ESSEX
SAFE STREETS 4 ALL

# Essex Safe Streets For All Action Plan


## East Orange Supplemental Safety Action Plan

October 2025

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# EXECUTIVE SUMMARY

The City of East Orange has recorded 33 transportation-related fatalities since 2018, an average of more than 4 traffic deaths each year. In particular, the City's vulnerable road users – including pedestrians, bicyclists, people with disabilities, transit riders, and older adults – experience severely disproportionate impacts among fatal and serious injury crashes. Recognizing the severity of this condition, the City of East Orange, in collaboration with Essex County, has developed the East Orange Safe Streets for All (SS4A) Action Plan to improve roadway safety and eliminate roadway fatalities.

The Action Plan is a data-driven, community-led effort that combines in-depth assessment of crash data, traffic safety, and local context with extensive community engagement and stakeholder outreach initiatives. Together, the merging of community-led and data-driven methodologies enables the City to rethink its safety needs and priorities.

**The purpose of the Action Plan is to:**

- **Reduce the number of roadway fatalities and serious injuries in East Orange.**
- **Enhance safety, mobility, and quality of life for all road users.**
- **Develop a comprehensive Implementation Plan to achieve these ends.**

The East Orange Implementation Plan includes 15 priority projects on City-owned roadways and a comprehensive program of actions to guide and support implementation and work towards achieving the Action Plan goals:

- **Select safety countermeasures applicable to local context and conditions and supported by community engagement and stakeholder outreach.**
- **Assemble priority projects using targeted and cost-effective safety treatments and Federal Highway Administration's (FHWA) proven safety countermeasures. These priority projects are conceptual in nature, governed by county design procedures and criteria, and intended to advance to feasibility assessment and design by project sponsor(s).**
- **Adopt policy instruments and operational strategies that support and enhance project implementation and achieve consensus safety goals.**
- **Track and report on implementation status and goal attainment using consensus performance measures.**

**Implementation begins with** organizing and supporting a Road Safety Advisory Committee with representatives to include municipal and community partners to champion the implementation of the East Orange SS4A Action Plan goals and strategies.


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# EAST ORANGE SAFE STREETS 4 ALL

The City of East Orange, in collaboration with Essex County, has developed the East Orange Safe Streets for All (SS4A) Action Plan to improve roadway safety and eliminate roadway fatalities. The East Orange SS4A Action Plan is supported by the conclusions of the Essex 2045 Transportation Plan (2023) that noted acute transportation crash occurrence, crash severity, and fatality rates, particularly among the County's vulnerable road users – including pedestrians, bicyclists, people with disabilities, transit riders, and older adults – who experience disproportionate impacts from fatal and serious injury crashes.

Development of the Action Plan is supported by a grant from the United States Department of Transportation's SS4A program, which supports regional, local, and tribal initiatives to develop safety action plans and implement projects aimed at eliminating roadway fatalities.

In contrast to the comprehensive nature of Essex 2045, the East Orange SS4A Action Plan is focused solely on transportation safety and addressing and mitigating traffic fatalities and serious injury crashes. Additional transportation needs, including traffic congestion, transit, pavement, and bridge maintenance, and related concerns, are equally vital to East Orange but are addressed through other planning efforts, grant programs, and project funding sources.

## The purpose of the Action Plan is to

***Reduce the number of roadway fatalities and serious injuries in East Orange.***

***Enhance safety, mobility, and quality of life for all road users – pedestrians, bicyclists, motorists, transit users, and people of all ages and abilities.***

***Develop a comprehensive Implementation Plan, including policies, operational strategies, priority projects, and performance metrics designed to achieve these ends.***

# ESSEX 2045 TRANSPORTATION PLAN

Similar to its Essex County counterpart, the East Orange SS4A Action Plan is a follow-up to Essex 2045, the Essex County Transportation Plan. Completed in 2023, Essex 2045 provides a comprehensive assessment of transportation safety, access, and mobility needs and recommends a comprehensive program of multimodal intersection, corridor, and bridge projects, supported by implementation strategies, policies, and additional planning studies.

Essex County lies at the crossroads of commerce, travel, and activity for New Jersey and the Northeast Corridor. Its makeup – densely populated, a regional employment center, and a hub for freight and goods movement – creates substantial demand for people and goods movement.

Much of the region's critical infrastructure – rail service, bus lines, Newark International Airport, the Port of Newark and Port Newark Container Terminal, toll roads, and numerous interstate, state, county, and municipal roadways – call Essex County home. Freight and goods movement are a critical economic engine for the region, and its success is essential for continued prosperity and competitiveness in the global economy.

Essex County launched the Essex 2045 Transportation Plan in 2023 to ensure that the transportation network continues to meet these critical needs.  Essex 2045 established a strategic vision for safe, effective access to affordable, efficient travel options and a commitment to a culture of safety. This commitment provides the framework for the Action Plan.

Essex 2045 proposed 3 candidate intersection and corridor projects in East Orange designed to address safety, access, pavement and bridge maintenance, traffic congestion, mobility, roadway geometrics, and operational improvements. These include projects on a variety of county- and municipal-owned roads and bridges.

Supporting these projects is a wide variety of policies, strategies, and planning studies, including Complete Streets policies, improved design standards and guidance, safety plans and corridor studies, traffic congestion and roadway safety studies, and the implementation of Roadway Safety Audits and School Travel Plans.

Some project findings and recommendations from Essex 2045 have already been completed or are underway, including several significant roadway projects; these are documented in the Implementation Plan chapter.

# PLANNING FRAMEWORK

The purpose of the Action Plan is to identify and prioritize locations in East Orange (roadway segments and intersections) that experience the most severe safety risk.

These roadways present the greatest potential for reduced crash occurrence and severity, and the greatest potential to benefit from a program of proven, targeted, and cost-effective safety treatments and countermeasures.

Guidance from FHWA for the Local Road Safety Plan (LRSP) states that "Data is the foundation of the LRSP. It is used to identify problem areas, determine appropriate solutions, … monitor progress towards the plan's goals … [and] allow for implementation to be targeted at locations that will be the most effective at reducing fatalities and serious injuries."[i]

The Action Plan is a data-driven, community-led effort that combines in-depth assessment of crash data, traffic safety, and local context with extensive community engagement and stakeholder outreach. These outreach efforts included a multi-pronged approach to facilitate participation from public officials, residents, advocacy organizations, and other stakeholders through both traditional and non-traditional methods.

Together, the merging of community-led and data-driven methodologies enabled East Orange to rethink its safety needs and priorities, and to develop safety-focused projects for county roadways and intersections with the most critical safety and vulnerable roadway user needs, while making extensive efforts to listen to and be responsive to community comments, observations, and concerns.

Development of the Action Plan includes the following steps

- **Community and Stakeholder Engagement (Appendix)**
- **Crash and Safety Assessment**
- **Network Screening and High-Injury Network (HIN)**
- **High-Risk Network (HRN)**
- **Project Prioritization**
- **Implementation Plan**

# CRASH AND SAFETY ASSESSMENT

Comprehensive crash data resources were gathered using the New Jersey Department of Transportation's Safety Voyager platform for the most recent five years for which data were available (2018 – 2022). A five-year period is recommended to assess long-term safety trends, including crash occurrence, severity, contributing actions, circumstances, and conditions.[ii]

Although additional summary-level fatal crash totals are available for more recent years, the comprehensive crash data resources required for the safety action plan methodologies were limited to the 2018-2022 time period.

To properly acknowledge all fatal crashes in East Orange, additional data were obtained from the only available source for this period – the New Jersey Department of Law & Public Safety. These additional data, however, are limited to the number of fatalities only.

## Crash Data Overview

East Orange  experienced a total of 11,553 transportation crashes in the 2018-2022 period. Approximately 76.4% of crashes that occurred in East Orange during this period resulted in no personal injuries, and similar to the distribution of crash types for East Orange.

Fatal and suspected serious injuries (FSI) totaled 104, accounting for 0.9 percent of the five-year East Orange total. A summary of the number of crashes by severity rating is provided in Table 1

***Table 1: Crash Severity by Type, East Orange (2018 - 2022)***

| Injury Severity by Type | Total Crashes | Percent of Total |
|---|---|---|
| No Apparent Injury | 8,830 | 76.4% |
| Possible Injury | 2,015 | 17.4% |
| Suspected Minor Injury | 604 | 5.2% |
| **Suspected Serious Injury** | **81** | **0.7%** |
| **Fatal Injury** | **23** | **0.2%** |
| **Total** | **11,553** | **-** |

The summary-level crash data displayed by year in Table 2 indicate an average of about 2,851 total crashes per year in East Orange in 2018 and 2019, followed by a significant decrease during the COVID-19 pandemic and lasting through 2022, a three-year decline of about 32 percent from the 2018-2019 period.

*Table 2: Crash Data Summary by Year, East Orange (2018 - 2025)*

| Year | Total Crashes | Fatalities | Serious Injuries | Total FSI Crashes |
|---|---|---|---|---|
| 2018 | 2,783 | 4 | 7 | 11 |
| 2019 | 2,918 | 0 | 10 | 10 |
| 2020 | 1,910 | 4 | 23 | 27 |
| 2021 | 1,975 | 5 | 23 | 28 |
| 2022 | 1,967 | 10 | 18 | 28 |
| **Yearly Average** | **2,311** | **4** | **16** | **20** |
| **Avg Excl 2018 SI** | | **-** | **376** | **424** |
| 2023* | - | 3 | - | - |
| 2024* | - | 5 | - | - |
| 2025 (Through Oct 31 only)* | - | **2** | - | - |

Fatal crash data source: https://www.njoag.gov/trafficfatalities/
Year 2025 Fatalities data through October 31, 2025

These summary data also indicate a significant one-year surge in fatalities in 2022 with a total of 10, a trend not unique to East Orange, and more than twice the 2018-2021 Citywide averages.

Since 2022, the frequency of fatal traffic injuries in East Orange has decreased to the pre-2022 trends.

## FSI Crash Hotspots

The principal FSI hotspots in East Orange include several County Routes – South Orange Avenue (CR 510), Grove Street (CR 509), Central Avenue (CR 508), Park Avenue (CR 658), William Street, Main Street, Clinton Street, Freeway Drive East and West, and many local streets connecting to the Freeway Drives and crossing over I-280.

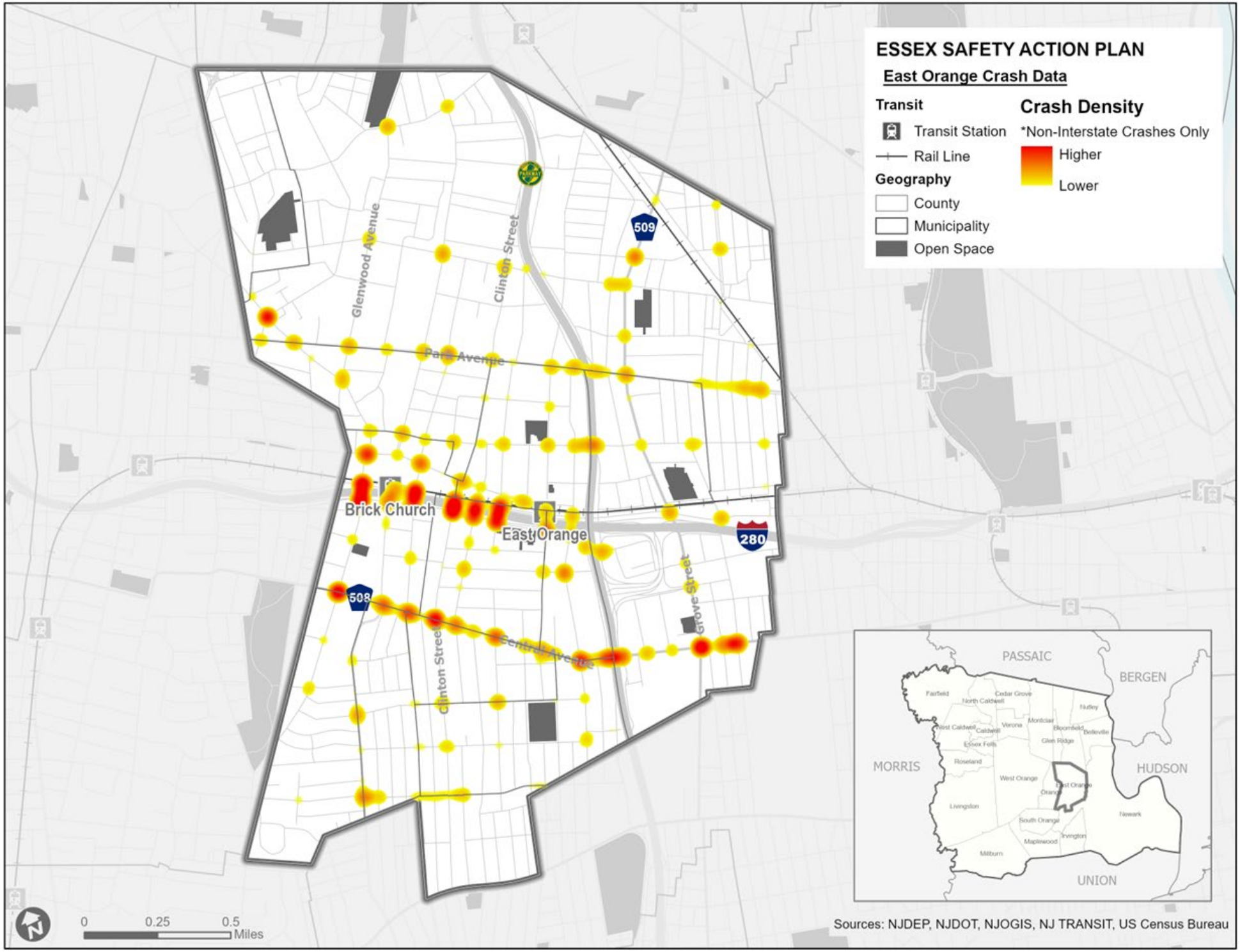


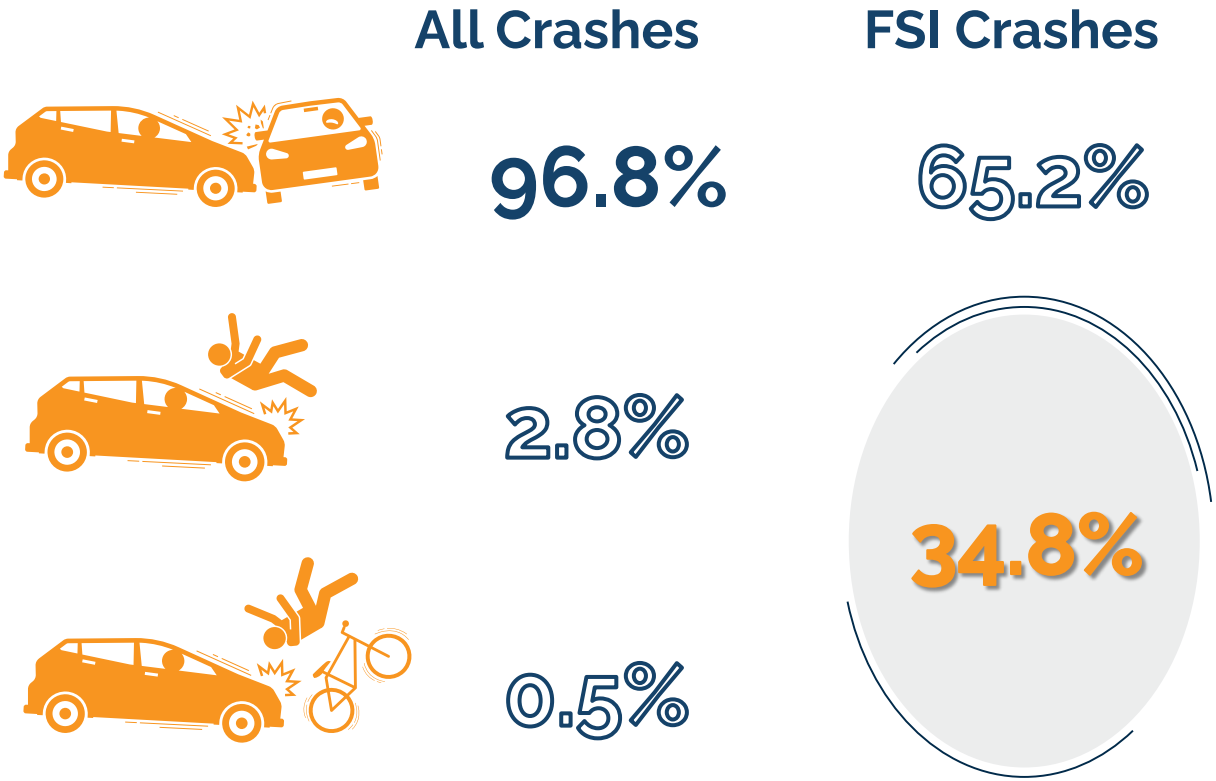

*Figure 1: FSI Crash Hotspots, East Orange*

## Disproportionate Safety Impacts

The data indicate that East Orange pedestrians and cyclists experience significant and disproportionate safety impacts, especially among FSI crashes, accounting for 34.8 percent of FSI crashes, compared to just 3.3 percent of all crashes, a factor greater than ten-fold, The City has approximately 84 total miles of roadways; and owns 73 of these miles, about 88 percent of the total.

