Safe Streets for All

in New Castle County

A Partnership of WILMAPCO, New Castle County, Municipal, and State Agencies, and Community Stakeholders

OUR GOAL:

50 percent fewer fatal and serious crashes by 2030 and eliminate them by 2040

August, 2023

SAFE STREETS FOR ALL NEW CASTLE COUNTY COMMITTEE

Agency	Jurisdiction Type
New Castle County Emergency Management	County
New Castle County Emergency Medical Services	County
New Castle County Executive's Office	County
New Castle County Land Use	County
Federal Motor Carrier Safety Administration	Federal
WILMAPCO	MPO
Arden	Municipal
Ardencroft	Municipal
Ardentown	Municipal
Bellefonte	Municipal
City of New Castle	Municipal
City of Newark	Municipal
City of Wilmington	Municipal
Delaware City	Municipal
Elsmere	Municipal
Middletown	Municipal
Town of Newport	Municipal
Town of Odessa	Municipal
Town of Townsend	Municipal
Appoquinimink School District	School Transportation
Brandywine School District	School Transportation
Christina School District	School Transportation
Colonial School District	School Transportation
Red Clay School District	School Transportation
Department of Health and Social Services	State of Delaware
Delaware Governor's Office	State of Delaware
Delaware Office of Highway Safety	State of Delaware
Delaware Office of State Planning	State of Delaware
Delaware Transit Corporation	State of Delaware
DelDOT	State of Delaware
Division of EMS	State of Delaware
Delaware Center for Transportation	University of Delaware
Institute for Public Administration	University of Delaware
League of Local Government	University of Delaware
AAA Mid-Atlantic	Nonprofit
AARP	Nonprofit

DEFINITIONS

Crash/Collision – Preventable intersecting movements of roadway users that may result in injury or loss of life, trauma, and property damage.

Safe Streets for All - A collaborative initiative to eliminate roadway deaths and severe injuries in our communities.

Serious Injury - A serious (or severe) injury involves one or more of the following:

- Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood
- Broken or distorted extremity (arm or leg)
- Crush injuries
- Suspected skull, chest, or abdominal injury other than bruises or minor lacerations
- Significant burns (second and third degree burns over 10% or more of the body)
- Unconsciousness when taken from the crash scene
- Paralysis

Severe Crashes – Serious injury and fatal crashes

Systemic Safety - A systemic approach to safety involves widely implemented improvements based on high-risk roadway features correlated with specific severe crash types. The approach helps agencies broaden their traffic safety efforts at little extra cost.

Transportation Equity – A recognition that transportation-related externalities, such as traffic deaths and injuries, and environmental impacts caused by transportation systems, are disproportionately experienced by some community groups and transportation network users more so than others.

Vision Zero – A road safety philosophy which states that no loss of life due to traffic collisions is acceptable.

Vision Zero NCC Goal – A goal to end fatalities and serious injuries caused by traffic crashes in New Castle County by 2040 and cut the number in half by 2030 compared to 2021.

DATA

The Delaware Department of Safety and Homeland Security (DSHS) is the official custodian of Delaware crash reports and is responsible for statewide crash data collection and dissemination. Analysis was completed with assistance from the University of Delaware, Delaware Center for Transportation. Publicly available data may be viewed at https://data.delaware.gov/stories/s/Public-Crash-Data-Dashboard/9yvr-c38p. Most analysis in this report used 2015-2021 data due to a lag in when final data is released.

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INTRODUCTION

WHAT IS SAFE STREETS FOR ALL IN NEW CASTLE COUNTY

Safe Streets for All in New Castle County (SS4A) is a cooperative effort to eliminate roadway deaths and serious injuries in our communities. WILMAPCO, local governments, state agencies, and community stakeholders have developed this action plan to identify how we can collectively achieve zero fatalities and serious injuries. The action plan outlines strategies and actions that should be taken to reverse the rising number of serious crashes. It is simply a starting point—a living document that will respond to data trends and continue to incorporate safety innovations and opportunities to eliminate traffic fatalities and injuries. This new approach will need to go beyond "business as usual." Solutions will require action by policymakers, engineers, planners, first responders, enforcement agencies, and the traveling public.

In other words, SS4A is a plan to make our roads safer for everyone. It will require cooperation from everyone involved in transportation, from policymakers to the traveling public. We can all do our part to help make our roads safer for everyone.

MORE THAN ONE PERSON DIES EACH WEEK ON OUR STREETS AND FOUR PEOPLE EXPERIENCE LIFE-ALTERING SERIOUS INJURIES.

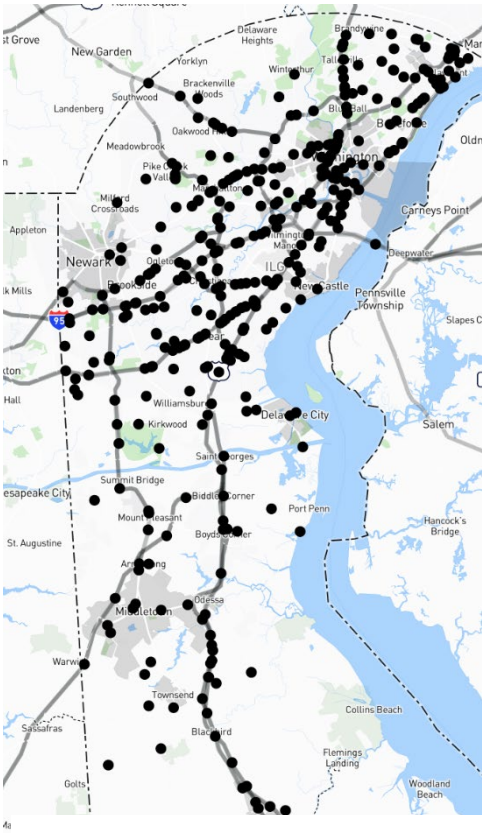
In 2022, a record 86 people died on New Castle County streets; between 2015 and 2021 there were 1,573 serious injuries and 361 deaths. This loss is unacceptable.

SS4A examines the locations, causes, and trends surrounding these crashes to determine a comprehensive approach to reducing and eliminating these tragedies. Until now, transportation systems have focused disproportionately on moving vehicles as efficiently as possible and safety planning has relied on enforcement and roadway user behavior.

Those lost or harmed are far more than points on a map.

Zero

is the only acceptable number of deaths and severe injuries on New Castle County streets.



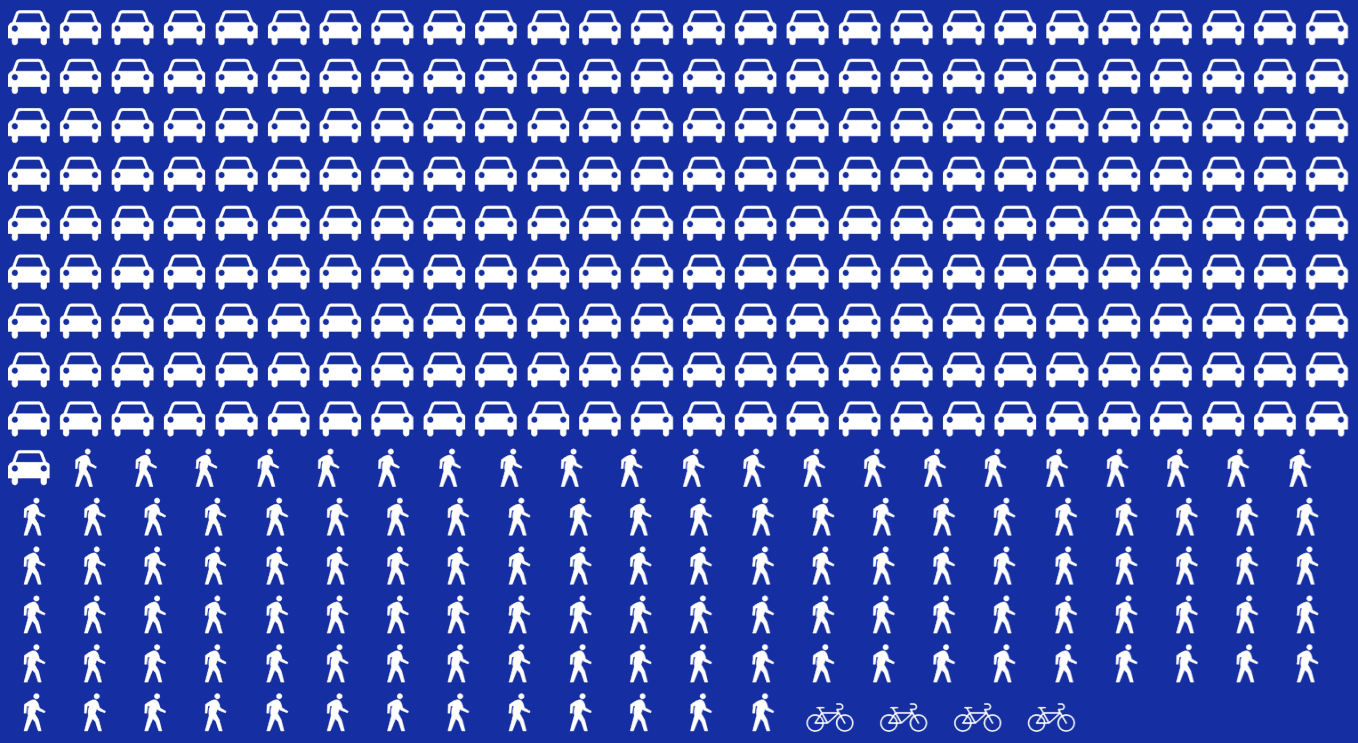
Serious Injuries/Fatalities, 2015-2021

CRASH HISTORY: A CALL TO ACTION

Between 2015 and 2021 the loss and harm to life was tragic and significant. On average, crashes resulted in:

1 **Fatalities per week**

4 **Serious injuries per week**



Over those seven years, people died in 235 vehicle crashes, 122 pedestrian crashes, and four bicycle crashes. People were seriously injured in 1,320 vehicle crashes, 229 pedestrian crashes, and 24 bicycle crashes.

In 2022, a record 86 people died on New Castle County roadways.

This report examines changes that could have prevented or reduced the severity of many of these crashes.

Our Goal: Serious Injuries and Deaths reduced by 50% by 2030 and eliminated by 2040.

These are mothers, fathers, sons, daughters, husbands, wives, friends, neighbors, and colleagues. Their loss exacts a serious toll, including emotional trauma, healthcare expenses, wage and productivity losses, and significant taxpayer spending on emergency response.

One life lost on our streets is one too many.

THIS ACTION PLAN IS DEDICATED TO THOSE THAT HAVE LOST THEIR LIVES ON STREETS IN NEW CASTLE COUNTY.

OUR APPROACH, GUIDING PRINCIPLES, AND CORE VALUES

A SAFE SYSTEMS APPROACH

SS4A adopts the Safe System Approach[1] to achieve Vision Zero, which aims to eliminate all fatal and serious injury crashes. The Safe System Approach has been embraced by the U.S. Department of Transportation and has proven to be effective in preventing serious crashes. It is a comprehensive and holistic approach that builds and layers strategies to both prevent crashes from occurring in the first place and minimize the severity of crashes when they do occur.

This is a shift from a conventional safety approach because it focuses on both human mistakes and human vulnerability, putting in place layers of redundancies to protect everyone. For years, a traditional approach has been used in New Castle County, implementing many excellent education and enforcement programs. However, serious crashes have continued to rise, proving that more is needed. Therefore, with SS4A, we are shifting from a traditional approach to a safe system approach.

Traditional	Safe System Approach
Prevent crashes	Prevent deaths and serious injuries
Improve human behavior	Design for human mistakes/limitations
Control speeding	Design for appropriate speeds
Individuals are responsible	Share responsibility
Enforce traffic laws	Design self-enforcing facilities
React based on crash history	Proactively identify and address risks

[1] Adapted from https://www.transportation.gov/NRSS/SafeSystem

OUR GUIDING PRINCIPLES

Deaths and serious injuries are unacceptable: We must have zero tolerance for traffic deaths and serious injuries.

People make mistakes: We can design and operate our roads to accommodate human mistakes and prevent death and serious injury.

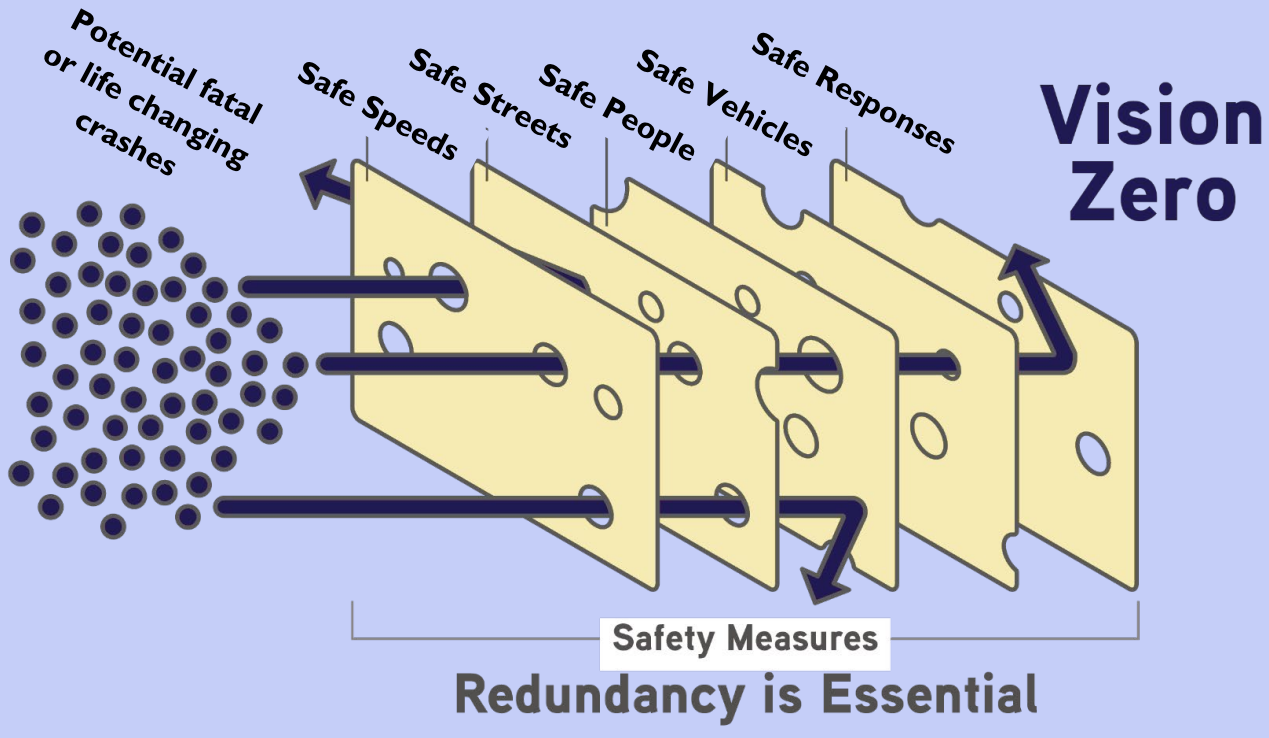
The human body is fragile: Pedestrians and bicyclists are particularly vulnerable to death and injury, and this risk decreases on slower-speed streets.

We share responsibility: Decision-makers must prioritize safety, engineers and planners must build safer communities, educators must instill safe behavior, and first responders must provide the best possible response.

We must be proactive in our approach to traffic safety: We should use crash data and other tools to identify and mitigate risks, rather than waiting for crashes to happen and then reacting.

Redundancy is crucial: It is crucial to reduce risks by strengthening all parts of the roadway system so that if one part fails, people are still protected. The Safe System approach includes the following elements: Safe Road Users, Safe Vehicles, Safe Speeds, Safe Roads, and First Response / Post-Crash Care.

