



NORTH CAROLINA
Department of Transportation

North Carolina Strategic Highway Safety Plan (SHSP) 2024 Update

Executive Committee for Highway Safety

February 16, 2024

Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Overview

- 2019 SHSP Overview
- Data Analysis
- Stakeholder Input
- 2024 SHSP Update

2019 Emphasis Areas



INTERSECTIONS



LANE DEPARTURE



OCCUPANT PROTECTION



ALERTNESS



SPEED



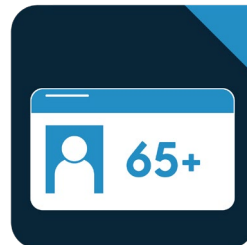
SUBSTANCE IMPAIRED DRIVING



MOTORCYCLISTS



YOUNGER DRIVERS



OLDER DRIVERS



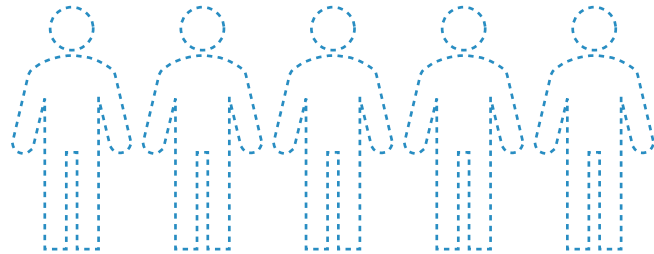
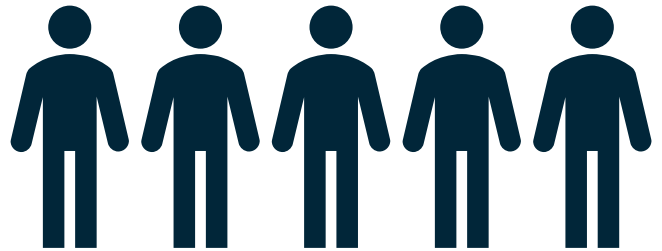
PEDESTRIANS, BICYCLISTS, AND PERSONAL MOBILITY



