# North Carolina Strategic Highway Safety Plan Update ANNUAL REPORT



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### 2024/2025 Annual Report

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# North Carolina Strategic Highway Safety Plan (SHSP) 2024 Update

The North Carolina Strategic Highway Safety Plan (SHSP) serves as the North Carolina Department of Transportation's (NCDOT) roadmap for reducing roadway fatalities and serious injuries. North Carolina's SHSP builds on lessons from the past SHSPs. The SHSP uses a data- and stakeholder-driven approach from present-day perspectives to build a forward-looking plan with statewide goals and implementable solutions to meet these goals.

#### Why the SHSP Matters

The SHSP is part of the Federal Highway Administration's (FHWA) Highway Safety Improvement Program (HSIP), an overarching program to reduce fatalities and serious injuries on the nation's public roadways. It is updated every five years and:

- Establishes statewide goals for reducing serious injuries and fatalities.
- Informs how federal and state safety funds are invested.
- Promotes coordination across engineering, education, enforcement, and emergency services.
- Supports North Carolina's commitment to Vision Zero and the Safe System Approach.

### Vision of Zero and the Safe System Approach

North Carolina is a Vision Zero State, meaning even one fatality or serious injury on the roadway is unacceptable. The 2024 SHSP sets an ambitious goal – to reduce fatalities and serious injuries by half by 2035, moving towards zero by 2050. To reach this goal, North Carolina's 2024 SHSP aligns with the core principles of the Safe System Approach: severe crash prevention is focused, proactive, and a shared responsibility.



### **Emphasis Areas**



Lane Departure



Intersections



Pedestrians, Bicyclists, and Personal Mobility



Seat Belts and Car Seats



Substance Impaired Driving



Safer Speeds



**Older Drivers** 



Motorcyclists



Younger Drivers

Stakeholders across the State reviewed safety and safety-related data to identify North Carolina trends, diagnose problems, and develop targeted strategies and actions. Since the 2019 SHSP Update, traffic-related fatalities in North Carolina increased by 21%. Upon reviewing the data, North Carolina must see to a 9% decrease in fatalities each year to maintain the State's commitment to zero by 2050. The **2024 SHSP identifies 9 Emphasis Areas**, representing the contributing factors to fatal and serious injury crashes, to stay on North Carolina's path to zero.

#### **Action Plans**

The SHSP includes Emphasis Area Action
Plans that were developed through
collaboration with Emphasis Area Working
Groups and diverse safety partners. Each plan
follows a template listing the strategy,
opportunities for coordination, supporting
actions, champions, and timeline.

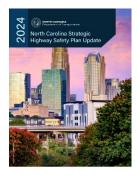
The SHSP emphasizes that roadway safety is a shared responsibility. These action plans reflect a comprehensive approach that extends beyond engineering to cultivate a statewide safety culture.



#### **VRUSA**

The 2023 North Carolina Vulnerable Road User Safety Assessment (VRUSA) is a comprehensive, data-driven approach to monitoring and addressing vulnerable road user (VRU) safety and reducing fatal and serious VRU crashes in North Carolina. The strategies developed through the VRUSA effort represent NCDOT's primary focus and responsibility for improving pedestrian, bicyclist, and personal mobility user safety over the next five years. The 2023 VRUSA is the first iteration of the assessment for North Carolina and is a key component of the Pedestrians, Bicyclists, and Personal Mobility SHSP Emphasis Area.

#### **Links for the 2024 SHSP Update**







2024 North
Carolina SHSP

**Emphasis Area Action Plans** 

**NCDOT Safety Website** 

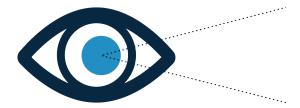
#### Implementation and Call to Action

Implementation of the 2024 SHSP is ongoing through 2029. Progress is measured daily by North Carolina's safety leaders and partners. **Responsibility for the Plan's implementation is shared**. NCDOT collaborates with designated strategy champions across the state. Implementation relies on leaders to shift decision-making and investments, advocates to support legislative actions, stakeholders to raise awareness and initiate conversations, and champions who take ownership of the 2024 Update.

#### Key areas of focus for future strategies include:



Outreach and education for the public, agencies, and officials on safety in design, enforcement, and implementation of North Carolina's roadways.



Roadway system design that improves visibility for Older Drivers, Motorcyclists, Pedestrians, Bicyclists, and Personal Mobility users.