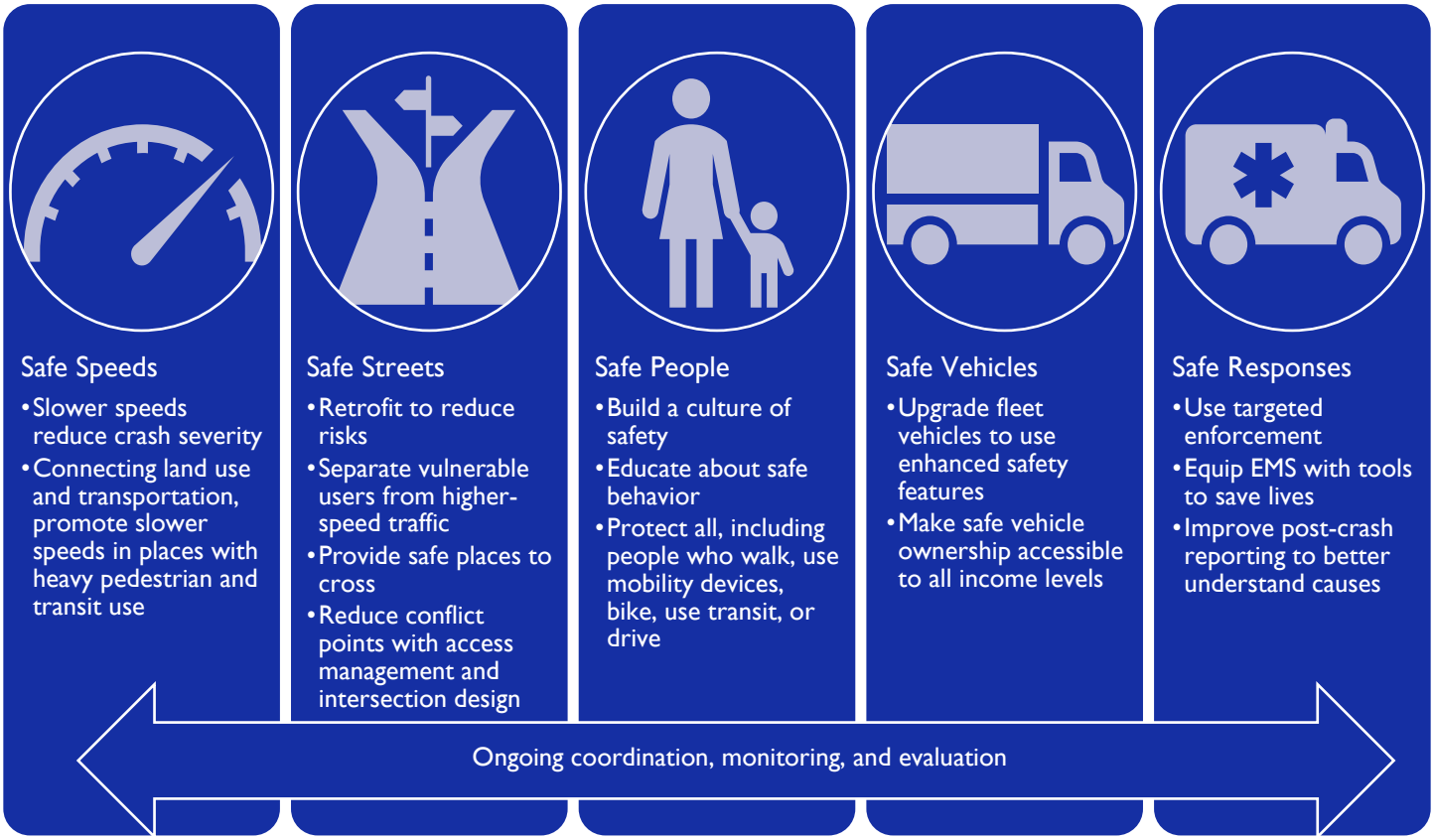
REDUNANCY IS ESSENTIAL



Adapted from https://www.honolulu.gov/completestreets/visionzero

LAYERS OF REDUNDANCY

Safer streets must strengthen all aspects of road safety. Five focus areas are:



A sixth key element of our success is ongoing coordination, monitoring, and evaluation. The SS4A action plan is simply a starting point. Some actions can be implemented quickly, while others may take years. Some will achieve our desired results, while others may not. Continued coordination and tracking will allow us to adjust or add actions to stay on track toward our goal.

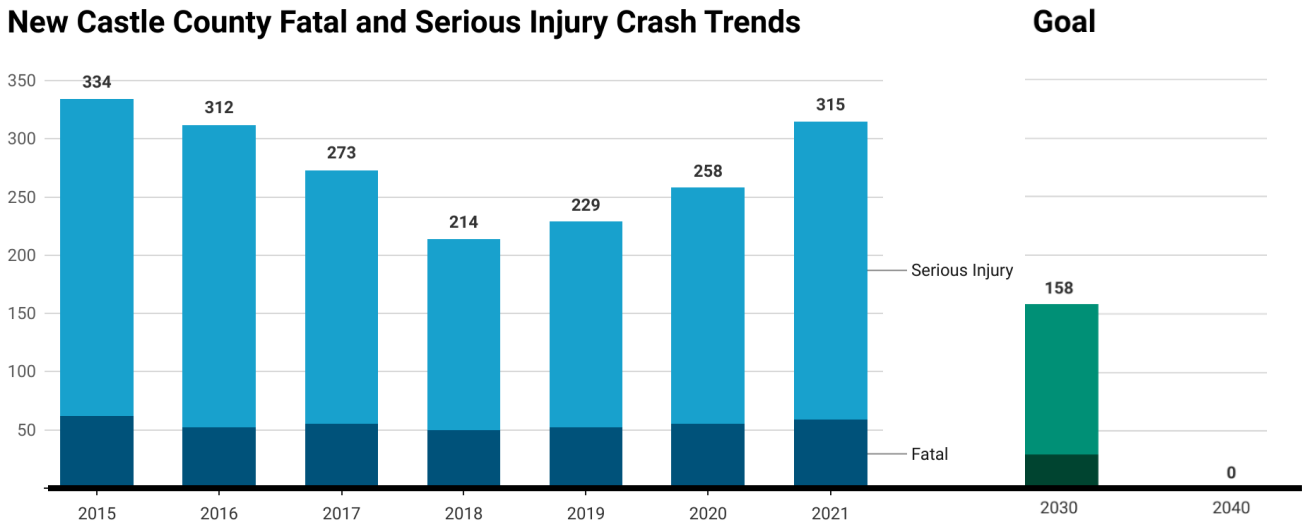
OUR CORE VALUES

Everyone--regardless of background, ability, or age--deserves a safe place to live in and travel around and no group should be disproportionately impacted by traffic crashes. We must prioritize and collaborate to make this happen using a proactive approach, guided by data and community engagement. Our quest for Vision Zero is not done until there are none.

OUR GOAL

Serious injuries and deaths reduced by 50% by 2030 and eliminated by 2040 compared with 2021 numbers.

This is an ambitious goal that will require a dramatic shift in spending priorities, policies, acceleration of safety projects, and increased personal responsibility to achieve. Our shared task is daunting, yet there are success stories which offer hope.[2]



[2] https://bikeportland.org/2023/04/26/hoboken-leader-shares-secret-sauce-for-vision-zero-success-373939
https://www.itf-oecd.org/sites/default/files/docs/monitoring-progress-urban-road-safety-2022.pdf

PLANNING PROCESS

Collaboration across jurisdiction, agency, and community partners is essential to achieving Vision Zero and thus a broad collaborative approach was undertaken to develop this plan. More details may be found in Appendix A. Our planning process engaged policy-makers, an Advisory Committee of professionals and community groups, and public outreach surveys. The Wilmington Area Planning Council (WILMAPCO) spearheaded the plan's development. As the Metropolitan Planning Organization for New Castle County, DE and Cecil County, MD, WILMAPCO is responsible for planning, financing, and coordinating the development of the best transportation system for the region.

POLICY-MAKERS

The following policymakers are essential for the plan's implementation: WILMAPCO's New Castle County representatives, which include an appointee by the Delaware Governor (currently the director of the Delaware Office of State Planning Coordination), the Secretary of the Delaware Department of Transportation, the CEO of Delaware Transit Corporation, the Mayor of the City of Wilmington, the County Executive of New Castle County, and New Castle County municipalities (currently represented by the Mayor of Elsmere).

ADVISORY COMMITTEE

The Advisory Committee consists of local governments, transportation planners and engineers, first responders and public safety planners, the University of Delaware, school transportation officials, and community groups. The Advisory Committee provided support and feedback to guide the plan development and will continue to support the implementation and monitoring of the recommendations.

PUBLIC ENGAGEMENT

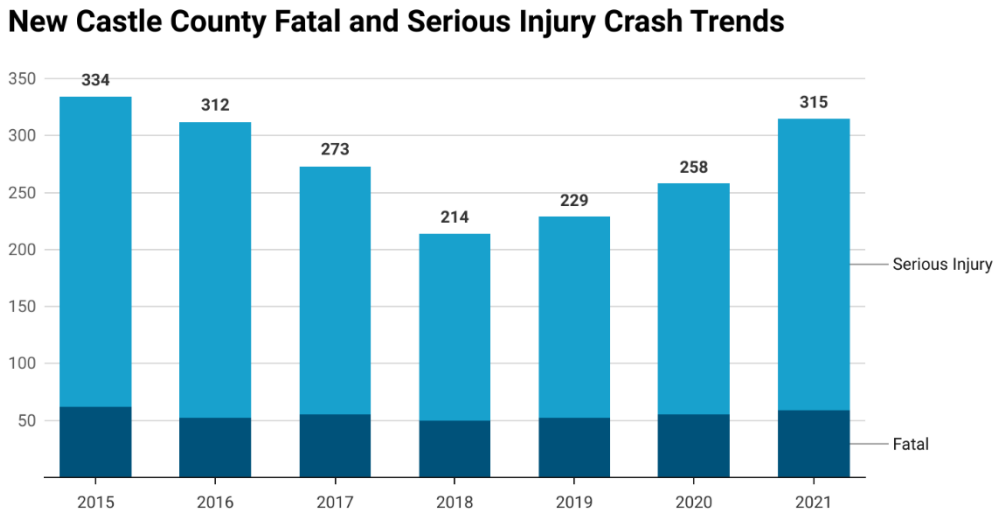
Initial public engagement was done using an online survey, interactive map, and pop-up outreach at community events. We received feedback about people's experiences with crashes, how they get around, beliefs about the causes of crashes, preferred strategies for safety, and demographic backgrounds using an online survey. Between March 9 and May 15, 2023, 91 people completed the survey. During this period, we received 375 comments on an interactive map to crowdsource locations of concern. Pop-up outreach was done at the Southbridge, Wilmington Open Street Event, Newark Greenfest, and the Claymont Library. Pop-up outreach included an informational display, post-it note comment board, and a Selfie for Safety station.

UNDERSTANDING SAFETY ISSUES IN NEW CASTLE COUNTY

CRASH ANALYSIS

DATA TRENDS

Serious and fatal crashes have been increasing since 2018 in New Castle County. In 2022, Delaware fatal crashes tied the record set in 1988. In New Castle County, 2022 fatal crashes soared to 74 and there were 258 serious injury crashes.



Most common primary factors in crashes are driving aggressively, carelessly, or recklessly, failure to yield right of way, pedestrian-involved collisions, inattention or fatigue, and driving while under the influence of alcohol or drugs, with information drawn from the investigating officer's crash report. These Primary Contributing Circumstances are the factors that are most significant in causing a crash, but crashes often have multiple, overlapping behavioral, environmental, or roadway conditions that exacerbate the crash severity. In particular, excessive speeds often worsen the severity of crashes, regardless of their primary causes.

The Primary Contributing Circumstances for New Castle County fatalities and serious injuries, 2015-2021, are as follows:

Primary Contributing Circumstances	Number	Percent
Unknown/Other	309	16%
Driving in an aggressive, careless or reckless manner	**255**	**13%**
Failed to yield right of way	**242**	**13%**
Pedestrian	**238**	**12%**
Driver inattention, distraction, or fatigue	**231**	**12%**
Driving under the influence	**165**	**9%**
Disregard Traffic Signal/Stop Sign	120	6%
Following too close	85	4%
Speeding	**69**	**4%**
Improper lane change	52	3%
Wrong side or wrong way	51	3%
Made improper turn	24	1%
Other environmental circumstances - weather, glare	22	1%
Animal in roadway	22	1%
Roadway circumstances - debris, holes, work zone,	18	1%
Mechanical defects	14	1%
Improper passing	12	1%
Improper backing	6	0%

60%

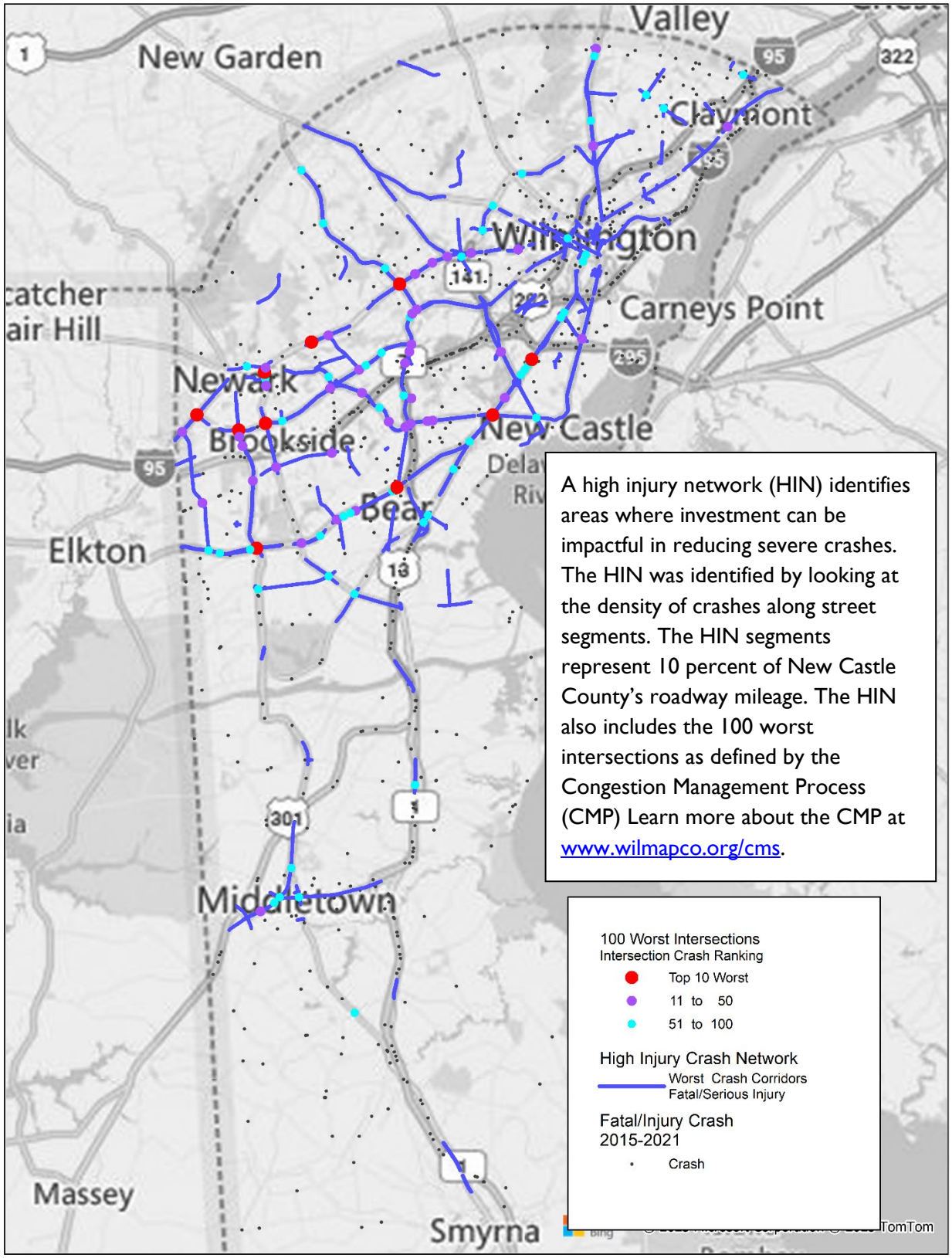
of severe crashes fall within these categories. Recommendations will focus on these plus speeding.