Essex County owns just 6.3 miles or 7.5 percent of the total City roadway miles, but accounted for 16.9 percent of all crashes in the county, 34.6 percent of all FSI crashes, 39.2 percent of pedestrian and bicycle crashes, and 58.3 percent of pedestrian and bicycle FSI crashes.

**All are significantly higher than their 16.9 percent share of total City roadway mileage.**



## Contributing Factors

Extensive analysis of comprehensive crash data resources indicates that a variety of factors contribute to crash risk and severity in East Orange, including driver and pedestrian actions, roadway lighting conditions, local context, development patterns, and proximity to bus and rail transit.

The primary contributing factors among East Orange FSI crashes caused by driver or pedestrian action include:

***Driver inattention was a factor in 24.4% of FSI crashes***

***Failure to Yield by Drivers and Pedestrians: 10%***

***Unsafe Vehicle Speed: 10%***

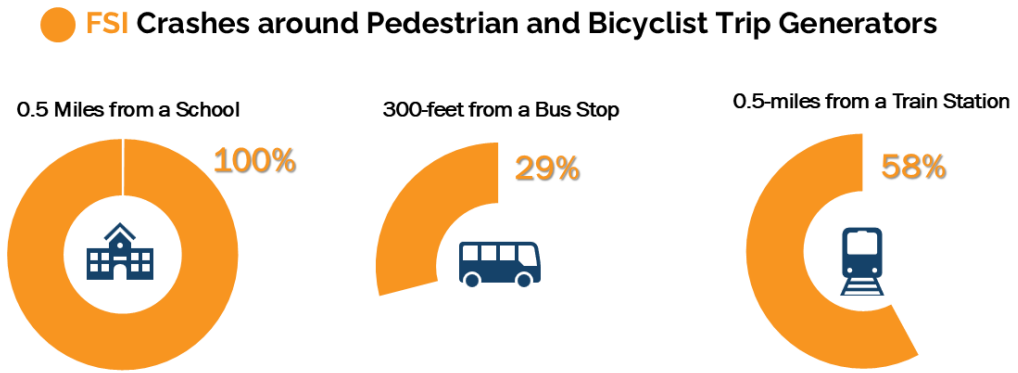
### Proximity to Trip Generators

Local community context, development patterns, and proximity to bus and rail transit are also identified as significant contributing factors among crash occurrence and crash severity in East Orange. Among East Orange FSI crashes 2018-2022:

- **100 percent occurred within ½ mile from a school**
- **29 percent occurred within 300 feet from a bus stop**
- **54 percent occurred within ½ mile from a train station**

It is critical to note that this finding does not indicate that schools or transit service pose inherent safety risks, but rather that they are significant generators of travel, whether by vehicle, rideshare, bus or rail transit, foot, or bicycle.

## Contributing Factors: Proximity



## Street Lighting and Crash Severity

A recent NJDOT study of FSI crashes found that lighting plays a crucial role in enhancing pedestrian safety. Over the five-year study period, almost 60% of the fatal and serious injury pedestrian and bicycle crashes that were reviewed in the project occurred in low-light conditions (lighting conditions other than "daylight"). Given that approximately 67% of trips (pedestrian and vehicle) occurred during daylight hours (7 AM – 6 PM) in New Jersey in 2023, the frequency of pedestrian and cyclist crashes occurring in the dark indicates that nighttime crashes are significantly overrepresented..iii

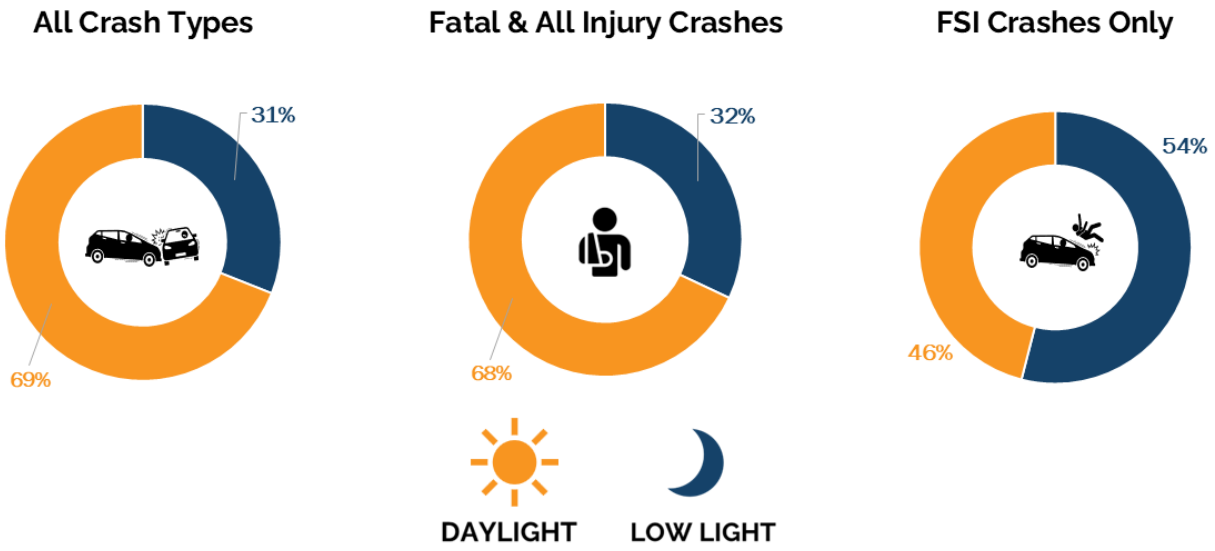
In a similar FHWA study, approximately 76% of all pedestrian fatalities occurred in low-light conditions in 2019.[iv]

Given the scale of this safety problem, it is critical that comprehensive lighting evaluations and upgrades be implemented on all NJDOT roadway projects. Consideration of lighting design should be part of all projects, based on local context, and emphasized in areas with pedestrian-generating land uses and in areas with vulnerable road users.

Lighting is a fundamental aspect of roadway design. FHWA's Lighting Handbook suggests that lighting designs for urban streets, rural roads, expressways, urban freeways, suburban freeways, and rural freeways be based on local context, crash history, and the presence of vulnerable road users.

Pedestrian-scale lighting, especially, is an established pedestrian safety countermeasure commonly used at intersections and corridors to mitigate nighttime crashes.

## Contributing Factors: Lighting and Crash Severity



## Network Screening

The Action Plan has been undertaken to identify the roadway segments that present the most severe safety risk and prioritize those with the greatest potential for reduced crash occurrence and severity. A countywide roadway network screening analysis was performed to establish where crashes were occurring most frequently and with the greatest severity, to identify locations expected to benefit the most from a program of proven, targeted, and cost-effective safety treatments and countermeasures.

The roadway network was screened to calculate a risk score for each roadway segment based on the type and number of crashes, and derived from the comprehensive crash data resources for East Orange. Each individual crash is assigned a crash severity score, recognizing the significant personal and societal impact of loss of life compared to the much less severe impact of damage to personal or public property, such as a vehicle or infrastructure.

### High Injury Network (HIN)

The High Injury Network (HIN) process then screens the roadway network to county-owned roadways only and identifies unique one-mile-long roadway segments with the highest risk scores to create the HIN. The initial East Orange HIN includes the 30 highest-risk score segments owned and maintained by East Orange, ranked in order of their cumulative risk score.

The East Orange HIN roadway segments are depicted in orange in Figure 2. A majority of the HIN segments are located in the urbanized eastern and southeastern towns and cities of East Orange.

The initial screening of the East Orange HIN determined that about one-fifth of municipal roadways (14.85 miles) accounted for more than half (56 percent) of total FSI crashes, meeting the goal of a targeted approach that delivers the greatest potential for reduced crash occurrence and severity.

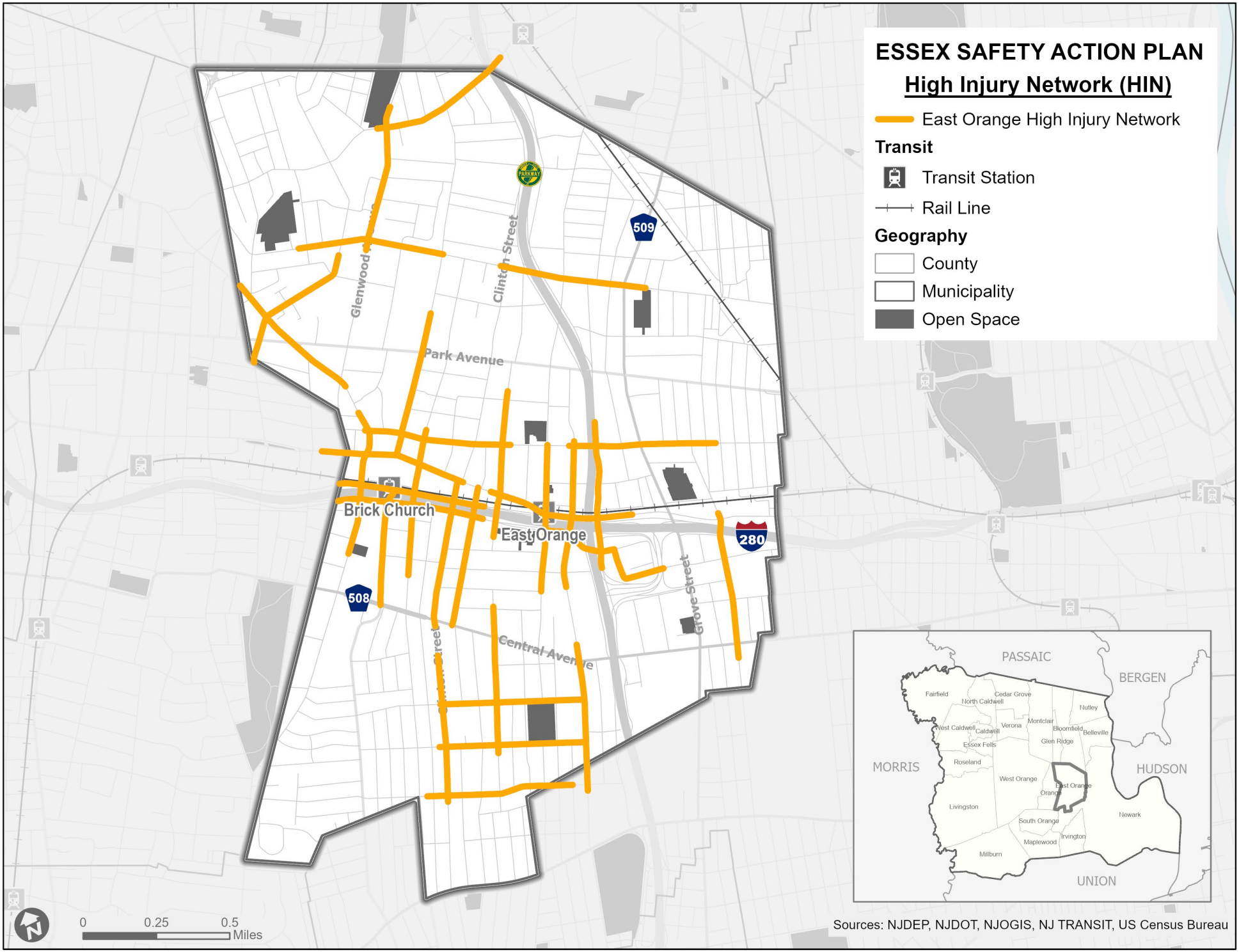



*Figure 2: East Orange High Injury Network (HIN)*

## High-Risk Network

The High-Risk Network (HRN) analyzes the countywide network to identify those roadway features most commonly associated with an increased crash risk. The HRN methodology augments the HIN assessment and enables locations that may not have a significant crash history but do have roadway features demonstrated to be consistent with increased crash risk to be considered for Action Plan prioritization. This approach provides a more robust and comprehensive assessment of both crash history and the factors contributing to crash occurrence.

The HRN methodology combines crash data analysis, GIS analytics, and risk assessment techniques and is based on Systemic Pedestrian Safety Analysis as defined in NCHRP Research Report 893.[v]

The purpose of the systemic approach, as opposed to the hotspot (HIN) methodology, is to proactively identify and prioritize locations where risk is high but may not have a significant crash history, thereby creating a more balanced assessment of overall safety needs.[vi]

Application of the systemic method to the East Orange geography and roadway network determined that the following roadway features are associated with significantly increased crash risk in East Orange:

- Functional Classification = Principal Arterial, Minor Arterial
- Number of Travel Lanes = 3 or more
- Pavement Width = 40 feet or more
- Posted Speed Limit = 30 mph or greater
- Roadway Volume = greater than 10.000 AADT
- Roadway is a Designated Freight Route
- Intersection Factors (within any 1/10-mile segment) =
    - 2 or more total intersections
    - 1 or more signalized intersections
    - No unsignalized intersections
    - 5 or more intersection approaches
- Schools within 0.25 Miles = 3 or more
- Bus Stops within 50 feet = 1 or more

Using a methodology similar to that employed to develop the East Orange HIN, the highest-ranked one-mile high-risk segments were identified. These high-risk segments were further refined to filter out all non-county-owned owned maintained roads and depicted in red in Figure 3

Compared to the HIN, the HRN provides much greater municipal and regional coverage and a more balanced distribution across East Orange. Although much overlap is evident, the HRN is more comprehensive and diverse, and introduces significant suburban and western coverage that is not present in the HIN.