Data analysis to identify and address speed-related issues.



Research into crash factors and identification of mitigation opportunities.

### **Year 1 Progress**

In May 2024, NCDOT and FHWA signed the North Carolina Strategic Highway Safety Plan 2024 Update. This five-year plan describes priority emphasis areas in road safety and provides actionable steps to address these areas with a goal of reducing fatalities and serious injuries on North Carolina's roadways. The SHSP is a data-driven and stakeholder-driven plan. It is also a statewide, state-owned plan. This means all North Carolinians share the responsibility for implementing strategies and supporting actions to achieve the **goal of reducing fatalities and serious injuries by half by 2035 and moving towards zero by 2050**.

Crash data as of early 2025 suggests a slight downward trend in total fatalities, serious injuries, and the fatality rate. However, the total number of roadway fatalities increased slightly from 2023 to 2024 (Figure 1).

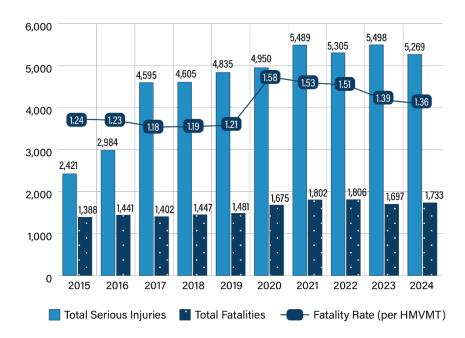


Figure 1. Total fatalities, serious injuries, and fatality rate 2013 – 2024 (NCDOT) as of May 2025.

The graph in Figure 2 illustrates the average annual fatality and serious injury rates from 2019 to 2024 and the path to achieving the goal. As indicated by the orange dotted line, the trend estimates a project upward trajectory.

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<sup>&</sup>lt;sup>1</sup> Please note that crash statistics for 2024 are preliminary as of May 2025 and may be revised in future updates.

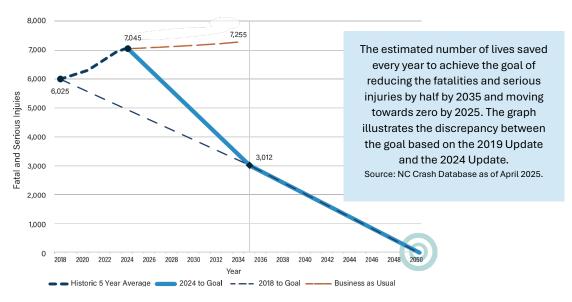


Figure 2. Tracking progress towards zero fatalities and serious injuries by 2050.

NCDOT engaged those safety partners leading or supporting most actions. The purpose of the outreach was to confirm if safety partners could champion the strategy or action, collect input on the key points of contact, and get updates on the status of the work—including activities to date and planned activities in the future. The reporting period for the Annual Report is May 2024 through April 2025.

Of the 123 supporting actions in the 2024 Update, safety partners reported activities related to 94 (77%) supporting actions. Activities were reported in all nine Emphasis Areas, with more activities in some areas than others (e.g., Intersections and Lane Departure compared to Motorcyclists and Older Drivers) (Figure 3).



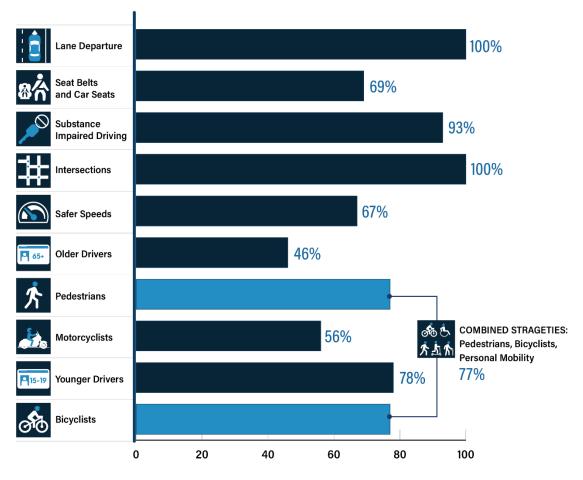


Figure 3. Percent of actions with reported activity in 2024/2025.

