April 2025

Middletown

Safe Streets and Roads for All Safety Action Plan

SS4A
SAFE STREETS FOR ALL

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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
AADT	Annual Average Daily Traffic
BCA	Baseline Crash Analysis
BMP	Bicycle Mobility Plan
BPAC	Bicycle and Pedestrian Advisory Committee
DPW	Department of Public Works
FHWA	Federal Highway Administration
FI	Fatal and All Injury Crash Severities
FSI	Fatal and Serious Injury Crash Severities
HEZ	Health Equity Zone
HIN	High Injury Network
HRN	High-Risk Network
HSIP	Highway Safety Improvement Plan
LPI	Leading Pedestrian Intervals
NAVSTA	Naval Station
PDO	Property Damage Only
PSCi	Proven Safety Countermeasures Initiative
RIDOT	Rhode Island Department of Transportation
RIPTA	Rhode Island Public Transit Authority
RIDSP	Rhode Island Division of Statewide Planning
RRFB	Rectangular Rapid Flash Beacons
SS4A	Safe Streets and Roads for All Program
SAP	Safety Action Plan
SHSP	Strategic Highway Safety Plan
SRTS	Safe Routes to School
STIP	Statewide Transportation Improvement Program
USDOT	U.S. Department of Transportation
VRU	Vulnerable Road Users (i.e., people walking, bicycling, scooting, rolling in a wheelchair, or mobility device)

Acknowledgments

This plan was made possible by:

Middletown Safety Action Plan Project Management Team
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Executive Summary

SS4A and Project Overview

Safety has been a serious concern for people travelling in Rhode Island. Through the Federal Highway Administration (FHWA) Safe Streets for All (SS4A) program, Rhode Island Public Transit Authority (RIPTA) secured funding in 2022 to support the state and participating municipalities in planning for infrastructure, policy, and programming improvements that will prevent injuries and save lives. With the SS4A grant award and other statewide efforts through the Division of Statewide Planning (RIDSP) and the Rhode Island Department of Transportation (RIDOT), the state is focusing on improving safety on all roadways.

The SS4A planning project created municipal Safety Action Plans (SAPs) for 31 participating Rhode Island communities, as well as a statewide Safety Action Plan. The project will establish guidelines to effectively implement a tangible version of the SS4A mission, guided by the Safe Systems Approach. This approach encompasses shifting safety needs, known and emerging areas of safety improvement, identification of priority projects, and position the state and its municipalities for further federal funding.

This project includes a three-tier safety analysis to understand the current state of road safety in each community, identify high risk areas, and develop a predictive view of potential crash sites. However, data does not always tell the full story. The project team also attended community events and hosted pop-ups across Rhode Island to engage the public in deeper discussion and learn more about the project. The public was also encouraged to participate in a Safety Survey pertaining to the SS4A.

Overview

Through the SS4A program, Middletown, together with other participating municipalities and agencies, received continued opportunity to make improvements to the transportation system that will prevent injuries and save lives. In 2022, USDOT awarded RIPTA SS4A funding to develop comprehensive Safety Action Plans. Although this Safety Action Plan was part of the umbrella program, Middletown received a tailored Plan with comprehensive analysis, public engagement, high-risk area identification, and safety improvement recommendations. RIPTA's statewide plan outlines broader safety concerns and goals across Rhode Island.

The overarching process for developing the municipal Safety Action Plans includes these general scope and schedule items:

- Discuss community goals (from April to May 2024)
- Collect community input (from June to September 2024)
- Develop community Safety Action Plans (from July 2024 to March 2025), including:
    - Safety analysis (Baseline Crash Analysis, High-Risk Network, High Injury Network)
    - Policy discussion
    - Identification of priority locations/projects

Project Components

Safety Analysis

The safety analysis uses data to identify key crash patterns and trends and the contributing factors that have led to fatal and serious injury crashes in the project area. This analysis is based on five years of crash data (from 2019 to 2023), collected by enforcement agencies using the State of Rhode Island Uniform Crash Report form, combined with roadway and land use data. Together, this information identifies the types of infrastructure, behavior, and contexts that have the greatest impact on safety performance. Safety analyses inform policy, infrastructure, and programming improvements for all modes of travel.

Engagement

Stakeholder engagement and collaboration ensure that the plan includes diverse perspectives and insights, identifies risks not apparent in the data, and provides concurrence for solutions. Engagement was held early and at key points throughout the project, to gather input from stakeholders and the public as part of the decision-making process.

Safety Action Plan

This plan outlines the specific steps and strategies to address the safety challenges and goals, in Middletown. Recommended activities, such as safety-focused processes, new infrastructure, or policy changes, are articulated to meet the plan's goals and objectives. Responsible agencies or individuals to coordinate on each activity are identified. Finally, benchmarks or metrics are also generated to provide a way for the town to target projects, timelines, and progress. These benchmarks and metrics also provide an important data point for maintaining the progress and transparency of implementation efforts. This Safety Action Plan is structured around the standard SS4A Action Plan Components, listed below:

1. Leadership Commitment and Goal Setting
2. Planning Structure
3. Safety Analysis
4. Engagement and Collaboration
5. Equity Considerations
6. Policy and Process Changes
7. Strategy and Project Selections
8. Progress and Transparency

Proposal for Future Grant Opportunities

By prioritizing analysis, engagement, and action planning, the Safety Action Plans help prepare municipalities to submit grant proposals. This will support ongoing implementation and construction efforts, enhancing community safety, addressing areas of concern, and establishing infrastructure for healthier, happier communities.

Key Safety Action Plan Findings

Middletown is committed to eliminating traffic deaths and serious injuries on the town's streets by 2034. This Safety Action Plan is the roadmap to that goal. This plan was crafted through comprehensive safety analyses and community engagement activities which found that:

Safety Analysis

- Compared to people in vehicles, people walking, bicycling, or riding a motorcycle were much more likely to be injured or killed when crashes occur.
- While only 5 percent of the roads in Middletown are multilane, these roads accounted for 33 percent of fatal and injury-causing crashes.
- Similarly, state roads accounted for 45 percent of crashes resulting in an injury or fatality, even though they make up 11 percent of total roadway mileage.

Community Engagement

- East and West Main Roads, both of which are multilane state roads, are a high priority for safety improvements. Many residents try to avoid them, citing dangerous conditions.
- The Community expressed a desire for more separation between drivers and people walking, bicycling, and using other forms of active transportation, including a more complete sidewalk and bikeway network, safe crossings, and separate paths away from the road.
- Local leaders and activists elevated the importance of developing a Safe Routes to School program to ensure children and families can travel safely to and from school.

Key Safety Action Plan Outcomes

To achieve zero traffic deaths and serious injuries by 2034, the Town of Middletown identified the four core strategy categories listed below. Each strategy contains numerous actions to advance policy changes, infrastructure projects, and new processes to build a safer Middletown.

	1. Adopt a **Regional Approach** to Support Safer Streets
	2. Increase **Roadway Safety** and **Slow Speeds**
	3. Increase **Community Commitment** to Vision Zero
	4. Manage **Post-Crash Care** and **Data** Transparency

Introduction

Meeting the Challenge

Safety is a serious concern for people traveling in Rhode Island. Through the U.S. Department of Transportation (USDOT), the Safe Streets and Roads for All (SS4A) program provides funding for communities to plan and implement projects that will prevent injuries and save lives. In 2022, Rhode Island and 31 participating municipalities, including the Town of Middletown, were awarded SS4A funding to develop comprehensive Safety Action Plans.

This Safety Action Plan outlines strategies to enhance roadway safety, reduce fatalities, and prevent serious injuries for drivers; pedestrians and people using wheelchairs and other mobility devices; people riding bicycles, scooters, and other small-wheeled vehicles; and public transit users in Middletown. Middletown intends to use this Safety Action Plan to apply for implementation grants under the SS4A Program and other grants available such as those through the Federal Highway Administration (FHWA). Middletown applied for and was awarded $100,000 in SS4A funding to support additional planning and demonstration projects in 2023. As of this publication, the town has not yet received the funding.

This Safety Action Plan includes a Baseline Crash Analysis (BCA), which evaluates overall crash patterns and assesses hot spots where crashes have occurred. It also includes a systemic safety analysis, which identifies common risk factors that contribute to crashes across the entire transportation network. This combined approach, based on recent crash history and systemic risk factors, allows the Town to identify the High Injury Network and develop effective, context-specific solutions. Combining these two approaches also enables the Town of Middletown to balance reactive measures that address locations where crashes are occurring with proactive measures that address areas of risk during future project implementation. This Safety Action Plan is structured around the standard SS4A Action Plan Components, listed below:

1. Leadership Commitment and Goal Setting
2. Planning Structure
3. Safety Analysis
4. Engagement and Collaboration
5. Equity Considerations
6. Policy and Process Changes
7. Strategy and Project Selections
8. Progress and Transparency

The Safety Action Plan details strategies that advance SS4A goals to eliminate fatal and serious injury crashes. The Safety Action Plan includes individual projects, safety countermeasure opportunities, and recommended policy changes to address safety and mobility challenges in a fair and sustainable way.

Safe System Approach

The Safe System Approach has been adopted by the transportation community to identify and reduce risks found in the transportation system. This approach focuses on evaluating human mistakes and vulnerability in addition to crash analysis to create a comprehensive plan to improve safety.

All materials and project guidelines in this Safety Action Plan prioritize the Safe System Approach (Figure 1). The Safe System Approach anticipates human mistakes and proactively designs infrastructure to reduce the risk of those mistakes occurring and to reduce the injury severity when a mistake does occur.

Source: U.S. Department of Transportation

Figure 1. Principles and Objectives of a Safe System Approach

Principles of a Safe System Approach

Death and Serious Injuries are Unacceptable. The approach focuses on elimination of crashes that result in serious injury or death.

Humans Make Mistakes. People will unfortunately make mistakes or choices that lead to crashes of all types. This approach tries to anticipate the mistakes/choices that may be made to limit the number of serious crashes.

Humans Are Vulnerable. Human bodies have a threshold of injury during a crash before it results in death. It is of paramount importance to create a transportation system that accounts for human vulnerabilities in its design.

Responsibility is Shared. All stakeholders are vital to mitigating crash fatalities and injuries.

Safety is Proactive. Utilizing proactive tools to address safety issues before crashes occur.

Redundancy is Crucial. Reducing risks requires that all aspects of transportation have an opportunity for improvement.

The Safe System Approach provides a framework for identifying and prioritizing projects. The Safe System Approach was used to ensure this Safety Action Plan:

- Addresses the causes and context for fatal and serious injury crashes throughout the community.
- Prioritizes systemic change over individual behavioral change.
- Prioritizes system-wide risk mitigation over the causes of individual crashes.

By integrating these factors into this Safety Action Plan's recommendations and priorities, the Town of Middletown will achieve a balance between reactive strategies that tackle issues leading to fatal and serious injury crashes, and proactive strategies that address system risks before such crashes occur.

The balance between these approaches is also present through the Baseline Crash Analysis, which identifies high-level patterns for fatal and serious injury crashes that have occurred, and the systemic safety analysis, which identifies risk factors that could lead to future fatal and serious injury crashes if left unaddressed.

How does the Safe System Approach interact with Complete Streets?

Complete Streets are streets that prioritize safety, accessibility, convenience, and comfort for people walking, using a mobility device, riding a bicycle or scooter, taking transit, and driving, regardless of their age and ability.

The aim of Complete Streets aligns with the Safe System Approach. A Complete Streets policy is a tool to implement more complete and safe streets, which will support safety goals.

Figure 2. Middletown Town Hall

Municipal Background

The Town of Middletown is a coastal island community of approximately 15 square miles. Located in the middle of Aquidneck Island, it is bordered by the City of Newport to the south and the Town of Portsmouth to the north. Otherwise, Middletown is surrounded by water: the Narragansett Bay to the west and the Sakonnet River to the east. State routes and bridges bring people from the mainland, through Newport and Portsmouth. While no bridges connect directly to Middletown, the Claiborne Pell/Newport Bridge connects to Newport and the Mount Hope Bridge and Sakonnet River Bridge connect to Portsmouth.

Aquidneck Island is part of Rhode Island's East Bay, marked by historic architecture, ample natural resources, an active tourism and recreational economy, and popular open space in destinations such as the Norman Bird Sanctuary and Sachuest Point National Wildlife Refuge, in Middletown. The town is home to two public beaches, Sachuest Beach (locally known as Second Beach), and Third Beach. The west side of Middletown, near the Newport border and the Naval Station (NAVSTA) Newport, contains denser development and commercial areas that serve the whole island. The east side of town is more rural and contains farmland. Each of these areas contributes to Middletown's character of sought-after New England living.

Middletown is home to a community of about 16,900 residents. Middletown's population is aging, with 23 percent of residents aged 65 or above, as compared to the Rhode Island average of 18 percent.

Middletown also attracts families and young people; 19 percent of the population is 18 or younger, the same as the state average.[1]

Most workers have a relatively short commute. The average time is 20 minutes, about the time it takes to drive to the mainland from Middletown. While most people drive to work, about 10 percent work from home and 5 percent walk to work.[2] Fewer than 1 percent of Middletown residents commute by public transportation, as Middletown receives limited bus service. The RIPTA bus 60 provides all-day service to both Newport and Providence as frequently as every 20 minutes at certain times of day, but it alternates between running via East Main Road and West Main Road, so much of the town only receives service every 40 minutes during the day. The 63 bus runs between Middletown and Newport every 35 to 40 minutes throughout most of the day, but does not run early in the morning or late at night—the first bus to Newport leaves shortly after 7 a.m., and the last arrives from Newport shortly after 9 p.m.

The commercial areas of Middletown are oriented around vehicle travel, with large parking lots, accessed from wide roads, and incomplete pedestrian access. On the other hand, the rural historic areas of Middletown developed before cars, but now access is largely limited to access by driving. With much of the community's development oriented towards driving, it is not surprising that people who walk and bicycle are at a higher risk of serious or deadly traffic crashes. **The time is now for a renewed and intentional focus on transportation safety in Middletown.**

Figure 3. Ghost bikes honoring individuals who died while bicycling in Middletown

Ghost bikes are memorials honoring people who have died due to traffic violence. Ghost bikes are sadly too common on Aquidneck Island. The ghost bikes pictured here honor Newport resident Elias Velasquez Chavez, who died in a hit and run on West Main Road in Middletown while riding home from work on May 22, 2020 (left), and Michael L. Strickland, who died after being struck by a vehicle on Purgatory Road in Middletown, on March 22, 2012 (right).

[1] U.S. Census, American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP05, 2023, https://data.census.gov/table/ACSDP5Y2023.DP05?q=middletown+town+ri+population

[2] U.S. Census, American Community Survey, ACS 5-Year Estimates Data Profiles, Table S0801, 2023, https://data.census.gov/profile/Middletown_town,_Newport_County,_Rhode_Island?g=060XX00US4400545460

An Island-wide Approach to Roadway Safety

At 5 miles wide by 15 miles long, Aquidneck Island is a compact and relatively flat island comprised of three municipalities and many destinations.

Out of all trips that begin and end on Aquidneck, 80 percent are four miles or less, and more than 50 percent are two miles or less.

This makes Aquidneck Island the perfect size and scale for an active, healthy, and sustainable lifestyle where walking and biking are viable options for many shorter trips. This is especially important in the busy summer months when additional traffic can degrade the sense of community and connection that people love about the island.

Per *Ride Island*, an initiative led by Bike Newport and Grow Smart Rhode Island, the potential for active transportation on Aquidneck Island is unfortunately not realized today because there are very few places to safely ride a bike and few walkable neighborhoods.

Implementing the safety strategies in this plan can help give people more safe and comfortable choices for how they get around.

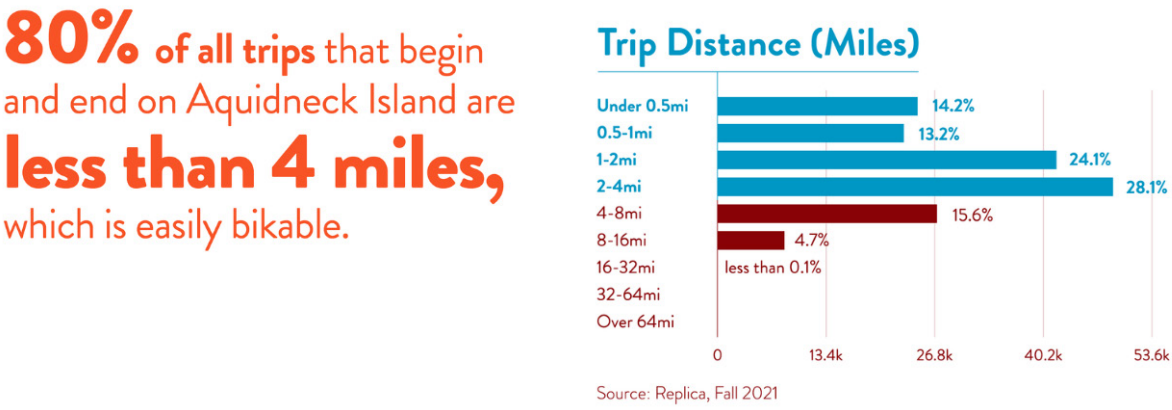


Figure 4. Key finding from the Ride Island Plan, illustrating the potential for active transportation trips on Aquidneck Island

Municipal-State Coordination

Coordination between municipalities and the state is an important part of successful implementation of road safety projects, particularly in areas where roadway networks include a mix of local and state jurisdiction. The singular focus of the municipality is contrasted with the need for the Rhode Island Department of Transportation (RIDOT) to consider systemwide improvements. RIDOT is aligned with the Safe Streets and Roads for All (SS4A) program in both its current participation in developing the parallel Statewide Safety Action Plan and its recent development of roadway safety plans that advance Vision Zero, the underlying mission of SS4A.

What is Vision Zero?

Vision Zero is a strategy to eliminate deaths and serious injuries from traffic crashes. First implemented in Sweden, cities and towns across Massachusetts and the United States are putting Vision Zero into practice to save lives. By committing to this goal, communities orient multiple departments and initiatives around life-saving transportation solutions.

The Strategic Highway Safety Plan (SHSP), Highway Safety Improvement Plan (HSIP), Statewide Transportation Improvement Program (STIP), Bicycle Mobility Plan (BMP), and RI Vulnerable Road User (VRU) Safety Assessment, among other RIDOT plans, document the criteria and process involved in safety project prioritization, selection, and funding determination. The following language from the VRU Safety Assessment is an example:

> *RIDOT works with municipalities to identify and mitigate crash issues on locally maintained roadways. RIDOT has developed a process for local agencies to request a safety improvement with the intent for local agencies to perform the 'planning' step from the HSIP process. RIDOT will then determine if the improvement is eligible for HSIP funds and distribute the funds needed to the local agencies so they can administer the construction of the improvements.*

In addition, the following language is included in the most recent SHSP:

> *RIDOT is not eligible for (the SS4A) competitive grant program: however, RIDOT can support cities, towns, tribal government and the MPO which are eligible…The success of the SHSP is dependent on implementation at the local level. SS4A will fund a wide array of activities addressing the priority safety concerns in Rhode Island.*

RIDOT's participation in the Statewide Safety Action Plan, as well as its acknowledgements in previous plans as noted above, show its commitment to work with municipalities to advance local and regional safety priorities across all roadway jurisdictions.

1. Leadership Commitment and Goal Setting

1.1 Leadership Commitment

The Town of Middletown leaders are committed to the goals set forth in this Safety Action Plan. The Middletown Town Council adopted a resolution on January 6, 2025, in support of Vision Zero (provided in Appendix A), which formally adopted the following goals and commitments:

"The Town of Middletown adopts the goal of zero traffic deaths and serious injuries, stating that no loss of life or serious injury is acceptable on our streets.

The Town of Middletown adopts the goal of eliminating traffic deaths and serious injuries by 2034 and endorses Vision Zero as a comprehensive and holistic approach to achieving this goal.

The Town of Middletown commits to establishing a continuous evaluation framework, including regular analysis of crash data and systematic review of the 2024 Safety Action Plan. This framework will involve the ongoing assessment and revision of strategies, actions, and metrics to ensure progress toward the goal of eliminating traffic deaths and serious injuries by 2034."

Figure 5. Safety Action Plan consultant Shawna Kitzman (Toole Design) presenting to Middletown Town Council

1.2 Goal Setting

The primary goal of this Safety Action Plan is to **achieve zero roadway fatalities and serious injuries by 2034.** Safety Action Planning touches on many other areas of public interest. This effort will support Middletown's vision outlined in the 2015 *Middletown Comprehensive Community Plan*:

> *Middletown will preserve its quality of life for all generations as a safe and friendly community with a distinctive heritage, extraordinary cultural and natural resources, a strong local economy and fiscally-sound government.*

The overall municipal vision is supported by interdisciplinary visions. The transportation vision sets the stage for this safety focused plan:

> *The Town of Middletown will strive to provide a safe, efficient, and sustainable multi-modal transportation system that reduces reliance on the automobile and meets the diverse needs of residents, workers, and visitors while maintaining the scenic quality of the community.*

Based on the *Comprehensive Community Plan* goals, Middletown developed the following goals to guide this Safety Action Plan.

- **Safety:** Achieve Vision Zero.
- **Access**: Support the economy through safe and efficient access to local businesses, recreational destinations, and job centers.
- **Mode Shift**: Promote use of transit and active modes of transportation.
- **Environment:** Make transportation decisions that promote energy conservation, healthy communities, and environmental quality.

Further discussion of the transportation vision and goals in the *Middletown Comprehensive Community Plan,* can be found in Chapter 6.

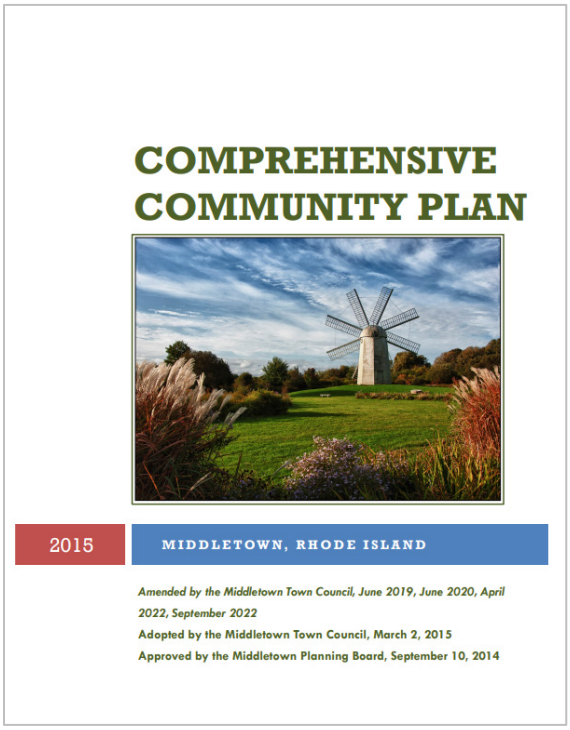


Figure 6. The Middletown Comprehensive Community Plan informs Middletown's transportation goals for this Safety Action Plan.

2. Planning Structure

Numerous partners are essential to plan implementation. These partners include different levels of government that manage Middletown's roads. Across the state, RIDOT controls 17 percent of the roadways, municipalities control 75 percent, private roads comprise 8 percent, and federal interstates make up less than 1 percent of Rhode Island's roadway infrastructure. Other key partners who helped develop the plan and who will be key to its success include the Middletown Police Department, Aquidneck Island Land Trust, Bike Newport, and others. This section describes the current and future roles these groups will play, related to transportation safety.

2.1 Current Planning Organizational Description

This plan was developed in close collaboration with the Safety Action Plan Task Force members.

The 10 Task Force members, listed in Table 1, were invited by the Director of Planning and Economic Development. The group represented the Town of Middletown Planning Department, Department of Public Works, the Police Department, Bike Newport, and the Aquidneck Island Land Trust.

The Task Force provided feedback to the project team; liaised with their departments, organizations, and communities; supported pop-up events; and responded to draft strategies and actions. Meeting formally three times between June 2024 and January 2025, the dynamic group provided technical feedback, ideas for communication channels and outreach events, and helped shape draft strategies and actions.

As a result, this plan was developed by people who will be both impacted by and responsible for the implementation of Vision Zero actions outlined herein.

Table 1. Middletown Safety Action Plan Task Force

Name	Organization	Type of Involvement
Ron Wolanski	Middletown Director of Planning and Economic Development	Project Management Team, Task Force
Anita Guo	Middletown Principal Planner and GIS Manager	Project Management Team, Task Force
Robert (Bob) Hanley	Middletown Director of Department of Public Works	Task Force
Shawn J. Brown	Middletown Administrator	Task Force
Lori Turner	Middletown Healthy Communities Coordinator, Community Outreach Department	Task Force
Lt. Mike Maruska	Middletown Police Department Lieutenant	Task Force
Emily Buck	Bicycle and Pedestrian Advisory Committee	Task Force
Tom Welch	Town Council	Task Force
Bari Freeman	Bike Newport, Ride Island	Task Force
Paige Myatt	Aquidneck Island Land Trust, Resiliency	Task Force

Figure 7. Middletown Safety Action Plan Task Force after their final meeting

2.2 Recommended Organizational Changes Post-Safety Action Plan

To set Middletown up for success in implementing this Safety Action Plan, the Town defined the following roles and responsibilities, as shown in Table 2.

Table 2. Safety Action Plan Roles and Responsibilities

Responsibilities	Staff Level	Oversight Level
Implement the Plan	▪ Regional Transportation Planner [new role] ▪ Middletown Planning Staff ▪ Middletown Police Department ▪ Middletown Department of Public Works	▪ Aquidneck Island Transportation Commission [new body]
Monitor and Evaluate Outcomes Post Implementation	▪ Regional Transportation Planner [new role]	▪ Aquidneck Island Transportation Commission [new body]
Update the Plan	▪ Regional Transportation Planner [new role]	▪ Aquidneck Island Transportation Commission [new body]

At the local level, the Middletown Director of Planning and Economic Development, Principal Planner, Director of Public Works, and Police Lieutenant, and Community Outreach Coordinator will continue the momentum from the planning process. This group will be responsible for oversight and implementation

of all aspects of Middletown's transportation goals, including Vision Zero. The Middletown planning staff will lead ongoing tracking of the recommendations within this Safety Action Plan.

At the regional level, this plan recommends identifying an existing organization that can support Safety Action Planning across the three Aquidneck Island municipalities: Newport, Middletown, and Portsmouth. Regional coordination includes forming the **Aquidneck Island Transportation Commission**, comprised of Aquidneck Island's municipal planners, engineers, public works, and fire and police department leadership to meet quarterly. The commission could also include representatives from each municipality's Bicycle and Pedestrian Advisory Committee (BPAC) or other elected/appointed boards, as appropriate, and from Bike Newport, NAVSTA Newport, the Greater Newport Chamber of Commerce, and RIPTA.

The National Oceanic and Atmospheric Association (NOAA) Marine Operations Center Facility, which is in construction on NAVSTA Newport's campus, could also be represented once established.

The regional commission would be supported by one full-time, permanent **Regional Transportation Planner** position, with an established organization identified to host. This role would be responsible for overseeing the implementation of the three municipal Action Plans, annual reviews, data analysis, and public engagement. This new role will foster an island-wide approach to transportation safety and provide technical support for local staff.

This new Regional Transportation Planner role will foster an island-wide approach to transportation safety and provide technical support for local staff.

Figure 8. Middletown Task Force in action, finalizing the Safety Action Plan Strategies (Chapter 7)

3. Safety Analysis

3.1 Analysis Overview

The safety analysis uses data to identify key crash patterns, trends, and contributing factors that have led to fatal and serious injury crashes in the Town of Middletown. This analysis is based on five years of crash data (from 2019 to 2023) collected by enforcement agencies using the State of Rhode Island Uniform Crash Report form and roadway and land use data. Together, this information identifies the types of infrastructure, behavior, and contexts that impact safety performance most. Safety analyses inform policy, infrastructure, and programming improvements for all modes of travel, as described in Chapter 7.

The key findings from the analysis are presented below. The methodology for the analysis is described in Appendix D.

Why focus on fatal and serious injury crashes?

The goal of the Safe System Approach is to eliminate fatal and serious injuries. To support that goal, the safety analysis focuses on crash patterns and factors for fatal and serious injury crashes where possible. For some crash types where there are fewer data points (e.g., crashes involving pedestrians), crashes that did not result in a death or serious injury may be included to help reveal crash patterns.

Why look at five years of crash data?

Crashes can fluctuate from year-to-year based on road conditions, community circumstances, and more. A five-year study period effectively balances changes in safety over time while capturing overall trends. The result is a safety analysis that is comprehensive and supports long-term decision making.

3.2 Baseline Crash Analysis

The key findings that informed Middletown's Safety Action Plan are presented below, complete results can be found in Appendix C.

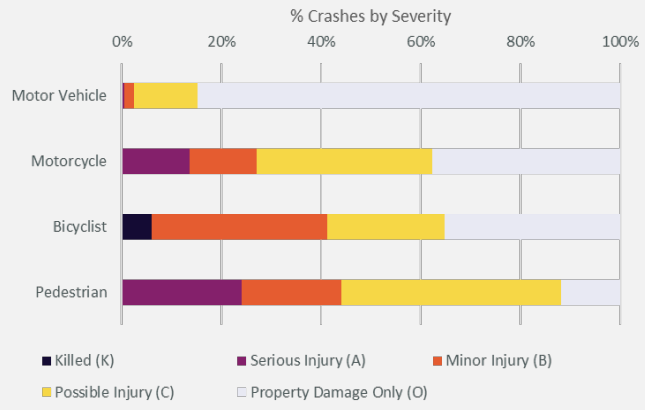
3.2.1 What types of crashes happened in Middletown from 2019 to 2023?

In Middletown, according to the five-year (from 2019 to 2023) crash dataset used for the plan:

Seventeen percent of all crashes led to someone being killed or injured (425 crashes).

Twenty-five, or six percent, of those harmful crashes led to someone being killed or ***seriously*** injured.

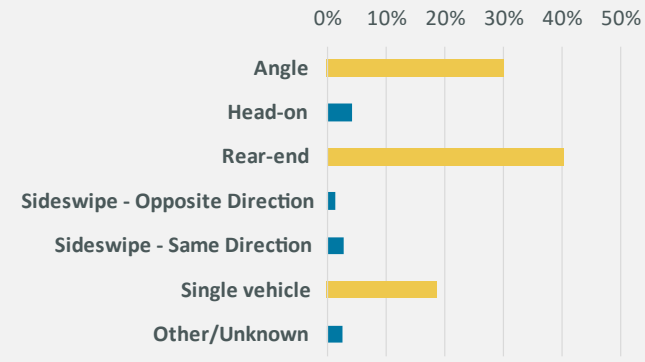
Crashed by Mode and Severity



Compared to people in vehicles, people walking, bicycling, or riding a motorcycle were much more likely to be injured or killed when crashes occur.

Eighty-eight percent of pedestrian crashes and 65 percent of bicycle crashes led to someone being killed or injured.

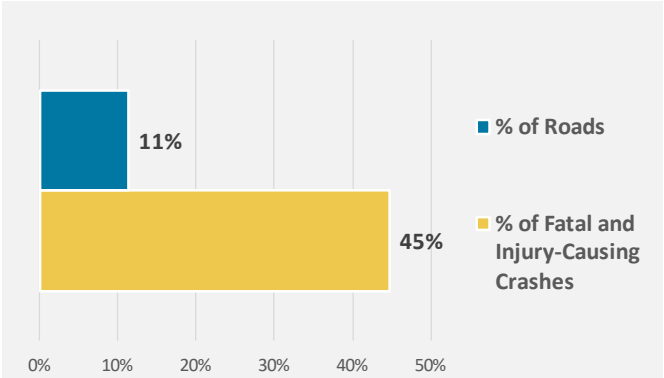
Injury Crash Types (top types highlighted in yellow)



The most common types of crashes in Middletown were **angle** (vehicles colliding at an angle), **rear-end** (one vehicle rear-ending another), and **single vehicle** (a vehicle crashing into a fixed object).

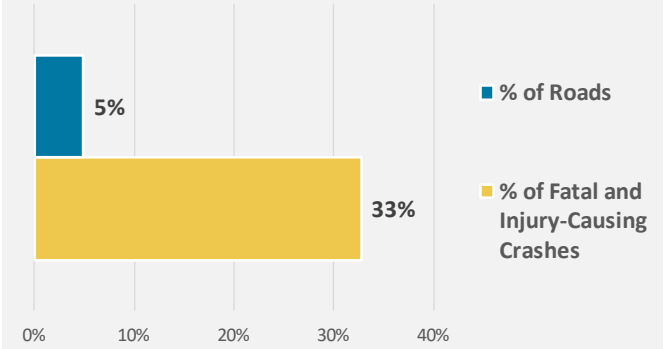
Together, these three types accounted for 89 percent of crashes resulting in an injury or fatality.