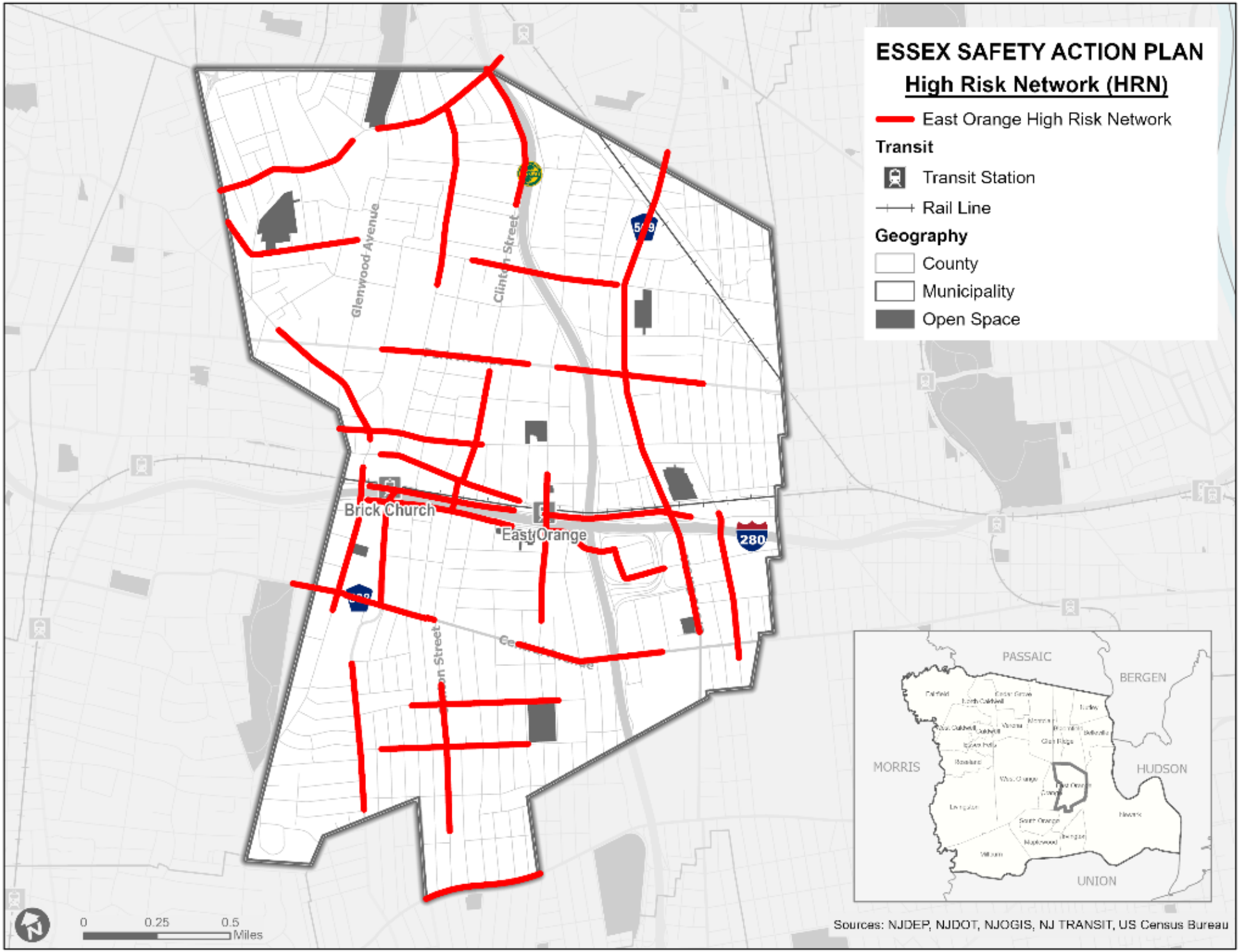



*Figure 3: East Orange County High Risk Network (HRN)*

## Corridor Prioritization

The final step identified East Orange roadways with the most significant crash risk and crash severity in order to prioritize locations with the greatest potential for reduced crash occurrence and severity. Prioritization brings together the data-driven and community-led elements to achieve a balance between technical assessment and community priorities.

### Crash History - HIN

The crash history (HIN) component is allocated 45% in the prioritization system. Crash history prioritizes roadway segments with the most severe safety risk and focuses specifically on those segments where crashes have occurred most frequently and with the greatest severity.

### FSI Crash History

Because the ultimate vision of the Action Plan is to mitigate FSI crashes rather than focusing solely on crash hotspots, FSI crash history is allocated 10% of the weighted score. The FSI score emphasizes crash-severity by prioritizing the highest FSI crash segments over others that experience greater proportions of less severe and property-damage-only crashes, but fewer of the more severe FSI crashes.

### Presence of High-Risk Roadway Features - HRN

The presence of high-risk roadway features identified in the systemic analysis (HRN) comprises 30% of the weighted score. This proactive factor prioritizes locations with high crash risk features that may not have a significant crash history, creating a more balanced and comprehensive assessment of overall safety risk and need.

### Public Input Score

Public input comprises the final 15% of the weighted score. The 15% weight is applied to any roadway segment with at least one pin entry in the interactive map, and 0% to segments with no map pin entries.

## Current and Ongoing Projects

The following current and ongoing East Orange projects are listed in the NJTPA Online Transportation Information System (NOTIS)[vii]. These projects represent additional efforts in East Orange to address crash history and severity, and include intersection improvements, trails, pedestrian and bicycle facilities, traffic calming, streetscaping and lighting.

Project funding sources include TAP[viii], HSIP[ix], and NJTPA-LSP (Local Safety Programs)[x]. Additional project details are provided in the Appendix.

**East Orange Trail Project:** Trail renovation between Brighton Avenue and Glenwood Avenue, including installation of trash and recycling receptacles at entrances, ADA ramps, bollards, and bike racks.

**North and South Grove Street (CR 509) Signal Improvements**: Safety and operational improvements at 10 intersections.

**Central Avenue (CR 508) Signal Improvements:** Safety and operational improvements along roadway.

**Park Avenue (CR 658) Signal Improvements:** Safety and operational improvements at 9 intersections.

The final prioritized list includes 15 unique stand-alone corridor segments covering a total of 14.92 miles of East Orange municipal-owned roadways eligible for the application of safety improvements and countermeasures.

# EAST ORANGE SS4A IMPLEMENTATION PLAN

The Implementation Plan is focused on East Orange's most significant crash risk and severity impacts on county-owned roadways and prioritizes locations with the greatest potential to mitigate crash occurrence and severity.

The Implementation Plan includes the following actions to guide and support implementation and work towards achieving the Action Plan goals:

- **Project development begins with the FHWA's Proven Safety Countermeasures applicable to local context and conditions, and supported by community engagement and stakeholder outreach.**
    - The East Orange priority projects were assembled using targeted and cost-effective safety treatments, including the proven safety countermeasures. These priority projects are conceptual in nature, governed by county design procedures and criteria, and intended to advance to feasibility assessment and design by project sponsor(s).
    - Bicycle facilities must come from an approved bicycle plan developed in consultation with East Orange in order to be recommended on county-owned roadways. Only the City of Newark has an approved bicycle plan – BIKENewark – that currently meets this requirement.
- **Adopt policy instruments and operational strategies that support and enhance project implementation and achieve consensus safety goals.**
    - This includes tracking of project implementation status, and reporting on progress towards goal attainment and performance measures.
    - Implementation begins with organizing and supporting a Road Safety Advisory Committee with representatives from County, municipal, and community partners to champion the implementation of East Orange SS4A Action Plan goals and strategies.

## PROVEN SAFETY COUNTERMEASURES

The FHWA's Proven Safety Countermeasures are a comprehensive set of 28 individual strategies aimed at significantly reducing roadway fatalities and serious injuries across the United States. These countermeasures are designed to be effective for all road users and applicable to a wide range of road types—from rural two-lane roads and municipal main streets to urban freeways.

Each strategy targets key safety focus areas such as speed management, intersections, roadway departures, and pedestrian/bicyclist safety, with some measures addressing multiple areas simultaneously. For example, speed safety cameras and variable speed limits help regulate traffic speeds, reducing crash severity. Intersection improvements like roundabouts and dedicated turn lanes minimize conflict points and improve traffic flow. Pedestrian-focused measures such as hybrid beacons, refuge islands, and enhanced crosswalk visibility increase safety for vulnerable road users. Roadway departure solutions like rumble strips and improved curve delineation help prevent vehicles from leaving the roadway. Additionally, crosscutting strategies like lighting upgrades and road safety audits contribute to a safer overall transportation system.

The Proven Safety Countermeasures comprise the core of recommendations for the Implementation Plan Priority Projects

Countermeasures identified for each corridor are based on initial assessment. Specific configuration and details will be addressed during project design and engineering phase.

## Recommended Safety Countermeasure Toolkit For Priority Projects

These evidence-based strategies aim at reducing roadway fatalities and serious injuries. They address speed management, pedestrian and bicyclist safety, roadway departure prevention, intersection safety, and crosscutting measures like lighting and safety plans. Their effectiveness spans urban, rural, and local roads, and they adapt well to varied user needs.

### Recommended Countermeasures

1. Upgrade Traffic Signals

2. Leading Pedestrian Interval (LPI)

3. Yellow Change Interval

4. Intersection Daylighting & Curb Extension

5. Improved Street Lighting

6. High-Visibility Crosswalks

7. Sidewalks & ADA Ramps

8. Rectangular Rapid Flashing Beacon (RRFB)

9. Pedestrian Hybrid Beacon

10. Pedestrian Refuge Island

11. Reduce Speed Limits


12. Road Diet

13. Reconfigure Intersection

14. Reconfigure Intersection Turn Lanes

15. Right Turn In/Out Only

16. Prohibit Left Turns

17. Hardened Centerlines

18. High Friction Surface Treatment

19. Horizontal Curve Warning

20. Reconfigure Roadway

21. Bike Lanes

# Recommended Safety Countermeasure Toolkit For Priority Projects

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## 1. Upgrade Traffic Signals

$ $ $ $


*Modernized traffic signals provide a contrasting background and reflective backplate. The improved visibility of a signal head with a backplate is made even more conspicuous by framing it with a 1- to 3-inch yellow retroreflective border. Traffic signal heads that have backplates equipped with retroreflective borders are more visible and conspicuous in both daytime and nighttime conditions.*
**Helps reduce crashes up to 16%**

## 2. Leading Pedestrian Interval

$ $ $ $

*Leading Pedestrian Intervals (LPI) change traffic signal timing and phasing plans to provide pedestrians a head start at intersection crossings by activating the WALK signal in advance of the GREEN signal. LPI designs create enhanced separation between pedestrians and turning traffic, and are often paired with no-right-turn-on-red to further enforce this separation.*
**Helps reduce pedestrian crashes up to 19%**

## 3. Yellow Change Interval

$ $ $ $

*The change interval is the time a traffic signal displays a steady YELLOW light before turning RED. Longer change internal times provides a safety buffer by allowing more time for moving traffic to pass through the intersection and helping to mitigate occurrence of side-angle and rear-end crashes. Improves safety by giving drivers enough time pass through the intersection or stop safely at the stop bar, thereby reducing the potential for conflicts.*
**Helps reduce crashes up to 18%**

## 4. Intersection Daylighting & Curb Extension

$ $ $ $

*Vehicles parked too close to intersections impede visibility among vehicular traffic, pedestrians, and cyclists. These countermeasures paint, planters, or curb extensions that improve visibility and extend the sidewalk, preventing vehicles from parking too close to intersections and shortening pedestrian crossing distances.*
**Helps improve visibility for drivers and pedestrians, slow-turning vehicles, and makes crosswalks safer**

## 5. Improved Street Lighting

$ $ $ $

*Research indicates a strong correlation among low-light conditions and fatal and serious injury crashes, especially among vulnerable road users. Improved street lighting is a cost-effective means of improving safety through enhanced visibility of pedestrians on streets, sidewalks, and at intersections.*
**Helps reduce nighttime pedestrian crashes at intersections up to 42%.**

## 6. High-Visibility Crosswalks

$ $ $ $

*High-visibility crosswalks use reflective paint along with bold patterns and signs to enhance pedestrian visibility, improve safety and mobility, and reduce vehicle pedestrian crash occurrence and severity. High-visibility crosswalks are applicable at both intersections and at mid-block crossings. High-visibility designs are a low-cost means to improve pedestrian visibility and crossing safety.*
**Helps reduce pedestrian crashes up to 40%**

# Recommended Safety Countermeasure Toolkit For Priority Projects

## 7. Sidewalks & ADA Ramps

$ $ $ $

*Gaps in sidewalks and lack of ADA-compliant curb ramps, even when minor, can severely limit mobility for vulnerable road users. Sidewalks provide dedicated spaces for walking or wheelchair use only, and are fully separated from traffic and parked vehicles. ADA-compliant curb ramps enhance safety for all road users and significantly improve accessibility, mobility, and safety for wheelchair users, seniors, and travelers with mobility limitations*

**Helps reduce pedestrian crashes up to 40%**

## 8. Rectangular Rapid Flashing Beacon (RRFB)

$ $ $ $

*Visibility of pedestrians crossing or wishing to cross at unsignalized locations can be limited. RRFBs are flashing amber lights actuated by pedestrian push-buttons at unsignalized crosswalks and midblock crossings. RRFBs enhance pedestrian visibility and increase driver awareness of pedestrians at crosswalks. RRFBs can also accompany school or trail crossing warning signs.*

**Helps reduce pedestrian crashes up to 47%**

## 9. Pedestrian Hybrid Beacon

$ $ $ $

*Visibility of pedestrians crossing or wishing to cross at unsignalized locations, even with high pedestrian volumes, can be limited. A Pedestrian Hybrid Beacon (PHB) is a traffic control device for crosswalks without traffic signals. PHBs are actuated by pedestrians, which initiates a yellow to red lighting sequence to direct motorists to slow and come to a stop.*

**Helps reduce pedestrian crashes up to 46%**

## 10. Pedestrian Refuge Island

$ $ $ $

*Pedestrian refuge islands provide a protected area in the middle of the roadway, where pedestrians can wait safely and free from moving traffic. Refuge designs reduce crossing distances and may include protective elements such as raised islands and medians to provide enhance protection. Many vulnerable road users may be unable to cross wide roadways in a single WALK phase, and refuge islands enable at-risk travelers to safely cross busy roadways.*

**Helps reduce pedestrian crashes up to 32%**

## 11. Reduce Speed Limits

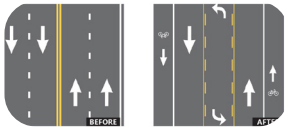
$ $ $ $


*Research indicates a significant correlation among higher travel speeds and fatal injury crashes; even a small speed reduction can greatly reduce fatal crashes and improve overall safety. Posted speed limits should be consistent with local context and development. School zones and residential areas in particular warrant close attention to appropriate travel speed regulation and speed limits.*

**Helps to reduce all injury and fatal crashes up to 14%**

## 12. Road Diet

$ $ $ $




*Road diets are implemented to improve safety and match street design to local context and character. A typical road diet would convert a four-lane road into three-lanes, with two traffic lanes and a center lane for left turns. The reallocated roadway space may be used to add new features and amenities such as wider sidewalks, curb extension, dedicated bicycle lanes, on-street parking, and improved crosswalks,*

**Helps reduce pedestrian crashes up to 47%**

# Recommended Safety Countermeasure Toolkit For Priority Projects

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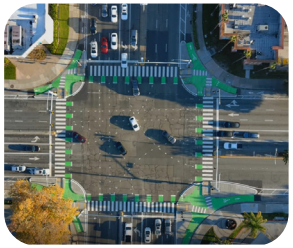
## 13. Reconfigure Intersection

$$$$



*Intersection reconfiguration involves modifying the layout, geometry, or signal placement and timing (where applicable) to improve visibility and reduce conflict points and crashes. Reconfiguration measures can include removing slip lanes, installing new turn lanes, or traffic calming measures such as curb extensions, pedestrian crossing islands, or a roundabout treatment, etc., to improve traffic operations and safety. Improves traffic flow and safety by reducing conflicts.*

