



DELAWARE

2021-2025 Strategic Highway Safety Plan: Towards Zero Deaths



Motorcycle Rider Education Advisory Committee Meeting
March 21, 2022



Presentation Outline

- Delaware Fatalities & Serious Injuries
- Overview of 2021-2025 Strategic Highway Safety Plan
- Emphasis Area (EA) Strategies/Actions
- Evaluation and Implementation Activities
- Question and Answer Session



Excellence in Transportation

Every Trip.

We strive to make every trip taken in Delaware safe, reliable, and convenient for people and commerce.

Every Mode.

We provide safe choices for travelers in Delaware to access roads, rails, buses, airways, waterways, bike trails, and walking paths.

Every Dollar.

We seek the best value for every dollar spent for the benefit of all.

Everyone.

We engage our customers and employees with respect and courtesy as we deliver our services.



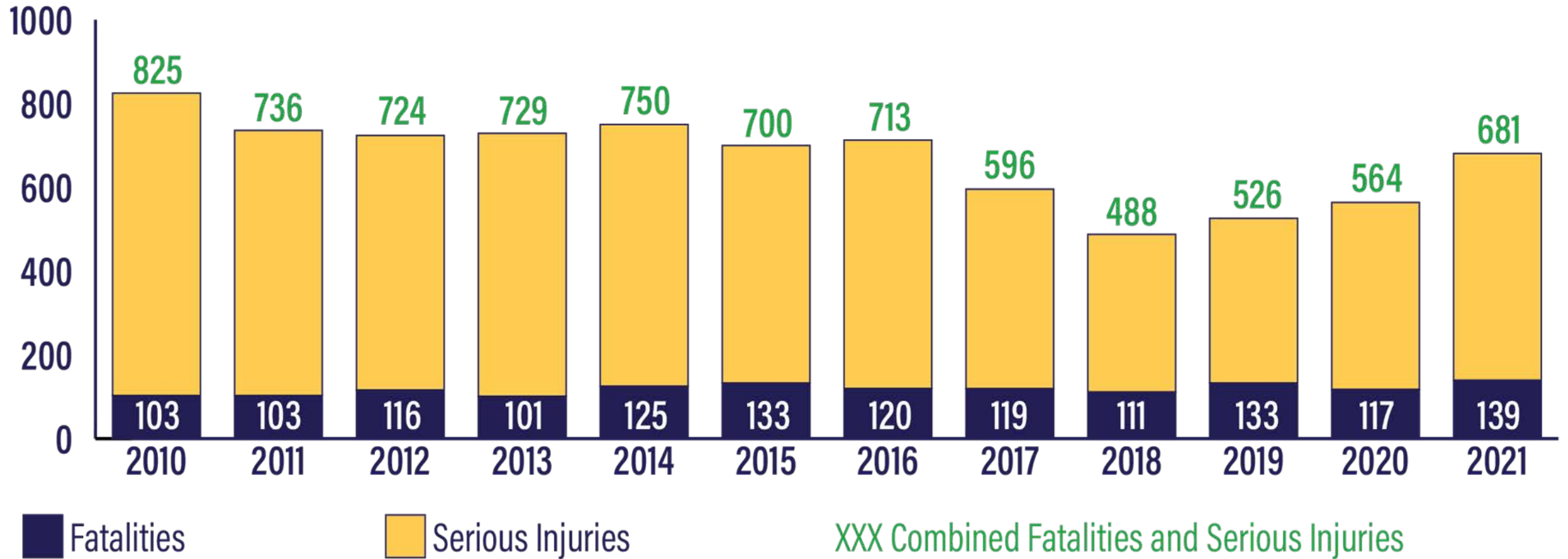
Delaware Fatalities & Serious Injuries

Delaware Traffic Fatalities as of 1/1/2022							
	2021	2020		2019			
		Year-to-Date	Totals	Year-to-Date	Totals		
Fatalities	139	117	↑ 19%	117	133	↑ 5%	133
Delaware Residents	114	93	↑ 23%	96	N/A	N/A	N/A
Person Types							
Vehicle Occupant	83	75	↑ 11%	75	75	↑ 11%	75
Pedestrian	30	25	↑ 20%	25	32	↓ -6%	32
Bicyclist	2	3	↓ -33%	3	7	↓ -71%	7
Motorcyclist	24	14	↑ 71%	14	19	↑ 26%	19
Crash Types							
Curve Related	23	19	↑ 21%	19	18	↑ 28%	18
Roadway Departure	59	47	↑ 26%	47	43	↑ 37%	43
Intersection Related	53	32	↑ 66%	32	40	↑ 33%	40
Median Crossover	7	3	↑ 133%	3	2	↑ 250%	2
Wrong Way	0	1	↓ -100%	1	0	N/A	0
Work Zone	7	3	↑ 133%	3	7	0%	7

2022: 34 fatalities to-date



Delaware Fatalities & Serious Injuries



**Data for 2021 is preliminary*



What is an SHSP?

- Comprehensive, multi-year, **data driven** transportation safety plan with a goal of reducing highway fatalities and serious injuries on all public roads
- Establishes consistent statewide goals, objectives, emphasis areas, priorities, and countermeasures with stakeholders and other transportation plans
- Makes effective use of crash data to determines priorities
- Addresses **4 E's of Highway Safety**
 - Engineering
 - Education
 - Enforcement
 - Emergency Medical Services





Goal and Overall Objective Statements

GOAL

The Delaware Strategic Highway Safety Plan: Towards Zero Deaths aims to eliminate fatalities and serious injuries on Delaware's roadways through a multi-agency approach that utilizes education, enforcement, engineering and emergency medical service strategies.

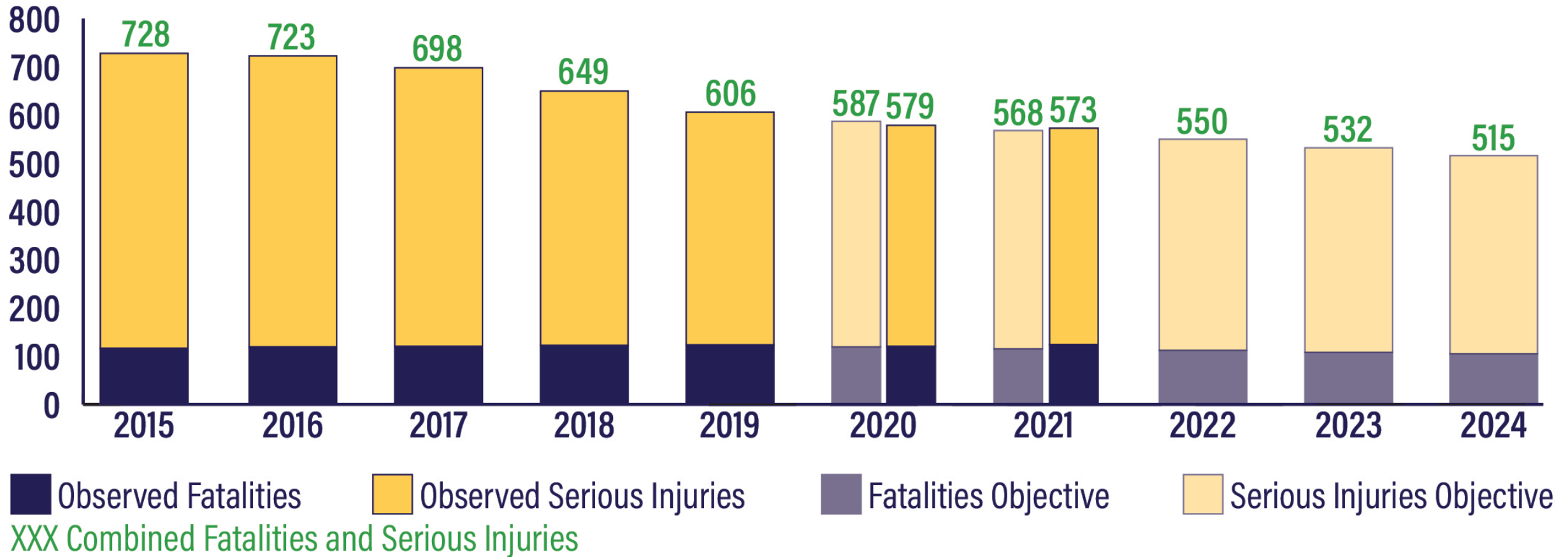
OVERALL OBJECTIVE

Delaware's 2021-2025 SHSP objective is to **reduce fatalities and serious injuries by 15% over the next five years** to ultimately reach the goal of zero fatalities and serious injuries on Delaware's roadways.