Recommendations in this plan will focus primarily on:

- Driving in an aggressive, careless, or reckless manner
- Failed to yield right of way
- Pedestrian
- Driver inattention, distraction, or fatigue
- Driving under the influence
- Speeding

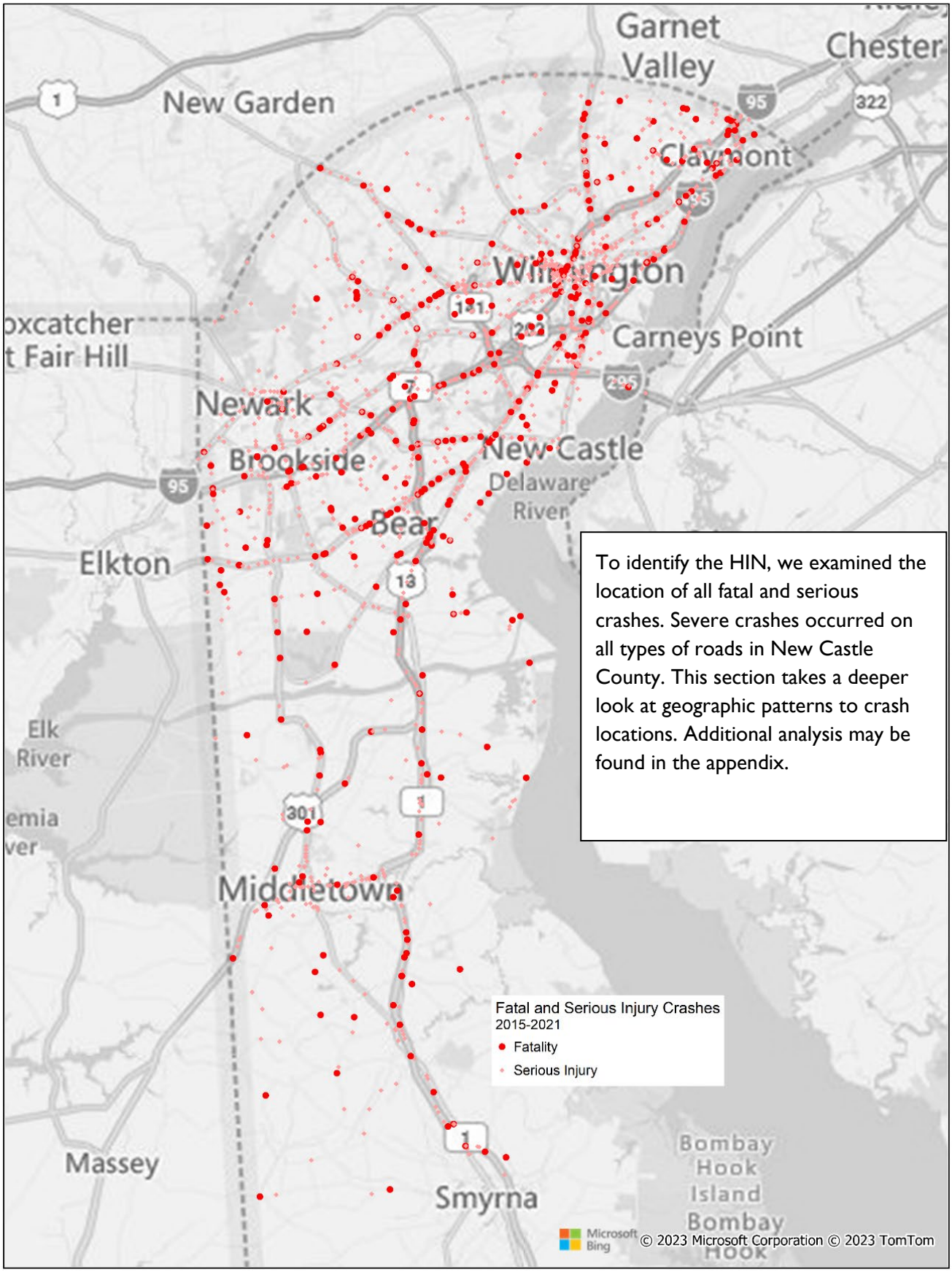
Solutions require a multi-pronged approach addressing personal responsibility combined with safety-oriented street design, speed controls, targeted enforcement, and best practices for vehicle safety and emergency response.

HIGH CRASH NETWORK



A high injury network (HIN) identifies areas where investment can be impactful in reducing severe crashes. The HIN was identified by looking at the density of crashes along street segments. The HIN segments represent 10 percent of New Castle County's roadway mileage. The HIN also includes the 100 worst intersections as defined by the Congestion Management Process (CMP) Learn more about the CMP at www.wilmapco.org/cms.

CRASH LOCATIONS



To identify the HIN, we examined the location of all fatal and serious crashes. Severe crashes occurred on all types of roads in New Castle County. This section takes a deeper look at geographic patterns to crash locations. Additional analysis may be found in the appendix.

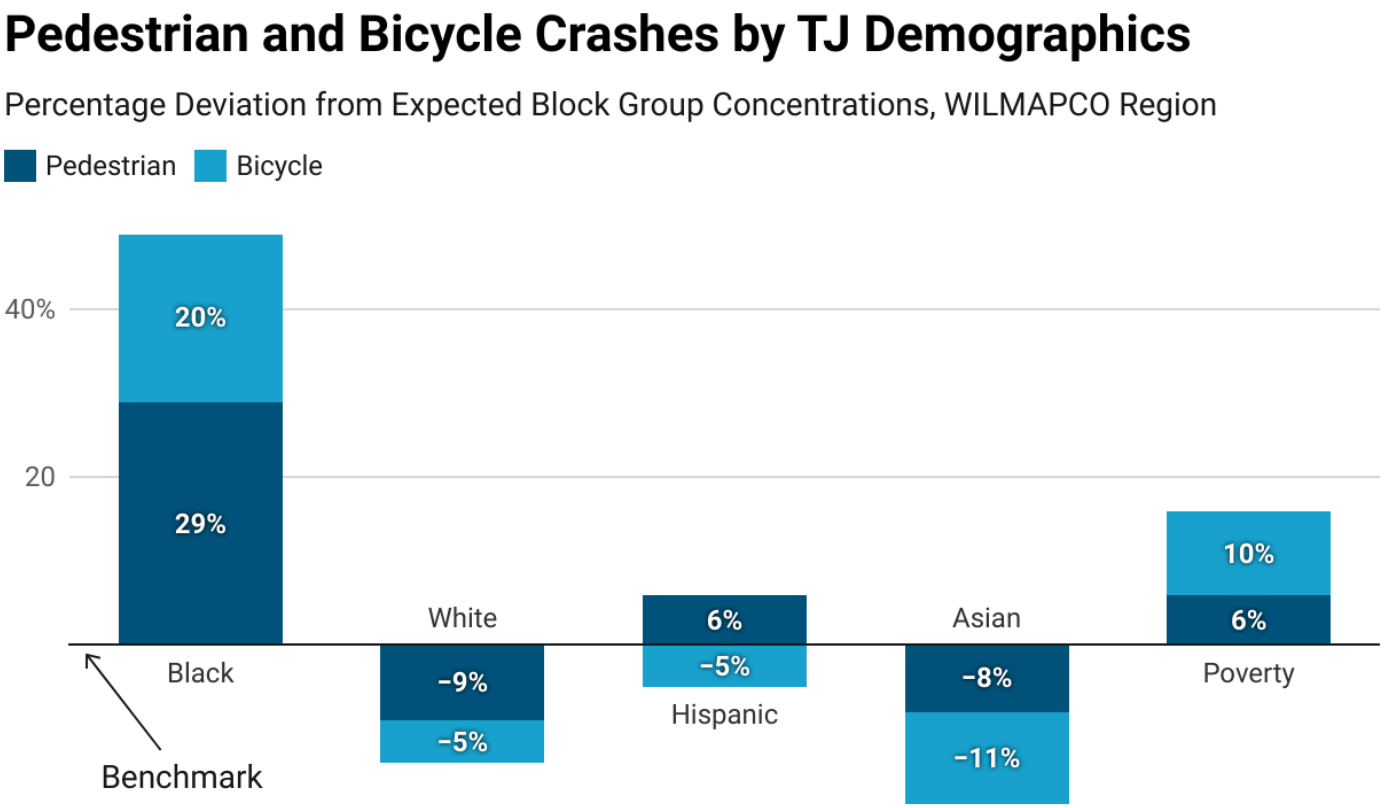
EQUITY ANALYSIS

WILMAPCO's Transportation Justice (TJ) initiative identifies key social inequities in the region's transportation system. It examines the fairness and inclusivity of the existing and planned system, as well as the WILMAPCO public engagement processes. Recommendations were made to overcome observed barriers and inequities. Two categories particularly impacted are included in our SS4A analysis:

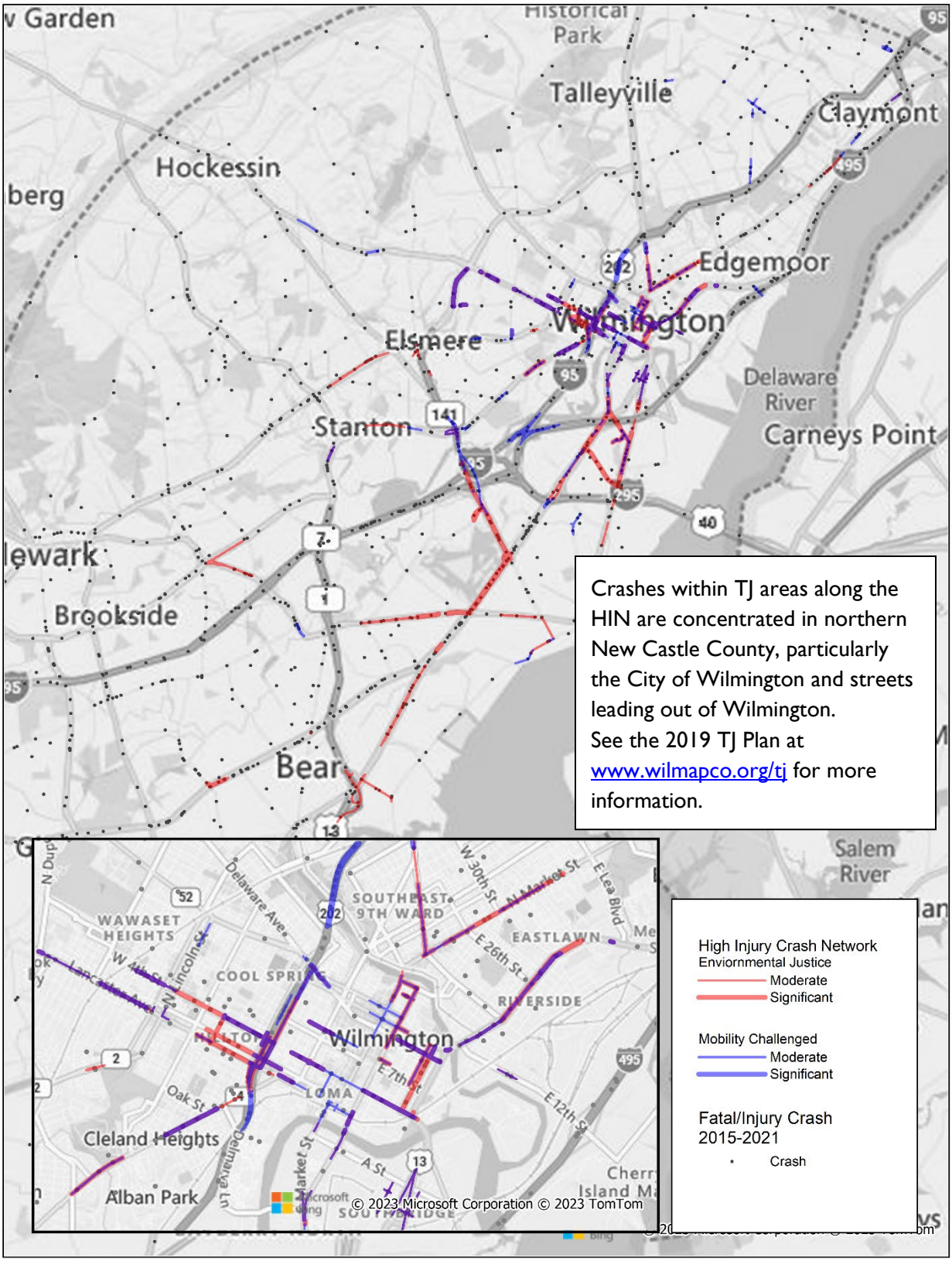
- **Environmental Justice:** Environmental Justice (EJ) neighborhoods are concentrations of low income and minority populations. EJ neighborhoods also include affordable housing developments, as well as school feeder zones with high concentrations of low income or minority students.
- **Mobility Challenged:** Mobility Challenged (MC) neighborhoods are concentrations of seniors, people with disabilities, and households without an automobile.

These categories are defined by data retrieved at the block group level. Non-residential areas of these block groups were clipped using the 2012 Delaware Land Use/Land Cover and 2010 Cecil County land use data.

The TJ initiative found that for all severities of crashes, pedestrian and bicycle crashes were greatly more likely in areas with concentrations of black population and slightly more in areas of poverty.



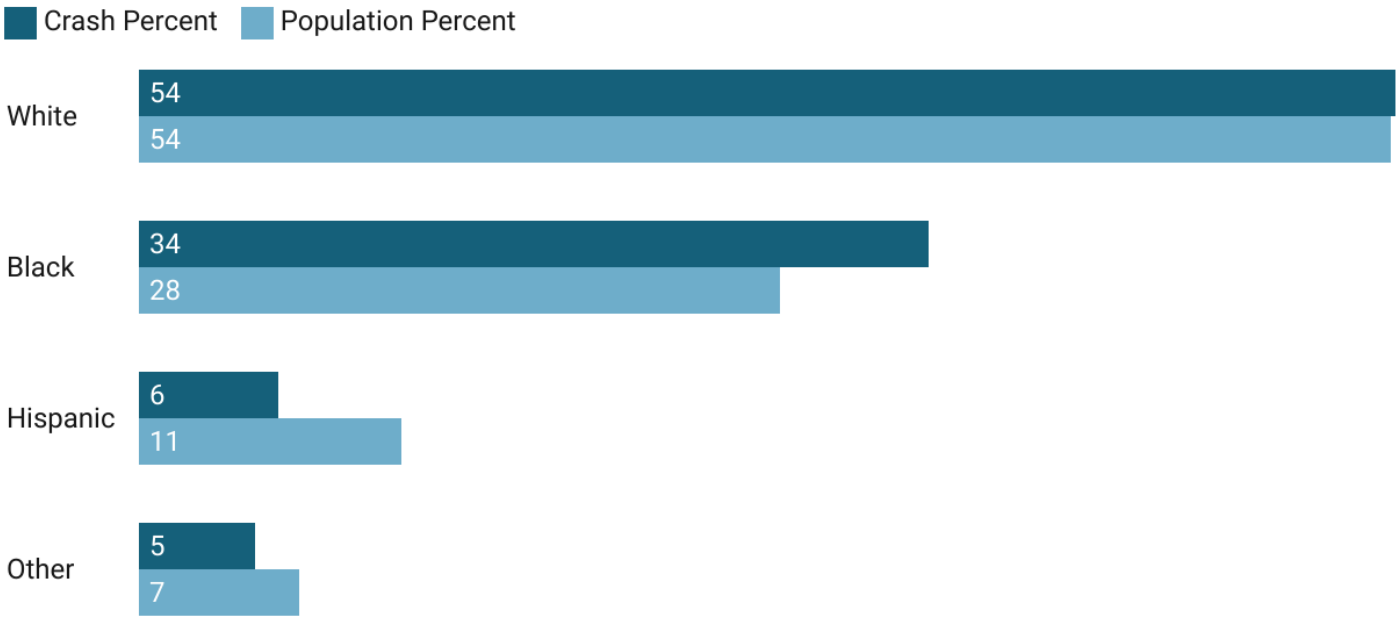
2019 Transportation Justice Plan, http://www.wilmapco.org/tj/



Crashes within TJ areas along the HIN are concentrated in northern New Castle County, particularly the City of Wilmington and streets leading out of Wilmington.
See the 2019 TJ Plan at www.wilmapco.org/tj for more information.