## 14. Reconfigure Intersection Turn Lanes

$$$$


*Turn lane reconfiguration involves modifying the number, type, alignment, or radius of turn lanes at an intersection, often separating turning traffic from through movements to improve visibility and reduce conflict points and crashes. Reconfiguration measures can vary to address repeated occurrence of specific crash types, address safety concerns, or improve traffic operations.*

## 15. Right Turn In/Out Only

$$$$

*Right turn in/right turn out designs restrict vehicle movements to allow right turns only at a driveway or intersection. These countermeasures prevent conflicts with oncoming traffic when making left turns across busy and wide roadways where visibility may be limited and traffic flow provides insufficient gaps to make safe left turn movements.*
**Helps reduce crashes up to 45%**

## 16. Prohibit Left Turns

$$$$

*Left turn prohibitions restrict vehicles from making left turns at a specific intersection or roadway segment, such as wide, multi-lane, and heavily traveled arterial roadways. With the prohibition, drivers must proceed straight ahead or turn right and instead and use opportunities to turn left where a dedicated left-turn lane and signal phase are provided. This countermeasure can improve safety by eliminating cross-traffic turning maneuvers, and improve efficiency of traffic flow.*

## 17. Hardened Centerlines

$$$$

*Hardened centerlines are modular speed humps placed at intersections to extend the centerline. These design are warranted at intersections with high crash rates or where left turn prohibitions are frequently ignored, Hardened centerlines prevent vehicles from cutting across lanes and making aggressive corner-cutting turns, making illegal left turns, and can also reduce pedestrian exposure to left-turning vehicles.*
**Helps to reduce conflicts between pedestrians and left-turning vehicles up to 70%**

## 18. High Friction Surface Treatment

$$$$

*High Friction Surface Treatment (HFST) is a special skid resistant material applied to road surfaces consisting of durable, anti-abrasion, and polish-resistant aggregate over a resin binder that locks the aggregate in place to restore or enhance friction and skid resistance. HFST is applicable to locations with increased friction demand, such as horizontal curves, interchange ramps, high-speed intersection or crosswalk approaches.*
**Helps reduce total crashes at intersections up to 67%**

# Recommended Safety Countermeasure Toolkit For Priority Projects

## 19. Horizontal Curve Warning

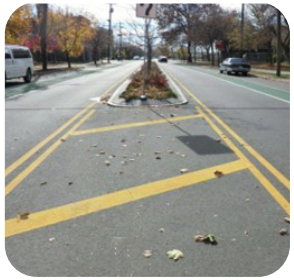
$ $ $ $

*Horizontal curve warnings alert drivers to an upcoming curve and its degree of sharpness. Treatments can utilize curve warning and chevron alignment signs, retroreflective pavement markings, edge line striping, delineators, rumble strips, or dynamic curve warning systems to alert drivers of significant curvature ahead. Curve warnings improve visibility, help drivers adjust their speed in advance, and reduces run-off-road and loss-of-control crashes.*

**Helps reduce crashes up to 38%**

## 20. Reconfigure Roadway

$ $ $ $



*Roadway Reconfiguration involves modifying the layout or geometry alignment of a roadway lanes, centerlines, and shoulders, to reduce or eliminate conflict vehicle points, calm speeding traffic and aggressive driving behaviors, and mitigate crashes and crash severity. Design features may include reducing horizontal and vertical curves, clearing sightlines, narrowing or removal of travel lanes, removing on-street parking, etc. Essex County requires a minimum lane width of 11 feet on county-owned roadways.*

**Improves traffic flow and safety, reduces aggressive driving and passing maneuvers**

## 21. Bike Lanes

$ $ $ $


*Bicycle lanes are designated roadway areas defined with appropriate striping, signage, and markings for bicycle use only. Many bike riders demonstrate a strong preference for dedicated bicycle facilities, separated and free from traffic. Bicycle facility design and placement are dictated by local design standards and guidance and should be consistent with local context, adjacent land use and driveways, and roadway conditions. Bicycle facilities include sharrows, traditional bike lanes, buffered bike lanes, protected bike lanes, sidepaths, or fully off-road trails. Bicycle facilities must come from an approved bicycle plan developed in consultation with Essex County in order to be recommended on county-owned roadways.*

**Helps reduce crashes up to 49%**

## PRIORITY PROJECTS

A program of conceptual improvements was assembled for each of the Action Plan priority projects, drawing on FHWA's proven safety countermeasures and tailored to local conditions, safety risks, and deficiencies. East Orange priority projects are depicted in orange for municipal-owned roads in Figure 4: East Orange SS4A Action Plan – Priority Projects for and in blue for Essex County-owned roads.

Each countermeasure responds to a specific, identified need; many are most effective when paired and combined with complementary and mutually supportive design elements.

The recommended countermeasures were selected based on assessment of crash history, severity, and disproportionate impacts, especially on vulnerable road users; the presence of high-risk roadway features identified in the systemic analysis; assessment of local context; and comments and observations from engagement and outreach.

Roadway and intersection design are guided by specific procedures and criteria at the jurisdictional level – municipal, county, and state. For example, on county-owned roads:

- **Bicycle facilities must come from an approved bicycle plan developed in consultation with Essex County in order to be recommended on county-owned roadways. The City of East Orange does not currently have an approved bicycle plan.**
- **Essex County requires a minimum lane width of 11 feet.**

Examples of countermeasure recommendations include:

- **Where excessive speeds and crash severity are indicated, traffic calming measures, traffic signal improvements, or reduced speed limits may be warranted.**
- **For long crossings and wide roadways, intersection daylighting, curb extensions, improved crosswalks and pedestrian refuge islands, and Leading Pedestrian Intervals way be beneficial.**
- **Road Diets have also proven beneficial for wide, multi-lane roadways, and where travel speeds and aggressive driving behaviors are observed.**
- **Where vulnerable road users are at risk, pedestrian refuge islands, midblock crossings, improved lighting, and high-visibility crosswalks may be recommended in addition to various traffic calming countermeasures.**
- **Frequent crashes involving struck parked vehicles can be mitigated through the application of intersection daylighting and curb extensions.**
- **Recommendations applicable to roadway striping, including placement of center lines, edge lines, and delineation of parking areas, will be determined during the design phase.**

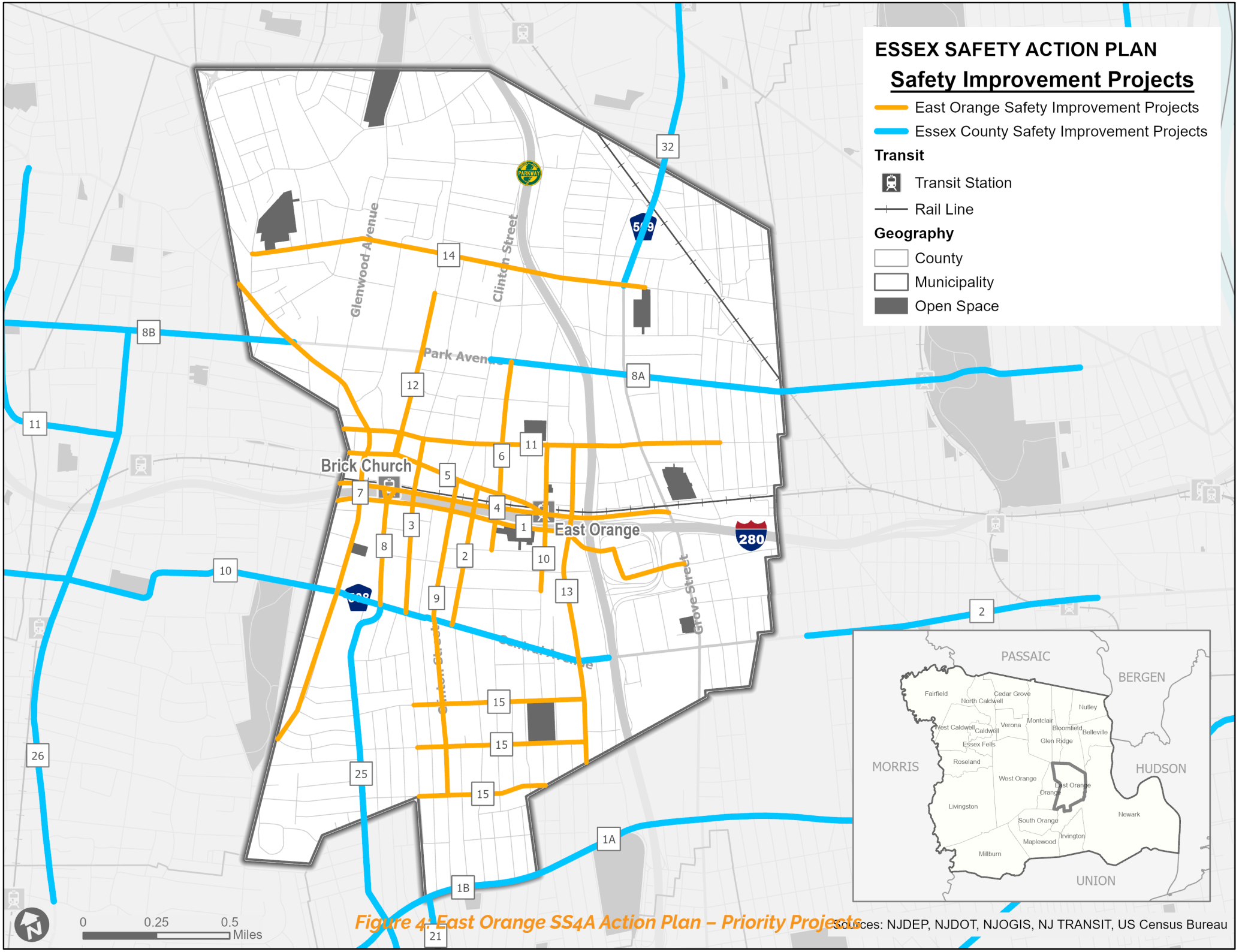



*Figure 4: East Orange SS4A Action Plan – Priority Projects*

Sources: NJDEP, NJDOT, NJOGIS, NJ TRANSIT, US Census Bureau

# Table 3: East Orange SS4A Action Plan - Priority Projects

| Rank | Road Name | From/To Street | Length | # Safety Countermeasures |
|---|---|---|---|---|
| 1 | Freeway Drive East/Hawthorne/Sussex Avenue | The East Orange Municipal Border to South Grove Street | 1.32 | 1, 2, 3, 4, 5, 6, 7, 12, 14 |
| 2 | South Burnet Street | Main Street to Central Avenue | 0.48 | 1, 2, 3, 4, 5, 6, 7 |
| 3 | Lincoln Street/Halsted Street | William Street to Central Avenue | 0.60 | 1, 2, 3, 4, 5, 6, 7, 8, 12, 17 |
| 4 | Freeway Drive West/Dr. Martin Luther King Jr. Boulevard | North Grove Street to the East Orange Municipal Border | 1.15 | 1, 2, 3, 4, 5, 6, 7, 12, 13, 14 |
| 5 | Dr. Martin Luther King Jr Boulevard/Main Street | South Arlington Avenue to the East Orange Municipal Border | 0.72 | 1, 2, 3, 4, 5, 6, 7, 8, 12, 13 |
| 6 | North/South Walnut Street | Park Avenue to Lenox Avenue | 0.69 | 1, 2, 3, 4, 5, 6, 7, 8 |
| 7 | North/South Harrison Street/Washington Street | Park End Place to the East Orange Municipal Border | 1.78 | 1, 2, 3, 4, 5, 6, 7, 8, 12, 13 |
| 8 | Evergreen Place/Prospect Street | Central Avenue to Freeway Drive West | 0.40 | 1, 2, 3, 4, 5, 6, 7, 8, 12 |
| 9 | North/South Clinton Street | Tremont Avenue to Dr. Martin Luther King Jr. Boulevard | 1.09 | 1, 2, 3, 4, 5, 6, 7, 12 |
| 10 | North/South Arlington Street | Beech Street to William Avenue | 0.50 | 1, 2, 3, 4, 5, 6, 7 |
| 11 | William Street | North 18th Street to Glenwood Avenue | 1.32 | 1, 2, 3, 4, 5, 6, 7, 8 |
| 12 | Prospect Street | Dr. Martin Luther King Jr. Boulevard to Hamilton Street | 0.56 | 1, 2, 3, 4, 5, 6, 7, 8 |
| 13 | North/South Munn Street | East Orange Municipal Border to William Street | 1.09 | 1, 2, 3, 4, 5, 6, 7, 8 |
| 14 | North/South Munn Street | North Park Street to North 23rd Street | 1.39 | 1, 2, 3, 4, 5, 6, 7, 8, 13 |
| 15 | Elmwood Avenue; Tremont Avenue; Rhode Island Avenue | South Munn Avenue to South Harrison Avenue; South Munn Avenue to Halsted Street; Halsted Street to Grand Avenue | 1.79 | 1, 2, 3, 4, 5, 6, 7, 8, 13 |

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# Table 4: Essex SS4A Action Plan - Priority Projects in East Orange

| Rank | Route Number | Road Name | From/To Street | Length | Municipality | # Safety Countermeasures |
|---|---|---|---|---|---|---|
| 1A | 510 | South Orange Avenue/ Springfield Avenue/Market Street | Boylan Street to Route 21 | 3.23 | East Orange/Newark | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 21 |
| 1B | 510 | South Orange Avenue | Conway Court to Boylan Street | 2.19 | East Orange/Newark/ South Orange | 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 18, 21 |
| 8A | 658 | Park Avenue | North Clinton Avenue to Garside Street | 2.04 | East Orange/Newark | 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 17, 21 |
| 8B | 658 | Park Avenue | Main Street to Washington Street | 1.00 | East Orange | 1. 2. 3. 4. 5. 6. 7. 8. 9, 10, 13, 17, 18 |
| 10 | 508 | Northfield Avenue/ Whittingham Place/Kingsley Street/Valley Road/Central Avenue | Highwood Road to Whittlesey Avenue | 3.25 | East Orange/Orange/ West Orange | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13 |
| 25 | 605 | Sanford Avenue/Sanford Street | Sanford Place to Central Avenue | 2.11 | Irvington/East Orange/Newark | 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 21 |
| 32 | 509/670 | Grove Street/North Grove Street/Watsessing Avenue/ Franklin Street | Springdale Avenue to Franklin Street; Watsessing Avenue to Franklin Avenue | 1.95 | Belleville/Bloomfield/ East Orange/Newark | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13 |