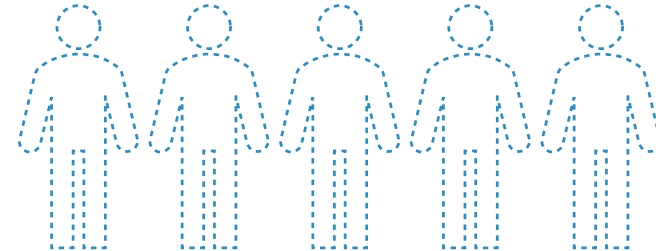
EMERGING ISSUES AND DATA

2019 Goal

Reduce fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Year 2035



Year 2050

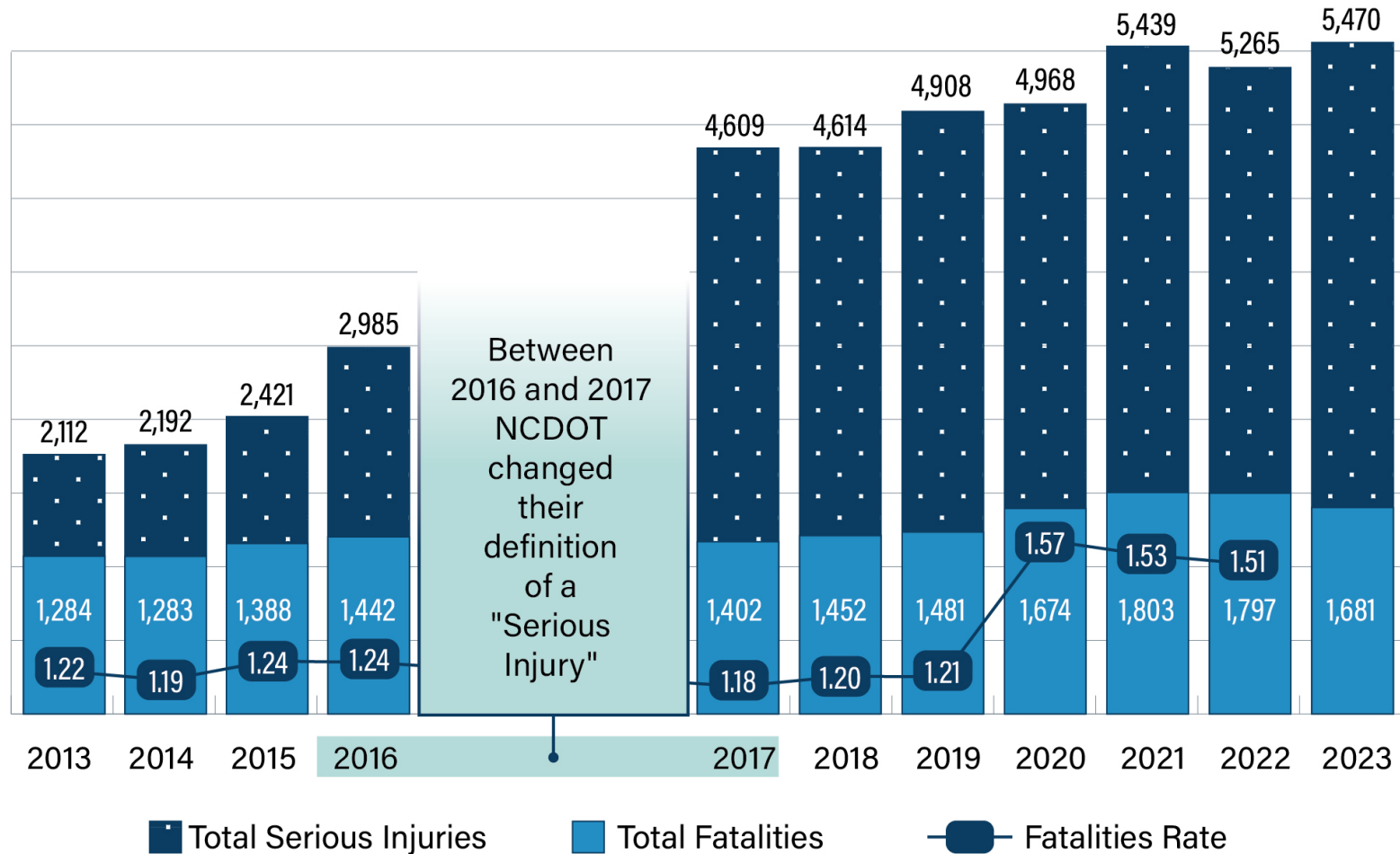


Data-Driven