State-Owned Roads



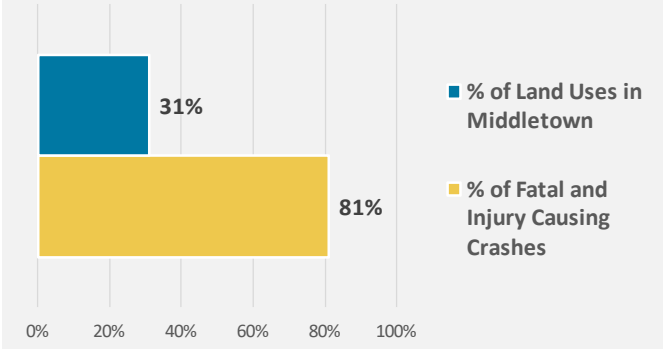
Despite accounting for 11 percent of the total road miles in Middletown, **state-owned roads accounted for almost half (45 percent) of crashes resulting in an injury or fatality** (190 crashes).

Multilane Roads



While **5 percent of the roads in Middletown are multilane**, these roads account for **33 percent of fatal and injury-causing crashes**.

Urban Land Uses



Eighty-one percent of fatal and injury crashes occurred in parts of Middletown with urban land uses, while 31 percent of Middletown is classified as urban.

3.2.2 Where did crashes occur in Middletown from 2019-2023?

The hot spot map, Figure 9, shows the locations of the fatal and injury crashes that occurred in Middletown from 2019-2023. Most injury crashes in Middletown happened in and around the denser commercial area along the Newport border. East Main Road and West Main Road, the key routes into Middletown from Newport (West Main Road only) and Portsmouth, have prominent hot spots and many recent crashes. There were also injury crash hot spots in western Middletown, on Valley Road and Green End Avenue. The following sections of this plan explore high-risk locations in more detail.

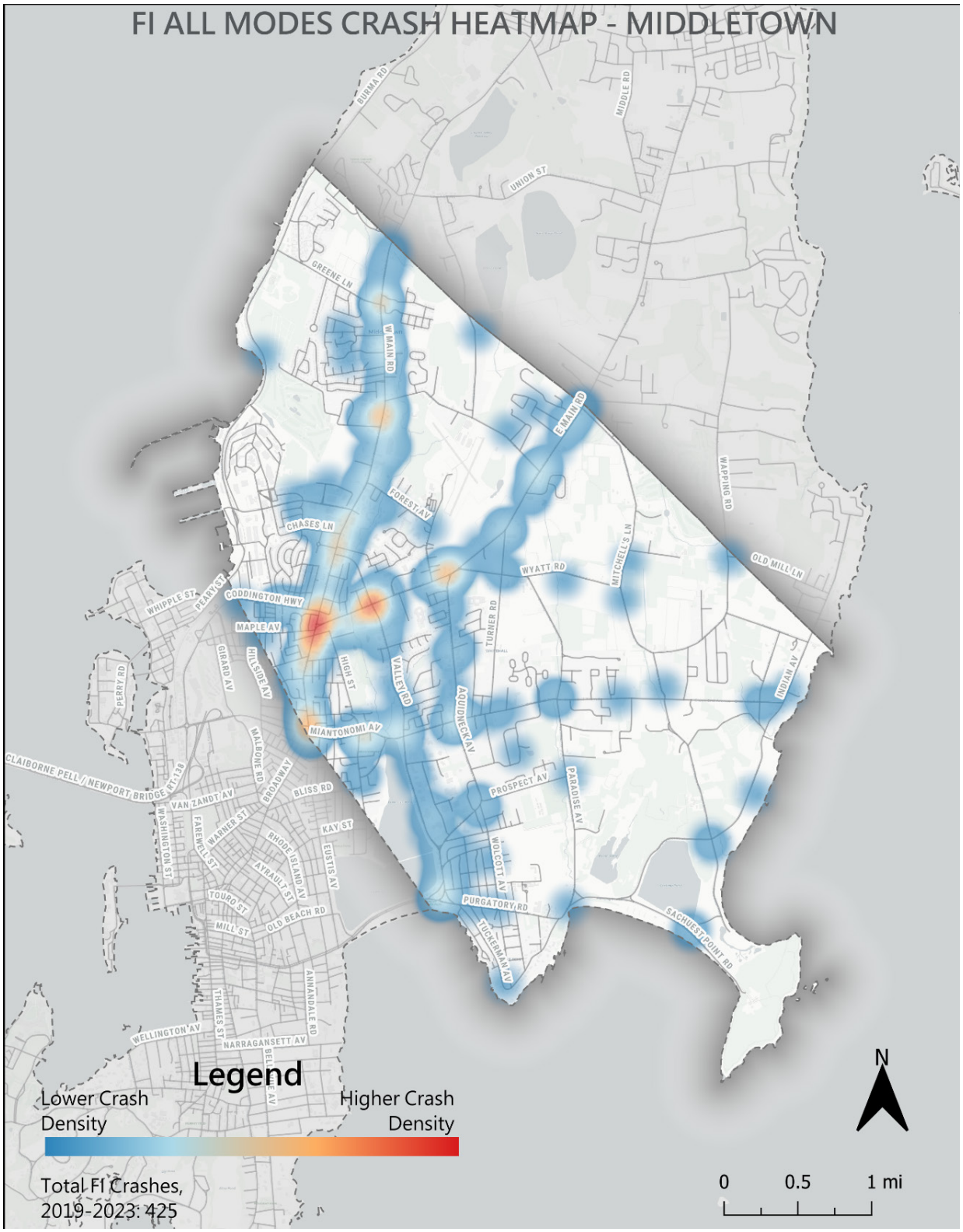


Figure 9. Fatal and Injury Crash Hot Spots (All Modes)

3.3 High-Risk and High Injury Network

Rather than just focusing on locations where crashes have occurred in the past, the high-risk analysis allows town and state leaders to focus on places that are more likely to have future crashes – either because they have a trend of past crashes or because they are similar to other locations that have higher crash rates. The team used statewide data to identify risk factors that are common to places with more crashes. The high-risk factors vary depending on the land use context (urban, suburban, and rural) and the crash type (all crashes vs. only crashes involving people walking and biking).

In all contexts and crash types, roads with higher traffic volumes, state-owned roads, streets close to schools, and areas with more zero-vehicle households have higher crash risk. Some of the risk factors vary by land use; for example, in suburban areas places with higher populations of people below age 18 have higher risk. Some of the risk factors vary depending on the type of crash; for example, streets close to parks have a higher risk of crashes involving people walking and biking. See Appendix D for all the risk factors evaluated.

The result of this analysis is the High Injury Network, which combines:

- A **reactive** look at where crashes have occurred in the past. The project team ranked all street segments based on past crashes (from 2019 to 2023) and included the top 15 percent of locations in the High Injury Network.
- A **proactive** look at where future crashes are more likely to occur. Using the high-risk analysis described above, the project team included the top risk tiers (critical, high, and medium) in the High Injury Network.

3.3.1 What Streets Have a Higher Future Crash Risk?

The project team used this approach to create two combined High Injury Network maps for Middletown: one for all modes (Figure 10) and one for vulnerable road users (Figure 11). Vulnerable road users refer to people traveling without the protection of a vehicle, including people walking, bicycling, scooting, rolling in a wheelchair, or using a mobility device. Key findings:

- The All Modes High Injury Network (Figure 10) accounts for 18 miles, which is roughly 15 percent of Middletown's 118 total miles of roadway. Yet, roads on the High Injury Network represent 64 percent (16 crashes) of Middletown's fatal and serious injury crashes.
- Of the 425 total injury crashes that occurred in Middletown over the last five years, 70 percent (298 crashes) occurred on the All Modes High Injury Network.
- The Vulnerable Road User Modes High Injury Network (Figure 11) accounts for 22 miles (19 percent) of Middletown's 118 total miles of roadway, but represents 71 percent (5 crashes) of Middletown's fatal and serious injury crashes involving vulnerable road users.
- Of the 33 total vulnerable road user injury crashes that occurred in Middletown over the last five years, 70 percent (23 crashes) occurred on the Vulnerable Road User High Modes Injury Network.
- Both High Injury Network maps include most of the major roads in Middletown. These are the corridors that provide critical connections from the other Aquidneck Island communities to Middletown. The analysis also found that vulnerable road user risk is more dispersed, including these major roads as well as minor streets that connect neighborhoods to commercial corridors.

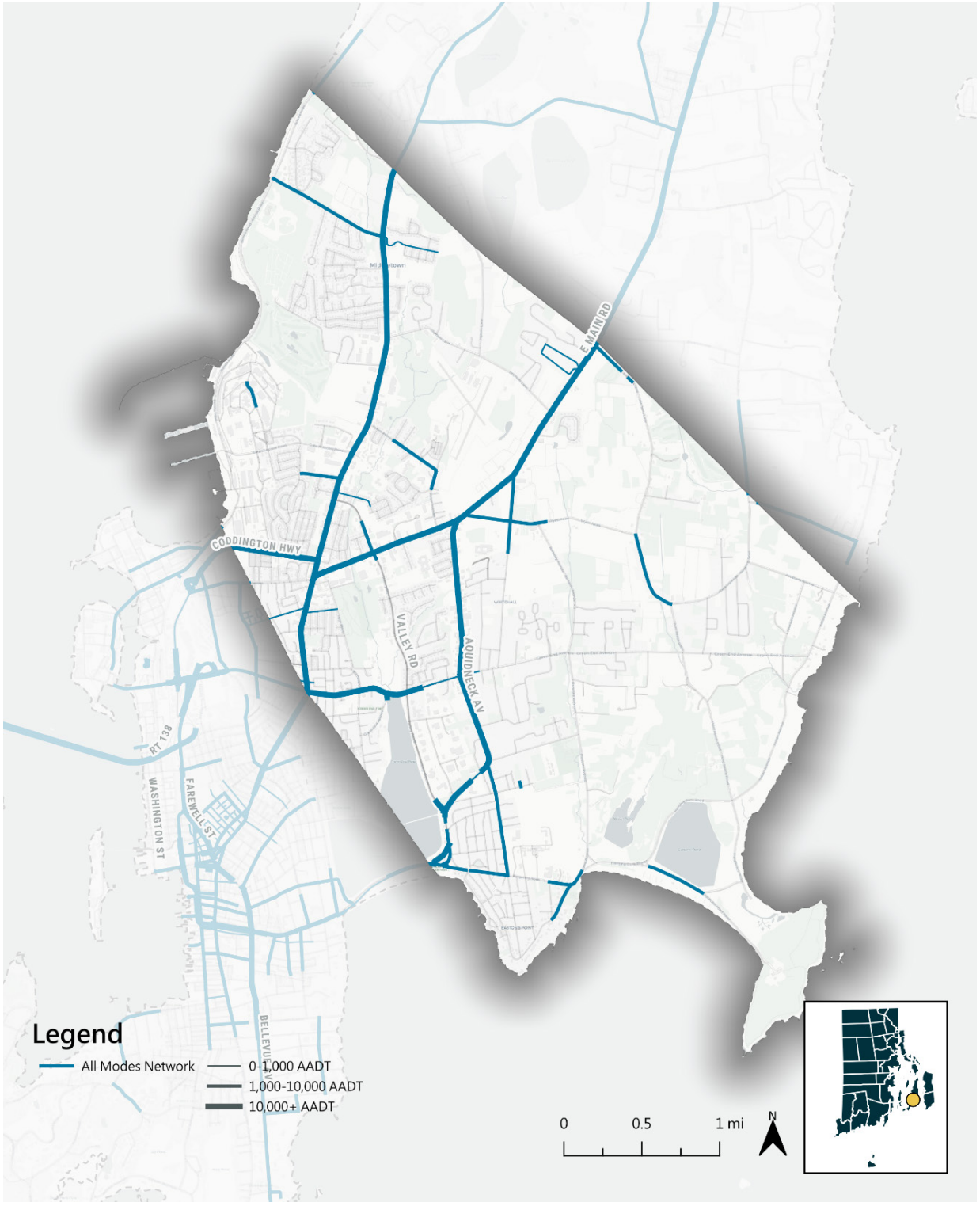


Figure 10. High Injury Network Map – All Modes

(AADT = Average Annual Daily Traffic)

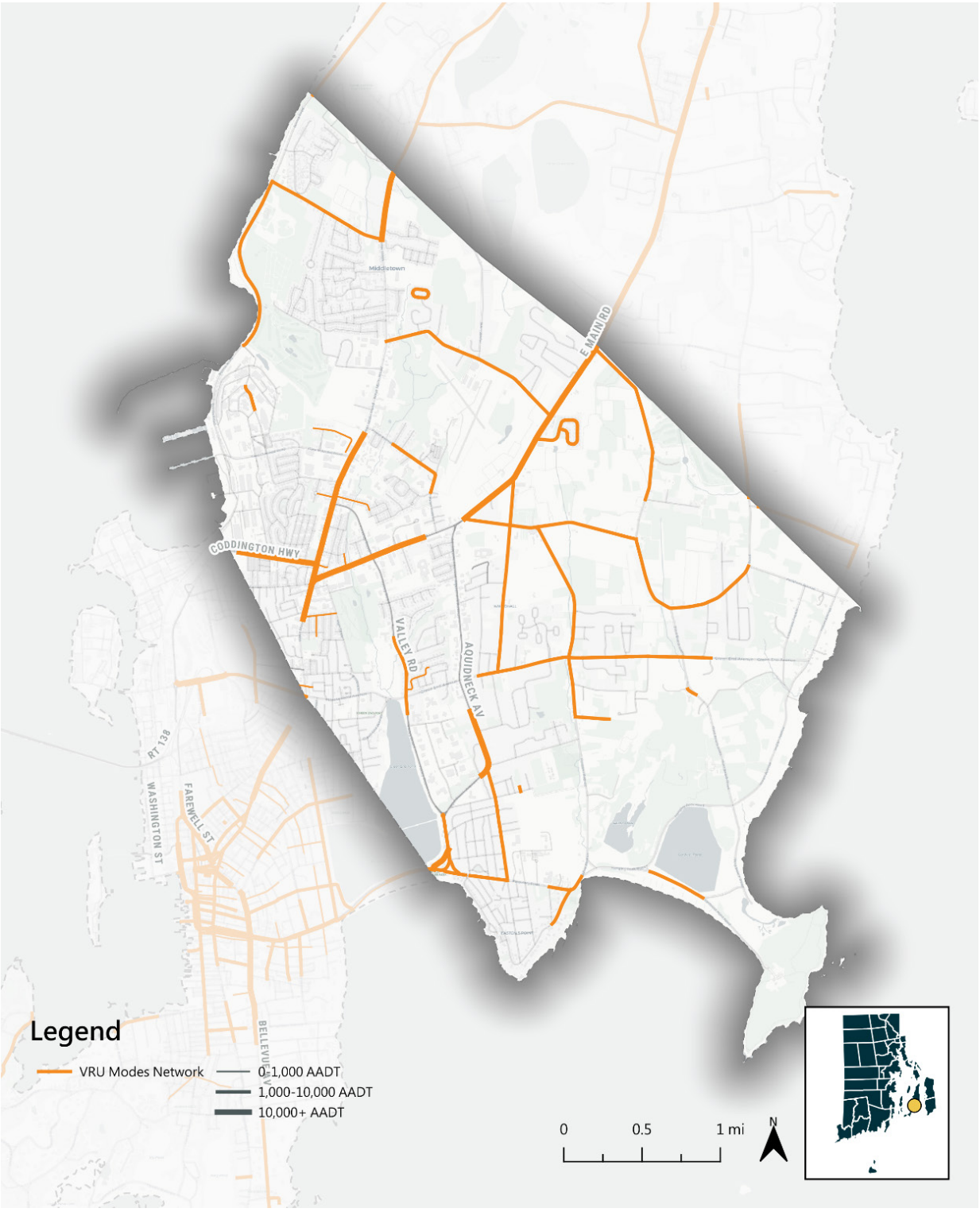


Figure 11. High Injury Network Map – Vulnerable Road User Modes

(AADT = Average Annual Daily Traffic)

4. Engagement and Collaboration

Stakeholder engagement and collaboration ensure that this Safety Action Plan includes diverse perspectives and insights, identifies risks not apparent in the data, and provides local support for solutions. The team conducted engagement early and at key junctures throughout the plan development, including stakeholders and the public as part of the decision-making process.

4.1 Stakeholders

Many stakeholders contributed to the creation of this plan. Collaborating as a region, leadership from the Town of Middletown established an early network of key stakeholders to include in the engagement process. These stakeholders helped facilitate public engagement and encourage feedback from the broader community. As outlined in Section 2.2, select organizations and individuals will continue to advise the town as they advance safety solutions and investments during implementation.

When identifying key stakeholders for the Safety Action Plan, the team engaged various organizations and individuals, including those representing the following groups:

Municipal Stakeholders

- Planning Department staff
- Public Works Department staff
- Community Outreach staff
- Middletown Police
- Middletown Town Council

External or Regional Stakeholders

- Aquidneck Island Land Trust
- Grow Smart RI
- Bike Newport
- Rhode Island Bike Coalition (RIBike)
- NAVSTA Newport

4.2 Stakeholder Feedback Summary

To facilitate regional coordination on roadway safety, the project team hosted the Aquidneck Island Transportation Safety Summit on October 22, 2024. The Middletown staff were among 11 participants who represented the three island municipalities, the Aquidneck Island Land Trust, and the RIBike advocacy group. From Middletown, the Town Council Vice President, Principal Planner, Department of Public Works Director, and Healthy Communities Coordinator participated. The workshop focused on shaping plan recommendations and implementation strategy development appropriate to the communities. Appendix E contains a full summary of this event.


Figure 12. The Aquidneck Island Transportation Safety Summit focused on developing strategies and actions with key stakeholders.

The key themes from the Safety Summit participants include:

Theme 1: Safer Streets
Stakeholders support the development of RIDSP and RIDOT's Complete Streets Plan and Design Guidelines. There is a need for street design guidance that accounts for accessibility, rooted in best practices and applicable to Middletown's context. Prioritizing areas with the greatest need, infrastructure upgrades should protect pedestrians, transit riders, and bicyclists by incorporating protected bike lanes, accessible sidewalks, and traffic calming. Additionally, the group supported testing "quick build" solutions to build community support and political will, and to collect data before investing in permanent roadway changes.

Theme 2: Safer Vehicles and Speeds
Stakeholder feedback focused on the need for traffic calming, such as speed humps and narrower lanes to reduce speeding. Suggestions included evaluating speed limits, to ensure they are context-sensitive and prioritize safety for all road users and creating neighborhood-level reduced speed zones. Stakeholders expressed support for speed safety cameras in school zones and installing safety technology on municipal vehicle fleets over time.

Theme 3: Safer People
The group elevated the importance of developing a Safe Routes to School program to ensure children and families can travel safely to and from school. Additionally, bikeshare and e-scooter share programs, and programs to encourage walking, biking, and transit are key strategies that would be effective on Aquidneck Island. Stakeholders also support disseminating additional road safety information to new drivers, including training on defensive driving and on non-driving modes to cultivate a culture of safety and multimodal awareness among all road users.

Theme 4: Post-Crash Care & Data Transparency
Stakeholder feedback emphasized the need to develop a robust local crash data tool to improve data sharing and analysis. Participants highlighted standardizing crash data collection and reporting, while making anonymized data accessible online in a user-friendly format, as critical steps to increase transparency and inform decision-making. Additionally, stakeholders recommended before and after

studies of traffic-calming interventions to evaluate their effectiveness and inform future projects.

Select actions were eliminated based on Task Force review and municipal feedback during the planning process.

4.3 Public Engagement

Public engagement can transform any planning study into a collaborative effort, resulting in a more practical and responsive plan. The project team collaborated to identify points in the process to connect with the public about their experiences and thoughts on roadway safety. This feedback is critical data that helped shape plan recommendations.

Figure 13. Team staff tabled at the Middletown-based Aquidneck Growers Market pop-up event.

Public engagement opportunities during the development of the Safety Action Plan included:

- Community-wide survey, available both on paper and online
- Tabling and participation at several events throughout Aquidneck Island, which draw a regional audience:
  - newportFILM Screening of *The Street Project* on July 18, 2024
  - Portsmouth Family Day on August 11, 2024
  - Middletown Town Concert on August 12, 2024
  - Aquidneck Farmers' Market on September 7, 2024
  - Sakonnet Bike and Stroll on September 14, 2024
  - Anna D's Farmers' Market on September 16, 2024
  - Middletown Family Day Prevention Coalition on September 28, 2024
  - Broadway Open Streets on October 12, 2024

Through these engagement touchpoints, Middletown identified broad safety concerns within the community, educated the public on transportation safety challenges, evaluated support for proposed safety improvements, and established partnerships for long-term improvements.

Middletown leadership and stakeholders also participated in a walk and bike audit of Valley Road in November 2024, through the Ride Island project (Figure 14). The audit assessed safety and access needs on this primary corridor where community destinations, assisted living, several early childcare facilities, and Middletown High School, as well as RIPTA transit facilities, are located.

Figure 14. Middletown leadership join island stakeholders on a walk and bike audit of Valley Road.

4.4 Public Engagement Summary

Through surveys, tabling at community events, and meeting regularly with Town Planning staff, the Town of Middletown gained insights from the public to inform this Safety Action Plan and its implementation. Additional survey details and records from the public engagement process are included in Appendix B.

4.4.1 Key Takeaways

- Multilane, state-owned East Main Road and West Main Roads are a high priority for safety improvements. Many residents try to avoid them, citing dangerous conditions.
- The Community expressed a desire for more separation between drivers and people walking and bicycling, including via a more complete sidewalk and bikeway network, safe crossings, and separate paths away from the road.

- There is more emphasis on slowing vehicle traffic in Middletown than there is in other Rhode Island communities that completed the same survey.
- There was concern about traffic violations and driver behavior, particularly speeding, running stop signs or stop lights, and distracted driving.

4.4.2 Community Survey

Paper and online surveys also solicited input from the public during the public engagement process. The surveys included questions about travel patterns, important destinations in the community, safety concerns, infrastructure improvement strategies, and how the respondents would weigh various tradeoffs. Open-ended questions allowed respondents to provide thoughts, comments, or questions for the Town of Middletown's consideration and inclusion in this plan.

Plan Engage provided an online resource that incorporated information and feedback from all participating communities in a single statewide platform. A total of 54 surveys were completed by Middletown residents between July 17 and September 16, 2024.

Survey Responses

- **Survey Households with at Least One Car**: 94 percent
- **Primary Locations of Concern**: West Main Road (6), East Main Road (5), Paradise Avenue (3), Beaches (3)
- **Primary Themes**: Driver Behavior (27), Walking (8), Biking (7), Complete Streets (4), Equity – Children/Seniors/Accessibility (4)

Survey respondents were most concerned with speeding, followed by running stop signs or lights without coming to a complete stop. Lower driver speeds were of interest to both drivers and people walking and bicycling. Many respondents are interested in seeing a more complete network of dedicated pedestrian and bicycle facilities, as well as safety improvements at crossings. Survey respondents often mentioned that they'd like to walk or bike more, but believe the roads are too dangerous. Desired transit improvements include improved seating, weather covering, and signage, consistent with other towns on Aquidneck Island. East and West Main Roads were the most frequently mentioned streets, while beaches, parks, and schools were noted as destinations where improvements would be beneficial.

Driving is the preferred mode for many survey respondents in Middletown, as shown in Figure 15. Most respondents never carpool, bike, or take transit. Most respondents walk at least once a month.

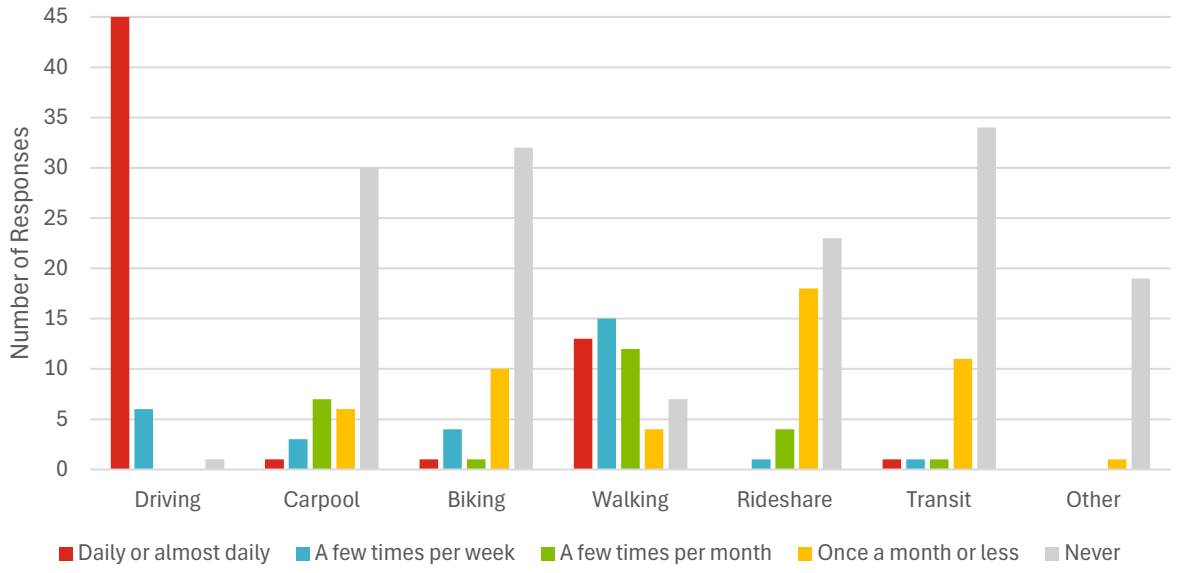


Figure 15. Please check all the ways you travel and the frequency that you travel by that mode (Please select all that apply).

When asked to identify behavioral programs that would be most effective in changing driver behavior, respondents indicated the greatest support for enforcement, followed by speed management (including setting appropriate speed limits for each road's context), and education for distracted drivers, as shown in Figure 16.

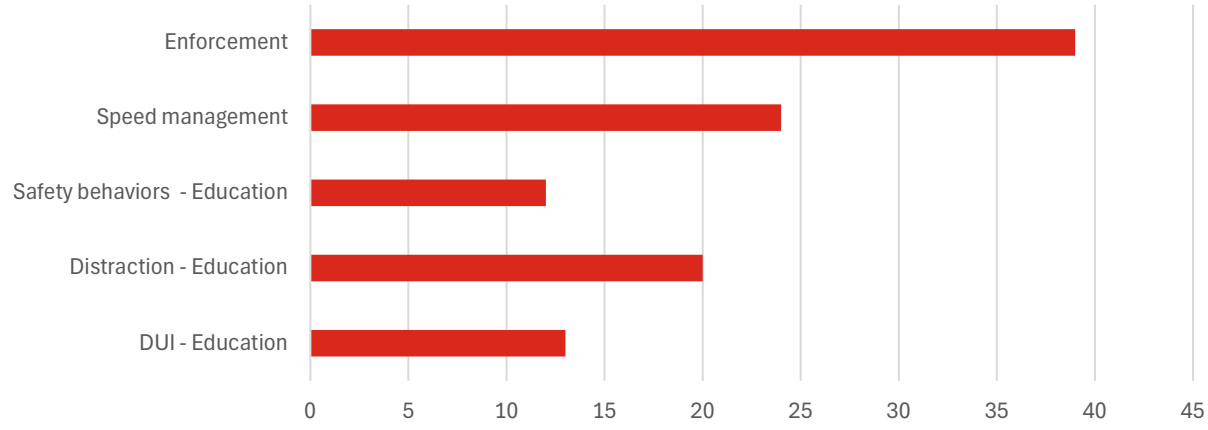


Figure 16. Which of the following behavioral programs do you think would have the greatest impact on improving road safety? Select all that apply.

As shown in Figure 17, when asked to select improvements to support walking and bicycling, improving the sidewalk network was the most popular, followed by a bike network and crossing safety.

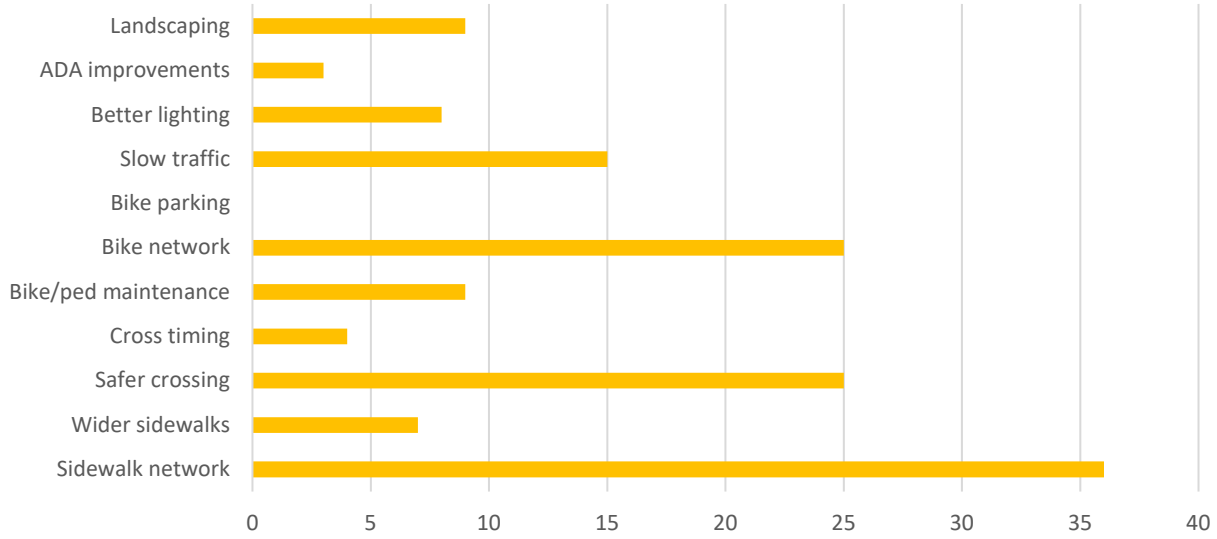


Figure 17. What safety and comfort improvements would you like to see for pedestrians and bicyclists? Select all that apply.

Table 3 lists the recurring themes presented in the open-ended responses on the interactive survey map and other comment boxes in the survey. Speeding was the most common issue raised, by far. Common themes addressed the desire for better sidewalk and bike facility coverage, and improved stop signs and signals, reflecting the diversity of transportation needs in the Middletown community.

Table 3. Survey Feedback by Theme

Theme	Mentions
Excessive Speeding	14
Sidewalk/Crossing Coverage	7
Stop Signs/Stop Lights	7
Bike Facility Coverage	6
Children's Safety	3
Road Condition	3
Transit Quality	3
Distracted Driving	3
Tourism Impacts	3

Notable Survey Comments

"In Middletown, despite recent bike path additions, it's extremely dangerous to use a bicycle because to get to most locations, one needs to use East Main or West Main Road. These are scary enough in a car, but suicidal on a bike."

"Very concerned about drivers ignoring the rules of the road: running stop signs and red lights. Also concerned about distracted drivers (cell phones!). Drivers also need to slow down when pedestrians are walking on roads with no sidewalks."

"State legislators should pass a law allowing speed cameras on all RI roads so that towns can put them on roads where vehicles frequently speed. Towns should be reimbursed for installation of speed tables. More natural trails should be created beside narrow roads so that pedestrians don't aren't forced to share the road with vehicles. More crosswalks need to paint in areas with lots of pedestrians, such as beaches and tourist destinations."

"Adding the bike path along Connell Highway was a nice addition, but getting to it is near suicidal on East main or West Main Roads."

"We need dedicated bike roads to make bikers and auto drivers safer. Pedestrians are not safe on West Main or East main roads due to lack of sidewalks and sidewalks that have telephone poles right in the middle of them."

"I would bike or walk daily if it wasn't so dangerous!"

"Need lots of speed bumps in the Maplewood Road neighborhood between West and East Main Road; people speed at 50mph without stopping for stop signs or school buses."

4.4.3 Pop-Up Events

Public input was also gathered by tabling at local community events (Figure 13). At each of these events, the team provided posters, maps, and informational flyers describing the process of the Safety Action Plan. They often opened the conversation with "What's the most dangerous street in Middletown?"

The following lists key findings from these public engagement efforts. Feedback is categorized by theme and street.