Percent of fatalities by race

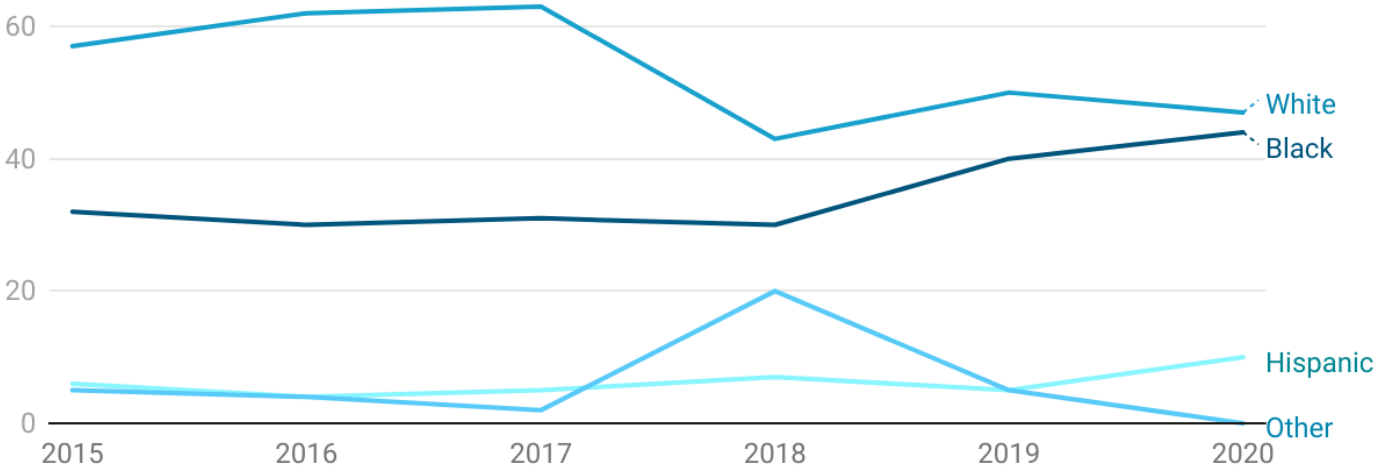
Traffic crash fatalities disproportionately affect Black people.



Source: 2015-2020 FARS, Census 2022 Population Estimates • Created with Datawrapper

Percentage of Fatal Crashes by Race and Year

The percentage of black fatalities has been increasing.



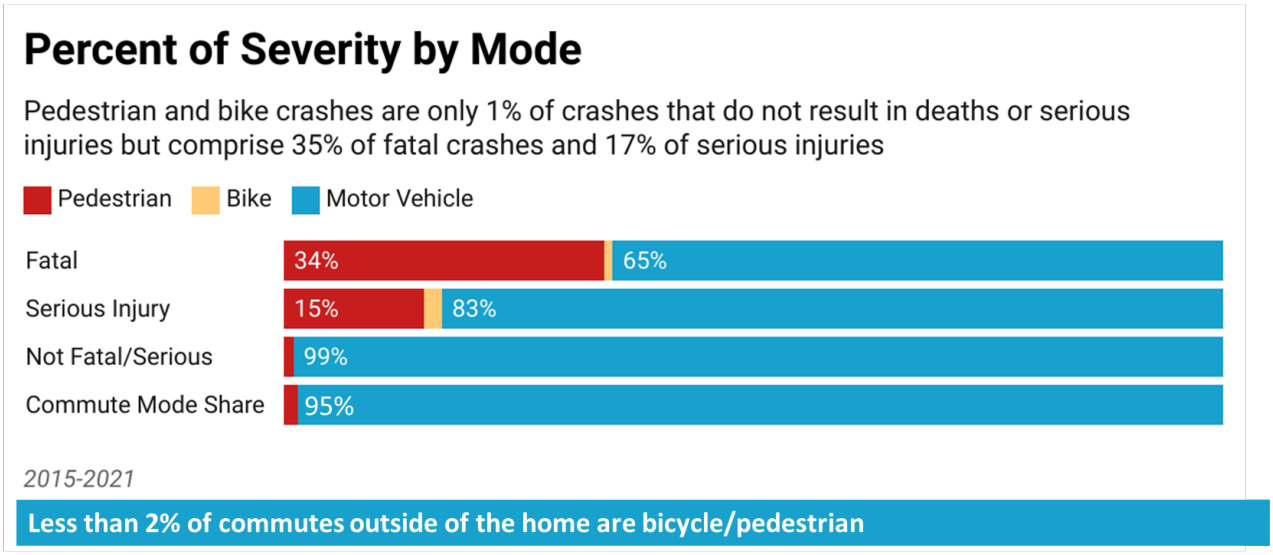
Source: FARS 2015-2020 • Created with Datawrapper

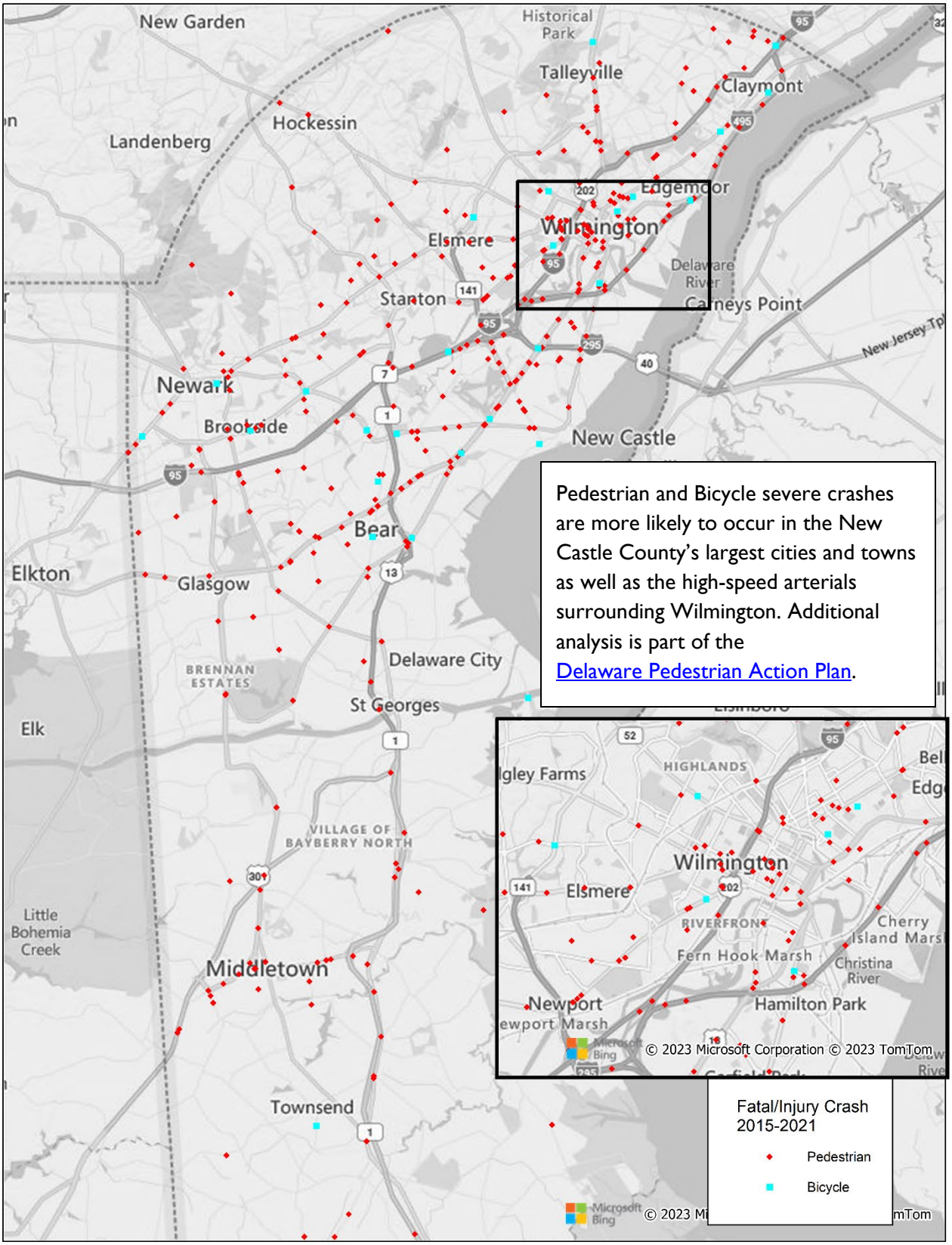
VULNERABLE ROAD USERS

A vulnerable road user is a person walking, bicycling or rolling, taking transit, and includes highway workers on foot. Vulnerable users lack the layers of protection offered by a motor vehicle and are most at risk of dying or being seriously injured in a crash, particularly at higher traffic speeds. Vulnerable users are more likely to fall into a mobility challenged demographic, particularly for low-income commute trips. Likewise, low-income commutes to service jobs are more likely to be done during dark hours.

Pedestrian crashes account for an alarming share of total severe crashes in New Castle County.

Large share of severe crashes are pedestrian

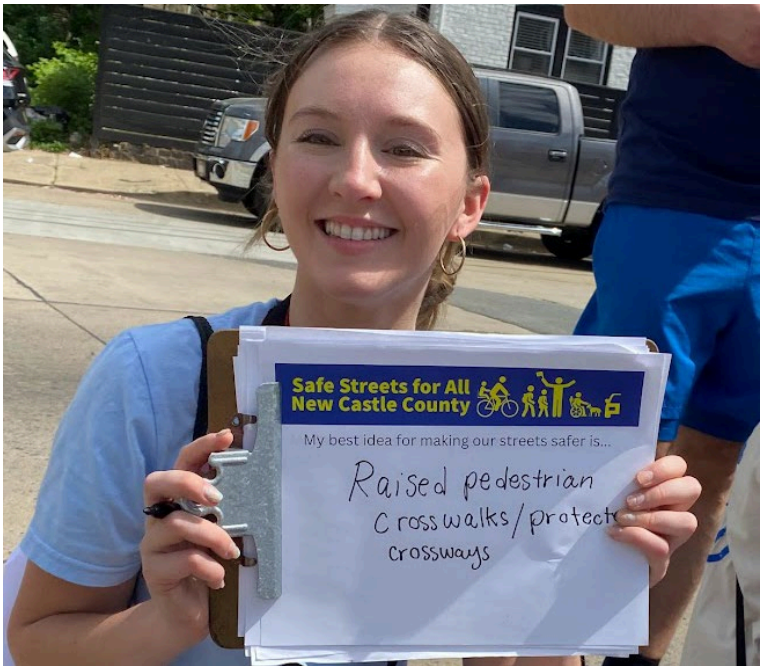




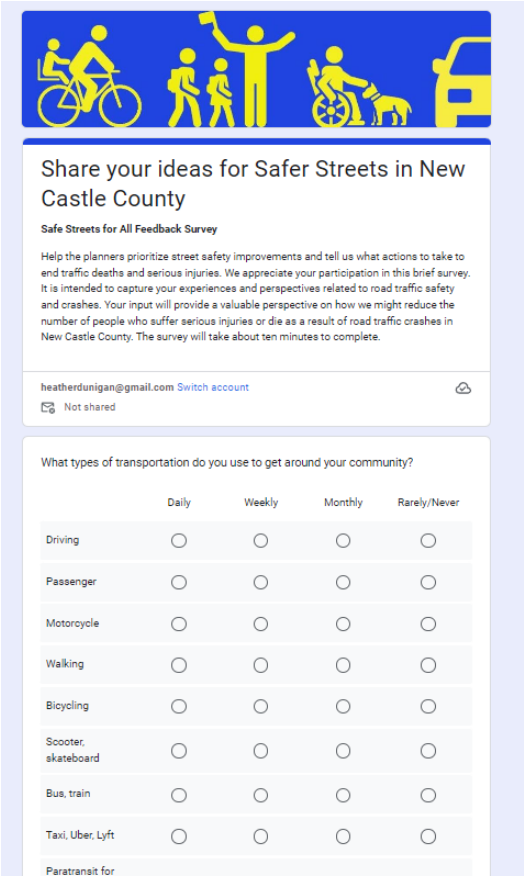
Pedestrian and Bicycle severe crashes are more likely to occur in the New Castle County's largest cities and towns as well as the high-speed arterials surrounding Wilmington. Additional analysis is part of the Delaware Pedestrian Action Plan.

STAKEHOLDER AND COMMUNITY ENGAGEMENT

In developing the SS4A plan, planners sought broad feedback from the community. We asked about people's personal travel experiences and how they've been impacted by crashes, their thoughts on the primary causes, and feedback about strategies to achieve vision zero.



Pop-up events were held at the Southbridge Wilmington Open Street event, Newark Greenfest, and the Claymont Library.

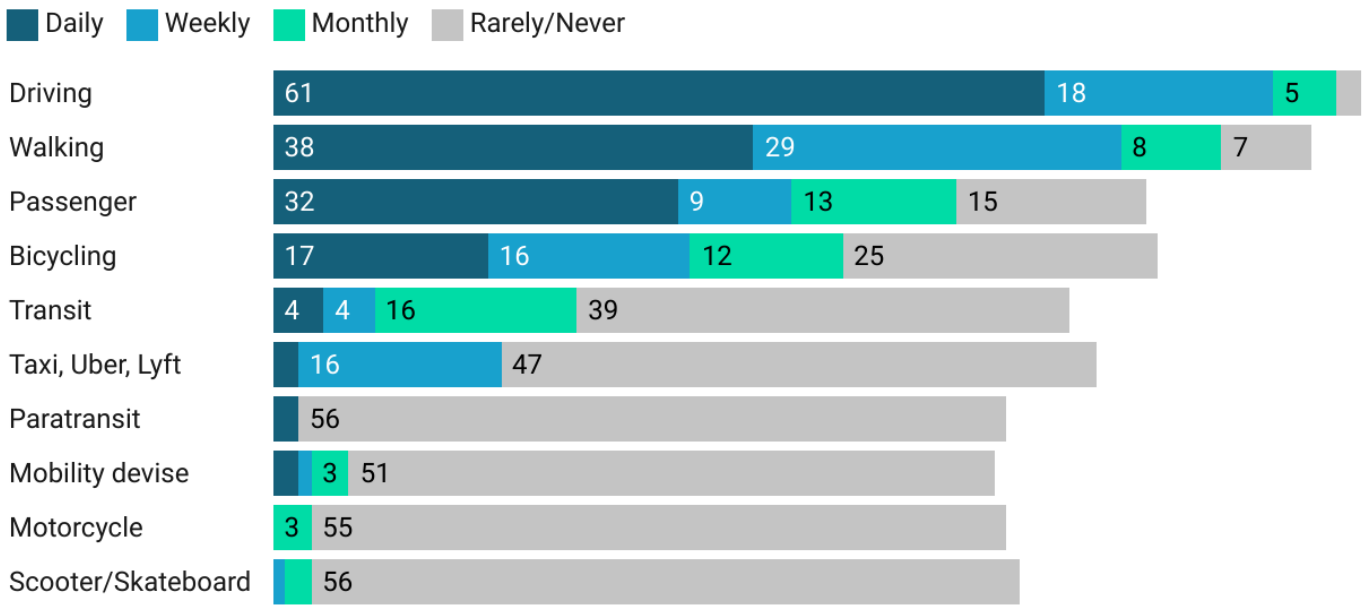


91 people completed the online survey.

