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Safe streets in Trenton are important to me because

"One death is too many."

- Jessica





Everyone deserves safe streets.

The *Trenton250 Master Plan*, created in 2017, identified Trentonians' desire to establish a Vision Zero policy under the "Make Trenton Roads Safer for All" initiative. In response, the Office of Safe Streets from the Delaware Valley Regional Planning Commission (DVRPC) worked with partners from the City of Trenton and beyond to create the Trenton Vision Zero Plan.

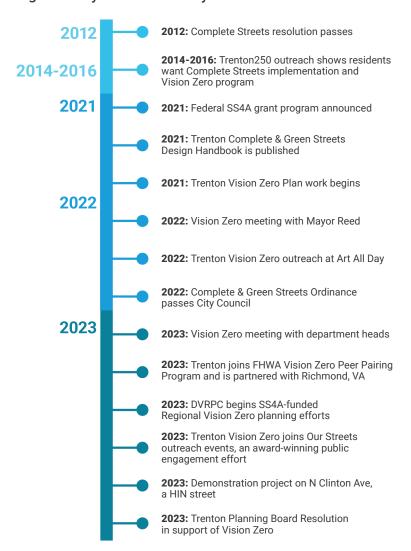
Trenton's Vision Zero work has been building alongside other Trenton transportation initiatives for several years, as shown in Figure 1.

Notable among these is Trenton's *Complete Streets Design Handbook*, Green and Complete Streets Ordinance, and Trenton's *Our Streets:*A Trenton Bike Plan For All. Additionally, Trenton's Vision Zero efforts directly support the recent New Jersey Target Zero Commission Bill¹ to eliminate traffic-related deaths and serious injuries in the state by 2040 and DVRPC's Regional Vision Zero² goal of eliminating traffic-related deaths and serious injuries in the region by 2050.

The Trenton Vision Zero Plan marks a commitment to shift Trenton's safety culture towards one that fully embraces a Safe System Approach to roadway safety. The Federal Highway Administration (FHWA) defines safety culture as "the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands." To eliminate deaths and serious injuries from crashes on our roadway network, it's critical to advance a Vision Zero safety culture in tandem with the Safe System Approach.



Source: DVRPC



¹ nj.gov/governor/news/news/562025/approved/20250113a.shtml

² www.dvrpc.org/transportation/safety/visionzero/

³ highways.dot.gov/safety/zero-deaths/safety-culture

EXECUTIVE SUMMARY

The City of Trenton has identified safety as a priority and must work to shift the attitudes and policies both inside and outside City government. This document is designed to guide the implementation of a Vision Zero policy for the City with the ultimate goal of making Trenton a safer place to live, work, learn, and play by eliminating traffic-related deaths and serious injuries.

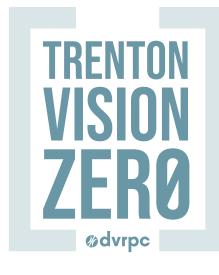
The Introduction chapter outlines the issue of both national and local transportation safety trends and history. It also defines Vision Zero and the Safe System Approach as the two guiding frameworks for this report. This chapter also documents Trenton's initial Vision Zero outreach efforts.

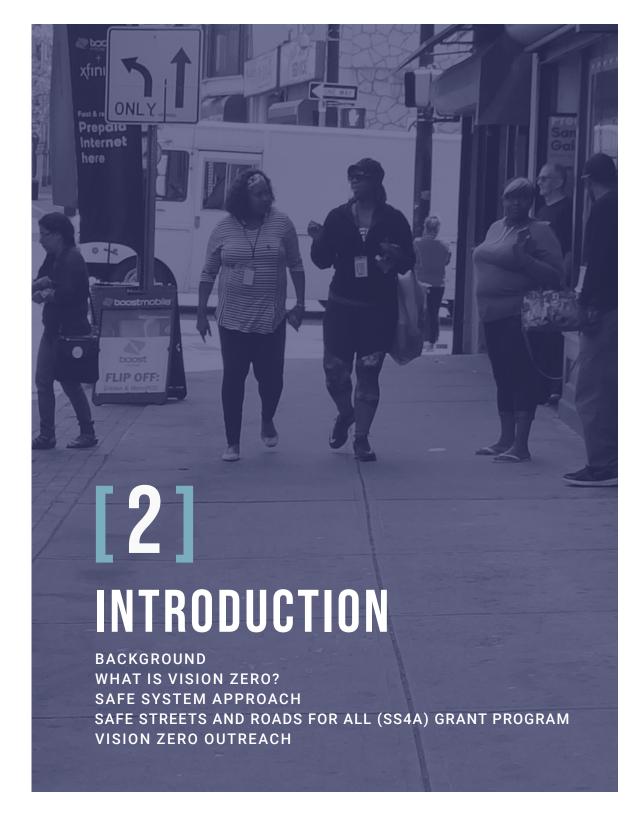
Chapter 3: Crash Safety summarizes the results of a citywide crash analysis and introduces the resulting High Injury Network (HIN). The High Injury Network shows that 75% of Trenton's Killed and Serious Injury (KSI) crashes occur on just 16% of Trenton's roads. The majority of the High Injury Network exists within census tracts with well above average rates of low income (60%), ethnic minority (68%), and limited English proficiency (57%) populations. Chapter 3 includes descriptions of the census tracts located along the HIN and additional community impacts.

From this High Injury Network, the project team— alongside City and Mercer County partners— identified priority corridors. The project team conducted a high-level analysis of the crash trends on these corridors and identified potential improvements, which are summarized in Chapter 4: Advancing Safety Projects on the High Injury Network.

Lastly, Chapter 5: Programming Vision Zero outlines a framework for how to continue the work of Vision Zero beyond this report. It includes an acknowledgment of stakeholder-identified Vision Zero goals, a suggested Vision Zero timeline, and strategies according to each Safe System Approach category. This chapter also provides a framework for developing the action items that advance those Safe System Approach strategies.







The number of fatalities from crashes in 2021 and 2022 has **increased dramatically** over previous years.

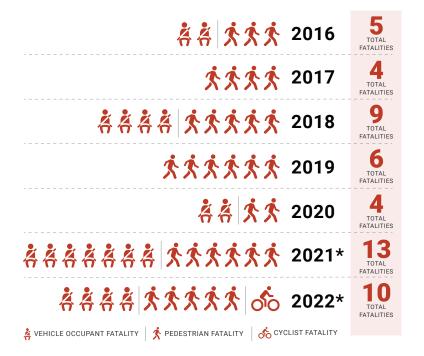
Background

Everyone deserves safe streets. In 2017, Trentonians came together to define a shared future for the City, resulting in the *Trenton250 Master Plan*, which now directs the development of the city through 2042. In its Circulation Report, *Trenton250* identified building on the City's existing assets with an improved multimodal street network as a central goal for the plan; this included creating a Vision Zero plan through the "Make Trenton Roads Safer for All" initiative. This document is designed to carry that work forward and guide the implementation of a Vision Zero policy for the City of Trenton.

Trenton needs a Vision Zero plan to ensure safety for all road users. Every year, close to a dozen or more Trentonians face death or serious injury from crashes on the city's streets. According to New Jersey State Police data, the number of fatalities from crashes in 2021 and 2022 has increased dramatically over previous years (see Figure 2). Preliminary state police data for 2023 and 2024 shows an additional 16 fatalities, indicating that this deadly trend still needs to be addressed. In addition to disrupting the sense of public safety, every crash has serious economic

consequences to both the individual and their community. For each fatality, there is a cost of over \$10 million (in 2015 dollars), according to the Federal Highway Administration's *Crash Costs for Highway Safety Analysis* (2018). A Vision Zero policy is built on the premise that these crashes are preventable and saving lives also saves money.

Figure 2: Total Trenton Fatalities by Mode



Graphic: DVRPC | Data: NJDOT (2016-2020), NJ State Police (2021-2022); *2021 and 2022 data is not official until reported by NJDOT

Trenton's streets carry the legacy of being one of the oldest cities in the country. They are a key component of the walkable, vibrant qualities of Trenton's densely populated neighborhoods. At the same time, they often enable speeding or create confusing situations for road users that can end tragically, especially for pedestrians and cyclists. Looking at peer cities across the

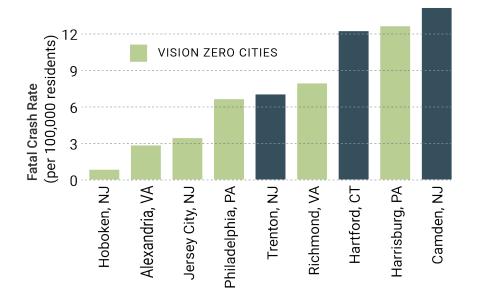
Northeast and Mid-Atlantic regions, Trenton's fatal crashes rank in the middle of the pack (see Figure 3). Peer city capitals like Richmond, VA, Harrisburg, PA, and Hartford, CT face higher fatal crash rates, while New Jersey peer cities that have already adopted Vision Zero like Hoboken and Jersey City are pointing the way to safer streets for their residents.

Previous studies have identified safety as a key concern for capitalizing on Trenton's assets and building out a multimodal transportation network.

INTRODUCTION

In 2016, the *Downtown Bicycle and Pedestrian Plan* identified key design interventions to foster a walkable and bikeable Downtown Trenton. In 2021, the *Trenton Complete Streets Design Handbook* went further to identify design recommendations citywide that would ensure every street is designed to accommodate the most number of road users possible. The handbook was developed in response to the Trenton250 "Implement Complete Streets Policy" initiative and laid the groundwork for the Vision Zero Plan. In particular, the handbook served as a catalyst for the Trenton City Council to pass a "Green and Complete Streets Ordinance," directing the creation of the Safe Streets for All Committee, which is positioned to carry forward the Vision Zero Plan.

Figure 3: Peer Cities by Fatal Crash Rate, 2016-2020



Source: DVRPC, Fatality Analysis Reporting System (2016-2020)

What is the "Safe Streets for All Committee"?

Created by the Trenton City Council in 2022 as part of the "Green and Complete Streets Ordinance" (Appendix A), the Safe Streets for All Committee is tasked with advancing the City's Green and Complete Streets policy. The Trenton Vision Zero Plan is designed to organize the activities of the Committee and support its efforts to eliminate deaths and serious injuries on Trenton's roads. The Safe Streets for All Committee consists of representatives from the Mayor's Office, Business Administrator, City Council, and the departments of Police, Public Works, Housing and Economic Development, Public Health, Emergency Medical Services, Fire, and Recreation, Natural Resources, and Culture. Members may also include representatives from Mercer County, DVRPC, NJDOT, Trenton Schools, NJTransit, and community members.

What is Vision Zero?

A policy originating in Sweden, Vision Zero is a framework for building transportation policy around the premise that deaths and serious injuries on our roads are unacceptable and preventable. The Vision Zero Network, a national organization of Vision Zero cities across the United States, defines successful Vision Zero programs as those that are built on a commitment from political leadership and incorporate stakeholders from across diverse areas of safety, including transportation, public health, and police. In addition, a successful program will use data to drive decision-making, will make community engagement a central pillar of the program, place speed management at the center of transportation policy, and set a clear timeline with metrics for achieving zero deaths. Figure 4 shows how Vision Zero reframes the traditional approach to traffic safety with a focus on saving lives, planning for human error, and deploying low-cost, proven safety countermeasures with a multidisciplinary approach. Vision Zero embraces the concept that we can address severe crash

trends through shared responsibility between road users, roadway designers and engineers, and policymakers. Part of this shift in shared responsibility is to rebalance where we invest our resources. In the traditional approach, most transportation safety dollars go to education and enforcement, which implicitly asserts that it is the user's responsibility to keep themselves safe on the road. By shifting some resources to low-cost infrastructure countermeasures, Vision Zero seeks to place more responsibility on roadway designers and policymakers to find design solutions that anticipate human error, while continuing to promote safe use of the system through education and enforcement campaigns. This new way of thinking is a needed shift as we seek to address long-standing, persistent crash trends.

Safe System Approach

Like Vision Zero, the Safe System Approach refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives. The Safe System Approach has been embraced by the Federal Highway Administration (FHWA) as their guiding framework for advancing road safety nationwide. Likewise, the Trenton Vision Zero Plan adopts the Safe System Approach as the framework to pursue cross-departmental actions that address roadway safety in the city.

Figure 4: Vision Zero Approach

Traditional Approach

Traffic deaths are inevitable
Perfect human behavior
Prevent collisions
Individual responsibility
Saving lives is expensive

There are six principles and five elements of the Safe System Approach. The principles are shown in Figure 5, encircling the five Safe System elements. Each of the elements are described in detail below. In addition, following FHWA guidance, the Trenton Vision Zero Plan includes safety culture as a sixth element, which complements the other five elements.

Safe Road Users

Crucial to developing a safe transportation system for Trenton is recognizing that not all roadway users approach the system with the same abilities and assumptions. The Safe System Approach prioritizes design that accounts for human error, while also promoting the shared responsibility of all users of the system, including pedestrians,

Source: Federal Highway Administration

Vision Zero

Traffic deaths are preventable
Integrate human failing in approach
Prevent fatal and severe crashes
Systems approach
Saving lives is not expensive

Figure 5: Safe System Approach



Source: Federal Highway Administration

bicyclists, drivers, transit riders, and those who use mobility aids. Actions in this category address all types of road users, but focus on meeting the needs of road users that lack experience, like young drivers, or may have diminished mobility, like older pedestrians. Safe Road Users strategies can also address gaps in service created by poverty, underinvestment, limited English proficiency, or other unique challenges.

Safe Roads

The Safe System Approach demands that roadway infrastructure anticipate human error with built-in safety redundancies to ensure that if one safety element fails, other elements are there to prevent deaths and serious injuries. Safe Roads actions focus on roadway design, as well as maintenance and operations. Planning and analysis that guide decision-making on where to address crash trends on the network also fall under this element.

Safe Speeds

Speed is the single most important determinant of both the likelihood and severity of a crash. Many Vision Zero actions can ultimately be ascribed to the goal of reducing speeds, from traffic calming roadway designs to education campaigns urging drivers to slow down. This makes Safe Speeds a fulcrum of strategies to address road safety. Central to the Safe

Speeds element is the concept of target speed, or the highest speed at which vehicles should operate given the surrounding land use and multimodal activity. This requires consideration of the context and likelihood of a serious crash when determining target speed and adjust the design speed of a roadway through traffic calming strategies, if needed.

Safe Vehicles

FHWA's Safe System Approach for vehicles calls for design and regulation that incorporates technological innovation to minimize the occurrence and severity of collisions. This technological innovation includes in-vehicle crash avoidance technology like lane keeping assist, as well as micro-mobility trends like e-bikes and e-scooters. An example of a Safe Vehicles action could be outfitting Trenton's own fleet with the safest technology available.

Post-Crash Care

Mitigating injury severity after a crash occurs is critical to reducing and ultimately eliminating death and serious injury from crashes. Emergency first responders must be able to quickly locate, stabilize, and transport crash victims to medical facilities. Post-crash care, however, extends beyond emergency response to include analysis of why a crash occurred, traffic incident management, and even adjudication.

Safety Culture

FHWA defines safety culture as "the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands." To eliminate death and serious injuries from crashes on our roadway network, it's critical to advance a Vision Zero safety culture in tandem with the Safe System Approach. Safety culture actions can address one of two overarching categories: internal and external safety culture. Internal safety culture actions seek to shift attitudes and priorities within Trenton City government to further embrace a Vision Zero/Safe System Approach to road safety. External safety culture strategies seek to shift attitudes and behaviors among the general public with regard to road safety.

Safe Streets and Roads for All (SS4A) Grant Program

The federal SS4A Grant Program, created by the Bipartisan Infrastructure Law (BIL), is a 5 year discretionary program with \$5 billion in funding for local, regional, and Tribal safety initiatives. Awards are split into Action Plan Grants and Implementation Grants. This grant program explicitly aligns with Vision Zero and the Safe System Approach.

The Trenton Vision Zero Plan was developed with the intention to create a competitive Plan eligible for SS4A Implementation Grant

funding. This report outlines the final steps for becoming fully eligible for this and other funding opportunities.

Alongside the development of this Trenton Vision Zero Plan, the City of Trenton was chosen to be a mentee of Richmond, Virginia in the FHWA's 2023 Vision Zero Community Pairing Program. This program provides a platform for learning partnerships and forums for sharing Vision Zero best practices.

Vision Zero Outreach

The Trenton Vision Zero Plan is an effort that originated from requests from residents during Trenton250 plan outreach. Community outreach and public support is vital to the success of any Vision Zero program. Therefore, the project team took many opportunities to engage with the public.

In the first round of outreach, the project team attended the 2022 Art All Day event at the Trenton Arts Center, where residents learned about Trenton Vision Zero and filled out pledge cards completing the statement, "Safe Streets in Trenton are important to me because..." (Appendix B). Statements gathered from this activity are threaded throughout this report.

In 2023, the Vision Zero project team paired with the Trenton Bike Plan and the Trenton Trails project teams to engage the public

around the unified theme "Our Streets." This resulted in virtual and in-person presentations to community groups like the East Trenton Collaborative and the Capital City Community Coalition (4C's). The project teams also presented at a planning board meeting and received support for Vision Zero in the form of a planning board resolution (Appendix C).