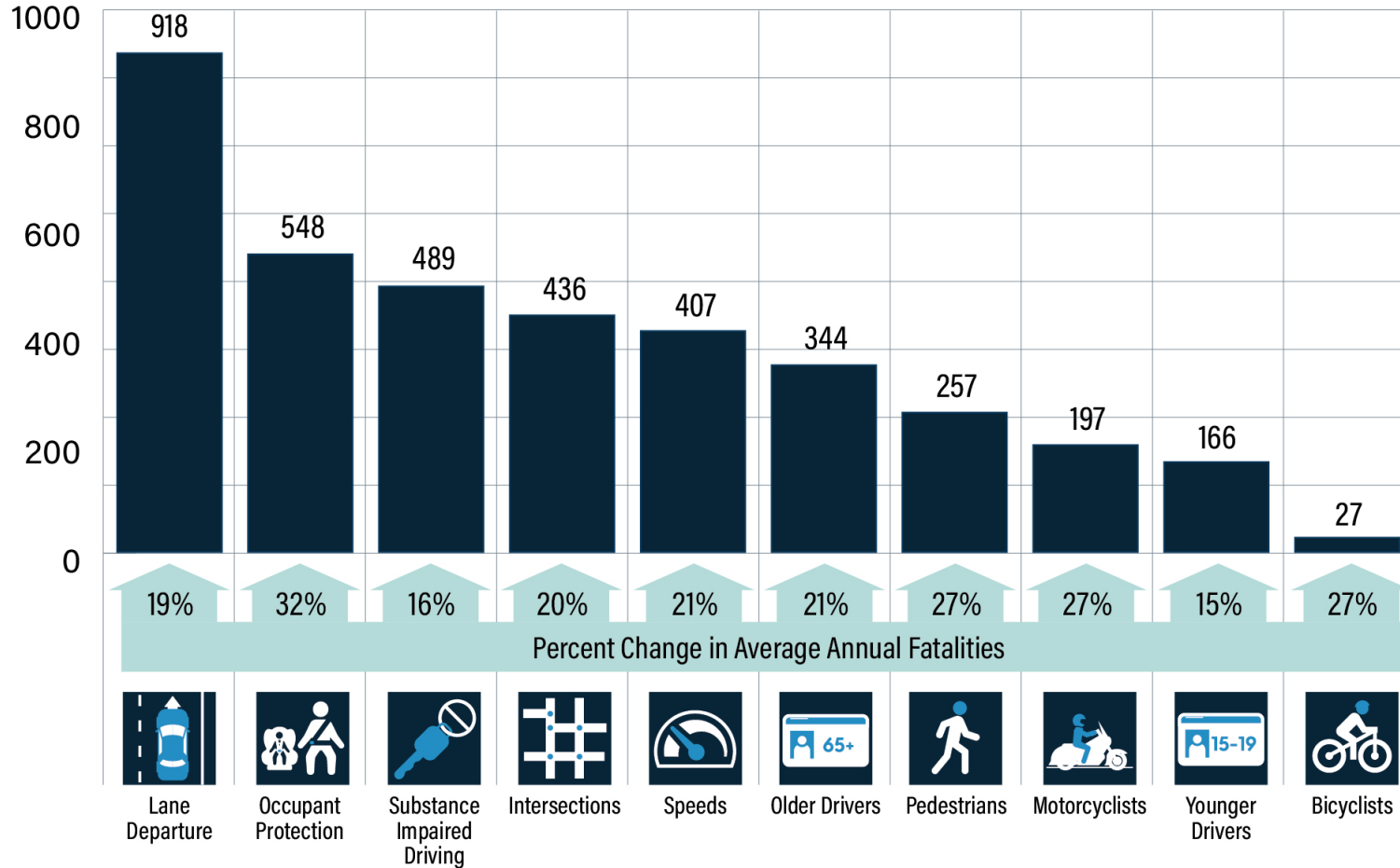


Total Fatalities, Serious Injuries, and Fatality Rate

2013-2023

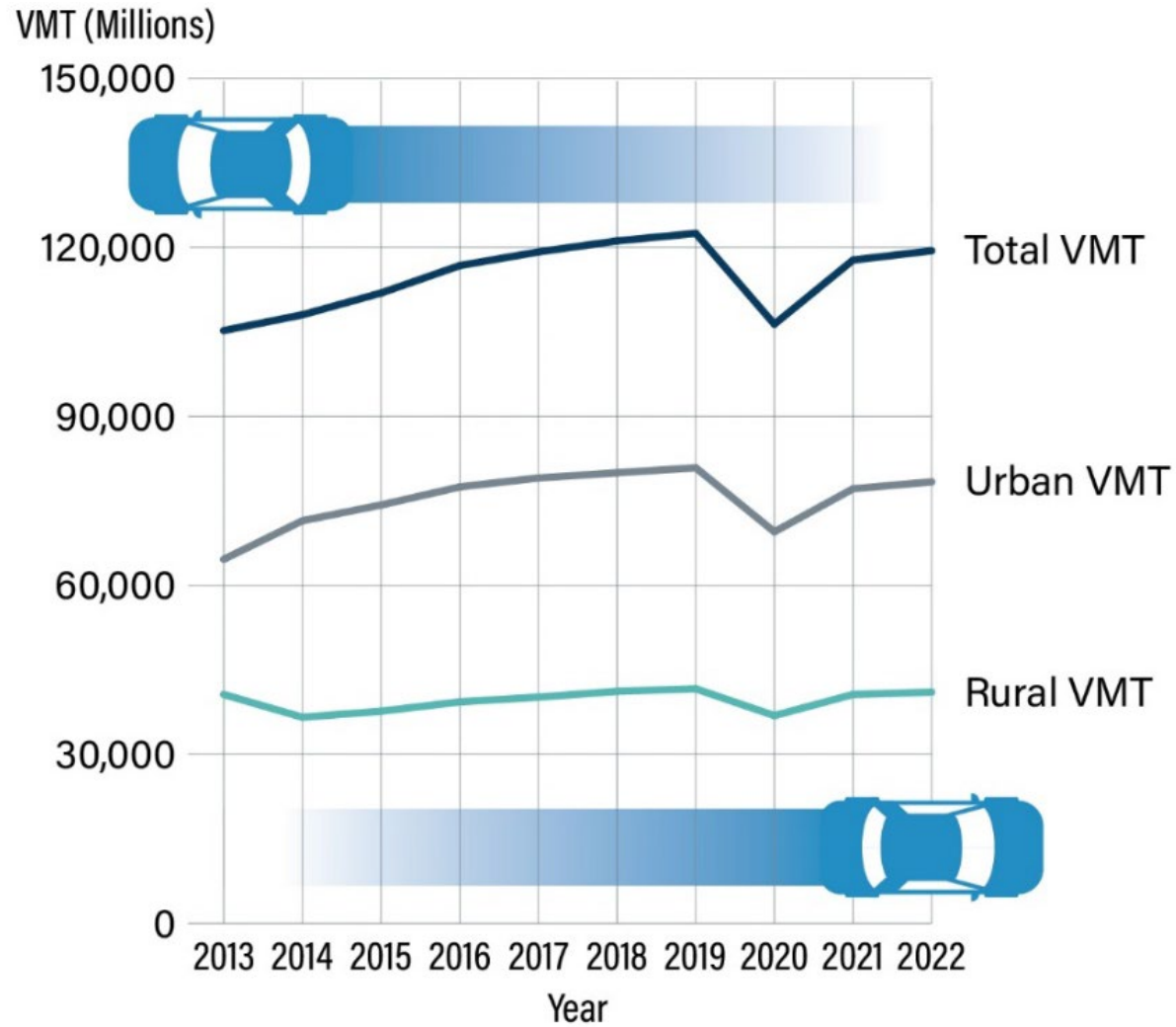


Average Annual Fatalities by Emphasis Area

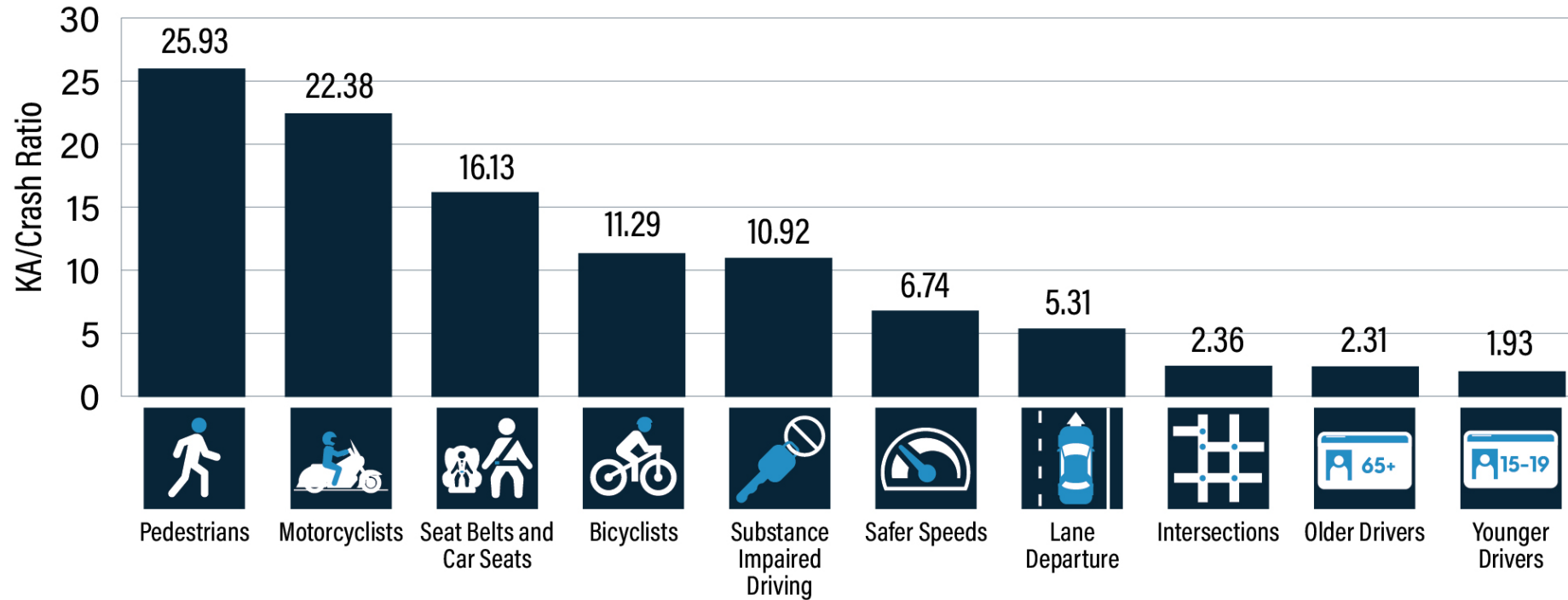


Change in VMT

