSIT TRACKS

RECOMMENDATIONS FOR CONSIDERATION



1 Leonard Avenue to Whitesville Road

- Consider changing indicated segment from “Passing Zone” to “No Passing Zone”
- Consider adding a center turn lane (both ways)

2 Ridge Avenue

- Consider installing curb extensions

3 Langford Street

- Evaluate lighting for improvements
- Consider upgrading signal heads (including pedestrian signal heads)

4 Comstock Street to Main Street

- Consider roadway reconfiguration: 11-foot lanes, 5-foot bicycle lanes on both sides with 1.5-foot buffers, and 7.5-foot parking lanes. Daylight corners by 9 feet

5 Memorial Drive

- Consider traffic signal upgrade with pedestrian signal heads
- Consider a Chicane or Pedestrian Barrier for pedestrians crossing railroad tracks

Corridor-wide

- Consider adding shoulder lines wherever not present

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

COUNTY ROUTE 17-II

- County Route 17-II
- Other Corridors
- Municipal Boundaries
- Garden State Parkway
- Interstate
- US Highway
- State Highway
- County Route

0 2 4 8 Miles



SEGMENT INFORMATION

LOCAL NAME

W. Bangs Avenue

STARTING AND ENDING MILEPOSTS

0 - 3.2 (3.2 Miles)

CRASHES

2 6 41

FATAL SERIOUS INJURY MINOR INJURY

AADT

8,308 (2025)

POSTED SPEED

30/40 MPH

PRIORITY FACTORS

PRIORITY HIN SCORE

ALL MODES

RANK: 9, 32

BICYCLE

RANK: 14, 11

PEDESTRIAN

NEW KSI

LAND USE MIX SCORE

INRIX HARD BRAKING SCORE

✓ OUTREACH

✓ TRANSIT PROXIMITY

✓ OVERLAP

✓ SCHOOLS PROXIMITY

✓ ACCESS FOR ALL PRIORITY AREAS

✓ RECREATION PROXIMITY

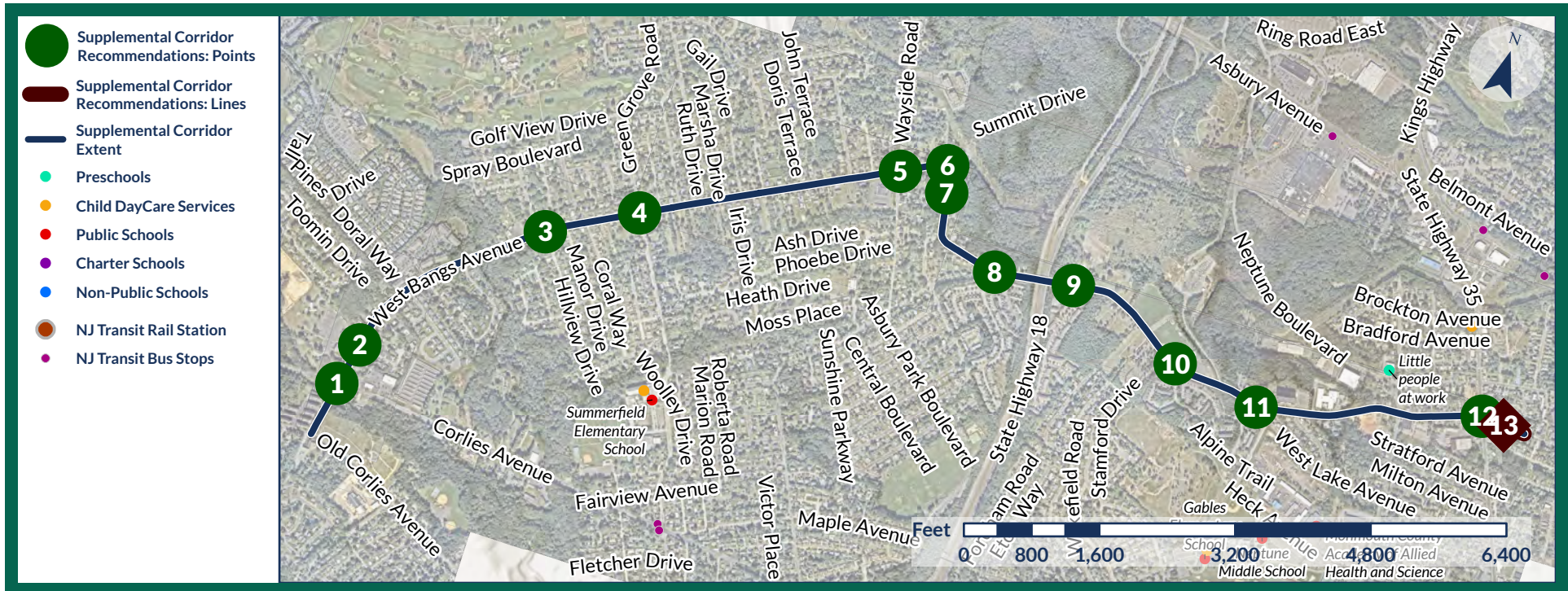


COUNTY ROUTE 17-II AT LOUISVILLE ROAD



COUNTY ROUTE 17-II AT NJ-35

RECOMMENDATIONS FOR CONSIDERATION



1 Corlies Avenue

- Consider adding left turn lanes to Corlies Avenue (re-evaluate Corlies Avenue width/lanes as it is a coastal evacuation route)
- Consider adding crosswalks to north and east approach
- Consider adding sidewalks on northeast and northwest corners

2 Randi Way

- Consider adding curb extensions and RRFBs at crosswalk
- Consider clearing brush around and/or relocating school zone signage