Public outreach culminated in three pop-up Our Streets outreach events: Tuesday, April 25 at Jennye Stubblefield Senior Center; Sunday, May 7 at Sam Naples Community Center; and Saturday, August 5 at East Trenton Collaborative. Two events were located in community spaces directly on the High Injury Network, and one event was located within a quarter mile of a High Injury Network corridor. Across the three events, approximately 300 people attended and learned about Vision Zero.

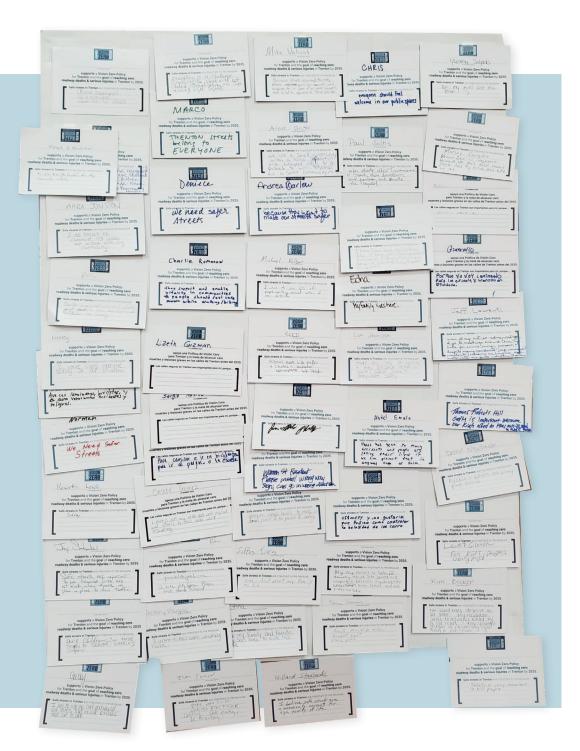
At the Vision Zero station, attendees mapped the locations of where they live, work, play, and learn in relation to Trenton's High Injury Network (Appendix D). Attendees were also encouraged to take a Trenton Vision Zero handout (Appendix E) and to fill out a Vision Zero pledge card.

Over 100 Vision Zero pledge cards, some representing entire families, were collected in both Spanish and English. Many responses mentioned the desire for safe places to walk and bike in order to travel without contributing

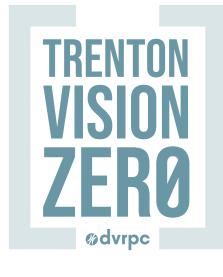
to air polluting emissions. Some respondents mentioned having witnessed or having to deal with the consequences of traffic injuries and fatalities, and this often impacted how safe and viable a mode of transportation was for them. The responses also highlighted the need to make streets safer for people walking and biking so that those without access to a car—like children—can get to where they need to go. Responses can be read in full in Appendix F.

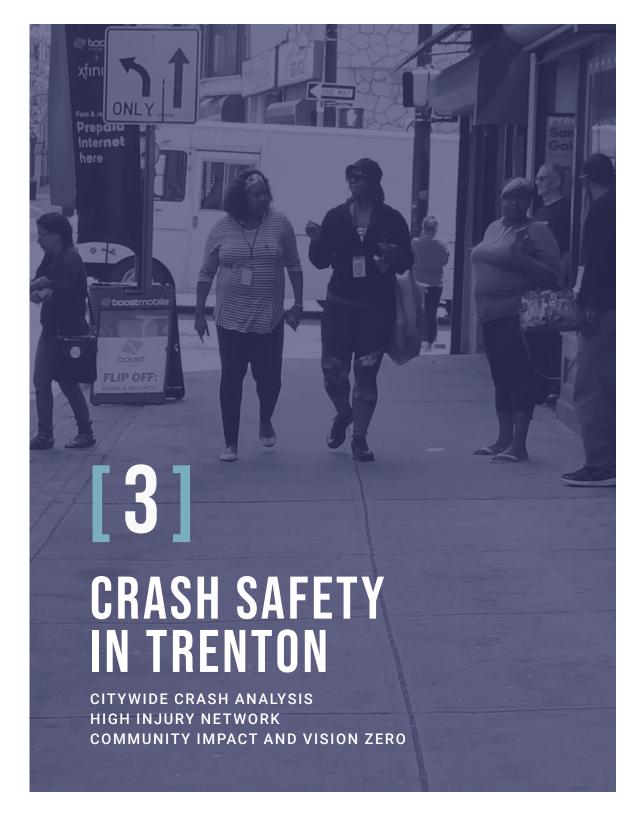


Attendees at the Tuesday,
April 25, Our Streets event
at the Jennye Stubblefield
Senior Center holding a
signed Vision Zero pledge
card. Yusenia, pictured right,
says that she wants safe
streets in Trenton for her
kids and their future.









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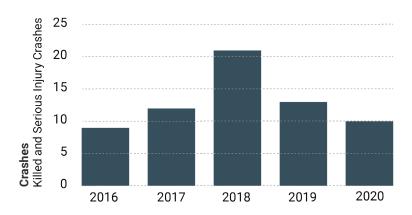
fatal and serious injury crashes occurred in Trenton between 2016 and 2020.

Citywide Crash Analysis

The Trenton Vision Zero Plan project team analyzed crash data in the city to help the City prioritize actions that can best address the crashes that are leading to deaths and serious injuries across the roadway network. The analysis found that deadly crashes in Trenton have been recently on the rise. To address this trend, Trenton needs to focus its efforts on eliminating the conditions that contribute to the most severe crashes. This entails making changes to the streets where these crashes occur-arterial roadways-and targeting the road users-pedestrians and bicyclists—and behaviors—like impaired driving—that are most frequently present in severe crashes.

To align with Vision Zero and Safe System principles, the analysis focused on five years of fatal and serious injury crash data in Trenton. The most recent five years of complete crash data available from the New Jersey Department of Transportation (NJDOT) dates from 2016 to 2020. This primary dataset is expanded in places to address different analysis needs. For instance, more recent fatality data is available from the New Jersey State Police and lower

Figure 6: KSI Crashes by Year, 2016-2020



Source: DVRPC, NJDOT (2016-2020)

severity (minor or possible injury) crashes are incorporated into the analysis at times. Lower severity crashes are not the focus of the Vision Zero approach, but it's important to consider if a lower severity crash could have been higher severity under just slightly different circumstances; this is most commonly the case where they involve nonmotorized road users—the most vulnerable road users on the system. Roadway ownership was not a factor in determining which crashes to include in the analysis with the exception of Route 1. Crashes on Route 1 were left out of the analysis because it is a fully-limited access facility through Trenton

with no at-grade crossing with the local street network (unlike routes 29 and 129). Crashes that occurred where the highway ramps meet the local roadway network are included.

There were 65 fatal and serious injury crashes in Trenton between 2016 and 2020. In addition, there were 379 lower severity bicyclist and pedestrian crashes. These crashes are mapped in Figure 7. These crashes occurred

in every corner of the city and on all types of roads, and there are patterns that can be discerned through data analysis. There are certain intersections that are particularly crash-prone (such as the intersections where local roads cross Route 129). Additionally, many corridors in the city encourage drivers to travel at high speeds creating the potential for severe crashes.

The five-year crash trend from 2016 to 2020, the last five years for which complete data is available from NJDOT, shows a high of nine fatalities in 2018 and a low of four fatalities in 2020 (see Figure 6). Since this low, however,



Figure 8: All Injury Crashes by Road User Type

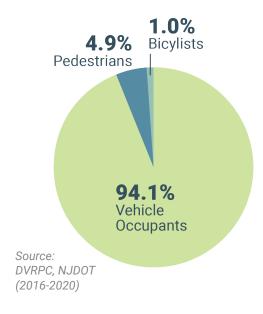
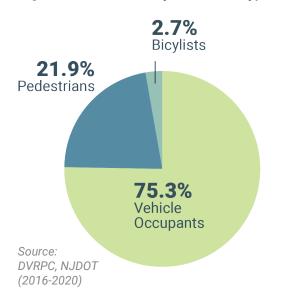


Figure 9: KSI Crashes by Road User Type



preliminary data shows fatalities on Trenton's roads hitting highs not seen in many years. NJ State Police data identifies nearly 15 fatalities in 2021 and 2022 saw a similarly high rate of fatal crashes.

Understanding who is experiencing the crashes in the city is important to diagnosing how to stem the trends. Vehicle occupants make up the vast majority of people involved in crashes, accounting for 94% of injuries from crashes (Figure 8). The Vision Zero paradigm shift, however, focuses interventions primarily on eliminating the crashes that result in lifealtering (or ending) outcomes. Among the most severe crashes, vehicle occupants are still the largest group, but the share shrinks to 75% versus 94% of all injury crashes (Figure 9). Pedestrians, who make up only 5% of all injuries, make up over 20% of severe injuries and fatalities. Bicyclists similarly make up a share of severe crashes over twice as large as among all injury crashes. This stands to reason as pedestrians and cyclists are more likely to suffer severe injuries due to their lack of protection in the event of a crash.

CRASH SAFETY IN TRENTON

The American Association of State Highway and Transportation Officials (AASHTO) offers an Emphasis Areas framework for diagnosing the key factors in a crash. These factors range from behaviors (like impaired or distracted driving) and road user types (like pedestrians or senior drivers) to roadway features (like intersections) and collision types (like head-on or hit fixed object crashes). Determining which of

these factors are overrepresented in severe crashes helps to identify the countermeasures most likely to address them. Figure 10 shows the number of crashes where each AASHTO Emphasis Area was a factor among all injury crashes. The top factors by a large margin are Intersection and Driver Inattention, followed by Aggressive Driving. These are significant factors in crashes, but many of the crashes in this chart are lower severity and not the focus of a Vision Zero policy.

Figure 10: All Injury Crashes by AASHTO Emphasis Area

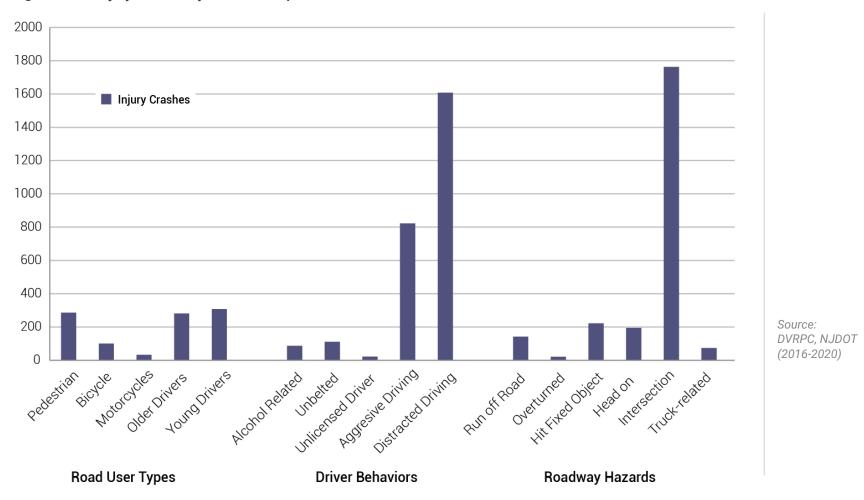
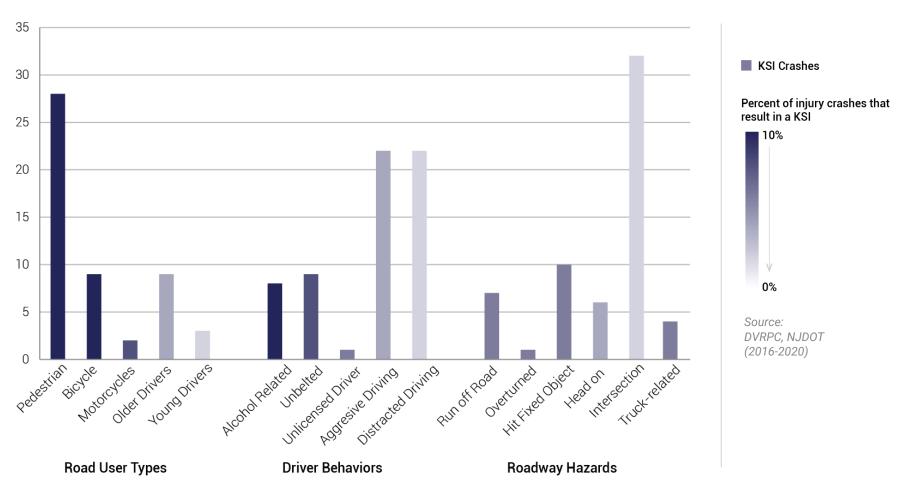
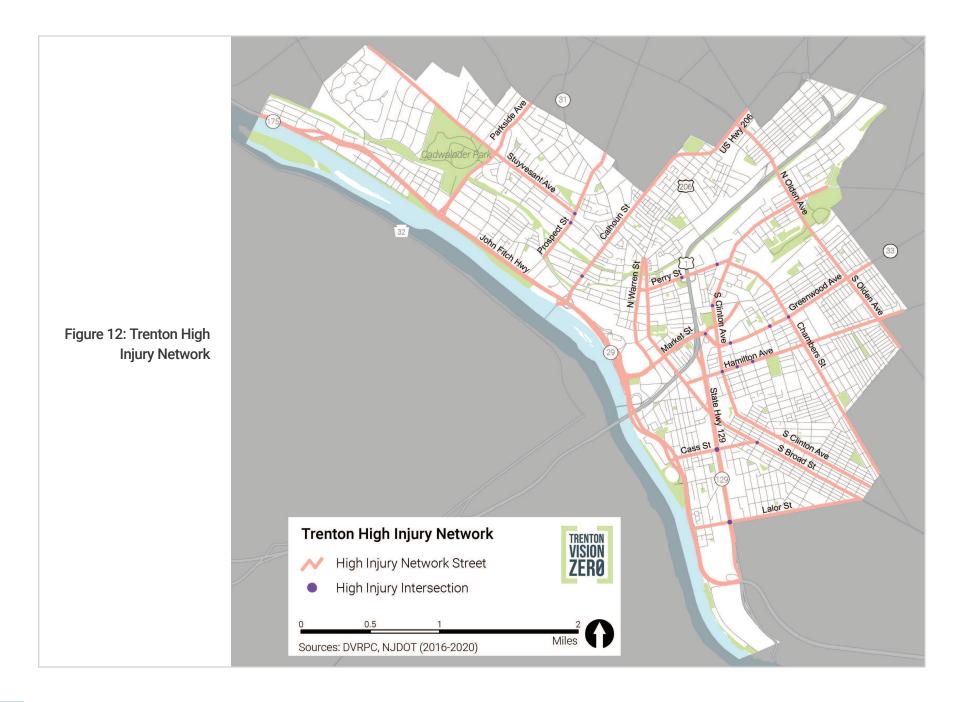


Figure 11 shows the outcomes of the analysis when focused solely on KSI crashes. While Intersection remains the top Emphasis Area, crashes that involved a pedestrian are the second largest group among KSI crashes. Many other Emphasis Areas that appeared insignificant when looking at all injury crashes rise in importance when looking at only KSI crashes (like Hit Fixed Object, Bicycle, Unbelted, and Alcohol Related). In addition to the total number of KSI crashes by Emphasis Area, Figure 11 also shows a ratio of the number of KSI crashes divided by the total number of injury crashes (the data shown in Figure 10). This ratio

demonstrates the likely severity of a crash in Trenton when a particular Emphasis Area is involved. For instance, nearly 10% of injury crashes in Trenton involving a pedestrian result in a fatality or serious injury, while less than 1% of crashes involving young drivers results in the same. While the goal of Vision Zero is to eliminate all KSI, Trenton has finite resources to tackle this challenge. This data can help inform how best to address the KSI trend: for pedestrian and alcohol-related crashes, it is important to minimize the likelihood of any crash since these tend to be severe, while for intersection crashes, it may be better to aim to lessen the severity of crashes rather than attempt to eliminate them altogether.

Figure 11: KSI Crashes by AASHTO Emphasis Area





1/3

of participants said that fear of crashes motivated decisions regarding transportation options.

High Injury Network

Key to prioritizing safety projects in Vision Zero plans, a High Injury Network identifies the subset of streets citywide that account for a disproportionate number of severe crashes. Trenton's High Injury Network (Figure 12) was developed using a data-driven process that can be replicated in future years. It is designed to support the Vision Zero Plan by helping the City to focus its efforts on the locations where they can be expected to make the greatest impact on decreasing severe crashes. The details of the HIN methodology can be found in Appendix G.

The High Injury Network represents 30 out of 188 (16%) roadway miles in Trenton, 49 of 65 (75%) KSI crashes, and 198 of 413 (48%) bicyclist and pedestrian injury crashes (any severity).

The Trenton High Injury Network was developed using the most recently available crash data and applying it to a network file for every road in Trenton. In addition, the *Trenton Complete Streets Design Handbook* typologies were used to further refine the corridor analysis and connect it to that work.