- Objectives are generally measurable, time-based and action oriented
- Core Committee Agencies (DeIDOT, DSP, and OHS) agreed on a measurable objective for the next five years, measured from the average of 2015-2019 crash data



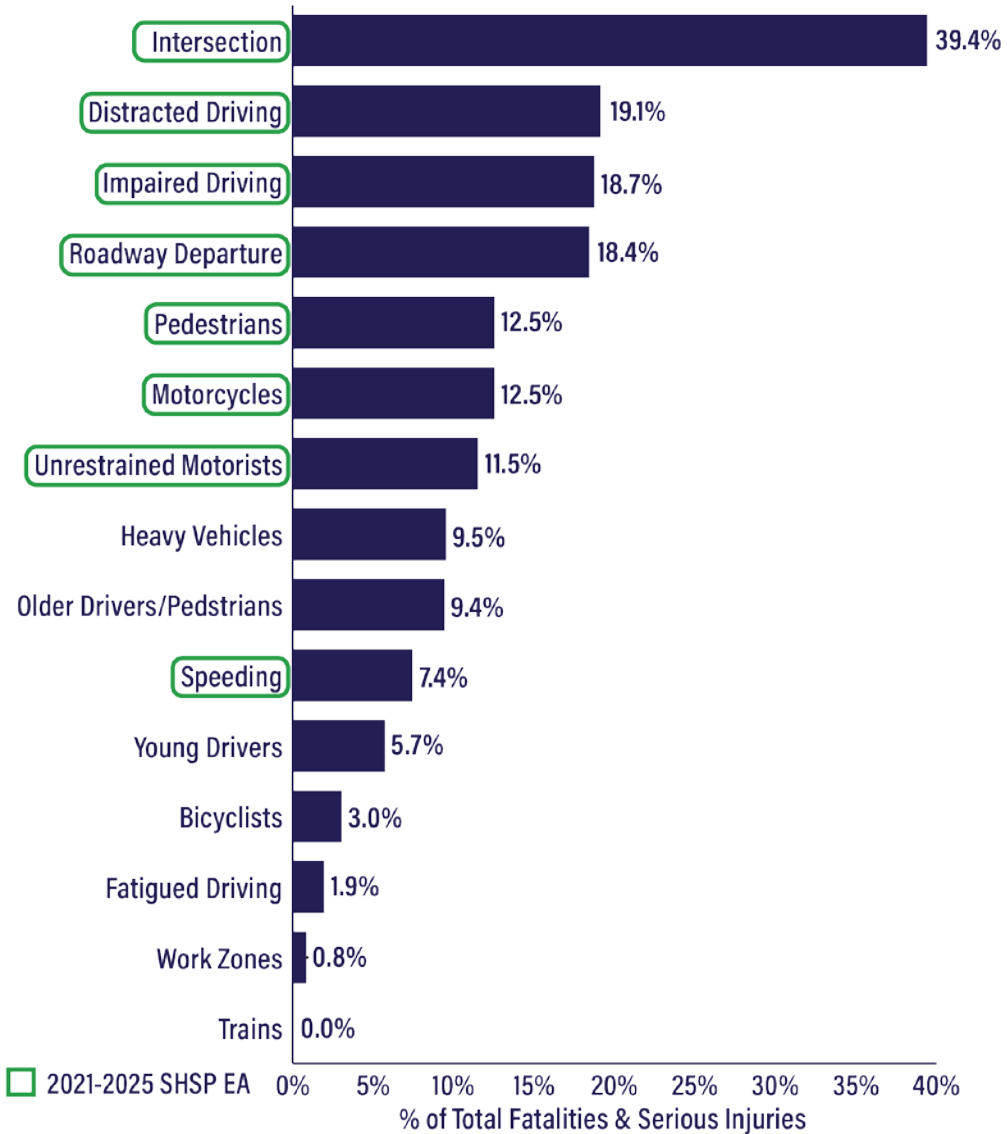
Preliminary View of 5-year Rolling Average Data Trends



- Five-year rolling average is the average of five, individual, consecutive points of data that provides a better understanding of the overall data over time without eliminating years with significant increases or decreases.
- Data for 2021 is preliminary*



2021-2025 SHSP Emphasis Areas



- Data-Driven EA's Account for
 - 94% of all fatalities
 - 85% of all serious injuries
- New EA: Distracted Driving

2021-2025 SHSP EMPHASIS AREAS

1. Intersections
2. Distracted Driving
3. Impaired Driving
4. Roadway Departure
5. Pedestrians
6. Motorcycles
7. Unrestrained Motorists
8. Speeding
9. Traffic Records



Strategies/Actions

- Strategy Development
 - Best practices from FHWA, NHTSA, other states, etc.
 - Continuation of proven safety countermeasures
 - Core agency initiatives

- Plan identifies both strategies and actions (*New for 2021-2025 Plan*)

Example Strategy/Action Sheet from 2021-2025 SHSP

Statewide Overall Strategies



Strategy 1: Implement statewide programs and policies that are aimed at improving funding, safety culture and agency practices in an effort to reduce fatalities and serious injuries.

- 1.1 Examine the feasibility of establishing a dedicated Highway Patrol.
- 1.2 Coordinate with municipalities to discuss the feasibility of developing Local Road Safety Plans.
- 1.3 Educate the public and legislators on various safety countermeasures, specific crash problems and transportation safety challenges.
- 1.4 Examine the feasibility of establishing a data-driven "Safety Corridor" program that provides for increased penalties for various moving violations targeted at driver behavioral improvements.



Strategy 2: Implement statewide programs and policies that provide for the development of infrastructure related to Connected and Autonomous Vehicles (CAV) and supports Cooperative Automated Transportation (CAT).

- 2.1 Begin implementing safety-related recommendations from the CAV Council to prepare for CAV in Delaware.
- 2.2 Review national strategies and best practices regarding CAV and CAT and begin implementation of those strategies that will have the most benefit on crash reduction and driver behavior improvements.
- 2.3 Research, and where appropriate, implement policies and/or adopt specifications for enhanced pavement markings to support the implementation of CAV.



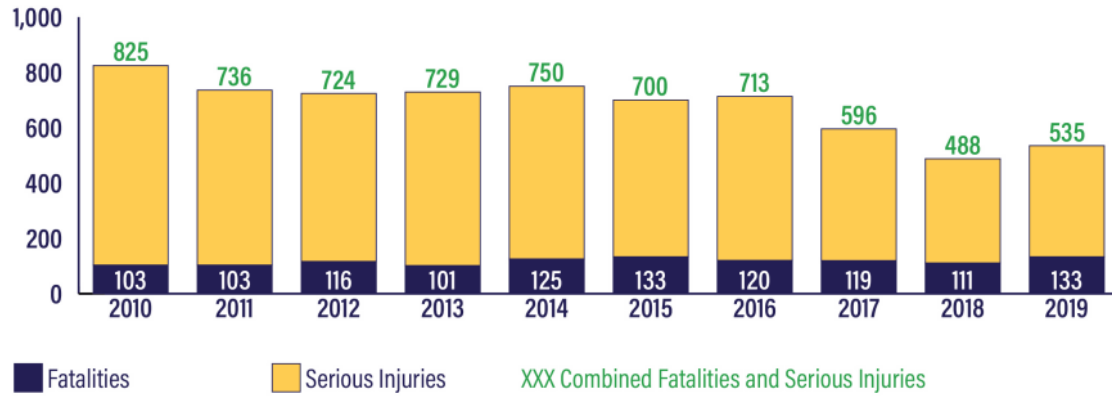
Strategy 3: Improve linkages between land use and transportation to improve safety for all road users.

- 3.1 Support legislation that requires land use authorities to enter into agreements with DelDOT that link and comprehensively coordinate future land use and transportation decisions.