### 2024/2025 Annual Report Overview

North Carolina is committed to engaging partners to continue their safety-related work, doubling down on efforts that are working, and identifying opportunities to expand partnerships. This is the first Annual Report for the NC SHSP 2024 Update. The following sections are dedicated to reporting progress related to SHSP implementation in detailed Emphasis Area Action Plan updates, as reported by 38 safety partners representing state, local, regional agencies, organizations, and groups between May 2024 and April 2025. The Annual Plan also identifies opportunities for implementation in the 2025/2026 reporting year. Safety partners also provided links to new guidance, key resources, and other information related to the Emphasis Areas, which are highlighted in the final section.

#### **Safety Partners Reporting Progress in 2024/2025**

- AARP
- Atrium Health
- BikeWalk NC
- BikeSafe North Carolina
- City of Charlotte
- DriveNC
- East Carolina University
- Greensboro Department of Transportation (DOT)
- Impaired Driving Task Force
- Institute for Transportation Research and Education (ITRE)
- Mother's Against Drunk Driving (MADD)
- North Carolina Alliance for Safe Transportation (NCAST)
- North Carolina Conference of District Attorneys
- North Carolina Department of Health and Human Services (NC DHHS)
  - Forensic Tests for Alcohol Branch (FTA)
- North Carolina Department of Public Instruction
- North Carolina Department of Public Safety

- North Carolina Department of Transportation (NCDOT)
  - o GIS Unit
  - Integrated Mobility Division (IMD)
  - Municipal School Transportation Assistance (MSTA)
  - Planning and Programming Division (PPD)
  - o Roadway Design Unit (RDU)
  - Signing and Delineation
  - Tests and Materials Unit (TMU)
  - Traffic Incident Management System (TIMS)
  - Transportation Systems Management and Operations (TSMO)
  - o Traffic Safety Unit (TSU)
- North Carolina Division of Motor Vehicles
  - o Driver Services
  - Training Division
- North Carolina Governor's Highway Safety Program (NC GHSP)
- North Carolina State Highway Patrol
- North Carolina Traffic Records Coordinating Committee (NC TRCC)
- North Carolina Vision Zero Task Force
- Safe Kids NC
- SafeStreet NC
- Students Against Destructive Driving (SADD)
- The University Health Systems of Eastern North Carolina
- University of North Carolina Highway Safety Research Center (UNC HSRC)

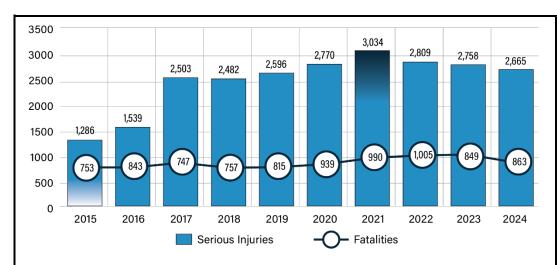




#### **Lane Departure**

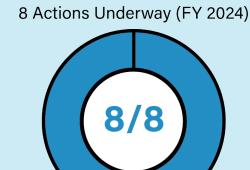
**EMPHASIS AREA DEFINITION:** Crashes that occur due to a driver leaving their lane. Includes run-off-road, fixed object, head-on, rollover, and sideswipe-opposite direction crash types.

EMPHASIS AREA GOAL: Reduce Lane Departure-related fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Lane Departure Fatalities and Serious Injuries 2015 – 2024. Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Lane Departure-involved crashes represent 22% of all total crashes and 52% of fatal and serious injury crashes. The average annual fatalities involving Lane Departure increased 19% between the 2019 and 2024 SHSP reporting periods.



The 2024 SHSP lists 3 STRATEGIES and 8 SUPPORTING ACTIONS for LANE DEPARTURES.

Stakeholders reported activity related to 8 of the 8 SUPPORTING ACTIONS (2024/2025)