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# Priority Projects Key

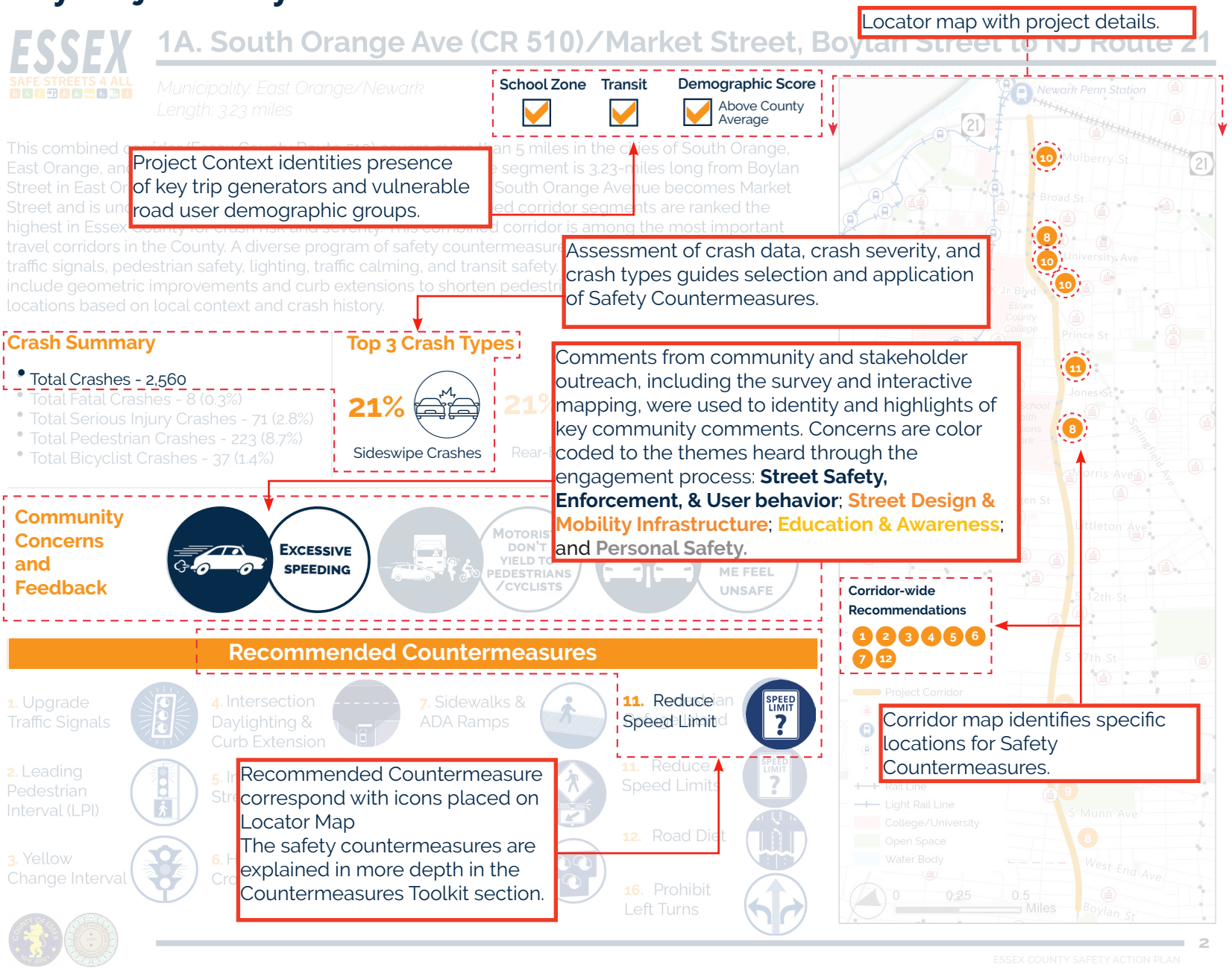
Project Location

Project Context

Crash Profile

Community Feedback

Recommended Countermeasures



# 1. Freeway Drive East/Hawthorne Avenue/Sussex Avenue

*Municipality:* ***East Orange***
*Length:* ***1.32 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

The Freeway Drive East corridor is located in densely populated East Orange, covering a distance of 1.32-miles, from the western East Orange Municipal Border to South Grove Street. The overall Freeway Drive East corridor is ranked highest in East Orange for crash risk and severity. Freeway Drive is the principal east-west corridor in East Orange and experiences significant traffic and safety impacts due to its proximity and connections with both I-280 and the Garden State Parkway. Proposed safety countermeasures include new traffic signals with improved signal timings, lighting, and pedestrian improvements. Additional countermeasures are recommended at targeted locations based on local context and crash history.

## Crash Summary

- Total Crashes - 387
- Total Fatal Crashes - 0 (0.0%)
- Total Serious Injury Crashes - 3 (0.8%)
- Total Pedestrian Crashes - 23 (5.9%)
- Total Bicyclist Crashes - 0 (0.0%)

## Top 3 Crash Types

**31%** Right Angle Crashes

**27%** Sideswipe Crashes

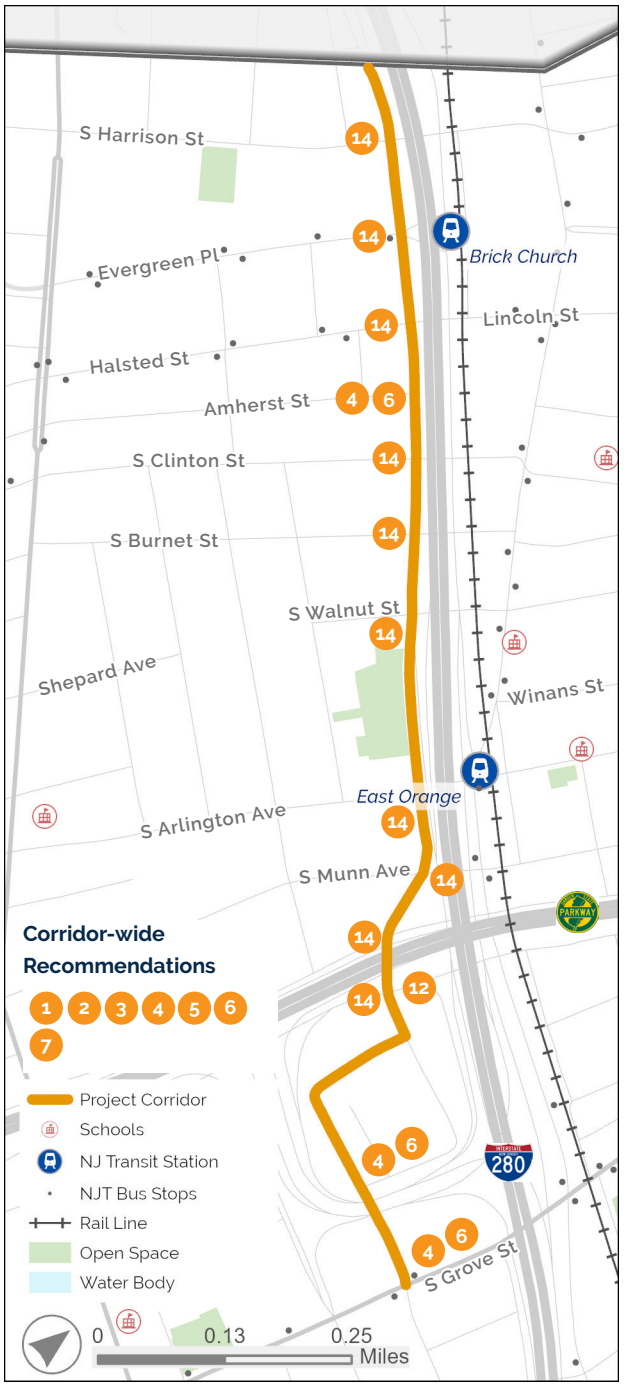
**21%** Rear-End Crashes

## Community Concerns and Feedback

- Pedestrians with Disabilities have difficulties
- Excessive speeding
- Intersection Feels Unsafe

## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
12. Road Diet
14. Reconfigure Intersection Turn Lanes



# 2. South Burnet Street, Main Street to Central Avenue

*Municipality:* ***East Orange***
*Length:* ***0.48 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

South Burnet Street is located in the densely populated East Orange, covering a distance of 0.48-miles, from Main Street to Central Avenue. The overall South Burnet Street corridor is ranked 2nd highest in East Orange for crash risk and severity. It is aligned north-south with access to several principal arterial roadways including Freeway Drive and has bus access at both Main Street and Central Avenue. The proximity to Freeway Drive creates significant traffic impacts. Proposed safety countermeasures include new traffic signals with improved signal timings, lighting, and pedestrian improvements. Additional countermeasure are recommended at targeted locations based on local context and crash history.

## Crash Summary

- Total Crashes - 232
- Total Fatal Crashes - 3 (1.3%)
- Total Serious Injury Crashes - 6 (2.6%)
- Total Pedestrian Crashes - 9 (3.9%)
- Total Bicyclist Crashes - 2 (0.9%)

## Top 3 Crash Types

**42%** Right Angle Crashes

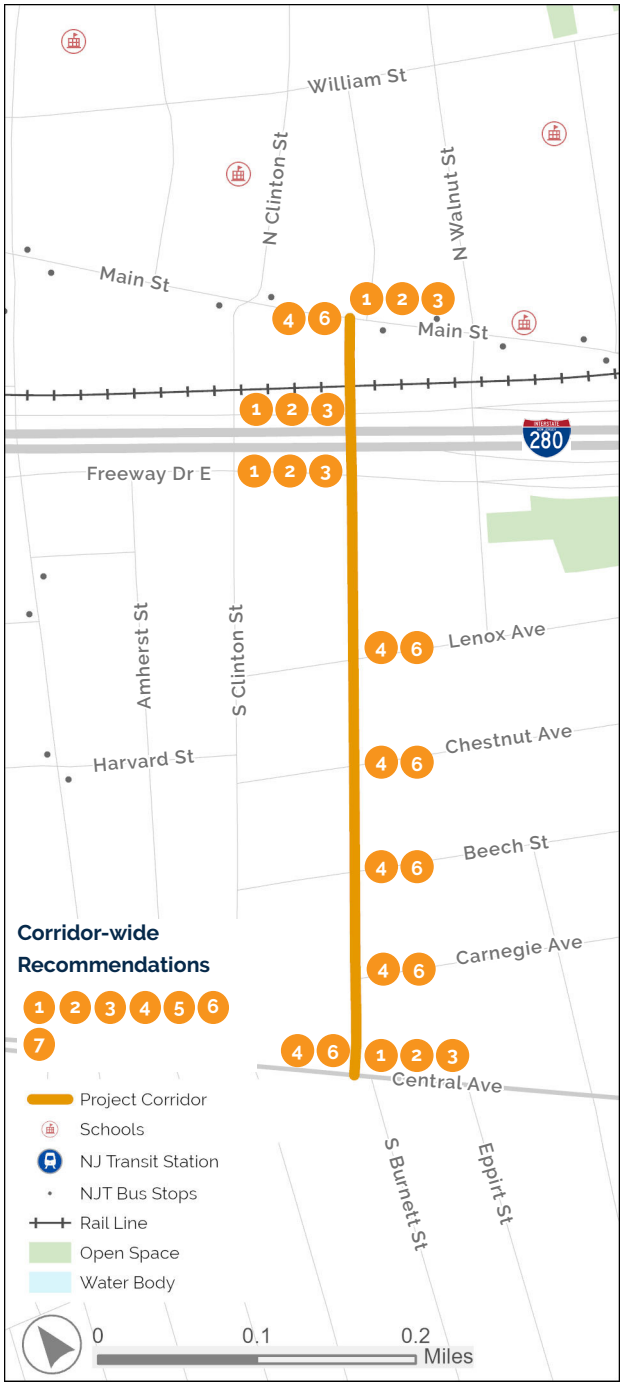
**21%** Sideswipe Crashes

**17%** Rear-End Crashes

## Community Concerns and Feedback


## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps



# 3. Lincoln Street/Halsted Street, William Street to Central Avenue

*Municipality:* ***East Orange***
*Length:* ***0.60 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☐ Above County Average |

The Lincoln Street/Halsted Street corridor is located in densely populated East Orange, covering a distance of 0.60-miles, from William Street to Central Avenue. The overall Lincoln/Halsted corridor is ranked 3rd highest in East Orange for crash risk and severity. It is aligned north-south with access to several principal arterial roadways including Freeway Drive. The corridor has nearby access to the Brick Church NJ TRANSIT station and bus access. The proximity to Freeway Drive creates significant traffic impacts. Proposed safety countermeasures include new traffic signals with improved signal timings, lighting, and pedestrian improvements. Additional countermeasure are recommended at targeted locations based on local context and crash history.

## Crash Summary

- Total Crashes - 126
- Total Fatal Crashes - 0 (0.0%)
- Total Serious Injury Crashes - 0 (0%)
- Total Pedestrian Crashes - 7 (5.6%)
- Total Bicyclist Crashes - 1 (0.8%)

## Top 3 Crash Types

**31%** Right Angle Crashes

**19%** Sideswipe Crashes

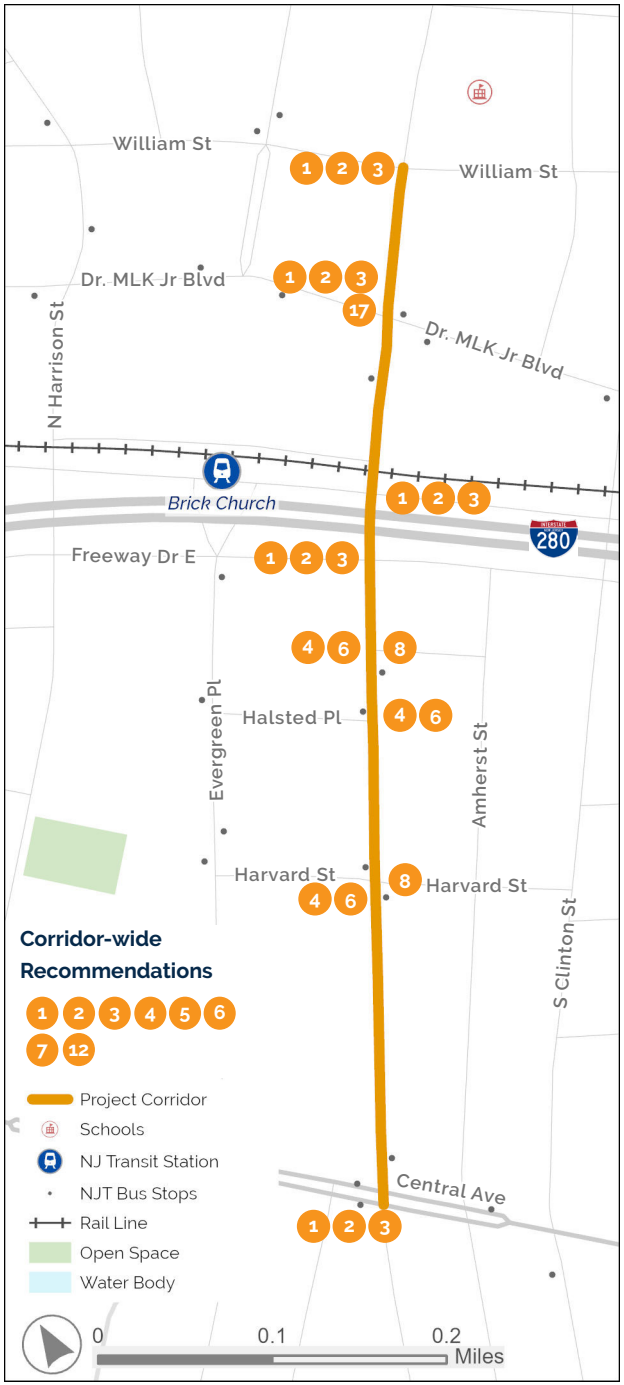
**18%** Rear-End Crashes

## Community Concerns and Feedback

- Pedestrians with Disabilities Have Difficulties
- Bike/ Pedestrian Conflicts
- Intersection Feels Unsafe

## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
8. Rectangular Rapid Flashing Beacon (RRFB)
12. Road Diet
17. Hardened Centerlines



# 4. Freeway Drive West/ Dr. Martin Luther King Jr. Boulevard

*Municipality:* ***East Orange***
*Length:* ***1.15 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

The Freeway Drive West corridor is located in densely populated East Orange, covering a distance of 1.15-miles, from North Grove Street to the western East Orange Municipal Border. The overall Freeway Drive West corridor is ranked 4th highest in East Orange for crash risk and severity. Freeway Drive is the principal east-west corridor in East Orange and experiences significant traffic and safety impacts due to its proximity and connections with both I-280 and the Garden State Parkway. Proposed safety countermeasures include new traffic signals with improved signal timings, lighting, and pedestrian improvements. Additional countermeasure are recommended at targeted locations based on local context and crash history.