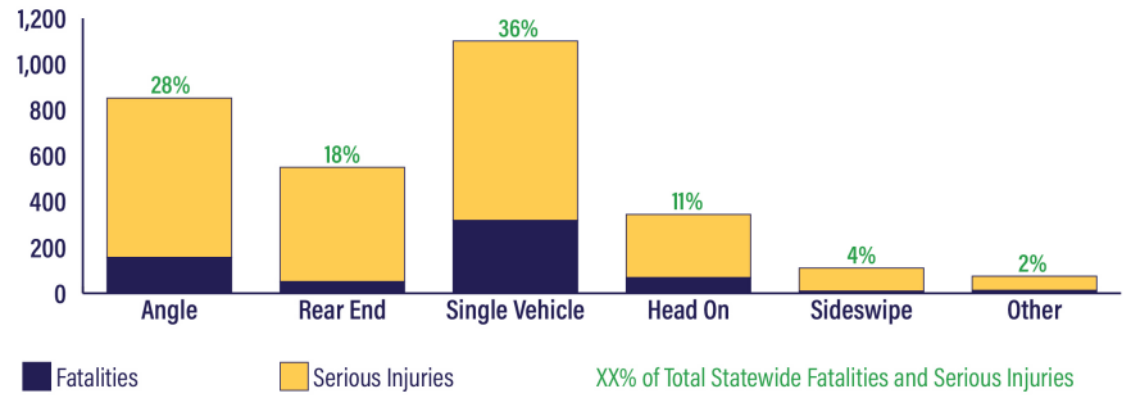


Statewide Crash Trends

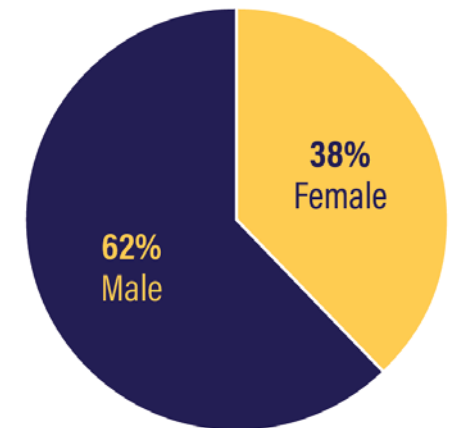
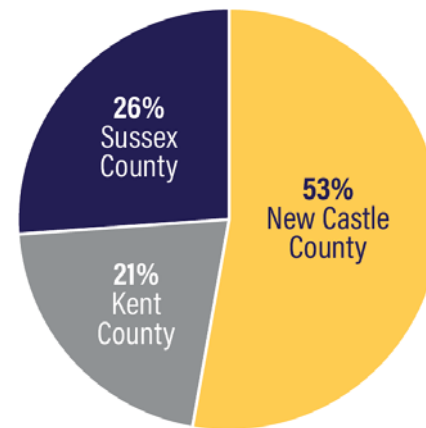
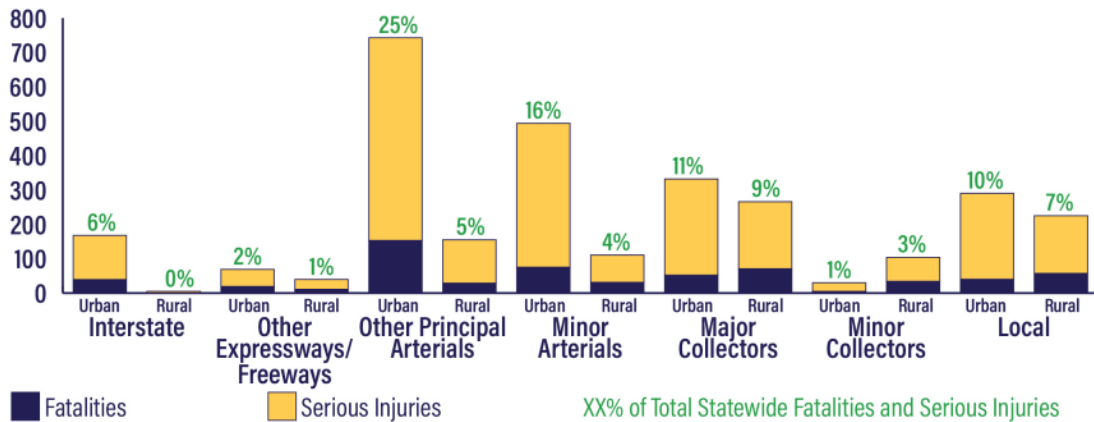
Statewide Annual Observed Fatalities and Serious Injuries



Manner of Impact



Roadway Functional Classification





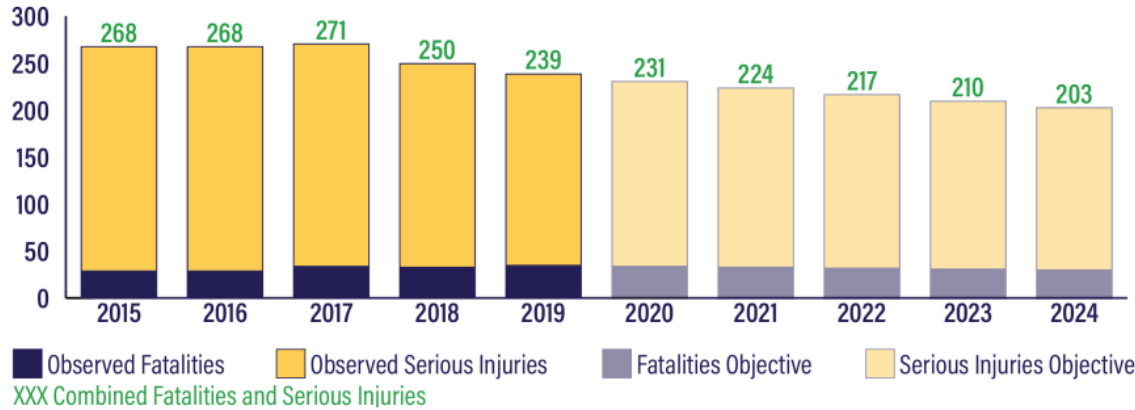
Statewide Strategies/Actions

- Implement statewide programs and policies that are aimed at improving funding, safety culture and agency practices in an effort to reduce fatalities and serious injuries.
- Implement statewide programs and policies that provide for the development of infrastructure related to Connected and Autonomous Vehicles (CAV) and supports Cooperative Automated Transportation (CAT).
- Improve linkages between land use and transportation to improve safety for all road users.

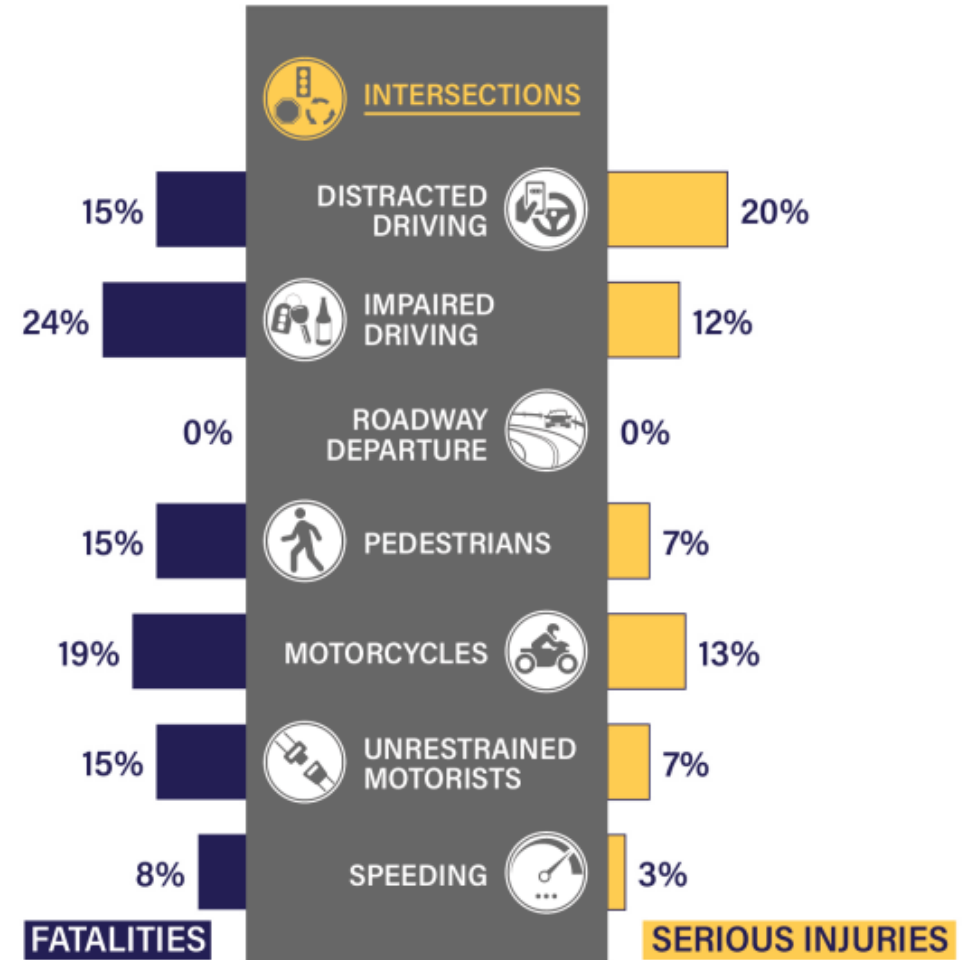


EA 1: Intersections

Intersection Fatalities and Serious Injuries (5-Year Rolling Averages)



Intersection Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)



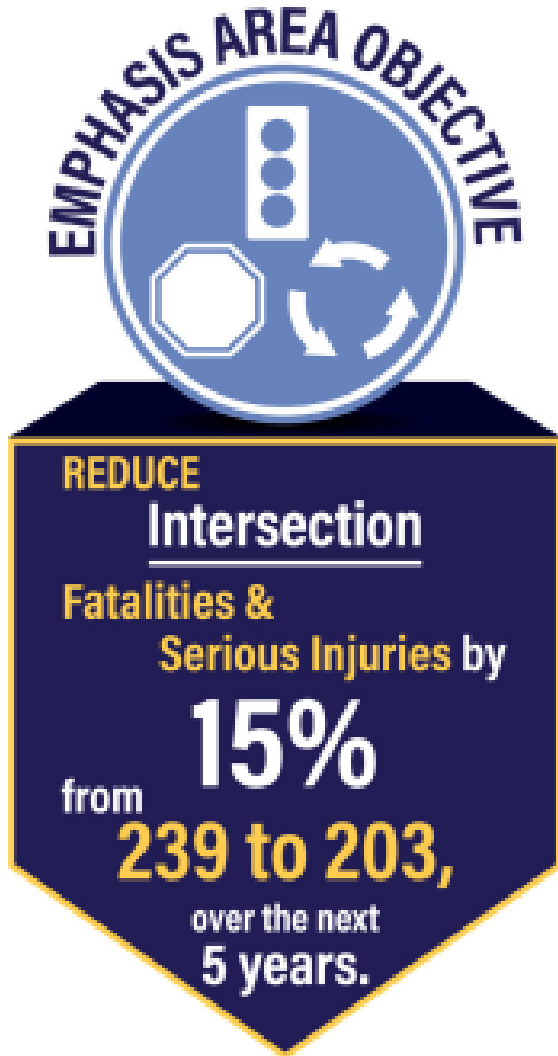
2015 to 2019 Intersection Fatalities & Serious Injuries