High Injury Intersections

High Injury Intersections, as mapped in Figure 12, were identified based on the number of KSI crashes and lower severity bicyclist or pedestrian crashes. High Injury Intersections include the following:

- Lalor St and State Hwy 129
- Hudson St and Hamilton Ave
- · Cass St and State Hwy 129
- Prospect St and Rutherford Ave
- Greenwood Ave and Chambers St
- · Prospect St and Stuyvesant Ave
- Calhoun St and Passaic St
- · Barlow St and Market St
- · Greenwood Ave and Hudson St
- · Perry St and Southard St
- Clinton Ave and Hamilton Ave
- S Broad St and Beatty
- Perry St and Allen St
- Clinton Ave and E State St
- Whittaker Ave and Hamilton Ave
- Greenwood Ave and Monmouth St

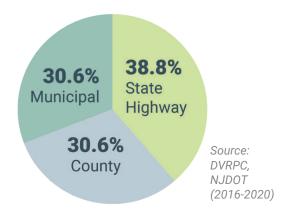
Breakdown by Roadway Owner

Trenton's road network ownership is split by state, county, and municipal government. State routes include the limited access facilities of Route 29 and Route 129. These two roadways comprise 19% of the total mileage of the HIN. The county owns 38% of roadway miles on the HIN, and 43% of HIN roadway miles are owned by the municipality of Trenton. Roadway ownership determines who, how, and when projects can get funded and implemented, so it is important to involve the roadway owners throughout the planning and implementation process. Figure 14 shows the roadway ownership of the HIN.

The breakdown of crashes on the High Injury Network according to road ownership can be found in Figure 13. Of all KSI crashes that occur on the High Injury Network, 30.6% occur on municipal roads, and another 30.6% occur on county roads. State highways represented 38.8% of KSI crashes on the HIN. Despite accounting for most of the KSI on Trenton's HIN, Trenton does not identify state-owned roads as priority corridors in this Vision Zero Plan because they are beyond the scope of a local Vision Zero plan.



Figure 14: KSI Crashes by Road Owner



It is expected that these locations will see safety improvements as initiated by the New Jersey Department of Transportation.

Community Impact and Vision Zero

The relationship between the prevalence of severe crashes and communities that are home to Federally-protected classes is well-established. Historically disadvantaged populations like low-income and racial minority groups are disproportionately exposed to the least safe roadway designs, especially for vulnerable road users (pedestrians and bicyclists, in particular). This has been demonstrated at the national level by Smart Growth America's series, "Dangerous by Design," and in the region by

DVRPC's report, "Crashes and Communities of Concern." The latter report found that low-income, racial minority, ethnic minority, and disabled populations in the Greater Philadelphia region are more likely to live in census tracts with above average severe crash rates. These populations are also more likely to live in zero vehicle households, and therefore are more likely to be vulnerable road users, such as pedestrians and bicyclists.

In Trenton, federally protected groups make up a large portion of Trenton's population. Trenton's High Injury Network is located nearly entirely in census tracts with above average percentage of low-income residents (93%). Additionally, the majority of the High Injury Network is located in census tracts with well above average rates of low-income (60%), ethnic minority (68%), and limited English proficiency (57%) populations (see Figure 15).

CHOICE Neighborhood and Outreach Work

Recent planning efforts have explored the relationship between traffic safety in Trenton and the communities with high proportions of federally protected populations. The Choice Neighborhoods Initiative, funded by HUD and led by the Trenton Housing Authority, shown in purple on the map (Figure 15), focused on

this relationship and asked residents about the issues and vision that they have with and for transportation in their community. The neighborhood is bound on the west by Calhoun Street, a county-owned road that is on the High Injury Network and one of this plan's priority corridors. Calhoun Street also directly abuts the Donnelly Homes, which is a large Trenton Housing Authority community and the nexus of the Choice Neighborhoods plan. Living near so many high-crash roadways makes an impact on residents' views on residents' views on walkability and traffic safety. Speeding, lighting and a lack of traffic calming all came up as barriers to moving around the neighborhood safely.

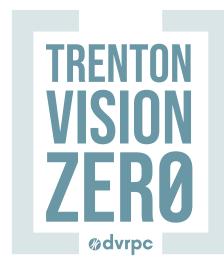
Another recent project sought to hear more from people in this neighborhood about how they make decisions on how to get around. The DVRPC Mobility Choices project engaged residents through surveys and focus groups on this question. Throughout these engagement processes, participants mentioned traffic safety again and again. One-third of participants said that fear of car crashes motivated decisions regarding transportation options. This demonstrates the toll that these high-crash corridors have directly and indirectly on peoples' lives.

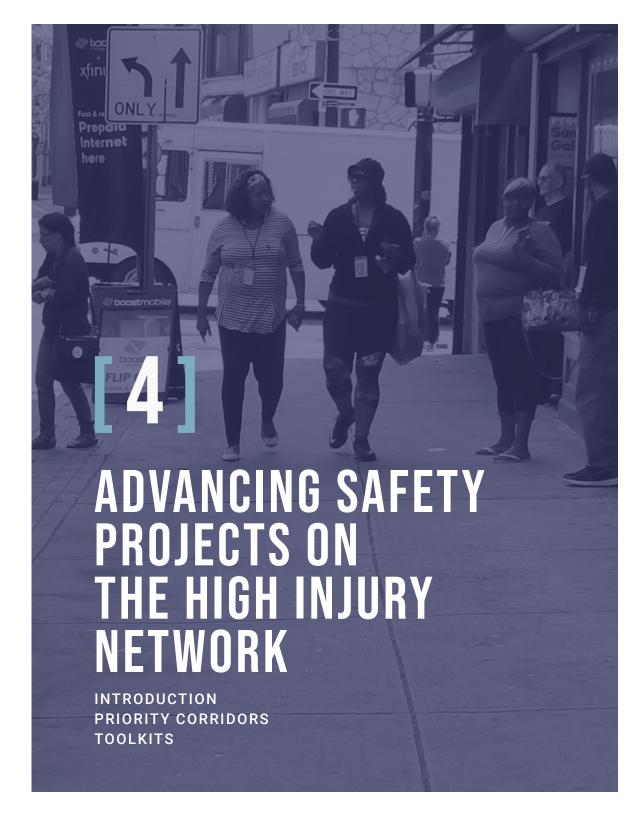
¹ smartgrowthamerica.org/dangerous-by-design

²www.dvrpc.org/Products/18022









Many countermeasures are also low-cost, systemic safety measures.

Introduction

Achieving zero deaths on Trenton's roadways by 2035 requires advancing safety projects on the High Injury Network. This chapter is devoted to identifying the initial projects that roadway owners in Trenton can advance, including projects on roadways owned by the City, Mercer County, and the state of New Jersey. The priority corridors identified in this chapter are mapped in Figure 16.

Priority Corridor Identification

Priority corridors were identified through the creation of Trenton's High Injury Network and in conversation with partners at Trenton and Mercer County. Corridors were chosen primarily due to their overall ranking of KSI crashes and bicyclist or pedestrian crashes, and other factors were included based on the corridor's relevance to other Complete Streets improvements and plans, presence of HSIP-eligible locations, community need, and proximity to significant community assets.

Several major projects are already underway

on High Injury Network locations in Trenton.

Existing Projects

Several major projects are already underway on High Injury Network locations in Trenton. These locations were therefore not selected as priority corridors and instead listed as "Existing Projects" in Figure 16.

NJ Route 29

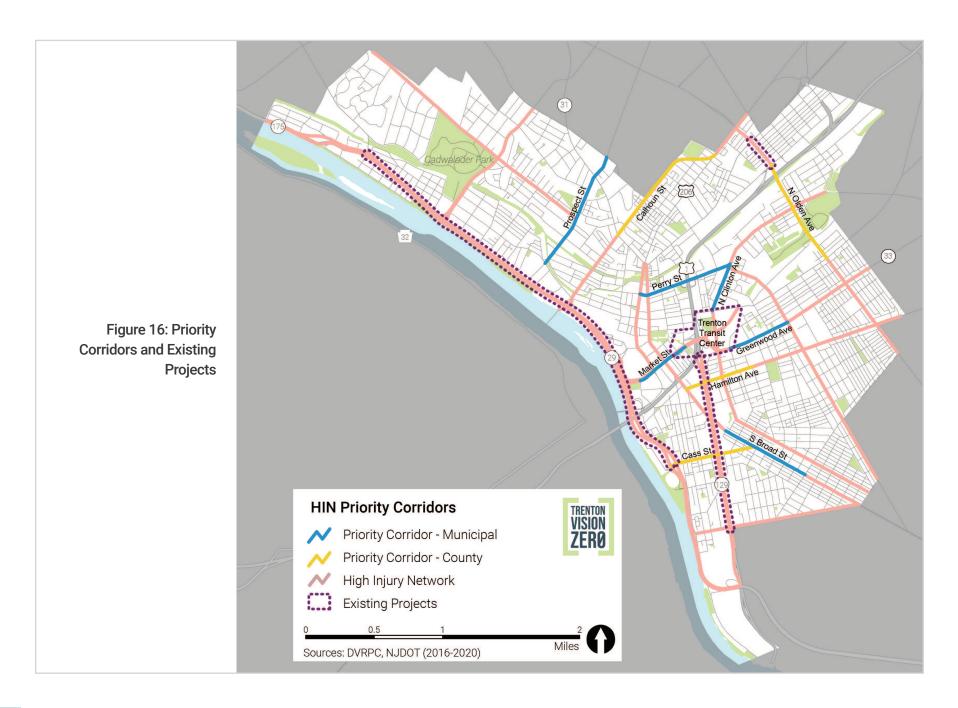
In 2022, Mercer County applied for the Reconnecting Communities Pilot (RCP) Discretionary Grant Program from the US Department of Transportation (USDOT). The application sought funding to reconnect the City of Trenton to the Delaware River, from which it was cut off in the mid-20th century with the construction of the 5.5 mile stretch of NJ Route 29. The roadway disconnected residents from the waterfront, which has led to many negative health and economic

outcomes for residents. The grant application sought to reconfigure NJ-29 between Sullivan Way (Route 579) and Cass Street/John Fitch Way Tunnel in order to provide riverfront access to residents for economic, cultural, social, and recreational activities.

While Mercer County was not awarded the Reconnecting Communities grant, it was awarded \$1.16 million dollars in surface transportation block grant funds to do concept development for the realignment project between Route 1 and the Calhoun St. Bridge.

NJ Route 129

NJ-129 is a major urban principal arterial roadway cutting through central Trenton with limited access for pedestrians and cyclists. The roadway is notoriously dangerous and creates a barrier for residents from economic, cultural, social, and recreational opportunities. In 2019, Greater Mercer Transportation Management Association (GMTMA) conducted a Road Safety Audit between Lalor Street (CR 650) to Hamilton Avenue (CR 606). This stretch of NJ-129 has only three at-grade pedestrian crossings and each is 0.6 miles from the next at Lalor Street, Cass Street, and Hamilton Avenue.



In September 2022, NJDOT and New Jersey legislative leaders announced the start of the Route 129 Pedestrian Safety Improvement Project. The project will add safety features and pedestrian amenities to the Lalor Street, Cass Street, and Hamilton Avenue intersections. Improvements are slated to include increasing pedestrian crossing time, backplates for traffic signals, additional warning signs, and a Red Clearance Extension system, which will adjust traffic signal changes depending on the speed of an approaching vehicle. In addition, the County proposed that the multipurpose path be extended to Lamberton Road in the south and the Conrail Bridge over Market Street to the north in order to improve the facility's connectivity. The City of Trenton has received draft designs for intersection improvements and published a Public Information Center in June 2024.

Olden Ave (West of New York Ave)

In August of 2019, Mercer County and DVRPC kickstarted a planning process with a focus of enhancing safety and accessibility on N. Olden Avenue (CR 622) through the NJDOT Local Concept Development Process.

The scope of the project stretched from Pennington Road (Route 31) in Ewing to New York Avenue in Trenton.

A major focus of the project in the City of Trenton was the segment of N. Olden Avenue between New York Avenue and Princeton Avenue, where the majority of intersections are unsignalized. The project plans to add rapid rectangular flashing beacons at unsignalized intersections as well as additional pedestrian and cyclist accessibility improvements to comply with the City of Trenton's Complete Streets policies. From the end of 2019 to 2020, conceptual alternatives were developed and, in the spring, preferred alternatives were selected. The project is now in preliminary engineering and the final design phase is expected to take an additional 18 months. Construction on the project is anticipated to begin between 2027-2028.

Trenton Transit Center

In June of 2022, DVRPC and the City of Trenton released a Local Concept Development Study to evaluate potential circulation improvements at the Trenton Transit Center. The transportation hub, which has connections to Amtrak, NJ TRANSIT, and SEPTA, has a variety of offerings including commuter rail, light rail, bus, and intercity rail service. The study was commissioned because while the Transit Center is critically important to residents, workers, and visitors of Trenton, serving between 25,000 to 30,000 daily riders, its auto-centric design and restricted accessibility, especially for pedestrians and cyclists, has greatly limited its potential.

The Local Concept Development (LCD) study identified many areas of improvements to increase multimodal accessibility and safety to the Transit Center. The study recommended reducing the number of travel lanes on Market Street, Greenwood Avenue, Barlow Street, and East State Street, and converting South Clinton Avenue to be exclusively for the use of transit riders, cyclists, and pedestrians. The preliminary engineering phase will begin after the City goes through the Request for Proposals process. Construction of this project is estimated to begin between 2028–2030.

Martin Luther King Jr. Blvd

In Spring of 2023, the City of Trenton released a Request for Proposals for the Complete and Green Streets planning, placemaking, design, engineering, and reconstruction of Martin Luther King Jr. (MLK) Boulevard between Pennington Avenue and Calhoun Street and reconstruction of Southard Street between Calhoun Street and Brunswick Avenue. The project is part of Trenton's FY 2023 Community Development Block Grant Roadway Improvement Project Contract and aims to support the goals of the North Trenton/Battle Monument CHOICE Neighborhood Plan.

While not part of the High Injury Network, the MLK Blvd project is important to Trenton's Vision Zero efforts as it builds on the existing work of the Complete and Green Streets

Ordinance to further safety and Complete Streets goals. Furthermore, the consultant will be tasked with implementing the protocols established by Ordinance 22-22, Complete and Green Streets, including utilization of the Complete Streets Design Handbook. These protocols will be crucial for future roadway safety work in Trenton. The project kicked off in 2025.

Advancing Safety on Priority Corridors

Despite state-owned facilities accounting for roughly 39% of KSI crashes (see Figure 13), the Trenton Vision Zero plan aims to support local action; therefore, only county and local roads were identified as priority corridors. The ownership of priority corridors is indicated in Figure 16.

The following roads have been identified as Priority Corridors and are outlined in further detail in the corridor spreads section of this chapter:

- Greenwood Avenue
- Olden Avenue
- Perry Street
- Cass Street
- · Broad Street
- Prospect Street
- Hamilton Avenue

Stakeholder-Identified Priority Corridors

Three corridors on the High Injury Network were identified as having safety concerns and contexts that were additional priorities for local partners. These corridors did not meet the metrics to be considered Priority Corridors within this report, but other factors have suggested the importance of identifying them as needing special attention during future projects or maintenance. These factors include community impact and land use implications, previous identification as priorities in other studies, HSIP locations, and/or strong crash characteristics. Therefore, this report also provides corridor spreads as guidance for advancing safety at these locations. There are three stakeholderidentified priority corridors:

- Calhoun Street
- Market Street
- Clinton Avenue

Priority Corridor Spreads

Each priority corridor spread contains the same components: a general overview of the corridor, a crash map, a list of the corridor's most relevant Highway Safety Improvement Program (HSIP) screening rankings, and a toolkit with suggested Complete Streets elements and Proven Safety Countermeasures.

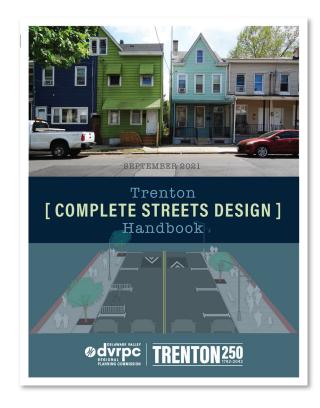
Corridor Overview and Crash Map

The overview includes general roadway information (such as segment length, typology as identified by the *Trenton Complete Streets Handbook*, and roadway owner) as well as a description of the surrounding land use. A narrative of the crash experience is accompanied by visuals of crash rates by mode and severity, compared to typology average. Lastly, a crash map shows the corridor's reported crash events (2016-2020) in relation to the local landmarks, typology overlays, and HSIP screening ranked locations.

Highway Safety Improvement Program (HSIP) Rankings

Federal funding for addressing crash safety trends is available through the Highway Safety Improvement Program (HSIP). Established in 2005, HSIP has been renewed with each subsequent transportation funding bill since. HSIP funding is administered by the states and requires the states to develop a Strategic Highway Safety Plan (SHSP) and submit various reports.

New Jersey provides a network screening tool to identify locations that are good candidates for HSIP funding, whether those locations are state, county, or locally owned. The screening tool ranks locations by county and creates lists for both intersections and corridors for the following categories: all crashes, pedestrian crashes, bicycle crashes, and high risk rural roads. While absence from a top 20 ranking on the HSIP list does not indicate that a crash trend is absent, a spot on the list can help in securing funding to address a crash trend. Therefore, this ranking information was included in the priority corridor spreads. More information and full screening lists can be found in the Strategic Highway Safety Plan Data Viewer web tool developed by North Jersey Transportation Planning Authority. The dataset used to curate these lists is different from the dataset used to create the Trenton High Injury Network.