3 Hillview Drive

- Evaluate ROW and consider relocating utility poles, if possible

4 Green Grove Road

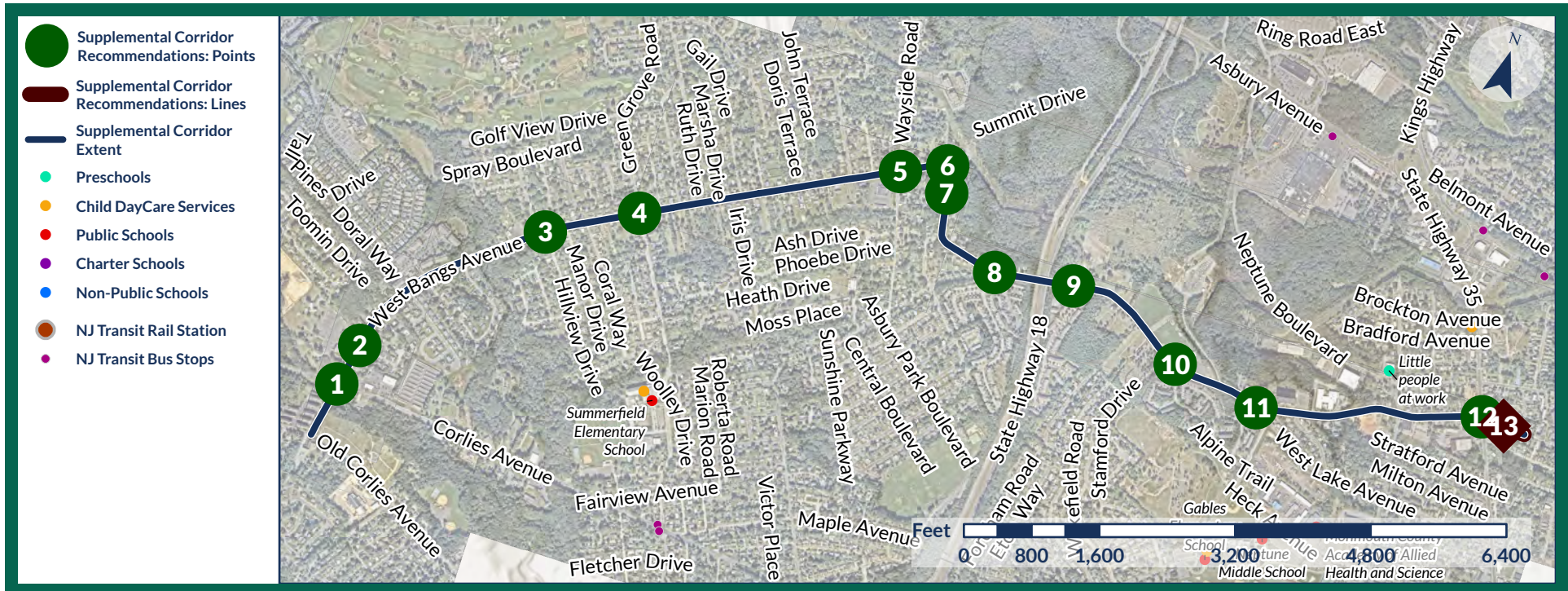
- Consider conducting a signal warrant analysis
- Consider adding RRFBs
- Consider a mini-roundabout

5 Wayside Road

- Conduct a signal warrant analysis and improve lighting (in progress)

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

RECOMMENDATIONS FOR CONSIDERATION (CONTINUED)



6 Summit Drive

- Consider installing supplemental chevron signage in accordance with MUTCD (15 MPH advisory speed, 40 MPH posted speed)

7 Arnold Avenue

- Evaluate geometry and/or evaluate fence location (relative to right-of-way) to improve visibility

8 Palmer Avenue

- Consider adding left turn lane (westbound), realign for a right angle, or add a roundabout
- Consider replacing intersection signage with bigger sign; reorient as needed

8 Palmer Avenue (continued)

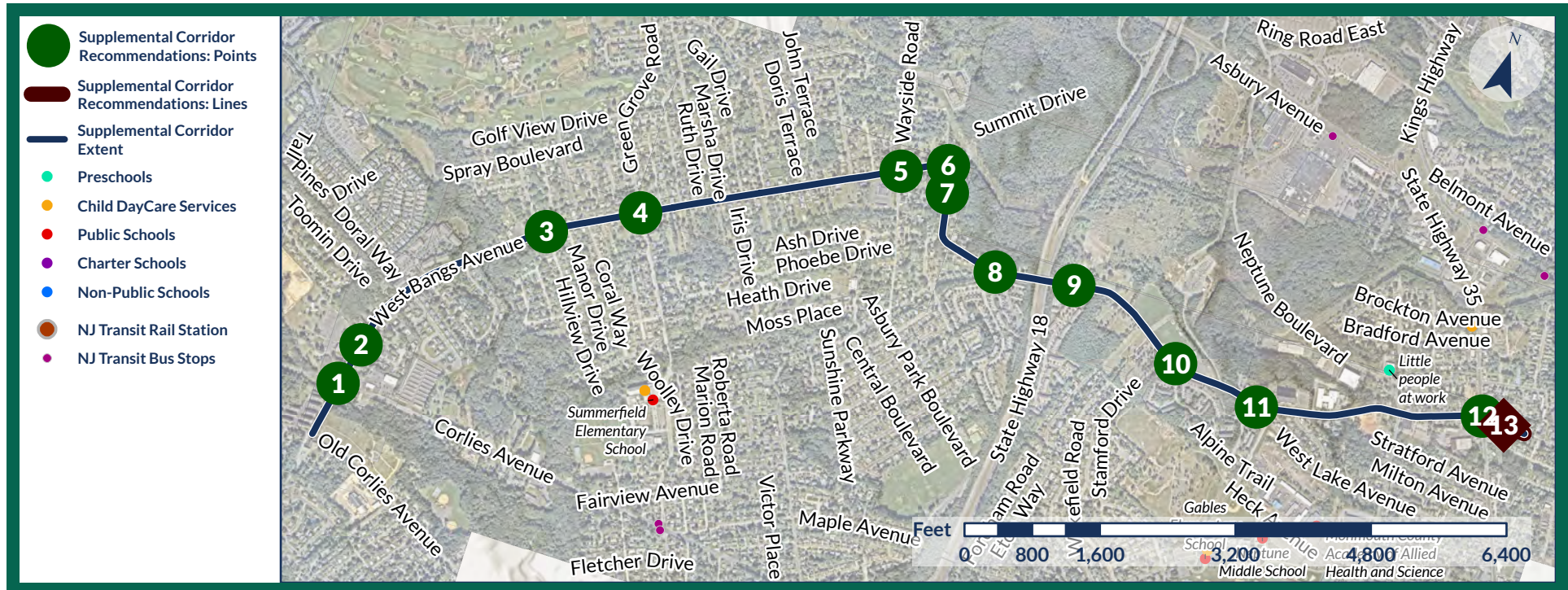
- Consider installing horizontal curve warning signs, advisory speed signage, and chevron signage to indicate curve in accordance with MUTCD, as applicable (35 MPH advisory speed, 40 MPH posted speed)