2013-2022

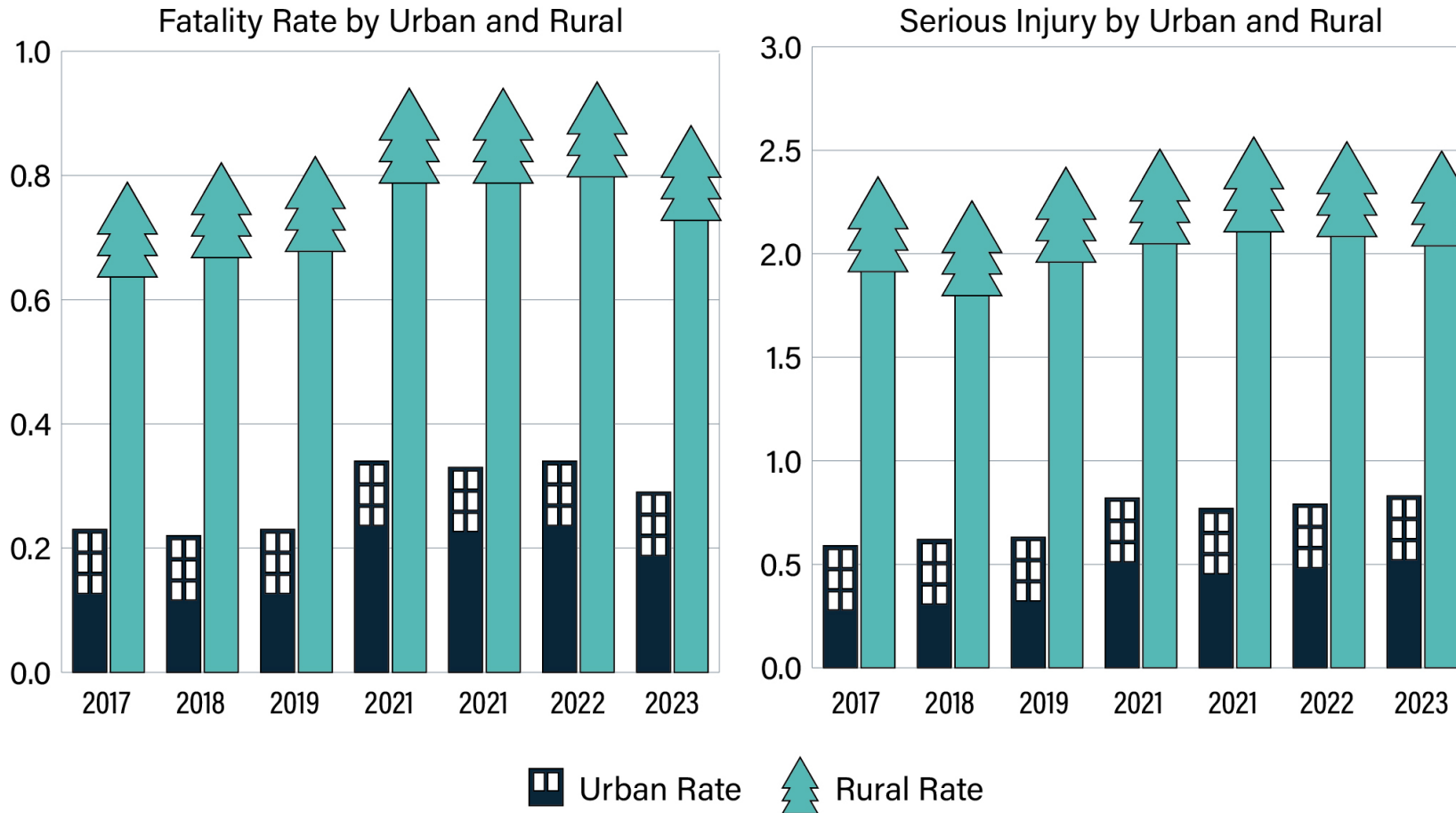


Ratio of Fatalities and Serious Injuries/Total Crashes by Emphasis Area



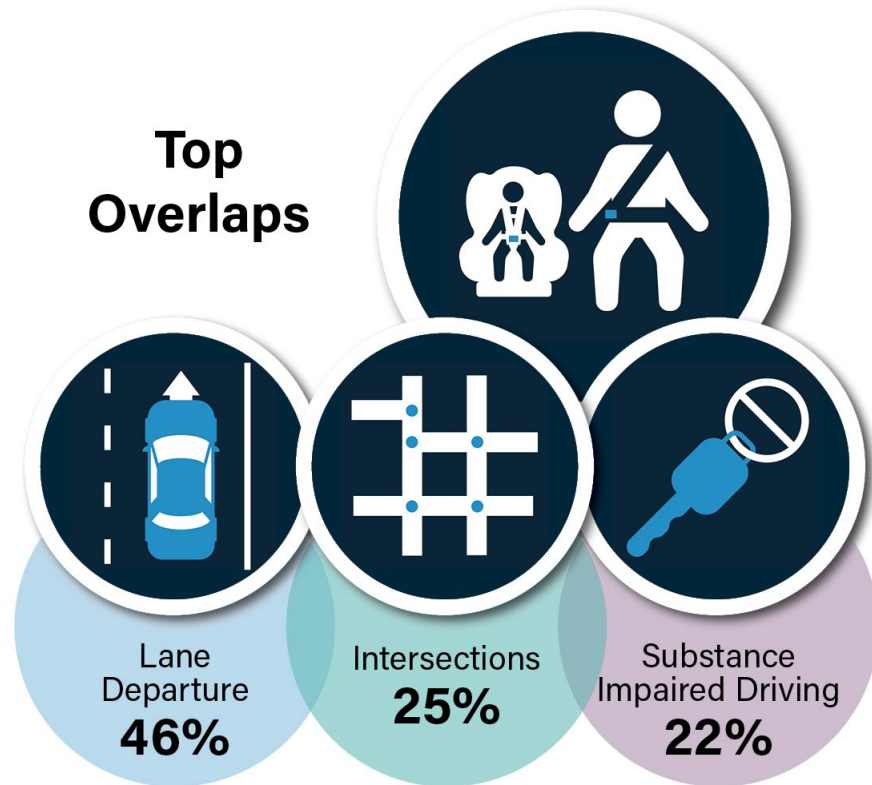
Fatal and Serious Injury Crash Rates by Urban and Rural