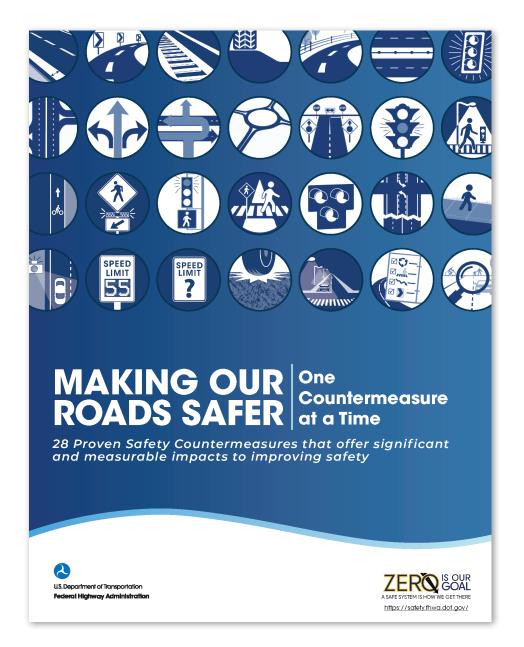


Complete Streets Elements

Published in 2021, the *Trenton Complete*Streets Design Handbook provides the guidance on street design that was codified by the
Complete and Green Streets Ordinance, passed by City Council in 2022. The priority locations identified in this chapter draw on the guidance from the handbook to make recommendations for addressing crash trends.

The handbook assigns every roadway in Trenton a typology based on traffic volume, adjacent land uses, and other characteristics. For each typology, the handbook organized design recommendations into three categories: required, recommended, and as needed elements. The guidebook also identifies overlays, which indicate proximity to a particular community asset like a school or park. The handbook provides design guidance for overlays, as well.

The map accompanying each priority location identifies the typology and any relevant overlays that impact the location. Reviewing the full handbook, however, is recommended to understand the full scope of design requirements and recommendations. Bear in mind that many as needed elements suggest reviewing the crash trend to determine need; in the case of priority locations on the High Injury Network, they are far more likely to be needed due to their verified crash trend.



Proven Safety Countermeasures

FHWA's Proven Safety Countermeasures provides a list of 28 tools for addressing crash safety. These tools have been thoroughly vetted with peer-reviewed research demonstrating reductions in fatalities and serious injuries when correctly implemented.

The proven safety countermeasures are divided into five categories: speed management, roadway departure, intersections, pedestrians/bicycles, and crosscutting. These categories help to identify the right countermeasure to address the crash trend afflicting a certain crash location. Many of these countermeasures are also low-cost, systemic safety measures that can be implemented everywhere that certain risk factors are present, like leading pedestrian intervals.

Leading pedestrian intervals (LPIs) are a proven safety countermeasure that raises the visibility of pedestrians in intersections by allowing them to establish their presence before turning vehicles with a 3 to 7 second head start. According to FHWA, LPIs reduce pedestrian-vehicle crashes by 13%. LPIs can also provide additional time for pedestrians to cross the street, a critical consideration in proximity to aging residents or others with mobility challenges. A very low-cost measure, LPIs only require signal retiming to implement.

Many other countermeasures are identified in this report, depending on the roadway characteristics and crash experience of each priority location. FHWA provides more information on each of the proven safety measures on the FHWA Proven Safety Countermeasures web-page.



"They provide a comfortable environment for people to walk on including children."

- Blessing

Achieving zero deaths on Trenton's roadways by 2035 requires advancing safety projects on the High Injury Network.







Greenwood Avenue

Limits: Chambers Street to South Clinton

Avenue

Length: 0.73 miles

Complete Streets Typology: Connector

Corridor

Overlay(s): Station Area, Transit, School,

Park

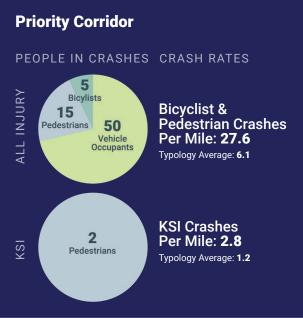
Road Owner: Municipal

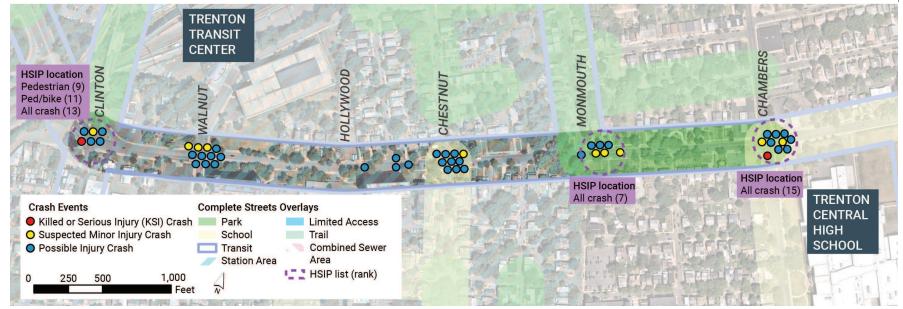
Description: Stretching from Downtown to East Trenton, Greenwood Avenue is primarily residential with some businesses. Key landmarks along this corridor include Trenton Central High School and the Trenton Transit Center.

Crash Experience: Hit pedestrian crashes were the most common collision type along Greenwood Avenue, accounting for over one-quarter of all injury crashes and all KSI crashes. Right angle, rear end, and hit bicyclist crashes were the next most common collision types. Over three-quarters of crashes occurred at intersections along the corridor and over one-third occurred during non-daylight hours.

HSIP Location(s):

- Clinton Ave ranked #9 on Pedestrian, #11 on Pedestrian/Bicycle, and #13 on All Crash Intersection Lists
- Monmouth St ranked #7 on All Crash Intersection List
- Chambers St ranked #15 on All Crash Intersection List





Greenwood Avenue Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Connector Corridors like Greenwood Avenue and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 1, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 1: Greenwood Avenue Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions.	Design vertical deflection to not impede bus operations (e.g., speed cushions). Consider raising midblock crossings at park/school entrances.
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install bus loading curb extensions where sidewalk space is limited.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals. Particularly important adjacent to parks, where there is typically less light.
PEDESTRIAN SAFETY	Provide minimum 8' pedestrian zone and 2'-6" greenscape-furnishing zone.	Implement "No Right Turn on Red" prohibitions and accompanying signage. Set countdown timers at 3.5 feet per second.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use most protection possible or consider parallel routes.	
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	Consult design standards relevant to school zones (e.g., "School Zone" signage).

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Rectangular Rapid Flashing Beacons



Medians and Pedestrian Refuge Islands



Road Diet (Roadway Reconfiguration)

Crosscutting



Lighting



Road Safety Audit

Olden Avenue

Limits: New York Ave to E. State St.

Length: 0.79 miles

Complete Streets Typology: Connector Corridor **Overlay(s):** Limited Access, Transit, School, Park

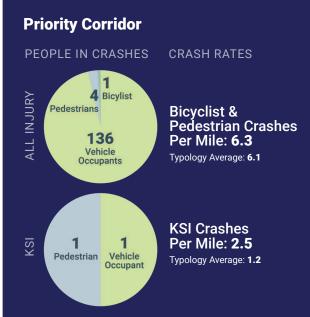
Road Owner: County

Description: This stretch of Olden Ave crosses over Route 1, the Assunpink Creek and nearby historic railroad coalport and through the Top Road, East Trenton, and Wilbur neighborhoods. Land uses include residential and commercial with industrial and industrial storage by the railyard and Route 1. This area has more open space than other parts of the city. Landmarks include Assunpink Park and PJ Hill Elementary.

Crash Experience: Rear end crashes were the most common collision type along Olden Ave (40%), followed by right angle crashes (18%), and opposite direction sideswipe crashes (12%). Over three-quarters of crashes occurred within intersections. Pedestrian crashes made up only 6% of all injury crashes but made up half of the two KSI crashes. The other KSI crash was a rear end collision.

HSIP Location(s):

New York Ave ranked #3 on All Crash Intersection List





Olden Avenue Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Connector Corridors like Olden Avenue and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 2, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 2: Olden Avenue Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions.	Consider raising midblock crossings at park/school entrances and gateway/specialized traffic calming treatments at limited access transitions.
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install bus loading curb extensions where sidewalk space is limited.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals. Particularly important adjacent to parks, where there is typically less light.
PEDESTRIAN SAFETY	Provide minimum 8' pedestrian zone and 2'-6" greenscape-furnishing zone.	Implement "No Right Turn on Red" prohibitions and accompanying signage. Set countdown timers at 3.5 feet per second.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use most protection possible or consider parallel routes.	Use green-backing/full protection at limited access transition.
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	Consult design standards relevant to school zones (e.g., "School Zone" signage).

PROVEN SAFETY COUNTERMEASURES

Speed Management



Speed Safety Cameras

Intersections



Backplates with Retroreflective Borders



Roundabouts

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Medians and Pedestrian Refuge Islands

Crosscutting



Lighting



Road Safety Audit

Perry Street

Limits: Warren Street to North Clinton Avenue **Length:** 0.70 miles

Complete Streets Typology: Dense Residential (Warren to Stockton), Downtown Connector (Stockton to Clinton)

Overlay(s): Limited Access, Transit, School, Park

Road Owner: Municipal

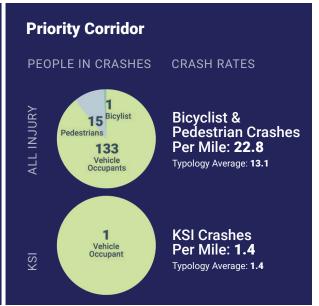
Description: Perry St stretches from Downtown through the Ewing/Carroll neighborhood, with Route 1 dividing the two sections. Perry St is primarily commercial with some residential and institutional and community uses.

Key landmarks along this corridor include Roberto Clemente Park and Trenton 9th Grade Academy.

Crash Experience: Right angle crashes were the most common collision type for Perry St (33%), followed by pedestrian crashes (24%), and rear end crashes (26%). Most crashes (69%) occurred at an intersection.

HSIP Location(s):

Broad St ranked #4 on Pedestrian/ Bicycle Intersection List





Perry Street Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Downtown Connector/Dense Residential streets like Perry Street and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 3, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 3: Perry Street Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions. Consider chicanes and neckdowns.	Design vertical deflection to not impede bus operations (e.g., speed cushions) Use gateway/ specialized traffic calming treatments at limited access transitions.
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install bus loading curb extensions where sidewalk space is limited.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals. Particularly important adjacent to parks, where there is typically less light.
PEDESTRIAN SAFETY	Provide minimum 6-12' (Downtown Connector) or 5-6' (Dense Residential) pedestrian zone.	Implement "No Right Turn on Red" prohibitions and accompanying signage. Set countdown timers at 3.5 feet per second.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Consult Downtown Ped/Bike Plan. Consider neighborhood greenway.	Use green-backing/full protection at limited access transition.
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	Consult design standards relevant to school zones (e.g., "School Zone" signage).

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Rectangular Rapid Flashing Beacons



Medians and Pedestrian Refuge Islands



Road Diet (Roadway Reconfiguration)

Crosscutting



Lighting



Road Safety Audit

Cass Street

Limits: Route 29 to Broad St

Length: 0.62 miles

Complete Streets Typology: Connector Corridor **Overlay(s):** Station Area, Combined Sewer, Trail,

Limited Access

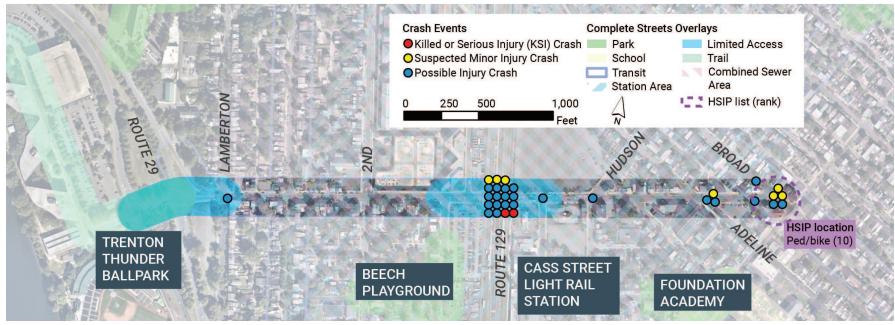
Road Owner: County

Description: Cass St runs through the South Trenton neighborhood and is situated between 129, 29, and Broad St with a mix of commercial and residential land uses. Landmarks include New Jersey State Prison, Cass St Light Rail Station, and Trenton Thunder Ballpark.

Crash Experience: The most common collision type on Cass St is hit pedestrian crashes (28%), followed by rear end and right angle crashes. The majority of crashes (78%) happened within intersections, and 47% of crashes occurred during non-daylight hours. There were two KSI crashes — both of which involved hit pedestrians at intersections at night.

HSIP Location(s): Broad St ranked #10 on Pedestrian/Bicycle Intersection List





Cass Street Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Connector Corridors like Cass Street and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 4, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 4: Cass Street Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions.	Consider raising midblock crossings at trail entrances and gateway/specialized traffic calming treatments at limited access transitions.
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install green stormwater infrastructure where feasible.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals.
PEDESTRIAN SAFETY	Provide minimum 8' pedestrian zone and 2'-6" greenscape-furnishing zone.	Use advance warning signs before trail crossings.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use most protection possible or consider parallel routes.	
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Rectangular Rapid Flashing Beacons



Medians and Pedestrian Refuge Islands

Crosscutting



Lighting



Road Safety Audit

Broad Street

Limits: Madison Street to Liberty Street

Length: 0.66 miles

Complete Streets Typology: Commercial Corridor **Overlay(s):** Station Area, Transit, Combined Sewer

Road Owner: Municipal

Description: S Broad St stretches from the edge of South Trenton to the northern boundary of the Franklin Park neighborhood. There is a mix of commercial and residential with some institutional land uses. Nearby landmarks include Orange St Park and Freedom Skate Park, and Franklin Elementary School.

Crash Experience: Hit pedestrian crashes were the most common collision type for S Broad St (30%), followed by rear end crashes (23%), right angle crashes (15%), and struck parked car crashes (13%).

Just over two-thirds of crashes occurred within intersections, and 55% of crashes occurred during non-daylight hours. There were two KSI crashes along this corridor. Both occurred within an intersection. The collision types were a right angle crash and a struck parked vehicle crash.

HSIP Location(s):

Cass St ranked #10 on Pedestrian/Bicycle Intersection List





Broad Street Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Commercial Corridors like Broad Street and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 5, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 5: Broad Street Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions. Consider chicanes and neckdowns with midblock crossings.	Design vertical deflection to not impede bus operations (e.g., speed cushions).
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install bus loading curb extensions where sidewalk space is limited. Install green stormwater infrastructure where feasible.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals.
PEDESTRIAN SAFETY	Provide minimum 5-8' pedestrian zone and greenscape-furnishing zone.	
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use the most protection possible or consider parallel routes.	
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Rectangular Rapid Flashing Beacons



Medians and Pedestrian Refuge Islands

Crosscutting



Lighting



Road Safety Audit

Prospect Street

Limits: Parkway Ave to W. State St.

Length: 0.90 miles

Complete Streets Typology: Connector Corridor

Overlay(s): Transit, School, Park, Trail

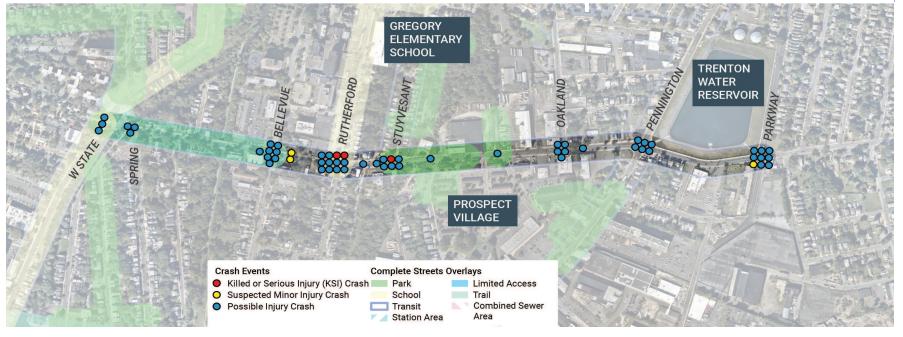
Road Owner: Municipal

Description: This section of Prospect St runs through the Prospect, Pennington, and Stuyvesant neighborhoods. Most of the corridor is residential with assets like the Healthstar Prenatal Clinic and recreation centers. Industrial, commercial and institutional land uses occupy the middle and northern section of the corridor. Landmarks include the Trenton Water Reservoir, Prospect Village, and Gregory Elementary School.

Crash Experience: The most common collision type was right angle crashes (42%), followed by rear end crashes (15%), and pedestrian crashes (12%). A vast majority (80%) of crashes along this corridor occurred within intersections, and 23% of crashes occurred in wet conditions. Two of the three KSI crashes occurred outside of an intersection, two of the three occurred during the day, and all three occurred in dry conditions.

HSIP Location(s): None.





Prospect Street Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Connector Corridors like Prospect Street and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 6, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 6: Prospect Street Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions.	Design vertical deflection to not impede bus operations (e.g., speed cushions). Consider raising midblock crossings at park entrances.
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install bus loading curb extensions where sidewalk space is limited.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals. Particularly important adjacent to parks, where there is typically less light.
PEDESTRIAN SAFETY	Provide minimum 8' pedestrian zone and 2'-6" greenscape-furnishing zone.	Implement "No Right Turn on Red" prohibitions and accompanying signage. Set countdown timers at 3.5 feet per second.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use the most protection possible or consider parallel routes.	
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	Consult design standards relevant to school zones (e.g., "School Zone" signage).