9 Winding Ridge Drive

- Consider trimming vegetation to maximize sight distance
- Consider installation of a W2-2L (side road left) sign for WB Bangs (approach with rear end crash)
- Consider centerline rumble strips
- Consider a left turn lane

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

RECOMMENDATIONS FOR CONSIDERATION (CONTINUED)



10 West Lake Avenue

- Consider realigning intersection to a right angle; otherwise, consider installing horizontal curve warning signs, advisory speed signage, and chevron signage to indicate curve in accordance with MUTCD, as applicable (35 MPH advisory speed, 40 MPH posted speed)

11 Near Alpine Trail

- Consider installing horizontal curve warning signs, advisory speed signage, and chevron signage to indicate curve in accordance with MUTCD, as applicable (35 MPH advisory speed, 40 MPH posted speed)

12 NJ-35

- Consider updating curb ramps
- Consider signal improvements including upgraded signal heads and addition of pedestrian signal heads
- Consider crosswalk marking improvements and add north leg crosswalk
- Consider left turn lanes on NJ-35

13 NJ-35 to George Street

- Consider adding shoulder lines

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

COUNTY ROUTE 17-III

- County Route 17-III
- Other Corridors
- - - Municipal Boundaries
- Garden State Parkway
- Interstate
- US Highway
- State Highway
- County Route

0 2 4 8 Miles



SEGMENT INFORMATION

LOCAL NAME

W. Sylvania Avenue

STARTING AND ENDING MILEPOSTS

0 - 1.4 (1.4 Miles)

CRASHES

0 1 16

FATAL SERIOUS INJURY MINOR INJURY

AADT

15,098 (2025)

POSTED SPEED

35 MPH

PRIORITY FACTORS

PRIORITY HIN SCORE

ALL MODES

RANK: 22

BICYCLE

RANK: 15

PEDESTRIAN

RANK: 11

NEW KSI

LAND USE MIX SCORE

INRIX HARD BRAKING SCORE

☒ OUTREACH

☒ TRANSIT PROXIMITY

☒ OVERLAP

☒ SCHOOLS PROXIMITY

☐ ACCESS FOR ALL PRIORITY AREAS

☒ RECREATION PROXIMITY



COUNTY ROUTE 17-III AT EAST END AVENUE



STATE HIGHWAY 35 AT COUNTY ROUTE 17-III

RECOMMENDATIONS FOR CONSIDERATION



- 1 Brighton Avenue**
 - Evaluate signal timing between this intersection and Brighton Avenue/NJ-33
- 2 East End Avenue**
 - Consider improving lighting
 - Consider installing pedestrian signage
 - Consider updating pedestrian ramps
- 3 Tucker Drive/Bennett Avenue**
 - Consider adding crosswalks to south and east legs. Evaluate access management at southeast corner for crosswalk siting
- 4 NJ-35**
 - Consider a roundabout (2x1 configuration)
 - If a roundabout is unfeasible, carefully examine pedestrian connectivity and conflict points

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

COUNTY ROUTE 520

- County Route 520
- Other Corridors
- - - Municipal Boundaries
- Garden State Parkway
- Interstate
- US Highway
- State Highway
- County Route

0 2 4 8 Miles



SEGMENT INFORMATION

LOCAL NAME

Newman Springs Road/Broad Street/Pinckney Road/Branch Avenue/Rumson Road

STARTING AND ENDING MILEPOSTS

13.3 - 18.7 (5.4 Miles)

CRASHES

0

6

49

FATAL

SERIOUS INJURY

MINOR INJURY

AADT

32,622 (2025)