2017-2023

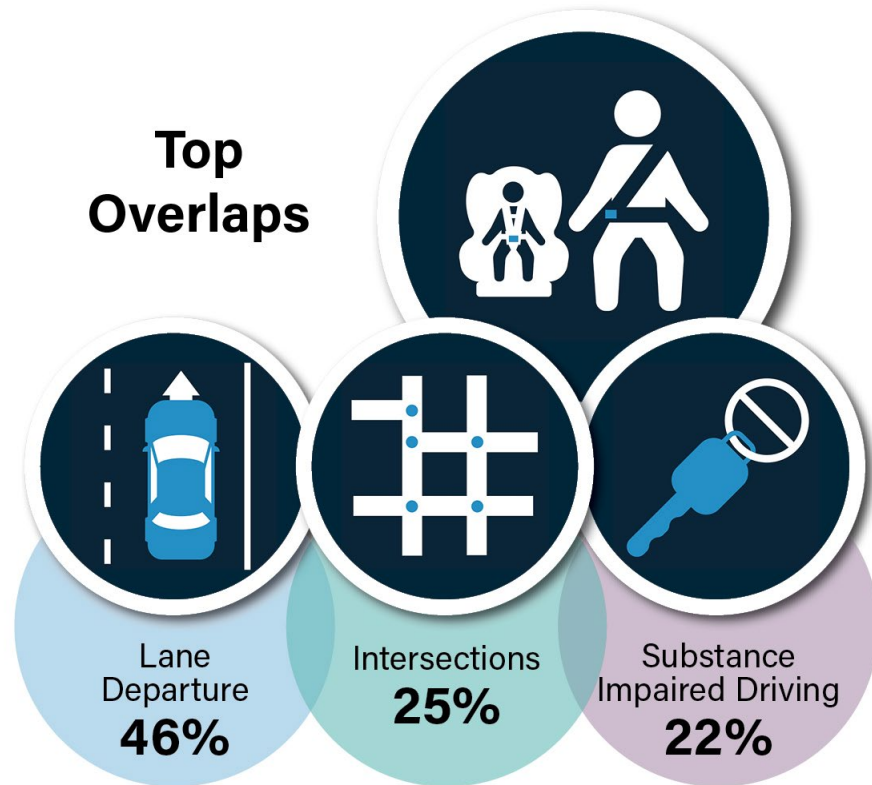


Emphasis Area Overlaps

Contributing Factors Involved in an Emphasis Area



Redundancy is Crucial



- ✓ Address one EA, improve outcomes in others
- ✓ Consider the overlaps in the strategies
- ✓ Focus on context in implementation



Stakeholder-Driven

Safety Series

- 2022 Seat Belt Study, Brendan Kearns, ITRE/NCSU
- Speed Safety Cameras (SSCs), Jeff King, FHWA
- Trauma Center Impairment Data, Janice Williams, Carolinas Center for Injury Prevention / Atrium Health
- Safety and the Local Perspective
 - Elyse Keefe, UNC
 - Leslie Tracey, City of Durham
 - Wannetta Mallette, Burlington-Graham MPO
 - Lydia McIntyre and Hanna Cockburn, City of Greensboro
- Vulnerable Road User Assessment, Brian Mayhew, NCDOT, Lauren Blackburn, VHB

Workshop #1

- By the numbers:
 - 58 Attendees
 - 36 Agencies Represented
 - 44 Commitment Cards Collected
- What we heard:
 - More emphasis on implementation
 - Desire for ongoing stakeholder engagement
 - Emphasis Areas updates
 - Need public support and education