Pop-Up Feedback Themes

- Concern about lack of sidewalks
- Concern about speeding
- Behavioral issues (pedestrians crossing mid-block or without a signal, drivers not respecting stop signs or speed signals)
- Concern about lack of lighting at night
- Concern about lack of bike lanes or shared use paths

Table 4 summarizes the roadway-specific community comments regarding the locations that received the most attention, organized with the most frequently mentioned locations listed first.

Figure 18. The team engaged youth about roadway safety.

Table 4. Top Middletown Public Comment Locations

Location	Comments
East Main Road	Participants described significant safety issues on East Main Road, calling it extremely dangerous for drivers and people walking and biking. Key issues include speeding, narrow vehicle lanes that make it difficult for vehicles to safely navigate around cyclists, and a lack of sidewalks, particularly endangering children getting off school buses. There was a consensus that the entire road feels unsafe, and many people avoid it altogether. Suggestions for improvements, such as lower speed limits and better traffic management, are met with skepticism about their effectiveness, and there is a call for more frequent crosswalks to deter unsafe crossing, especially near the Mobile gas station.
West Main Road	Participants described this road as dangerous for both pedestrians and cyclists. Issues includes lack of sidewalks, speeding vehicles, and a lack of safe crosswalks near transit stops. There was a sense of urgency about the danger posed by fast vehicles. A young participant noted the absence of a bike path, reflecting a desire for improved cycling infrastructure, especially as older students access local businesses.

Location	Comments
Paradise Avenue	Participants described significant safety and accessibility issues, such as confusing intersections and unclear right-of-way, which complicates walking to the beach. Concerns were raised about fast vehicles in an area lacking sidewalks and adequate shoulders, making it uncomfortable for pedestrians.
Third Beach Road	Participants emphasized serious safety concerns due to speeding vehicles and the absence of sidewalks. People walk along the road to access the beach and local attractions, such as the Norman Bird Sanctuary and nearby farms, despite lack of pedestrian facilities. There is a clear call for sidewalks to improve safety and connectivity for pedestrians on this road.
Green End Avenue	Participants highlighted speeding vehicles and the lack of sidewalks.
Aquidneck Avenue	Participants emphasized that there are safety issues accessing J.H. Gaudet Middle School. For example, there are no sidewalks for students getting on and off the bus. There are also calls to make it safer and easier for students to cross the street near the school.
Sachuest Point Road	Participants noted that encroaching dunes, sand, and plants cause visibility issues on this road. Additionally, the lack of a shoulder or designated space for running or walking makes it uncomfortable for pedestrians and cyclists navigating this area, especially for recreation.
Indian Avenue	The safety concerns stem from the absence of shoulders and sidewalks, making it uncomfortable for running or walking.
Wapping Road	Concerns at this location included a lack of sidewalks, speeding vehicles, and its use as a cut through street.

5. Equity Considerations

5.1 Defining Equity

Equity was a key consideration during every aspect of this plan development. In the context of the SS4A program, equity is the practice of being fair and impartial when developing plans and strategies. It also means recognizing that people have different starting points and that adjustments need to be made to address imbalances. Imbalances may exist for people in rural areas, economically disadvantaged communities, historically underserved residents, and vulnerable roadway users – including people walking and bicycling. Acknowledging the needs of these groups, the Town of Middletown evaluated strategies that **encourage the fair sharing of resources, address external costs, promote fair pricing, serve mobility-disadvantaged travelers, and enhance overall affordability and economic opportunity while protecting the safety of all travelers**.

5.2 Equity Issues

This Safety Action Plan includes an evaluation of how vulnerable and historically disadvantaged groups travel within the boundaries of the Town of Middletown and seeks, through engagement and data evaluation efforts, to understand the greatest barriers and safety challenges they face. Special efforts were made to reach out to stakeholders and members of the public from a variety of backgrounds and perspectives to better understand their needs and priorities. Policies and project priorities were evaluated against those needs and priorities to appropriately balance actions outlined in this Safety Action Plan.

5.3 Equitable Engagement

Through Ride Island's previous transportation planning processes, engagement with Aquidneck Island's underrepresented community revealed valuable insights. The feedback holds relevance for this plan, too. Ride Island is discussed in greater detail in Chapter 6.

The Ride Island team conducted a series of focus groups in 2023, with youth bicyclists, bicycle-dependent Spanish speaking island residents (conducted in Spanish, and translated; see Figure 19), and community representatives of the Newport Health Equity Zone (HEZ). The HEZ is a Rhode Island initiative and citywide coalition working to remove structural, financial, and environmental barriers to health and well-being. These targeted meetings, consisting of between 6 and 14 participants, were held in familiar, transit-accessible venues to promote open dialogue.

5.4 Key Equity Findings

Focus Group Takeaways

The focus groups described above illustrate the important role that multimodal transportation plays in the lives of students and Spanish-speaking residents as well as potential multimodal improvements. The middle and high schoolers who ride bikes suggested separated bike lanes to make riding safer and more comfortable to school and other destinations. The Spanish-speaking residents ride bicycles as their primary mode due to the low cost and ease of use, especially those who have multiple jobs and require fast, reliable, and affordable modes of transportation. However, participants said they would use public

transportation more if better infrastructure and frequent service were available. The community shared ideas for improved roadway lighting, signage, and separated bike lanes. Participants agreed that drivers need to be more aware of cyclists and provide adequate space. Residents of the Newport HEZ echoed these opinions, indicating a desire to ride more often but noting existing barriers to do so.

5.4.1 Environmental Justice Screening

Middletown scores relatively well on environmental and transportation disadvantage metrics, except that much of the town ranks above the 90th percentile statewide for ground-level ozone exposure or on the ozone Environmental Justice index. The following section details these vulnerable population groups in Middletown, according to the federal Environmental Justice index.[3,4]

Health Disparities

The Town has high incidences of asthma, with two of its three Census tracts ranking above the 80th percentile for adults with asthma nationwide, and of cancers, with five of twelve Census block groups ranking above the 80th percentile and two others ranking in the 60th to 80th percentile. Motor vehicle emissions are a leading contributor towards asthma aggravation, particularly from traffic congestion. Much of Middletown also is disproportionately heavily exposed to ground-level ozone, which is often caused by vehicle emissions among other sources, and itself can aggravate asthma and other breathing difficulties.

Aging Population (>64 yrs old)

Middletown's median age is higher than the state average, 44.2 years compared to 40.9 for Rhode Island, but it also has slightly more youth than average for the state.

Of Middletown residents, 22.5 percent are age 65 or older, above the Rhode Island state average or 19.4 percent. People in this age group are often still just as mobile as younger individuals, but reaction times may be slower, which can lead to a greater propensity to both cause and to be involved in collisions. Older individuals are also often physically less robust, so when they are involved in a collision, especially when they are outside of a vehicle, their injuries are often more severe and result in worse outcomes.

Youth Population (<20 yrs old)

With 20.6 percent of the population under the age of 20, Middletown has a moderately high proportion of young people, slightly higher than the state average; particularly with 10.5 percent of the population being of middle or high school age. Thus, this plan focuses on the needs of this population as they reach driving age and are at risk of both incurring and causing injury crashes.

People with Disabilities

Of Middletown's population, 10.9 percent identified as a person with a disability, compared to Rhode Island's 14.3 percent. A substantial proportion of these (5.8 percent) have an ambulatory disability, while a further 4.3 percent have cognitive difficulty. Cognitive and intellectual disabilities, especially autism spectrum disorders, and their effect on mobility is a particularly understudied area, but studies[5] have

[3] https://screening-tools.com/epa-ejscreen

[4] U.S. Census, American Community Survey, ACS 5-Year Estimates Data Profiles, Table S0801, 2023, https://data.census.gov/profile/Middletown_town,_Newport_County,_Rhode_Island?g=060XX00US4400545460

[5] Parmar, Ketan R et al. "Visual Sensory Experiences From the Viewpoint of Autistic Adults." *Frontiers in psychology* vol. 12 633037. 8 Jun. 2021, doi:10.3389/fpsyg.2021.633037 https://pmc.ncbi.nlm.nih.gov/articles/PMC8217662/

shown this population often may be more sensitive to traffic speeds and noises while walking, gaps and limitations in pedestrian infrastructure, and poorly maintained or missing pedestrian signal hardware.

Low-Income Individuals

While the median household income for Middletown is $97,650, greater than the state's median income of $84,972, 10 percent of the population was classified as being in poverty (compared to 10.8 percent statewide), and disproportionate amounts of young people and older adults, 14.1 percent of people under 18 and 11 percent of people over 65, were identified as being impoverished. Poverty has an impact on many other factors, such as access to resources and services, health, environmental barrier, and access to technology. Lower income individuals are more likely to use active transportation modes, and specifically on more dangerous roadways, to reach their destinations, placing them at increased risk for fatal and serious injuries.[6]

Language and Technological Barriers

Middletown's population is relatively well-educated; 48.6 percent of residents aged 25 or older have a bachelor's degree or higher, compared to 39 percent of Rhode Island's population. However, as noted above, Middletown's population is also significantly older than average. This must be considered when determining how to communicate with the entire population; printed materials, perhaps even with larger-than-average text, may be needed to be most accessible.

Service Gaps

Middletown has limited public bus service. RIPTA's Route 60 (Providence/Newport) provides continuous all-day service to both Newport and Providence as frequently as every 20 minutes at certain times of day, and hourly until 1:00 a.m. on weekdays, but it alternates between running via East Main Road and West Main Road, so much of Middletown only receives service every 40 minutes during the day and every two hours at night. Route 63 (Broadway/Middletown Shops) runs between Middletown and Newport every 35 to 40 minutes during much of the day but does not run before 7 a.m. or after 9 p.m. On Sundays, it runs only every 90 minutes. Fewer than 1 percent of Middletown residents commute by public transportation.

Most Middletown residents have access to at least one vehicle; fewer than 2 percent of households do not. However, much of the town, particularly on the eastern side of the island, has a moderate to high transportation access and cost burden, a measure which combines the cost of transportation, ability to walk for transportation, availability of a vehicle, and commute time.

To support Middletown residents, transit service and sidewalk coverage need to increase. People who have vision or cognitive decline, which may impact the ability to drive safely in different weather and light conditions, may feel the need to drive even if they do not want to. Accounting for transportation options and choice is one way to support Middletown's aging population as well as children and teens.

5.5 How Equity will Impact Planning

The Safety Action Plan should focus on enhancing road infrastructure, implementing speed calming measures, fairly focusing enforcement efforts, and public awareness campaigns aimed at reducing high-

[6] Smart Growth America and the National Complete Streets Coalition (2024). Dangerous by Design Report 2024. https://smartgrowthamerica.org/dangerous-by-design/

risk behaviors. **Ensuring an equitable distribution of resources to address the disparities in transportation safety will be crucial in mitigating fatal injuries and improving overall community well-being.**

Equity was a consideration used to develop the project selection matrix, described in Chapter 7.

Figure 19. Focus Groups with Traditionally Underrepresented Communities

Bike-dependent workers (left) indicated a need for greater driver awareness of bicyclists as well as improved street lighting, signage, and separated bike infrastructure. Women affiliated with Newport's Health Equity Zone have lower rates of car-ownership (right). They rely on transit, rideshare, and walking or biking. They would ride or walk more if they felt safer.

6. Policy and Process Changes

6.1 Defining Policy and Process in Safety Action Planning

Eliminating fatal and serious injury crashes while improving the safety of roads in the Town of Middletown will require political will and public support for ambitious and transformative policies. The project team explored evidence-based and high-impact policies to reduce fatal and serious injury crashes within Middletown. In accordance with FHWA's priorities under the SS4A program, policy recommendations were geared towards providing redundancies to protect human life and address the following areas:

- Leadership commitment to safety
- Equity and community engagement
- Safe infrastructure and safe speeds
- Data-driven transparency and accountability

6.2 Key Policy and Process Findings

6.2.1 Summary of Key Safety Policies and Plans

The policies and plans in Table 5 were reviewed as part of the Middletown Safety Action Plan. Each of these policies and plans support roadway safety directly or support related goals around transportation access, resilience, and equity.

Table 5. Plans and Policies Reviewed

Plan or Policy	Year	Jurisdiction
1. Rhode Island's Complete Streets Action Plan	2015	Statewide
2. Moving Forward RI 2040 Long Range Transportation Plan	2020	Statewide
3. Statewide Bicycle Mobility Plan	2020	Statewide
4. Statewide Transportation Improvement Program Revisions	2022	Statewide
5. Rhode Island Strategic Highway Safety Plan 2023-2027	2022	Statewide
6. Rhode Island Vulnerable Road User Safety Assessment	2023	Statewide
7. Rhode Island Bus Stop Design Guide	2024	Statewide
8. Resilience Improvement Plan	2024	Statewide
9. Aquidneck Island Transportation Study	2011	Regional
10. Aquidneck Island Planning Commission – Strategic Plan	2016	Regional
11. Ride Island Bike Plan	2023	Regional
12. Middletown Comprehensive Community Plan	2014	Municipal

6.2.2 Summary of Key Findings and Issues

Statewide Plans

Rhode Island's most recent iteration of long-range transportation plans contain ambitious safety recommendations for improved statewide transportation policy across all modes.

Moving Forward RI 2040, the state's long range transportation plan as required by USDOT, serves as a framework for understanding a larger universe of mode-specific comprehensive planning efforts, including

the Rhode Island VRU Safety Assessment (2023), the Bicycle Mobility Plan (2020), and the Bus Stop Design Guide (2024). The goals of each plan align with the overarching goals of the state's Comprehensive Plan summarized in the following quote:

> *"This plan envisions a multimodal transportation network that connects people, places and goods in a safe and resilient manner by providing effective and affordable transportation choices that are supportive of healthy communities, provide access to jobs and services, and promote a sustainable and competitive Rhode Island economy." (Moving Forward RI 2024)*

The Strategic Highway Safety Plan (2022), which directly supports the Safety Action Plan, opens with a Vision Zero commitment from the RIDOT director Peter Alviti Jr. This plan is organized under three focus areas, (1) behavioral (e.g. impaired driving), (2) infrastructure (e.g. intersection improvements), and (3) road users (e.g. pedestrians). The Strategic Highway Safety Plan encourages municipalities to pursue SS4A funding, specifically noting first-responder service, integrated data development, and new safety technologies as potential pathways to eliminating road fatalities.

The recommendations of the statewide Bicycle Mobility Plan support this Safety Action Plan. They include updating controlling criteria on state owned roads to mandate multimodal consideration in project development, development of a "lending library" of quick build materials to assist municipalities in demonstration projects, a focus on the pedal and park model of bicycle commuter route planning, and an increase in technical assistance to municipalities interested in developing Complete Streets policies.

Other vulnerable road users are addressed in the VRU Safety Assessment, targeting three primary strategies, (1) reducing vulnerable road user exposure to vehicular traffic through infrastructure and behavioral improvements, (2) installing countermeasures at high-risk locations identified via the Highway Safety Improvement Plan, and (3) implementing projects from the Bicycle Mobility Plan. This plan includes a risk assessment of vulnerable road user crashes, identifying major contributing factors in crash severity as those taking place on principal/minor arterial roads, streets in urban settings, and under dark conditions where the roadway is lit by streetlights.

Regional: Aquidneck Island

Aquidneck Island has produced several impactful planning studies over the last decade. Together, these plans reimagine the transportation systems on Aquidneck Island.

Ride Island, also called the Aquidneck Island Bicycle Network Implementation Plan (2023), details the creation of an island-wide cohesive network of bicycle and pedestrian facilities. Ride Island is an initiative of Bike Newport, Grow Smart RI, and Toole Design, with financial support from the van Beuren Charitable Foundation. The vision is that people will choose to bike and walk for most short trips on the island. Ride Island synthesizes previously created plans, studies, and projects to address system gaps and provides actionable recommendations for the towns of Newport, Middletown, and Portsmouth as a regional effort. The primary goals of the initiative are (1) A connected bike network on Aquidneck Island's priority corridors, (2) Gold-level bike/walk community designation, (3) Vision Zero, and (4) +300 percent bike, walk, and transit trips. The connected bike network has been partially constructed as projects have been added to the Statewide Transportation Improvement Program.

The older Aquidneck Island Transportation Study (2011) included detailed policy and infrastructure improvements that have been partially executed by local governments. Initial policy recommendations such as adopting Complete Streets ordinances, have moved forward, while the development of an island-wide strategic transportation committee has not yet materialized.

Local: Middletown

While Middletown does not have a dedicated transportation plan, the Middletown Comprehensive Plan (2014, with an update underway at the time of this publication) sets a clear vision for transportation:

> *The Town of Middletown will strive to provide a safe, efficient, and sustainable multi-modal transportation system that reduces reliance on the automobile and meets the diverse needs of residents, workers, and visitors while maintaining the scenic quality of the community.*

This vision is supported by the following goals:

- Promote **safety as a top priority** within all transportation strategies, infrastructure projects, and programs.
- Provide a street network that allows for **safe and efficient movement of vehicular traffic** throughout the town.
- Provide for and promote the use of **alternative modes of transportation**.
- Promote the use and expansion of **public transit** to reduce traffic congestion and improve air and water quality.
- Maintain, preserve and extend the **life and vitality of prior investments** in the transportation system.
- Make transportation decisions that promote **energy conservation, healthy communities, and environmental quality**.

Each goal is supported by detailed policies and actions. The Comprehensive Plan addresses many of the same themes that are part of the Safe System Approach. For example, Complete Streets policies, upgraded sidewalks, bicycle paths, and access management, address the theme of "Safer Streets." Speed enforcement, Intelligent Transportation Systems, and intersection upgrades to reduce congestion and crashes, prioritize the theme of "Safer Vehicles and Speeds." Educational programs, enhanced public transit access, and facilities for cyclists and pedestrians, support the theme of "Safer People." Lastly, the themes of "Post-Crash Care" and "Data Transparency" are addressed with Road Safety Assessments, GIS-based data tracking for infrastructure and crash hotspots, and by prioritizing safety projects using data.

6.3 Key Policy and Process Recommendations

The policies and plans described above informed the policy and process changes outlined for the Town of Middletown in Chapter 7.

7. Action Plan

The action plan outlines the specific steps and strategies to address the safety challenges and goals the Town of Middletown explored throughout this plan. Based on the goals and commitments established in Chapter 1, the Town of Middletown generated **specific, measurable objectives that can be linked to actions and investments**. The Town then outlined local and regional processes, new infrastructure, or policy changes needed to meet the goals and objectives. Responsible agencies or individuals to coordinate on each activity were identified. Finally, benchmarks or metrics were generated to enable the Town of Middletown to target projects, timelines, and progress. These benchmarks and metrics also provide an important data point for maintaining the progress and transparency of implementation efforts described in greater detail in Chapter 8.

Table 6 includes the goals outlined in Chapter 1, accompanied by specific objectives.

Table 6. Middletown Safety Goals and Objectives

Category	Goal	Objectives
Safety	Achieve Vision Zero.	▪ Achieve zero roadway fatalities and serious injuries by 2034.
Access	Support the economy through safe and efficient access to local businesses, recreational destinations, and job centers.	▪ Incorporate connections to economic destinations into multimodal safety projects.
Mode Shift	Promote use of transit and active modes of transportation.	▪ 200 percent increase in bike, walk, and transit trips by 2034.
Environment	Make transportation decisions that promote energy conservation, healthy communities, and environmental quality.	▪ Incorporate resilient and environmentally sensitive design into transportation projects. ▪ Through mode shift, minimize the need for additional space getting allocated for vehicle travel and parking.

7.1 Action Plan Strategies

To meet these objectives, the Town of Middletown identified the following recommended strategy categories shown in Figure 20. Each strategy is supported by numerous actions and sub-actions that the Town can act upon to progress toward Vision Zero.

Further specifics on these detailed actions are provided in Table 7. For each sub-action, there is a list of past plans or policies that relate to the recommendation. The table also specifies whether the action is a policy change, process action, or infrastructure project. Actions are presented alongside the parties responsible for implementation, whether that is the Middletown Planning Department or Public Works Department, the recommended new regional transportation planner, or the Police Department. Each action is also linked to one or more of the five goals presented in Table 6. Finally, the relative timeframe for implementing the actions, short-, medium-, or long-term is specified in Table 7.

Figure 20. Middletown Safety Action Plan Strategy Categories

Table 7. Middletown Safety Action Plan Strategies

ID	Sub-Action Title	Middletown, RI Safety Strategy/Action	Related Plans or Policies	Policy / Process / Infrastructure	Parties	Related Goals	Timeline
Strategy 1	**Adopt a Regional Approach to Support Safer Streets**						
Action 1.1	**Establish an island-wide approach to managing regional Vision Zero efforts, relevant planning, and policy.**						
1.1.a	**Appoint an Aquidneck Island Transportation Commission**	Appoint a regional Aquidneck Island Transportation Commission, comprised of Aquidneck Island's municipal planners, engineers, Department of Public Works (DPW), Fire Department/Police Department, and non-profit leadership to meet quarterly. The Commission may include a representative from each municipality's Bicycle and Pedestrian Advisory Committee, as appropriate. The Commission should coordinate with agencies mentioned in 1.1.b to ensure strategic, regional cohesion.	STIP (2023-2031)	Policy	Aquidneck Island Land Trust's Resilience Program Aquidneck municipalities	Safety Access Mode-Shift Environmental	Short
1.1.b	**Identify regional funding needs and sources**	Identify funding needs and sources for effective management and implementation of Middletown's Safety Action Plan. Coordinate with the Town of Portsmouth, the City of Newport, NAVSTA Newport, regional entities such as the Aquidneck Island Land Trust, and state agencies such as RIPTA. Capture efficiencies and focus decisions to benefit the island's cohesive transportation network across municipal boundaries.	STIP (2023-2031)	Process	Aquidneck Island Land Trust's Resilience Program Aquidneck municipalities	Safety Access Mode-Shift Environmental	Medium
1.1.c	**Fund and appoint a dedicated regional planner**	Establish a full-time, permanent Regional Transportation Planner position responsible for overseeing the implementation of the municipal Action Plans, as well as their annual review, data analysis, and public interface serving Aquidneck Island. This hire should demonstrate an understanding of housing and economic development fundamentals, to inform cross-disciplinary decision making. While focused on roadway safety, other responsibilities may include managing initiatives to expand transportation access and choice.	STIP (2023-2031)	Policy	Aquidneck Island Land Trust	Safety Access Mode-Shift Environmental	Short
1.1.d	**Conduct safety meetings and develop annual reports**	Maintain accountability and track progress towards zero by holding quarterly Safety meetings with the Regional Transportation Planner and Transportation Safety Commission. Conduct annual reviews of the Action Plan. Include a work plan for projects to be implemented in the upcoming year. Publicize the Town's progress towards goals.	STIP (2023-2031)	Process	Regional Planner	Safety Access Mode-Shift Environmental	Short
1.1.e	**Advance infrastructure that increases climate resiliency**	Integrate climate resilience into road projects by planning, designing, and scoping projects with flood-resistant infrastructure such as permeable pavements, implementing high-friction and weather-resistant surfaces to reduce skidding, and using green infrastructure such as bioswales and enhanced drainage systems. This prevents water pooling and maintains safe driving conditions during extreme weather events.	Resilience Improvement Plan (2024)	Policy	DPW	Environmental	Short
Action 1.2	**Increase Transportation Options**						
1.2.a	**Support transportation choice**	Explore multimodal transportation options, especially those outlined in previous plans, to reduce Aquidneck Island's vehicle miles traveled (VMT). Support RIPTA, economic development initiatives, and other agency efforts to shorten trips and improve transit, Park n' Ride, paratransit, and micro-transit options island-wide.	STIP (2023-2031) Ride Island Bike Plan (2023) Statewide Bicycle Mobility Plan (2020)	Process	Regional Planner Bicycle & Pedestrian Advisory Committee Bike Newport RIPTA	Safety Access Mode-Shift Environmental	Short
1.2.b	**Conduct a regional transportation options study**	Fund a Regional Transportation Options Study to evaluate alternative modes and innovative options, such as public transit, micro-transit, and/or shared micromobility, and implement recommendations of the Ride Island Bike Plan and Statewide BMP to reduce short trips by private vehicle and reduce island-wide congestion. Evaluate dedicated, off-island subsidized automobile parking and island shuttle service, including potential for water taxi, to reduce High Injury Network congestion, especially during peak tourism periods.	STIP (2023-2031) Ride Island Bike Plan (2023) Statewide Bicycle Mobility Plan (2020)	Process	Regional Planner Bicycle & Pedestrian Advisory Committee Bike Newport	Safety Access Mode-Shift Environmental	Short
1.2.c	**Improve transit**	Work with RIPTA to increase local bus route frequency in Middletown. Coordinate to add or upgrade shelters and other amenities to increase mode shift to public transit.		Policy	RIPTA Regional Planner	Access Mode-Shift Environmental	Medium

ID	Sub-Action Title	Middletown, RI Safety Strategy/Action	Related Plans or Policies	Policy / Process / Infrastructure	Parties	Related Goals	Timeline
Strategy 2	**Increase Roadway Safety and Slow Speeds**						
Action 2.1	**Develop a local safety audit procedure.**						
2.1.a	**Develop a local safety audit procedure**	Develop a local safety audit procedure, consistent with national best practice, including a first phase community walk audit to assess existing perceptions of safety, risk factors and potential solutions with the public, and a second phase as part of the design process (i.e., Road Safety Audit (RSA) of 60 percent plans). Conduct Road Safety Audits on identified corridors, following these procedures. This process should include opportunities for community input and generate quick build demonstration solutions.	Ride Island Bike Plan (2023)	Process	Regional Planner Bicycle & Pedestrian Advisory Committee Bike Newport	Safety	Short

ID	Sub-Action Title	Middletown, RI Safety Strategy/Action	Related Plans or Policies	Policy / Process / Infrastructure	Parties	Related Goals	Timeline
Action 2.2	**Implement quick build demonstration safety countermeasures and other immediate actions on the High Injury Network.**						
2.2.a	**Identify quick build demonstration projects**	Evaluate the entire High Injury Network to identify priority locations for quick build demonstration projects. Identify one project per year to take through Actions 2.2.b. Begin with corridors identified as Priority Corridors in Ride Island which are under local control and strategically address Middletown's fatal and severe crash trends. Consider partnering with schools, senior centers, or medical facilities. These organizations have shared interest in increasing roadway safety. They may be able to invest in project planning, deployment, and communications.	RI VRU Safety Assessment (2023) Ride Island Bike Plan (2023)	Process Infrastructure	Planning DPW Bicycle & Pedestrian Advisory Committee Bike Newport	Safety	Short
2.2.b	**Implement and monitor demonstration projects**	Implement and monitor quick build improvements on identified demonstration corridors (in 2.2.a). Implementation should include education to share the benefits of safety improvements with the community and train road users on how to use new infrastructure. Monitor the impact, including data collection of crashes, multimodal volumes, speeds, personal stories, and photos. While designed as quick builds, consider projects that could lead to permanent implementation. If feedback indicates that the desired benefits are not achieved, reconfigure as needed.	RI VRU Safety Assessment (2023) Ride Island Bike Plan (2023)	Infrastructure Process	DPW Planning Bike Newport	Safety	Short
2.2.c	**Take immediate action on the High Injury Network**	Implement immediate action items along the High Injury Network that don't need to be studied, planned, or designed. These may include maintenance (including re-paving and restriping faded roadway markings), installing speed limit signage, installing speed feedback signage, or conducting sightline improvements (landscaping, spot automobile parking restrictions).		Infrastructure	DPW	Safety	Short
Action 2.3	**Implement intersection safety countermeasures on the High Injury Network.**						
2.3.a	**Intersection improvement program**	**Build capital safety improvements at 30 intersections on the High Injury Network within 6 years.** While long term reconstruction is being planned, pursue immediate changes, short-term actions, and interim improvements in accordance with Action 2.1. Capital safety improvement projects may include constructing more permanent versions of quick-build projects that tested and established a "footprint" for these capital projects.	Rhode Island SHSP 2023-2027 RI VRU Safety Assessment (2023)	Infrastructure	DPW RIDOT	Safety	Medium
2.3.b	**Evaluate new traffic signals or pedestrian signals**	Conduct a signal warrant analysis or signal infrastructure assessment to determine the feasibility of new signal installations and improvements at existing signals. Based on that analysis, implement safety-oriented signal improvements, such as Right Turn on Red restrictions, the elimination of permissive left turns, removal of channelized right turns, upgrade to LED signals, install reflective backplates, etc. Consider priority locations for signal infrastructure assessment which may recommend traffic signal infrastructure reconstruction that would include latest best practices, especially related to pedestrian signals and pushbuttons. Consider priority locations for signal warrant analysis to determine feasibility of new signal installations, and/or Rectangular Rapid Flashing Beacons (RRFBs) or Pedestrian Hybrid Beacons (PHBs).		Infrastructure	DPW RIDOT	Safety	Medium
2.3.c	**Improve safety for motorcyclists**	Incorporate motorcycle-specific design measures such as high-friction surface treatments at curves and intersections, clear lane markings, motorcycle-friendly guardrails, and advanced warning systems to reduce crash risk and enhance rider safety.		Infrastructure	DPW	Safety	Medium
Action 2.4	**Reduce speeds along the High Injury Network.**						
2.4.a	**Evaluate intersection signal timing**	Evaluate signal timing at top crash intersections. Evaluate clearance intervals (i.e., yellows and all-reds) which can be a major contributing factor in angle and rear-end collisions at signalized intersections. Simultaneously ensure adequate pedestrian crossing times and the consideration of leading pedestrian intervals (LPIs) for locations with pedestrian crashes or significant pedestrian volumes.		Process Infrastructure	DPW RIDOT	Safety	Short
2.4.b	**Evaluate corridor signal timing**	Evaluate signal timing on coordinated signal systems along corridors to ensure consistency with target speeds. Consider how cycle length changes and offset changes can help reduce corridor speeds. This can be done as part of a jurisdiction-wide optimization project.	Rhode Island Strategic Highway Safety Plan 2023-2028	Process Infrastructure	DPW RIDOT	Safety	Short
2.4.c	**Install speed cameras in school zones**	Continue to install temporary speed safety cameras along in school zones. Document speed data for inclusion in the annual Vision Zero report.	Rhode Island Strategic Highway Safety Plan 2023-2029	Infrastructure	Police	Safety	Short

ID	Sub-Action Title	Middletown, RI Safety Strategy/Action	Related Plans or Policies	Policy / Process / Infrastructure	Parties	Related Goals	Timeline
2.4.d	**Develop a traffic calming program**	Develop and implement a traffic calming program, focused on local roads. Use both qualitative and quantitative data to identify high priority locations for safety projects near school zones, routes to schools, transit corridors, parks, and other facilities that primarily serve youth, teens, and/or older adults. Establish a typology for roadways that could be posted at 15 or 20 mph (i.e., based on functional class, AADT, land use context). Determine legislative allowance to lower speeds. Include signage and traffic calming infrastructure.	Rhode Island Strategic Highway Safety Plan 2023-2031 RI VRU Safety Assessment (2023) Rhode Island Complete Street Action Plan (2015)	Policy	Planning	Safety	Medium
Action 2.5	**Design for safety for all users.**						
2.5.a	**Repair and improve crosswalks**	Conduct an audit to identify where Middletown's degraded crosswalks require replacement and new crosswalks are needed to complete a comprehensive pedestrian network.	RI VRU Safety Assessment (2023) Rhode Island SHSP 2023-2027 (2022)	Process	Planning	Safety	Medium
2.5.b	**Conduct a sidewalk connectivity study**	Use capital funding to conduct a townwide sidewalk connectivity study that would evaluate land use, density, future development plans, right of way, etc. This will prioritize segments suitable to evolve into capital improvement projects to address connectivity, comply with ADA requirements, and transit accessibility. Address gaps in the pedestrian network, focused on connectivity in high-traffic areas, near schools, public transit stops, and community hubs. Prioritize historically underserved areas and populations.	RI VRU Safety Assessment (2023)	Process	Planning	Safety Access	Medium
2.5.c	**Clarify sidewalk clearance responsibilities and offer assistance**	Clearly communicate the town's sidewalk snow clearance policy, and fine those who are non-compliant. Investigate options for assisting those who are unable to comply with the policy. Explore opportunities for the Town to provide snow shovels to households if the cost presents a barrier, potentially partnered with Kiwanis, Scout troops, or similar.	RI VRU Safety Assessment (2023)	Policy	Outreach Dept.	Safety	Short
2.5.d	**Increase awareness of sidewalk issue reporting**	Advertise the existing public reporting system (Middletown Helps) to report missing, damaged, or obstructed sidewalks by marking locations on a map, uploading photos, and providing descriptions.		Process	Planning	Safety	Short
2.5.e	**Evaluate bus stop placement**	Coordinate with RIPTA to continue evaluating and optimizing public bus stop placement, shelters, and pedestrian scale lighting through the lens of a rider. For example, adjust stops from nearside to far side stops to reduce pedestrian mid-block crossing threat.	Bus Stop Design Guide (2024)	Infrastructure	DPW RIPTA	Safety Mode-Shift	Medium
2.5.f	**Increase bus stop accessibility**	Enhance bus stop accessibility by implementing infrastructure upgrades aligned with best practices from the Bus Stop Design Guide, including ADA-compliant features, improved seating, shelter, and clear pedestrian pathways.	Bus Stop Design Guide (2024)	Infrastructure	DPW RIPTA	Access Mode-Shift	Medium
2.5.g	**Support investment in Aquidneck Island's active transportation network**	Coordinated with Ride Island, advance the implementation of the Ride Island Plan and identify the goals and schedule of expansion of the connected, active transportation network that provides low-stress infrastructure on designated roadways. Infrastructure may include context-sensitive bicycle and pedestrian facilities. Prioritize the development of bike lanes, pedestrian paths, and transit hubs along the High Injury Network.	RI VRU Safety Assessment (2023) Ride Island Bike Plan (2023) Statewide Bicycle Mobility Plan (2020)	Process Infrastructure	Planning DPW Bicycle & Pedestrian Advisory Committee Bike Newport Grow Smart RI van Beuren Charitable Foundation	Safety Mode-Shift Environmental	Short
2.5.h	**Coordinate with Statewide Complete Streets policies and design recommendations**	Support the development of the Rhode Island Complete Street Plan & Design Guidelines. Upon completion (projected in 2025), incorporate street design guidance on state and local roads. Coordinate with RIDOT and RIDSP to advance safety investments on state-owned roadways and infrastructure.	Moving Forward RI (2040)	Process	Planning DPW RIDOT RIDSP	Safety	Short