POSTED SPEED

30/35/40/45 MPH

PRIORITY FACTORS

PRIORITY HIN SCORE

ALL MODES

RANK: 4, 27, 38, 40, 59

BICYCLE

RANK: 8

PEDESTRIAN

RANK: 2

NEW KSI

LAND USE MIX SCORE

INRIX HARD BRAKING SCORE

☒ OUTREACH

☒ TRANSIT PROXIMITY

☒ OVERLAP

☒ SCHOOLS PROXIMITY

☒ ACCESS FOR ALL PRIORITY AREAS

☒ RECREATION PROXIMITY

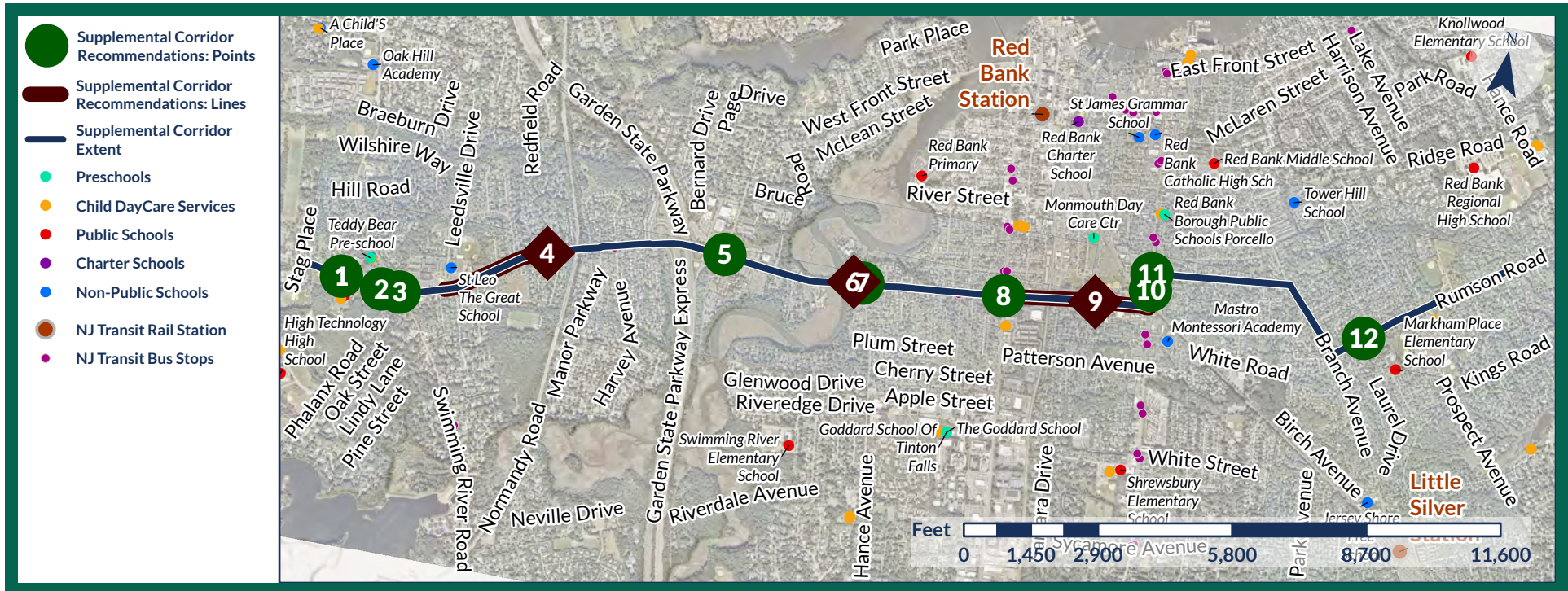


COUNTY ROUTE 520 IN RED BANK



COUNTY ROUTE 520 CROSSING THE NAVESINK RIVER

RECOMMENDATIONS FOR CONSIDERATION



- 1** Lincroft Elementary School Driveway/Brouwer Court
 - Consider adding crosswalk with a median refuge island
- 2** Lincroft Commons driveways
 - Consider adding signage within parking lot indicating “no left turn” or “right turn only”
- 3** Swimming River Road
 - Consider removing channelized right turn lanes, and re-evaluate crosswalk locations/layout with updated intersection geometry
- 4** Hurleys Lane to Orchard Hill Drive
 - Consider a road diet evaluation
- 5** Half Mile Road
 - Consider connecting northeast crosswalk ramp to adjacent parking lot
 - Consider installing “no pedestrian” and “use sidewalk left arrow” signs at end of eastbound ramp off of Garden State Parkway
 - Consider signal timing optimization and ensuring backplates with retroreflective borders are installed on lights

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

RECOMMENDATIONS FOR CONSIDERATION (CONTINUED)



- 6** Bridge over Swimming River and east to Munson Place
 - Re-evaluate guardrails - may extend too far
- 7** Munson Place/Hance Avenue
 - Consider adding crosswalk across right turn ramp (to southbound Hance Avenue) with “no ped crossing” sign, directing pedestrians to east leg of intersection to cross 520

- 8** Shrewsbury Avenue
 - Consider intersection lighting improvements
 - Consider LPIs
 - Consider hardened centerline treatments
- 9** Shrewsbury Avenue to Broad Street
 - Consider adding shoulder markings and lane markings to clarify number and width
- 10** Garfield Avenue
 - Consider “right in/right out” configuration

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.

RECOMMENDATIONS FOR CONSIDERATION (CONTINUED)



11 Broad Street (CR 11-I)

- Consider installing RRFBs and a median refuge island
- Consider modifying signage to indicate that crossing is not allowed between Garfield Avenue and here (there are misleading features along east sidewalk which suggest crossing is possible)

12 Lovett Avenue

- Consider adding a crosswalk

West of Broad Street

- Consider curb extensions and ensure ramps are ADA compliant at all intersections
- Consider RRFBs with strategic placement (avoid overuse)

Note: Improvement recommendations in this report involving revisions to intersection traffic controls (multi-way stop, traffic signalization, etc.) or revisions to lane geometry will require more detailed engineering study prior to implementation.



E 34 Harding Rd

Reckless Pl

NO
TURN
ON
RED

7

CULTURE OF SAFETY CAMPAIGN

CULTURE OF SAFETY CAMPAIGN

Introduction

Safe Streets Monmouth distinguishes itself from many other Safety Action Plans by integrating the development of a countywide Culture of Safety campaign into the planning process from the outset. Rather than treating public awareness as a standalone implementation activity, the campaign framework was developed in parallel with the technical analysis to ensure that messaging is grounded in the plan's findings and responsive to the County's unique transportation environment.

Informed by the comprehensive crash analysis, public engagement, and stakeholder input conducted throughout the planning process, the campaign adopts a regional approach that recognizes the diverse character of Monmouth County's coastal, suburban, and rural communities. While maintaining a consistent countywide identity and core messaging framework, the campaign is designed to be flexible enough to address the distinct transportation contexts and safety concerns found across the region. The result is a strategic framework that supports the development of a comprehensive Year 1 campaign while establishing a sustainable foundation that can evolve and be expanded through future safety messaging and implementation efforts.

Culture of Safety Campaign Guide

The project team developed a Culture of Safety Campaign Guide as the primary document for this task. It is designed to serve two purposes: first, as a record of how this particular campaign was built, from initial data gathering through creative concept development and budget planning; and second, as a replicable framework that Monmouth County and its partners can follow

whenever they wish to develop a new safety communications campaign in the future.

The process designed is grounded in a core conviction: safety campaigns that work are not built on instinct or graphic design alone. They are built on evidence by rooting every messaging decision in crash data, community input, and professional stakeholder feedback, then translating that evidence into a credible, consistent public-facing campaign. The approach described here is meant to be transparent, defensible, and adaptable.

The guide walks through five sections of campaign development, corresponding to the work developed across Steering Committee meetings and extensive analysis.