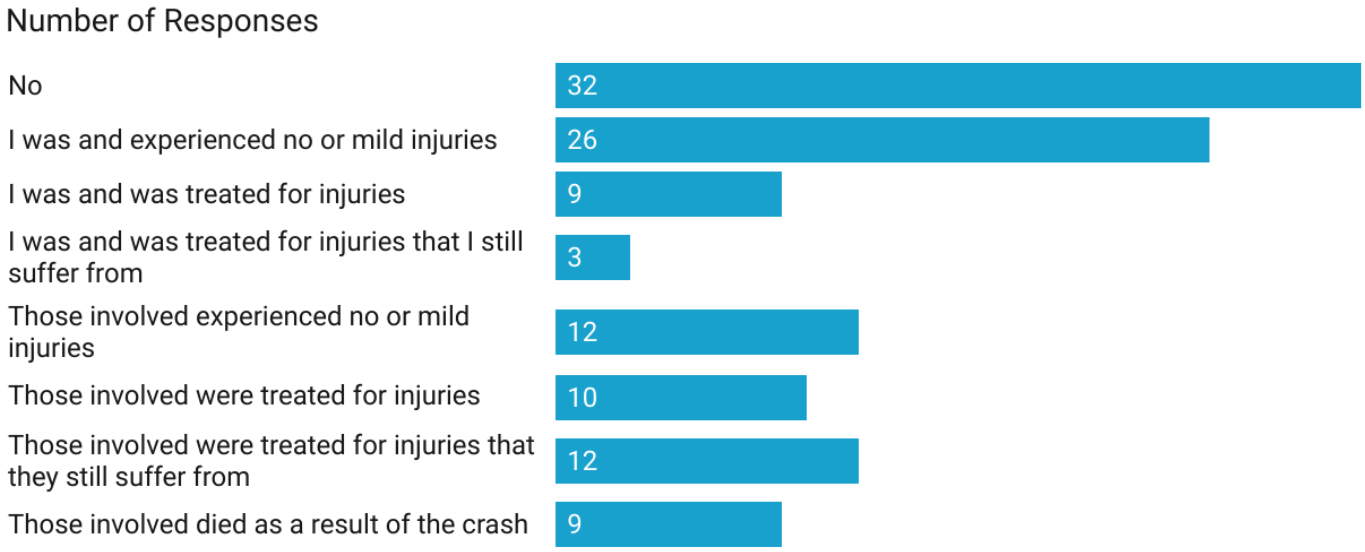
375 comments were added to our crowdsourcing map.

SURVEY RESULTS

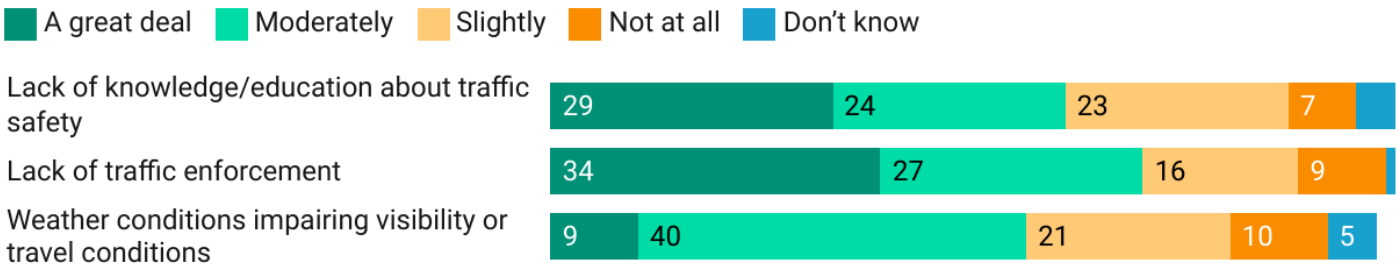
What types of transportation do you use to get around your community?



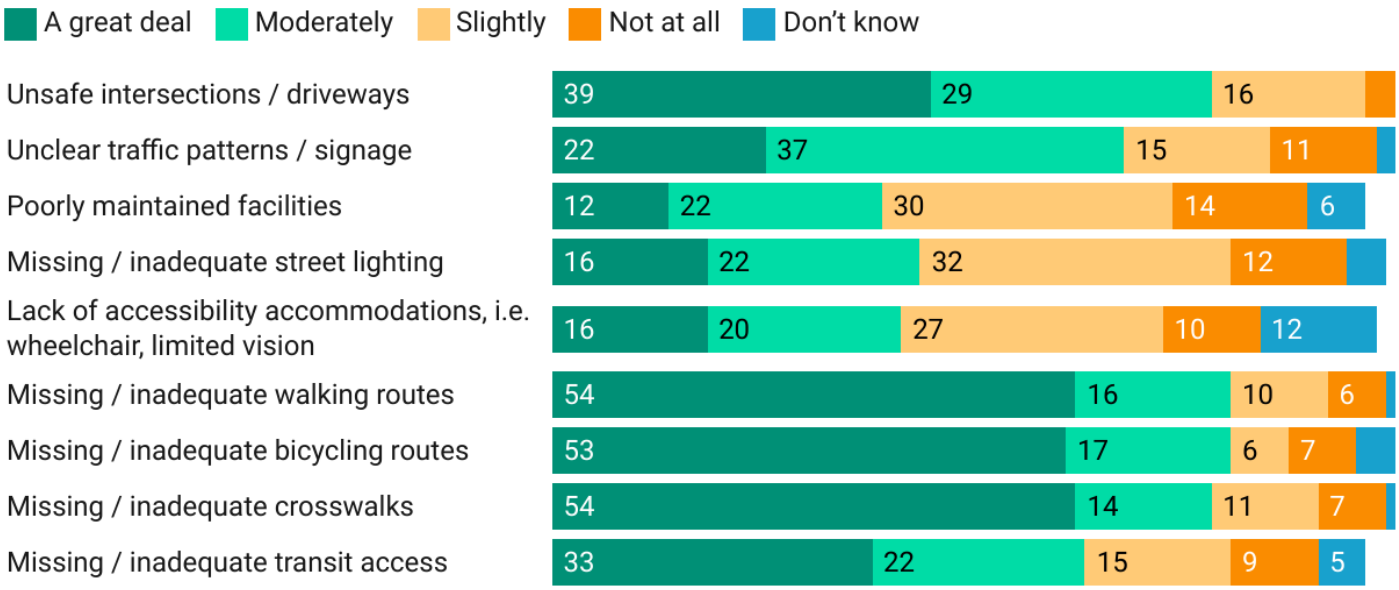
Have you or someone you know been involved in a traffic crash in New Castle County? If so, how severe was the collision?



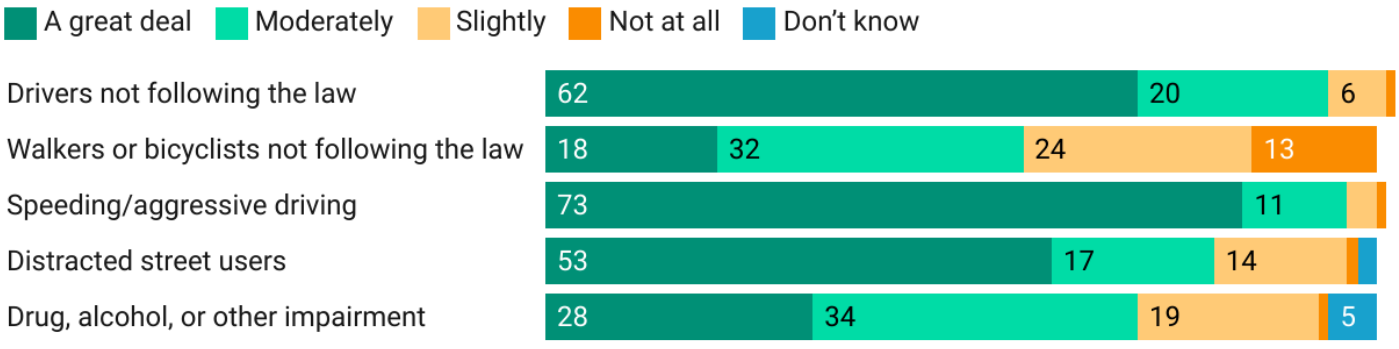
How much do you think the following factors contribute to traffic crashes?



How much do you think the following conditions contribute to traffic crashes?

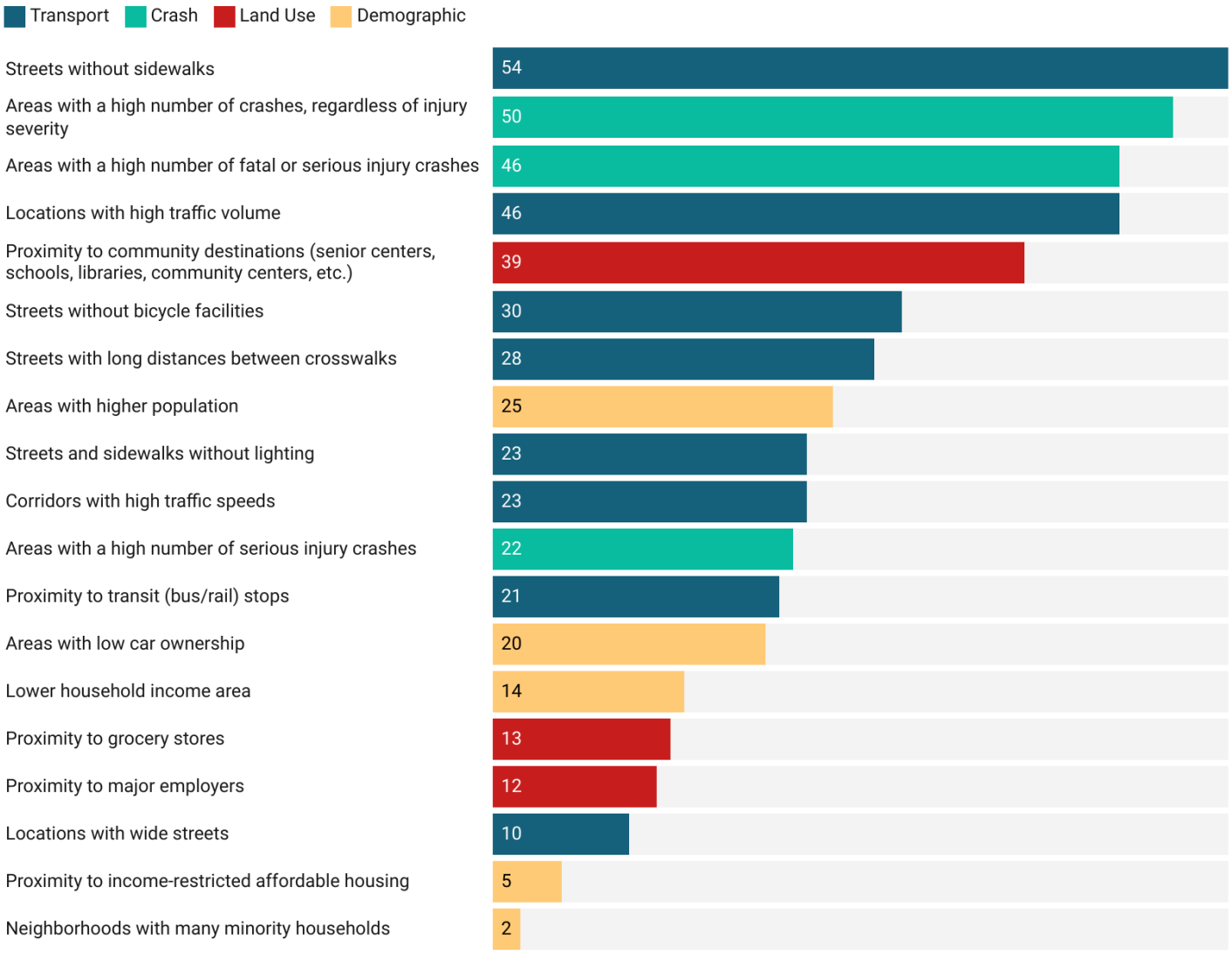


How much do you think the following behaviors contribute to traffic crashes?



Suggested Priority Criteria

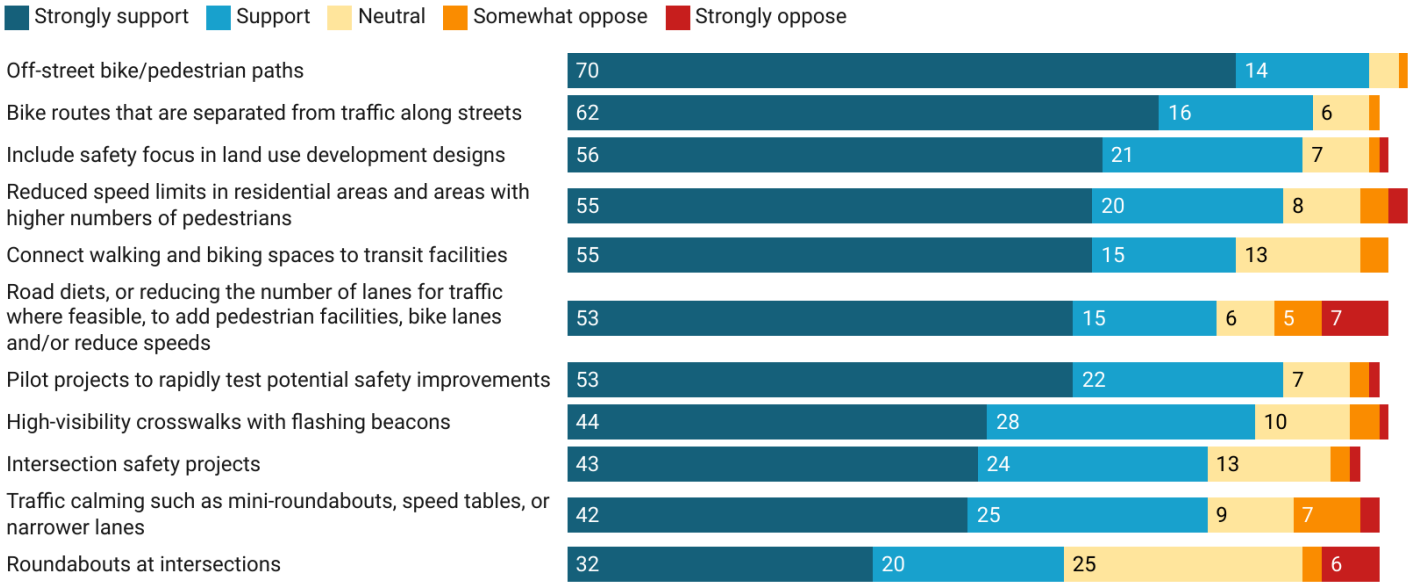
Select the top six criteria that planners should use when identifying and prioritizing locations for safety improvements.