ID	Sub-Action Title	Middletown, RI Safety Strategy/Action	Related Plans or Policies	Policy / Process / Infrastructure	Parties	Related Goals	Timeline
Action 2.6	**Increase safe access to Middletown's beaches.**						
2.6.a	**Establish a slow "Beach Streets" program**	Establish a slow "Beach Streets" program around primary public beach areas to prioritize safety for people on foot, bike, or transit. Explore the implementation of Rectangular Rapid Flashing Beacons (RRFB) and/or Pedestrian Hybrid Beacons (PHB), as identified in Action 2.3.b.		Policy	Planning Parks and Rec Dept.	Safety Access Mode-Shift	Short
Action 2.7	**Invest in long-term infrastructure changes.**						
2.7.a	**Invest in permanent infrastructure to slow speeds**	Implement long-term investments to slow speeds on the High Injury Network which may include road diets, roundabouts, speed humps, raised crosswalks, narrowed lanes, and/or automobile parking restrictions at intersections to improve visibility.	RI VRU Safety Assessment (2023)	Infrastructure	DPW	Safety Mode-Shift	Long
2.7.b	**Strategically improve street lighting**	Evaluate roadway lighting along the High Injury Network. Advertise the existing public reporting system (Middletown Helps) for the public to report missing, faded, or burned-out pedestrian or roadway lighting. Upgrade streetlights to energy-efficient LEDs in these poorly lit areas. Replace or upgrade in a timely manner.	Rhode Island SHSP 2023-2027 (2022)	Infrastructure	DPW	Safety Mode-Shift	Short
2.7.c	**Explore new developments to accommodate people on foot and bike**	Consider requiring Major Subdivision and Land Development Projects to fund improved roadway safety infrastructure, such as pedestrian scale lighting, signal(s), and/or bicycle or pedestrian facilities within a 1/4-mile buffer. Ensure the development's primary entrance safely accommodates people on foot, bike, or transit, and includes bicycle parking.		Infrastructure	Planning	Safety Mode-Shift	Medium
2.7.d	**Increase safe access to library, public buildings**	Enhance safety for older adults, children, and families with a focus on community destinations. Install larger, high-contrast signage for better visibility, extend pedestrian signal timing to accommodate slower walking speeds, and improve accessibility with ADA-compliant sidewalks and curb ramps. Determine where Rectangular Rapid Flashing Beacons (RRFB) or Pedestrian Hybrid Beacons (PHB) are appropriate.		Infrastructure	DPW	Safety Mode-Shift	Medium
2.7.e	**Investigate relocation of utility poles**	Utility poles line many of Middletown's roadways, creating a right of way design challenge on primary corridors. Conduct a feasibility study with Aquidneck communities to evaluate the potential to relocate or reconfigure the poles to expand roadway design options and eliminate utility pole obstruction to sidewalk widths.		Policy	Planning DPW	Access	Medium

ID	Sub-Action Title	Middletown, RI Safety Strategy/Action	Related Plans or Policies	Policy / Process / Infrastructure	Parties	Related Goals	Timeline
Strategy 3	**Increase Community Commitment to Vision Zero**						
Action 3.1	**Expand Vision Zero education for all ages.**						
3.1.a	**Advance a Safe Routes to School Program**	Establish a Safe Routes to School (SRTS) program within Middletown Public Schools (grades K-12) to educate children, teenagers, and their caregivers about safe travel. Incentivize active transportation. Leverage resources such as the Safe Routes Partnership and local organizations that advance student education.	Moving Forward RI (2040) RI VRU Safety Assessment (2023)	Policy	Planning Public Schools Police Bike Newport	Safety Mode-Shift	Short
3.1.b	**Explore safety messaging for driver education**	Investigate implementing driver educational programs focused on defensive driving, road-sharing awareness, and Vision Zero principles for new drivers. Encourage the Rhode Island Department of Motor Vehicles to explore the prospect of holding a competition for high school students to develop safe roadway behavior campaign, for a small scholarship and public recognition.		Policy	Planning	Safety Access	Medium
3.1.c	**Encourage students and families to walk and bike to school**	Partner with Middletown Public Schools, YMCA, Bike Newport, Middletown Police Department, and similar organizations to develop a walking school bus, bike bus, and/or bike training program. This increases exposure and interest in riding or walking safely to parents, teens, and children. Promote designated walk/bike to school days to support alternative transportation modes and student independence.	RI VRU Safety Assessment (2023) Ride Island Bike Plan (2023)	Process	Planning Schools YMCA BPAC Bike Newport Police	Safety Mode-Shift	Medium
3.1.d	**Educate older adults about roadway safety**	Partner with the senior center, AARP, and AAA to offer educational workshops for older adults on defensive driving, sharing the road with other modes, and other safety strategies.		Process	Regional Planner AARP AAA	Safety Mode-Shift	Short
3.1.e	**Increase transit access for older adults**	Partner with the senior center to offer free monthly or weekly transit passes to older adults interested in trying transit, aid in RIPTA's senior fare program participation, and provide bus travel training sessions.		Policy	Regional Planner AARP Senior Center Library	Safety Mode-Shift	Medium
Action 3.2	**Expand municipal commitment to safer driving and safer vehicles.**						
3.2.a	**Prioritize safety-oriented enforcement**	Prioritize enforcement of violations that have major impacts on safety rather than infractions that do not pose a safety risk.		Policy	Police	Safety Access Mode-Shift Environmental	Short

ID	Sub-Action Title	Middletown, RI Safety Strategy/Action	Related Plans or Policies	Policy / Process / Infrastructure	Parties	Related Goals	Timeline
3.2.b	**Streamline crash reporting**	Ensure that crash reporting and investigation adequately captures crashes involving vulnerable road users and historically marginalized road users.	Statewide Bicycle Mobility Plan (2020)	Process	Police	Safety Access Mode-Shift Environmental	Medium
3.2.c	**Update and evaluate the municipal vehicle fleet**	Evaluate the Direct Vision of the Town's fleet vehicles and install safety improvements in low-vision vehicles over time. Direct Vision refers to everything a driver can see out the windows without the aid of mirrors or cameras. Effective countermeasures include cross-over mirrors, passenger side camera systems, side guards, and audible warning when turning right. This minimizes harm to pedestrians and/or bicyclists.		Policy and Process	DPW Town Manager	Safety	Long
Action 3.3	**Develop an awareness campaign.**						
3.3.a	**Develop and distribute Vision Zero communications**	Develop a Middletown Vision Zero webpage and public service announcements about Vision Zero. Convey infrastructural changes to the High Injury Network with a consistent Vision Zero and safety message. Cross-promote with the public library, senior center, and public schools.	Moving Forward RI (2040)	Process	Outreach Dept. Schools Regional Planner	Safety	Short
3.3.b	**Host a student contest to design yard signs**	Create and promote a "20 is Plenty" yard sign campaign.		Process	Outreach Dept. Schools Regional Planner	Safety	Medium
3.3.c	**Create an education campaign**	Implement a focused, data-driven education campaigns to address key risks in driver behavior. Potential themes based on the crash analysis include distracted driving, night-life oriented messaging about responsible transportation options, family-oriented signage with messages like "Drive Safe, Dad—We're Waiting for You" to emotionally connect with male drivers, and seatbelt utilization. Partner with local messengers for these campaigns such as tourism organizations, bars and restaurants, schools, and employers.		Process	Outreach Dept. Regional Planner	Safety Access	Medium

ID	Sub-Action Title	Middletown, RI Safety Strategy/Action	Related Plans or Policies	Policy / Process / Infrastructure	Parties	Related Goals	Timeline
Strategy 4	**Manage Post-Crash Care and Data Transparency**						
Action 4.1	**Support families of victims**	Support the families of crash victims through enhanced emergency response and medical and psychological assistance (Families for Safe Streets)		Process	Outreach Dept Police	Safety	Short
Action 4.2	**Provide resources for post-crash mental health**	Partner with local nonprofit behavioral health organizations to enhance post-crash emergency protocols by incorporating mental health support and offering trauma-informed first aid training to the community.		Process	Outreach Dept Police	Safety	Short
Action 4.3	**Develop a publicly available island-wide crash database.**						
4.3.a	**Standardize data collection**	Standardize crash data collection and reporting and share anonymized data online.		Process	Police RIDOT RIDSP Aquidneck Transportation Commission	Safety	Short

7.2 Proven Safety Countermeasures

Under the FHWA's Proven Safety Countermeasures Initiative (PSCi), a series of 28 countermeasures and strategies to effectively reduce fatal and serious injury crashes was introduced to stakeholders and the public during plan development. Each countermeasure outlines a focused way to address at least one of the following safety areas:

- Speed management
- Intersection safety
- Roadway departures
- Pedestrians and bicyclists

Some of the countermeasures are also crosscutting, addressing several safety areas. The safety countermeasures are applicable across a wide spectrum of road types with applications for dense urban road networks, rural roads, less traveled two-lane state and county roads, signalized and unsignalized crossings, and horizontal curves, just to name a few. Considerations, applications, and expected safety benefits are provided for each countermeasure.

Middletown used these FHWA Proven Safety Countermeasures (see link under References at the end of this plan) as a starting point to generate the recommendations provided in this Safety Action Plan.

7.3 Strategy and Project Selection

During the development of this Safety Action Plan, initial projects and strategies were identified and prioritized to provide an effective and transparent approach to improve safety within the transportation system.

The project team also used a prioritization matrix (Table 8) as a strategic tool for the Town of Middletown to evaluate and rank safety projects based on their impact and feasibility. The matrix assesses each priority project's potential to address critical safety issues and its alignment with overall safety goals. By assigning scores or weights to various criteria (such as severity of risk, cost, and implementation timeline), the matrix helps identify high-priority projects that balance reactive and proactive strategies. The score or weight for each criterion was determined by local needs and priorities. Incorporating all elements in this Safety Action Plan's priorities will allow projects to meet the greatest safety challenges while meeting the priorities of the SS4A program.

The top scoring and thus highest priority projects include the following corridors and intersections, highlighted in Figure 21:

- East Main Road
- West Main Road
- Valley Road and West Main Road
- Coddington Highway and West Main Road
- Valley Road
- Aquidneck Avenue and Purgatory Road
- Aquidneck Avenue and Valley Road
- Purgatory Road

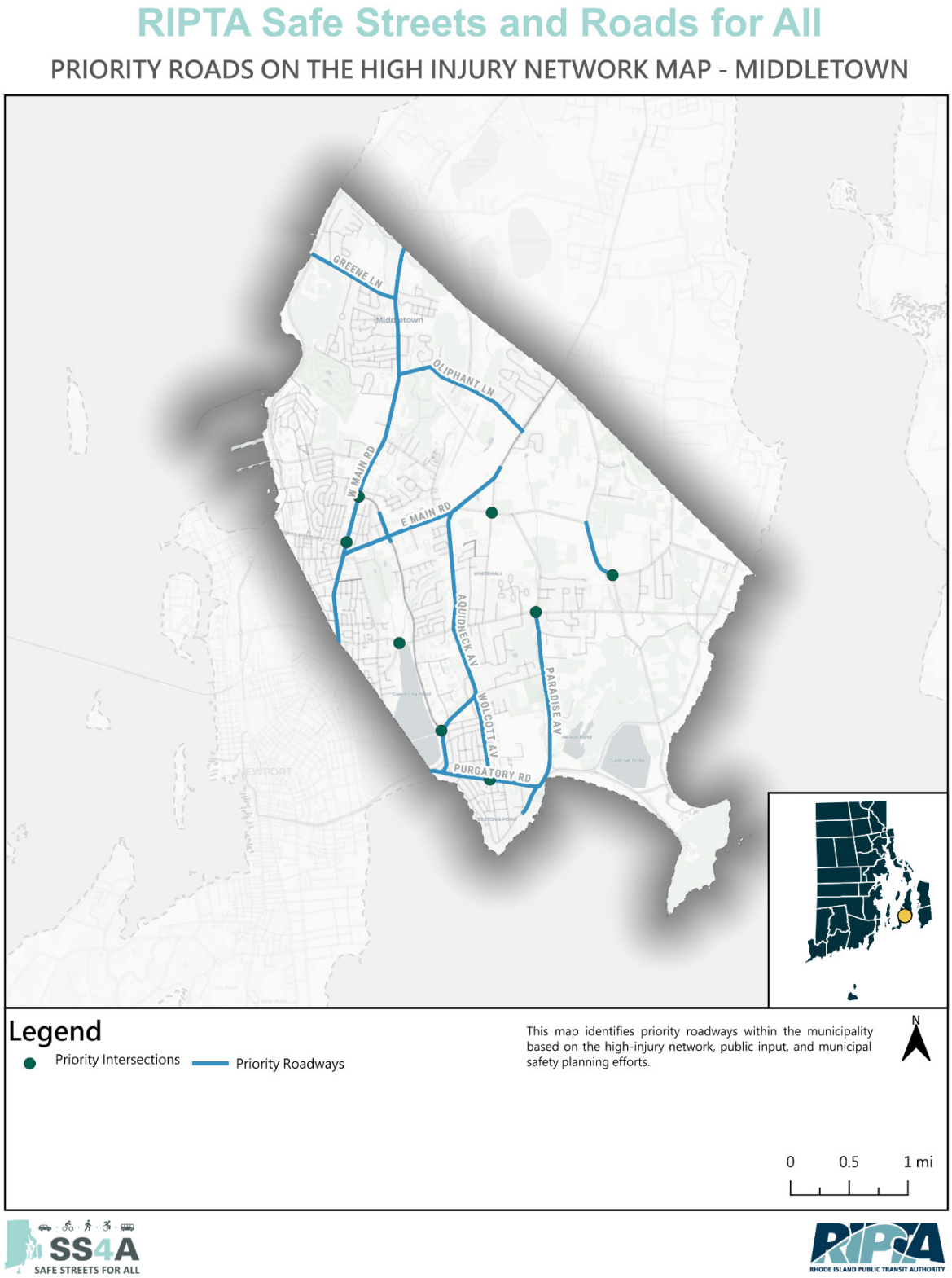


Figure 21. Middletown Safety Action Plan Priority Projects

Table 8. Middletown Safety Action Plan Project Prioritization Matrix

Criteria	East Main Rd	West Main Rd	Coddington Hwy/ W Main Rd	Valley Rd/ W Main Rd	Valley Rd	Aquidneck Ave/ Purgatory Rd	Aquidneck Ave/ Valley Rd	Purgatory Rd	Paradise Ave	Miantonomi Ave/ Green End Ave	Tuckerman Ave	Green Ln	3rd Beach/ Wapping Rd/ Mitchells Ln	Turner St/ Wyatt St	Oliphant Ln	Green End Ave/ Paradise Ave/ Berkeley Ave	Wolcott Ave	Mitchells Ln
Total for All Criteria	**34**	**33**	**29**	**29**	**29**	**28**	**28**	**27**	**24**	**23**	**23**	**22**	**22**	**22**	**21**	**21**	**21**	**19**
Safety																		
Total Safety Criteria Met	**19**	**19**	**17**	**15**	**13**	**13**	**13**	**12**	**9**	**9**	**11**	**10**	**9**	**9**	**8**	**9**	**9**	**9**
Is segment or intersection on the High Injury Network? (point for each type)	10	10	9	8	7	5	5	5	3	3	5	3	3	3	3	3	3	3
Is segment or intersection on corridor with high-predictive-crash score?	3	3	3	2	2	3	3	3	2	2	2	3	2	2	1	2	2	2
Will project improve safety for drivers?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Will project improve safety for pedestrians or bicyclists?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Will project improve safety for transit users?	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Is project likely to reduce speeds along corridor or intersection?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Will project improve visibility of other motorists, pedestrians, and bicyclists?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Does project align with a Safe Routes to School plan or other local transportation safety initiative?	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Has project been identified in road safety audit or similar evaluation?	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equity Impacts																		
Total Equity Criteria Met	**6**	**6**	**5**	**6**	**7**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**5**	**6**	**5**
Will project improve fairness in resource distribution?	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0
Will project improve fairness in external cost distribution?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Will project incorporate or improves Universal Design?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Will project improve travel affordability?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Will project improve connectivity for community cut off by previous transportation infrastructure investment?	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0
Will project improve connectivity to goods and services in the area?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Does project address deferred upgrades to infrastructure?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Context																		
Total Context Criteria Met	**5**	**5**	**3**	**5**	**5**	**5**	**5**	**5**	**5**	**4**	**3**	**3**	**4**	**4**	**4**	**4**	**3**	**2**
Is project located near a school/school zone or other facility serving large numbers of vulnerable individuals?	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0
Is project located downtown or in a dense commercial or residential area?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Is project located in a rural area?	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Is project located in a suburban or general commercial area?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Does project have demonstrated public support?	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0
Was project identified in a prior comprehensive plan or transportation plan?	1	1	0	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0
Cost/Timeline																		
Total Cost/Timeline Criteria Met	**4**	**3**	**4**	**3**	**4**	**4**	**4**	**4**	**4**	**4**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
Is project part of STIP/CIP or local funded priority?	1	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Can project be implemented using existing local resources?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Can project be implemented in the short term (first 5 years after plan completion)?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
If not feasible in the short term, can the project be implemented in the mid-term (less than 10 years after plan completion)?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Have partnerships been identified to support project implementation?	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Is the road owned locally (L) or by RIDOT (R)?	R	R	R	R	R	R	R	L	L	L	L	R	L	L	L	L	L	L

8. Progress and Transparency

A process and tools for measuring progress and providing transparency were established with residents and other relevant stakeholders. Progress and transparency methods were developed for both the Safety Action Plan and for future use during implementation.

Biweekly team meetings allowed progress to be tracked and reported to the broader group of stakeholders. Regular touchpoints were established with community leadership, who were invited to be involved in all major decisions. The project team also maintained quarterly and annual reporting on project progress throughout plan development in accordance with FHWA requirements for the SS4A grant.

To deliver on progress and transparency goals during implementation, the Town of Middletown is committed to providing the following on an ongoing basis:

Progress Measures:

- **Annual Reporting**: Regularly assess the progress made toward reducing roadway fatalities and serious injuries. This involves annual public and accessible reporting on the outcomes achieved through the action plan.
- **Outcome Data**: Provide relevant data or information measuring the impact of implemented strategies. This data-driven approach helps track improvements over time.

Transparency Measures:

- **Public Posting**: Make the Safety Action Plan available to the public by posting it online. Transparency ensures that residents, stakeholders, and interested parties can access this Safety Action Plan's details, including all regular updates.
- **Ongoing Communication**: Maintain an open line of communication with the community and stakeholders during updates, town hall meetings, and engagement sessions to foster transparency and build trust.
- **Regular Town Council Updates**: Regular updates will keep the Town Council current on activities and progress to share with constituents.

These progress and transparency measures provide a platform for ongoing accountability as this Safety Action Plan is implemented. These reports should capture the activities and progress since the previous reporting period. They should also be related directly to the recommendations, priority projects, and strategies provided in Chapter 7. Progress within each recommendation should be documented and celebrated in these reports, ensuring that successes build upon previous activities and reporting.

8.1 Summary of Key Timeline and Actions

Progress on Vision Zero implementation starts with short-term actions. Table 9 contains the short-term actions listed in Table 7, organized by the lead party responsible for implementation (as shown in Table 7, many of the actions also have coordinating parties). Each of these actions is paired with an anticipated duration required for implementation, upon adoption of this plan.

Table 9. Short Term Actions, by Months to Complete

Months to Complete	Action #	Sub-Action Title	Policy / Process / Infrastructure	Implementation Parties
4	**2.2.c**	**Take immediate action on the High Injury Network**	Infrastructure	DPW
4	**2.5.h**	**Comply with Statewide Complete Streets policies and design recommendations**	Process	Planning, DPW, RIDOT, RIDSP
4	**3.2.a**	**Safety oriented enforcement**	Policy	Police
4	**3.3.a**	**Develop and distribute Vision Zero communications**	Process	Outreach Dept., Schools, Regional Planner
6	**1.1.a**	**Appoint an Aquidneck Island Transportation Commission**	Policy	Aquidneck Island Municipalities, Aquidneck Island Land Trust's Resilience Program, NAVSTA Newport, Bike Newport
6	**2.2.a**	**Identify quick build demonstration projects**	Process Infrastructure	Planning, DPW, BPAC, Bike Newport
6	**2.4.a**	**Evaluate intersection signal timing**	Process Infrastructure	DPW, RIDOT
6	**2.4.b**	**Evaluate corridor signal timing**	Process Infrastructure	DPW, RIDOT
6	**2.5.d**	**Increase awareness of sidewalk issue reporting**	Process	Planning
6	**4.1**	**Support families of victims**	Process	Outreach Dept, Police
6	**4.2**	**Provide resources for post-crash mental health**	Process	Outreach Dept, Police
8	**2.5.c**	**Clarify sidewalk clearance responsibilities and offer assistance**	Policy	Outreach Dept.
8	**2.6.a**	**Establish a slow "Beach Streets" program**	Policy	Planning, Parks and Rec Dept.
8	**4.3.a**	**Standard data collection**	Process	Police, RIDOT, RIDSP, Aquidneck Transportation Commission
12	**1.1.c**	**Fund and appoint a dedicated regional planner**	Policy	**Lead:** Aquidneck Island Municipalities **Support:** Aquidneck Island Land Trust
12	**1.1.e**	**Advance infrastructure that increases climate resiliency**	Policy	DPW
12	**2.4.c**	**Install speed cameras in school zones**	Infrastructure	Police
12	**2.5.g**	**Support investment in Aquidneck Island's active transportation network**	Process, Infrastructure	Planning, DPW, BPAC, Bike Newport, Grow Smart RI, van Beuren Charitable Foundation
12	**2.7.b**	**Strategically improve street lighting**	Infrastructure	DPW

Months to Complete	Action #	Sub-Action Title	Policy / Process / Infrastructure	Implementation Parties
12	**3.1.a**	**Advance a Safe Routes to School Program**	Policy	Planning, Public Schools, Police, Bike Newport
18	**1.1.d**	**Conduct safety meetings and develop annual reports**	Process	Regional Planner
18	**1.2.a**	**Support transportation choice**	Process	Regional Planner, BPAC, Bike Newport, RIPTA
18	**2.1.a**	**Local Safety Audit procedure**	Process	Regional Planner, BPAC, Bike Newport
18	**2.2.b**	**Implement and monitor demonstration projects**	Infrastructure, Process	DPW, Planning, Bike Newport
18	**3.1.d**	**Educate older adults about roadway safety**	Process	Regional Planner, AARP, AAA
24	**1.2.b**	**Conduct a regional transportation options study**	Process	Regional Planner, BPAC, Bike Newport

References

USDOT. 2024. Comprehensive Safety Action Plans. U.S. Department of Transportation. Last updated: Tuesday, February 20, 2024. https://www.transportation.gov/grants/ss4a/comprehensive-safety-action-plans.

FHWA. 2013. *Systemic Safety Project Selection Tool*. Federal Highway Administration. July 2013. https://safety.fhwa.dot.gov/systemic/fhwasa13019/.

FHWA. 2024. Proven Safety Countermeasures. Federal Highway Administration. https://highways.dot.gov/safety/proven-safety-countermeasures.

NHTSA. 2007. State of Rhode Island Uniform Crash Report. National Highway Traffic Safety Administration. https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/ri_par_rev_12_06_sub_02_08_07.pdf.

RIDOT. 2023. *Rhode Island Strategic Highway Safety Plan 2023-2027*. Rhode Island Department of Transportation. https://www.dot.ri.gov/Safety/reports/docs/Strategic_Highway_Safety_Plan.pdf.

Appendix A: Resolution

MIDDLETOWN
Rhode Island

TOWN OF MIDDLETOWN
350 East Main Road, Middletown, RI 02842
(401) 849-4027 | MiddletownRI.com

RESOLUTION OF THE TOWN COUNCIL
NO. 2025-1

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF MIDDLETOWN ADOPTING A VISION ZERO POLICY

PREAMBLE

WHEREAS, the life and health of all persons living and traveling within the Town of Middletown are our utmost priority, and no one should die or be seriously injured while traveling on our city streets; and

WHEREAS, Vision Zero is the concept that traffic deaths and serious injuries on our roadways are unacceptable; and

WHEREAS, Vision Zero is a holistic strategy aimed at eliminating all traffic fatalities and severe injuries suffered by all road users while increasing safe, healthy, equitable mobility; and

WHEREAS, streets and transportation systems have traditionally been designed to prioritize the efficient movement of cars at the expense of all else, and Vision Zero supports a paradigm shift by designing streets and transportation systems to move people safely, including people of all ages and abilities, pedestrians, bicyclists, public transit users, scooter riders, and motorcyclists, as well as drivers and passengers of motor vehicles; and

WHEREAS, Vision Zero recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to ensure that those inevitable mistakes do not result in severe injuries or fatalities; therefore, transportation planners, engineers, and policymakers are expected to improve the roadway environment, policies, and other related systems to lessen the severity of crashes; and

WHEREAS, three people lost their lives to traffic deaths, and 22 have been seriously injured in Middletown between 2019-2023, and traffic crashes are among the leading cause of deaths in the United States; and

WHEREAS, Middletown's transportation infrastructure serves an increasing number of vulnerable road users such as pedestrians and bicyclists; and

WHEREAS, the provision of a more complete bicycle and pedestrian network increases transit accessibility and a reduction in vehicle trips; and

WHEREAS, according to the Rhode Island Department of Transportation, pedestrians and bicyclists are involved in 28% of serious injury or fatality crashes, while representing just 2% of all crashes in Middletown; and

WHEREAS, the injury rate for pedestrians involved in collisions is approximately 41%, and the injury rate for bicyclists involved in collisions is approximately 44%; and

WHEREAS, speed is recognized as a major determining factor of survival in a crash; and

WHEREAS, Middletown is working toward reducing vehicle speeds because the likelihood of a pedestrian surviving a crash is 10% if hit by a vehicle moving 40 mph; and

WHEREAS, Around 7.86% of Middletown's population lives in an underserved area, where the provision of equitable transportation-land use systems would have an outsized impact on residents; and

WHEREAS, children, older adults, people of color, people with disabilities, people who are unhoused, and people with low income face a significantly disproportionate risk of traffic injuries and fatalities; and

WHEREAS, making streets safer for all people using all modes of transportation will encourage people to travel on foot, by bicycle, and by public transit, which supports a healthier, more active lifestyle and reduces environmental pollution; and

WHEREAS, improvements to active transportation reduce pollution, increase public health, and positively impact economic development, particularly for tourism-dependent communities such as Middletown; and

WHEREAS, Vision Zero resolutions have been adopted by many jurisdictions across the United States; and

WHEREAS, the Town of Middletown has already adopted a Complete Streets Resolution in 2011; and

WHEREAS, The State of Rhode Island has committed to the development of and adoption of an updated Complete Streets Plan and Design Guide by 2025, which establishes a statewide and municipal Complete Streets policy and prioritization method to inform project selection and delivery; and

WHEREAS, for Vision Zero to be accepted, it must be thoughtfully integrated into and embraced by multiple stakeholders, Town government leaders, including police and emergency services, the business community, school communities, neighborhood and community groups, and the public at large.

NOW, THEREFORE, BE IT RESOLVED, by the Town Council of the Town of Middletown, Rhode Island, as follows:

1. The Town of Middletown adopts the goal of zero traffic deaths and serious injuries, stating that no loss of life or serious injury is acceptable on our streets.

2. The Town of Middletown adopts the goal of eliminating traffic deaths and serious injuries by 2034 and endorses Vision Zero as a comprehensive and holistic approach to achieving this goal.

3. The Town of Middletown commits to establishing a continuous evaluation framework, including regular analysis of crash data and systematic review of the 2024 Safety Action Plan. This framework will involve the ongoing assessment and revision of strategies, actions, and metrics to ensure progress toward the goal of eliminating traffic deaths and serious injuries by 2034.

JANUARY 6, 2025

READ AND PASSED IN COUNCIL

Wendy J. W. Marshall

Wendy J. W. Marshall, MMC
Town Clerk

Appendix B: Public Engagement Materials

SAFE STREETS FOR ALL!

Please share your thoughts about transportation safety by completing this survey!

¡Por favor, comparta sus opiniones sobre la seguridad en el transporte completando esta encuesta!

Por favor, compartilhe sua opinião sobre segurança no transporte respondendo a esta pesquisa!

Tanpri pataje panse w sou sekirite transpò lè w ranpli sondaj sa a!

请填写本调查问卷，
分享您对交通安全的看法!

សូមចែករំលែកគំនិតរបស់អ្នកអំពីសុវត្ថិភាព
ដឹកជញ្ជូនដោយបំពេញការស្ទង់មតិនេះ!

Veuillez partager vos réflexions sur la sécurité des transports en répondant à ce sondage!

Condividi le tue opinioni sulla sicurezza dei trasporti completando questo sondaggio!

กรุณาแบ่งปันความคิดของคุณเกี่ยวกับความปลอดภัยในการขนส่งโดยทำแบบสำรวจนี้ !

ກະລຸນາແບ່ງປັນຄວາມຄິດຂອງທ່ານກ່ຽວກັບ
ຄວາມປອດໄພໃນການຂົນສົ່ງໂດຍການເຮັດ
ສໍາຫຼວດນີ !

يُرجى مشاركة رأيك حول سلامة النقل
من خلال استكمال هذا الاستطلاع !

SS4A
SAFE STREETS FOR ALL

RIPTA
RHODE ISLAND PUBLIC TRANSIT AUTHORITY

https://tinyurl.com/4xtzk6ct

Rhode Island Public Transit Authority Safe Streets for All Survey (English)

Safety continues to be a concern for all travel modes in Rhode Island. Through the Federal Highway Administration (FHWA) Safe Streets for All (SS4A) program, the Rhode Island Public Transit Authority (RIPTA) secured funding to support the state and participating municipalities in planning for roadway infrastructure improvements that will prevent injuries and save lives. The SS4A planning project will be accomplished by creating municipal Safety Action Plans (SAPs) for 32 participating communities and a statewide Safety Action Plan. Please help the study team to identify areas of safety concern, where successful improvements have been made, and to understand the preferences of Rhode Islanders on effective safety improvement methods. The survey should take around 5-10 minutes to complete. Thank you for sharing your time and thoughts.

Please enter the zip code where you live.

The value must be a number

I am responding as... Select one.

- ◯ Rhode Island resident
- ◯ Municipal employee
- ◯ State employee
- ◯ Other type of employee
- ◯ Member or representative of a local or regional advocacy organization (please type in the organization)

- ◯ Member or representative of a statewide advocacy organization (please type in the organization)
- ◯ Student
- ◯ Visitor
- ◯ Other (please specify)
- ◯ Other

Do you feel that roadway safety is an important issue in Rhode Island?

- ◯ Yes
- ◯ No
- ◯ Maybe
- ◯ Other

On a scale of 1 (not important) to 5 (extremely important), how important do you think this roadway safety project is?

1 2 3 4 5

What safety and comfort improvements would you like to see for drivers? Please select up to 3 responses.

Please select at most 3 options.