Each phase produced several outputs, documents, survey results,

Key Deliverables

- Crash Data Analysis and Key Messaging Takeaways
- Safety Findings Synthesis (across crash data, public input, and TAC feedback)
- High-Confidence Messaging Zones (6 zones)
- Sample Message Library with tone-sorted messages by audience
- How Messages Become Campaign Assets (process document)
- Culture of Safety Concept Companion Document (16 concepts)
- Be Fun. Drive Boring. Campaign Package (final conceptual assets)
- SS4A Media Elements Menu and Media Placement Catalog
- Conceptual Campaign Budget (four scenarios)

synthesized findings, concept materials, and budget scenarios that together constitute a complete campaign development package. All key deliverables referenced are in Appendix B.

Campaign Alignment

Every successful campaign begins before the creative work. It begins with a clear shared understanding of what the campaign is trying to accomplish, who owns it, and what constraints govern it. The collaborative structure for this process incorporated a working meeting with Monmouth County staff designed to answer these foundational questions before the broader Steering Committee was convened.

Forming the Culture of Safety Steering Committee

The Culture of Safety Steering Committee (SC) was established as a small, decision-making body, representing diverse county perspectives, small enough to function efficiently. The County identified that members needed to be able to make creative decisions, review materials, and provide consensus feedback.

The SC consisted of staff from County Planning and County Public Information Office (PIO). The PIO oversees tourism, economic development, and has a small in-house media team that can support the next steps of the Safe Streets Monmouth Culture of Safety Campaign development. The PIO office regularly communicates with the community and the County leadership allowing for seamless decision-making.

Steering Committee Meeting Roadmap

A five-meeting roadmap was established with the SC to provide a structured and collaborative process for developing the Monmouth County Culture of Safety Campaign framework. The roadmap was intentionally designed to guide the Committee

through a series of progressive discussions and exercises that began with campaign “discovery” activities and the review of key data sources, including crash analysis, public feedback, and stakeholder input. These foundational inputs were used to identify priority audiences, behavioral focus areas, messaging opportunities, and campaign objectives that would ultimately inform the development of a defensible and data-driven messaging framework.

Beyond establishing the strategic foundation of the campaign, the roadmap was also designed to help the County understand how to apply and build upon this framework during future implementation efforts. Through a combination of facilitated discussions, messaging exercises, concept development, campaign element evaluations, budgeting scenarios, and high level rollout principles discussion, the SC explored how a Culture of Safety campaign could be translated from strategy into action. The result is a flexible framework that not only identifies what the campaign should communicate, but also provides guidance on how future campaign elements may be selected, budgeted, sequenced, and deployed during Year 1 of the campaign and beyond.

Establishing the Campaign’s Strategic Boundaries

A critical outcome was agreement on what the campaign would and would not do. The SC confirmed that the campaign must be framed in a politically neutral way, grounded in data, designed to encourage positive behaviors such as safe driving, biking, and walking, while avoiding unproductive controversy. Most notably, the SC recommended that the campaign would reference Safe Streets for All and focus on shared responsibility.

The project team also agreed that messaging would be fully defensible: every public claim traceable to crash data or community feedback, every creative choice supported by a documented rationale. This commitment to defensibility runs

throughout the entire process as described in the guide.

Campaign Foundations

In setting the foundation, the project team deduced a shared understanding of why a behavior-change campaign is needed in a county that already has strong planning, engineering, and enforcement practices. The answer: roadway design can only go so far. The county continues to see crashes rooted in decisions made by drivers, pedestrians, cyclists, and other road users. The campaign's core purpose is to reinforce positive behaviors and reduce unsafe ones.

Regional vs. Local Campaign Structure

The first substantive discussion addressed a foundational strategic question: should this be a countywide campaign or a collection of municipal campaigns? With 53 municipalities varying widely in context, needs, and communications capacity, a collection of local campaigns would result in duplication of effort, inconsistent messaging, and no shared identity. A regional framework provides a shared identity and message architecture that individual municipalities can adopt while adapting to local circumstances. This aligned with SS4A grant expectations, noting that a county-level framework is essential for coordinating the full range of partners, police, engineering, planning, schools, and community groups, who shape safety behaviors.

Group Exercises: Surfacing Priorities, Barriers, and Tone

Discussions with the steering committee resulted in five structured group exercises to surface shared themes quickly and give every voice equal weight. These exercises provided early signals on priorities that would inform the messaging framework, including:

- **Exercise 1 – Safety Priorities:** Vulnerable road users, particularly pedestrians and bicyclists, as top concerns. Widespread confusion around traffic signals, crosswalk rules, and basic roadway expectations, aligned closely with crash patterns and county staff's anecdotal experience.
- **Exercise 2 – Barriers to Safer Streets:** A mix of structural and behavioral barriers: dangerous or unpredictable user behavior, legacy infrastructure designed for vehicle throughput, lack of driver and pedestrian education, enforcement limitations and the constraints of engineering manuals, funding and implementation delays, and cultural norms around rushing or multitasking behind the wheel.
- **Exercise 3 – Behaviors to Encourage:** Speed adjustment for conditions, no mobile use in cars, wearing seatbelts, focused driving, full stops, sober driving, road rules knowledge, sharing the road, and stopping for pedestrians.
- **Exercise 4 – Behaviors to Discourage:** Texting while driving, aggressive driving, and speeding, followed by rushing, distracted driving, oblivious driving, and unsafe passing.
- **Exercise 5 – Tone and Message Reactions:** Selected in order, the group ranked "a mix of messages" first, followed by inspirational/community-based, then serious/direct. This result was treated as a preliminary signal rather than a final decision, noting that tone must ultimately be grounded in what the data shows about the safety problems that need to be addressed.

What are the top 3 Safety Priorities in Monmouth County?



Group Exercise 1

Crash Data & Safety Findings Synthesis

Before any message can be written, the evidence base must be established. Monmouth County's crash data was reviewed through the lens of informing a public safety campaign, not simply cataloging incidents, but identifying what the data tells us about who is being hurt, where, when, and why. The outputs of this analysis are documented in the Monmouth County Crash Data: Key Messaging Takeaways report. (Appendix B)

The crash data was deliberately translated into campaign-relevant terms: priority audiences, behavioral focus areas, seasonal messaging opportunities, and geographic targeting priorities. This translation is the first step in the bridge from evidence to action.