- 74% occurred in urban areas
- 60% occurred between 1 PM and 10 PM
- 56% were male
- 53% were angle crashes
- 53% occurred in New Castle County
- 51% occurred at unsignalized intersections
- 47% occurred along divided roadways
- 36% occurred at unsignalized intersections along undivided roadways
- 35% occurred on principal arterial roadways
- 21% were 20 to 29 years old
- 13% occurred on wet/snowy/icy roadways
- 13% occurred during dark, unlit conditions





EA 1: Intersections – Strategies/Actions

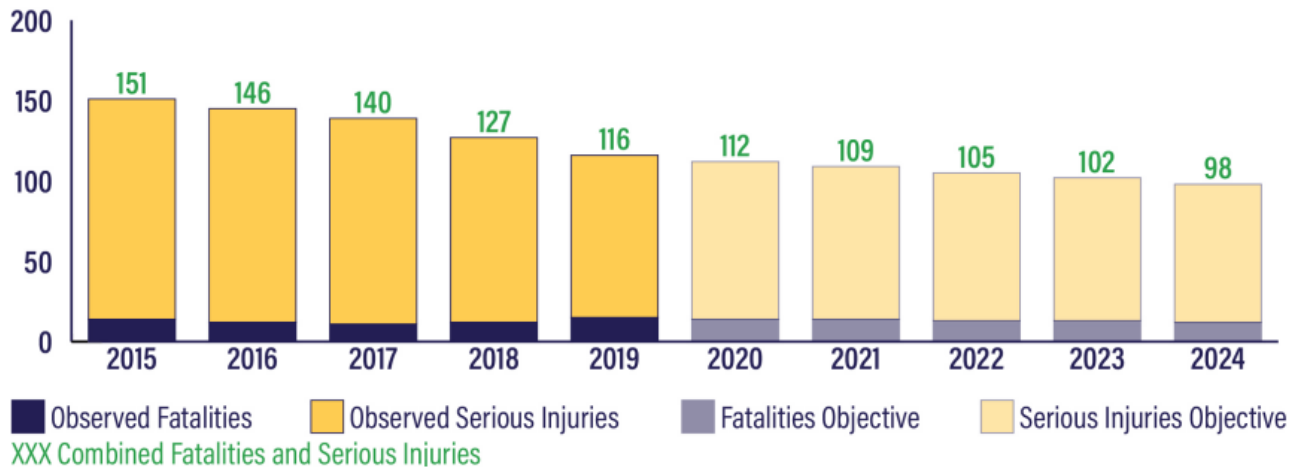


- Reduce the frequency and severity of intersection crashes through operational, geometric and traffic control device improvements.
- Reduce the frequency and severity of intersection crashes using innovative technology and automated enforcement practices.
- Develop and distribute consistent public information messaging to educate the public on traffic laws, new traffic control devices and intersection safety.
- Implement policies and guidelines targeting safety improvements at intersections



EA 2: Distracted Driving

Distracted Driving Fatalities and Serious Injuries (5-Year Rolling Averages)

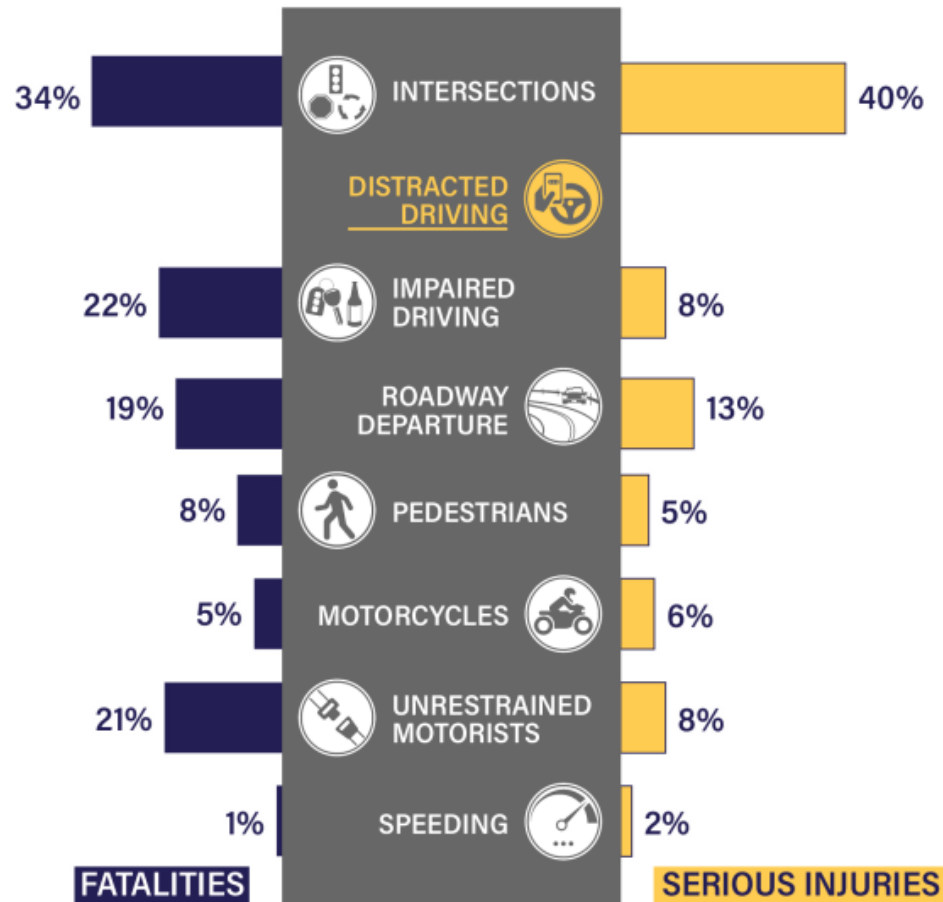


2015 to 2019 Distracted Driving Fatalities & Serious Injuries

- 69% occurred in urban areas
- 61% occurred along arterial roadways
- 45% occurred in New Castle County
- 44% were rear end crashes
- 35% were 20 to 39 years old
- 31% occurred during dark/dawn/dusk conditions
- 17% were rear end crashes between 2 PM and 6 PM
- 12% occurred on wet/snowy/icy roadways



Distracted Driving Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)





EA 2: Distracted Driving – Strategies/Actions



REDUCE
Distracted Driving

**Fatalities &
Serious Injuries** by

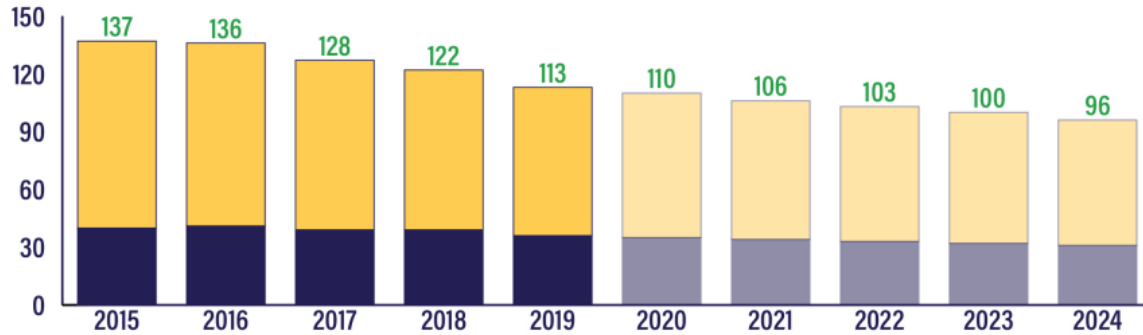
from **15%**
116 to 98,
over the next
5 years.

- Develop and distribute consistent public information messages to increase public awareness of the laws and dangers of distracted driving.
- Increase distracted driving enforcement programs.
- Support legislative action to strengthen distracted driving efforts.
- Improve roadway infrastructure to minimize the consequences of distracted driving.
- Improve data collection and monitoring of distracted driving trends.



EA 3: Impaired Driving

Impaired Driving Fatalities and Serious Injuries (5-Year Rolling Averages)