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Rectangular Rapid Flashing Beacons



Medians and Pedestrian Refuge Islands

Crosscutting



Lighting



Road Safety Audit

Hamilton Avenue

Limits: South Broad Street to Whittaker Ave

Length: 0.51 miles

Complete Streets Typology: Connector Corridor **Overlay(s):** Station Area, Combined Sewer, Transit,

School, Park

Road Owner: County

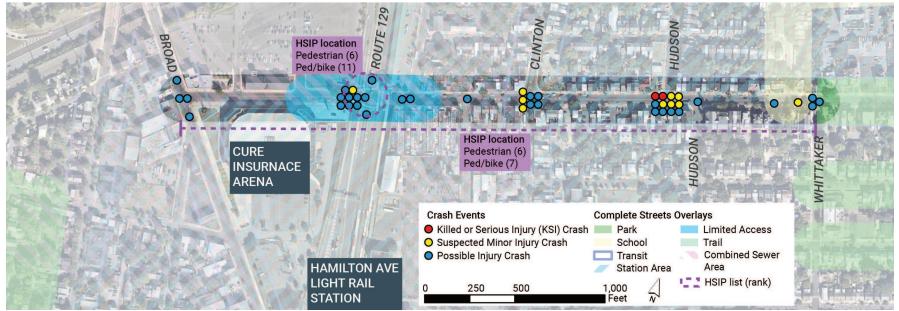
Description: This stretch of Hamilton Ave runs through the South Trenton, Greenwood, and Hamilton neighborhoods and through Route 129. East of 129, the corridor is largely residential with pockets of commercial land use. Between S Broad and 129 are government buildings, parking, and the CURE Insurance Arena. South of Hamilton Ave is the Hamilton Ave Light Rail Station.

Crash Experience: With over one-third of crashes, hit pedestrians were the most common collision type along Hamilton Ave. Hit cyclists and rear end crashes tied with the next most common at 14%. 74% of crashes occurred within intersections. The two KSI crashes were hit pedestrian and hit cyclist crashes, both of which happened during the day and outside of an intersection.

HSIP Location(s):

- Route 129 ranked #6 on Pedestrian and #11 on Pedestrian/Bicycle Intersection Lists
- Broad St to Whittaker Ave ranked #6 on Pedestrian and #7 on Pedestrian/ Bicyclist Corridor Segment Lists





Hamilton Avenue Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Connector Corridors like Hamilton Avenue and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 7, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 7: Hamilton Avenue Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions.	Design vertical deflection to not impede bus operations (e.g., speed cushions).
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install bus loading curb extensions where sidewalk space is limited. Install green stormwater infrastructure where feasible.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals. Particularly important adjacent to parks, where there is typically less light.
PEDESTRIAN SAFETY	Provide minimum 8' pedestrian zone and 2'-6" greenscape-furnishing zone.	Implement "No Right Turn on Red" prohibitions and accompanying signage. Set countdown timers at 3.5 feet per second.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use the most protection possible or consider parallel routes.	
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	Consult design standards relevant to school zones (e.g., "School Zone" signage).

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Rectangular Rapid Flashing Beacons



Medians and Pedestrian Refuge Islands

Crosscutting



Lighting

Calhoun Street

Limits: Pennington Ave to Martin Luther King Blvd **Length:** 1.54 miles

Complete Streets Typology: Connector Corridor

Overlay(s): Transit, Park Road Owner: County

Description: Calhoun St stretches from Battle Monument through North Trenton with a mix of commercial and residential uses, as well as industrial use along the northwest of the corridor. Automobile-oriented businesses dominate the corridor. Key landmarks include Donnelly Homes, Monument Intermediate School, and Capital City Sports Complex.

Crash Experience: The most common collision type at Calhoun St was right angle crashes (30%), followed by rear end crashes (23%) and pedestrian crashes (16%). Most crashes occurred at an intersection (77%). HSIP Location(s):

Pennington Ave ranked #6 on All Crash Intersection List

Stakeholder-Identified Priority Corridor PEOPLE IN CRASHES CRASH RATES ALL INJURY **Bicyclist &** Bicylist 10 Pedestrian Crashes Pedestrians Per Mile: **7.1** 115 Typology Average: 6.1 Vehicle Occupants **KSI Crashes Per** Mile: 0 Typology Average: 1.2



Calhoun Street Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Connector Corridors like Calhoun Street and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 8, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 8: Calhoun Street Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions.	Design vertical deflection to not impede bus operations (e.g., speed cushions). Consider raising midblock crossings at park entrances.
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install bus loading curb extensions where sidewalk space is limited.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals. Particularly important adjacent to parks, where there is typically less light.
PEDESTRIAN SAFETY	Provide minimum 8' pedestrian zone and 2'-6" greenscape-furnishing zone.	Implement "No Right Turn on Red" prohibitions and accompanying signage. Set countdown timers at 3.5 feet per second.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use the most protection possible or consider parallel routes.	
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Rectangular Rapid Flashing Beacons



Medians and Pedestrian Refuge Islands

Crosscutting



Lighting

Market Street

Limits: William Trent Place to Stockton Street **Length:** 0.41 miles

Complete Streets Typology: Downtown Corridor **Overlay(s):** Limited Access, Transit, Park

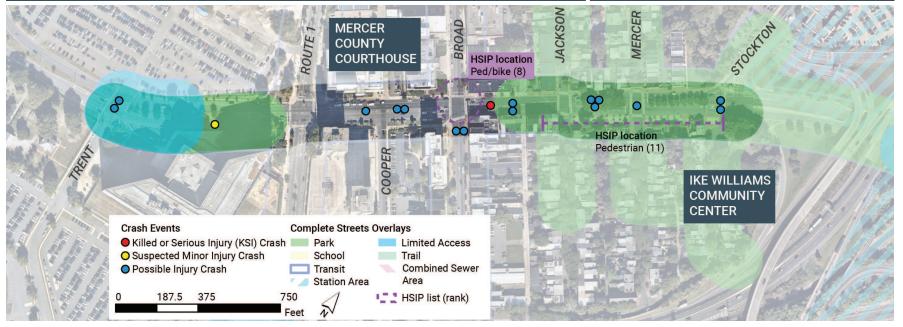
Road Owner: Municipal

Description: This stretch of Market Street runs between routes 1 and 29. East of Broad St, land use is largely commercial and residential. West of Broad St, land use is occupied mostly by governmental buildings and large swaths of parking. Landmarks include Mercer County Courthouse, Mill Hill Park, and Ike Williams Community Center.

Crash Experience: Rear end crashes were by far the most common collision type at Market St (41%), with right angle and pedestrian crashes both following with 18%. The one KSI crash involved a hit pedestrian outside an intersection at night. **HSIP Location(s):**

- **Broad St** ranked #8 on Pedestrian/ Bicycle Intersection List
- Jackson St to Stockton St ranked #11 on Pedestrian Corridor Segment List





Market Street Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Downtown Corridors like Market Street and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 9, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 9: Market Street Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions.	Design vertical deflection to not impede bus operations (e.g., speed cushions). Consider raising midblock crossings at park entrances and gateway treatments at limited access transitions.
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	Install bus loading curb extensions where sidewalk space is limited.
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals. Particularly important adjacent to parks, where there is typically less light.
PEDESTRIAN SAFETY	Provide minimum 8' pedestrian zone and 2'-6" greenscape-furnishing zone.	Implement "No Right Turn on Red" prohibitions and accompanying signage. Set countdown timers at 3.5 feet per second.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use the most protection possible or consider parallel routes.	Use green-backing/full protection at limited access transition.
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Bicycle Lanes



Rectangular Rapid Flashing Beacons



Medians and Pedestrian Refuge Islands



Road Diet (Roadway Reconfiguration)

Crosscutting



Lighting

Clinton Avenue

Limits: E. State St to Perry St

Length: 0.36 miles

Complete Streets Typology: Downtown Corridor

Overlay(s): Station Area, School, Park

Road Owner: Municipal

Description: This section of Clinton Avenue runs through the Ewing and Carroll neighborhood and is a corridor with largely institutional land uses: religious, educational, and social services with some governmental buildings. Landmarks include Grant Elementary and Mercer Cemetery.

Crash Experience: At Clinton Ave, right angle crashes were the most common all-injury collision type at 35%. The next most common collision types were rear end crashes (24%) and pedestrian crashes (24%). Nearly all crashes (82%) occurred within an intersection.

HSIP Location(s): None.

Stakeholder-Identified Priority Corridor

PEOPLE IN CRASHES

CRASH RATES

Pedestrians

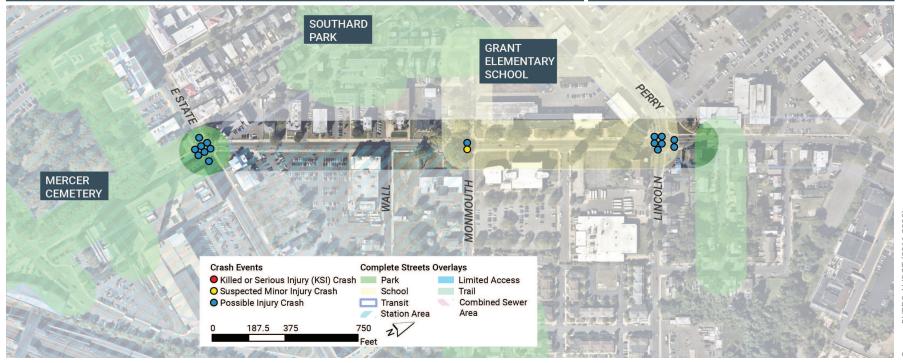
42
Vehicle Occupants

Bicyclist & Pedestrian Crashes Per Mile: 11

Typology Average: 6.1

KSI Crashes Per Mile: 0

Typology Average: 1.2



Clinton Avenue Safety Toolkit

The *Trenton Complete Streets Design Handbook* provides guidance on appropriate elements for increasing safety on Downtown Corridors like Clinton Avenue and additional guidance for locations like this that are subject to overlays. Many of these elements are suggested "as needed" in the handbook. As this location has been identified as part of the High Injury Network, those elements are recommended in this location. Complete Streets elements that should be considered are listed in Table 10, and Proven Safety Countermeasures that should be considered are listed to the right.

Table 10: Clinton Avenue Complete Streets Elements

	TYPOLOGY GUIDANCE	OVERLAY GUIDANCE
TRAFFIC CALMING	Consider devices like speed cushions.	Design vertical deflection to not impede bus operations (e.g., speed cushions). Consider raising midblock crossings at park/school entrances.
CURB EXTENSIONS	Install as needed for traffic calming and shorter pedestrian crossings.	
DRIVEWAYS	Do not install less than 100' from intersections.	
LIGHTING	Install pedestrian scale lighting fixtures.	Space lighting at 50' intervals. Particularly important adjacent to parks, where there is typically less light.
PEDESTRIAN SAFETY	Provide minimum 8' pedestrian zone and 2'-6" greenscape-furnishing zone.	Implement "No Right Turn on Red" prohibitions and accompanying signage. Set countdown timers at 3.5 feet per second.
CROSSWALKS	Use continental-style crosswalks at all controlled intersections.	Pair midblock crossings (where appropriate) with Rectangular Rapid Flashing Beacons (RRFBs).
BICYCLE FACILITIES	Use the most protection possible or consider parallel routes.	
ADDITIONAL GUIDANCE	Consider turn calming at intersections.	Consult design standards relevant to school zones (e.g., "School Zone" signage).

PROVEN SAFETY COUNTERMEASURES

Speed Management



Appropriate Speed Limits for All Road Users

Intersections



Backplates with Retroreflective Borders



Systemic Application of Countermeasures at Stop-Controlled Intersections

Pedestrian/Bicyclist Safety



Crosswalk Visibility Enhancements



Leading Pedestrian Interval



Rectangular Rapid Flashing Beacons

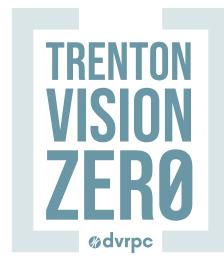


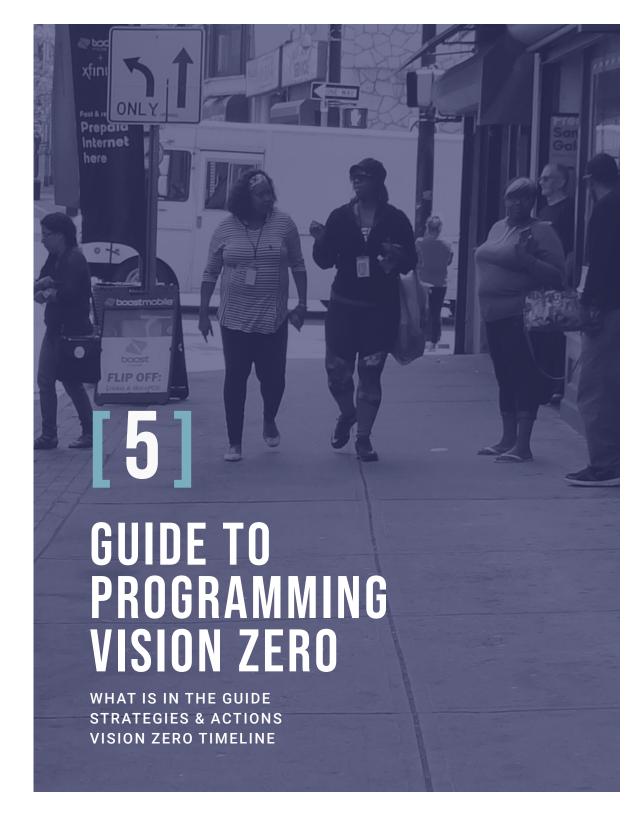
Medians and Pedestrian Refuge Islands

Crosscutting



_ighting





What is in the Guide?

While previous chapters identify citywide and corridor-specific crash problems, this chapter provides a framework for addressing those problems and advancing the work of Vision Zero in the future. It does so by **identifying strategies** according to the Safe System Approach, **suggesting a framework for the creation of actions** that will advance these strategies, and **providing a timeline for next steps**.

This guide is rooted in safety goals that were embraced by the Complete Streets Working Group, a group of local stakeholders convened by the Tri-State Transportation Campaign and the Trenton Health Team to further Complete Streets work in Trenton. More information about the Complete Streets Working Group can be found in Appendix A. The safety goals are shown on the right. Goals in bold were identified as priorities for advancing Vision Zero in Trenton by the Complete Streets Working group.

These goals also align with the goals of *Trenton250*, the City's long-range plan, in which residents identified safety —including the safety of pedestrians, cyclists, and transit users—as

Trenton Vision Zero Goals

- 1. Create a multimodal transportation network, including high-quality bicycle and pedestrian facilities.
- 2. Ensure accessibility for all through maintenance and ADA compliance.
- 3. Focus on road safety around school zones, and encouraging walking & biking for healthy behaviour.
- 4. Look at speed limit setting citywide, ensure speed limits are set to appropriate speeds for all road users.
- 5. Encourage and ensure all Trenton residents and visitors respect and adhere to safe rules of the road.
- 6. Increase activity on Trenton streets, especially pedestrians, to increase passive security from "eyes on the street."
- 7. Support Trenton's goals around healthy communities & transitoriented development.
- 8. Ensure pedestrian connectivity, such as eliminating long distances between crossings.
- 9. Conduct a transparent process around Vision Zero policy implementation.

the number one issue. Vision Zero's ultimate goal of creating a roadway system where no person is killed or seriously injured also supports Trenton250's goal of cultivating a healthy city since the ability to move safely throughout the city for work, school, leisure, and shopping is key to a healthy lifestyle. An accessible, convenient, and safe multimodal transportation network that accommodates all people also works toward Vision Zero.

Strategies and Actions

The strategies identified in this report are organized by the **FHWA Safe System categories**: Safe Speeds, Safe Roads, Safe Road Users, and a final category to encompass Safe Vehicles, Post-Crash Care, and Safety Data. Each category has between four and six identified strategies that can be used by the City of Trenton and its partner agencies to improve roadway safety.

The strategies are the starting point for the development of **actions**, which will be created by the SS4A Committee and through the coordination of City agencies. Actions should be **measurable** and should have a **lead agency** (and relevant supporting agencies) identified for carrying out that action. They should also have a **projected timeline** and **anticipated budget** needs.

Philadelphia's Vision Zero Action Plan (Figure 17) provides a great example of how goals, strategies, and actions are related.