## Crash Summary

- Total Crashes - 492
- Total Fatal Crashes - 1 (0.2%)
- Total Serious Injury Crashes - 5 (1.0%)
- Total Pedestrian Crashes - 22 (4.5%)
- Total Bicyclist Crashes - 0 (0.0%)

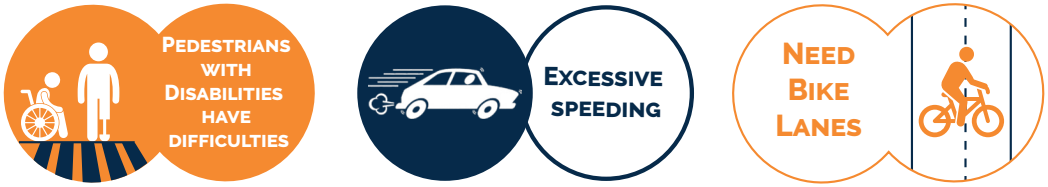
## Top 3 Crash Types

**35%** Right Angle Crashes

**25%** Rear-End Crashes

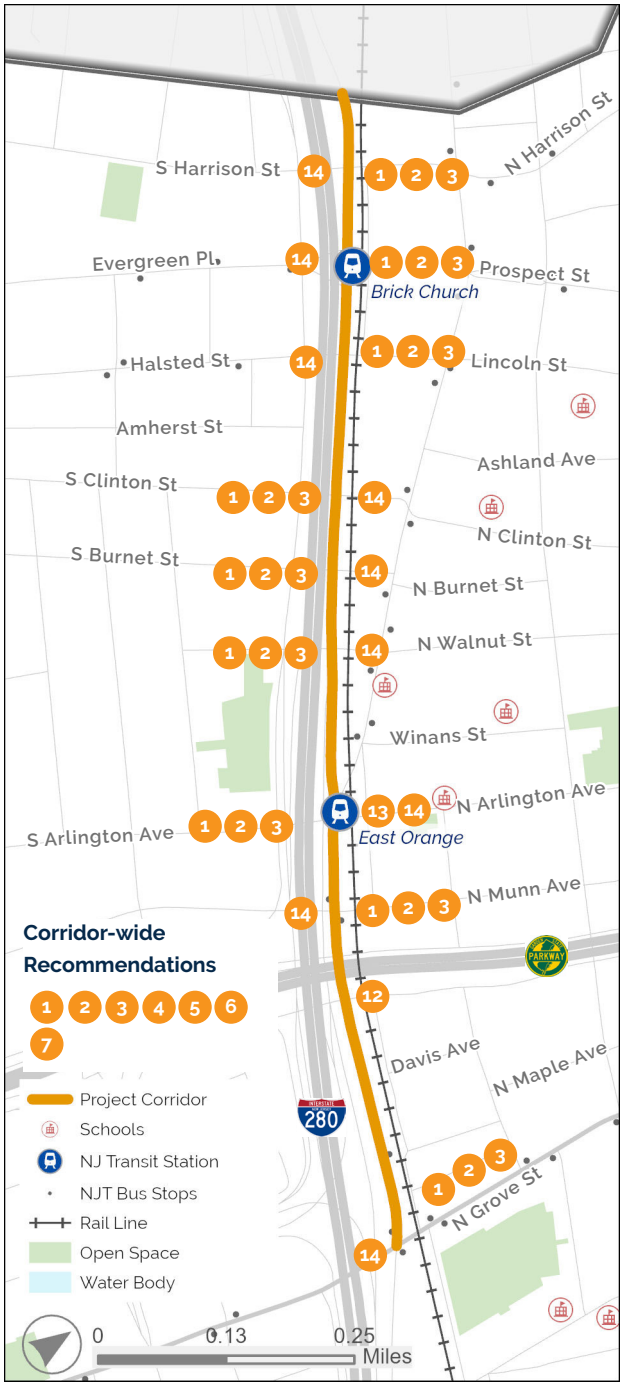
**23%** Sideswipe Crashes

## Community Concerns and Feedback




## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
12. Road Diet
13. Reconfigure Intersection
14. Reconfigure Intersection Turn Lanes



# 5. Dr. Martin Luther King Jr. Boulevard/Main Street

*Municipality:* ***East Orange***
*Length:* ***0.72 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

The Dr. MLK Jr. Boulevard/Main Street corridor is located in densely populated East Orange, covering a distance of 0.72-miles, from South Arlington Avenue to the East Orange Municipal Border at Newark. The overall corridor is ranked 5th highest in East Orange for crash risk and severity. It is aligned east-west and experiences significant traffic and safety impacts due to its proximity and connections with both I-280 and the Garden State Parkway. The corridor has access to the East Orange NJ TRANSIT station and many bus stops. Proposed safety countermeasures include new traffic signals with improved signal timings, lighting, and pedestrian improvements. Additional countermeasure are recommended at targeted locations based on local context and crash history.

## Crash Summary

- Total Crashes - 248
- Total Fatal Crashes - 0 (0.0%)
- Total Serious Injury Crashes - 0 (0.0%)
- Total Pedestrian Crashes - 16 (6.5%)
- Total Bicyclist Crashes - 2 (0.8%)

## Top 3 Crash Types

**28%** Sideswipe Crashes

**18%** Struck Parked Vehicle

**15%** Rear-End Crashes

## Community Concerns and Feedback


## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
8. Rectangular Rapid Flashing Beacon (RRFB)
12. Road Diet
13. Reconfigure Intersection

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# 1A. South Orange Ave (CR 510)/Market Street, Boylan Street to NJ Route 21

*Municipality:* ***East Orange/Newark***
*Length:* ***3.23 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

This combined corridor (Essex County Route 510) covers more than 5 miles in the cities of South Orange, East Orange, and Newark. Two segments are recommended. The segment is 3.23-miles long from Boylan Street in East Orange to NJ Route 21 in Newark. At MilePost 29.0, South Orange Avenue becomes Market Street and is under jurisdiction of the City of Newark. The combined corridor segments are ranked the highest in Essex County for crash risk and severity. This combined corridor is among the most important travel corridors in the County. A diverse program of safety countermeasures is proposed, including new traffic signals, pedestrian safety, lighting, traffic calming, and transit safety. Additional countermeasures include geometric improvements and curb extensions to shorten pedestrian crossing distances at targeted locations based on local context and crash history.

## Crash Summary

- Total Crashes - 2,560
- Total Fatal Crashes - 8 (0.3%)
- Total Serious Injury Crashes - 71 (2.8%)
- Total Pedestrian Crashes - 223 (8.7%)
- Total Bicyclist Crashes - 37 (1.4%)

## Top 3 Crash Types

**21%** Sideswipe Crashes

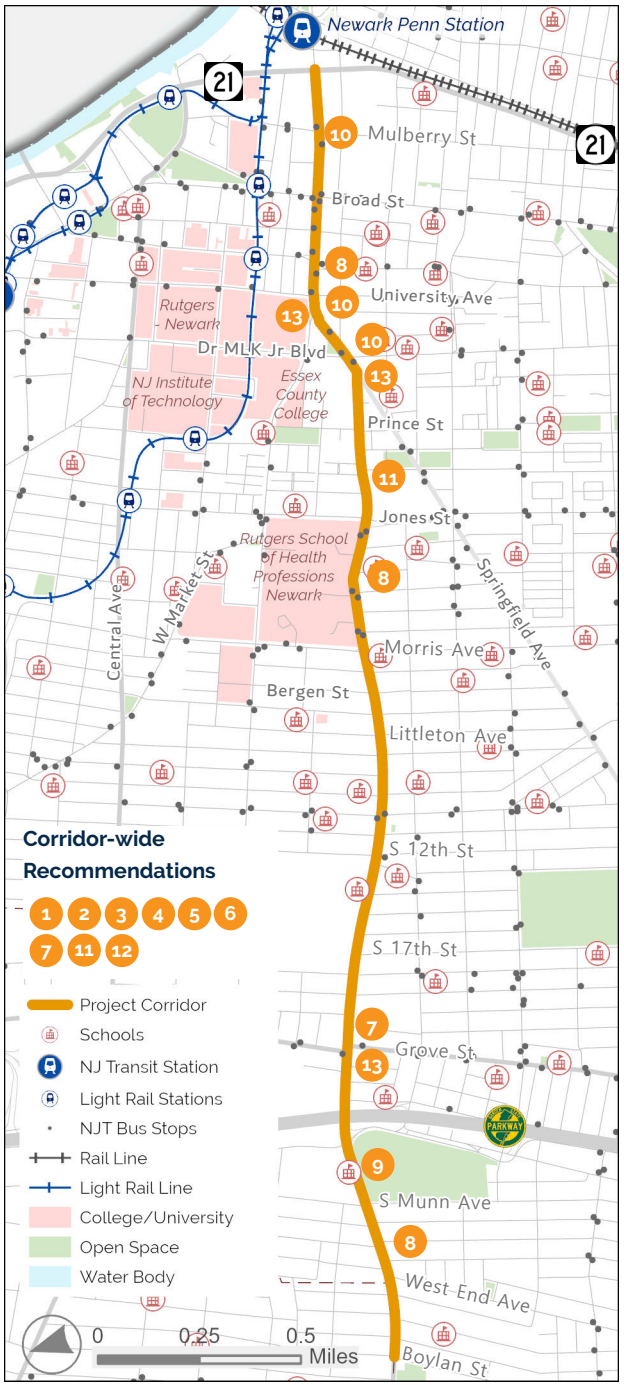
**21%** Rear-End Crashes

**18%** Right Angle Crashes

## Community Concerns and Feedback


## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
8. Rectangular Rapid Flashing Beacon (RRFB)
9. Pedestrian Hybrid Beacon
10. Pedestrian Refuge Island
11. Reduce Speed Limits
12. Road Diet
13. Reconfigure Intersection



# 1B. South Orange Avenue (CR 510), Conway Court to Boylan Street

*Municipality:* ***E. Orange/Newark/S. Orange***
*Length:* ***2.19 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

This combined corridor (Essex County Route 510) covers more than 5 miles in the cities of South Orange, East Orange, and Newark. Two segments are recommended. This segment is 2.19-miles long from Conway Court in South Orange to Boylan Street in East Orange. The combined corridor segments are ranked the highest in Essex County for crash risk and severity. This combined corridor is among the most important travel corridors in the County. A diverse program of safety countermeasures is proposed, including new traffic signals, pedestrian safety, lighting, traffic calming, and transit safety. A diverse program of safety countermeasures is proposed, including new traffic signals, pedestrian safety, lighting, traffic calming, and transit safety. Additional countermeasures include geometric improvements and curb extensions to shorten pedestrian crossing distances at targeted locations based on local context and crash history. Evaluate segment from Sanford Avenue to Munn Avenue for left-turn alignments and possible prohibitions.

## Crash Summary

- Total Crashes - 861
- Total Fatal Crashes - 4 (0.5%)
- Total Serious Injury Crashes - 14 (1.6%)
- Total Pedestrian Crashes - 67 (7.8%)
- Total Bicyclist Crashes - 6 (0.7%)

## Top 3 Crash Types

**25%** Rear-End Crashes

**21%** Sideswipe Crashes

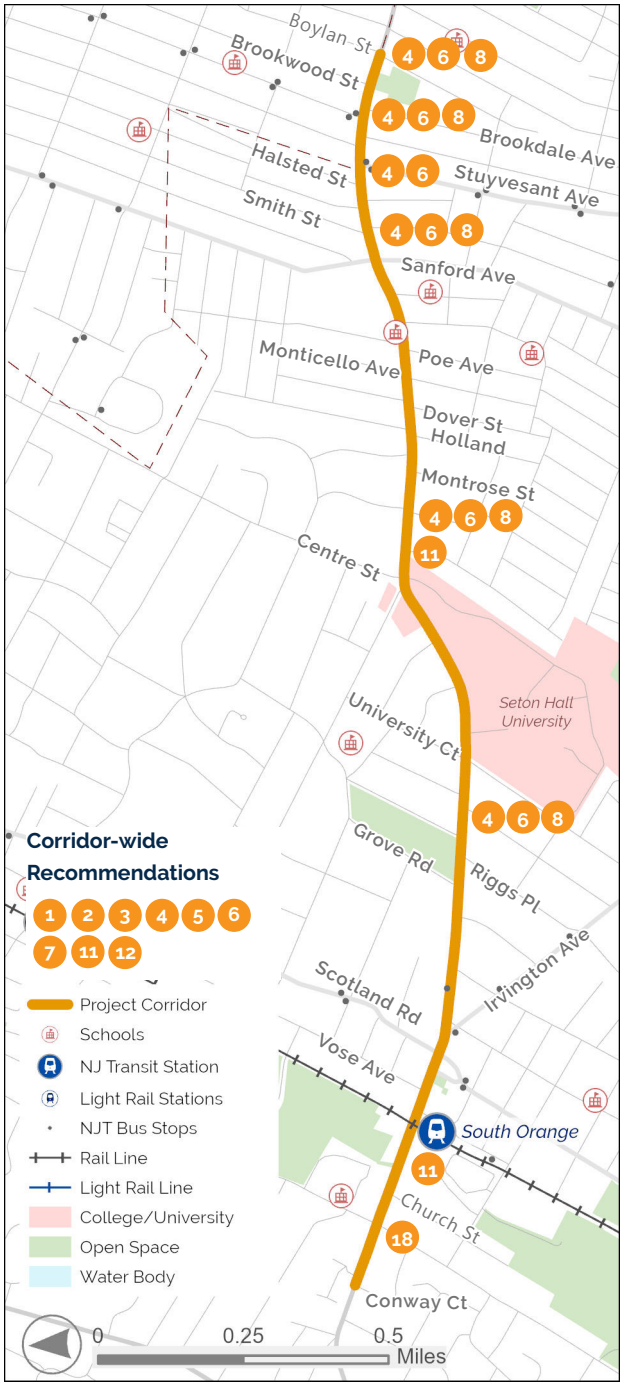
**17%** Struck Parked Vehicle

## Community Concerns and Feedback

- Excessive Speeding
- Intersection Feels Unsafe
- Motorists Don't Yield to Pedestrians/Cyclists

## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
8. Rectangular Rapid Flashing Beacon (RRFB)
11. Reduce Speed Limits
12. Road Diet
18. High Friction Surface Treatment



# 8A. Park Avenue (CR 658), North Clinton Street to Garside Street

*Municipality:* ***East Orange/Newark***
*Length:* ***2.04 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

Park Avenue is located in densely populated East Orange and Newark. Two segments are recommended. The first is 2.04-miles long from North Clinton Avenue to Garside Street, connecting Newark and East Orange. The second segment is 1.0-mile long from Main Street to Washington Street, and entirely in East Orange. The Park Avenue corridors are ranked 8th highest in Essex County for crash risk and severity. Park Avenue is a principal east-west corridor in the County.