Priority Audiences

Four audience segments emerged as primary targets for campaign messaging based on their disproportionate representation in serious crash data:

- **Young Drivers (Ages 16–24):** This group represents the largest share of all KAB (killed or seriously injured) motorist crashes and is overrepresented in distraction-related, rear-end, and angle crashes. Messaging focus areas: distraction, following distance, intersection awareness.
- **Older Adults (Ages 65+):** This group experiences the highest fatality rates, with crash severity increasing sharply with age. Messaging focus areas: left-turn caution, reaction time, visibility, and yielding behavior.
- **Male Drivers:** Male drivers account for nearly twice as many KAB injuries as female drivers and approximately three times the fatalities on County roads. Messaging focus areas: speeding, impaired driving, nighttime driving.
- **Pedestrians and Bicyclists:** Pedestrians account for

approximately 30% of all fatalities in the County. Pedestrian crashes are concentrated along NJ 35, US 9, NJ 36, NJ 71, and NJ 33. Bicyclist crashes cluster along NJ 35, NJ 71, NJ 36, and County Route 18 III. Messaging focus areas: yielding, visibility, left-turn awareness, and the four-foot passing law.

Key Behavioral Focus Areas

Beyond audience segmentation, the crash data identified four behavioral patterns most strongly associated with serious and fatal crashes in Monmouth County:

Driver Inattention: The leading contributing factor in the dataset, associated with more than 2,700 crashes. Message frame: *"Most crashes happen because someone wasn't paying attention."*

Failure to Yield: Strongly associated with pedestrian crash severity, with fatality rates between 10% and 17% in crossing scenarios. Message frame: normalize yielding as a shared social responsibility.

Speed Management: Fatal crashes cluster on 40–50 mph arterials, including NJ 35, US 9, and NJ 33. Message frame: *"Small reductions in speed can prevent serious injuries."*

Alcohol-Involved Crashes: Although less frequent, these crashes carry a fatality rate of approximately 9%, nearly triple the baseline rate. Message frame: pair messaging with seasonal enforcement periods and holiday travel windows.

Seasonal and Geographic Targeting

The crash data also revealed clear patterns by season and geography that should guide when and where campaign messages are deployed:

- **Summer:** Highest overall crash volume and bicycle crashes, increased tourism and travel contribute to elevated risk. Campaign considerations: distraction, speeding, bicycle awareness, holiday alcohol messaging.

- **Autumn:** Peak pedestrian crash season, reduced daylight combined with school-season activity increases pedestrian risk. Campaign considerations: “See and Be Seen,” crosswalk safety, yielding.
- **Winter:** Higher impaired and fixed-object crashes, early darkness and holiday travel elevate risk. Campaign considerations: holiday alcohol messaging, run-off-road prevention.
- **Spring:** A reset opportunity, reinforcing safe habits before summer travel increases. Campaign considerations: bicycle and e-bike safety, intersection awareness.

Geographically, the data points to several priority corridors: Garden State Parkway, NJ 35, NJ 36, US 9, NJ 33, and Route 537 for high-crash corridor messaging. High-crash municipalities by total volume include Middletown, Neptune, Freehold Township, Wall, and Howell. Urban cores including Asbury Park, Neptune City, Red Bank, and Long Branch warrant pedestrian-focused, street-level messaging.

Crash data tells us what the numbers show. Community input tells us how people experience safety conditions on the ground. Technical stakeholder input tells us what professionals in transportation, planning, and enforcement believe is feasible and appropriate to communicate publicly. A strong campaign draws from all three sources, and the methodology utilized is explicitly designed to do exactly that.

The Community Survey

The Safe Streets Monmouth Community Survey was deployed to gather direct public feedback on roadway safety concerns, perceived risks, and attitudes about safety messaging. The survey captured lived experience: near-misses, fear, uncertainty, and situational context that crash statistics alone cannot surface. Synthesis of survey results revealed that respondents consistently identified pedestrians and bicyclists as the most vulnerable road users, viewed drivers as a broad group rather

than a demographic segment, and framed safety concerns in terms of distraction, unpredictability, and speeds that feel “too fast for the place.”

Critically, the community survey also revealed what tone would not work. Respondents expressed strong resistance to fear-based, accusatory, or overly technical messaging. They preferred a relatable, supportive approach that positions safety as a shared experience rather than a compliance directive.

Safety Findings Synthesis , Where All Three Inputs Align

- Pedestrians and bicyclists are high-priority audiences across all data sources
- Driver inattention is the dominant behavioral issue regardless of source
- Failure to yield is consistently identified as high-risk and high-frequency
- Speed is described as contextual ("too fast for the place") rather than abstract
- Seasonal sequencing is supported analytically, experientially, and professionally
- Non-accusatory, shared-responsibility framing is preferred across all groups

Technical Advisory Committee Input

The Technical Advisory Committee (TAC) brought a professional systems lens to the synthesis. TAC members acknowledge vulnerable user risk and demographic patterns analytically but are cautious about messaging that explicitly foregrounds demographics publicly. They strongly support context-sensitive speed messaging over blanket enforcement language, and they prefer a balanced, credible, politically neutral tone. Importantly, the TAC sets the outer boundary for how far messaging can go without losing trust or institutional feasibility.

The Safety Findings Synthesis

The Safety Findings Synthesis document (Appendix B) compared findings across all three data sources, crash data, public feedback, and TAC feedback, across seven analytical lenses. This document formed the evidentiary foundation for all subsequent messaging decisions. The synthesis revealed both where inputs align strongly and where they diverge:

Where all three sources align: pedestrians and bicyclists as high-priority groups; driver inattention, failure to yield, and contextual speed as core behavioral issues; seasonal variation as a legitimate campaign variable; and a strong preference for non-accusatory, inclusive framing.

Where inputs diverge: the crash data emphasizes demographic targeting and alcohol involvement that the public and TAC sources are cautious about foregrounding. Alcohol-involved crashes are statistically significant but best addressed seasonally rather than as a standalone demographic message. Demographic-specific messaging may be analytically justified but carries implementation risk if it is perceived as singling out groups.

The synthesis concludes with a clear messaging implication for each dimension: data defines what problems exist; public feedback defines how those problems are felt; and TAC feedback defines how far messaging can go without losing credibility or generating resistance.