Figure 17: Philadelphia's Vision Zero Action Plan Excerpt

Safe Speeds

SAFE SPEEDS STRATEGIES AND ACTION ITEMS

GOAL: Prevent fatal crashes by managing vehicle speeds

STRATEGIES:

1. Reduce speeds to match the survivable design of the street

2. Seek State approvals to implement safe speeds

3. Continue Neighborhood Slow Zones program

Safe Speeds Action Item	Description	Responsible Agency
Strategy 1) R	educe speeds to match the survivable design of the street	
1.1.1	Implement signal progression to support a 25 mph citywide speed limit	OTIS/Streets
1.1.2	Design residential streets for 20 mph target speeds using traffic-calming measures	OTIS/Streets/PCPC
1.1.3	Complete a review of traffic calming request processes, including communications and user experience evaluation and work with partners to incorporate recommended improvements based on the findings	OTIS/Streets/311
1.1.4	Evaluate the relationship between traffic violence, community safety, and gun violence to determine relationships and potential solutions	OTIS/Mayor's Office/ Health
Strategy 2) S	eek State approvals to implement safe speeds	
1.2.1	Expand automated speed enforcement program to within ½ mile of all schools and all HIN streets, upon passage of State enabling legislation	OTIS/Streets
1.2.2	Analyze priority locations for expanded automated speed enforcement	OTIS
1.2.3	Implement local control of speed limits, upon passage of State enabling legislation	OTIS/Streets
Strategy 3)	Continue Neighborhood Slow Zones program	
1.3.1	Continue Neighborhood Slow Zone program with regular opportunities for neighborhoods to apply	OTIS
1.3.2	Pilot a School Slow Zones program to design safer streets in partnership with students, caregivers, teachers, and school administrators	OTIS

Philadelphia's goal of preventing fatal crashes by managing vehicle speeds falls under the Safe System Approach category of Safe Speeds. To reach this goal, the City's Vision Zero Action Plan lists three strategies: reduce speeds to match the survivable design of the street, seek State approvals to implement safe speeds, and continue the Neighborhood Slow Zones program. Each strategy has several measurable actions to support implementation. For example, an action under the strategy "reduce speeds to match the survivable design of the street" is to design residential streets for 20 mph target speeds using traffic calming.

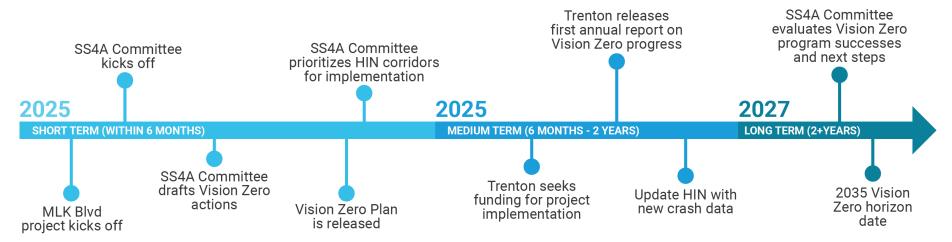
Many elements of Philadelphia's Vision Zero Action Plan can apply to Trenton. For example, this report identifies the installation of traffic calming measures on the city streets that make up the High Injury Network as a Safe Speeds strategy. The report lists the Public Works department as the lead for this strategy, and it suggests the department pursue this strategy by reviewing the roadway paving maintenance schedule for HIN corridors and adding speed tables to the maintenance plan for those corridors. A preliminary step of this supporting action may be to review City policy governing the use of traffic calming. This action could be measured by tracking how many traffic calming measures are installed every year on HIN streets.

The project team has reviewed peer Vision Zero plans and compiled a list of potential actions according to each Safe System Approach category. This resource will be made available to the SS4A committee to aid in the action development process. Additionally, Figure 18 shows guiding questions that may be helpful for framing the process and discussion.

Figure 18: Guiding Questions for Programming Vision Zero

Guiding Questions for Programming Vision Zero

- 1. What are Trenton's policy constraints? Opportunities? Relate this discussion to existing plans and programs when possible.
- 2. What are tangible, measurable actions that address the already identified strategy?
- 3. How does this action address crash safety and work towards a vision of zero roadway deaths and serious injuries?
- 4. Who is responsible for this action? What city department/agency should take the lead, and what are possible outside partnerships? How can this action be a catalyst for cross-departmental collaboration?
- 5. What are ways that actions can impact or prioritize underinvested communities?
- 6. What is the timeline (short, medium, or long term) of this action?
- 7. What are the cost expectations (maintenance, grant-funded, capital investment) for this action?
- 8. Assume that money and capacity is not an issue for Trenton. How might that impact the creation of these actions? Are there ways to be practical and still aggressive towards Vision Zero, knowing there are lives at stake?



Source: DVRPC

Vision Zero Timeline

With the completion of the Trenton Vision Zero Plan document and the identification of priority corridors from the High Injury Network, City stakeholders are well-positioned to take the next steps needed to integrate the plan into policy and action. The SS4A committee, as outlined in the Complete & Green Streets Ordinance, will oversee Vision Zero implementation and will report progress

toward the Vision Zero goal of zero roadway deaths, update the High Injury Network, and ensure implementation of safety projects. Progress reports will include a status report of each strategy and its outcomes. Progress reports will also identify continuous opportunities for prioritizing safety within the City of Trenton in the form of reviewing current policies, plans, guidelines, and standards.

Above is a sample timeline to guide the Vision Zero process over the short term (next 9 months), medium term (within the next 2 years), and long term (through 2035 and beyond). This is not a comprehensive list of tasks, but rather a set of suggested milestones.



"Everyone should feel welcome in our public spaces."

- Chris

Safe Speeds Strategies

Central to Safe Speeds is the concept of target speed, or the highest speed at which vehicles should operate given the surrounding land use and multimodal activity. Safe Speeds Strategies for Trenton considers the context and likelihood of a serious crash when determining target speed and adjust the design speed of a roadway through traffic calming strategies, if needed.

Safe Speeds strategies support several Trenton Vision Zero goals:

- Create a multimodal transportation network, including high-quality bicycle and pedestrian facilities
- Focus on safe speeds around school zones, and the managing of drop-off/ pick-up activity
- Look at speed limit setting citywide, ensure speed limits are set to appropriate speeds for all road users

Strategies that support these goals are listed in Table 11.

Table 11: Safe Speeds Strategies

#	Strategy	Potential Lead(s)
1	Install traffic calming to slow speeds on the High Injury Network.	Public Works
2	Pursue cost-effective safety improvements to improve projects that impact the right-of-way, drawing on the <i>Complete Streets Design Handbook</i> .	Planning Division
3	Pilot a School Slow Zones program to design safer streets in partnership with students, caregivers, teachers, and school administrators.	School District
4	Pursue regulatory tools to lower travel speeds below Safe Speed threshold, such as alternative speed limit setting and automated speed enforcement.	Planning Division

What is a Slow Zone?

A Slow Zone is a tool used to advance Vision Zero in many cities. Speed limits within the Slow Zone are lower than on similar streets in the city—often 20 mph. Slow Zones are typically bounded by higher traffic streets with gateway treatments like signage, curb extensions ,and raised crosswalks signaling to drivers at the entry points to the Slow Zone. These same treatments and others are deployed within the Slow Zone to ensure that travel speeds are kept at or below the speed limit. Slow Zones are typically installed in residential areas and adjacent to key pedestrian attractors like schools, parks, religious institutions ,and other community assets. Philadelphia's Vision Zero program operates a successful Slow Zone program.

Safe Roads Strategies

The following are intended to guide the development of actions that can address the Safe Roads category of the Safe System Approach. Safe Roads refers to the design, maintenance, and operations of the road network. Roads should be designed to anticipate human error and incorporate redundancy to ensure that mistakes do not result in severe or deadly crashes. Strategies that support planning and prioritization of safety improvements also fall into this category.

Safe Roads strategies support several Trenton Vision Zero goals:

- Create a multimodal transportation network, including high-quality bicycle and pedestrian facilities
- Ensure accessibility for all through maintenance and ADA compliance
- Ensure pedestrian connectivity, such as eliminating long distances between crossings

Strategies that support these goals are listed in Table 12.

What is a systemic safety measure?

Systemic safety analysis moves beyond addressing crash trends in problem areas (or "hot spots") to identifying risk factors in crashes and addressing them everywhere those risks are present, rather than just the locations with recent crash trends. This proactive approach to safety ensures that a crash trend won't simply migrate to a new location. Trenton's High Injury Network was developed to encourage systemic safety improvements along entire corridors, rather than just the areas where crashes are currently most common. Retroreflective backplates and leading pedestrian intervals are both examples of systemic safety measures that can be installed at signalized intersections throughout Trenton's High Injury Network.

Table 12: Safe Roads Strategies

#	Strategy	Potential Lead(s)
1	Evaluate project delivery process to ensure safety and accessibility are prioritized in projects that impact the right-of-way.	Public Works
2	Prioritize projects on the High Injury Network before other locations in developing capital improvement plans.	Planning Division
3	Ensure that cost-effective systemic safety improvements are incorporated into all projects, like retroreflective backplates and leading pedestrian intervals.	Public Works
4	Establish best practice measures to ensure facilities are kept in a state of good repair throughout the city and especially along the High Injury Network.	Public Works
5	Prioritize projects according to community need and crash experience.	Planning Division
6	Pursue grant funding opportunities like the federal Safe Streets and Roads for All program to expand capacity for capital projects.	Planning Division

Safe Road Users Strategies

Safe Road Users strategies focus on the shared responsibility principle of the Safe System Approach. This means that road users use the network as responsibly and predictably as possible, while roadway designers work to anticipate the varying needs of those users and incorporate considerations for underserved communities into the system.

Safe Road Users strategies support several Trenton Vision Zero goals:

- Encourage and ensure all Trenton residents and visitors respect and adhere to safe rules of the road
- Focus on safe speeds around school zones, and the managing of drop-off/ pick-up activity
- Ensure accessibility for all through maintenance and ADA compliance

Strategies that support these goals are listed in Table 13.

What is Safety Culture?

Operating alongside the Safe System Approach, shifting safety culture in Trenton to place a higher priority on safety is critical to a successful Vision Zero program. Safety culture refers to the norms, values, and behaviors shared by a community around road safety. It should be threaded throughout all the strategies laid out in this plan, but it is particularly relevant to the Safe Road Users strategies, which focuses on how individuals use the roadway network and the assumptions that roadway owners make about those individuals. A Vision Zero-informed safety culture means that everyone (individuals and roadway owners) puts averting deadly crash risk first.

Table 13: Safe Road Users Strategies

#	Strategy	Potential Lead(s)
1	Focus on Trenton's youth to both educate and ensure safe streets near key youth-focused destinations (e.g., schools).	School District
2	Consider community demographics in communication strategies and pursue community input throughout the Vision Zero program.	Planning Division
3	Increase visibility for vulnerable road users, including high-quality lighting, daylighting around intersections, etc.	Public Works
4	Influence the safety culture of Trenton by raising the profile of Vision Zero and encouraging safe behaviors.	Planning Division
5	Raise the profile of traffic safety and Vision Zero within Trenton City government.	Planning Division

Safe Vehicles, Post-Crash Care, and Safety Data Strategies

These are all categories that support additional layers of protection in the event of a crash, from ensuring that the safest vehicles are present on Trenton streets to supporting emergency services responding to a crash. Reliable and transparent data on the Vision Zero program is essential for internal partners to track progress and for the public to hold official accountable.

Safe Vehicles, Post-Crash Care, and Safety Data strategies support several Trenton Vision Zero goals:

- Conduct a transparent process around Vision Zero policy implementation
- Support Trenton's goals around transitoriented development and transit villages
- Increase activity on Trenton streets, especially pedestrians, to increase passive security from "eyes on the streets"
- Create a multimodal transportation network, including high-quality bicycle and pedestrian facilities

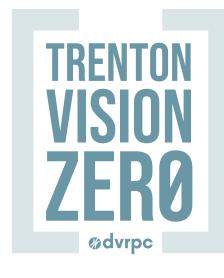
Strategies that support these goals are listed in Table 14.

Table 14: Safe Vehicles, Post-Crash Care, and Safety Data Strategies

#	Strategy	Potential Lead(s)
1	Support conversion of single-occupancy vehicle trips to transit, shared vehicle, and non-motorized trips.	Planning Division
2	Evaluate project effectiveness by measuring speed, crash, volume and other key data to guide decision-making.	Planning Division / Research partners
3	Make crash data and other Vision Zero-related content (like project locations) available internally and to the public.	Planning Division
4	Create a multidisciplinary crash investigation team to identify the cause of severe crashes and support deployment of rapid- response safety improvements to prevent future severe crashes.	Trenton Police
5	Work with City and partner agency fleets to make vehicles safer.	Planning Division

What are safe vehicle fleets?

Key to success of a Vision Zero plan is leading by example. This means working with the fleets that the City has control over (like garbage trucks or maintenance vehicles) to ensure that they are incorporating the highest safety standards available. This is not limited to safety features like airbags that protect vehicle occupants, but should extend to features that can help prevent and mitigate the severity of a crash to those outside the vehicle as well. Truck side guards, which help to prevent pedestrian and bicyclist deaths, are just one example of a safety feature that municipal vehicle fleets can use to help save lives on the street. Applying a Vision Zero lens to any project involving transportation will help shift the safety culture of Trenton so that saving lives always comes first.





Appendix A: Complete and Green Streets Ordinance

	ORDIN	ANCE NO	22-22
1 st Reading	Oldbir	IT IT TOLL	Date to Mayor OCT 17 2022 Date Returned
2 nd Reading & Passage SEP U 1 2022 Withdrawn Lost			Date Resubmitted to Council
Approved as to Form and Legality		C. Andres danie	
DEPARTMENT OF LAW	•	DEPARTMENT OF I	HOUSING & ECONOMIC DEVELOPMENT
Councilman /woman Marge Caldwell	1-Wilson		presents the following Ordinance:

ORDINANCE AMENDING THE TRENTON CITY CODE TO AMEND CHAPTER 257 TO INCLUDE A NEW ARTICLE "COMPLETE AND GREEN STREETS"

WHEREAS, the City Council of the City of Trenton, County of Mercer, and State of New Jersey committed to the creation of a Complete Streets Policy by way of Resolution 12-121 on_March 1, 2012; and

WHEREAS, Resolution 12-121 indicates "A complete street shall accommodate users of all ages and abilities, and all City streets shall be designed and constructed to include accommodations for pedestrians, bicyclists, public transit, and motorists"; and

WHEREAS, the U.S. Department of Transportation conveys that complete streets reduce motor vehicle-related crashes and pedestrian risk, as well as bicyclist risk, and can promote walking and bicycling by providing safer places to achieve physical activity through transportation; and

WHEREAS, the NJ Department of Transportation has adopted a Complete Streets Policy as means to provide safe access for all users by designing and operating comprehensive, integrated, connected multi-modal network of transportation options; and

WHEREAS, the City's of Trenton's Master Plan – Trenton250 has identified an initiative to implement a complete streets policy across the City; and

WHEREAS, the City, in partnership with the Delaware Valley Regional Planning Commission, has developed a <u>Trenton Complete Streets Design Handbook</u> that can provide guidance for the implementation of this policy on the roads throughout the City; and

WHEREAS, the City of Trenton Planning Board conducted a review of the ordinance and find the ordinance to be in all ways consistent with the City's Master Plan.

NOW THEREFORE BE IT ORDAINED, by the City Council of the City of Trenton that Chapter 257 of the City of Trenton Municipal Code is amended as follows:

ORDINANCE

Chapter 257 Article VIII

- 40. Complete and Green Streets Policy.
 - Policy. The City of Trenton shall develop an integrated and connected multimodal transportation system of Complete and Green Streets that serves all neighborhoods and populations. This policy is intended to implement the Complete Streets Resolution 12-121 adopted by City Council on March 1, 2012. To this end:
 - a. All transportation projects shall create Complete and Green Streets that allow safe, emissions-free, healthy, economically sound, equitable, accessible, and convenient mobility along and across streets for users of all ages and abilities and all travel modes, including, but not limited to, pedestrians, bicyclists, persons in a wheelchair or motorized wheelchair, public vehicles and their passengers, freight, and motorists, and strive to meet the following goals:
 - Safety: Eliminate all road fatalities, significantly reduce crash severity andinjury, and improve personal safety by prioritizing safety improvements for people walking, bicycling, and using other mobility devices.
 - Environment: Improve air quality, water quality, and stormwater management, reduce flooding, and mitigate traffic congestion.
 - Economic: Provide safe travel for all people in the City regardless of transportation mode choice to encourage and stimulate economic prosperity.
 - Health: Increase physical activity and social connectivity to lower the risk of obesity, reduce chronic disease, and promote wellness.
 - Equity: Implement policies and distribute funding and other resources equitably and responsibly in all neighborhoods throughout the City.
 - The Complete and Green Street Policy shall be incorporated by reference into the City of Trenton's Land Development Ordinance.
 - c. The Department of Housing and Economic Development shall incorporate this Complete and Green Streets Policy into all initial planning and/or design studies. Reviews for projects requiring funding or approval by the City should evaluate the effect of the proposed project on safe travel by all users and identify measuresto mitigate any adverse impacts on such travel that are identified.
 - d. This Policy shall apply to all public and/or private transportation projects but is not limited to including those using funds awarded by federal, state, regional, county, municipal, or any other local agency, and new construction, reconstruction, resurfacing, restoration, repaving, rehabilitation, private development projects, and maintenance of highways, roads, and streets.