- ☐ More visible lane striping and other pavement markings
- ☐ More visible traffic signs

- [ ] Lower speed limits
- [ ] Reduced driving lane widths
- [ ] More guardrails or other roadway barriers
- [ ] Smoother pavement conditions and fewer potholes
- [ ] Fewer curb cuts / driveways to businesses and homes
- [ ] Better lighting
- [ ] Rumble strips
- [ ] Greater visibility
- [ ] Better drainage
- [ ] Other (please specify)
- [ ] Other

What safety and comfort improvements would you like to see for pedestrians and bicyclists? Please select up to 3 responses.

Please select at most 3 options.

- [ ] A more complete sidewalk network
- [ ] Wider sidewalks
- [ ] Safer ways to cross the street (e.g. crosswalks, pedestrian traffic lights, etc.)
- [ ] Longer crossing times at signalized intersections
- [ ] Better maintenance of sidewalks and bikeways
- [ ] A more complete, low-stress bikeway network separate from cars

- [ ] Bicycle parking
- [ ] Slower-moving car traffic
- [ ] Better lighting
- [ ] Accessibility improvements
- [ ] Landscape and greenspace elements to aid with shade, cooler road temperatures, stormwater drainage, and/or barriers from traffic
- [ ] Other (please specify)
- [ ] Other

What safety and comfort improvements would you like to see for transit and paratransit riders? Please select up to 3 responses.

Please select at most 3 options.

- [ ] Better and more available maps, signage, and schedule information at bus stops and train stations
- [ ] More shelters and/or seating at transit stops
- [ ] Better lighting at transit stops
- [ ] More staff at bus stops or train stations
- [ ] Better routine maintenance at transit stops such as garbage removal and cleaning
- [ ] More and/or better bike racks, with increased protection from inclement weather
- [ ] More frequent service
- [ ] Service at more times of day than currently runs (earlier, later, on weekends)
- [ ] Faster trip times (e.g. bus-only lanes, transit signal priority)

- [ ] Other (please specify)

- [ ] Other

Which of the following behavioral programs do you think would have the greatest impact on improving road safety? Select all that apply.

- [ ] Education to reduce impaired roadway users
- [ ] Education to reduce distracted driving
- [ ] Education to increase address behaviors to increase safety for roadway users
- [ ] More speed management (e.g. appropriate speed limits)
- [ ] More enforcement of traffic laws
- [ ] Other (please specify)

- [ ] Other

Do you own or regularly have access to a personal vehicle?

- ◯ Yes
- ◯ No

Why don't you have access to a personal vehicle? Select all that apply.

Select your answer

Please check all the ways you travel and the frequency that you travel by that mode (Please select all that apply).

	Daily or almost daily	A few times per week	A few times pe
Drive	○	○	○
Carpool, vanpool, or get a ride	○	○	○
Bike / Scooter (including e-bike / e-scooter)	○	○	○
Walk / Use personal mobility device	○	○	○
Ridesharing services (cab or Uber for example)	○	○	○
Transit or Paratransit	○	○	○
Other (please specify)	○	○	○

What are some reasons you currently choose to take walk or bike? Select all that apply.

- [ ] It is faster than other transportation options
- [ ] It is more convenient
- [ ] It is less expensive than other options

- [ ] It is good exercise / for health reasons
- [ ] I walk or bike for environmental reasons
- [ ] I do not have access to a car
- [ ] I enjoy it
- [ ] Other (please specify)
- [ ] Other

What are some reasons you currently choose to take transit? Select all that apply.

- [ ] It is faster than other transportation options
- [ ] It is more convenient
- [ ] It is less expensive than other options
- [ ] I take transit for environmental reasons
- [ ] I do not have access to a car
- [ ] I enjoy it
- [ ] Other (please specify)
- [ ] Other

Do you have any other comments or concerns about transportation safety?

Appendix C: Baseline Crash Analysis

Middletown

Safe Streets and Roads for All

Safety Action Plan: Baseline Crash Analysis Summary

February 2025

1. Introduction

The Descriptive Crash Analysis Summary is a key input to Middletown's Safety Action Plan. This memorandum summarizes the findings from a review of data on the most recent five years of crashes that occurred in Middletown.

1.1 Analysis Overview

Crashes, especially serious crashes are not randomly occurring nor evenly distributed. The safety analysis, described on the following pages, uses data to identify key crash patterns, trends, and contributing factors in Middletown, with a specific focus on crashes where someone died or was seriously injured. This analysis is based on five years of crash data (2019 to 2023) collected by enforcement agencies using the State of Rhode Island Uniform Crash Report form, paired with roadway and demographics data using spatial analysis. Together, this information identifies the types of infrastructure, behavior, and contexts that most impact safety performance.

Why focus on fatal and serious injury crashes?

In alignment with the Safe System Approach, the goal of the Safety Action Plan is to eliminate fatal and serious injuries on roads. To support that goal, the safety analysis focuses on crash patterns and factors of crashes where at least one person was killed or ***seriously*** *injured* (the person needed to be brought for medical attention). This excludes the most common type of crash, a property damage only crash, to focus instead on human safety impacts.

For less common crash types (e.g., crashes involving people walking), this analysis also highlights trends in crashes that led to ***any injury***. By considering crashes resulting in any injury, a pattern of critical safety needs within the community becomes more apparent, despite a lower sample size.

Why look at five years of crash data?

Crashes can fluctuate naturally from year-to-year based on road conditions, community circumstances, and more. A five-year study period effectively balances changes in safety over time while capturing overall trends. The result is a safety analysis that is comprehensive and supports long-term decision-making.

2. Descriptive Crash Analysis Findings

The Descriptive Crash Analysis presents an overview of the state of road safety within Middletown, to pinpoint the regional and local factors that contribute to frequent and serious crashes. This analysis aims to create a shared understanding of the greatest needs and opportunities for safety improvement within the community.

This analysis answers questions like:

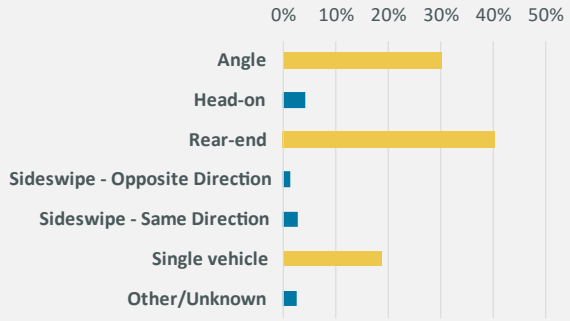
- How has crash frequency changed in recent years?
- How do crash patterns vary by road users' modes of travel?
- What behaviors and environmental factors are most prevalent among severe crashes?
- How do safety outcomes correlate with factors such as poverty or transportation access?
- What roadway and environmental attributes influence safety outcomes?

2.1 Key Takeaways

In **Middletown**, according to the five-year (2019 to 2023) crash dataset used for the Safety Action Plan:

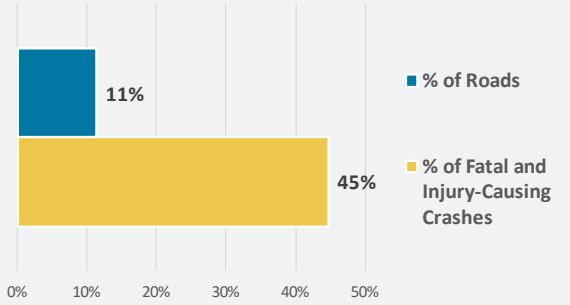
17% of all crashes led to someone being killed or injured (425 crashes)
25 (1%) of these crashes led to someone being killed or ***seriously*** injured

Crash Types



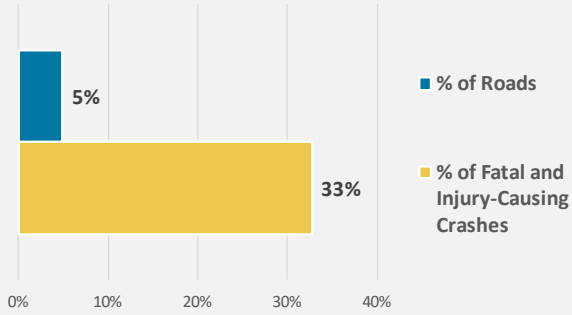
The most common types of crashes in Middletown were, **angle** (vehicles colliding at an angle), **rear-end** (one vehicle rear-ending another), and **single-vehicle** (a vehicle crashing into a fixed object).
Together these three types account for 89% of crashes resulting in an injury or fatality.

State-Owned Roads



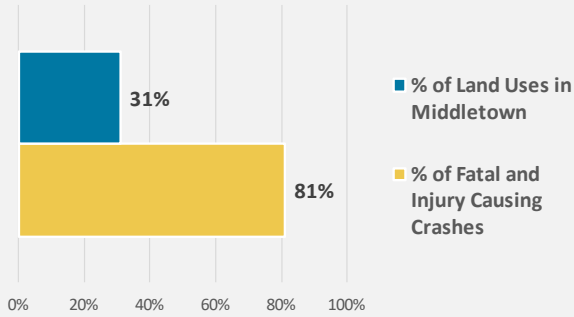
Despite only accounting for 11% of the total road miles in Middletown, **state-owned roads account for 45% of crashes resulting in an injury or fatality** (190 crashes).

Multilane Roads



While only **5% of the roads in Middletown are multilane**, these roads accounted for **33% of fatal and injury-causing crashes**.

Urban Land Uses



81% of fatal and injury crashes occurred in parts of Middletown with **urban land uses**, while **31% of Middletown is urban.**

2.2 Overall Crash Statistics

In Middletown, in the five-year crash dataset used for the Safety Action Plan, there were:

- **Total Crashes**: 2,525
- **Total Fatal and Injury (FI) Crashes**: 425 (17% of all crashes)
- **Total Crashes Fatal and Serious injury (FSI) Crashes**: 25 (1% of all crashes)
  - 7 involving **vulnerable road users (VRU)** – 1 involving bicyclists; 6 involving pedestrians (Middletown has the 8th-highest rate of pedestrian-involved fatal and ***serious*** injury crashes per capita of 39 municipalities in Rhode Island)
  - 5 involving **motorcyclists only**
  - 13 involving **motorists only**
  - 3.65 pedestrian-involved fatal and ***serious*** injury crashes per 10k people (Middletown has the 4th-highest rate statewide)

Figure 1 illustrates the number of crashes resulting in an injury or fatality, per year, in Middletown compared to statewide. Although these crashes were stable in recent years (2020-2022) at 75 to 85 crashes per year, 2019 was an outlier, with 101 crashes. More recently, in 2023, crashes resulting in an injury or fatality increased to 95.

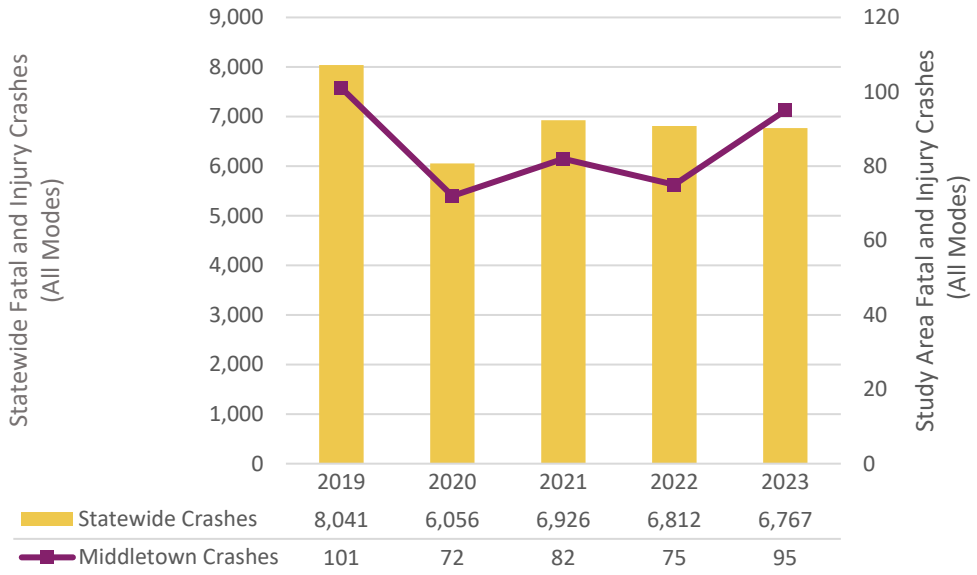


Figure 1: Middletown vs. Statewide Crashes Resulting in an Injury or Fatality, by Year, All Modes (2019-2023)

There were 33 crashes resulting in an injury or fatality between 2019 and 2023 involving **bicyclists and pedestrians**. Generally, the average number of crashes resulting in an injury or fatality involving these users fluctuated between 6 and 10 crashes per year, with 2022 notably having a low of 3 crashes (Figure 2).

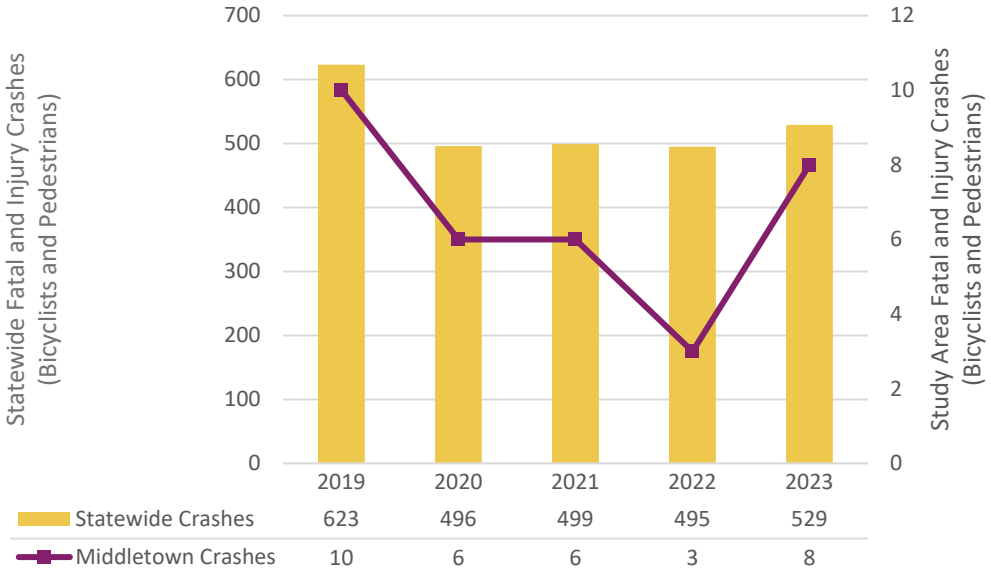


Figure 2: Middletown vs. Statewide Crashes Resulting in an Injury or Fatality, by Year, Walking and Bicycling (2019-2023)

Different road users are more susceptible to being killed or injured when they are involved in a crash. **Eighty-eight percent (88%) of pedestrian crashes** led to someone being injured or killed.

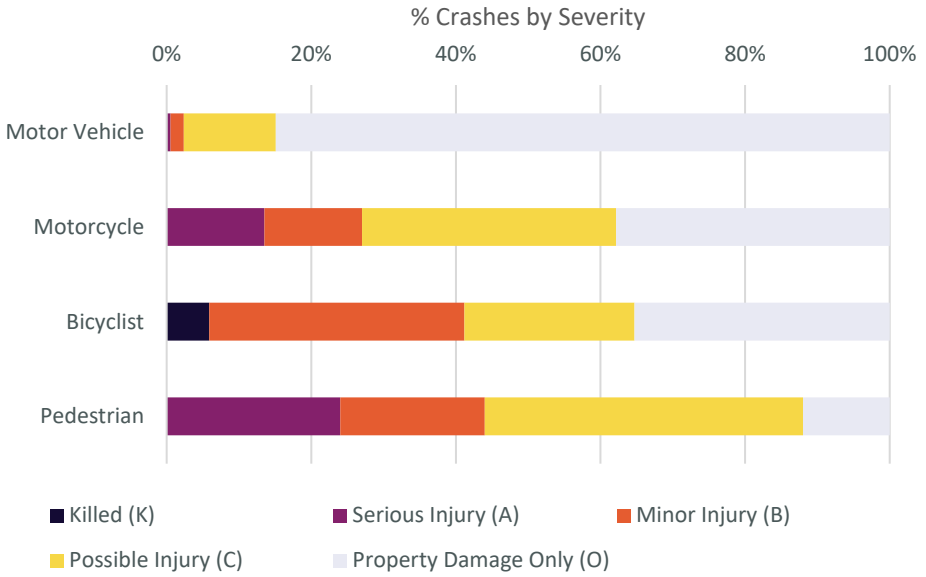


Figure 3: Middletown Crashes, by Mode and Severity (2019-2023)

2.3 What Types of Crashes Occur?

Figure 4 illustrates fatal and injury crashes in Middletown by type, meaning how the vehicles or road users involved collided. The top crash types in fatal and ***serious*** injury crashes were **angle, head-on,** and **single-vehicle** crashes – which accounted for 84% of crashes. Rear-end, angle, and single-vehicle were the top crash types – accounting for 89% of crashes resulting in any injury or fatality.

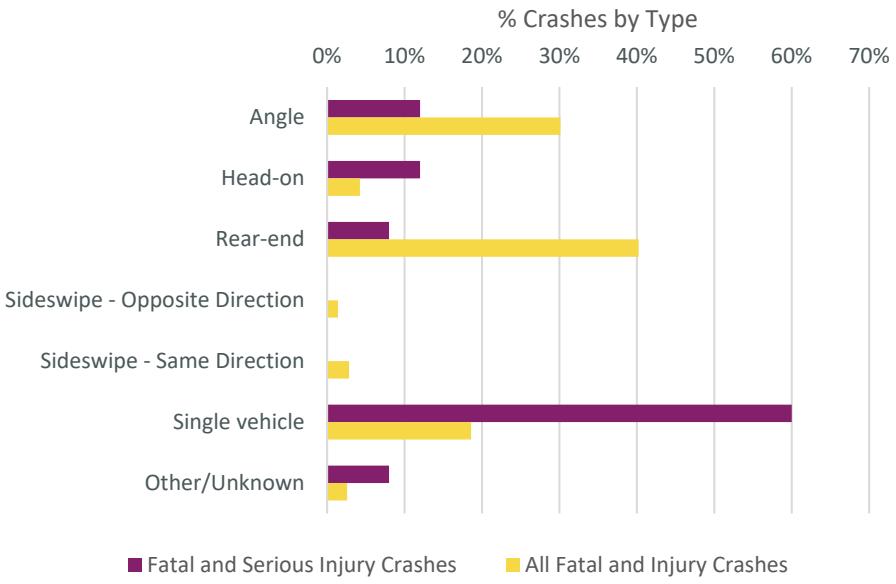


Figure 4: Middletown Crashes, by Type and Severity, All Modes (2019-2023)

Figure 5 illustrates that, in Middletown, the top reported contributing factors in fatal and ***serious*** injury crashes were drivers **operating under the influence, unrestrained drivers**, and **out-of-state drivers**. Seniors and out-of-state drivers were also top contributing factors in crashes resulting in *any injury* or fatality. These factors are based on police reports and give insight as to what may have influenced the severity of crashes.

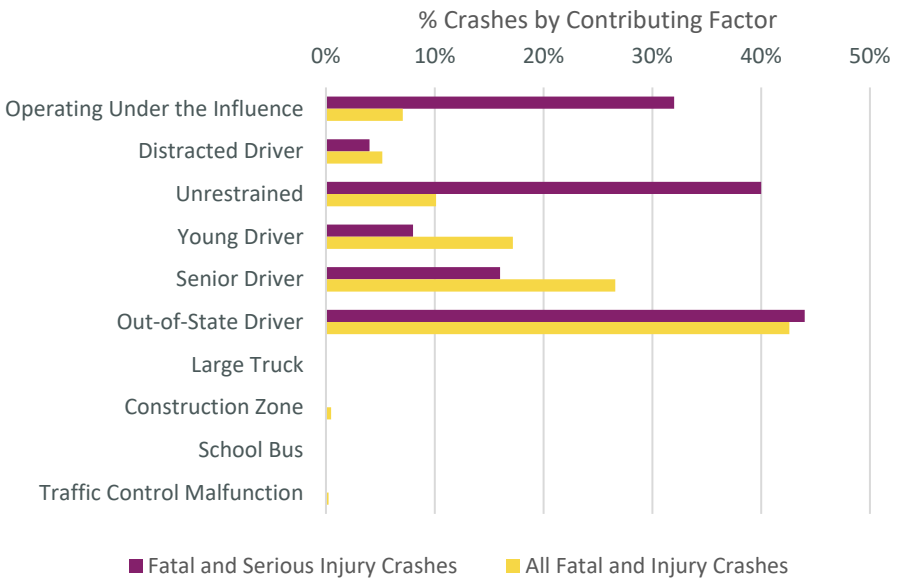
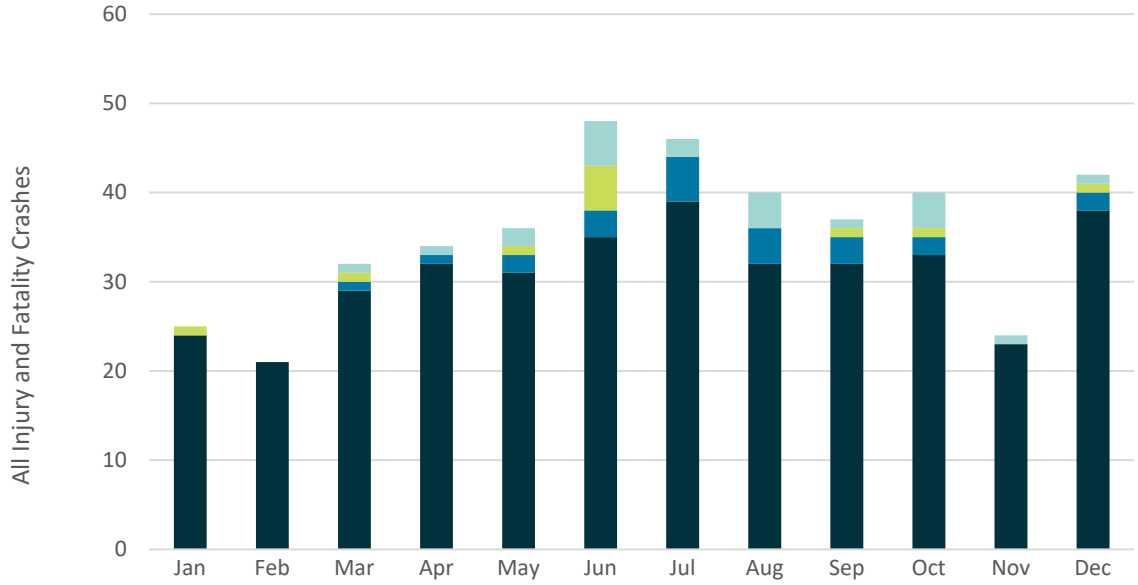


Figure 5: Middletown Crashes, by Contributing Factor and Severity, All Modes (2019-2023)

2.4 When Do Crashes Occur?

In Middletown, fatal and ***serious*** injury crashes were more frequent in the warmer months with peaks in June and September (4 crashes) and in the morning to evening (9AM to 6PM) times of day. Crashes resulting in *any injury* or fatality were **more frequent in warmer months (June to October)**. June experienced the highest number of crashes resulting in an injury or fatality –with 48 crashes (Figure 6).



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pedestrian	0	0	1	1	2	5	2	4	1	4	1	1
Bicyclist	1	0	1	0	1	5	0	0	1	1	0	1
Motorcycle	0	0	1	1	2	3	5	4	3	2	0	2
Motor Vehicle	24	21	29	32	31	35	39	32	32	33	23	38

Figure 6: Middletown Crashes Resulting in an Injury or Fatality, by Month and Mode (2019-2023)

Figure 7 illustrates that crashes resulting in injuries or fatalities were more frequent from **3 PM to 6 PM on Tuesdays, Wednesdays, and Fridays** –reflecting afternoons when a large number of people are traveling. From 12 PM to 3 PM on Wednesdays and Thursdays also had a higher frequency of crashes resulting in an injury or fatalities.

		Time of Day								
	From	*12 AM*	*3 AM*	*6 AM*	*9 AM*	*12 PM*	*3 PM*	*6 PM*	*9 PM*	
	To	*3 AM*	*6 AM*	*9 AM*	*12 PM*	*3 PM*	*6 PM*	*9 PM*	*12 AM*	
Day of Week	*Mon*	0	1	5	11	16	18	5	0	All Fatal and Injury Crashes All Modes
	Tues	1	0	6	7	15	**21**	9	1	
	Wed	0	1	13	11	**19**	**21**	8	5	
	Thu	2	1	11	6	**23**	18	7	3	
	Fri	1	0	2	7	14	**24**	10	8	
	Sat	3	0	4	11	14	13	2	8	
	Sun	1	1	0	9	10	9	6	3	
		Dark Conditions		AM Peak	Light Conditions		PM Peak	Dark Conditions		

Figure 7: Middletown Crashes Resulting in an Injury or Fatality, by Time of Day and Day of Week, All Modes (2019-2023)

Figure 8 illustrates that the largest share **of all crashes resulting in an injury or fatality** occurred during **daylight conditions (77%)** – likely when more travel occurs**.** Twenty-one percent (21%) occurred during dark-lit (15%), dark-unlit (3%), and twilight (3%) conditions. This trend indicates a potential need to evaluate roadway lighting conditions in Lincoln to ensure roads are appropriately lit during dark and twilight conditions. It is important to note that data on lit versus unlit conditions comes from police reports and reflects the presence of streetlights, not the adequacy of lighting conditions for visibility.

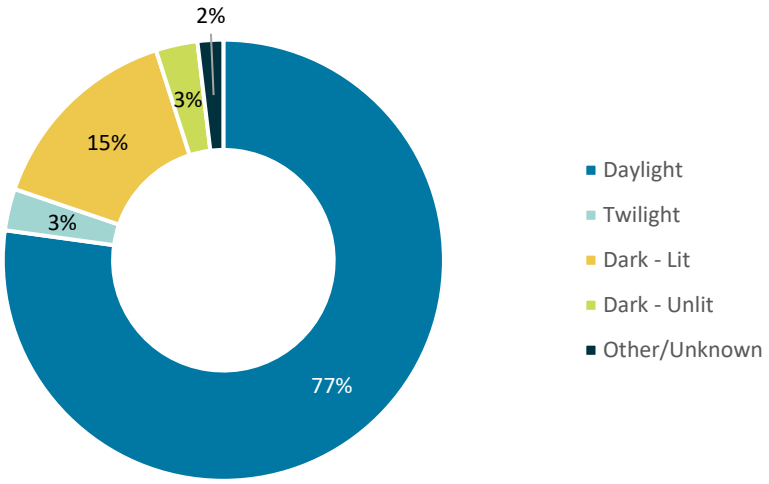


Figure 8: Middletown Crashes Resulting in an Injury or Fatality, by Lighting Condition, All Modes (2019-2023)

Comparatively, a larger share of crashes resulting in an injury or fatality with bicyclists— and/or pedestrians--involved occurred outside of daylight conditions. **Twenty-seven percent (27%) occurred in dark-lit, dark-unlit, and twilight conditions** (Figure 9).

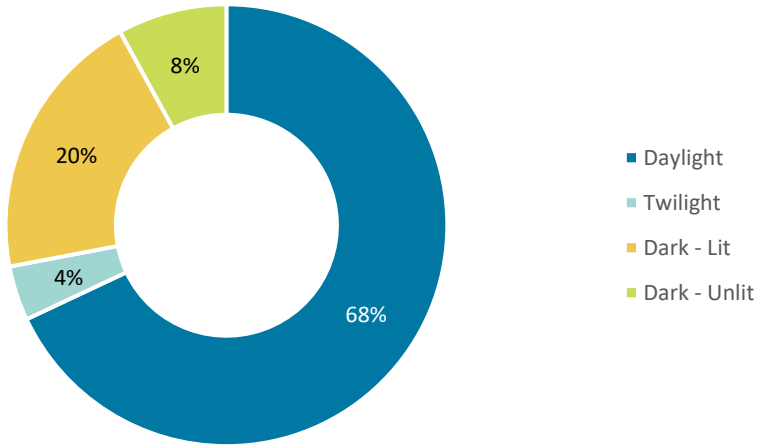


Figure 9: Middletown Crashes Resulting in an Injury or Fatality that, by Lighting Condition, Walking or Bicycling (2019-2023)

Figure 10 highlights that a large share of crashes resulting in an injury or fatality occurred during **clear weather conditions (82%).** Thirteen percent (13%) occurred during rain or winter weather. This trend does not mean that inclement weather conditions are somehow safer; rather, likely most travel occurs during clear or dry conditions.

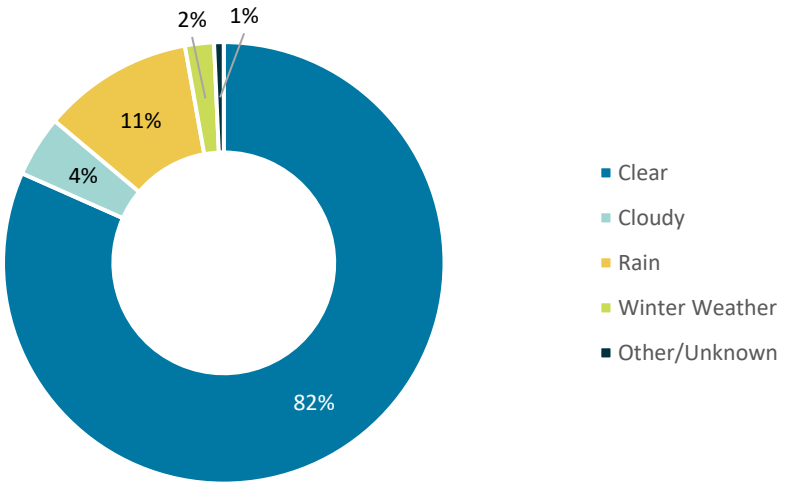
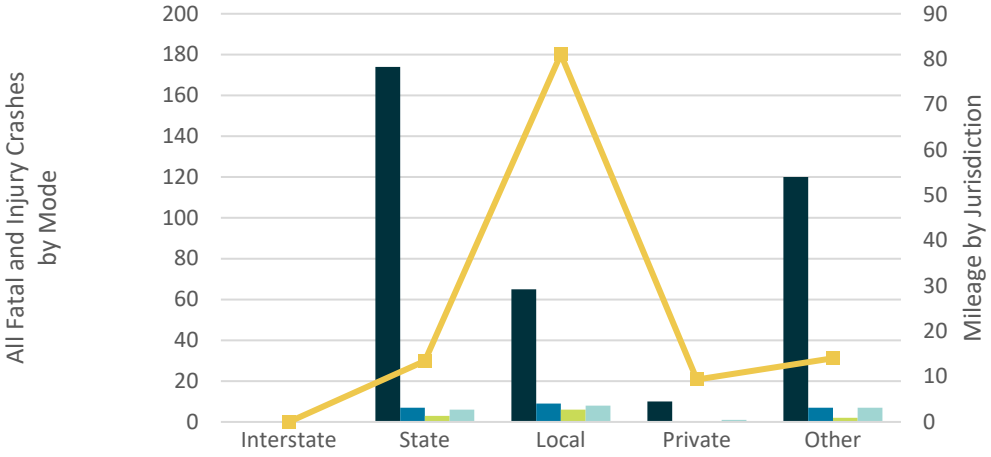


Figure 10: Middletown Crashes Resulting in an Injury or Fatality Crashes, by Weather Condition, All Modes (2019-2023)

2.5 Where Do Crashes Occur?

In Middletown, a greater number of fatal and ***serious*** injury crashes occurred on **state-owned roads** and on **midblock locations** compared to other road types and intersections.

However, to see trends over a greater number of crash severities, Figure 11 illustrates crashes resulting in an injury or fatality by mode and roadway jurisdiction. **State-owned roads** had a higher number of crashes compared to other roads (190 crashes; 45%), but they make up a smaller amount of the total roadway mileage in Middletown (11% of the total roadway mileage in Middletown). Local roads make up the largest share of total roadway mileage (69% of the total roadway mileage in Middletown), but account for a lesser amount of crashes (88 crashes; 21%). Note that "Other" roads are likely also local roads or military roads that were not correctly categorized in the data.