Messaging & Concept Development

In developing campaign messaging, three key documents were leveraged: Crash data analysis, the Safety Findings Synthesis, and the High-Confidence Messaging Zones. These resources were utilized as the foundation for three key decisions: target audience framing, tone confirmation, and a review of the Sample Message Library.

High-Confidence Messaging Zones

High-Confidence Messaging Zones (Appendix B) represent topic areas where the evidence and feedback from all three data sources (crash data, public feedback, TAC feedback) consistently align. These zones represent the strongest starting points for a countywide campaign because they are simultaneously supported by real safety data, recognized and experienced by the public, and seen as feasible and appropriate by professional stakeholders. Six zones were identified:

- **Zone 1 – Attention and Distraction:** Driver inattention is the leading contributing factor in serious crashes. The public cites distraction as the most frequent cause of near-misses and fear. TAC feedback strongly supports this as messageable without assigning blame. Messaging implication: focus on full attention as a shared responsibility, eyes up, awareness at intersections, full attention during everyday driving and crossing. Supports all audiences and all seasons.
- **Zone 2 – Yielding and Predictable Behavior:** Failure to yield is strongly associated with pedestrian crash severity. Yielding failures are among the most common and stressful experiences reported by the public. Messaging implication: frame yielding as a social norm, a sign of respect, and a behavior that reduces uncertainty for everyone. Especially effective for pedestrian-focused and intersection-based contexts.
- **Zone 3 – Speed Relative to Context:** Serious crashes cluster on 40–50 mph arterials. The public repeatedly describes speed as “too fast for the place.” Messaging implication: avoid abstract speed limits; instead emphasize slowing down where people are present, adjusting speed to conditions, and the relationship between speed and injury severity. Especially effective on corridors, downtown edges, and mixed-use areas.

- **Zone 4 – Pedestrian and Bicyclist Visibility and Awareness:** Pedestrians and bicyclists account for a disproportionate share of fatalities. Visibility and being seen are frequent public concerns. Messaging implication: emphasize mutual awareness, visibility as a safety tool, and shared responsibility between drivers and vulnerable users, without shifting blame onto pedestrians or cyclists. Supports seasonal messaging, particularly in fall and winter.
- **Zone 5 – Shared Responsibility Across All Road Users:** Crashes involve interactions, not isolated actors. The public frames safety as something “everyone deals with.” Messaging implication: position safety as a collective effort, a community value, and something that improves quality of life for everyone. Ideal for campaign-level branding and taglines.
- **Zone 6 – Seasonal Awareness and Timing:** Risk patterns change by season; the public intuitively recognizes seasonal danger; the TAC strongly supports phased, year-round campaigns. Messaging implication: use seasons to vary emphasis and tone, refresh attention without changing core messages, and increase relevance without increasing controversy.

Target Audience Approach: Mode-Based Rather Than Demographic

Based on the findings the conceptual campaign was designed around transportation modes rather than demographic groups. The audience categories are: Drivers, Pedestrians, Bicyclists, and All Road Users. The crash data did not reveal a single demographic group that would justify demographic-focused messaging, safety issues affect multiple types of roadway users, and a mode-based framework is more appropriate for a countywide campaign focused on everyday roadway behavior.



Target Audience Approach

Sample Message Library and Message Rankings

A Sample Message Library was developed that could serve as a collection of concise, tone-sorted messages organized by audience and tone category. These messages are intentionally short: they represent “idea kernels” that serve as conceptual seeds for campaign assets, not finished copy.

Concepts Development and Structure

Sixteen campaign concepts (Appendix B) were developed from the top-ranked messages in the Sample Message Library. The concepts were organized into four tonal categories, Serious/Direct, Inspirational, Universal, and Steering Committee Inspiring Concepts, with audience variants for Drivers, Pedestrians, Bicyclists, and All Road Users. While all of the concepts were regarded as vetted and appropriate concepts, the 16 concepts were ranked to develop a potential top five that could be used in Year 1 of the campaign.

The concept shortlist after ranking included:

- **It Can Wait (Drivers)**
- **Be Fun. Drive Boring. (Drivers)**
- **Be Seen (Pedestrians)**
- **Full Attention (All Users)**
- **No Respawns (Pedestrians)**

All concepts remain flexible, they can be refined during scripting and storyboarding, and final selections are not locked. The concepts are designed as expandable frameworks that can be built upon or extended into additional formats in the future.

Be Fun. Drive Boring. Sample Campaign Package

A sample campaign package (Appendix B) was developed based off of one of the vetted Culture of Safety campaign concepts. The objective was to illustrate how the County can take vetted and data driven concept(s) and expand them into a multi-element campaign. The “Be Fun. Drive Boring.” concept was chosen as the illustrative concept to be built out. The “Be Fun. Drive Boring.” concept centers on the contrast between people’s energetic, expressive lives outside the vehicle and their calm, focused behavior behind the wheel.

Video Concept:

The core narrative: *“A driver (in plain clothing) sits at a stoplight in a car, calm and focused, with passengers excited about the upcoming concert they are driving to. Playing the music, distracted on their phones, and talking to each other. Within this environment, the driver is focused and composed without making major reactions to connect or partake in the excitement. The driver maintains his/her focused and controlled behavior despite the chaotic environment as a conscious act to not be distracted. When they step out, the controlled behavior changes, the driver’s clothing changes to concert attire and they*

return to the world full of energy, personality and connection with their passengers. Outside, they are singing, dancing, and sharing their excitement for the concert. The concept reframes careful driving not as dull or lifeless, but as a deliberate choice: to hold back in the moments that demand focus, so you can fully lean into excitement, expression, and freedom where they truly belong - in an environment outside the car.”

Two primary storyboard approaches were developed for visual guidance for potential videos:

- **Storyboard Option 1 – Visual Morph Approach:** Utilizes visual morphing effects to transition individuals between exciting activities and safe driving behavior. This approach would create a visually striking result but requires substantial pre-production planning, advanced visual effects work, specialized production staff, and additional post-production resources.
- **Storyboard Option 2 – Smash-Cut Approach:** Uses abrupt “smash cuts” between lively activity scenes and quiet driving scenes, creating strong visual and audio contrast through sound design and pacing. This version is easier and less resource-intensive to produce while still delivering the core concept.