ORDINANCE

- e. The Department of Housing and Economic Development and Department of Public Works shall routinely work in coordination with each other, other city agencies, adjacent jurisdictions, and any relevant advisory committees/teams, to create complete andgreen streets and to ensure consistency with the City of Trenton's Master Plan and Elements and any existing pedestrian/bicycle/multimodal plans, stormwater management plans, and other relevant plans.
- f. Within two years of the Effective Date of this policy, the Department of Housing and Economic Development, working with the Department of Public Works and the Safe Streets for All Steering Committee (See Section 2), shall recommend priority items and create a feasible timeline to inventory and update procedures, policies, plans, documents, training programs, performance measures, and other guidance documents to be consistent with this policy. The purpose of this policy and practices review is to identify areas where tenets of this policy will need to be incorporated. This includes, but is not limited to, pavement management plans, funding, planning, designing, operating, and maintaining transportation infrastructure.
- g. Transportation projects and master and capital plans shall include, when appropriate and feasible, sustainable design elements such as the ones outlined inthe Trenton Complete Streets Design Handbook, including, but not limited to:
 - Green stormwater infrastructure practices;
 - ii. Traffic calming;
 - iii. Shade trees and other vegetation; and
 - Permeable pavements, including those made from recycled materials suchas rubber, concrete, glass, and plastic.
- h. Transportation projects and master and capital plans shall include, where appropriate and feasible, pedestrian and bicycle design elements and transit amenities such as the ones listed in the Trenton Complete Streets Design Handbook, including but not limited to; curb extensions, sidewalks, radar feedback signs, pedestrian countdown signals, pedestrian refuge islands, road diets/conversions, lane width reductions, chicanes, roundabouts, bike lanes, protected bike lanes, bike parking, lighting, wayfinding, seating, trash receptacles, transit amenities, etc.
- i. The Department of Housing and Economic Development shall implement this policy and formally coordinate with the Department of Public Works with adviceand input from the Safe Streets for All Steering Committee to set measurable goals to ensure the successful implementation of the Complete and Green StreetsPolicy equitably across the City of Trenton.
- j. The Department of Housing and Economic Development and the Department of Public Works shall utilize the most recent version of the Trenton Complete Streets Design Handbook which considers best practices in street design, construction, operations, and maintenance that apply to bicycle, pedestrian, transit, stormwater, and highway facilities. All standards and guidelines shall bemade publicly available online.

ORDINANCE

k. The design of all infrastructure projects in the public right of way in the City shall reference the **Trenton Complete Streets Design Handbook**, including completion of the checklist. City agencies and boards will be required to review the checklist as part of their approval process.

41. Establishing a "Safe Streets for All Steering" Committee

- 1. A Safe Streets for All Steering Committee comprising of a broad group of public and non-public sector members/stakeholders shall be established to advise on the implementation of the Complete and Green Streets Policy. Public sector membership shall correspond with the officials' tenure, or if the member is the Mayor's designee in the absence of the Mayor, the designee shall serve at the pleasure of the Mayor during the Mayor's official tenure. Non-public sector membership shall be for a term of 2—years and shall run from January 1 of the year in which the appointment is made.
- m. Members of the Safe Streets for All Steering Committee, through the coordination of the Department of Housing and Economic Development, will consist of the following:
 - (1) The following stakeholders <u>shall</u> be members of the Committee. The Chair will be determined by these members:
 - i. Mayor or designee;
 - ii. Business Administrator or designee;
 - iii. City Council member or designee;
 - iv. Police Director or designee;
 - v. Public Works Director or designee;
 - vi. Director of Housing and Economic Development or designee;
 - vii. Public Health Director or designee;
 - viii. Director of Emergency Medical Service or designee;
 - ix. Fire Chief or designee; and
 - x. Director of Recreation, Natural Resources, and Culture or designee.
 - (2) The following stakeholders may be members of the Committee:
 - i. Mercer County Engineer or designee;
 - ii. Mercer County Planner or designee;
 - iii. Delaware Valley Regional Planning Commission representative;
 - iv. New Jersey Department of Transportation Local Aid representative;
 - v. School Superintendent or designee; and
 - vi. NJ Transit representative.
 - (3) The following stakeholders <u>may</u> be members of the Committee with an appointment from the City Council:
 - i. One (1) community member representing each ward;
 - ii. Other members of the community, including persons with disabilities, representatives of senior andyouth organizations, persons representing low-and moderate-income communities, persons with limited or no access to a vehicle, people with limited English proficiency, and persons of racial/ethnic minorities:
 - iii. Representatives of Civic and Advocacy Groups:

ORDINANCE

- iv. Representatives of Community- or Faith-Based Organizations;
- v. Representatives of the Business Community;
- vi. Public Health Professionals; and
- vii. Transportation Professionals.
- The Safe Streets for All Steering Committee shall devise a process that allows for public participation decision-making concerning the design, planning, and use of streets and roadways covered by this policy.
- The Safe Streets for All Steering Committee may create sub-committees to support the development and implementation of this policy if determined necessary by the members.

42. Exceptions.

- p. A transportation project may not be required to accommodate the needs of a particular user group if the Project Manager determines in writing that any one ofthe following occur:
 - i. The use of the transportation facility by the particular user group isprohibited by law;
 - ii. There is a demonstrated absence of both a current and future need to accommodate the category of user (absence of future need may be shown via demographic, school, employment, and public transportation route data that demonstrate, for example, a low likelihood of bicycle, pedestrian, or transit activity in an area over the next 20 years);
 - The adverse impacts of implementing this Complete and Green StreetsPolicy significantly outweigh the benefits; and
 - iv. Other exceptions or elements listed as "Not Recommended/NotApplicable" as listed in the Trenton Complete Streets DesignHandbook.
- q. An exception shall be granted only if:
 - Request for an exception is submitted in writing, with supporting documentation justifying the exception for each mode, and made publiclyavailable with a minimum of 30 days allowed for public input; and
 - The exception is approved in writing by the Safe Streets for All Steering Committee, City Engineer, and City Planner, and the written approval is made publicly available.

43. Program Reporting.

r. The Safe Streets for All Steering Committee shall establish benchmarks, develop plans, and set goals to ensure the successful implementation of the Complete and Green Streets Policy, to make sure all users can travel safely and conveniently along highways, roads, and streets within the City's jurisdiction. Each year the Safe Streets for All Steering Committee shall prepare a report to the City Council identifying

ORDINANCE

barriers and proposing solutions to the successful implementation of the Complete and Green Streets Policy across the City and in severely underserved communities.

- An annual report will be compiled and published each year. Each annual report shall include the data collected pursuant to program reporting, road safety benchmarks, and progress on action items, as well as a list of ongoing and completed transportation projects during that fiscal year. If any exceptions are applied to transportation projects pursuant to exceptions to Complete Streets requirements herein, such projects and the relevant exceptions should be identified in the annual report. All benchmarks and reports shall be made publiclyavailable online.
- t. The Department of Housing and Economic Development in collaboration with the Department of Public Works shall collect and monitor data under the City's jurisdiction and in coordination with the county and state when available to determine compliance with the Complete and Green Streets Steering Committee'sbenchmarks. Benchmarks shall include, but are not limited to:
 - i. Tracking progress toward zero traffic fatalities and serious injuries to date;
 - ii. Updating the High Injury Network and other road safety benchmarks;
 - Mileage of new and existing bicycle infrastructure included in priority communities (e.g., bicycle lanes, bike parking, paths, and boulevards);
 - Linear feet (or mileage) of new and existing pedestrian infrastructure (e.g., sidewalks, trails, transit amenities);
 - v. Number of new and existing ADA-compliant infrastructure (e.g., curbramps, pedestrian buttons);
 - vi. Number of new street trees;
 - vii. Number of green street practices (e.g., rain gardens, bioswales, permeable payement):
 - viii. Number of pedestrian and bicycle lighting improvements.
 - ix. Bicycle and pedestrian counts;
 - x. Commute mode percentages (e.g., drive alone, carpool, transit, bicycle, walk);
 - The number and percentage of designated transit stops accessible viasidewalks and curb ramps;
 - The number, locations, and causes of fatal and severe injury crashes by each mode of transportation;
 - xiii. The percentage of children walking or bicycling to school;
 - xiv. Trenton Complete Streets Design Handbook checklists;
 - xv. Specific evaluation of complete streets in neighborhoods withhistories of systematic disinvestment or underinvestment must be conducted on an annual basis and data must be made publicly available online;
 - Equitable implementation: The Department of Public Works and the Department of Housing and Economic Development must create plans and set goals and provide training to staff, if necessary, to ensure the successful implementation of complete streets in neighborhoods with a history of systematic disinvestment or underinvestment, and to identifybarriers and solutions to developing complete and green streets; and

ORDINANCE

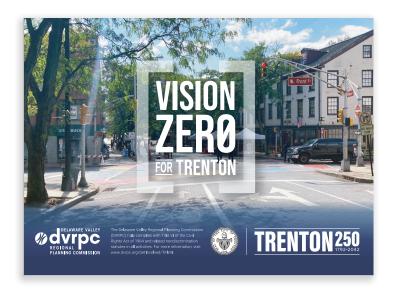
xvii. Enabling access to key destinations: The Department of Public Works and the Department of Housing and Economic Development must take steps to ensure that actions under the Complete and Green Streets policy are enablingaccess to destinations such as schools, parks, healthy food retail establishments, public transit, and other destinations.

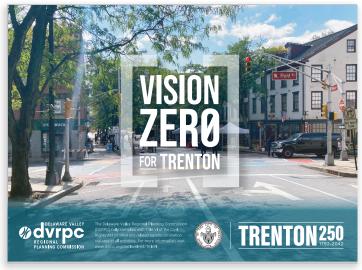
44. Complete & Green Streets Checklists.

- u. The Trenton City Council shall adopt the checklists in the Trenton Complete Streets Design Handbook to be used during project selection, concept development, planning, designing, construction, funding, and maintenance of alltransportation projects.
 - Each item in the checklist must include a brief description of how the itemis addressed, not addressed, or not applicable to the Complete & Green Streets Policy.
 - ii. The City Planner and/or City Engineer shall be responsible for reviewing the checklists. For City-funded projects in which there is no applicant, theCity's Planner and City Engineer will be solely responsible for completion and review, with input from the Safe Streets for All Steering Committee. Applicants that come before the Planning Board and Zoning Board of Adjustment, however, will have their professionals complete the checklist and submit it to the respective Board's professionals for review. The Planning Board and Zoning Board of Adjustment will have final authority over any exemptions or approvals on cases before them.
 - iii. All complete and green streets checklists shall be made publicly available.
- Checklist completion. When completing the checklist, a brief description is required for each "Item to be Addressed" as a means to document that the itemhas been considered and may include supporting documentation.

	INTRODUCTION ADOPTION						INTRODU	CTION		ADOPTION				INTRODUCTION				ADOPTION							
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Appendix B: Trenton Vision Zero Pledge Cards





Source: DVRPC

	E VISION EL SE VIS
	(YOUR NAME ABOVE)
roa	supports a Vision Zero Policy for Trenton and the goal of reaching zero Idway deaths & serious injuries in Trenton by 2035
	Safe streets in Trenton are important to me because

	EN VISION EN
	(YOUR NAME ABOVE)
oad	supports a Vision Zero Policy for Trenton and the goal of reaching zero Iway deaths & serious injuries in Trenton by 2035.
	Outs attracted to Touristic continuous touristic and the contract of the contr
ľ	Safe streets in Trenton are important to me because

Appendix C: Planning Board Resolution to Support Vision Zero

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RESOLUTION No. 2023-17

RESOLUTION OF THE PLANNING BOARD OF THE CITY OF TRENTON, COUNTY OF MERCER, STATE OF NEW JERSEY

WHEREAS, the Planning Board of the City of Trenton, Mercer County, State of New Jersey is a semi-autonomous public body duly formed pursuant to N.J.S.A 40:55D-1, et seq, also known as the New Jersey Municipal Land Use Law, and as such is charged with the duty to conduct, perform and administer to the land use planning for the City of Trenton; and,

WHEREAS, N.J.S.A. 40:55D-25 empowers the Planning Board to conduct regular public meetings and to receive presentations for the purposes of obtaining data and information regarding the continuing planning process for the City of Trenton; and,

WHEREAS, the Planning Board received a presentation regarding the Trenton Vision Zero Action Plan prepared by the Delaware Valley Regional Planning Commission at the Planning Board's Regular Meeting of April 13, 2023; and,

WHEREAS, the Board heard that the City of Trenton recorded fifty-five traffic related deaths, half of which involved pedestrians, on its streets between the years of 2016 to 2022; and.

WHEREAS, the City of Trenton recorded 75% of those deaths on 16% of its streets; and,

WHEREAS, the Vision Zero Action Plan is an initiative that seeks to end all traffic deaths and serious injuries by identifying and correcting the problems that cause such crashes; and.

WHEREAS, the Board finds that adopting and integrating the strategies and goals of the Vision Zero Action Plan to promote safe, pedestrian, and multi-modal-friendly thoroughfares is consistent with the Trenton 250 Master Plan; and,

WHEREAS, the Planning Board has pledged to support the integration of Vision Zero Action Plan into its Master Plan and Trenton Complete Streets Design Handbook where and as appropriate; and,

WHEREAS, the Planning Board hereby adopts this resolution to evidence its support for the initiative and to urge the relevant City departments and authorities to also support this initiative so to enhance the safety of the City's streets.

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NOW THEREFORE, BE IT RESOLVED, by the Planning Board of the City of Trenton, County of Mercer, State of New Jersey, that the Planning Board hereby makes and memorializes its findings as follows:

- The Planning Board unanimously supports the Vision Zero Action Plan and the concept of achieving zero crossing related deaths by 2035.
- The Planning Board hereby urges all other relevant agencies of government, the Mayor and Council of the City of Trenton, and all City Departments to support the Vision Zero Action Plan for the purposes of bringing same to fruition.

Vote On: Approval of resolution in support.

- 5 In favor
- 0 Opposed
-) Abstained

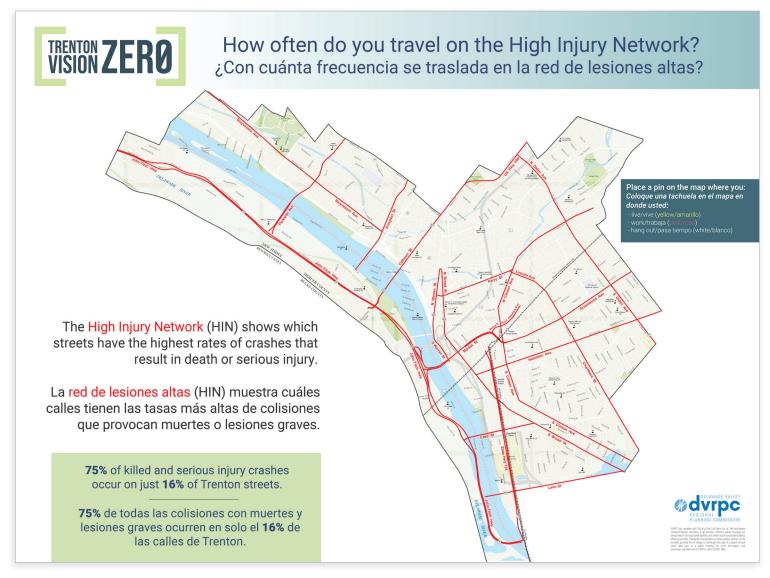
CERTIFICATION

I hereby certify this to be a true and accurate copy of the memorializing Resolution adopted by the City of Trenton Planning Board at a public hearing held on December 28, 2023

Charles Creators Formanow rson of the Planning Board of the City of Trenton

Prepared by George D. McGill, Esq.

Appendix D: Trenton Vision Zero High Injury Network Open House Poster



Source: DVRPC

Appendix E: Trenton Vision Zero Handout

Language has been edited from the original to reflect updated guidance from federal partners.

www.visionzeronetwork.org | www.trentonnj.org/244/Bicycle-Trails-Planning

"Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe [and] healthy [...] mobility for all." -Vision Zero Network

TOTAL

Traffic deaths and

Unacceptable

Preventable

Instead of relying

our roads should

be designed in a

make mistakes.

way that is safe for

everyone - even if we

on perfect behavior,

serious injuries are:

· Not "accidents"

75% of killed and serious injury crashes occur on just 16% of Trenton streets.

Trenton Crash Fatalities

2016	衣衣衣 森	5
2017	ኢ ኢኢ	4
2018	************	9

	11 11 11 11 11 11 11 11 11 11 11 11 11	-
2019	ኢ ኢኢኢኢ	6
2020	* * * * *	4
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13 2022* 《《《《大大大大》 10

& VEHICLE OCCUPANT FATALITY

PEDESTRIAN FATALITY

CYCLIST FATALITY

Source: NJDOT (2016-2020). NJ State Police (2021-2022): *2021 and 2022 data is not official until reported by NJDO.



from cars.



A Trenton resident bicyclist riding with no separation

An intersection providing dedicated spaces for cyclists.

www.visionzeronetwork.org | www.trentonnj.org/244/Bicycle-Trails-Planning

"Visión Cero es una estrategia para **eliminar** todas las muertes y lesiones graves viales y aumentar la movilidad segura [y] saludable ...] para todos." -Vision Zero Network

MUERTES

75% de todas las colisiones con muertes y lesiones graves ocurren en solo el 16% de las calles de Trenton.

Colisiones Mortales de Trenton

2016	፟ ፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟	TOTALES
	<u>ጵጵጵ</u>	4
2018	* * * * * * * * * *	9
2019	ኢ ኢኢኢኢ	6
2020	* * * *	4
2021*	ŹŹŹŹŹŹ ŚŚŚŚŚŚ	13

₼ MUERTE DE CICLISTA Fuente: NJDOT (2016-2020), Policia Estatal de NJ (2021-2022)
*Los datos de 2021 y 2022 no son oficiales hasta que los informe el NJDT

Las muertes y lesiones graves viales:

- · Son inaceptables
- Son prevenibles
- · No son "accidentes"

Las colisiones no son "accidentes" porque las colisiones son prevenibles. En vez de depender de una conducta perfecta. nuestros caminos deben estar diseñados de manera que sean seguros para todos. incluso cuando cometemos errores.



2022* 着着着着大大大大大

Un residente de Trenton montando en bicicleta sin separación de los automóviles.