	Interstate	State	Local	Private	Other
Motor Vehicle	0	174	65	10	120
Motorcycle	0	7	9	0	7
Bicyclist	0	3	6	0	2
Pedestrian	0	6	8	1	7
Mileage	0	13	81	9	14

Figure 11: Middletown Crashes Resulting in an Injury or Fatality, by Mode and Road Owner (2019-2023)

Road owner information based on Highway Performance Monitoring System (HPMS) data for 2023

Overall, a **large share of crashes resulting in an injury or fatality occurred at mid-block locations** (between intersections) across all modes. Of the different modes of travel, pedestrian-involved crashes that resulted in an injury or fatality had the largest share that occurred at a mid-block crossing (95%). Notably, twenty-seven percent (27%) of bicyclist-involved and seventeen percent (17%) of motorcyclist-involved crashes resulting in an injury or fatality occurred at an intersection (Figure 12).

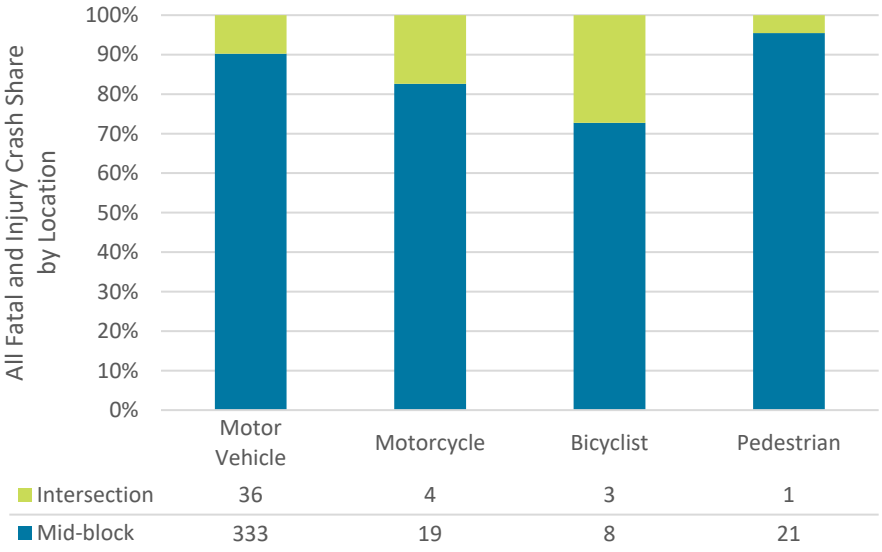


Figure 12: Middletown Crashes Resulting in an Injury or Fatality, by Location and Mode (2019-2023)

High-volume roads (10,000+ average daily vehicles) accounted for **45% of motorist-, 32% of pedestrian- and 30% of motorcyclist-involved crashes resulting in an injury or fatality.** A considerable number of crashes across modes resulting in an injury or fatality occurred on roads with unknown volumes (134 crashes, 32%) – likely lower volume roads where volume data is not collected (Figure 13).

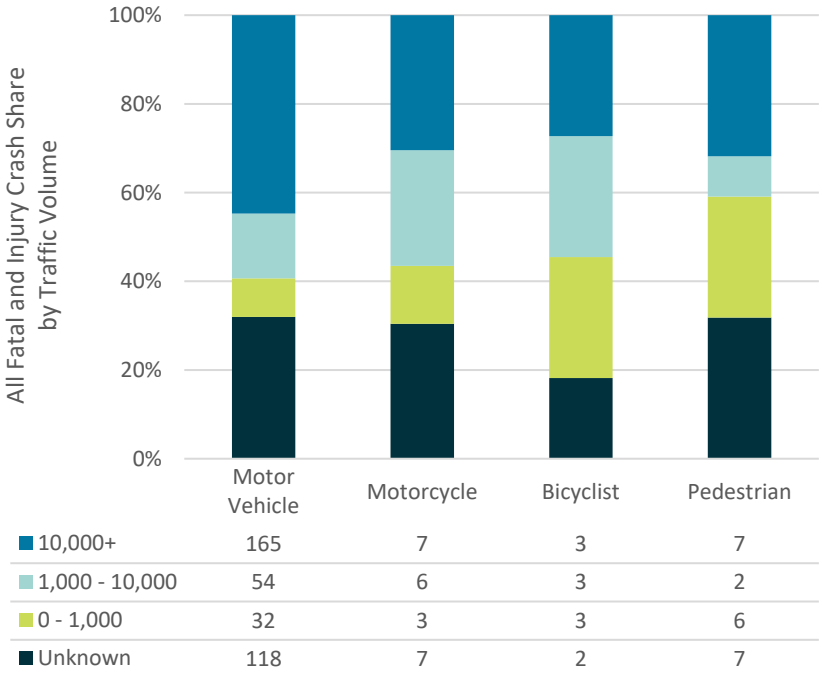
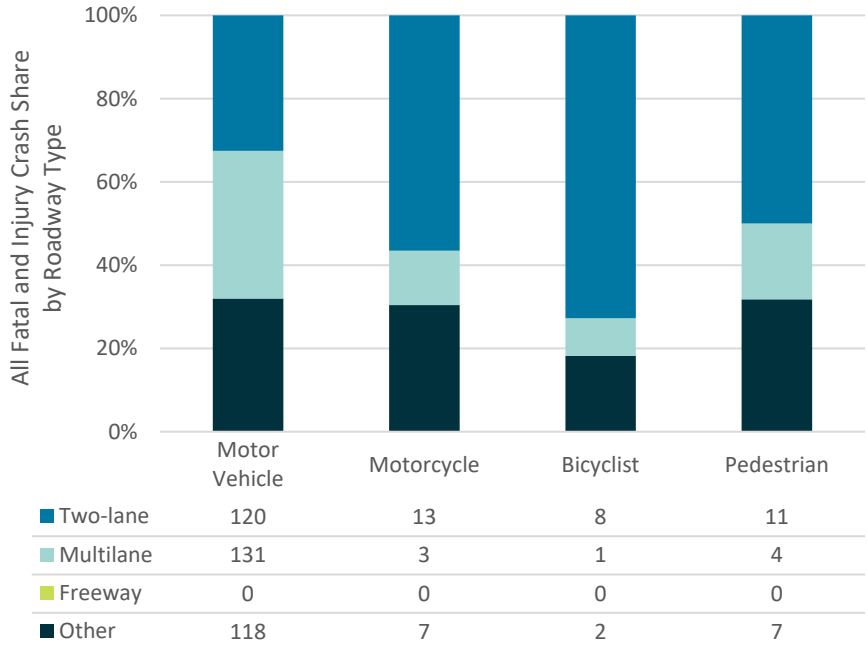


Figure 13: Middletown Crashes Resulting in an Injury or Fatality, by Traffic Volume and Mode (2019-2023)

Ninety-five percent (95%) of roads in Middletown are **two-lane roads**, and the remainder of these roads, five percent (5%), are multilane. **Thirty-six percent (36%)** of crashes resulting in an injury or fatality occurred on **two-lane roads** and thirty-three percent (33%) occurred on multilane roads (Figure 14).



	Motor Vehicle	Motorcycle	Bicyclist	Pedestrian
Two-lane	120	13	8	11
Multilane	131	3	1	4
Freeway	0	0	0	0
Other	118	7	2	7

Figure 14: Middletown Crashes Resulting in an Injury or Fatality, by Lane Type and Mode (2019-2023)

Eighty-one percent (81%) of crashes resulting in an injury or fatality are in areas with **urban land uses**, which represent 31% of Middletown's area composition (Figure 15).

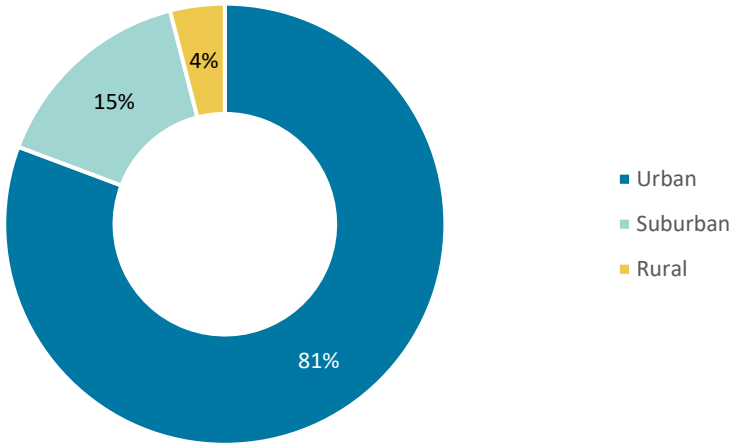


Figure 15: Middletown Crashes Resulting in an Injury or Fatality, by Land Use Type (2019-2023)

Thirty-three percent (33%) of crashes resulting in an injury or fatality occurred in **low disadvantaged and median areas**. This is slightly greater than the overall make up of Middletown, where 26% of the municipality is identified as low disadvantaged/median areas (Figure 16).

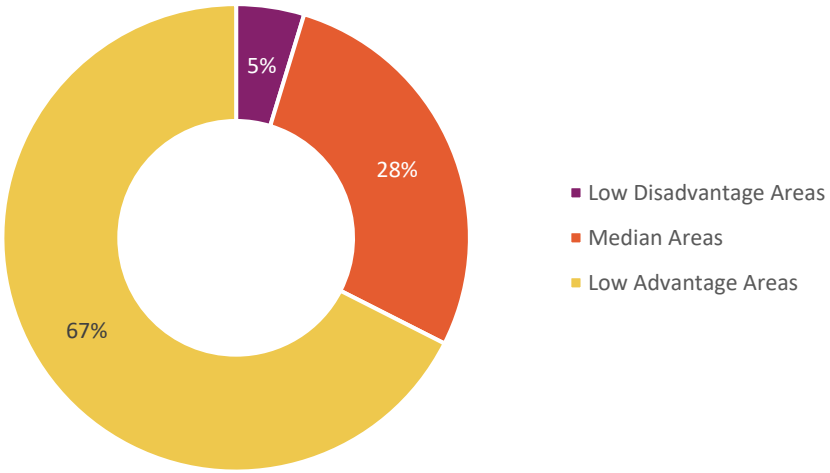


Figure 16: Middletown Crashes Resulting in an Injury or Fatality, by Communities of Disadvantage (2019-2023)
Communities of Disadvantage information based on Justice 40

2.6 Who Are Involved in Crashes?

A high proportion of **female drivers ages 15-24 and ages 25 to 34** were involved in crashes resulting in an injury or fatality compared to population and other age/gender groups. Male drivers ages 15-24, ages 35-44 and ages 45-54 also were involved in a disproportionate number of crashes resulting in an injury or fatality compared to the population (Figure 17).

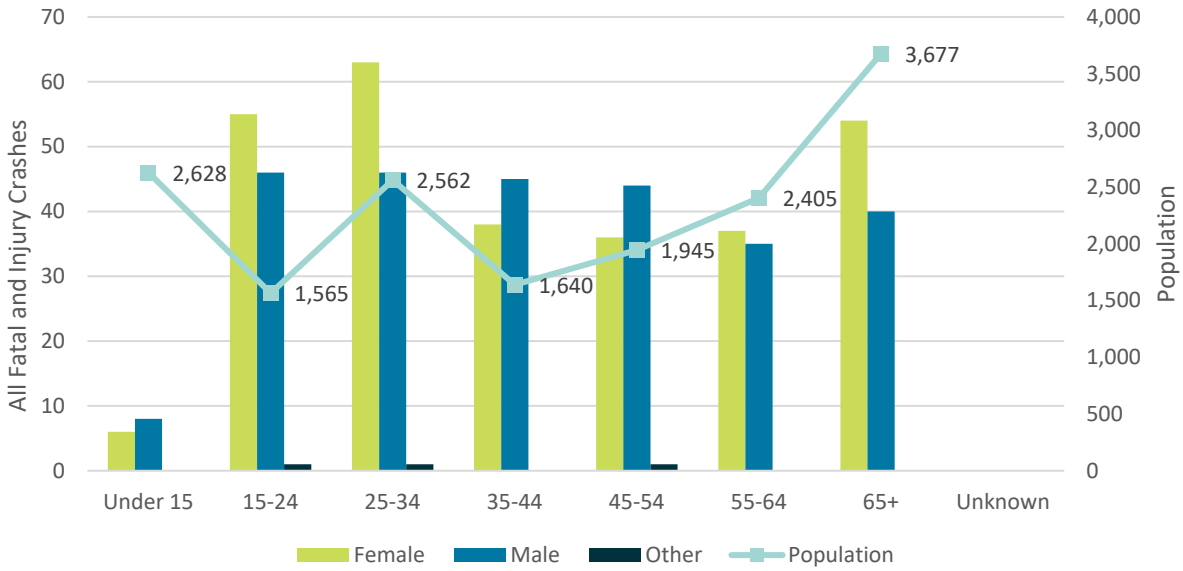


Figure 17: Middletown All Crashes Resulting in an Injury or Fatality, by Age Group and Gender (2019-2023)

Demographics information based on U.S. Census 2022 American Community Survey 5-Year Estimates

3. Next Steps

In the next steps of the plan, the key takeaways from this analysis will be explored through additional spatial analyses to understand the roads where crashes that lead to fatalities or serious injuries are most frequent, and identification of potential safety countermeasures, policies, and strategies that could reduce roadway fatalities and serious injuries.

Appendix D: High Injury Network and High-Risk Network Methodology and Results

TOOLE DESIGN

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MEMORANDUM

March 12, 2025

To: Jill Cahoon
Organization: AECOM
From: Tariq Shihadah, Joanna Wang, Kenneth Harvey, Shawna Kitzman, Alia Anderson; Toole Design
Project: Rhode Island Safe Streets Action Plan

Re: Safety Analysis Methods Technical Memorandum

This document provides an overview of the technical approaches used to perform the key data analyses in support of the Rhode Island Public Transit Authority (RIPTA) Safer Streets and Roads for All (SS4A) municipal safety action plans. Draft analysis methods were determined collectively with AECOM and RIPTA at the onset of the project and were executed and refined over the course of the project, responding to changing data, timelines, and project needs. Results of analyses are detailed in the main body of municipal safety action planning documents.

Analysis Data

Key datasets from Rhode Island Department of Transportation (RIDOT), U.S. Department of Transportation (USDOT), and others provided the basis for all safety analyses. These are summarized in the table below.

Table 1. Key Datasets

Category	Dataset	Source	Version	Description	Application
Safety	Historical Crash Data	RIDOT	2016-2023	Crash, vehicle, person tables	Underlying crash dataset for entire project
Infrastructure	Roadway Inventory	RI E911 Centerlines	2016	Roadway network for RI	Underlying roadway network and attributes for entire project
Operational	Functional Classification	RI E911 Centerlines	2016	Roadway functional classification	Functional classification used for baseline crash analysis

Category	Dataset	Source	Version	Description	Application
	Motor Vehicle Volume (primary)	Highway Performance Monitoring System (HPMS)	2023	Rhode Island HPMS dataset	Roadway volumes for baseline crash and risk-based analysis
	Motor Vehicle Volume (secondary)	Replica	2023	Modeled Average Annual Daily Traffic (AADT) values	Roadway volumes for baseline crash and risk-based analysis
	Ownership	HPMS	2023	Rhode Island HPMS dataset	Roadway ownership for baseline crash and risk-based analysis
Land Use	Land Cover	U.S. Geological Survey (USGS)	2021	Land cover as categorized by USGS	Used to delineate urban, suburban, and rural context based on density of development
Demographics	U.S. Census Demographic Data	U.S. Census Bureau	2022, 5-year estimates	Various demographic attributes by census block group	Comparative values in baseline crash analysis, and inputs to risk-based analysis
	Justice 40 Equitable Transportation Communities Data	U.S. Department of Transportation	v1.0	Dataset that assesses transportation-burdened communities across multiple categories	Equity dataset for baseline crash analysis

Land Use Context

Given the nuances involved in defining land use context and the impact of these distinctions on safety performance, the project team used the National Land Cover Database from the U.S. Geological Survey (USGS) to produce project-specific definitions for urban, suburban, and rural context areas. To produce context-sensitive analyses and inform interpretation of results, crashes and roadway networks were assigned a land use context definition. The data's half-mile tiles were analyzed to determine relative coverage of various development densities, identifying medium- and high-intensity development areas and calculating an urban percentage metric.

Based on this, each half-mile tile was categorized as rural, suburban, or urban when the urban percentage metric is between 0-15%, 15-50%, or 50-100%, respectively.

This analysis identifies urban cores in and around Providence, Warwick, Newport, and more, which are surrounded by strips of suburban areas. The resulting context-area definition assignments were validated based on internal review, comparison to similar context area studies in the United States, and local knowledge. The context results were also tested during later analysis stages to ensure the distinctions served to further understanding of existing conditions.

Roadway segments often intersect with multiple context areas; in these instances, spatial relationships served to determine the context assignment: the context area category with the largest overlap is assigned to the roadway segment, as shown in Figure 1. Crashes are assigned to the context area category with which the crash point intersects.

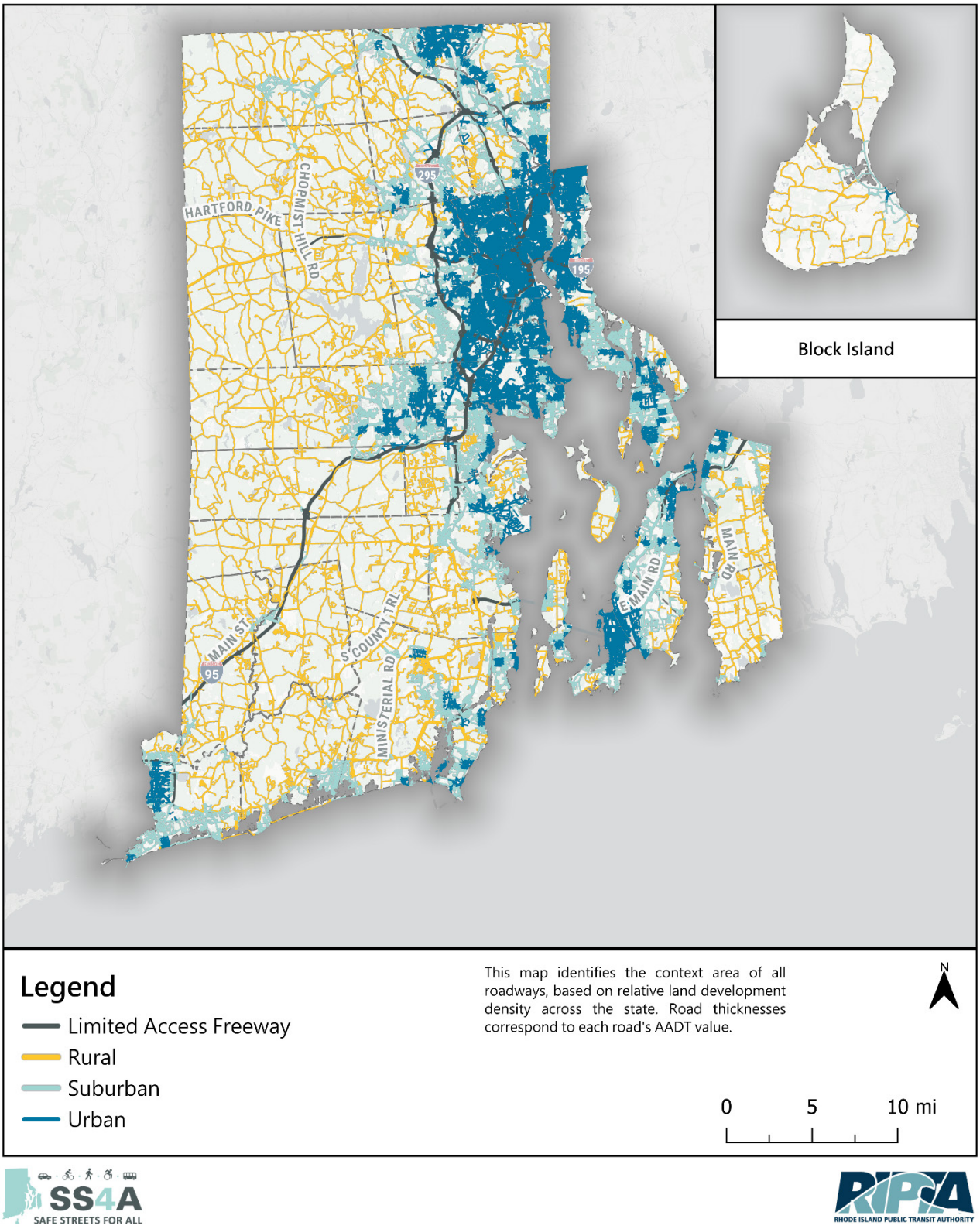

Figure 1 Context Area Assignment on Roadway Network

Crash Geocoding

Rhode Island crash data was geocoded to improve location accuracy and ensure consistency, addressing issues in the original data caused by imprecise coordinates and incomplete datasets. Crashes were categorized by location type—address-based, intersection-based, or intersection-offset—and processed using standardized methods to achieve reliable spatial positioning. In the original data, approximately 69% of crashes were geolocated using latitude and longitude information, though some crash locations proved to be unreliable. After the re-geocoding process, approximately 89% of crashes were successfully geolocated and provided a reliable foundation for later analyses.

The re-geocoding effort enabled a more precise understanding of where crashes occur, allowing detailed analysis and serving to better-inform the decision-making processes inherent to transportation safety planning. By ensuring accurate location data, the project helps to identify high-risk areas, assess trends, and develop targeted interventions to improve roadway safety as part of the Safe Streets Action Plan.

Crash Density Heatmaps

The crash density heatmaps serve to represent the concentrations of crashes in the 2019 through 2023 study period at the municipal and statewide levels. Standard QGIS symbology was used to depict areas of higher relative density within each municipality; a search radius of 1,000 feet produced meaningful insights that were also legible on the maps. The crash density heatmaps provide context on crash distribution in future analyses conducted for this project and preserve the anonymity of the crash data. Crash density heatmaps are available for all modes of crashes with severities of fatal and serious injury (FSI) and fatal and injury (FI), as well as for vulnerable road user crashes with severities of FSI and FI.

Baseline Crash Analysis Exhibits

The baseline crash analysis is the starting point for all downstream analyses, providing an overview of study area-wide safety performance characteristics during the 2019 through 2023 study period. This analysis evaluates historical crash data, summarizing it using several different crash data attributes, such as crash mode, causation, temporal patterns, and more. The results are captured in large spreadsheet files. Within each municipality's spreadsheet file, a tab provides an overview of the content, with additional analysis results tabs that feature multiple tables and figures on a selection of analysis topics. These results are summarized in Table 2 below, listing the topic areas covered, the key crash and other data attributes analyzed under each topic, and the data sources used for the analyses.

Table 2. Baseline Crash Analysis Exhibits Content Overview

Topic Area	Crash Attributes	Other Data	Data Sources
Z. Statewide Comparison	Severity, Mode, Municipality	Municipal Population	RIDOT municipal boundaries
A. Crash Trends	Severity, Mode, Year		RIDOT crash data
B. Crash Mode	Severity, Mode		RIDOT crash data
C. Crash Causation	Severity, Mode, Manner of Impact, Contributing Factors		RIDOT crash data

Topic Area	Crash Attributes	Other Data	Data Sources
D. Roadway Characteristics	Severity, Mode, Roadway Jurisdiction, Relation to Junction, Roadway Type, Traffic Volume		RIDOT crash data, HPMS, Replica
E. Temporal Patterns	Severity, Mode, Month of Year, Day of Week, Time of Day		RIDOT crash data
F. Vehicle Characteristics	Severity, Mode, Vehicle Registration State		RIDOT crash data
G. Environmental Characteristics	Severity, Mode, Lighting Condition, Weather Condition, Road Surface Condition, Land Use Context		RIDOT crash data
H. Demographics	Severity, Mode, Road User Age, Road User Gender	Population by Age and Gender	RIDOT crash data, U.S. Census Demographic Data
I. Equity	Severity, Mode, Justice40 Equity Metric Scores (Climate, Environmental, Health, Social, Transportation, Overall)		RIDOT crash data, Justice 40 Equitable Transportation Communities Data

Baseline Crash Analysis Maps

The baseline crash analysis maps are the result of a reactive, crash density-based analysis of roadways. This analysis, based on a modified sliding window analysis approach, smooths crash data across corridors, clearly depicting roadway network segments with relatively high densities of crashes during the 2019 through 2023 study period, with a particular emphasis on higher severity crashes. This is achieved through a sequence of analysis steps:

- Roadway Re-segmentation
- Crash Assignment and Segment Scoring
- Percentile Ranking and Selection
- Post-processing of Minor Roads

Crashes from the 2019 through 2023 study period were successfully geolocated and assigned to a roadway location. The analysis was conducted first across all crash modes, namely motor vehicles, motorcycles, bicyclists, and pedestrians, and then repeated for exclusively vulnerable road users, including all crashes which involved at least one pedestrian or bicyclist.

Roadway Re-segmentation

First, all roadways across the state of Rhode Island were re-segmented to achieve consistent segment lengths within each context area of *urban*, *suburban*, *rural*, and *access-controlled freeways*. This was done by first dissolving all roadway geometries by street name, municipality, and context area. These corridors were then segmented using standard lengths, which differed depending on the context area, summarized in Table 3, to produce context-sensitive results during later analysis steps.

Table 3. Roadway Re-segmentation Lengths by Context Area

Context Area	Segment Length	Purpose
Urban	0.25 miles	Short segments reflect the dynamic, dense environments of urban areas
Suburban	0.50 miles	Medium segments reflect the hybrid context of suburban areas
Rural	1.00 miles	Long segments reflect the sparser networks of rural areas and more effectively capture sparse crash patterns
Access-Controlled Freeways	1.00 miles	Long segments better capture crash patterns along higher-speed freeways

Crash Assignment and Segment Scoring

Once roadways were re-segmented, all study period crashes were assigned to roadway segments. To capture patterns that continued through intersections, and to account for inaccuracies in exact crash geolocations, each crash was assigned to all segments within 100 feet of the crash's geocoded location. To focus the analysis on patterns of high severity crashes, crashes were assigned a score based on the highest severity injury in the crash. Both fatal (K) and incapacitating injury (A) crashes were assigned a score of 3, minor injury (B) crashes were assigned a score of 2, and possible injury (C) crashes were assigned a score of 1, while property damage only (O) crashes were excluded from the analysis. This scoring is summarized in Table 4.

Table 4. Crash severity scores

Severity Level	Description	Score
K	Fatal	3
A	Incapacitating Injury	3
B	Minor Injury	2
C	Possible Injury	1
O	Property Damage Only	0

To generalize patterns of discrete crash locations across continuous roadway corridors, the project team applied a modified sliding window analysis, smoothing data across adjacent segments. This approach distributed the score associated with each crash between the segment the crash was assigned to as well as two segments on either side. The relative portion of the crash score assigned to each segment varies by its distance from the center segment and decreases linearly. This creates a pyramid-shaped distribution of each crash's score across up to five adjacent segments, as visualized in Figure 1. These distributed crash scores are then totaled and used as the final crash score for the given segment.

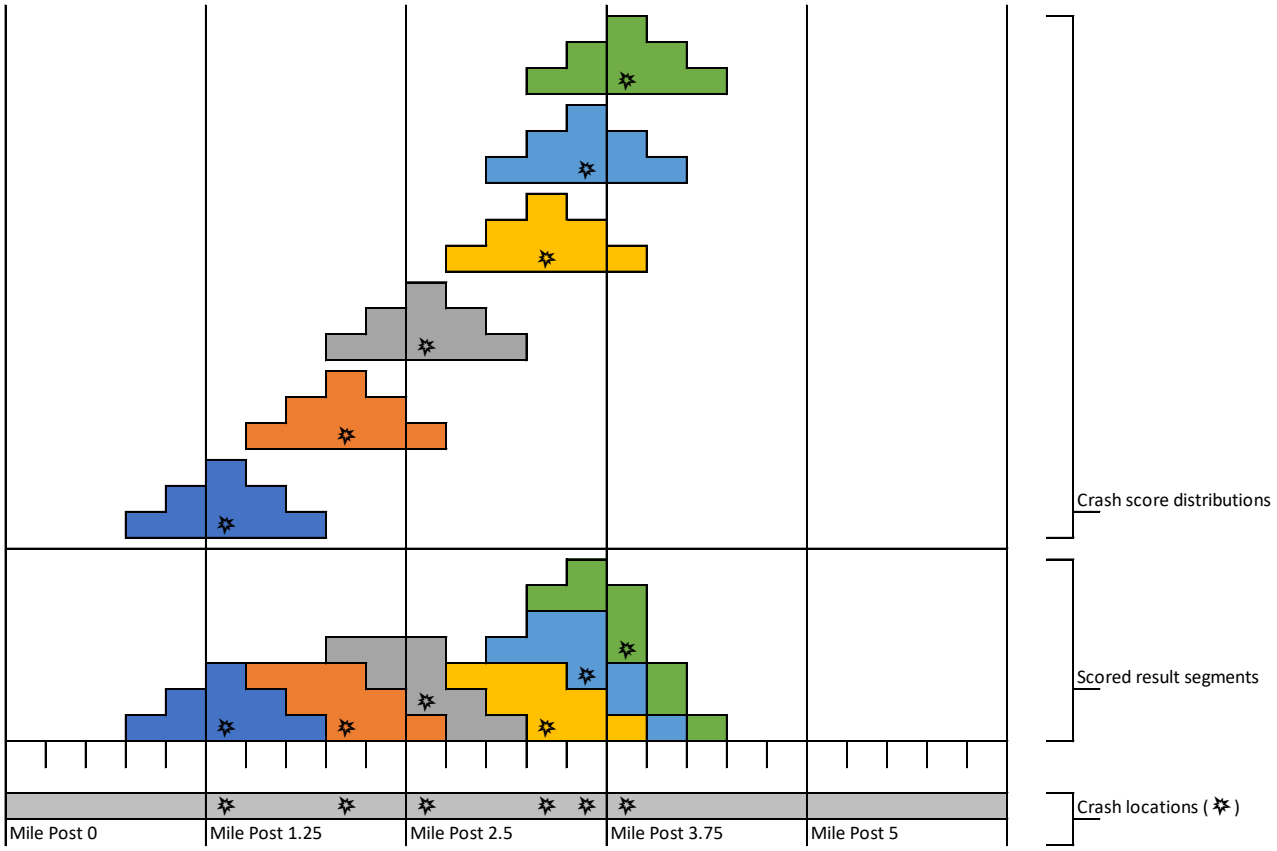

Figure 2. Sliding Window Analysis and Crash Distribution Schematic

Percentile Ranking and Selection

Once the sliding window analysis process was complete, the results were analyzed based on distributed crash scores to identify the top scoring roadway segments based on the distributed crash scores within each municipality. A percentile ranking is computed for each segment within each context area and each municipality, then the top 15% of all roads are selected, as visualized in Figure 2. Breaking the ranking process out by municipality and context area ensures that every municipality is compared only against itself to determine the final target roadways, rather than comparing roadways in different context areas. Approximately 15% of each municipality's roadway network was selected as the final target roads, including 15% within each context area where adequate crash data exists (e.g., municipal networks in a context with zero crashes resulted in no target roads).

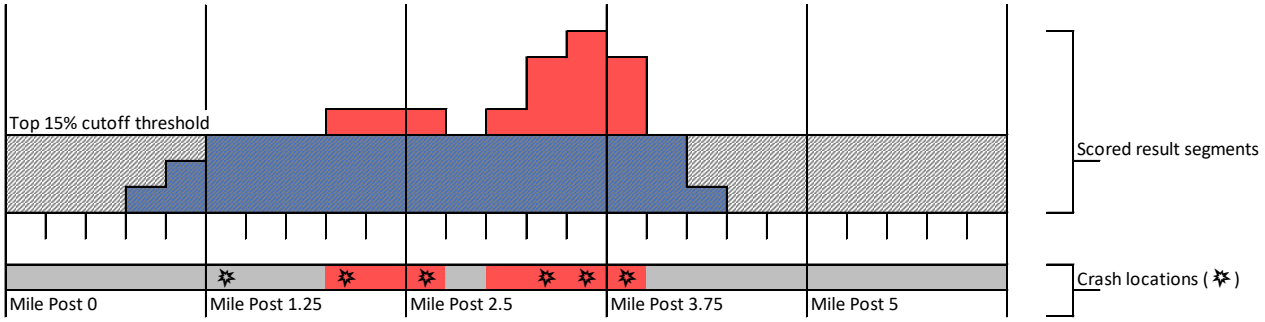

Figure 3. Percentile Ranking of Distributed Crash Scores

Post-processing of Minor Roads

Because a crash is assigned to all roadway segments within 100 feet of the crash point, minor streets that branch off from major corridors tend to receive higher scores than they would otherwise, due to the high number of severe crashes at intersections with the major corridor. These minor streets can be removed from the target networks to make the major corridor the focus of the recommendations and treatments. For this reason, a post-processing step was added to remove minor streets that score in the top 85th percentile due to intersection clusters of severe crashes. This process was not performed in municipalities with fewer than 10 crashes involving vulnerable road users.