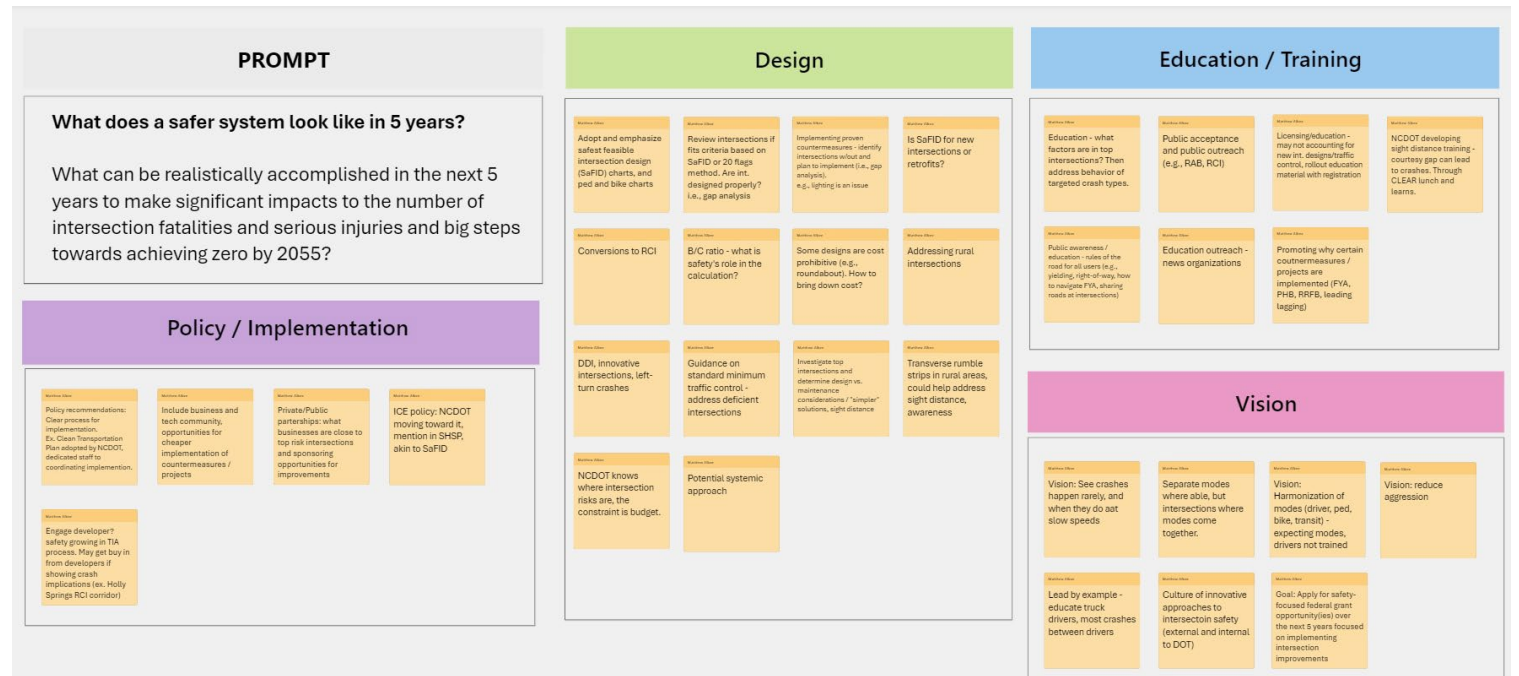


EA Working Groups

7 Working Groups

3 Meetings each

1 Joint Working Group





2024 Update



2024 SHSP Update

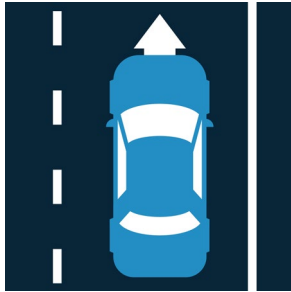
Highlights

- 9 Streamlined Emphasis Areas
- Safe System Approach – emphasis on redundancy
- Introduces NCDOT TDI and equity component
- Highlights ongoing related efforts
- Aligns data with the stakeholder’s vision
- Implementation focused

Outstanding Needs

- Signatures of support
- Champions, overall and specific strategies
- Goal concurrence

2024 Emphasis Areas



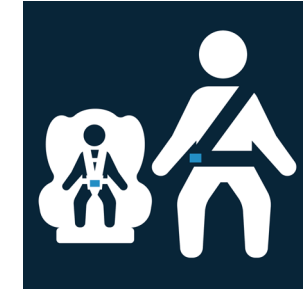
LANE DEPARTURE



INTERSECTIONS



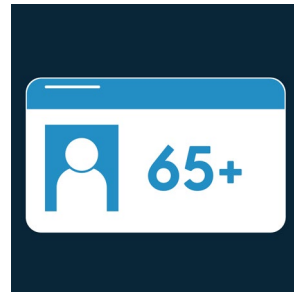
PEDESTRIANS, BICYCLISTS, AND PERSONAL MOBILITY



SEAT BELTS AND CAR SEATS



SUBSTANCE IMPAIRED DRIVING



OLDER DRIVERS



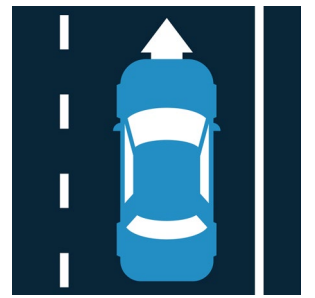
SAFER SPEEDS



MOTORCYCLISTS



YOUNGER DRIVERS



Lane Departure

3 Strategies

13 Supporting Actions

All Champions Identified

1. Implement roadway departure countermeasures. (5 / 5)
2. Continue research to better understand the contributing factors in lane departure crashes and to identify opportunities to mitigate the problem. (6 / 6)
3. Conduct outreach to educate the public, agencies, and officials on critical issues related to lane departure crashes. (2 / 2)



Intersections Strategies

6 Strategies

23 Supporting Actions

2 Champions Needed

1. Increase implementation of all-way stop intersections at appropriate locations. (3 / 3)
2. Consider the exposure of pedestrians, bicyclists, and users of personal mobility when designing intersections and manage speeds at conflict points. (6 / 6)
3. Increase implementation of quick-build intersection safety countermeasures. (4 / 4)
4. Fund ongoing and new campaigns for public acceptance of intersection safety treatments and designs. (3 / 3)
5. Educate roadway designers, planners, and officials/decision-makers on intersection design principles proven to reduce fatalities and serious injuries. (4 / 4)
6. Research and implement effective ways to better ensure compliance with traffic control devices. **(3 / 1: 2 champions still needed)**



Intersections Supporting Actions

- Strategy 6: Research and implement effective ways to better ensure compliance with traffic control devices.
 - Identify proven or promising enforcement methods found in international, Federal, State, and local research, including automated signal enforcement.
 - Investigate the consistency of the court system process between counties, cities, and agencies across the State with upholding intersection-related violations, like speeding, red-light running, and non-yields.



Pedestrians, Bicyclists, and Personal Mobility Strategies

5 Strategies

15 Supporting Actions

11 Champions Needed

1. Develop and adopt formal policies, practices, and guidance documents supporting the implementation of pedestrian- and bicyclist-focused design, operations, and maintenance. **(6 / 4: 2 champions still needed)**
2. Improve pedestrian, bicyclist, and personal mobility data collection practices to enable improved analysis and decision-making and support increased adoption of these modes. **(5 / 2: 4 champions still needed)**
3. Develop and implement funding and project development strategies that support effective multimodal project development and education for all road users. **(4 / 3: 1 champion still needed)**
4. Explore, demonstrate, and implement innovative and emerging tools to support improving safety for pedestrians, bicyclists, and users of personal mobility devices. **(2 / 1: 1 champion still needed)**
5. Develop and promote public education programs that support education for all road users on safety for pedestrians, bicyclists, and personal mobility users. **(3 / 0: 3 champions still needed)**



Pedestrians, Bicyclists, and Personal Mobility Supporting Actions

- Strategy 2: Improve pedestrian, bicyclist, and personal mobility data collection practices to enable improved analysis and decision-making and support increased adoption of these modes.
 - Determine a new funding source for Safe Routes to School
 - Create a statewide community of practice to connect local, and regional, and state agencies to identify and pursue grant programs and alternative funding sources for pedestrian- and bicyclist-oriented projects and to increase awareness of best practices related to developing and analyzing these projects.
- Strategy 3: Develop and implement funding and project development strategies that support effective multimodal project development and education for all road users.
 - Gather input and buy-in from law enforcement liaisons on creating sustainable, comprehensive framework for statewide law enforcement education program on effectively capturing pedestrian, bicyclist, and personal mobility crash information on the standard crash form.