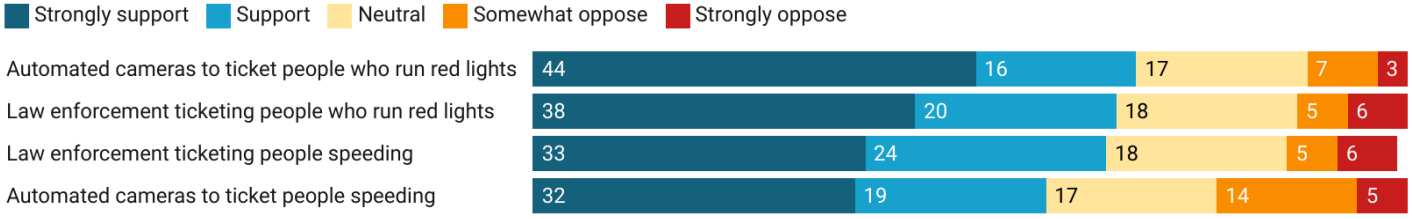
Number of responses

Created with Datawrapper

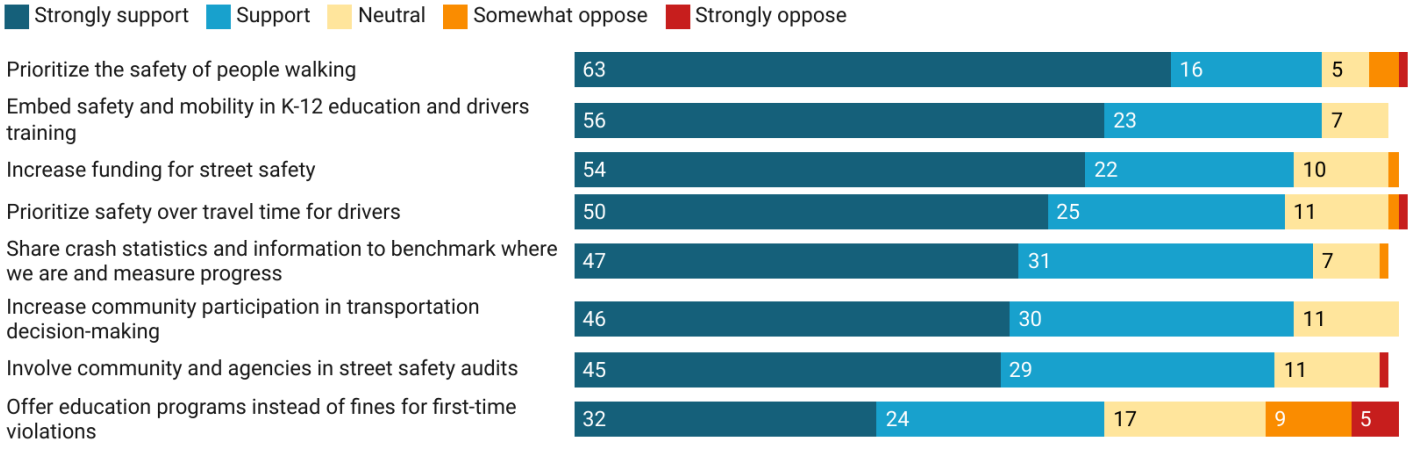
Support for Engineering Strategies



Support for Enforcement Strategies



Support for Safety Program Strategies



Created with Datawrapper

HOW NEW CASTLE COUNTY WILL ACHIEVE VISION ZERO

Recommendations are organized according to the elements of a Safe Systems Approach. Priority Actions include transformational actions that can be taken quickly and have high community support. Supporting Actions may take longer to accomplish or have only moderate community support but are worth pursuing in the future. Rapid Implementation Actions are policy measures or planning to jump-start change, or infrastructure that might be completed as a Quick Build Project or using Every Day Counts innovations.

PRIORITY ACTIONS

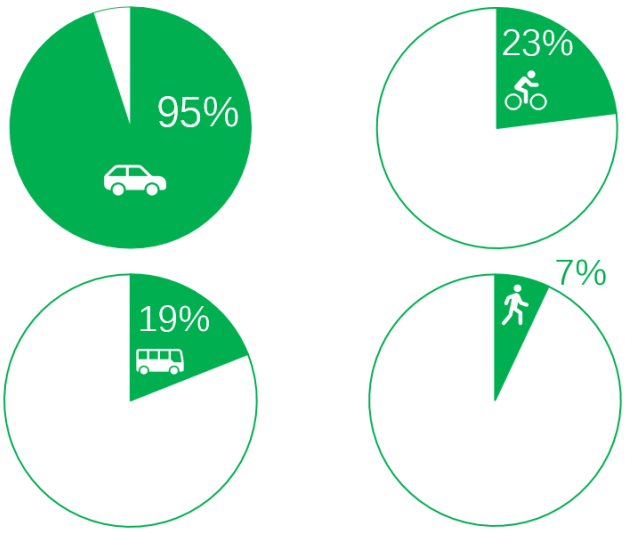
SAFE STREETS

Expand travel choices					
Lead(s): DelDOT, WILMAPCO, Local, DTC					
Category: Policy	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:

Everyone deserves the right to move through New Castle County safely by driving, walking, bicycling, and in some locations, by transit. According to the 2019 Transportation Justice Plan, many areas of the county lack access to basic goods and services by means other than private vehicle. Destinations evaluated include access to supermarkets, pharmacies, hospitals, libraries, low-wage employment centers, medical centers, community centers, senior centers, and state service centers.

Land use policies should focus on promoting growth where good connectivity is in place while transportation funding policy should prioritize filling in connectivity gaps to promote travel choice.



Average Percentage of Households Connected to Destinations (Combined), by Mode
WILMAPCO Region

Land Use – Review Zoning to:

- **Incorporate Safe Street Designs on Site Plans**
- **Direct Growth into Planned Walkable, Transit-Oriented Areas**
- **Use Mobility-Friendly Design to Maximize Pedestrian Safety and Comfort**

Lead(s): Local

Category:	**Subcategory:**	**Rapid Implementation:**	**Community Support:**
Policy	Safe Streets	Yes	High

Addressed crash type:

Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Yes	Yes	Yes	Yes	Yes	Yes

Notes and Resources:
Review zoning and unified development codes and replace language that hampers safer communities with code that promotes them.
https://ihrp.uic.edu/using-zoning-regulations-to-foster-walkable-communities-best-practices/

Prioritize systematic safety improvements on HIN

Lead(s): DelDOT, WILMAPCO, Local

Category:	**Subcategory:**	**Rapid Implementation:**	**Community Support:**
Policy	Safe Streets	Yes	High

Addressed crash type:

Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Yes	Yes	Yes	Yes	Yes	Yes

Notes and Resources:
Review and update MPO, DelDOT and local project prioritization processes to incorporate criteria related to HIN safety improvements.

Secure sufficient funding for identified improvements					
Lead(s): DelDOT, Local					
Category: Policy	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes

Notes and Resources:

Federal, state, and local funds as well as public/private partnerships should be set aside or secured through competitive grants. Local governments and some non-state agencies may seek competitive Safe Streets and Roads for All (SS4A) Grant Program funds for supplemental planning or implementation projects.
https://www.transportation.gov/grants/SS4A

The University of Delaware Biden School Grant Assistance Program may be a source of technical support for applicants.
https://www.bidenschool.udel.edu/ipa/serving-delaware/grant-assistance

Many other categories of federal funds in the Bipartisan Infrastructure Law may be used for safety improvements, some with reduced matching fund requirements. Examples of federal safety funding include:

- Highway Safety Improvement Program (HSIP)
- National Highway Freight Program (NHFP)
- Railway-Highway Crossings Program (RHCP)
- Surface Transportation Block Grant (STBG)
- Transportation Alternatives (TA)
- FTA Enhanced Mobility of Seniors and Individuals with Disabilities

https://www.fhwa.dot.gov/bipartisan-infrastructure-law/fact_sheets.cfm

Equity - Fund safety projects in Mobility Challenged and EJ Areas along the HIN					
Lead(s): DelDOT, Local					
Category: Policy	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes

Notes and Resources:

Equity - Fund safety projects that enhance access community centers, employment, and essential services					
Lead(s): DelDOT, Local					
Category: Policy	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes

Notes and Resources:

Crosswalk Improvement Review for Gaps and High Stress					
Lead(s): DelDOT, WILMAPCO, Local					
Category: Supplemental Planning	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: https://nacto.org/publication/dont-give-up-at-the-intersection/					

Demonstration Project Program					
Lead(s): DelDOT, Local					
Category: Supplemental Planning	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes

Notes and Resources:

Demonstration projects can be set up for hours to months. They use temporary, inexpensive materials to test designs and engage community feedback.

University of Delaware Living Lab program can provide support for community demonstration projects: https://living-lab-1-udel.hub.arcgis.com/

Streets Plan Tactical Urbanism
Fast-Tracked: A Tactical Transit Study
People for Bikes
Alta Planning
San Francisco Quick Build Vision Zero

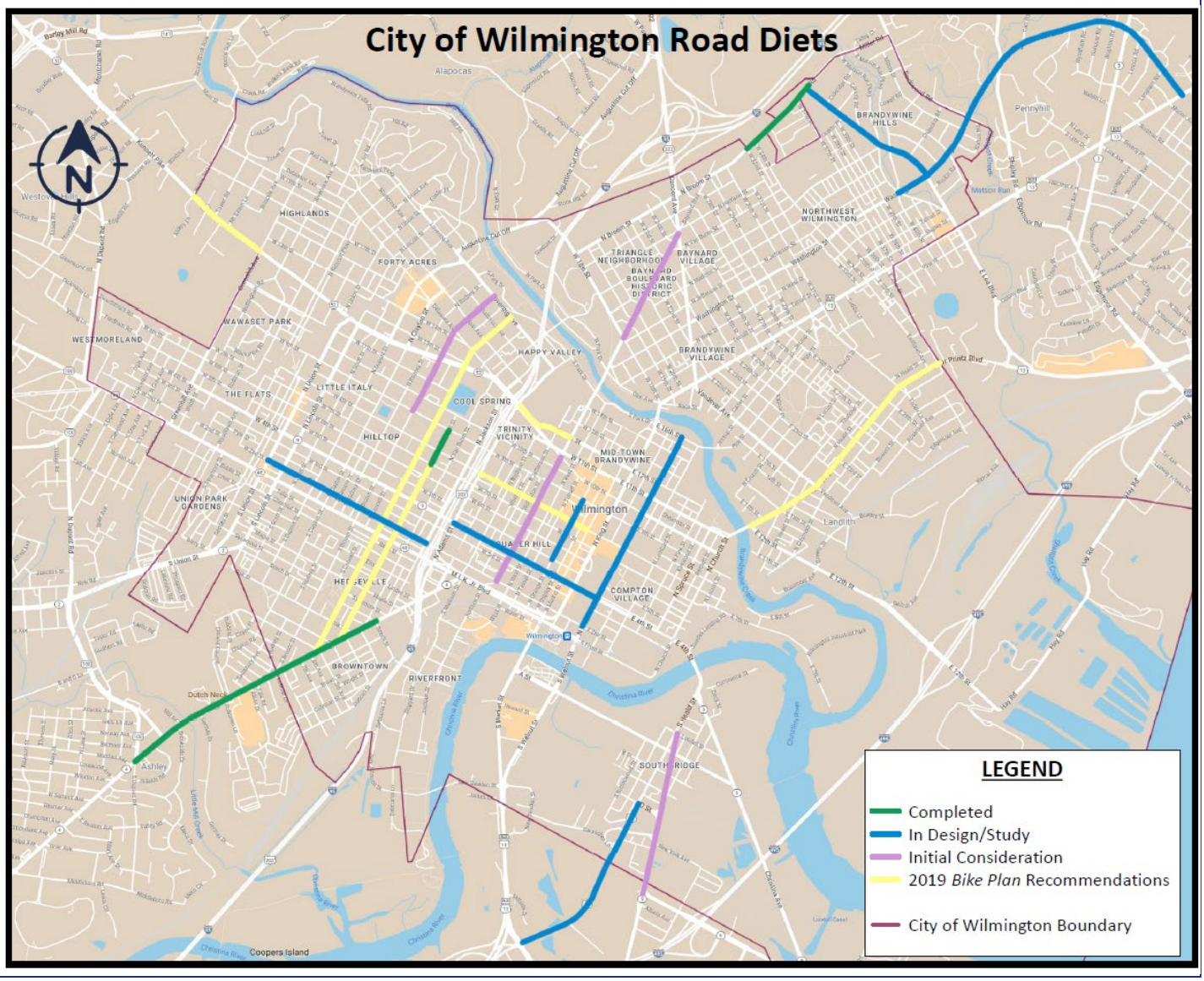
Lighting Safety Audit					
Lead(s): DelDOT, Local					
Category: Supplemental Planning	**Subcategory:** Safe Streets	**Rapid Implementation:** Yes	**Community Support:** NA		
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes

Notes and Resources:

Fatal/Serious Injury Crashes	Pedestrian %	All Crash %	
Daylight	**28%**	**53%**	• 67% of fatal/serious pedestrian crashes were at night. • 43% of all fatal/serious crashes were at night. • Many streets lack sufficient or any pedestrian lighting
Dark, lighted	**34%**	**23%**	
Dark, not lighted	**33%**	**20%**	
Dusk/Dawn	**4%**	**4%**	

Road Diet - Systematic Evaluation					
Lead(s): DelDOT, WILMAPCO					
Category: Supplemental Planning	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:
Road diets are identified by the FHWA as a Proven Safety Countermeasure with a 19-47% reduction in total crashes. DelDOT has completed several road diets that have successfully reduced severe crashes. Working with the City of Wilmington, they looked systematically for potential road diet corridors. This analysis should be expanded to assess other areas of New Castle County. https://deldot.gov/Programs/DSHSP/reports/Road-diet/



Road safety audits and pedestrian safety audits on HIN					
Lead(s): DelDOT					
Category: Supplemental Planning	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources: Road safety audits are identified by the FHWA as a Proven Safety Countermeasure with a 10-60% reduction in crashes. Audits are a collaborative process effective at expediting the planning process. DelDOT has worked with stakeholders to conduct safety audits along several high crash areas. Learn about this program at https://deldot.gov/Programs/DSHSP/index.shtml?dc=project-pedestrian-safety-audit					

Walkable community workshops on HIN					
Lead(s): WILMAPCO					
Category: Supplemental Planning	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: Walkable Community Workshops are interactive events that bring together residents, elected officials, advocates, public agency staff, public health practitioners, educators, planners and engineers to focus attention on making communities safer and easier to walk in. Learn more about WILMAPCO's free program at http://www.wilmapco.org/walkable/.					

Transit - Evaluate bus stop locations and service along HIN corridors and upgrade connecting pedestrian infrastructure and/or adjust stop locations to maximize safe access to stops and efficiency of routes.					
Lead(s): DTC, DelDOT					
Category: Supplemental Planning	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: NACTO guide: https://nacto.org/publication/transit-street-design-guide/ WILMAPCO Transportation Justice Connectivity Analysis: http://www.wilmapco.org/tj/					

Transit - Incorporate safety recommendations into DART Reimagined					
Lead(s): DTC					
Category: Supplemental Planning	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: https://www.dartreimagined.com/					

Quick Build Project Delivery					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes

Notes and Resources:

Similar the demonstration projects, quick build project delivery uses inexpensive materials like rubber curbing and flexiposts to test designs and engage community feedback. Quick-built projects should be designed to last anywhere from several months to several years to give sufficient time to collect crash reduction benefits and work towards a permanent solution.

University of Delaware Living Lab program can provide support for community demonstration projects:
https://living-lab-1-udel.hub.arcgis.com/

Streets Plan Tactical Urbanism
Fast-Tracked: A Tactical Transit Study
Asphalt Art Guide
People for Bikes
Alta Planning
San Francisco Quick Build Vision Zero
NJTPA Quick Builds

Images: https://www.saferoads.com.au/rubber-kerbing, https://inhabitat.com/armadillo-cool-recycled-plastic-bike-lane-dividers-keep-cyclists-safe-on-roads/, https://asphaltart.bloomberg.org/

Road Diets					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:

A Road Diet, or roadway reconfiguration, involves narrowing or eliminating travel lanes to calm traffic and increase safety of all roadway users. The conversion typically occurs by reducing the cross section to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane (TWLTL).
https://deldot.gov/Programs/DSHSP/reports/Road-diet/
FHWA Road Diet Informational Guide

Bicycle - Buffered Bike Lanes					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:

Buffered bike lanes provide greater visual separation for cyclists and can help slow speeding traffic by visually narrowing wide streets.
https://nacto.org/publication/urban-bikeway-design-guide/bike-lanes/buffered-bike-lanes/

Image: Nacto, Fairfax County

Bicycle - Protected Bike Lanes					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:
Protected bike lanes provide greater physical separation for cyclists and can help slow speeding traffic by narrowing wide streets.
NACTO Guide

FHWA Guide

Crosswalks – Use design(s) that increase visibility and decrease crossing distance.					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:
Elements might include Curb Extensions, Refuge Islands, Raised Crosswalks, Crosswalk High Visibility Treatments, or a combination of options.