BIKENewark recommended three sections: road diet to accommodate protected bike lanes from N 13th Street to 4th Street; bicycle boulevard from 4th Street to Lake Street; convert on-street parking to 12-ft wide Parking + Bike Lane from Lake Street to Stone Street. Additionally, striping 10' travel lanes from the centerline, with 5' buffers and extend 5' bike lanes across Park Avenue from N 12th Street to N 15th Street.

## Crash Summary

- Total Crashes - 1,084
- Total Fatal Crashes - 1 (0.1%)
- Total Serious Injury Crashes - 18 (1.7%)
- Total Pedestrian Crashes - 52 (4.8%)
- Total Bicyclist Crashes - 16 (1.5%)

## Top 3 Crash Types

**23%** Right Angle Crashes

**20%** Rear-End Crashes

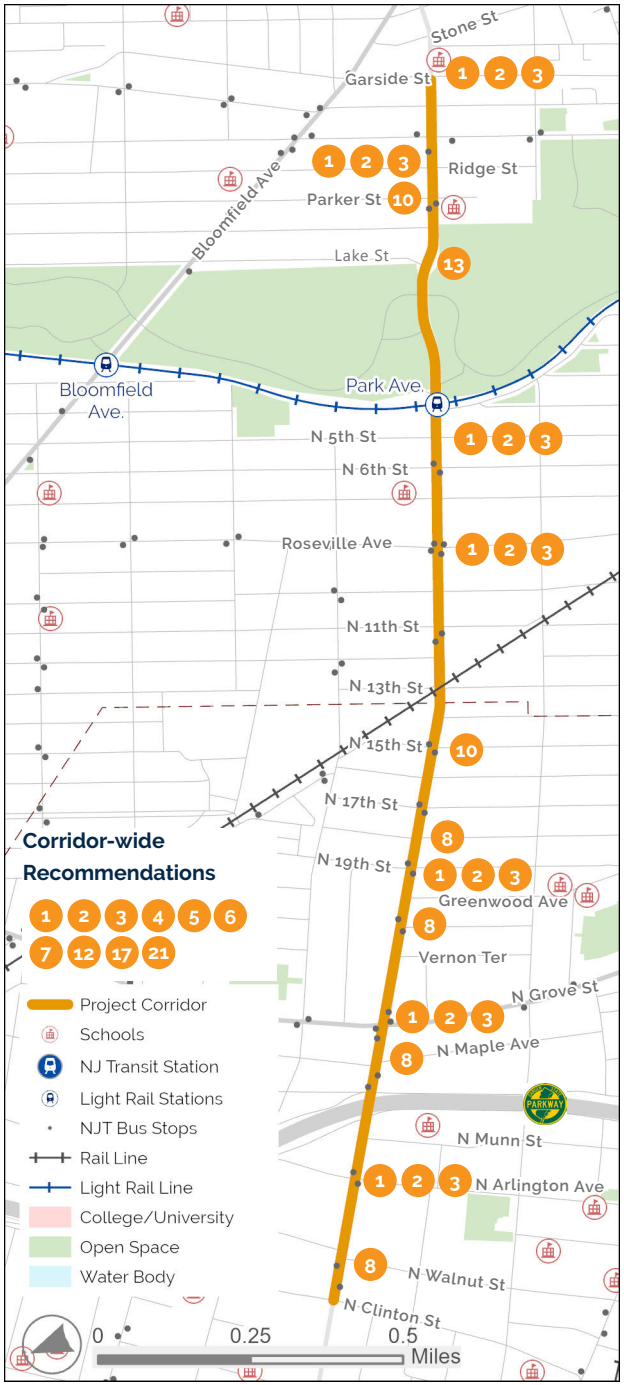
**20%** Struck Parked Vehicle

## Community Concerns and Feedback

- Excessive Speeding
- Need Bike Lanes
- Other People Make Me Feel Unsafe

## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
8. Rectangular Rapid Flashing Beacon (RRFB)
10. Pedestrian Refuge Island
12. Road Diet
13. Reconfigure Intersection
17. Hardened Centerlines
21. Bike Lanes



# 8B. Park Avenue (CR 658), Main Street to Washington Street

*Municipality:* ***East Orange***
*Length:* ***1.00 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

Park Avenue is located in densely populated East Orange and Newark. Two segments are recommended. The first is 2.04-miles long from North Clinton Avenue to Garside Street, connecting Newark and East Orange. The second segment is 1.0-mile long from Main Street to Washington Street, and entirely in East Orange. The Park Avenue corridors are ranked 8th highest in Essex County for crash risk and severity. Park Avenue is a principal east-west corridor in the County with frequent traffic signals and left turn lanes, with on-street parking, and many bus stops. Proposed safety countermeasures include new traffic signals with improved signal timings, lighting, and pedestrian improvements. Additional countermeasures are recommended at targeted locations based on local context and crash history. Improved transit access and safety improvements are also recommended.

## Crash Summary

- Total Crashes - 393
- Total Fatal Crashes - 2 (0.5%)
- Total Serious Injury Crashes - 6 (1.5%)
- Total Pedestrian Crashes - 13 (3.3%)
- Total Bicyclist Crashes - 3 (0.8%)

## Top 3 Crash Types

**27%** Right Angle Crashes

**17%** Rear-End Crashes

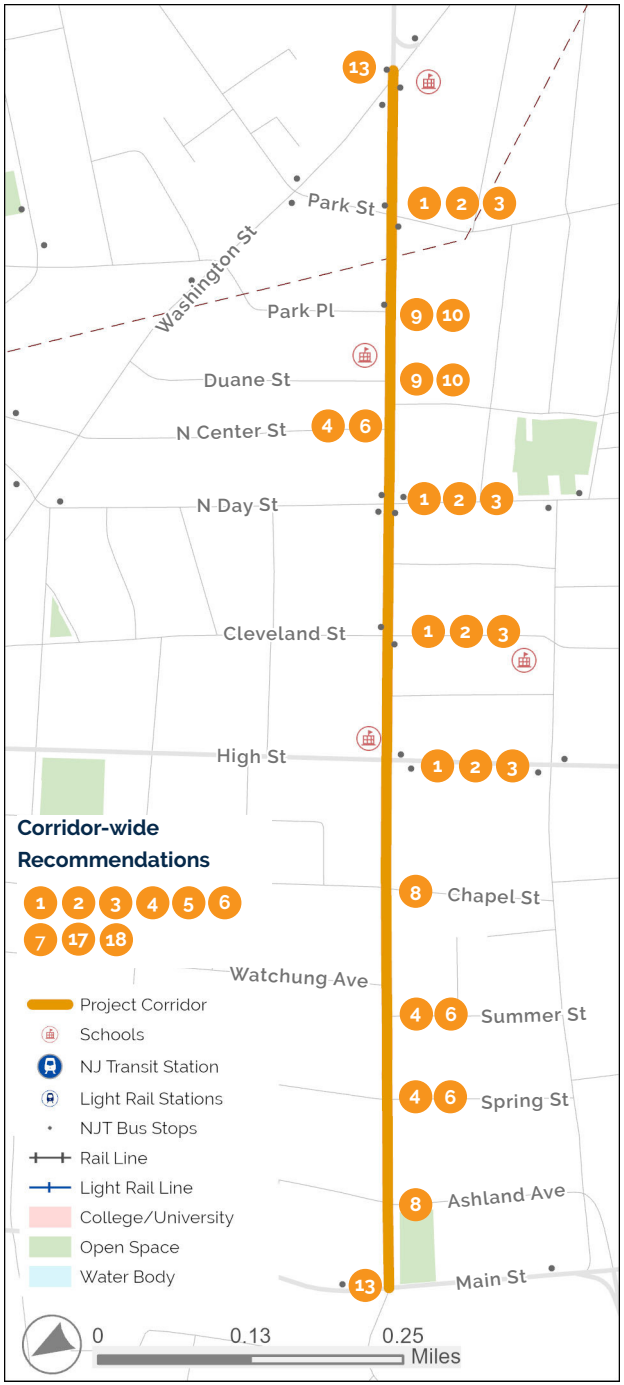
**16%** Struck Parked Vehicle

## Community Concerns and Feedback

- Excessive Speeding
- Motorists Don't Yield to Pedestrians /Cyclists
- Intersection Feels Unsafe

## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
8. Rectangular Rapid Flashing Beacon (RRFB)
9. Pedestrian Hybrid Beacon
10. Pedestrian Refuge Island
13. Reconfigure Intersection
17. Hardened Centerlines
18. High Friction Surface Treatment



# 10. Central Avenue (CR 508), Highwood Road to Whittlesey Avenue

*Municipality:* ***East/West Orange/Orange***
*Length:* ***3.25 miles***

| School Zone | Transit | Demographic Score |
|---|---|---|
| ☑ | ☑ | ☑ Above County Average |

This combined corridor (Essex County Route 508) covers more than 3.25 miles in the municipalities of East Orange, Orange, and West Orange, between Highwood Avenue in West Orange and Whittlesey Avenue Road in East Orange; the combined corridor segments are ranked 10th highest in Essex County for crash risk and severity. The Northfield Avenue/Whittingham Place/Kingsley Street/Valley Road/Central Avenue corridor is a significant east-west corridor and located south of and parallel to I-280 and provides access to the Garden State Parkway in East Orange. A diverse program of safety countermeasures is proposed, including new traffic signals, pedestrian safety, lighting, traffic calming, and transit safety. Additional countermeasures include geometric improvements and curb extensions to shorten pedestrian crossing distances at targeted locations based on local context and crash history.

## Crash Summary

- Total Crashes - 1,322
- Total Fatal Crashes - 9 (0.7%)
- Total Serious Injury Crashes - 19 (1.4%)
- Total Pedestrian Crashes - 79 (6.0%)
- Total Bicyclist Crashes - 9 (0.7%)

## Top 3 Crash Types

**22%** Rear-End Crashes

**20%** Sideswipe Crashes

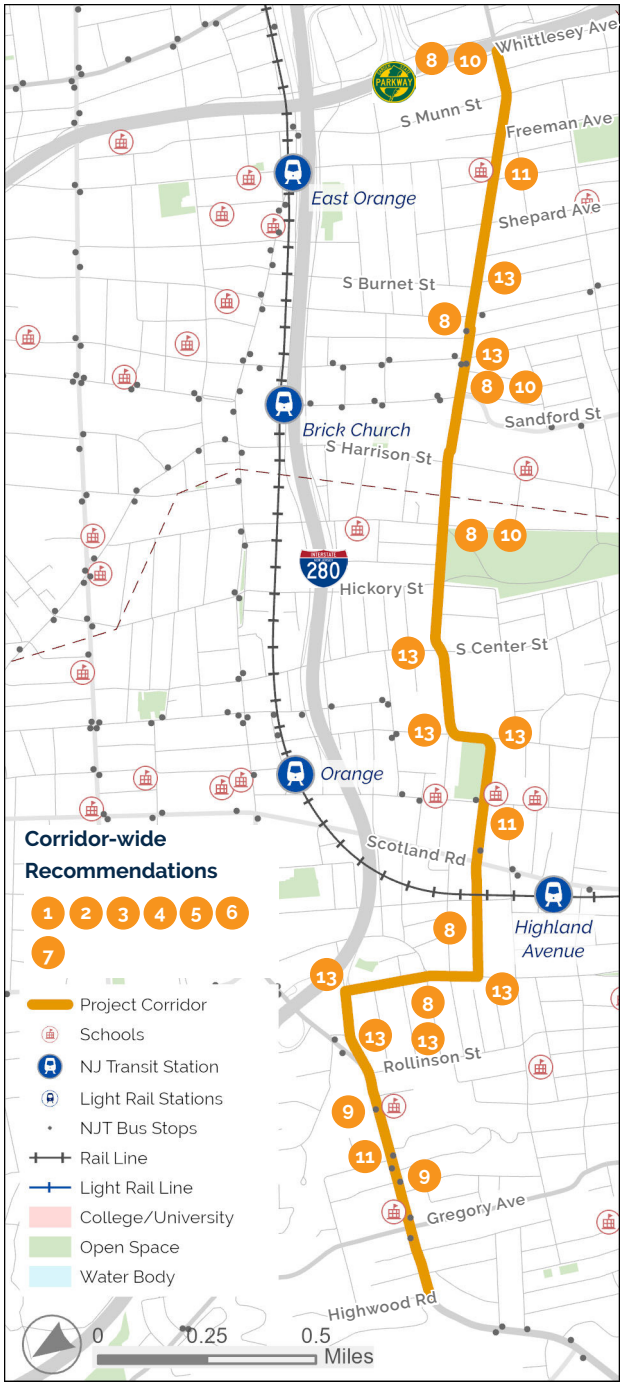
**14%** Struck Parked Vehicle

## Community Concerns and Feedback

- **EXCESSIVE SPEEDING**
- **INTERSECTION FEELS UNSAFE**
- **MOTORISTS DON'T YIELD TO PEDESTRIANS /CYCLISTS**

## Recommended Countermeasures

1. Upgrade Traffic Signals
2. Leading Pedestrian Interval (LPI)
3. Yellow Change Interval
4. Intersection Daylighting & Curb Extension
5. Improved Street Lighting
6. High Visibility Crosswalk
7. Sidewalks & ADA Ramps
8. Rectangular Rapid Flashing Beacon (RRFB)
9. Pedestrian Hybrid Beacon
10. Pedestrian Refuge Island
11. Reduce Speed Limits
13. Reconfigure Intersection



## POLICIES AND OPERATIONAL STRATEGIES

The Implementation Plan guides the City of East Orange as it seeks to implement the SS4A Action Plan to **achieve the overarching goal of eliminating fatal and serious injury crashes by 2045.**

The Action Plan focuses on three overarching themes developed from the outputs of a comprehensive assessment of safety and crash data history, and informed and refined by community and stakeholder input.

### Theme 1: Promote a Culture of Safety

The City of East Orange is committed to preventing crashes and mitigating crash severity by addressing the root causes of dangerous driving behaviors and promoting shared responsibility for safety among individuals, agencies, and organizations that design, manage, and use the transportation system. Community feedback and crash data highlight persistent safety concern hotspots, unsafe turns, poor visibility, and aggressive driving behaviors. By addressing these issues comprehensively, the City aims to reduce severe injuries, protect vulnerable road users, and foster public trust.

### Theme 2: Plan, Design, and Build "Safe Streets 4 All"

The City is committed to designing streets that are safe for everyone, reducing severe crash risks, and providing accessible networks for people of all ages and abilities who walk, bike, roll, or use transit. Street design and infrastructure projects should aim to lower speeds and influence driver behavior, addressing a leading cause of traffic crashes. This theme has two sub-themes:

- **Theme 2A: Safe Street Design and Traffic Calming** focuses on safe street design solutions that self-regulate speeds and risky driving behaviors, reducing the need for enforcement.
- **Theme 2B: Active Transportation Options and Networks** promote safe, accessible active transportation options to encourage walking, biking, and micromobility as viable, equitable transportation choices.

### Theme 3: Partner and Collaborate

The City recognizes that advancing safe streets requires broad collaboration across agencies, municipalities, advocacy organizations, and community partners. Building safe and accessible streets depends on shared responsibility, coordinated action, and transparent communication. By fostering partnerships, The City can leverage resources, align goals, and deliver safety improvements more effectively. Through joint planning, technical assistance, and information-sharing, the City will empower municipalities, regional agencies, and local organizations to create safer streets together.