Risk-based Analysis

This section documents the methodology and results of the risk-based network analysis process conducted to supplement the baseline crash analysis and mapping process outlined above. This systemic analysis builds on the reactive, crash-based approach to identify roadway facilities with the greatest potential for safety improvements by identifying combinations of roadway attributes that are associated with higher frequencies of severe crashes. The results of this analysis, combined with the baseline crash analysis mapping results produce the final high injury network.

Systemic Screening Factors

One of the key outcomes of the systemic safety analysis process is the identification of roadway facility attributes that correlate with high crash frequency. These attributes are also known as systemic screening factors. Combinations of these factors can help flag roadway facility profiles associated with higher crash frequencies. Notably, the presence of these factors does not necessarily indicate a causal relationship, nor that individual factors must be the target of treatments. For example, though the presence of nearby vulnerable road user (VRU) generators may be a factor that correlates with elevated VRU crash frequencies, this does not mean that these generators should be removed. Instead, facilities near such generators may require additional support through safety investments.

Screening factors and roadway facility profiles should be studied from a practical and policy-driven perspective to determine what components may be reasonable targets of safety improvements and which should be viewed primarily as non-causal correlations.

Table 5 includes all roadway segment attributes that were identified as candidate factors for consideration in the analysis. Factors considered in the final analysis were limited by data quality and availability.

Table 5. Systemic Screening Factors Analyzed

Screening Factor	Description
Roadway Jurisdiction	State, Local, or Other (Unknown or Private)
Lane Configuration	Two-lane, Multilane
Traffic Volume Range (Average Annual Daily Traffic)	0 – 1,000, 1,000 – 10,000, 10,000+
Proximity to a School	Within ¼ Mile, Not Within ¼ Mile
Proximity to a Public Park	Within ¼ Mile, Not Within ¼ Mile
Percent of Population with Income Below 2x of the Poverty Level	Under 20%, 20-40%, Over 40%
Percent of Households with Zero Vehicles	Below 10%, 10-20%, Over 20%
Percent of Population Aged 65 or Older	Below 10%, 10-20%, Over 20%
Percent of Population Aged Below 18	Below 10%, 10-20%, Over 20%

Analysis Process

As with the baseline crash analysis the systemic analysis focused on the study period of 2019 through 2023. The target study roadway facilities include public roadways in the state of Rhode Island, excluding access-controlled freeways and related ramps. The analysis used the same crash scoring system as the baseline crash analysis, as summarized in Table 4.

The systemic analysis screening process is based on a decision tree machine learning algorithm in which each factor is screened individually to determine whether it can distinguish between locations with relatively high or low average crash densities per mile. For categorical factors such as roadway jurisdiction, the algorithm considers each unique classification individually. The algorithm screens all factors recursively to identify the most correlated, mutually exclusive sets of risk factors, resulting in several decision tree leaves, known in this analysis as facility profiles. Figure 4 illustrates the decision tree algorithm where multiple correlated factors define a facility profile.

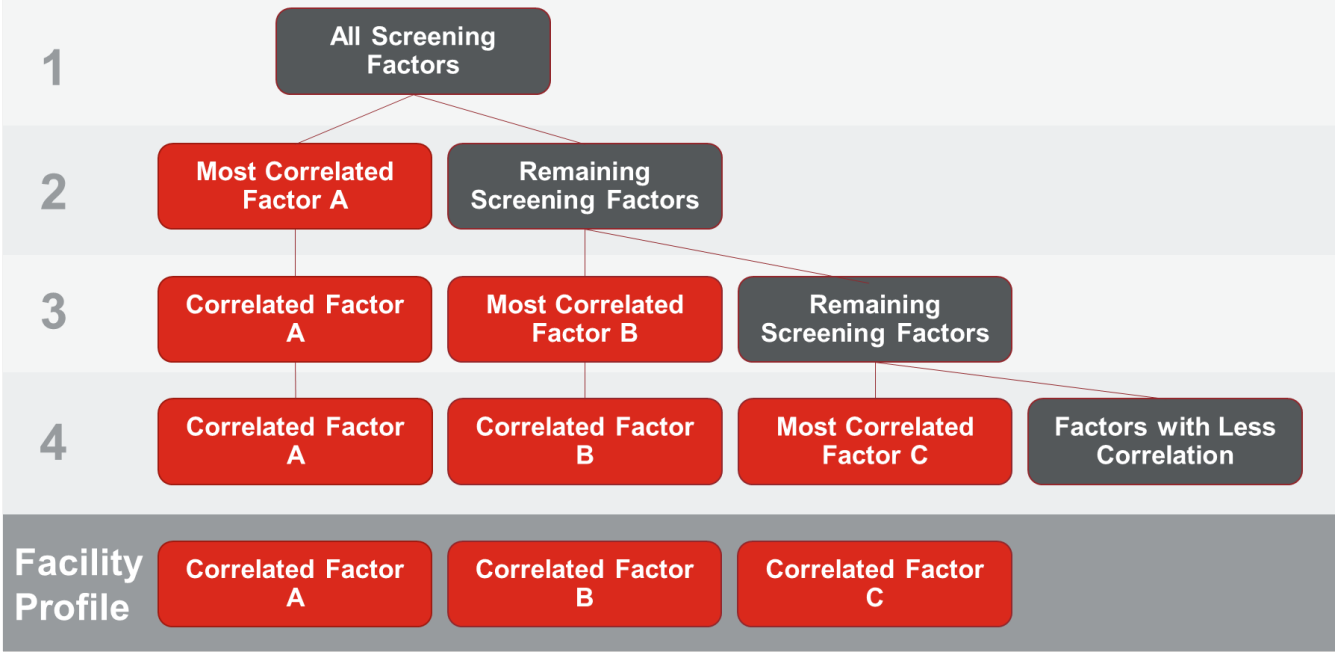

Figure 4. Illustration of the Decision Tree Process for Screening Combinations of Risk Factors

Analysis Results

The following pages include risk-based analysis results which are organized by context classification, first by all modes and then by VRUs. Tables and figures outline the unique risk factors and priority rankings associated with each facility profile. Each subsection provides definitions of unique facility profiles identified by the analysis and their associated risk factors and statewide crash score and mileage metrics associated with these profiles. Profiles are grouped into five tiers, including Critical, High, Medium, Low, and Minimal, highlighting the facilities that are associated with the highest to lowest risk for severe crashes based on combinations of risk factors. Based on these profiles and their tiers, the project team was able to identify which roadway segments were associated with higher levels of crash risk for each mode.

All Modes – Urban Context

This section presents risk-based facility profile analysis models for crashes of all modes on all roadways within an urban context in Rhode Island, excluding access-controlled freeways and ramps. The analysis was conducted using severity-weighted fatal and injury crashes.

Table 6. All modes facility profile tier definitions, urban context

	Facility Profile Definition				
Facility Profile Tier	Traffic Volume Range (AADT)	% Zero Vehicle Households	Roadway Jurisdiction	% Population Below 2x Poverty Level	Within 1/4 Mile of School
Critical	10,000+	Over 20%	Non-State		
High	1,000+	10-20%		Over 40%	
	10,000+	Over 20%	State		
	1,000-10,000	Over 20%			

Facility Profile Definition					
Facility Profile Tier	Traffic Volume Range (AADT)	% Zero Vehicle Households	Roadway Jurisdiction	% Population Below 2x Poverty Level	Within 1/4 Mile of School
Medium	10,000+	Under 20%		Under 40%	
	1,000+	Under 10%		Over 40%	
	0-1,000			Over 40%	Yes
Low	1,000-10,000	Under 20%		Under 40%	
	0-1,000			Over 40%	No
Minimal	0-1,000			Below 40%	

Table 7. All modes facility profile tier metrics, urban context

Facility Profile Metrics					
Facility Profile Tier	Avg. Crash Score per Mile	Miles	Crash Score	Miles Share	Crash Score Share
Critical	95.69	34.9	3,336.0	1.4%	7.4%
High	51.51	244.0	12,570.0	9.5%	27.9%
Medium	27.64	428.9	11,852.0	16.7%	26.3%
Low	16.54	470.5	7,784.0	18.4%	17.3%
Minimal	6.91	1,382.7	9,560.0	54.0%	21.2%

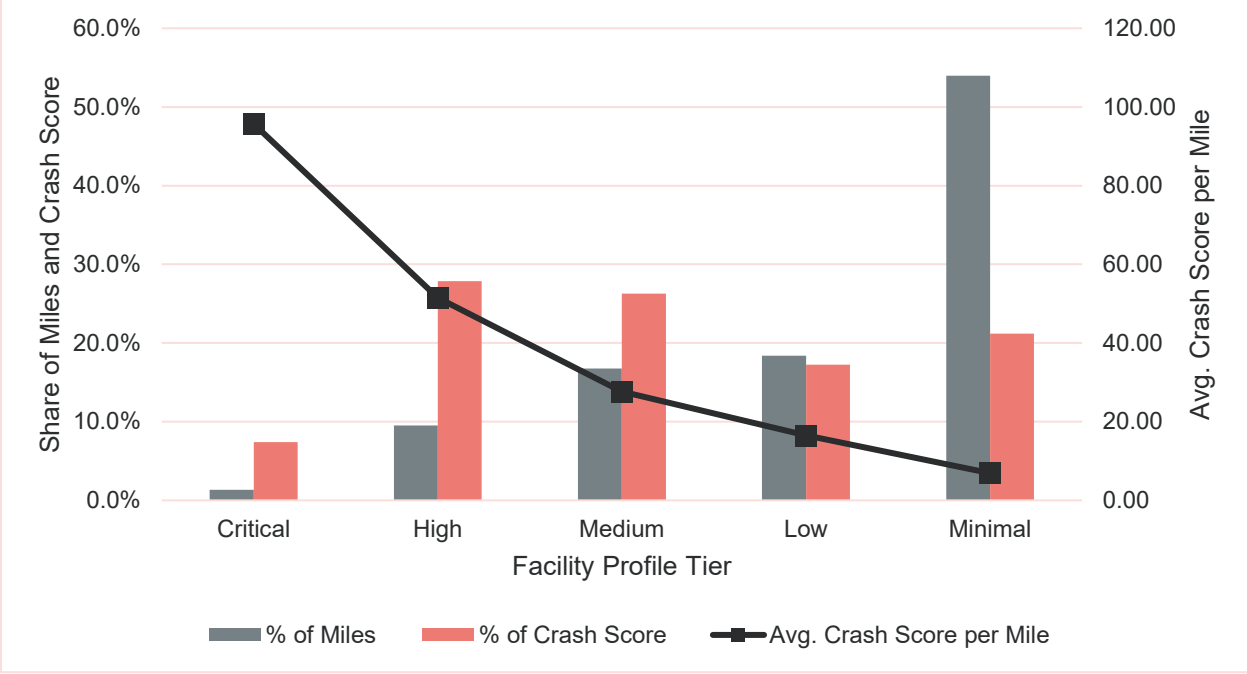

Figure 5. All modes facility profile tier summary, urban context

All Modes – Suburban Context

This section presents risk-based facility profile analysis models for crashes of all modes on all roadways within a suburban context in Rhode Island, excluding access-controlled freeways and ramps. The analysis was conducted using severity-weighted fatal and injury crashes.

Table 8. All modes facility profile tier definitions, suburban context

Facility Profile Tier	Facility Profile Definition					
	Roadway Jurisdiction	Traffic Volume Range (AADT)	Within 1/4 Mile of School	Lane Configuration	% Zero Vehicle Households	% Population Below 18
Critical	State	10,000+	Yes			
	State	10,000+	No	Multilane		
High	State	10,000+	No	Two-lane		
	State	0-10,000			Over 10%	
Medium	State	0-10,000			Under 10%	
	Non-State	1,000+			Over 10%	
	Non-State	1,000+			Under 10%	Under 20%
Low	Non-State	1,000+			Under 10%	Over 20%
Minimal	Non-State	0-1,000				Over 10%
	Non-State	0-1,000				Under 10%

Table 9. All modes facility profile tier metrics, suburban context

Facility Profile Tier	Facility Profile Metrics				
	Avg. Crash Score per Mile	Miles	Crash Score	Miles Share	Crash Score Share
Critical	19.89	69.0	1,372.0	3.7%	16.3%
High	14.14	134.8	1,906.0	7.3%	22.7%
Medium	8.47	264.8	2,243.0	14.3%	26.7%
Low	5.37	114.7	616.0	6.2%	7.3%
Minimal	1.78	1,270.2	2,265.0	68.5%	27.0%

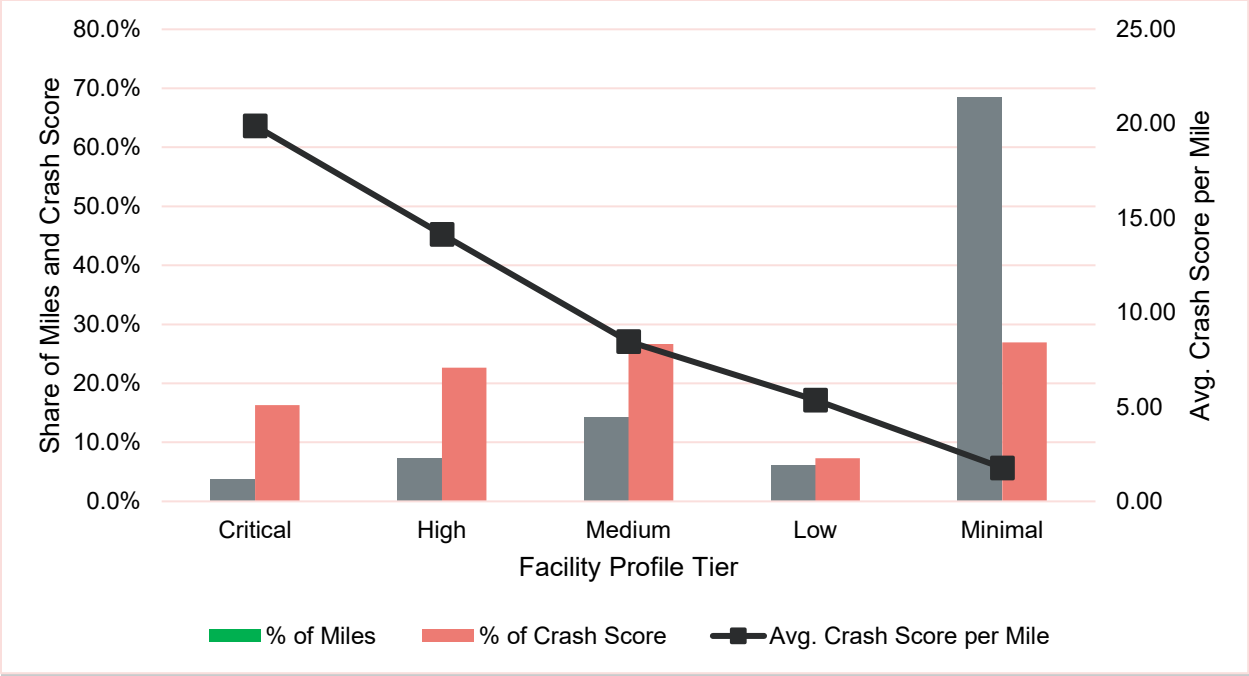

Figure 6. All modes facility profile tier summary, suburban context

All Modes – Rural Context

This section presents risk-based facility profile analysis models for crashes of all modes on all roadways within a rural context in Rhode Island, excluding access-controlled freeways and ramps. The analysis was conducted using severity-weighted fatal and injury crashes.

Table 10. All modes facility profile tier definitions, rural context

	Facility Profile Definition		
Facility Profile Tier	**Traffic Volume Range (AADT)**	**Roadway Jurisdiction**	**% Population Below 2x Poverty Level**
Critical	10,000+		
High	0-10,000	State	Over 20%
Medium	0-10,000	State	Under 20%
Low	1,000-10,000	Non-State	
Minimal	0-1,000	Non-State	

Table 11. All modes facility profile tier metrics, rural context

	Facility Profile Metrics				
Facility Profile Tier	Avg. Crash Score per Mile	Miles	Crash Score	Miles Share	Crash Score Share
Critical	15.18	65.1	988.0	3.0%	20.1%
High	5.19	136.3	707.0	6.2%	14.4%
Medium	4.26	293.0	1,247.0	13.4%	25.4%
Low	3.02	181.0	546.0	8.3%	11.1%
Minimal	0.94	1,512.1	1,422.0	69.1%	29.0%

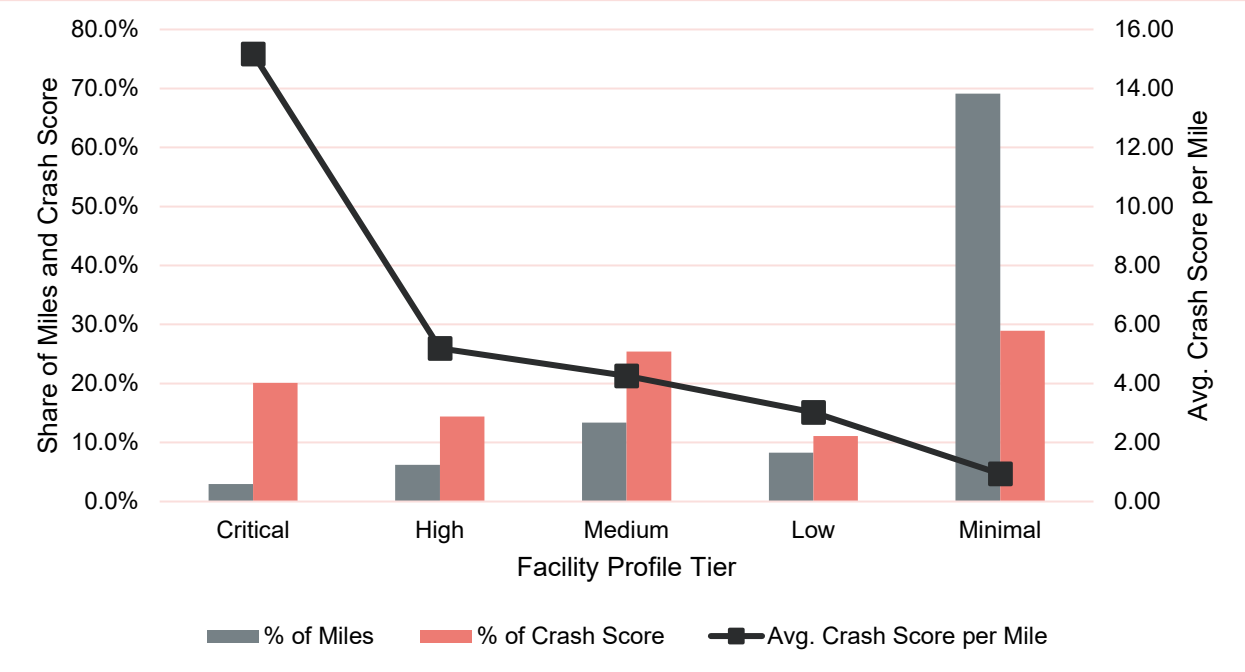

Figure 7. All modes facility profile tier summary, rural context

Vulnerable Road User Modes – Urban Context

This section presents risk-based facility profile analysis models for crashes of vulnerable road user modes on all roadways within an urban context in Rhode Island, excluding access-controlled freeways and ramps. The analysis was conducted using severity-weighted fatal and injury crashes.

Table 12. Vulnerable road user modes facility profile tier definitions, urban context

Facility Profile Tier	Facility Profile Definition					
	% Zero Vehicle Households	Traffic Volume Range (AADT)	% Population Below 18	Within 1/4 Mile of School	% Population Below 2x Poverty Level	Within 1/4 Mile of Public Park
Critical	Over 20%	1,000+	Below 10%			
High	Over 20%	1,000+	Over 10%	Yes		
	10-20%	1,000+			Over 40%	
Medium	Over 20%	0-1,000				Yes
	Over 20%	1,000+	Over 10%	No		
Low	Under 10%	1,000+			Over 40%	
	Under 20%	0-1,000			Over 40%	
	Under 20%	1,000+			Under 40%	
	Over 20%	0-1,000				No
Minimal	Under 20%	0-1,000			Under 40%	

Table 13. Vulnerable road user modes facility profile tier metrics, urban context

Facility Profile Tier	Facility Profile Metrics				
	Avg. Crash Score per Mile	Miles	Crash Score	Miles Share	Crash Score Share
Critical	13.52	37.4	506.0	1.5%	9.0%
High	8.13	167.5	1,361.0	6.6%	24.3%
Medium	4.41	228.1	1,006.0	8.9%	18.0%
Low	2.19	875.7	1,917.0	34.3%	34.3%
Minimal	0.65	1,241.7	803.0	48.7%	14.4%

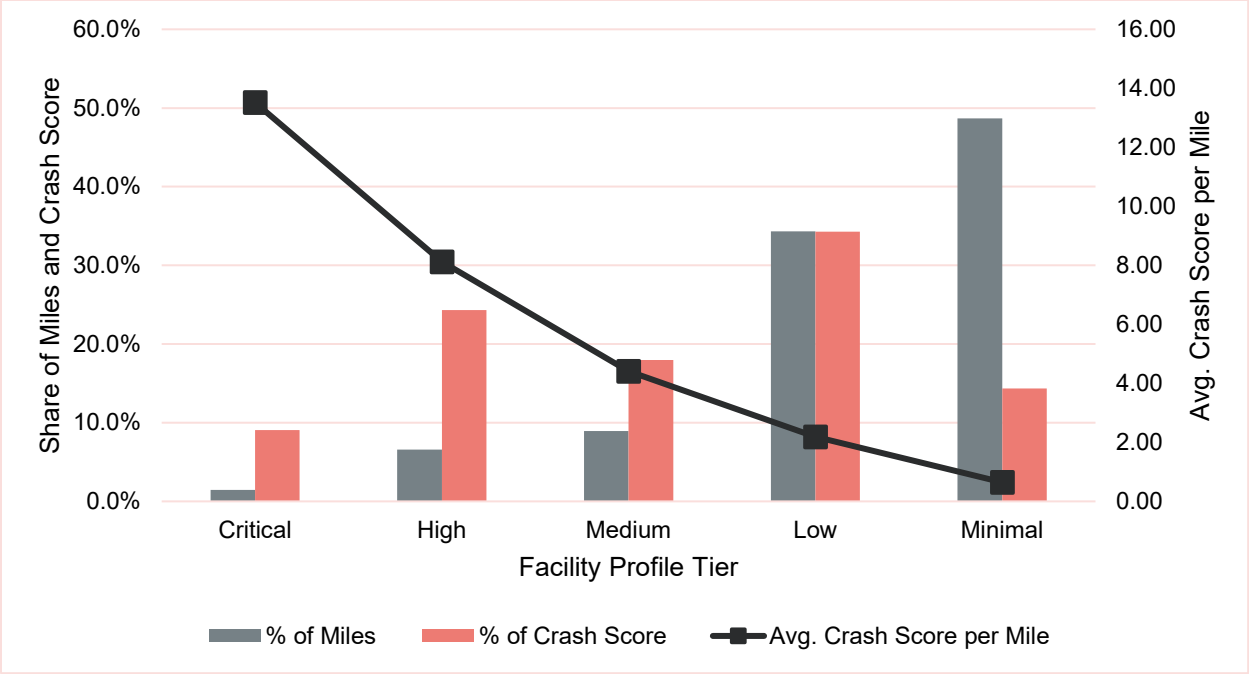

Figure 8. Vulnerable road user modes facility profile tier summary, urban context

Vulnerable Road User Modes – Suburban Context

This section presents risk-based facility profile analysis models for crashes of vulnerable road user modes on all roadways within a suburban context in Rhode Island, excluding access-controlled freeways and ramps. The analysis was conducted using severity-weighted fatal and injury crashes.

Table 14. Vulnerable road user modes facility profile tier definitions, suburban context

Facility Profile Tier	Facility Profile Definition						
	Traffic Volume Range (AADT)	% Zero Vehicle Households	Within 1/4 Mile of School	Roadway Jurisdiction	Within 1/4 Mile of Public Park	% Population Below 18	% Population Below 2x Poverty Level
Critical	1,000+	Over 20%					
High	1,000+	Under 20%	Yes	Non-Local			
	1,000+	Under 20%	No		Yes		
Medium	1,000+	Under 20%	Yes	Local			
	1,000+	Under 20%	No		No		
Low	0-1,000	Over 10%	No			Over 10%	
	0-1,000	Under 10%				Over 10%	Under 20%
Minimal	0-1,000	Over 10%	Yes			Over 10%	
	0-1,000	Under 10%				Over 10%	Over 20%
	0-1,000					Under 10%	

Table 15. Vulnerable road user modes facility profile tier metrics, suburban context

Facility Profile Tier	Facility Profile Metrics				
	Avg. Crash Score per Mile	Miles	Crash Score	Miles Share	Crash Score Share
Critical	1.23	20.3	25.0	1.1%	5.3%
High	0.78	133.9	105.0	7.3%	22.2%
Medium	0.38	397.6	149.0	21.6%	31.6%
Low	0.19	835.7	161.0	45.5%	34.1%
Minimal	0.07	451.0	32.0	24.5%	6.8%

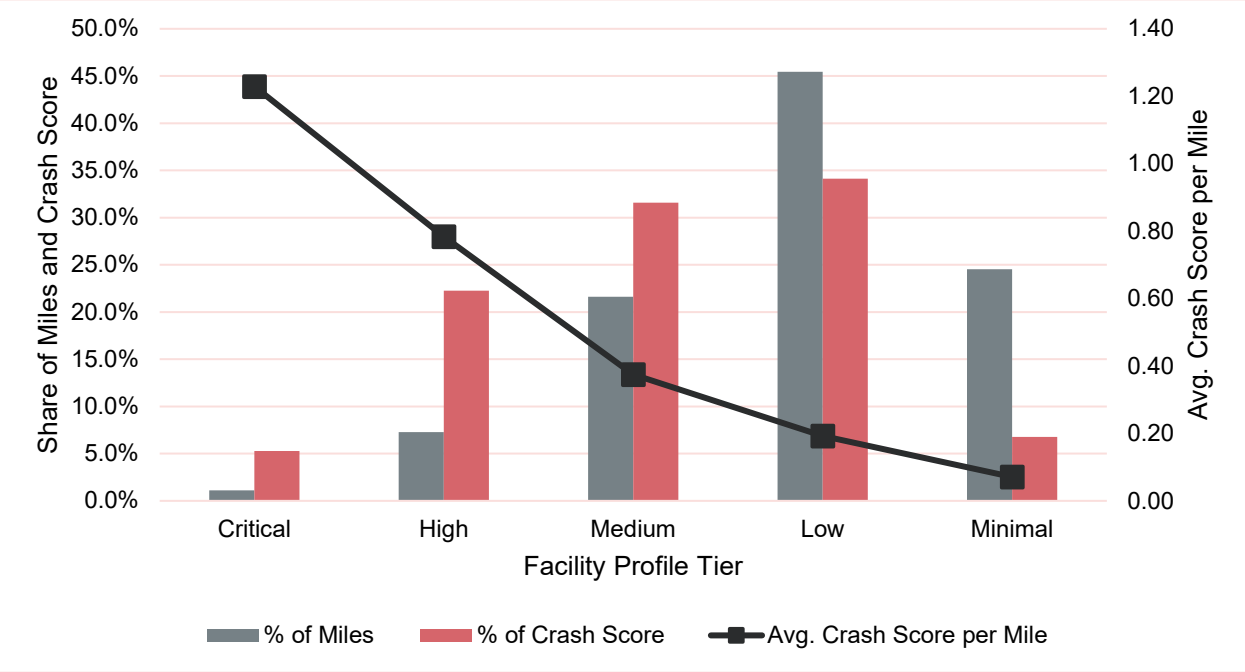

Figure 9. Vulnerable road user modes facility profile tier summary, suburban context

Top Tier Identification

Typically, Critical, High, and Medium risk tiers are automatically included in the development of a High Injury Network (HIN). However, due to the varying mileage of different tiers of roads within each municipality, analysis results for each were reviewed individually to identify the number of tiers to include in each municipality's HIN. The review aimed to capture approximately 10-20% of each municipality's mileage within the top selected tiers, for both all modes and VRU modes models. The selection of risk tiers per model by municipality are summarized in Table 16.

Table 16. Top risk tiers by municipality and mode group

Municipality	Selected All Mode Tiers	Selected VRU Mode Tiers
Barrington	Critical, High, Medium	Critical, High, Medium

Municipality	Selected All Mode Tiers	Selected VRU Mode Tiers
Bristol	Critical, High	Critical, High, Medium
Burrillville	Critical, High	Critical, High, Medium
Central Falls	Critical	Critical
Charlestown	Critical, High	Critical, High, Medium
Coventry	Critical, High, Medium	Critical, High, Medium
Cranston	Critical, High	Critical, High, Medium
Cumberland	Critical, High, Medium	Critical, High, Medium
East Greenwich	Critical, High, Medium	Critical, High, Medium
East Providence	Critical, High	Critical, High
Exeter	Critical, High, Medium	Critical, High, Medium
Foster	Critical, High, Medium	Critical, High, Medium
Glocester	Critical, High, Medium	Critical, High, Medium
Hopkinton	Critical, High, Medium	Critical, High, Medium
Jamestown	Critical, High, Medium	Critical, High, Medium
Johnston	Critical, High, Medium	Critical, High, Medium
Lincoln	Critical, High	Critical, High, Medium
Little Compton	Critical, High, Medium	Critical, High, Medium
Middletown	Critical, High, Medium	Critical, High, Medium
Narragansett	Critical, High, Medium	Critical, High, Medium
New Shoreham	Critical, High	Critical, High, Medium
Newport	Critical, High, Medium	Critical, High
North Kingstown	Critical, High, Medium	Critical, High, Medium
North Providence	Critical, High	Critical, High, Medium
North Smithfield	Critical, High	Critical, High, Medium
Pawtucket	Critical, High	Critical, High
Portsmouth	Critical, High, Medium	Critical, High, Medium
Providence	Critical	Critical
Richmond	Critical, High, Medium	Critical, High, Medium

Municipality	Selected All Mode Tiers	Selected VRU Mode Tiers
Scituate	Critical, High	Critical, High, Medium
Smithfield	Critical, High, Medium	Critical, High, Medium
South Kingstown	Critical, High	Critical, High, Medium
Tiverton	Critical, High, Medium	Critical, High, Medium
Warren	Critical, High, Medium	Critical, High
Warwick	Critical, High, Medium	Critical, High, Medium
West Greenwich	Critical, High, Medium	Critical, High, Medium
West Warwick	Critical, High, Medium	Critical, High, Medium
Westerly	Critical, High, Medium	Critical, High, Medium
Woonsocket	Critical	Critical

High Injury Network

The final component of the safety analysis is the creation of the High Injury Network (HIN), which combines the results of both the sliding window analysis and the risk analysis. The HIN uses the same segmentation as the sliding window analysis, with 0.25-mile segments for urban roads, 0.5-mile segments for suburban roads, and 1.0-mile segments for rural roads and access-controlled freeways. By combining the two analyses into one final roadway layer, the HIN communicates a holistic assessment of the need for intervention, based on final crash scores and risk tiers of each segment.

Final designation of inclusion in the HIN depends on the results of the sliding window analysis and risk-based analysis for both all modes and VRU modes analyses. Each roadway segment falls into one of four categories:

- **Reactive:** Segments which appear on the baseline crash analysis maps based on a top 15% crash score for the given mode and municipality.
- **Proactive:** Segments which appear in the top risk tiers for the given mode and municipality.
- **Reactive & Proactive:** Segments which satisfy both the reactive and proactive categories.
- **None:** Segments which satisfy neither the reactive nor proactive categories.

These designations were made for both the all modes and VRU modes analyses, resulting in a set of HIN maps for each municipality. Maps were developed for both the all modes and VRU modes results, as well as a combination of both in a single map.

Disclaimer

The information contained in this document is for planning purposes and should not be used for the final design of any project. All results, recommendations, concept drawings, cost opinions, and commentary contained herein are based on limited data and information and on existing conditions that are subject to change. Further analysis and engineering design are necessary prior to implementing any of the recommendations contained herein. Geographic and mapping information presented in this document is for informational purposes only, and is not suitable for legal, engineering, or surveying purposes. Data products presented herein are based on information collected at the time of preparation. Toole Design Group, LLC makes no warranties, expressed or implied, concerning the accuracy, completeness, or suitability of the underlying source data used in this analysis, or recommendations and conclusions derived therefrom.