Una intersección que tiene espacios dedicados

Source: DVRPC Source: DVRPC

Appendix F: Trenton Vision Zero Pledge Card - Public Comment Responses

Name	Safe streets in Trenton are important to me because	Language
Mayor Reed	Safe streets allows more bike traffic and creates a recreation environment	English
Lisa Serieyssol	Trenton School District has reorganized the district, to encourage students to walk+bike to school. Children and families need to be safe; when they are safe the whole community benefits.	English
Marco	Trenton streets belong to everyone	English
Chris	everyone should feel welcome in our public spaces	English
Jessica Robl GMTMA	because 1 is too many	English
Taheria Brown	less death more life	English
Kristan Marter	I would like to see more people riding bikes for their health and to reduce car traffic and emissions. We need safer streets to do that.	English
Jim Hartford	Less fear more love	English
David Bosted	streets should be safe for everyone!	English
Craig Shofed	Children!	English
Alvaro L.	I use them to buy food for my grandparents!	English
Sebastian Sanchez	I have a lot of family in Trenton so knowing they're safe gives me peace of mind.	English
Corey Hannigan	It's the state capital! Trenton has the 3 most dangerous intersections in the United States!!	English
Nestor Rivera	Safe roads!	English
Wills Kinsley	I ride every day in Trenton and one death is too many.	English
Sam	My children play on these streets and I want them back home safe everyday.	English
Tammy	I live here and want to be safe	English
Michelle Ruess	too many people die on our roads	English
Blessing C.	They provide a comfortable environment for people to walk on including children and reduces accident rates	English
Undisclosed	they're very important to community	English
Evee	I cross them every day and feel fear. I don't want anyone else to feel that. Witnessing deaths due to a logisitical issue that could be fixed is unacceptable.	English
Luke Uzupis	Want more people using bikes as an alternate form of travel.	English
Vance Smith	Accessibility; zero carbon emissions; health	English
Khahilah Sahrep	I have family who live in the city. I would like to feel they are safe walking and driving in the city.	English
Adrian Serieyssol	When I walk or bike to school, work, or just for fun the streets I ride on need to be safe so I can do the things I need and want to do	English
Emely Luna	because I walk and drive with my family	English
Jonathan Conner	myself, my friends, and my family ride all the time	English
Anna Davenport	*provided an address instead of comment	English
Devin S	Roads should be safe, bright light, more police	English
Kenneth Lewis	Safety	English
Pafan	I ride 10k/year. please have streets cleaned.	English
Mike Valiant	Because streets oriented towards people will be safer, more accessible for all types of non-motor transport, and build on objectives to Trenton 250 Plan	English
Lori Johansson	There are lots of cyclists and they deserve to get to work, school, home, and everywhere safely	English
Jay Sababj	because lives are at risk when there's no plan in place to slow traffic	English
Hondy	I value lives and the safety of our children	English
Phil	Trenton is a great place to bike, just needs a few improvments. Potholes are many	English
Destiny Douglas	I want to feel safe walking home	English
Christina	For my family and friends, my son loves to ride his bike	English
Jeffrey Porres	Cus I don't want my family to die	English
Lola	my daughter walks home from school and also rides a bike	English

Jim Simon	People need to be able to bike and walk safely. save money, be healthy	English
Undisclosed	I have lived here my whole life. I have seen fatal accidents first hand. I think this is an amazing plan and fully support all actions	English
Abdel Emara	There has been so many accidents and people are losing their lives if we can prevent that in any way shape or form	English
Kim Booker	Our loved ones deserve to be safe. My neighbor was tragically killed by a hit and run and my younger cousin is recovering now from a hit and run	English
Edna	My family lives here	English
Undisclosed	Our children can travel safely to school. Walking safer	English
Undisclosed	Would like to know how to control the speed of cars	Spanish
Undisclosed	Everyone shoul dbe able to make it from point A to B safely	English
Zuly Rojop	For walking and cycling to go to the park or school	Spanish
Norman	We need safer streets	English
Q	Warren St resident please install wrong way sign; cars go in wrong direction	English
Sergio Portillo	did not comment	Spanish
Lizeth Guzman	did not comment	Spanish
Kara Jonsson	I use them to commute to work and engage with my community	English
Charlie Romanow	They support and enable vitality in communities and people should feel safe while walking/biking	English
Joseph A. Harrison	To slow down the traffic for the community safety	English
Deniece	We need safer streets	English
Andrea Barlow	Because they want to make our streets safer	English
Undisclosed	Thowns Roberts Hill. Safety is important because our kids need to play outside and in public parks	English
Laurie Glover	For kids, elderly people	English
Denise Ninafowslu	My child is autistic and always plays outside	English
Paul Soltis	Safer streets allow Trentonians to reach their downtown and parks and visit the capitol	English
Jeff Laurenti	Even at my not so advanced age, I go to meetings around town by bike for enviro-energy reasons and despite many residents (esp immigrants) reliance on bicycle and other motorists are quite indifferent to them.	English
Gianearlo	Because I walk to school and ride by bike	Spanish
Antonio	Because it is important	Spanish
Ailene Brito	We are a small community with a large population and everyone needs to be pushed to work together for a safer community/society	English
Attorney Austin Edwards	Health equity, environmental justice, new resources to current residents without gentrification, improved quality of life	English
Pastor Antionio Bellany	Me and my family live, work, and play in this community. We want our city to be safe in every way and this includes this initiative	English
Sakiyyah Barwell-Darden	My children deserve a safe environment to travel around the city they live in	English
Brian Winne	Residents should be able to traverse the streets of Trenton without fear	English
Undisclosed	It's the right thing to do for Trenton residents and visitors	English
Undisclosed	People should be able to support their families without fear of danger	English
Cesar Gomez	I always ride my bike and want myself and others to feel safe while traveling	Spanish
Undisclosed	Safety is very important. It kills people	English
Gabby	I love to ride my bike and wold love streets that include individuals that love to bike	English
Willard Stansade	I believe safe streets are a community necessity for high quality of life	English
Noe Alonzo	Sometimes we walk, bike, and in the car we see accidents and dangers	Spanish
Michael Kolber	I want to see lots of people walking around when I am outside	English
Undisclosed	Not legible	English
Councilwoman Jennifer Williams	Trentonians need and deserve a safe place to live.	English

Marcus Covington	Vision Zero is important because we don't need innocent people just try to ride their bike to die.	English
Simran Riar	everyone deserves to feel safe getting home.	English
Lil E.	visiting family safely to city neighborhoods - crucial!	English
Taheria Brown	less death more life	English
Sammy Leo Ellis	S Clinton, S Warren, Greenwood are all dangerous	English
Zuly Rojop	to walk and ride a bike to go to the park or school	Spanish
Undisclosed	vehicular fatalities are avoidable. We need to be more practive. Share the streets and promote more biking.	English
Xavier	because I like walking.	English
Gregory	safety for pedestrians and people	English
Yusenia Salgado	for my kids and their future	English
Undisclosed	everyday is a challenge crossing the street with out-dated signalization. No safe turning right signals.	English
Michael J. Sobel	I'm an avid cyclist and cycling is a great activity that reduces health care costs!!	English
Kim Booker	I live in the city and drive to work every week. The residents need to be safe walking, biking, or driving our streets.	English
Vanessa Solivan	we need better bike safety and lanes.	English
undisclosed	it is long past time that Trenton residents should feel safe bicycling and being considerate to fellow cyclists.	English
Ivee	Every kid deserves to ride safe!	English
Michaelle Lopez	Ultimately drivers do not respect signs or pedestrians	Spanish
undisclosed	safe to ride and play outside or to walk anywhere and be safe.	English
undisclosed	I bike and walk everywhere and need safe routes. Please make this vision zero a city policy!	English
undisclosed	I have children and safety is a big issue here in the city.	English
Jim Gorson	Chambers St.	English
Carson Ernst	We need to have safe transportation and recreation for all bikers in Trenton.	English
Holly Mammert	Pedestians & bike riders should be prioritzed.	English
undisclosed	they help prevent injuries and save lives	English
Alan Fitton	I like bikes better than cars! *included drawing	English
Maria Herwig	Many residents do not have transportation of their own - they inevitabably walk, bus, etc.	English
Conner Smith	Being safe on the roads in important, roads are not just for cars.	English
Patrick McDevitt	Too many traffic deaths, drivers need education, other road useres are important, all lives matter	English
Linda	We all need safer streets with lower risk of tragic accident	English
Roland Pott	I like to bicycle and I want my business customers to be safe. Also, safe streets make parking easier. Less cars is safer!	English
Caroline Wylie	As a cyclist, road safety is an ever present concern. Road quality is also a major issue - West State Street!	English

Appendix G: HIN Memorandum



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memorandum

DATE: June 30, 2022

TO: Department of Housing and Economic Development, City of Trenton

FROM: Office of Safe Streets, DVRPC

SUBJECT: Trenton Vision Zero High Injury Network Methodology

Key to prioritizing safety projects in Vision Zero plans, a High Injury Network identifies the subset of streets citywide that account for a disproportionate number of severe crashes. Trenton's High Injury Network (see Figure 1) was developed using a data-driven process that can be replicated in future years. It is designed to support the Vision Zero Action Plan by helping the City to focus its efforts on the locations where they can be expected to make the greatest impact on decreasing severe crashes. This memo outlines the data analysis performed to develop the network, including a review of previous iterations of the network that were not ultimately selected.

The Trenton High Injury Network was developed using the most recently available crash data and applying it to a network file for every road in Trenton. In addition, the <u>Trenton Complete Streets Design Handbook</u> typologies were used to further refine the corridor analysis and connect it to that work.

Crash data

Crash data was limited to 2016-2020 crash data from NJDOT (five years of crash data). The dataset was isolated to killed and suspected serious injury (KSI) crashes using the InjurySeverity field. This constituted the KSI dataset. In addition, crashes involving pedestrians and bicyclists that resulted in lower severity injuries (suspected minor injury and possible injury) were also isolated as a secondary dataset. The Pedestrian Table was used to identify if a crash involved a pedestrian or bicyclist (using the IsBicyclist field) that experienced a minor or possible injury (using the physical condition field). Due to changes in

the structure of NJDOT's crash data in 2017, it was necessary to gather the crash data over two separate datasets, one for 2016 and one for 2017-2020.

Of the 65 killed and suspected serious injury crashes pulled from NJDOT's 2016-2020 crash data, 16 were missing latitude/longitude and could not be mapped. By using fields like CrossStreetName, DistanceToCrossStreet, and DirectnFromCrossStreet to identify the crash's location in relation to the nearest intersection, 12 crashes were geolocated and mapped. When intersection data was not available, other clues were used to fill in the gaps and give an approximate location along the identified corridor.

Similarly, of the 379 lower severity bike and pedestrian crashes, 113 were originally missing geolocation data. 100 crashes were geolocated using the same procedure outlined above; 13 crashes remained unmapped.

Additionally, 4 crash points were incorrectly geolocated outside of Trenton's city boundaries. These were identified visually and were moved to the proper location as specified by the data fields that described intersection location.

NJDOT road network + typologies

Road network data was limited to all roadway segments from the NJDOT Road Network located in Trenton city. This data was paired with the Trenton Complete Streets Design Handbook typologies, which were applied to the roadway segments from the Road Network file.

To build the network, the NJDOT Road Network segments with the Trenton Complete Streets Design Handbook typologies applied to them were aggregated by street name and road typology to create longer segments. This meant that as long as the road name and the typology remained unchanged, the segments were linked together into a corridor. If either the road name or typology of consecutive segments changed, the corridor ended and a new corridor began. This resulted in a network with 973 total road segments.

Crashes were assigned to the network using parameters set by the corresponding typology of the corridor. Crashes were assigned to every corridor that they met the criteria for, meaning that a crash could be assigned to multiple corridors (generally this is only true for intersection crashes, which are assigned

to both intersecting corridors). The search distances per typology were as follows:

- 75 feet of Commercial, Connector, Downtown Corridor, Downtown Commercial typologies
- 100 feet of Route 129 and Route 29
- 50 feet of all other road typologies

Developing a HIN score

To develop a final high injury network, the corridors next had to be filtered for those with the most severe crash experience. The goal of this process is to select the greatest crash incidence in the smallest network possible, while also taking into account the variability in crash experience; that is, the tendency for crash problems in one location to crop up in another location with similar characteristics (especially along the same road).

The final high injury network accounts for 66% (70 out of 106) of the killed and suspected serious injury crashes from 2016-2020 on 16% of the road network (30 out of 188 miles).

The network was developed by applying filters to the dataset. The filters included one that removed very short segments (less than 300 ft) because these segments are too small to be evaluated as a full corridor and are subject to greater variability in crash incidence (i.e. the presence or absence of a crash does not indicate a crash trend on such a short segment of road). Another filter focused the analysis on the major roads in Trenton because this is where crash trends are known to occur. While minor streets may have a crash trend, they tend to be lower severity since travel speeds are generally lower. Finally, corridors without a known severe crash trend from the last five years of available data were also removed.

The filters were defined as the following:

- Remove all segments shorter than 300 ft
- Remove all segments assigned any of the following typologies:
 - Alley
 - Park
 - o Dense Residential
 - Downtown Office/Commercial
 - Industrial Access

- Single-Family Residential
- Remove all segments that don't meet at least one of the following criteria:
 - o More than one KSI crash
 - At least one KSI crash and more than five lower severity hit bicyclist or hit pedestrian crashes
 - More than 25 lower severity hit bicyclist or hit pedestrian crashes

The remaining corridors totaled 28 miles of the network. In order to smooth out this network and fill gaps left out by the methodology, the network was expanded to include all segments associated with the segments identified within the 28-mile network. Associated segments include segments that continue the road, typically with the same name, but not always. This added 2 miles to the network and 2 additional KSI. The streets included in the final network were:

- Barlow St (and where it continues as Raoul Wallenberg Blvd)
- Calhoun St
- · Cass St
- Chambers St (and where it continues as Lincoln Ave)
- Greenwood Ave (not including minor sections disconnected from main section)
- Hamilton Ave
- Lalor St
- Market St
- · North and South Broad St
- North and South Clinton Ave
- North and South Olden Ave
- North and South Warren St
- Parkside Ave
- Perry St
- Prospect St
- State Hwy 129
- Stuyvesant Ave
- US Hwy 206
- John Fitch Hwy (Rt 29)

Prior to settling on the methodology outlined above, several alternatives were also developed. These included:

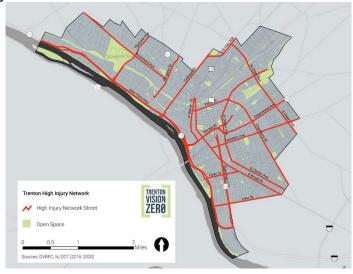
 An inclusive high injury network that captured 91% of KSI on 21% of Trenton streets. This network used the following parameters:

- o Remove all segments shorter than 300 ft
- o Remove all segments assigned any of the following typologies:
 - Alley
 - Park
- Remove all segments that don't meet at least one of the following criteria:
 - At least one KSI crash
 - More than 10 lower severity hit bicyclist or hit pedestrian crashes
- A **corridor-focused high injury network** that captured 67% of KSI on 14% of Trenton streets. This network used the following parameters:
 - o Remove all segments shorter than 300 ft
 - o Remove all segments assigned any of the following typologies:
 - Alley
 - Park
 - Dense Residential
 - Downtown Office/Commercial
 - Industrial Access
 - Single-Family Residential
 - Remove all segments that don't meet at least one of the following criteria:
 - At least one KSI crash
 - More than 10 lower severity hit bicyclist or hit pedestrian crashes
- An "avoiding one-offs" high injury network. This network used the following parameters:
 - o Remove all segments shorter than 300 ft
 - o Remove all segments assigned any of the following typologies:
 - Alley
 - Park
 - Remove all segments that don't meet at least one of the following criteria:
 - More than one KSI crash
 - At least one KSI crash and more than five lower severity hit bicyclist or hit pedestrian crashes
 - More than 25 lower severity hit bicyclist or hit pedestrian crashes

The final selected methodology was a combination of each of these alternatives, with input from Trenton City staff to ensure known problem areas were not inadvertently left off the network.

One lingering issue was that the network file represented Rt 29 (John Fitch Hwy), Rt 129 (State Hwy 129), and a short section of Market St as two parallel segments, as these are divided by direction. This created the possibility of double-counting, both for KSI and road miles. To address this, these roads were considered as one facility, not a split facility. The general rule was to use the longer of the two parallel segments and to ensure that every crash that was assigned to the parallel segment was assigned to the longer segment as well.

Figure 1



Source: DVRPC



"I have family who live in the city. I would like to feel they are safe walking and driving in the city."

- Khahilah

Trenton Vision Zero Plan

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Geographic Area Covered:

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Vision Zero, safety, Trenton, crash, safe streets, transportation, multimodal

Abstract:

The Delaware Valley Regional Planning Commission (DVRPC) partnered with the City of Trenton to create a Vision Zero Plan. This document is designed to guide the implementation of Vision Zero for the City with the ultimate goal of making Trenton a safer place to live, work, learn, and play by eliminating traffic-related deaths and serious injuries. Included in this plan is a citywide crash and community impact analysis and a High Injury Network (HIN). From this analysis, the team—alongside City and County partners—identified priority corridors and potential improvements. Additionally, this plan outlines a framework of goals, timelines, and strategies for how to continue the work of Vision Zero beyond this report.

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