***For the purposes of the tables below, "Short-term" means 0-2 years and "Medium-term" means 3-6 years.***

## Theme 1: Promote a Culture of Safety

The City of East Orange is committed to making the streets safer for everyone by reducing traffic fatalities and serious injuries. Through data-driven policies, education and engagement, strategic enforcement, and collaboration with partners, the aim is to foster a culture of safety that protects all roadway users.

| Strategy | Responsibility | Timeframe | Actions/Performance Measures |
|---|---|---|---|
| **Update East Orange's Circulation Plan Element of the City's Master Plan** consistent with the findings and recommendations of the *Essex SS4A Action Plan* and guidance in *Essex 2045* to make safe streets the default in all City planning initiatives and infrastructure projects | Department of Policy, Planning, and Development (DPPD), Division of Comprehensive Planning | Short-term | • Updated Plan to reflect current needs, risks, and priorities, then formally adopt and communicate publicly. |
| **Develop a Complete Streets Policy, Design Guide, and Project Checklists** consistent with the NJ Complete and Green Streets Gude | Department of Public Works (DPW), Division of Plans and Construction | Short-term | • Adopt and require completion of internal project review and site plan/subdivision review checklists<br>• Include language in the City capital project checklist that major projects include community engagement<br>• Develop a Complete Streets Implementation Committee to track projects and review and sign off on Complete Streets checklists. Publication of annual reports that tracks the City's progress in implementing planned or recommended countermeasures, the number of traffic crashes, enforcement efforts, |

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| | | | accomplishments, significant milestones, exemptions granted, and any recommended changes |
| **Implement targeted education and outreach programs,** including school-based campaigns, social media messaging, and community partnerships | Mayor's Communications Office, DPPD, Division of Comprehensive Planning, DPW, Division of Plans and Construction<br><br>**Potential Partners:** Board of Education, EZ Ride, Essex County Sheriff's Office, Essex County Prosecutor's Office, East Orange Police Department (EOPD), Advocacy Groups | Medium-term/Ongoing | • Develop a communications strategy informed by research to improve public perceptions of people walking, biking, using assistive devices, and taking transit<br>• Coordinate education or safety campaigns annually<br>• Track the number of schools and community groups engaged annually |
| **Communicate "crashes" instead of "accidents"** to shift culture toward safety and accountability | Mayor's Communications Office, Sheriff's Office, Prosecutor's Office, EOPD, DPW, Division of Plans and Construction,<br><br>**Potential Partners:** EZ Ride, Advocacy Groups | Medium-term | • Update City communications guide<br>• Review and revise all public-facing reports and outreach materials to reflect new terminology |
| **Conduct traffic safety enforcement actions** at high-risk corridors and intersections to reduce serious injury and fatal crashes | Police Department | Short-term/Ongoing | • Initiate regular high-visibility enforcement campaigns at high-crash locations<br>• Number of enforcement actions taken (citations, warnings, stops)<br>• Monitor repeat violations to assess behavior change<br>• Track crashes at enforcement sites before/after campaigns |

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| **Increase enforcement of parking infractions** that impact public safety and lead to a higher risk of crashes | Police Department<br>**Potential Partners:** Parking Authority | Short-term/Ongoing | • Initiate regular parking enforcement campaigns at high-crash locations<br>• Number of enforcement actions taken (citations, warnings, stops)<br>• Monitor repeat violations to assess behavior change<br>• Track crashes at enforcement sites before/after campaigns |
| **Develop a City Safe Fleet Transition Plan** to formalize a set of best-practice vehicle safety technologies for all City vehicles to prevent and mitigate crashes. | DPW, Division of Plans and Construction | Medium-term | • Develop and adopt a City Safe Fleet Transition Plan<br>• Number of fleet vehicles retrofitted<br>• Number of fleet vehicles replaced |
| Develop a policy regarding the installation of **safe passing law signage** on City Roads. | DPW, Division of Plans and Construction, | Short-term | • Develop and adopt a safe passing law signage policy<br>• Number of signs installed |
| **Educate and support county and municipal staff** on safe street practices and crash prevention principles | DPW, Division of Plans and Construction,<br>**Potential Partners:** EZ Ride, Advocacy Groups | Medium-term/Ongoing | • Develop standard street safety training/branding materials<br>• Number of training sessions held, and number of staff trained<br>• Percentage of municipalities that adopt training recommendations |

## Theme 2: Plan, Design, and Build "Safe Street for All"

### Theme 2A: Safe Street Design and Traffic Calming

The City of East Orange is committed to implementing street design and infrastructure projects that support traffic calming and encourage safer driving behaviors to create safer streets for all users, including pedestrians, cyclists, transit riders, and drivers.

| Strategy | Responsibility | Timeframe | Actions/Performance Measures |
|---|---|---|---|
| **Apply the Complete Streets Policy, Design Guide, and Project Checklists** for all City roadway projects | DPW, Division of Plans and Construction, Division of Engineering | Short-term/Ongoing | • Apply checklist to City road projects<br>• Document safety improvements incorporated in reviewed projects<br>• Incorporate equity considerations in design decisions<br>• Track post-construction outcomes (e.g., crashes/severity, pedestrian/bike usage) |
| **Apply the Complete Streets Policy, Design Guide, and Project Checklists to development and redevelopment project review** to ensure non-motorized users are prioritized | DPPD, Division of Comprehensive Planning, DPW, Division of Engineering, Planning Board<br>**Potential Partners:** Developers | Short-term/Ongoing | • Apply checklist to projects under Site Plan and Subdivision review<br>• Ensure approved projects implement recommended safety improvements<br>• Conduct post-occupancy evaluation<br>• Track changes in crashes/severity pedestrian/bike usage at development sites |
| **Conduct Road Safety Audits** of City HIN Priority Corridors/Projects to establish feasibility, priorities, and recommend projects for funding | DPW, Division of Plans and Construction, Division of Engineering<br>**Potential Partners:** NJTPA, NJDOT, TMAs, | Short-term/Ongoing | • Complete Road Safety Audits (RSAs) on roadways identified in the City HIN Priority Corridor/Project list<br>• Document and share recommendations with municipalities<br>• Prioritize audits in traditionally underserved communities<br>• Track crashes/severity at audited locations where safety improvements have been implemented |
| **Secure funding & install traffic calming and safety improvements** on the City | DPW, Division of Plans and Construction, Division of Engineering | Medium-term/Ongoing | • Prioritize projects identified through RSAs |

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| HIN Priority Corridors Project list | **Potential Partners:** NJTPA, NJDOT, FHWA | • Number of locations where traffic calming measures are installed<br>• Track crashes/severity at locations where safety improvements have been implemented |

## Theme 2B: Active Transportation Options and Networks

The City of East Orange is committed to promoting safe, active transportation by facilitating walking, biking, and rolling to key destinations, such as schools, parks, and transit. The City prioritizes active transportation-focused infrastructure, including sidewalks and crosswalks, dedicated bike lanes, trails, and other bicycle and pedestrian safety improvements to reduce crashes and support safe, equitable mobility for all.

| Action Items | Responsibility | Timeframe | Performance Measures |
|---|---|---|---|
| **Conduct Citywide studies for pedestrian, bicycle, and micromobility modes** to expand transportation choices | DPPD, Division of Comprehensive Planning, DPW, Division of Plans and Construction<br>**Potential Partners:** NJTPA, EZ Ride | Medium-term | • Through planning studies, develop complete active transportation networks with prioritized connectivity to schools, parks, and transit<br>• Studies completed and adopted<br>• Recommendations implemented |
| **Expand and improve walking and biking infrastructure** that is separated from vehicular traffic | DPW, Division of Plans and Construction, Division of Engineering<br>**Potential Partners:** **County** Department of Recreation and Cultural Affairs, Board of Education, NJTPA, NJDOT, FHWA, NJ TRANSIT, Port Authority, EZ Ride | Medium-term/Ongoing | • Identify on the HIN Priority Corridor/Project list locations focused on safety improvements for vulnerable road users<br>• Number of schools/parks/transit hubs connected by sidewalks, bike lanes, and trails<br>• Miles of protected or off-road facilities installed per year<br>• Miles of existing bike network gaps completed |

| | | | |
|---|---|---|---|
| | | | • Track crashes/severity at locations where safety improvements have been implemented |
| **Implement the Safe Routes to School** as an essential and beneficial component to achieving safety, mobility, and equity goals | DPW, Division of Plans and Construction, Division of Engineering, Board of Education<br>**Potential Partners:** EZ Ride, NJDOT, Advocacy Groups | Short-term | • Number of schools participating<br>• Track changes in walking/biking/personal vehicle use at school drop-off/pick-up<br>• Track crashes/severity in school zones |
| **Designate and enhance school zones** with reduced speed limits, improved signage, traffic calming measures, and safe drop-off/pick-up areas | DPW, Division of Plans and Construction, , Division of Engineering, Board of Education<br>**Potential Partners:** EZ Ride, NJDOT | Medium-term/Ongoing | • Number of school zones with improvements<br>• Track crashes/severity in enhanced school zones |
| **Designate and enhance community facility zones** (e.g., parks, libraries, recreation centers, etc.) with reduced speed limits, improved signage, and safe crossings | DPW, Division of Plans and Construction, Division of Engineering, Department of Recreation and Cultural Affairs | Medium-term/Ongoing | • Number of community facility zones designated<br>• Track crashes/severity in community facility zones |
| **Accommodate biking/riding in City parks** and create connections between parks and trail systems | DPW, Division of Plans and Construction, Department of Recreation and Cultural Affairs<br>**Potential Partners** | Short-term (policy change)<br>Medium-term (infrastructure)/Ongoing | • Develop a plan to better accommodate biking/riding in East Orange Parks, e.g., allow bikes on trails, add new on or off-road bike facilities, etc. |

| | | | |
|---|---|---|---|
| | East Coast Greenway Alliance, NJ Bike and Walk Coalition, EZ Ride, Advocacy Groups | | • Number of parks with bike accommodations and miles of connections to trails<br>• Track users of connected facilities |
| **Support and connect to regional or local multi-use trail projects** such as the forthcoming trail between Brighton Street and Glenwood Avenue and others identified in the North Jersey Trail Network Initiative | DPW. Division of Plans and Construction, Department of Recreation and Cultural Affairs<br>**Potential Partners**<br>NJDOT, NJDEP, East Coast Greenway Alliance, NJ Bike and Walk Coalition, EZ RIDE, Advocacy Groups | Short-term/Ongoing | • Trail mileage completed |
| **Improve transit stop access and amenities,** including sidewalks, shelters, benches, and ADA upgrades | DPW, Division of Plans and Construction, Division of Engineering<br>**Potential Partners:** NJ TRANSIT, EZ Ride | Medium-term/Ongoing | • Number of stops with improved access/amenities<br>• Number of stops meeting ADA standards<br>• Rider satisfaction surveys |
| **Coordinate with NJ TRANSIT and EZ Ride** to improve the first/last-mile connections, including bikeshare, micromobility, and shuttles | DPW, Division of Plans and Construction, NJ TRANSIT, EZ Ride<br>**Potential Partners:** Advocacy Groups | Medium-term/Ongoing | • Number of first/last-mile projects implemented<br>• Transit ridership change at improved hubs |

## Theme 3: Partner and Collaborate

The City of East Orange is committed to advancing road safety by partnering and collaborating across agencies, and community organizations. The City will champion multi-jurisdictional projects, policies, and ordinances, while sharing data and best practices to strengthen safety outcomes and build a culture of continuous learning.

| Action Items | Responsibility | Timeframe | Performance Measures |
|---|---|---|---|
| **Organize and support a Road Safety Advisory Committee** with representatives from the City, and community partners to champion the implementation of *Essex Safe Streets for All Action Plan* goals and strategies | Commissioners, DPPD, Division of Comprehensive Planning, DPW, Division of Plans and Construction<br><br>**Potential Partners:** Board of Education, County Department of Recreation and Cultural Affairs, Police Department, EZ Ride, Advocacy Groups | Short-term/Ongoing | • Road Safety Advisory Committee (RSAC) established and continues to meet regularly<br>• RSAC recommendations reflected in policy implementation and project selection |
| **Establish Citywide road safety performance measures and goals** to guide policy, funding, and project decisions, ensuring alignment with Essex Safe Streets for All goals and strategies | DPW, Division of Plans and Construction, RSAC | Short-term/Ongoing | • RSAC establishes measures used to evaluate the implementation of *Essex Safe Streets for All Action Plan* goals and projects<br>• Adopt performance measures and goals, and monitor annually |
| **Compile Citywide crash and safety data** to help identify priority projects and strengthen local decision-making capacity | DPW, Division of Planning, EOPD, Communications Office | Short-term/Ongoing (Annual) | • Crash and safety data published annually<br>• Data used by the City to apply for grants or prioritize projects |

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|---|---|---|---|
| **Engage municipal, community, and external stakeholders early and often** to co-develop solutions, conduct safety audits, and advance demonstration projects | DPPD, Division of Comprehensive Planning, DPW, Division of Plans and Construction, Division of Engineering,<br><br>**Potential Partners:** Board of Education, Essex County Sheriff's Office, EZ Ride, Volunteer and Advocacy Groups | Short-term/Ongoing | • Prioritize locations on the HIN Priority Corridor/Project list with high visibility and multi-modal usage<br>• Number of completed demonstration or quick-build projects on high-risk corridors annually<br>• Record pedestrian/bicycle counts and driver behavior before and after implementation<br>• Document observed speed reductions, conflict points, or behavior changes |

# REFERENCES

[i] https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/lrsp2020.pdf, accessed April 24, 2025

[ii] The Safety Voyager application, developed by NJDOT, is a platform that hosts the comprehensive crash records, including location, severity, crash type and environmental factors; Numetric, managed by the New Jersey Division of Highway Traffic Safety, provides high level analytics that combine multiple aspects of crash data—such as vehicles, drivers, occupants, and pedestrians—into an integrated summary for broader safety trends.

[iii] 2016-20 Statewide Pedestrian Fatalities and Serious Injury Crash Analysis., 2024, New Jersey Department of Transportation, Bureau of Safety, Bicycle, and Pedestrian Programs

[iv] NHTSA (2021). Traffic Safety Facts: Pedestrians [DOT-HS-813-079]. Retrieved from https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813079

[v] https://highways.dot.gov/safety/data-analysis-tools/rsdp/rsdp-tools/nchrp-report-893-systemic-pedestrian-safety-analysis. Accessed October 28, 2025

[vi] https://highways.dot.gov/safety/data-analysis-tools/rsdp/rsdp-tools/nchrp-report-893-systemic-pedestrian-safety-analysis. Accessed October 28, 2025, pages v and 4

[vii] https://www.njtpa.org/Projects-Programs/Transportation-Improvement-Program-(TIP)/Project-Tracker-(NOTIS).aspx. Accessed November 3, 2025

[viii] The Transportation Alternatives Set-Aside Program (TA Set-Aside; formerly known as Transportation Alternatives Program, or TAP) is administered by the U.S. Federal Highway Administration (FHWA) and helps states fund a variety of activities related to improving transportation assets, including on- and off-road pedestrian and bicycle facilities, environmental mitigation, and creating or improving recreational trails projects. Accessed November 3, 2025. https://www.adaptationclearinghouse.org/resources/usdot-transportation-alternatives-set-aside-program.html

[ix] The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance. Accessed November 3, 2025. https://highways.dot.gov/safety/hsip

[x] https://www.njtpa.org/lsp.aspx Accessed November 3, 2025.

# East Orange Supplemental Final Report

October 2025 | City of East Orange, New Jersey