Seat Belts and Car Seats Strategies

4 Strategies

19 Supporting Actions

5 Champions Needed

1. Increase seat belt use and car seat use statewide. **(6 / 5: 1 champion still needed)**
2. Strengthen state-wide Child Passenger Safety Program. **(5 / 4: 1 champion still needed)**
3. Improve Child Passenger Safety outreach to at-risk and underserved communities. (5 / 5)
4. Develop sample language for public agencies and private business with fleet vehicles to implement a workplace seat belt policy. **(3 / 3: 3 champions still needed)**



Seat Belts and Car Seats Supporting Actions

- Strategy 4: Develop sample language for public agencies and private business with fleet vehicles to implement a workplace seat belt policy.
 - Investigate sample workplace seat belt policies and develop policies for different types of workplace vehicles.
 - Investigate sample workplace seat belt policies and develop policies for different types of workplace vehicles.
 - Promote the policy through local safety action planning, business organizations, and State and local governments.



Substance Impaired Driving Strategies

5 Strategies

17 Supporting Actions

2 Champions Needed

1. Work with the Governors Highway Safety Program to educate the public on the risks of impairment. (5 / 5)
2. Increase training for prosecutors and law enforcement officers on different forms of impairment. (3 / 3)
3. Increase the number of drug recognition experts (DRE) across the State. **(3 / 1: 2 champions still needed)**
4. Strengthen intervention policies to reduce recidivism. (3 / 3)
5. Research lowering BAC levels and establishing maximum THC levels for driving in North Carolina. (3 / 3)



Impaired Driving Supporting Actions

- Strategy 3: Increase the number of drug recognition experts (DRE) across the State.
 - Update law enforcement training to include DWI detection.
 - Update law enforcement training to focus on all types of impairment, not solely alcohol.
- Strategy 4: Strengthen intervention policies to reduce recidivism.
 - Strengthen screening and intervention services to identify current at-risk drivers in hospitals to impact secondary crashes.
 - Include the BAC and Substance Use data in the NC trauma database.



Safer Speeds Strategies

5 Strategies

22 Supporting Actions

11 Champions Needed

1. Improve speed-related data collection, completeness/coverage, accessibility, and applications. **(6 / 5: 1 champion still needed)**
2. Use the results of data analysis to identify speed-related issues. **(4 / 0: 4 champions still needed)**
3. Support municipalities by increasing their involvement and partnership in speed-related issues (e.g., speed limits) for NCDOT-maintained streets. **(7 / 1: 5 champions still needed)**
4. Expand automated enforcement options for roadway safety in North Carolina, specifically the use of speed safety cameras in school zones and work zones. (1 / 1)
5. Analyze speed-related two-lane rural road crashes. **(4 / 3: 1 champion still needed)**



Safer Speeds Supporting Actions

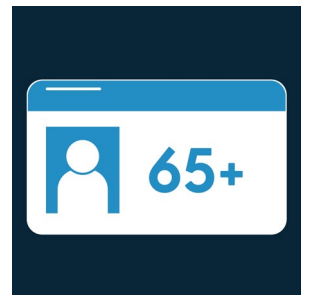
- Strategy 2: Use the results of data analysis to identify speed-related issues.
 - Integrate speed data with other data sources (e.g., roadway data, citation data) to identify locations with speed-related safety issues.
 - Share speed-related safety issues (e.g., maps of locations, dashboards, etc.) on the regional and local levels for engineers and planners to use in decision-making processes, for law enforcement to use for high-visibility enforcement, and for targeted educational campaigns.
 - Use the results of the data analysis efforts to evaluate speeds people are traveling and determine if the speeds are appropriate for the roads.
- Strategy 3: Support municipalities by increasing their involvement and partnership in speed-related issues (e.g., speed limits) for NCDOT-maintained streets.
 - Use NCDOT's existing guides and research to develop educational materials on how speed limit setting decisions are made to assist local agencies to communicate with local decisionmakers.
 - Use NCDOT's existing guidance as a starting point to provide local agencies direction on local speed setting practices for consistent application across the state.
 - Develop education materials for local agencies to communicate to the public why a speed limit has changed.



Older Drivers Strategies

4 Strategies	17 Supporting Actions	1 Champion Needed
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1. Design a roadway system that better accommodates the needs of older drivers. (3 / 3)
2. Monitor research to identify opportunities and implementation strategies to mitigate contributing factors in older driver crashes and improve the efficacy of medical review process. **(4 / 3: 1 champion still needed)**
3. Implement programs that assess cognitive abilities of older drivers and identify adequate alternatives to driving. (5 / 5)
4. Educate the public and agency stakeholders on older driver issues. (4 / 4)



Older Drivers Supporting Actions

- Strategy 2: Monitor research to identify opportunities and implementation strategies to mitigate contributing factors in older driver crashes and improve the efficacy of medical review process.
 - Monitor and support research on older drivers and medically-at-risk drivers.
 - Identify evidence-based assessment tools that identify medically at-risk drivers who present the greatest risk for crashes.
 - Conduct a SWOT (strengths, weaknesses, opportunities, threats) analysis of the reporting process for older and medically at-risk drivers.
 - Evaluate and implement a fair and evidence-based system to determine licensure for medically at-risk drivers.