FHWA Pedestrian Accommodations at Intersections
NACTO Guide
FHWA High Visibility Crosswalks
ITE Guide

Protected Intersection					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:
A protected intersection is a type of at-grade road junction in which cyclists and pedestrians are separated from cars to make pedestrians and cyclists safer and slow turning vehicles.

NACTO Guide

https://altago.com/resources/evolution-of-the-protected-intersection/

Oakland Quick Build Protected Intersection

Image https://www.oaklandca.gov/projects/lake-merritt-intersection-improvements

Signal - Rectangular Rapid Flashing Beacons or Pedestrian Hybrid Beacon					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:** Yes	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:
Supplementing a marked crosswalk or pedestrian warning sign with special signals can reduce crashes and increase drivers yielding to pedestrians.
https://highways.dot.gov/sites/fhwa.dot.gov/files/RRFB_508.pdf

https://highways.dot.gov/sites/fhwa.dot.gov/files/Pedestrian%20Hybrid%20Beacons_508.pdf

Image https://tti.tamu.edu/researcher/new-rapid-flashing-beacon-shows-great-promise-in-improving-pedestrian-safety/

Signal - Leading Pedestrian Interval					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:
Provides pedestrians with a head start to cross before motor vehicles.

https://highways.dot.gov/sites/fhwa.dot.gov/files/Leading%20Pedestrian%20Interval_508.pdf

Image https://www.saanich.ca/EN/main/community/getting-around/walking.html

Lighting Improvements					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources: Enhance intersection and pedestrian scale lighting, particularly in locations with concentrations of nighttime crashes. In addition to reducing crashes, lighting has been shown to reduce nighttime crime.					

Median Barrier of Higher Speed Corridors					
Lead(s): DelDOT					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive: Yes	**Yield:**	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources: Median barriers can reduce roadway departure crash severity. DelDOT is also using median barriers to reduce pedestrian midblock crashes on arterial roads; this approach should be combined with an analysis of crosswalks to provide sufficient spacing. https://deldot.gov/Programs/DSHSP/pdfs/projects/median-barrier/Median%20Barrier%20Program%20July%202018.pdf					

Complete Streets - Utilize Complete Streets Design Guide					
Lead(s): DelDOT, Local					
Category: Program	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: In April 2023, DelDOT published the Draft Complete Streets Design Guide to provide design guidance for state, county, and local transportation staff to create comfortable and viable Complete Streets transportation facilities. The guide includes tools and methodologies for designing Complete Streets in a variety of settings that can be customized to meet the needs of the surrounding communities and fit local context to support safer, more connected, and livable communities. https://deldot.gov/Publications/pdfs/DelDOT-Complete-Streets-Design-Guide.pdf?cache=1681491358414					

Pathways - Shared Use					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets	**Rapid Implementation:**	**Community Support:** High		
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:
Shared use paths provide greater separation on higher speed streets between motorized traffic and people walking and cycling.

Contextual Guidance for Selecting All Ages & Abilities Bikeways

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Max. Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		*Any*	*Any of the following:* high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts‡	**Protected Bicycle Lane**
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	**Shared Street**
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	**Bicycle Boulevard**
≤ 25 mph	≤ 500 – 1,500			
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure	**Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane**
	≤ 3,000 – 6,000			**Buffered or Protected Bicycle Lane**
	Greater than 6,000			**Protected Bicycle Lane**
	Any	Multiple lanes per direction		
Greater than 26 mph†	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	**Protected Bicycle Lane, or Reduce Speed**
		Multiple lanes per direction		**Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed**
	Greater than 6,000	*Any*	*Any*	**Protected Bicycle Lane, or Bicycle Path**
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		*Any*	High pedestrian volume	**Bike Path with Separate Walkway or Protected Bicycle Lane**
			Low pedestrian volume	**Shared-Use Path or Protected Bicycle Lane**

* While posted or 85th percentile motor vehicle speed are commonly used design speed targets, 95th percentile speed captures high-end speeding, which causes greater stress to bicyclists and more frequent passing events. Setting target speed based on this threshold results in a higher level of bicycling comfort for the full range of riders.

† Setting 25 mph as a motor vehicle speed threshold for providing protected bikeways is consistent with many cities' traffic safety and Vision Zero policies. However, some cities use a 30 mph posted speed as a threshold for protected bikeways, consistent with providing Level of Traffic Stress level 2 (LTS 2) that can effectively reduce stress and accommodate more types of riders.[18]

‡ Operational factors that lead to bikeway conflicts are reasons to provide protected bike lanes regardless of motor vehicle speed and volume.

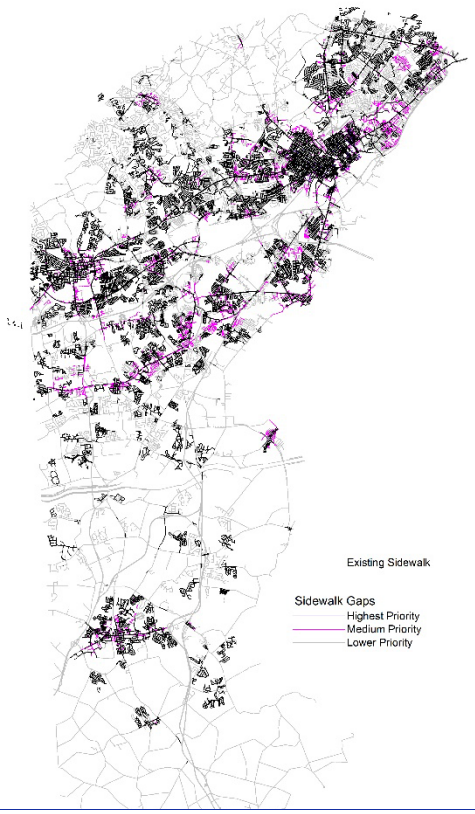
Source https://nacto.org/publication/urban-bikeway-design-guide/designing-ages-abilities-new/

Sidewalks - Fill Gaps					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:
Fill missing sidewalk gaps and ADA accessibility gaps using WILMAPCO priority as a guide.

WILMAPCO Pedestrian Priority Network Scoring Factors include:

- Land use factors:
  - Municipality or Hometown Overlay Zone
  - Trip generators: schools, commercial & community centers, libraries, parks
- Transportation factors
  - Pedestrian crashes (1-4 points)
  - Transit stop
  - Multi-use pathways
- Demographics
  - Population and Jobs Density
  - Special populations: Transportation Justice areas



SAFE SPEEDS

Speed Limit - Replace 85th Percentile Criteria with NACTO so that speeds limits are compatible with where the streets are located					
Lead(s): DelDOT, Local					
Category: Policy	**Subcategory:** Safe Speeds		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes
Notes and Resources: https://nacto.org/safespeeds/ https://nacto.org/publication/city-limits					

Speed Limit - Set 20 MPH Zone Criteria and Establish Slow Zones					
Lead(s): DelDOT, Local					
Category: Policy	**Subcategory:** Safe Speeds		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes
Notes and Resources: https://www.rospa.com/media/documents/road-safety/20mph-zones-and-speed-limits-factsheet.pdf https://www.20splenty.org/limits_or_zones					

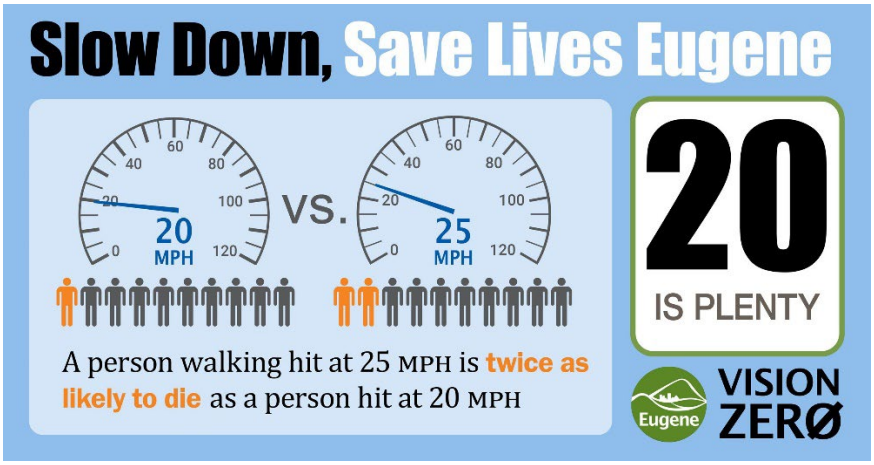


Image https://www.eugene-or.gov/4488/20-is-Plenty

Speed - Evaluate Speed Compliance Systemically					
Lead(s): WILMAPCO					
Category: Supplemental Planning	**Subcategory:** Safe Speeds	**Rapid Implementation:** Yes	**Community Support:** NA		
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:
WILMAPCO is using Streetlight data to compare 50th and 85th percentile speeds with posted limits.

Average travel speeds, mph

Speed Limits - Synchronize Signals for Efficient Travel on Slower Corridors					
Lead(s): DelDOT					
Category: Project	**Subcategory:** Safe Speeds		**Rapid Implementation:** Yes		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:

Some signal timing strategies can help control the speed of drivers and make it safer for pedestrians and bicyclists. Options include:

- Dwell-on-Red - signals revert to an all red phase when there is low traffic volumes to reduce speeding, particularly at night where impaired driving is an issue..
- Green Wave – promoted corridor progression at a safe speed (i.e., the posted speed limit) and that speed can be communicated to drivers.

https://cpb-us-w2.wpmucdn.com/sites.northeastern.edu/dist/e/618/files/2018/09/Limit-Speeding-Opportunities-TRR-2018.pdf
https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/traffic-signals/coordinated-signal-timing/

Image https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/traffic-signals/coordinated-signal-timing/

Traffic Calming - Horizontal and Verticle Speed Control Elements					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Speeds		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:

Traffic calming uses a mix of physical measures to control speeding traffic, reduce negative traffic impacts in communities, and improve conditions for walking and bicycling.

https://deldot.gov/Publications/manuals/traffic_calming/pdfs/Delaware_TrafficCalmingDesignManual.pdf
https://www.ite.org/technical-resources/traffic-calming/

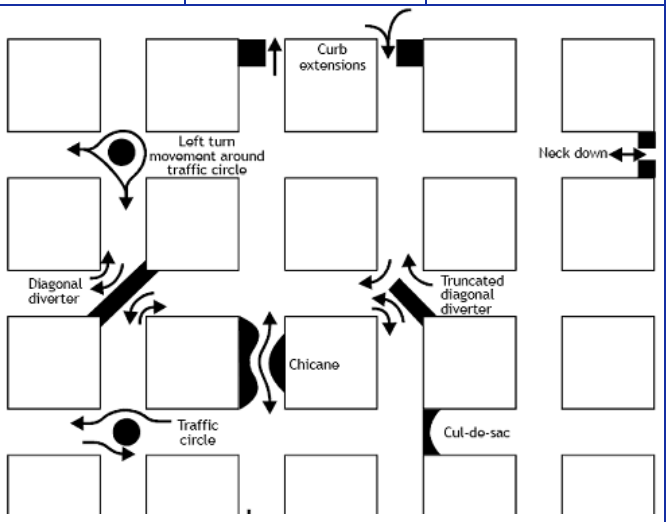


Image https://www.fhwa.dot.gov/publications/research/safety/pedbike/05085/chapt20.cfm

Lane Narrowing					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Speeds		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:
Excessive lane widths may be reduced to discourage speeding and potentially widen sidewalks, widen on-street parking lanes, or provide bike lanes.

Image https://www.pedbikeinfo.org/webinars/webinar_details.cfm?id=101

SAFE PEOPLE

Education to build culture of safety - Engage Community Stakeholders in Development of Marketing and Education					
Lead(s): Office of Highwayy Safety					
Category: Program	**Subcategory:** Safe People		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: The Office of Highway Safety leads a variety of public information and enforcement programs aimed at reducing crashes. To better tailor messaging across New Castle County's diverse population, community stakeholder engagement on marketing strategies would be beneficial. In particular, involvement of nontraditional stakeholders representing minority, low income, youth and senior populations. https://ohs.delaware.gov/					

Equity - Continue public outreach and education targeted towards vulnerable users, environmental justice, and mobility challenged populations					
Lead(s): All					
Category: Program	**Subcategory:** Safe People		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: http://www.wilmapco.org/tj/					

Ensure that vision testing is part of online drivers license applicaton/renewal process for older adults					
Lead(s): DelDOT					
Category: Program	**Subcategory:** Safe People		**Rapid Implementation:** Yes		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:

In the United States, up to 50% of traffic crashes involving older drivers are related to vision defects (Research Council, 1993).
www.uv.es/intrastodos/Publicaciones/210113_visual_health.pdf

Image https://www.pointsdevue.com/article/older-drivers-implications-visual-changes-age

SAFE VEHICLES

Vehicle Safety - Income-Based Incentives for Replacing Older Vehicles with Clean Energy Vehicles with Advanced Safety Features					
Lead(s): Delaware					
Category: Program	**Subcategory:** Safe Vehicles		**Rapid Implementation:** Yes	**Community Support:** NA	
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: Since many lower income drivers have older model cars, they do not have the collision avoidance system (CAS) technologies in newer vehicles.					

SAFE RESPONSE

Enforcement - Pass enabling legislation to expand use of radar camera speed enforcement					
Lead(s): Delaware					
Category: Policy	**Subcategory:** Safe Response		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources: https://www.cdc.gov/transportationsafety/calculator/factsheet/speed.html https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa1304/resources/Speed%20Camera%20Guidelines.pdf https://www.nhtsa.gov/book/countermeasures/countermeasures/21-automated-enforcement					

Equity - Offer education/community service alternatives to fines for first time violations					
Lead(s): Local					
Category: Policy	**Subcategory:** Safe Response		**Rapid Implementation:**		**Community Support:** Moderate
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: Can be used as a means of reducing the financial burden of traffic fines.					

Post Crash Care - Registry					
Lead(s): EMS					
Category: Supplemental Planning	**Subcategory:** Safe Response		**Rapid Implementation:** Yes		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

Post Crash Care - Whole Blood					
Lead(s): EMS					
Category: Project	**Subcategory:** Safe Response	**Rapid Implementation:**	**Community Support:** NA		
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:
Paramedic transfusion of Whole Blood at scene of a serious motor vehicle crash can prevent loss of life.