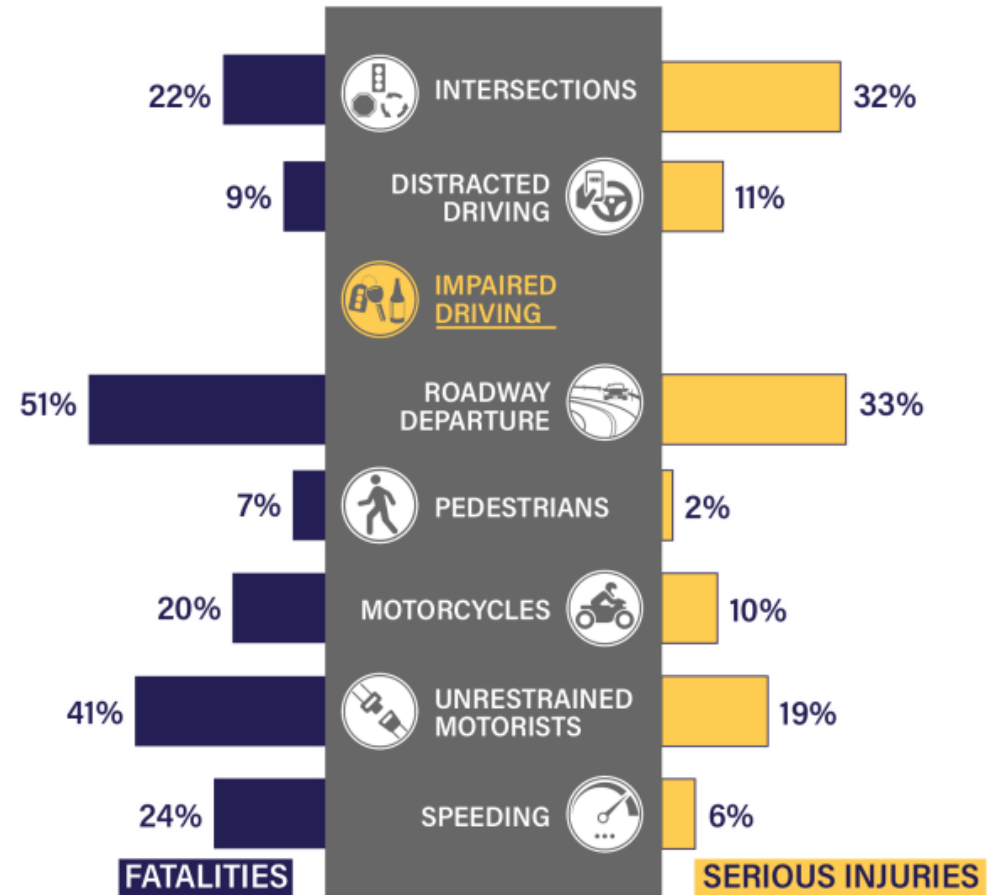
■ Observed Fatalities
 ■ Observed Serious Injuries
 ■ Fatalities Objective
 ■ Serious Injuries Objective
 XXX Combined Fatalities and Serious Injuries

2015 to 2019 Impaired Driving Fatalities & Serious Injuries

- 69% were male
- 64% occurred on a Friday, Saturday, or Sunday
- 59% occurred in urban areas
- 53% occurred along collector or local roadways
- 53% were impaired persons
- 45% occurred during dark (unlit) conditions
- 42% occurred in New Castle County
- 42% occurred from 7 PM to 3 AM on a Friday, Saturday, or Sunday
- 39% occurred in roadway departure crashes
- 29% were 20 to 29 years old
- 20% occurred on principal arterials
- 18% occurred on rural collector/local roads during dark (unlit) conditions



Impaired Driving Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)





EA 3: Impaired Driving – Strategies/Actions



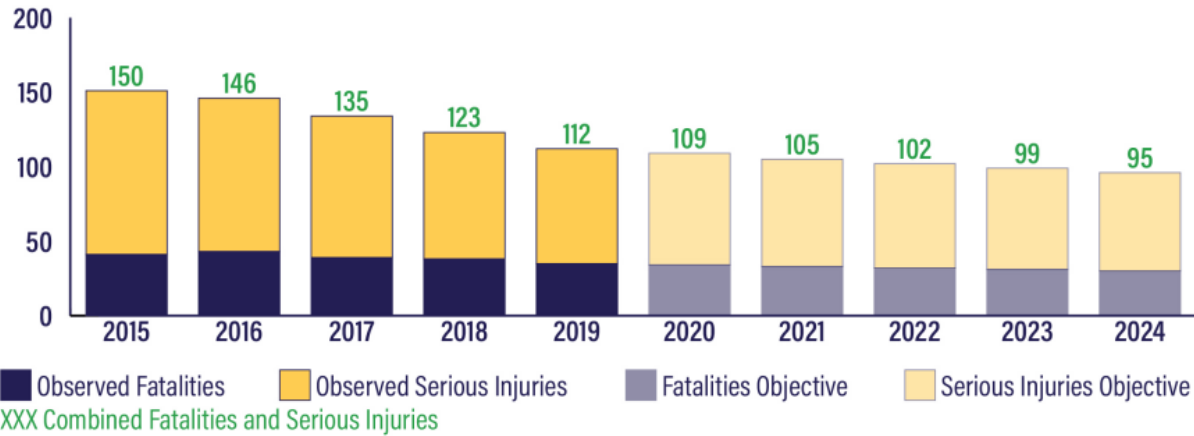
REDUCE
Impaired Driving
Fatalities &
Serious Injuries by
15%
from
113 to 96,
over the next
5 years.

- Develop and distribute consistent public information messages to increase public awareness of the laws and dangers of impaired driving.
- Strengthen impaired driving enforcement programs.
- Install proven engineering treatments to mitigate the consequences of impaired driving.
- Improve data collection and monitoring of impaired driving trends.



EA 4: Roadway Departure

Roadway Departure Fatalities and Serious Injuries (5-Year Rolling Averages)

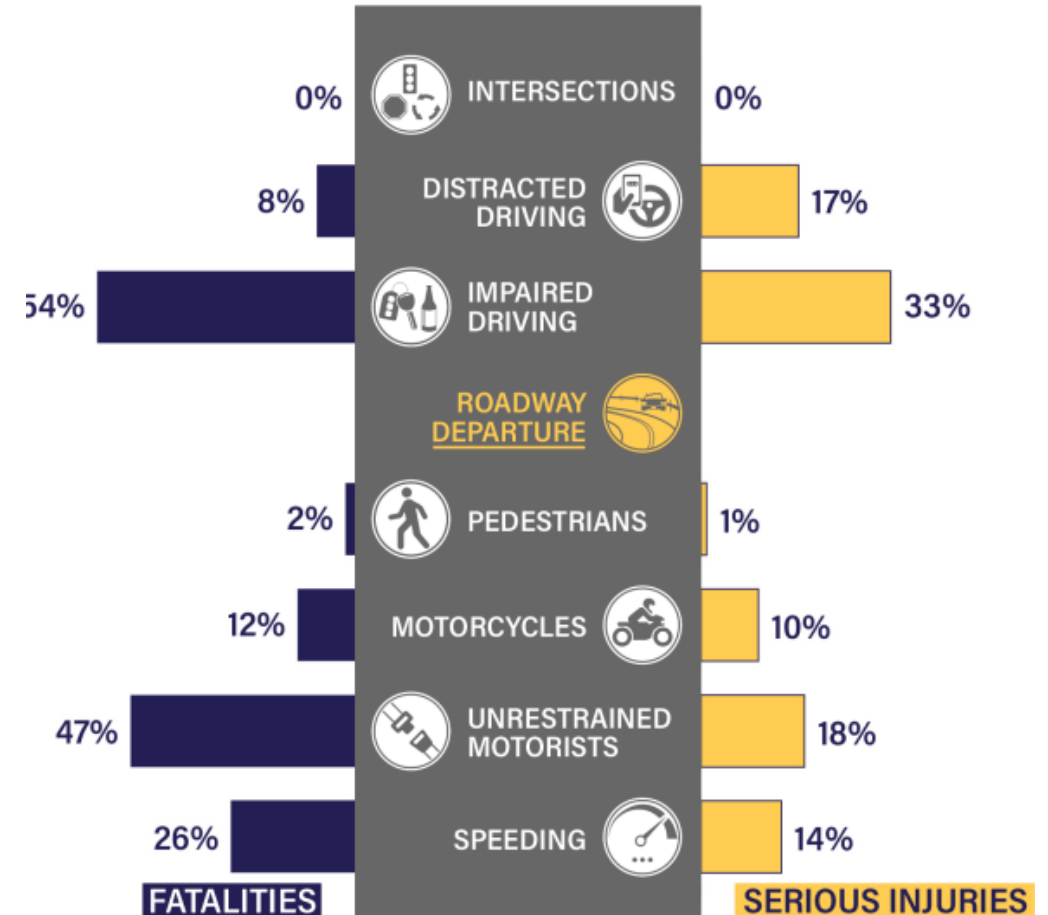


2015 to 2019 Roadway Departure Fatalities & Serious Injuries

- 80% occurred in single vehicle crashes
- 70% were male
- 60% occurred along collector and local roadways
- 57% occurred on a Friday, Saturday, or Sunday
- 52% occurred in rural areas
- 48% occurred within a horizontal curve
- 40% occurred during dark (unlit) conditions
- 30% were 20 to 29 years old
- 20% occurred on wet/snowy/ice roadways
- 20% occurred between 11 PM and 2 AM
- 20% involved striking a tree



Roadway Departure Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)





EA 4: Roadway Departure – Strategies/Actions



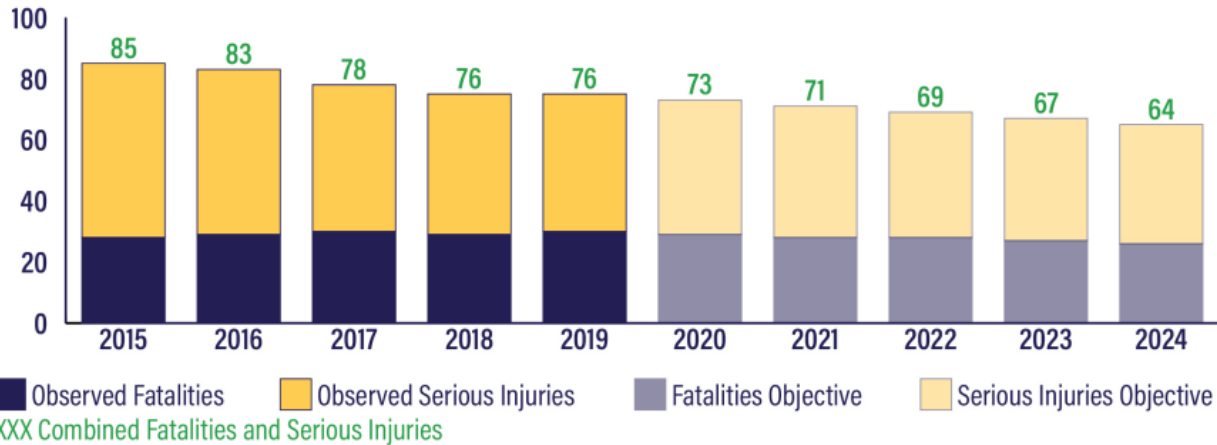
REDUCE
Roadway Departure
Fatalities &
Serious Injuries by
15%
from
112 to 95,
over the next
5 years.