Motorcyclists Strategies

5 Strategies

27 Supporting Actions

11 Champions Needed

1. Build a foundation to strengthen motorcycle endorsement/training practices, legislation, and policy. **(4 / 3: 1 champion still needed)**
2. Develop training and education for law enforcement on understanding issues and complexities of motorcycle crashes. (4 / 4)
3. Improve data on protective gear to better understand the different needs and safety concerns by rider type. **(5 / 0: 5 champions still needed)**
4. Recognize the unique vulnerabilities and characteristics of motorcyclists during the construction and maintenance of transportation infrastructure. **(6 / 1: 5 champions still needed)**
5. Conduct data improvement efforts related to motorcyclist training, exposure measures (traffic volumes/locations), and safety outcomes in crashes. (8 / 8)



Motorcyclists Supporting Actions

- Strategy 3: Improve data on protective gear to better understand the different needs and safety concerns by rider type.
 - Identify the overrepresented rider types and bike types based on crash data.
 - Identify additional data needs/gaps that will assist with identifying rider types and bike types.
- Strategy 4: Recognize the unique vulnerabilities and characteristics of motorcyclists during the construction and maintenance of transportation infrastructure.
 - Use existing research, such as FHWA's Synthesis on Roadway Geometry, Pavement Design, and Pavement Construction and Maintenance Practices, to develop educational materials that increase the awareness of the challenges construction and maintenance practices present for motorcyclists (e.g., grooved pavements, temporary lanes markings, gravel/sand, metal plates, motorcyclist-safer barrier designs).
 - Use existing research, such as FHWA's Motorcycle Safety Noteworthy Practices: Infrastructure and Engineering, as the basis for training that increase the awareness and understanding of special considerations for motorcyclists at other types of infrastructure like bridges and intersection designs (e.g., warning, signs, motorcyclist-safer barriers).



Younger Drivers Strategies

3 Strategies

10 Supporting Actions

3 Champions Needed

1. Reinforce the driver education curriculum and licensing procedures to promote safe driving habits.
(4 / 1: 3 champions still needed)
2. Continue research to better understand the contributing factors in young driver crashes and to identify opportunities to mitigate the problem. (3 / 3)
3. Educate the public and agency stakeholders on younger driver issues and safe driving habits. (3 / 3)



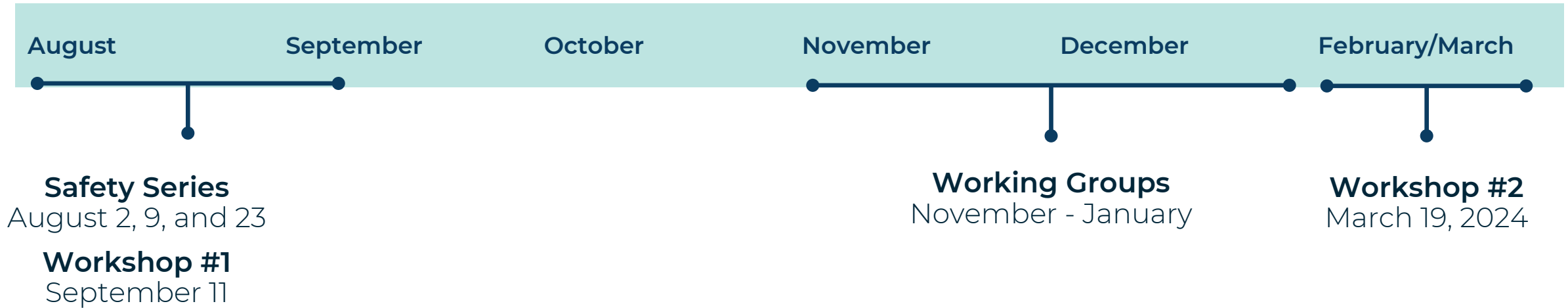
Younger Drivers Supporting Actions

- Strategy 1: Reinforce the driver education curriculum and licensing procedures to promote safe driving habits.
 - Continue to monitor the effectiveness of driver education curricula, including those that address special education needs.
 - Improve instructor training and professional development to encourage consistent delivery of driver education courses.
 - Investigate impacts of changes to the graduated driver licensing system.
 - Encourage participation in driver education programs.

2024 Timeline and Engagement Opportunities

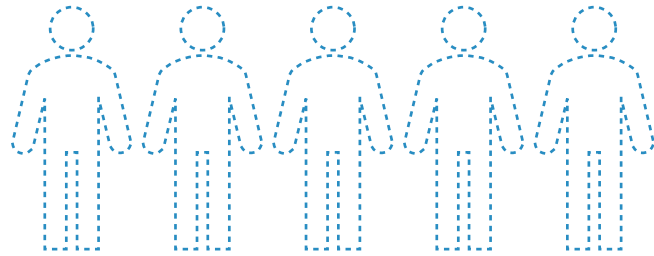
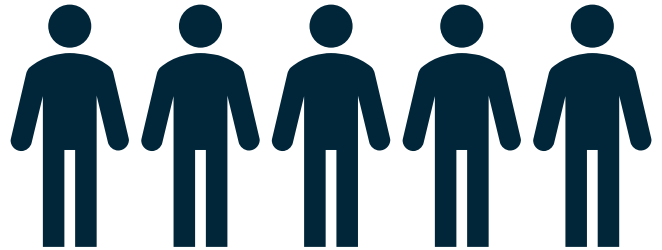
2023

2024

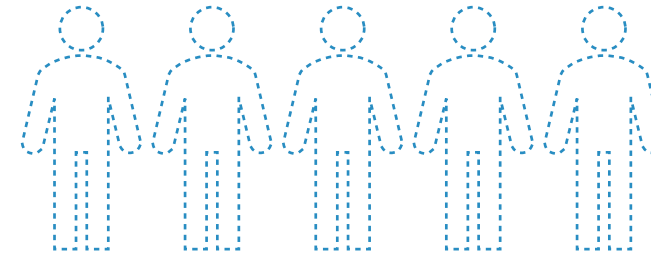
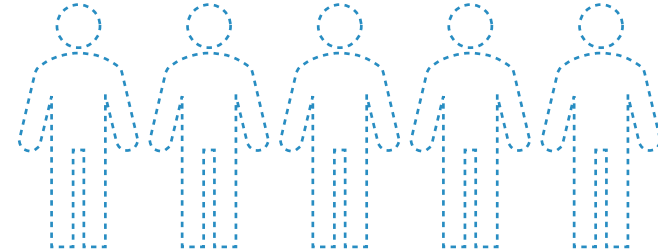


2019 Goal

Reduce fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Year 2035



Year 2050

2024 Goal

Option 1:
Retain the 2019 goal

Reduce fatalities and serious injuries by half by 2035, moving towards zero by 2050.

Option 2:
Revise the goal

Reduce fatalities and serious injuries by half by 2040, moving towards zero by 2055.