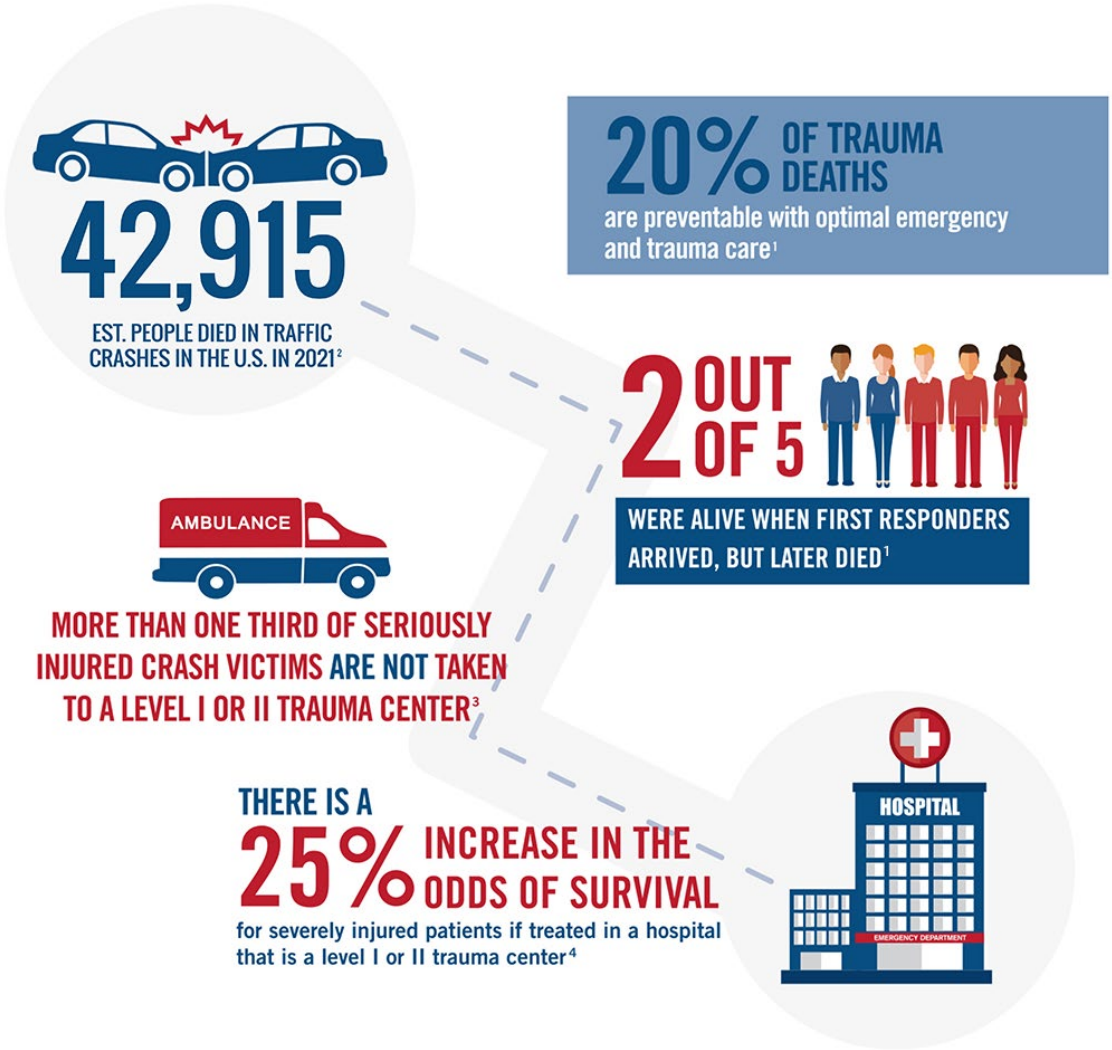


Image https://www.transportation.gov/NRSS/PostCrashCare

Enforcement - Supplement infrastructure changes with targeted enforcement					
Lead(s): State/Local Police					
Category: Program	**Subcategory:** Safe Response		**Rapid Implementation:** Yes		**Community Support:** Moderate
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources:					

Enforcement - Use automated red light cameras where red light running or right turn on red violations are crash contributers					
Lead(s): State/Local Police					
Category: Program	**Subcategory:** Safe Response		**Rapid Implementation:** Yes		**Community Support:** Moderate
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources: https://www.nhtsa.gov/book/countermeasures/countermeasures/21-automated-enforcement					

Enforcement - Utilize enforcement as stopgap measure in HIN areas without infrastructure imrovements yet					
Lead(s): State/Local Police					
Category: Program	**Subcategory:** Safe Response		**Rapid Implementation:** Yes		**Community Support:** Moderate
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources:					

Post Crash Care - Substance Abuse Treatment Enrollment					
Lead(s): EMS					
Category: Program	**Subcategory:** Safe Response		**Rapid Implementation:** Yes		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:** Yes	**Distracted:**	**Speeding:**
Notes and Resources:					

Enforcement - Prioritize roadway design retrofits over long-term enforcement so speeds are self enforcing					
Lead(s): DelDOT, Local					
Category: Program	**Subcategory:** Safe Response		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources:					

Enforcement - Utilize automated speed cameras for enforcement in areas where infrastructure changes are not feasible or complete					
Lead(s): State/Local Police					
Category: Program	**Subcategory:** Safe Response		**Rapid Implementation:**		**Community Support:** Moderate
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources: https://www.cdc.gov/transportationsafety/calculator/factsheet/speed.html https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa1304/resources/Speed%20Camera%20Guidelines.pdf https://www.nhtsa.gov/book/countermeasures/countermeasures/21-automated-enforcement					

Post Crash Care - Next-Generation Traffic Incident Management (NextGen TIM) technologies for traveler and responder safety and better trip reliability					
Lead(s): EMS, DelDOT, Department of Safety and Homeland Security, Police					
Category: Program	**Subcategory:** Safe Response		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

CROSSCUTTING

Local Government Adoption of Vision Zero Goal					
Lead(s): Local					
Category: Policy	**Subcategory:** Crosscutting		**Rapid Implementation:** Yes		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

Monitoring and Evaluation - Complete comprehensive review of implementation progress every four years as part of WILMAPCO Regional Progress Report					
Lead(s): WILMAPCO					
Category: Supplemental Planning	**Subcategory:** Crosscutting		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

Monitoring and Evaluation - Continue work with SS4A Committee for ongoing coordination and refinement of recommendations					
Lead(s): All					
Category: Supplemental Planning	**Subcategory:** Crosscutting		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

Monitoring and Evaluation - Improve public crash data dashboard and data sharing with local government / MPO partners					
Lead(s): DelDOT, Department of Safety and Homeland Security					
Category: Supplemental Planning	**Subcategory:** Crosscutting		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

Monitoring and Evaluation - Update HIN analysis every two years					
Lead(s): All					
Category: Supplemental Planning	**Subcategory:** Crosscutting		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

Local government refinement of HIN analysis					
Lead(s): Local					
Category: Supplemental Planning	**Subcategory:** Crosscutting		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: Countywide analysis can be supplemented by more refined local needs assessment, guided by more substantial community outreach.					

Monitoring and Evaluaton - Complete annual review of performance measures					
Lead(s): All					
Category: Supplemental Planning	**Subcategory:** Crosscutting		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

SUPPORTING ACTIONS

Land Use - Use Access Management of Minimize Conflict Points					
Lead(s): DelDOT, Local					
Category: Policy	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:** Yes	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: https://montgomeryplanning.org/wp-content/uploads/2023/05/Access-Management-Study-Report-072122_Final.pdf https://ppms.trec.pdx.edu/media/project_files/OTREC-RR-13-03%20Final.pdf https://www.dot.state.pa.us/public/PubsForms/Publications/PUB%20574.pdf					

Bicycle/Pedestrian - Advisory Lanes					
Lead(s): DelDOT, Local					
Category: Supplemental Planning	**Subcategory:** Safe Streets		**Rapid Implementation:** Yes		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:** Yes	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**

Notes and Resources:

Advisory Lanes create usable shoulders for nonmotorized use on a roadway that is otherwise too narrow to accommodate a pathway or bike lane. The shoulder is delineated by pavement marking and optional pavement color. Motorists may only enter the shoulder when no one is present and must overtake these users with caution due to potential oncoming traffic. Advisory Lanes are a new treatment type in the United States requires an MUTCD request to experiment. They are best suited for slow, low-volume streets.

https://transweb.sjsu.edu/research/1925-Safety-Edge-Lane-Roads

https://ruraldesignguide.com/mixed-traffic/advisory-shoulder

Image https://www.advisorybikelanes.com/gallery.html

Diverging Diamond Interchange					
Lead(s): DelDOT					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:
Evaluate when designing interchange projects.

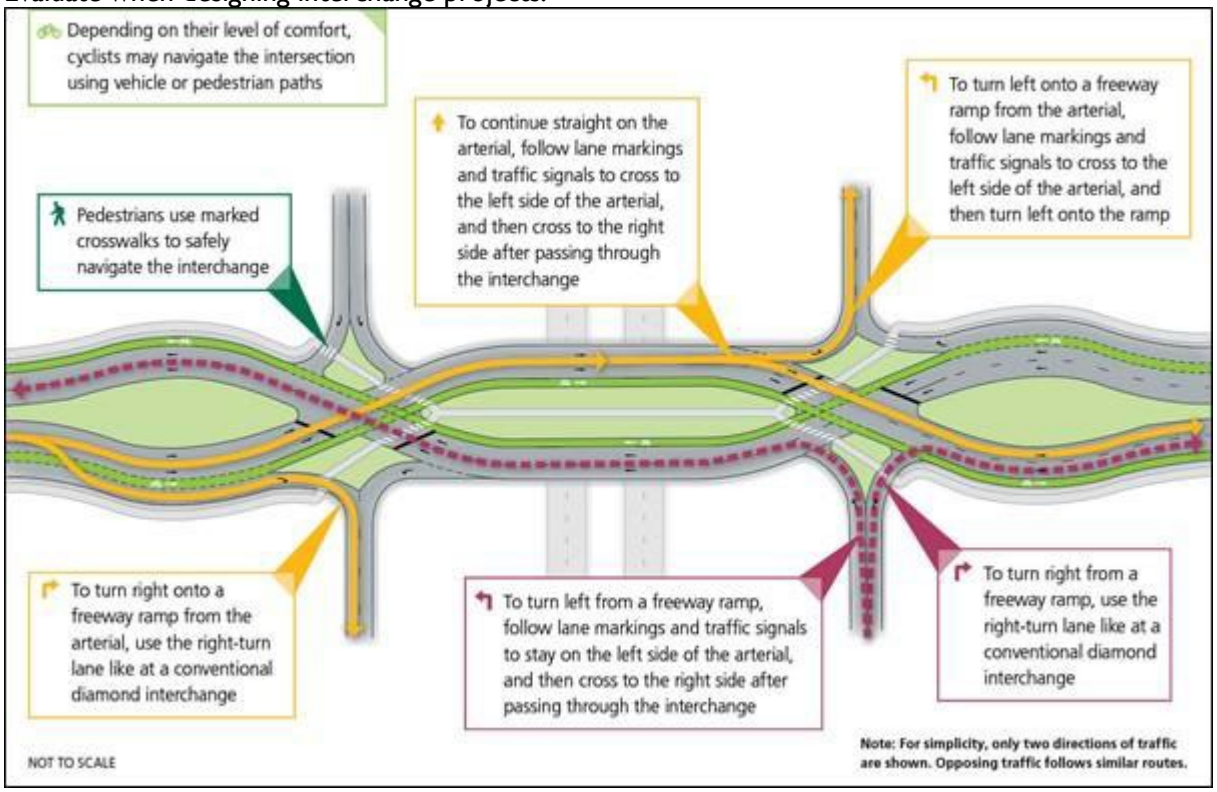


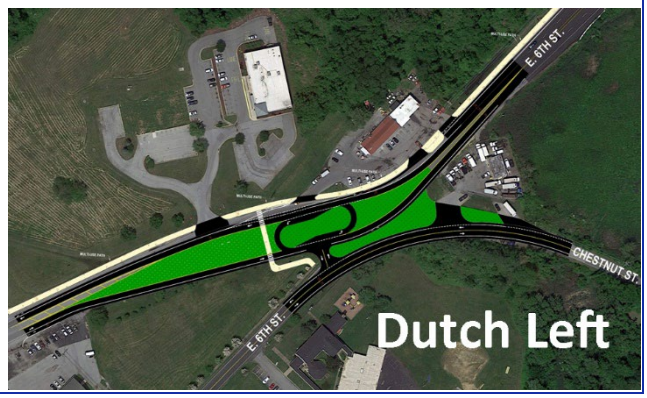
Image https://wsdot.wa.gov/travel/traffic-safety-methods/diverging-diamond-interchange

Roundabouts					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** Moderate
Addressed crash type:					
Aggressive:	**Yield:** Yes	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:
Evaluate when designing intersection projects.
https://highways.dot.gov/safety/intersection-safety/intersection-types/roundabouts

Intersection Redesign to Reduce Left Conflicts					
Lead(s): DelDOT, Local					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike:** Yes	**Drugs/Alcohol:**	**Distracted:**	**Speeding:** Yes

Notes and Resources:
Evaluate when designing intersection projects.
https://safety.fhwa.dot.gov/provencountermeasures/reduced_left.cfm
https://www.virginiadot.org/innovativeintersections/
https://safety.fhwa.dot.gov/intersection/rltci/



Rumble Strips - Bicycle Friendly Shoulder and Centerline					
Lead(s): DelDOT					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:** Yes	**Speeding:**

Notes and Resources:
Evaluate when completing pavement and rehabilitation and HEP projects. DelDOT has adopted bicycle-friendly rumble strip design standards.
https://www.adventurecycling.org/advocacy/safety-advocacy/downloads/solutions-for-making-rumble-strips-safer-for-bicyclists/
https://highways.dot.gov/safety/proven-safety-countermeasures/longitudinal-rumble-strips-and-stripes-two-lane-roads

Safety Edge					
Lead(s): DelDOT					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike:**	**Drugs/Alcohol:**	**Distracted:** Yes	**Speeding:**

Notes and Resources:
Evaluate when completing pavement and rehabilitation and HEP projects.
https://highways.dot.gov/safety/proven-safety-countermeasures/safetyedgesm
https://deldot.gov/Programs/DSHSP/index.shtml?dc=project-safety-edge

High Friction Surface Treatment					
Lead(s): DelDOT					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive: Yes	**Yield:** Yes	**Pedestrian/Bike**: Yes	**Drugs/Alcohol:** Yes	**Distracted:** Yes	**Speeding:** Yes
Notes and Resources: Evaluate when completing pavement and rehabilitation and HEP projects. https://deldot.gov/Programs/DSHSP/index.shtml?dc=project-high-friction-surface-treatment https://highways.dot.gov/safety/rwd/keep-vehicles-road/pavement-friction/hfst					

Wider Edge Lines					
Lead(s): DelDOT					
Category: Project	**Subcategory:** Safe Streets		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:** Yes	**Speeding:**
Notes and Resources: Evaluate when completing pavement and rehabilitation and HEP projects. https://safety.fhwa.dot.gov/provencountermeasures/wider-edge-lines.cfm					

SAFE PEOPLE

Public agencies - offer defensive driving programs for employees					
Lead(s): All					
Category: Program	**Subcategory:** Safe People		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: Research has shown modest benefits from defensive driving training.					

SAFE VEHICLES

Vehicle Safety - Upgrade Fleet Vehicles with Advanced Safety Features					
Lead(s): All					
Category: Project	**Subcategory:** Safe Vehicles		**Rapid Implementation:**		**Community Support:** NA
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources: Complete with planned vehicle replacements.					

CROSSCUTTING

Monitoring and Evaluation - Update SS4A NCC at least every five years					
Lead(s): All					
Category: Supplemental Planning	**Subcategory:** Crosscutting		**Rapid Implementation:**		**Community Support:** High
Addressed crash type:					
Aggressive:	**Yield:**	**Pedestrian/Bike**:	**Drugs/Alcohol:**	**Distracted:**	**Speeding:**
Notes and Resources:					

IMPLEMENTATION AND ACCOUNTABILITY

MEASURING AND REPORTING PROGRESS

Type	Performance Measure	Description
Outcomes	Number of serious injuries	The number of serious injuries as the result of a vehicular crash
	Serious Injuries per 100 million vehicle miles traveled (VMT)	The rate of serious injuries
	Number of fatalities	The number of fatalities as a result of a vehicular crash
	Fatalities per 100 million VMT	The rate of fatalities
	Nonmotorized fatalities and serious injuries	The number of pedestrians killed and serious injuries as a result of a vehicular crash
	Percentage of people within NCC who have access to a low-stress pedestrian / bicycle facility	The portion of our region's population living close to a connected pedestrian/bicycle route.
Outputs	Construct safety improvements on the HIN	Completed projects/funding.
	Construct safety improvements on the HIN in Mobility Challenged Areas	Completed projects/funding.

Appendices: Under Development

A. Supplemental crash mapping and analysis
B. Public outreach results
C. Safety TIP/CTP Projects
D. Regional Transportation Plan Projects on HIN