- Reduce the likelihood of vehicles leaving a travel lane through the implementation of engineering countermeasures.
- Minimize the consequence of leaving the roadway by improving the roadside environment.
- Develop and distribute consistent public information messaging to educate the public about safe driving practices that reduce the frequency of roadway departure crashes.
- Develop policies and guidelines to implement effective safety measures to reduce the frequency and severity of roadway departure crashes.
- Improve roadway departure crash data collection and analysis to enhance the identification of high-risk corridors and high-risk driving behaviors.



EA 5: Pedestrians

Pedestrian Fatalities and Serious Injuries (5-Year Rolling Averages)

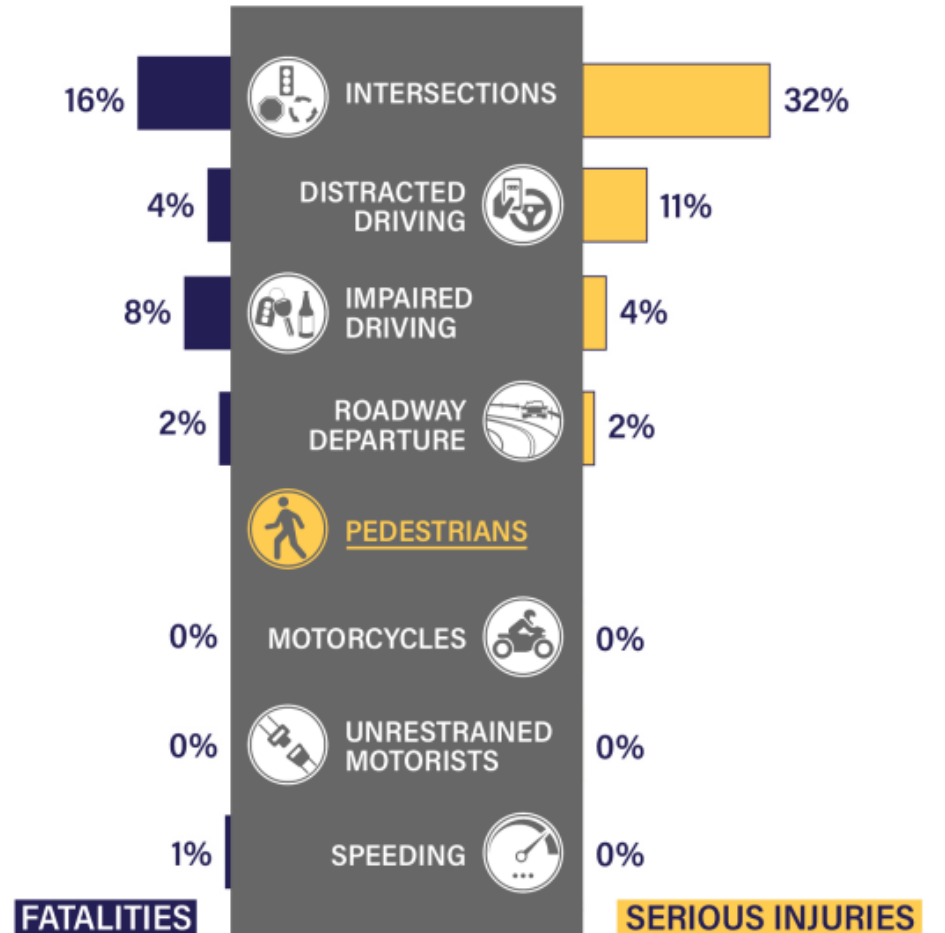


2015 to 2019 Pedestrian Fatalities & Serious Injuries

- 89% occurred in urban areas
- 63% occurred in New Castle County
- 73% occurred between 4 PM and 2 AM
- 71% were male
- 69% involved no contributing factor on the part of the vehicle driver
- 56% occurred along divided roadways
- 53% were 20 to 49 years old
- 41% occurred on principal arterials
- 36% occurred during dark (unlit) conditions
- 34% occurred on a Friday or Saturday



Pedestrians Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)





EA 5: Pedestrians – Strategies/Actions

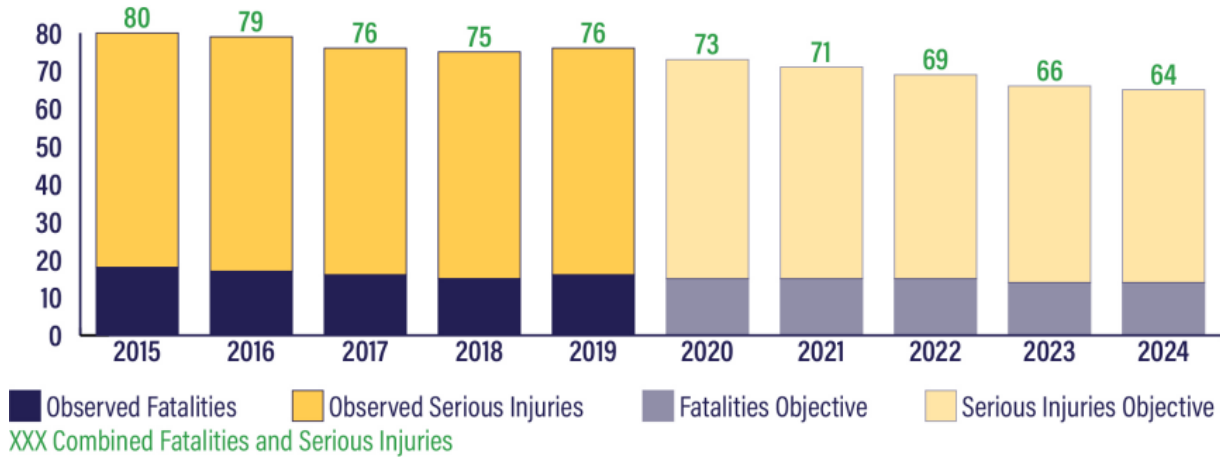


- Develop and distribute consistent public information messages to educate the public about pedestrian safety.
- Develop educational training programs to improve pedestrian safety awareness.
- Strengthen pedestrian safety laws and enforcement efforts.
- Install effective engineering countermeasures to improve pedestrian safety.
- Develop policies and/or guidelines to support pedestrian safety measures.
- Improve data collection of pedestrian crashes and monitor trends.
- Improve emergency services and incident management to address pedestrian safety.

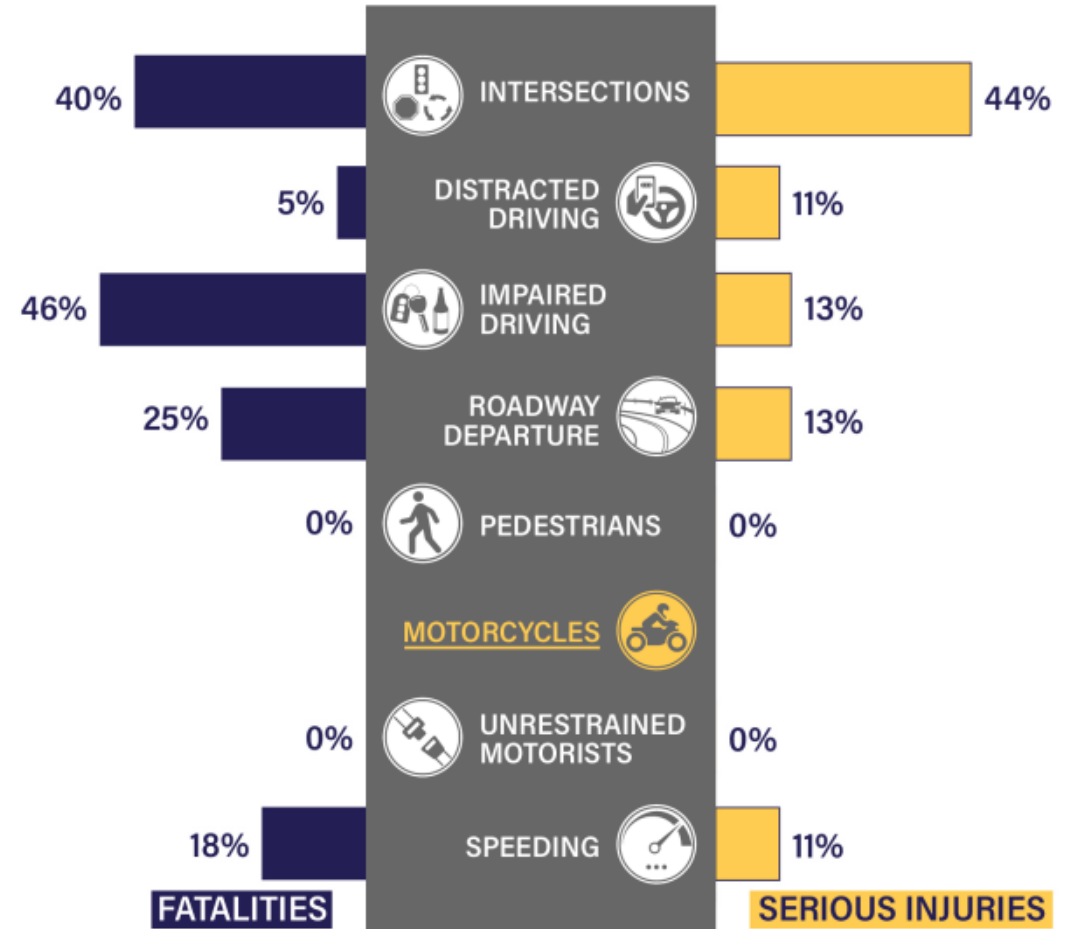


EA 6: Motorcycles

Motorcycle Fatalities and Serious Injuries (5-Year Rolling Averages)