Additional Asset Formats

The project team also developed other formats to demonstrate how the primary “Be Fun. Drive Boring.” concept could be adapted across media. These included:

- Educational posters (split-image, fun identity vs. boring/focused driver)
- Social media cutdowns (30-second video adaptations for Instagram/Facebook)
- Social media story posts with interactive polling features

- Radio/streaming spots (30-second and 15-second scripts)
- Wide-screen visuals for transit ads, bus shelters, and train station placements

Celebrity partnerships, if pursued, could be integrated into posters or social media assets to increase visibility and public engagement. The examples demonstrated that a single campaign concept, engineered correctly, can be repurposed across multiple media formats while maintaining consistent messaging and branding.

Concept Details & Morph Guidance:

For all visuals, Monmouth County would like to explore a variant where there is a 'slash' or 'split' that clearly shows the two sides (fun side and responsible side) of a person within a single image.

The visual should convey that individuals should adopt their 're-sponsible' persona while driving, while their more expressive or fun-loving side is reserved for non-driving contexts. Due to the production complexities involved in staging these types of visuals, the specific requirements and final outputs should be discussed and finalized during the production phase of asset development.

The following inspiration images, generated through AI, are conceptual in nature and not intended as exact representations of the final visuals.



County Iterations: Inspirational Artwork Be Fun, Drive Boring.

Note: All concepts presented can be adapted within multiple visual and textual formats, and should be used as inspiration.

Monmouth County SS4A: Campaign Package: Be Fun, Drive Boring



1.4

Be Fun, Drive Boring. Sample Campaign Package Page

Carrying This Process Forward

The process documented in the guide is not a one-time project. It is a replicable methodology, a structured way of building public safety campaigns that is grounded in evidence, accountable to community experience, and realistic about what it takes to implement. Every phase described in the guide can be repeated, adapted, or accelerated the next time Monmouth County undertakes a road safety communications effort.

What Makes This Process Replicable

The methodology works because it separates each step clearly. Data analysis and community engagement happen before messaging. Messaging decisions happen before creative development. Creative development happens before media selection and budget planning. When each phase is completed in order, every downstream decision is better informed. Skipping phases, moving directly to creative concepts without a messaging framework, or to budget planning without knowing what tactics are preferred, is where campaigns lose coherence and cost-efficiency.

The Steering Committee structure is also replicable. A small, decision-capable body of four to seven members, meeting at key process milestones with prepared materials and structured exercises, can move through all four phases of this process in a thoughtful and efficient manner.

The Living Documents in This Campaign Package

Several documents produced through this process are explicitly designed to grow and evolve over time:

- The Sample Message Library: New messages should be added as new campaigns target new behaviors or audiences.

Messages that underperform in practice should be retired or revised. The library should be reviewed at least annually.

- The High-Confidence Messaging Zones: These zones may shift over time as crash patterns change, community concerns evolve, or new enforcement or infrastructure changes alter the behavioral landscape. A light-touch data review at the start of each new campaign cycle will confirm whether the zones remain valid or require updating.
- **The Media Placement Catalog:** Vendor offerings, rates, and platform options change frequently. The catalog should be reviewed before each new media buy to ensure it reflects current market conditions.

The Path to Year 1 Implementation

The materials produced through this process are designed to accelerate Year 1 implementation. The Be Fun. Drive Boring. campaign package provides a production-ready conceptual foundation. The four budget scenarios offer a clear scoping framework. The media elements selections provide a starting point for vendor outreach and proposal solicitation.

The next steps toward implementation include: finalizing the budget scenario for Year 1 based on available funding; confirming internal production assignments; soliciting vendor quotes and proposals for externally produced elements; confirming and finalizing production-ready scripts and storyboards from the conceptual campaign package; establishing a campaign management calendar aligned to the seasonal messaging opportunities identified in earlier section; and circulating the final Campaign Guide as the governing reference document for all implementation decisions.



8

PROGRESS AND TRANSPARENCY

PROGRESS AND TRANSPARENCY

Measuring Progress

To ensure steady progress is made towards the zero deaths and fatalities goal, a series of performance measures were identified for Safe Streets Monmouth.

The Action Plan Projects and Strategies (APPS) matrix includes 36 actions and strategies to address the major safety concerns in the County. A series of performance measures were identified for to effectively measure progress towards the goal of zero fatalities and serious injuries. These performance measures should be tracked annually.

- Number of fatal crashes
- Number of serious injuries
- Number of VRU crashes
- Number of all crashes
- Miles of HIN projects advanced for implementation
- Number of safety campaign materials distributed
- Number of safety improvements near a key destination (school, park, community facility)
- Number of systemic improvements implemented
- Number of near miss segments examined for further study
- Number of supplemental corridor projects advanced
- Number of policy recommendations advanced
- Number of before/after studies conducted of implemented projects
- Number of public surveys or feedback form conducted

Transparency

Safe Streets Monmouth plan includes a database of crash data, near-miss data, outreach input and other key datasets for every municipality in the County. The purpose of the data for the municipality is to provide support in the creation of local safety action plans focused on municipal roads.

The online tracking dashboard will provide easy access to the crash data, HIN, corridor projects and other information to foster transparency and accountability. The final plan will be available online and an ArcGIS story map will be developed in an interactive and easy to read format.

The County should consider preparing and publishing annual reports to detail the progress made toward eliminating fatalities and serious injuries in the County.



APPENDIX

APPENDIX

APPENDIX A: SAFETY ANALYSIS TECHNICAL MEMORANDA

APPENDIX B: CULTURE OF SAFETY CAMPAIGN GUIDE

APPENDIX C: PUBLIC ENGAGEMENT AND COLLABORATION SUMMARY

APPENDIX D: 4 ALL ANALYSIS TECHNICAL MEMORANDUM

APPENDIX E: POLICY AND PROCESS REVIEW TECHNICAL MEMORANDUM

APPENDIX F: FUNDING SOURCES

APPENDIX G: SS4A SELF-CERTIFICATION CHECKLIST

APPENDIX H: FHWA PROVEN SAFETY COUNTERMEASURES



SAFE STREETS
MONMOUTH