Appendix E: Project Engagement Summary & Stakeholder List

TOOLE DESIGN

141 TREMONT STREET
9TH FLOOR
BOSTON, MA 02111

617.619.9910
TOOLEDESIGN.COM

ENGAGEMENT SUMMARIES

A summary of key findings from public engagement events for RIPTA Safe Streets for All. Events are summarized by event, intro street specific feedback and more general statements. Each comment on a particular street or theme represents a different participant.

Middletown Family Day (Middletown)

Date: 9/28/24
Location: Middletown, Rhode Island – Second Beach

Overall Summary: Saturday evening (4pm-8pm), family day catering to kids, with bouncy houses and fires with s'mores available. Attendees from Middletown, Portsmouth, Bristol, and Newport. Mostly parents with children ages 13 and under. Participants were more likely to discuss with the team than to take the survey. Participants were usually parents who followed their children over. The children were drawn to the coloring and free snacks. Most people drove to the event as the beach access road has no sidewalk or bike lane and the road was mentioned by the respondents as unsafe.

Approximate Engagement: +30

Streets specific feedback

Middletown

- East Main Road
  - Speeding: "race track" behavior
  - Narrow lanes with no room for drivers to move around bikers
  - Hardly any sidewalks
  - From a bus driver: unsafe for kids getting off the bus
  - Feels unsafe
  - Dangerous for bikers
  - Intersection with West Main feels unsafe, Maplewood and beechwood feel unsafe as drivers are using it for a cut through
  - The stretch near the Marshall's feels unsafe as the signals are confusing and crosswalks are uncomfortable
- West Main
  - Feels unsafe, no sidewalks, particularly the intersection with East Main feels unsafe
  - Dangerous for bikers
- Paradise Ave
  - Intersection near second beach (where the event was being held), where Paradise turns into Purgatory and Hanging Rock intersects, the intersection is confusing, not conducive to walking to the beach
  - People don't know who has the right of way at the hanging rock intersection
  - People are driving too fast and there are no sidewalks

- 3rd Beach Road
  - » People driving too fast, no sidewalks
  - » People walk, despite there being no sidewalks to get to the beach, so it is unsafe because drivers are speeding, there should be sidewalks to connect to local tourist attractions along this road (Norman bird sanctuary and farms)
- Purgatory
  - » Needs sidewalks particularly between 2nd beach and the St. George's school
- Green End Ave
  - » People walk but there are no sidewalks, drivers are speeding
  - » Drivers use Green End as a short cut at the intersection with Paradise Ave, the intersection is very uncomfortable for users
  - » People are driving too fast
- Access Road
  - » Poorly maintained, lots of potholes
- Miantomi Avenue
  - » At Green End intersection, has a slip lane and vehicles go quickly, while walkers are confused by traffic patterns
- Aquidneck Ave
  - » School bus driver: no sidewalks, unsafe for kids getting on/off the bus
- Wolcott Ave
  - » School bus driver: unsafe for kids, no sidewalks
  - » No sidewalks
- Streets around Claiborne Pell Elementary School (Newport)
  - » A couple of parents who have kids who attend Pell stated that they didn't feel comfortable walking or biking their kids to school, because of E-bikes in the area causing accidents and the crosswalks aren't being used

<u>Newport</u>

- Broadway
  - » Poorly maintained, lots of potholes
- Thames St
  - » "too many cars on both sides of the road", people parking to do loading in the middle of the road and there's not room to go around
- Malbone Road
  - » Not good for walking, too small of a shoulder
  - » People are going fast using it as a cut through, but there are 3-4 bus stops on that road and too many hedges for good visibility
- Spring St/Coggeshall Ave
  - » Not enough space for cars to move around bikes, biking area is too small, bad sight lines for bikes and peds crossing along the street with the speed at which cars move, the crossings create conflict points
  - » The biking area is not wide enough for bikers or for runners with a strollers who don't fit on the sidewalk where there is sidewalk
- Ruggles Avenue
  - » Lots of walking and biking but no sidewalks, being near the military base, there are many big trucks and big vehicles that drive quickly and don't slow for speed bumps, in addition to that there are blind spots along the roadway
- Memorial Blvd

- » Another beach access roadway, the road is narrow, in the winter the sidewalks are not plowed and there are unsafe sightlines

Portsmouth

- McCorrie Lane
  - » Very dark at night, there are no street lights, respondent was uncertain if this darkness was for any purpose
  - » Another respondent noted that the street lights turn red at night and stay red even after 10pm when no one else is around and it is frustrating for night time vehicle users
- West Main
  - » Intersection with Corys Lane and intersection with King Charles Drive, next to the Publick House has poorly timed signals
- Anthony Road
  - » Not bikeable or walkable, no sidewalks or bike lane, and people want to bike or walk along this road

Bristol

- Chestnut Street
  - » Lots of speeding and a lot of times there are cops there to enforce speed limit but people still speed

Jamestown

- Intersection of West Street and Southwest Ave
  - » Intersection not safe for pedestrians and many people want to/attempt to cross because of surrounding businesses like McQuade's and the Secret Garden Florist

General statements

- Sidewalks
  - » There is desire for sidewalks particularly on beach access roads, tourists and others walk despite there not being sidewalks while locals are speeding through
- Biking
  - » There were not many bikers at this event, most children who were asked if they could bike to school said no
- Public Transportation
  - » Public Transit system all goes through providence, so it takes a really long time to make transfers. Took 3/12 hours to commute to job in Newport from Pawtucket.
  - » Sometimes you call MTM and it doesn't show up and you miss your doctors appointment
- Driver behavior
  - » People are "not courteous" to pedestrians and cyclists on the roadway
  - » Blind crossings of roadways seem to be a theme, hedges and brush seem not to be well maintained
  - » Routes that are used as cut throughs on urban streets feel unsafe due to driver speeds
- Racism
  - » Do not feel safe as the only black owned business on Thames Street

Team Insights

- The amount of parents at the event felt like it made it easier to recall unsafe roads when asked the question "What roads would you not take your child on a walk or bike?"

- A few people were confused at the question and needed to think about what streets needed improvement, many people were excited to have someone to discuss their scruples about the roads with

Aquidneck Grower's Market (Middletown)

Date: 9/6/24
Location: Enterprise Court, Middletown, Rhode Island

Overall Summary: Saturday morning summer farmer's market in Middletown. Attendees were from all over the island, largely individuals, couples, or families with adult children. Participants were less likely to take the survey than they were to discuss concerns with the project team. One person left and then returned to speak more with the project team.

Approximate Engagement: +30

Streets specific feedback

- East Main Road
  - » Participant mentioned EMR when asked about dangerous streets, does not feel like there is anything that can be done to make it safer, thinks lower speed limits would be ignored
  - » Participant thinks EMR is dangerous
  - » New light by the polo fields are useful, protected left arrow helps traffic flow & safety
  - » Concerned with East/West Main Road
    - "Goes without saying, they don't count they are basically a highway"
  - » Does not walk or bike one East/West MR, actively avoids
- West Main Road
  - » Concerned about speeding, crossing for transit access
    - "This might be unrealistic" …"We have bus stops there but how are people supposed to get from one side of the road to the other? People drive like maniacs."
  - » Person walking by says East/West Main Road are deadly with no further comment
  - » Participant lives in East Bay Village, intersection with WMR dangerous, saw a very violent crash with no injuries
- Coddington Highway
  - » Participant loves the bike path, would like to see more similar projects
- Green End Ave
  - » One of the traffic lights is turned the wrong way
  - » No Shoulder, slanted, not able to run on it, though it would be convenient as it is close to participant's home
- Paradise Ave
  - » Cones to direct summer traffic were discussed heavily in the town facebook group
  - » No sidewalks/inadequate shoulders for walking
- Sachuest Point Rd
  - » Dunes, sand, and plants encroach on road, cannot see around the curve
  - » No shoulder/place to run or walk
- Indian Ave
  - » No shoulders/sidewalks, can't run/walk in drainage ditch
- Wapping Road
  - » No sidewalks, speeding, used as a cut through, lots of road kill
    - "People go a thousand miles an hour."

- Newport Ave
  - » Running stop signs
- Miantonomi Av
  - » Hard to see around bushes (Child)
- Aquidneck Ave
  - » Used to avoid, but now doesn't because of the path/sidewalk

Newport

- Hillside Ave
  - » Participant has seen improvements surrounding schools, stop signs and other improvements have made it safer
- Bellevue Ave
  - » Needs sidewalk improvements
  - » Can't get through in peak tourism season
  - » Street parking makes it unpassable in June
- Bowery
  - » Street parking makes it impassable in June
- Spring St
  - » Can't get through in tourist season
  - » People are decently aware of cyclists
- Thames/Lower Thames
  - » Too many people on the corner hanging out, often drunk
  - » Tough for cyclists, cobblestones
  - » Road is not wide enough to accommodate traffic, not getting any bigger, no place to expand
- Eustis Ave
  - » People do not stop at stop signs
- Kay St
  - » People do not stop at stop signs
  - » Dangerous
- Memorial Boulevard
  - » Dangerous
  - » Midblock jaywalking (by Dunkin)
- Gibbs Ave
  - » Running stop signs
- America's Cup
  - » Crossing dangerous, low visibility on weekends
- Chapel St
  - » Midblock jaywalking
- Ocean Ave
  - » Used to bike here, but no longer will
- Broadway
  - » Crosswalk by Equality Park experiences "visual clutter" thinks the signs, lights are too much for a driver/pedestrian to parse, message gets lost
  - » Participant has trouble crossing Broadway, thinks the sidewalks need improvement
    - "It didn't surprise me at all that a guy was killed."
  - » Participant thinks Broadway in Newport is dangerous
    - "Broadway is a disaster"
  - » Light at A1 pizza is difficult to navigate, drivers go too fast

- Dangerous
- Participant thinks the issue with Broadway is the lighting, its not bright enough even where lights are present.

General statements

- Sidewalks
  - Participant thinks any streets without sidewalks could use updated infrastructure, and that they are not safe
  - Not enough sidewalks
  - Tree roots and utility poles make sidewalks unusable
  - Sidewalks not maintained in winter (by property owners), so people have to walk in the street
  - Too few sidewalks in Middletown, concerned for people with mobility limitations
- Biking
  - Participant is a fan of Bike Newport, increased education, getting kids on bikes
    - "They have done an awesome job"
  - Participant was sorry to hear that Bike Newport's Spring Street path is not moving forward. Has a very positive opinion of Bike Newport and would like to ride his bike more, wishes there was more protected infrastructure, would entice him.
  - Participant moved from Massachusetts and would not bike on the island
    - "I would die"
  - Participant thinks bikers have become less friendly to runners, no solidarity
  - Participant is unhappy with cyclists, thinks they take too much liberty, are uneducated about the rules of the road, and are arrogant
  - Participant road her bike to the folk fest on the temporary bike lane and loved it! Wants to bike more but doesn't feel safe. Would bike more if there were dedicated, separated facilities.
  - Participant is a chef, does all provisioning on her cargo e-bike. Spent the summer on Nantucket and the culture of biking is much more comfortable. Thinks biking in Newport is horrible but would prefer not to bike in Middletown or Portsmouth at all.
    - "People are not generous with cyclists"
    - "If we don't start riding bikes more, we're not going to have a world to ride a bike in"
  - Adult children visit from other places and love biking on Aquidneck Island
  - Bike Newport does a good job, but they need more support
  - Participant is an older man who bikes, loves the Bristol bike path and rail trail on Cape Cod
    - "I'm old enough, whatever happens, happens." Re: dying while cycling
- Education
  - Participant would like to see more education about where/how people are allowed to walk and bike, has seen an uptick of people walking with traffic, cyclists running stop signs
  - Participant would like to see more education about driver/bicyclist right of way/priority (who is allowed to do what, and when)
  - Participant thinks both cyclists and drivers are at fault for unsafe conditions, need better education
  - E-bikes/scooters on the sidewalk, maybe rules are not known
- Road Condition
  - Participant just moved from Connecticut, believe both local and state roads to be in worse condition, has discussed it with her husband who thinks the issue is drainage. She crosses the centerline to avoid poorly maintained shoulders.
- Walkability & other modes

    - » Participant lives on the island (Newport) because they want to be able to walk places. Finds it difficult to be outside of a car in Newport.
    - » Transit stops are subpar, on a slope, no shelter, poor access
    - » Tourist small vehicle rentals from Newport are not safe, particularly mini rental
    - » Worried about uptick in e-bikes without training, lots of young people, not a lot of helmets
    - » Participant supports sharing the road but concerned about new e-bikes and motorized scooter, they are fast and sometimes go on the sidewalks.
    - » Participant does not like or trust self-driving cars
- Parking
    - » Anxious about not having parking, so does not drive to Newport, uses ridesharing apps
- Behavior
    - » Participant thinks drivers are worse in Rhode Island than they are in Massachusetts. Has been on the island for 32 years and has seen a recent uptick in aggression. Thinks it is locals as well as people from out of town.
    - » Cars are aggressive to cyclists, park in lanes, swerve, don't pay attention; cyclists break rules which annoy people
    - » People drive distracted (cell phones)
    - » People will yell rude things at you if you are crossing the street near First Beach
    - » People do not stop at crosswalks, police do not notice/enforce
    - » E-bikes, don't follow the rules, should be considered motorcycles, they go too fast, younger children do not understand the risks. Analog bikes ride on sidewalk and up one-ways.
    - » Mostly drive or walk, traffic has gotten a lot work, people are aggressive, do not pay attention, last couple of years especially
- Traffic
    - » Waze reroutes traffic from main roads, complicates local roads
    - » Traffic is worse than ever, new hotels will increase traffic
    - » Thinks road expansion would solve the problem, but does not think that is feasible
    - » Construction and building increases traffic

Team Insights

- Participants approach East/West Main road with extreme caution, often avoid it, using side streets, and find the idea of improving the road unlikely.
- Participants noted higher incidence of aggressive driving behavior, speeding, in the last few years.
- Many like to bike and would like to bike more, but do not feel safe. These people would bike more if there were more separated facilities.
- A need for improved education was noted across all modes except transit.
- Broadway is more prominent than it was in discussions before the fatal crash last month.
- Sidewalk condition, quality and presence was a big talking point.

Middletown Second Beach Concert

Date: 8/12/24
Location: Second Beach, Middletown, Rhode Island

Overall Summary: Event was a beach concert with food vendors. Attendees were largely families with young children, many were tourists, a few groups of middle school students. Participants were less interested in taking

the survey but many did engage in meaningful discussion. Parents discussed while their kids were coloring or asking for a snack, and younger respondents responded to get a snack and flashing lights. Event ended early due to unanticipated rainstorm.

Approximate Engagement: +30

Streets specific feedback:

- East Main Road
  - » No sidewalks on portions of EMR, speeding, potholes
  - » Entirety of EMR is unsafe, does not take the road, will avoid it and take adjacent roads
    - Daughter recently turned 16 and is not allowed to drive on EMR
  - » Would have liked to see the rotary proceed on EMR @ Turnpike Ave
  - » Participant **(middle school/young teen-aged child)** thinks East Main Road is unsafe, has to ride bike in parking lots and on grass**.** Can get to the location he wants to but had trouble biking to middle school (not sure which one)
  - » Participant does not feel safe walking on EMR, would not walk there with her young child
  - » Participant has noticed that the intervals between crosswalks are long, people attempt to jaywalk, Specifically near the Mobile gas station
- Valley Road
  - » Participant **(middle school/young teen-aged child)** thinks it is difficult to cross Valley road, uses it to get to other parts of town, and rides on sidewalk (poorly maintained)
- Aquidneck Ave
  - » Near the school, crosswalks need flashing lights, people do not stop, there are lots of kids, not a complete sidewalk network
- Broadway
  - » Lighting is a concern, would like to see lit crosswalks, has seen them in other places
  - » People do not pay attention in stop and go traffic
  - » Participant thinks they should use eminent domain to build a shared use path
- West Main Road
  - » Participant **(middle school/young teen-aged child)** finds the road unsafe, wishes there was a bike path, apparently older kids at Saint Philomena's School like to go to Kaffeology (a coffee shop on WMR)
  - » Participant has noticed that the walk signal phase aligns with a green light, atypical in the area, cars act as if they have uncontested priority, drive through fast (specifically by the Mobile gas station)
  - »

Newport

- Ayrault road (Newport)
  - » Hard to get through because of street parking
- Kat street intersection (Newport)
  - » Parking too close to the stop sign
- America's Cup & Memorial (Newport)
  - » Area by Newport Post Office & end of memorial
- Roads surrounding Gull's stadium
  - » Participant **(middle school/young teen-aged child)** Finds area to be unsafe, hard to bike and cross
- America's Cup & Thames

    - » Drivers jump the lights, there is a crosswalk, but the timing does not make sense
- Ramps off new bridge
    - » lights are too long, light phasing not timed correctly, or people will run the light
- Memorial Blvd
    - » Unsafe for cyclists (not updated since dentist was killed in crash)
- Burma Road
    - » Participant **(middle school/young teen-aged child)** would like a bike path into Newport
- Shared-use path
    - » Participant **(middle school/young teen-aged child)** would like a shared use path to Kaffeology
- Broadway
    - » Very dark, people cross the street at the funeral home
    - » Multiple mentions of pedestrian killed

General statements:

- Speeding
    - » When asked if there is a specific street where speeding is an issue, multiple participants said "everywhere" as a semi-joke, then revised their answer to EMR in particular
- Education
    - » Participant thinks drivers need rotary education
- Signage
    - » Road name unknown: participant said there is a three-way intersection where right of way is unclear, not signed
- Parking
    - » Issues with beach parking
    - » Street parking makes it difficult to get through some roads, only room for one car at a time on two-way roads, traffic backs up onto higher order streets
- Amenities
    - » Participant and young child like to walk to the beach, but the parent is uncomfortable walking on beach-adjacent roads
    - » Participant tried to plan a way to get to school with local parents, but the trail they would have to take to avoid EMR would take an hour (Penfield School).
    - » Participant **(middle school/young teen-aged child)** likes to walk by St. George's, limited adjacent pedestrian infrastructure
    - » Participant and child take a path to the beach but would also like sidewalks, is interested in a beach shuttle
- Design
    - » Participant would like to see bigger shoulders (or well-maintained pedestrian infrastructure) for running
- Other Municipalities
    - » Cumberland: crash on beahill road, not enough sidewalks, no bike lanes, limited lights
    - » Providence (or Pawtucket, transcription error): People walk in parks because it is unsafe to walk on the street, Arch Street is poorly maintained, covered in plants.

Team insights:

- Some middle school-aged children are allowed to ride their bikes with minimal restrictions in Newport and Middletown. They were excited by the idea of shared-use paths, as they would assumedly be allowed to use these with limited supervision.
- Participants who mentioned East Main Road could largely be described as incredulous.
- Participants wanted to talk about Newport even if they lived in another municipality, they were largely unhappy with parking and congestion, particularly surrounding the pedestrian areas in Downtown.

TRANSPORTATION SAFETY SUMMIT

AQUIDNECK ISLAND MUNICIPALITIES

Image 1: Representatives of Aquidneck Island municipalities, regional organizations, and advocacy groups convene at the Transportation Safety Summit.

Subject:
Summary of the Transportation Safety Summit

Location:
Middletown, RI

Date:
Tuesday, October 22, 2024

Attendees:

- Shawna Kitzman: Senior Planner, Toole Design (Host)
- Quinn Molloy: Project Planner, Toole Design (Host)
- Salma Haoudi: Project Planner, Toole Design (Host)
- Perri Sheinbaum: Project Planner, Toole Design (Host)
- Aaron Lindo: Assistant Planner, Town of Portsmouth
- Lori Turner: Healthy Communities Coordinator, Town of Middletown
- Rebeccah Trefethen: City Planner, City of Newport
- Hayden McDermott: Assistant Planner, City of Newport
- Tom Welch: Town Council Vice President, Town of Middletown
- Gary Crosby: Retired Planner, Town of Portsmouth
- Anita Guo: Principal Planner, Town of Middletown
- Betty Bourret: Interim Director, RI Bike Coalition
- Katie Lopez: Community Liaison, City of Newport
- Lea Hitchen: Town Planner, Town of Portsmouth
- Paige Myatt: Director of Climate Resilience, Aquidneck Land Trust
- Robert Hanley: DPW Director, Town of Middletown

Aquidneck Island Safety Summit Summary

This memo presents a summary of the insights and feedback gathered during the Transportation Safety Summit from representatives of Aquidneck Island municipalities, the Aquidneck Land Trust, and the Rhode Island Bike Coalition advocacy group.

The organizing team kicked off the workshop by presenting the core principles of Vision Zero, ensuring that all participants, regardless of their background, had a solid understanding of this key concept. Next, an icebreaker activity helped participants connect and become familiar with one another before diving into discussion and idea sharing.

Participants formed two diverse groups, each thoughtfully composed with representatives from different organizations and municipalities to foster varied discussions. The groups rotated through two-themed stations: one focused on Safer Streets and Safer Vehicles and Speeds; the other focused on Safer People and Post-Crash Care & Data Transparency. At the conclusion of each theme discussion, participants voted on two or three preferred strategies per theme. To ensure unbiased insights, the organizing team covered prior group responses before the next group arrived.

The four key themes discussed—Safer Streets, Safer Vehicles and Speeds, Safer People, and Post-Crash Care & Data Transparency— were all reflective of the five Vision Zero components. The following sections reflect the feedback and input from the activities.

Theme 1: Safer Streets

Improving street infrastructure involves finding the right balance between design, functionality, and safety. While stakeholders expressed strong support for design strategies that enhance street safety, they also raised concerns about potential visual clutter and the challenges posed by limited space. Among the strategies discussed, the following emerged as top priorities:

- Develop a street design guide based on best practices.
- Focus on infrastructure safety improvements in areas with the greatest need.
- Separate pedestrians and bicyclists from vehicles with protected bike lanes, accessible sidewalks, and safer intersections.
- Test “quick-build” solutions for temporary evaluation, such as speed bumps.

Key discussion points and insights:

Concerns or doubts about…

- Raised crosswalks not serving as effective visual cues and potentially causing confusion for drivers and pedestrians.
- Hedges and other landscaping features obstructing visibility and posing safety risks for road users.
- Drivers failing to fully stop at stop signs, creating safety risks by rolling through intersections.

- Adding protected bike lanes on existing streets, due to limited right-of-way as a significant barrier on key corridors.
- Installing crosswalks at every transit stop, with suggestions to limit crosswalks on East and West Main roads to maintain smoother traffic flow.
- Sign clutter, as too many signs can overwhelm drivers and reduce their effectiveness.

Support for…

- More bus shelters to improve the experience for transit users and encourage public transportation.
- Pedestrian signage and Rectangular Rapid Flashing Beacons (RRFBs).

Challenges around…

- Historic properties, where the boundaries between public roads and private property are often unclear, complicating the allocation of space for transportation infrastructure.

Discussion of…

- Newport's minimal use of slip lanes, with only one located near City Hall.
- Safety risks at intersections where pedestrians and vehicles receive green signals simultaneously, increasing the potential for conflicts.

Theme 2: Safer Vehicles and Speeds

Discussions led to a strong consensus among participants on the need to reduce speeds across ALL neighborhoods to promote safer environments. Participants explored strategies for managing vehicle fleets and enforcing speed limits through cameras. Key priorities that emerged included:

- Install traffic-calming features, such as speed humps and narrower lanes.
- Create neighborhood zones with 15 mph limits and adjusting speed limits by location—Set 20 mph in residential areas and 25 mph on larger roads.

Key discussion points and insights:

Concerns or doubts about…

- Pursuing changes to driver's education programs, viewing them as the responsibility of the state.

Support for…

- Enhanced bike, pedestrian, and transit infrastructure, as well as shared micromobility solutions, and infrastructure improvements to support these initiatives.
- Shuttle lots and local bus circulators as potential solutions to improve mobility on the island.
- E-bike users to display special identification, such as a red rear light, to distinguish them from traditional bicycles, as drivers may misjudge the speed of faster-moving e-bikes.

- Implementation of a "dummy speed camera" to raise awareness, ensuring compliance with state regulations requiring signage and advance warning, and promoting the initiative through local media.
- Lower speed limits across entire neighborhoods, rather than individual streets.

Challenges around…

- Gathering the necessary political support.

Discussion of…

- Families for Safe Streets, with detailed insights shared about the program's structure, popularity, and how it has expanded to other communities.
- Informal local education efforts, such as high school programs and development roles through CCRI's Lincoln campus, including the student driver liaison program. Although these programs may not impact tourists, they could foster a culture of safety among younger drivers on the island.
- Implementation of local training initiatives with a dedicated coordinator, and carefully integrating these efforts into the school system.
- Presence of an SRTS program in Newport, with the possibility that it may have been initiated by public works.
- Creation of 15 mph neighborhood zones and adjusting speed limits based on location— with strong support for the 15 mph throughout the town residential neighborhoods and removal of the qualifier "especially in areas with many walkers and cyclists,"

Theme 3: Safer People

Human behavior plays a pivotal role in transportation safety, and education emerged as a key focus area during the discussion. Participants emphasized the need to shift cultural norms surrounding mobility through initiatives like defensive driving courses and community awareness campaigns. The following strategies arose as the top participant priorities for a safer transportation culture:

- Develop a Safe Routes to School program.
- Promote safer transportation options through bike-sharing, e-scooter programs, and encouraging walking, biking, and transit.
- Mandate defensive driving and road safety courses for new drivers, including training on alternative travel modes (e.g., biking, transit, and walking).

Key discussion points and insights:

Concerns or doubts about…

- Driver's education programs which often fail to teach students how to interact safely with other modes of transportation, such as bicyclists and pedestrians.

Support for…

- "Build it and they will come" approach as people are unlikely to adopt biking or other alternative modes of transportation without adequate infrastructure to support safe travel.

Challenges around…

- Political barriers to implementing new transportation programs and policies.
- Carpooling initiatives, given the town's predominantly high-income population, which may prefer individual transportation options.

Discussion of…

- Newport's existing Safe Routes to School program.

Theme 4: Post-Crash Care & Data Transparency

Enhancing post-crash care and improving transparency around crash data are critical steps toward building trust, accountability, and public safety. Participants emphasized the importance of creating better data-sharing platforms and fostering stronger coordination among emergency services. The following strategies were identified as priorities for this theme:

- Develop local crash data infrastructure for sharing.
- Standardize crash data collection and reporting and share anonymized data online in a user-friendly format.
- Compare traffic data before and after traffic calming interventions to evaluate effectiveness and guide future applications.

Key discussion points and insights:

Concerns or doubts about…

- Specific processes for accessing mental health services available for first responders exposed to traumatic events.

Support for…

- Completion of the 2019 data transparency initiative that RIDOT initially planned but did not follow through on.
- Establishment of policy infrastructure to develop a crash data dashboard for Aquidneck Island.
- Creation of an online platform for public access to crash data (island-wide crash data system) to improve transparency and public awareness.

Challenges around…

- Rhode Island's lack of publicly available crash data, noting that RIDOT's reluctance to release data may be driven by concerns over potential lawsuits.

Discussion of…

- High number of crashes occurring on East Main Street and Broadway.
- Oakland's success in demonstrating that emergency vehicles can navigate streets with separated bike lanes.
- Establishing policy infrastructure to develop a crash data dashboard for Aquidneck Island.

APPENDIX

DRAFT STRATEGIES	TALLY
Safer Streets	
Develop a street design guide based on best practices.	**8**
Make infrastructure safety improvements in areas with the greatest need.	**7**
Separate pedestrians and bicyclists from cars with protected bike lanes, accessible sidewalks and safer intersections.	**6**
Test "quick build" solutions for temporary evaluation and data collection.	**6**
Improve visibility between road users with better lighting, raised intersections and clear corners.	2
Use low-cost safety improvements like signage, speed feedback, pavement markings and pedestrian-friendly signals.	2
Integrate safe street design standards into zoning and subdivision ordinances.	2
Remove right turn on red, slip lanes, and limit right-turn-only lanes.	1
Create a Vision Zero program with dedicated staff to apply a safety lens to all planning, design and resource allocation.	1
Implement signal modifications that reduce serious crashes.	0
Add crosswalks at all transit stops, place stops on the far side of intersections and give transit priority at lights.	0
Limit roads in urban areas to two lanes (one in each direction), particularly near schools.	0
Safer Vehicles & Safer Speeds	
Install traffic calming features like speed humps and narrower lanes to encourage slower driving.	**11**
Create neighborhood zones with a 15mph speed limit. Adjust speed limits based on location, with 20mph in neighborhoods and 25mph on larger roads.	**9**

DRAFT STRATEGIES	TALLY
Safer Vehicles & Safer Speeds	
Switch government and municipal contractor fleets to safer, low-mass vehicles with technologies like collision sensors and speed monitors.	1
Use traffic safety cameras to enforce speed and/or red-light violations with income-based fines to ensure fairness.	1
Advocate for state policies that support the expansion of safer, smaller and lighter vehicles with features that protect vulnerable road users and regulate speeding.	0
Implement a school zone speed limit program.	0
Safer People	
Develop a Safe Routes to School program.	**7**
Promote safer transportation options through bike-sharing, e-scooter programs and encouraging walking, biking and transit.	**7**
Make defensive driving and road safety courses mandatory for new drivers. Include training on all travel options (e.g. biking, transit, walking).	**6**
Collect data that includes demographics to better target safety efforts.	2
Expand Vision Zero understanding of all practitioners, stakeholders and decision makers for inclusion in daily work.	2
Share road safety responsibility across municipal departments and partners.	1
Develop annual road safety campaigns, focusing on risky behaviors like speeding, distracted, impaired and aggressive driving.	0
Promote alternatives to driving alone through programming.	0
Establish a local chapter of Families for Safe Streets.	0
Safer routes to hospitals or grocery stores	0
Post-Crash Care & Data Transparency	
Develop local crash data infrastructure for sharing	**9**
Standardize crash data collection and reporting and share anonymized data online in a simple format.	**7**
Compare traffic data before and after traffic calming interventions to assess effectiveness and refine future applications.	3
Develop an annual or bi-annual report of recent safety trends, serious injury and fatal crashes, and progress on implementation of strategies.	2
Improve coordination between emergency services, hospitals, traffic safety and planning staff.	1
Create a Crash Response Team to review high-risk areas and sites of severe crashes to recommend safety improvements.	1
Use data to inform future street safety designs and policies.	1
Advocate for state policies that support safer, smaller, lighter vehicles with speed control features.	0
Provide first-aid training to residents to help after crashes.	0
Regularly evaluate safety interventions to assess successful and unsuccessful elements.	0

Table 1: List of themes and preferred strategies (most preferred at the top)

Image 2: Group photo.

Middletown Stakeholders

Municipal Stakeholders

- Planning & Economic Development Department
  - Ronald M. Wolanski, Director of Planning and Economic Development
  - Anita Guo, Principal Planner and GIS Manager
- Middletown Town Council
  - Paul M. Rodrigues, President
  - Thomas P. Welch III, Vice President
  - Peter Connerton, Councilor
  - Christopher M. Logan, Councilor
  - Charlie Roberts, Councilor
  - Dennis Turano, Councilor
  - Barbara A. VonVillas, Councilor

External Stakeholders

- Aquidneck Land Trust
  - Paige Myatt, Director of Climate Resilience
- Grow Smart RI
  - John Flaherty, former Deputy Director
- Bike Newport
  - Bari Freeman, Executive Director
- Rhode Island Bike Coalition (RIBike)
  - Betty Bourret, Interim Director
- Naval Station (NAVSTA) Newport
  - Cornelia Mueller, Community Planning Liaison Officer

List of Aquidneck Island Community Pop-Ups & Stakeholder Events

Town	#	Event	Time	Date	Overnight	Staff 1	Staff 2	Staff 3	Status
Aquidneck	1	NewportFIlm	6-8:30	18-Jul	No	Alexis	Quinn		Complete
Middletown	0	BPAC	5-7PM	25-Jun	No	Quinn			Complete
Portsmouth	1	Family Day	12:30PM	11-Aug	Yes	Quinn	Salma		Complete
Middletown	1	Town Concert	6-8PM	12-Aug	No	Quinn	Salma		Complete
Aquidneck	1	Film Screening	7-9PM	13-Aug	Yes	Shawna	Sara		Complete
Aquidneck	1	Aquidneck Farmer's Market	9AM-12PM	7-Sep	No	Shawna	Quinn		Complete
Portsmouth	1	Sakonnet Bike and Stroll	8:15AM-12PM	14-Sep		Russ	Emily		Complete
Portsmouth	1	Anna D's Farmer's Market	2-6PM	16-Sep		Shawna	Moctar		Complete
Middletown	1	Family Day (Prevention Coalition)	3:30PM-8PM	28-Sep	No	Coleen	Russ		Completed
Newport	1	Broadway Open Streets	–	12-Oct	No	Coleen	Blythe		Completed