Motorcycles Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)



2015 to 2019 Motorcycle Fatalities & Serious Injuries

- 88% were male
- 77% occurred from May through October
- 58% occurred on a Friday, Saturday or Sunday
- 46% occurred between 3 PM and 9 PM
- 40% occurred on divided roadways
- 37% were not wearing a helmet
- 35% were in single-vehicle crashes
- 31% were 20 to 29 years old
- 29% occurred on principal arterial roadways
- 24% occurred within a horizontal curve





EA 6: Motorcycles – Strategies/Actions



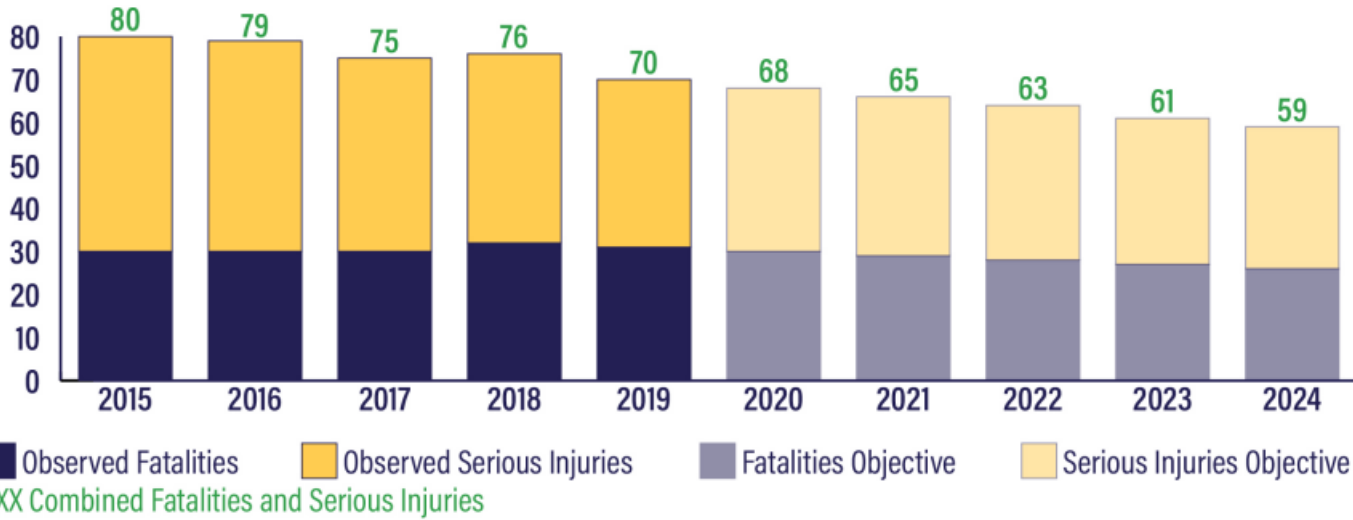
REDUCE
Motorcycles
Fatalities &
Serious Injuries by
15%
from
76 to 64,
over the next
5 years.

- Develop and distribute consistent public information messages to increase public awareness of motorcycle safety.
- Strengthen motorcycle safety enforcement programs.
- Support legislative action to strengthen motorcycle safety, including endorsement laws and motorcycle enforcement efforts.
- Improve infrastructure and consider motorcycles when installing improvements.

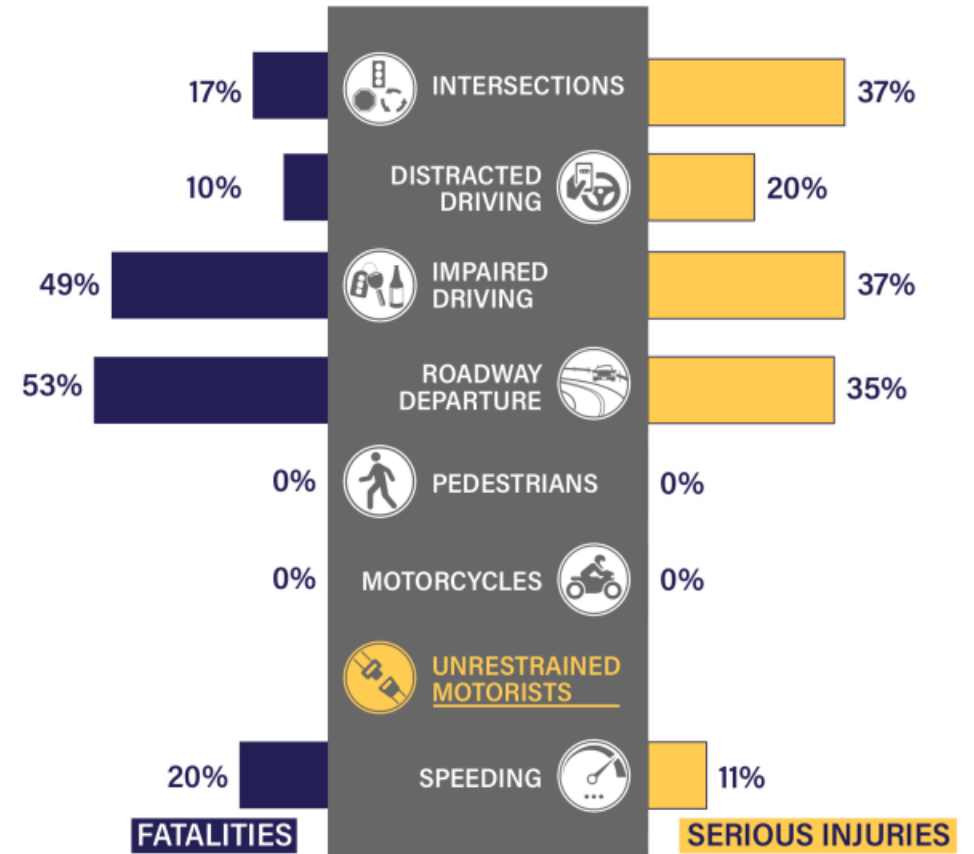


EA 7: Unrestrained Motorists

Unrestrained Motorist Fatalities and Serious Injuries (5-Year Rolling Averages)



Unrestrained Motorists Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)



Delaware Observed Seat Belt Usage





EA 7: Unrestrained Motorists – Strategies/Actions



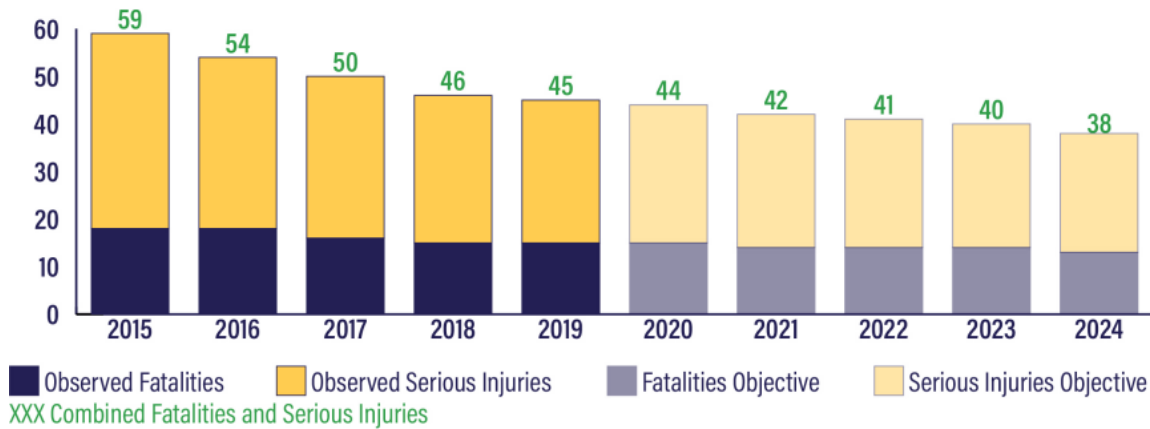
- Improve seat belt and child-restraint compliance through enforcement.
- Develop and distribute consistent public information messages to increase public awareness of the law and safety benefits related to seat belt usage and child-restraint systems.





EA 8: Speeding

Speeding Fatalities and Serious Injuries (5-Year Rolling Averages)

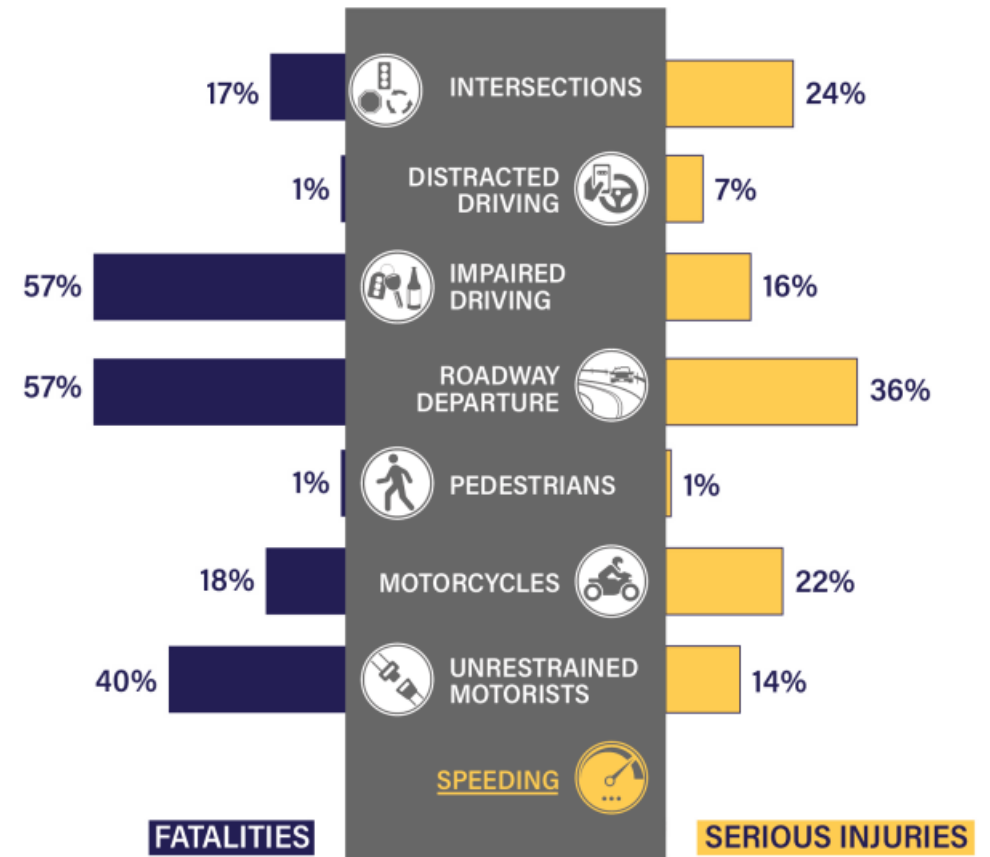


2015 to 2019 Speeding Fatalities & Serious Injuries

- 68% were male
- 62% occurred in urban areas
- 56% occurred in single vehicle crashes
- 54% occurred in New Castle County
- 54% occurred on collector or local roads
- 50% occurred on a Friday, Saturday, or Sunday
- 41% during dark (unlit) conditions
- 35% were 20 to 29 years old
- 31% occurred between 3 PM and 8 PM
- 25% were motorcyclists
- 25% occurred on wet/snowy/icy roadways



Speeding Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)





EA 8: Speeding – Strategies/Actions



- Develop and distribute consistent public information messages to increase public awareness of the law and consequences of speeding.
- Reduce the frequency and severity of speeding related crashes by implementing innovative enforcement practices.
- Implement engineering countermeasures that reduce speed differentials and increase compliance with posted speed limits.
- Develop policies and guidelines to implement effective safety measures to reduce the frequency and severity of speeding related crashes.
- Improve speeding crash data collection and analysis to enhance the identification of high-risk corridors and high-risk driving behaviors.



EA 9: Traffic Records

- Improve the timeliness, accuracy, completeness, uniformity, accessibility, and integration of data that is needed to identify priorities for transportation and traffic safety programs.





Evaluation and Implementation



- Execute actions with high crash reduction value using available resources
- Work to implement actions requiring legislative, policy and/or program changes
- Track and report on implementation activity annually
- Evaluate progress annually



Implementation Activities

- The following implementation activities have been completed or are currently in progress:

- Activities Completed:

- Update to the Rumble Strip DGM to incorporate sinusoidal (Mumble) strips
- Update DE MUTCD Interim Guidance to implement 6" wide pavement markings
- Formalized DeDOT MASH committee
- Pedestrian Safety Audits along SR 4 and SR 54
- Roadway lighting feasibility for I-95
- Revamp the SHSP website
- Educate the highway engineering and maintenance workforce on roadway conditions that may be hazardous to motorcycles.

- Activities In progress:

- Pavement marking research to support CAV and wet weather
- Update/develop DGMs for roundabouts, median barrier, and HFST
- Develop median barrier prioritization for divided principal arterials
- Utilize Automated Speed Enforcement – pilot project on I-95 Restore the Corridor project
- Research the usage of Variable Speed Limit (VSL) signage
- Enhance signage on the Interstate to assist vehicle breakdowns
- Continue the usage of proven safety countermeasures (HFST, RRFBs, rumble strips, etc.)
- Continue to complete pedestrian safety audits (City of Wilmington)
- Continue to enhance the SHSP webpage to improve public outreach and awareness





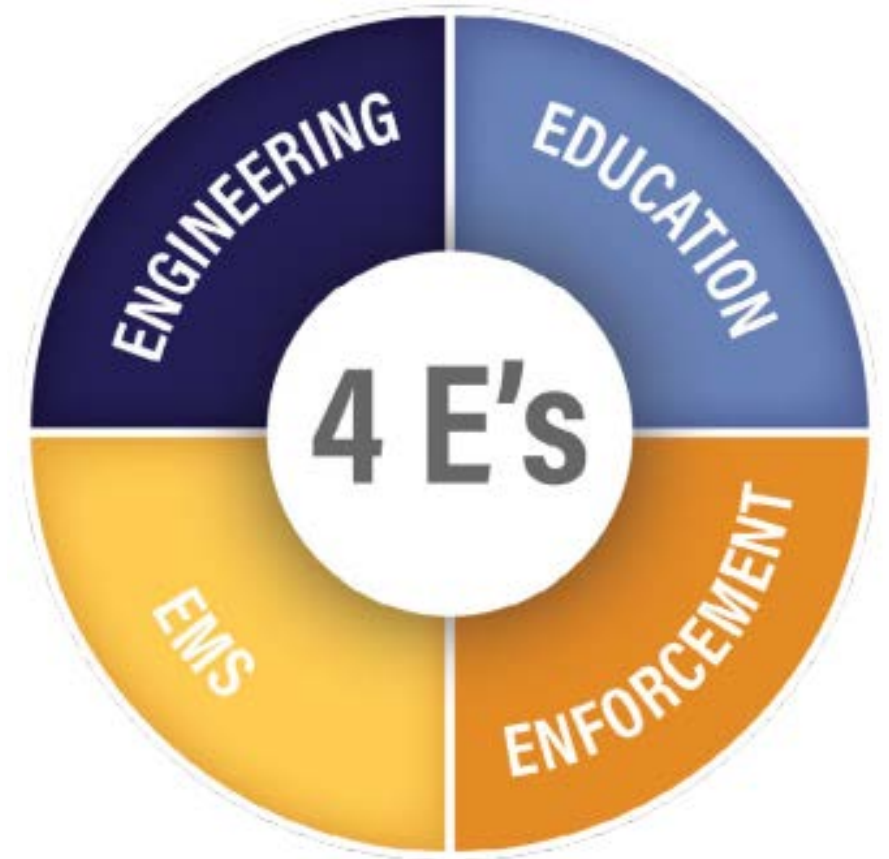
Implementation Activities

- 2022 Implementation Activities:
 - Feasibility study for a data-driven “Safety Corridor” program
 - Develop ranking/prioritization process for systemic roadway lighting
 - Research and implement intersection safety programs or systemic safety countermeasures at high crash/risk intersections
 - Support legislation to expand the usage of automated enforcement
 - Continue to partner with stakeholders on engineering, education, enforcement, and emergency service initiatives.
 - Initiate new pedestrian safety audits



How can you help?

- Everyone must ensure that crashes don't lead to fatal or serious injuries.
- Increase collaboration across all safety stakeholders
- Integrate and promote safety through your work
 - **Approach safety with the SHSP in mind**
 - Utilize proven safety countermeasures
 - Speed management tools/infrastructure (e.g., traffic-calming strategies)
 - Minimize conflict points or reduce impact angles
 - Enhancements for visibility
- Make appropriate driving behavior
 - Drive safe, don't speed, & don't drive distracted or impaired





2021-2025 Delaware SHSP

View the Plan Here: deldot.gov/Programs/DSHSP/

GOAL

The Delaware Strategic Highway Safety Plan: **Towards Zero Deaths** aims to eliminate fatalities and serious injuries on Delaware's roadways through a multi-agency approach that utilizes education, enforcement, engineering and emergency medical service strategies.

Thank you for your time and interest in safety on Delaware's roadways.

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(302) 659-4084*

OVERALL OBJECTIVE

Delaware's 2021-2025 SHSP objective is to **reduce fatalities and serious injuries by 15% over the next five years** to ultimately reach the goal of zero fatalities and serious injuries on Delaware's roadways.

To Report a Road Condition: <https://deldot.gov/Traffic/ReportRoadCondition/index.shtml>