**Key Partners in Implementation:** 

- NCDOT TSU
- NCDOT TSMO
- NCDOT RDU





Sup	porting Action	2024/2025 Key Accomplishments
1.1	Develop or update design policy to integrate proven lane departure countermeasures and materials in standard design policy.	NCDOT used the Rumble Strip Policy (2023) to guide their application to locations that have a documented pattern of treatable lane departure events based on an engineering study and investigation.  NCDOT RDU worked to ensure superelevation is appropriately applied to curves on new construction.  NCDOT RDU has ensured more consistent application of lane widening in tight curves on 2-lane roads to reduce the likelihood that a large vehicle will cross the centerline when taking the curve.
1.2	Establish an approach for using Transportation Systems Management and Operations (TSMO) strategies, such as IMAPS and changeable message signs, to address lane departure risk factors (speed, weather, congestion) while considering the impacts on safety in North Carolina.	NCDOT and NC Turnpike Authority worked together to implement and collect data for Wrong Way Driving projects.  NCDOT initiated broadband projects to build a statewide network capable of applying TSMO strategies.  NCDOT initiated integration of connected technologies (navigational apps or directly to vehicles, including Town of Cary and NC State).
1.3	Implement North Carolina's approach for lane departure countermeasures, where appropriate, including:  • Long-life edgeline and centerline pavement markings  • Clear zone improvements  • Rumble and sinusoidal rumble strips  • Enhanced delineation for curves and work zones  • Median and roadside barriers  • Wider edge lines  And other proven lane departure countermeasures.	NCDOT released the Safety Countermeasure Glossary with information on lane departure safety countermeasures (2024).  NCDOT has treated thousands of miles of roadways with safety countermeasures targeting lane departure crashes since 2019. This includes over 2,500 miles of long life pavement markings, 590 miles of guardrail and 600 miles of rumble strips.  NCDOT created executive summaries of countermeasure evaluations (before/after studies and effectiveness) for curve chevrons, rumble strips, SafetyEdge™, statutory speed limit reviews, and long life pavement markings/wider edge lines.





	Strategy 2: Continue research to better understand the contributing factors in lane departure crashes and to identify				
	opportunities to mitigate the problem.				
Sup	porting Action	2024/2025 Key Accomplishments			
2.1	Support Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), and local agencies as part of their regional or local safety plan efforts by providing or developing network screening results and GIS mapping to identify critical locations for systemic lane departure improvements. MPOs and RPOs should encourage and support local agencies in conducting local level network screening, where appropriate, to cover the local road network.	NCDOT participated in local and regional efforts to develop USDOT Safe Streets and Roads for All (SS4A) Safety Action Plans.			
2.2	Review crash data collection practices to identify and implement improvements in methods (e.g., crash geolocation) or additional data fields needed to address lane departure crashes.	NCDOT improved crash location accuracy in crash reports by increasing the collection of latitude and longitude coordinates by law enforcement and developed a web-based tool for officers to use.			
	shes.	es, and officials on critical issues related to lane departure			
Sup	porting Action	2024/2025 Key Accomplishments			
3.1	Communicate North Carolina's approach for lane departure countermeasures, including TSMO strategies, to planners, designers, and decision-makers at the state, division, regional, and local levels.	NCDOT created executive summaries of countermeasure evaluations (before/after studies and effectiveness) for curve chevrons, rumble strips, SafetyEdge™, statutory speed limit reviews, and long life pavement markings/wider edge lines.  NCDOT continued to implement lane departure countermeasures across North Carolina through safety			
3.2	Increase coordination among NCDOT and regional and local agencies, building on the network screening analysis in Strategy 2, to identify priority locations and risk factors for implementing effective countermeasures.	NCDOT funded and/or participated in over 30 local/regional comprehensive safety action plans.			





3.:

Develop and disseminate information (benefits, costs, and trade-offs among users) to planners, designers, and decision-makers at the state, regional, and local levels on proven safety countermeasures to address lane departure crashes. The benefits should highlight results from evaluations conducted in North Carolina.

NCDOT developed <u>The Safety Countermeasure Glossary</u> for transportation planning groups as a resource of proven safety countermeasures and potential application.

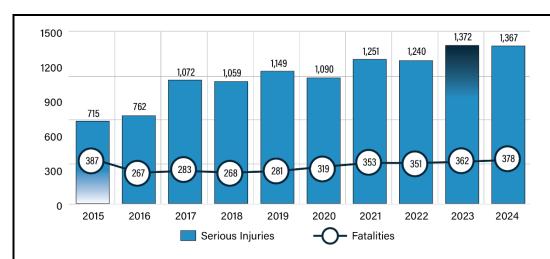




#### **Intersections**

EMPHASIS AREA DEFINITION: Crashes occurring at intersections or considered intersection-related, including driveways, alleys, and on- and off-ramp terminal crossroads.

EMPHASIS AREA GOAL: Reduce intersection-related fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Intersection Fatalities and Serious Injuries 2015 – 2024. Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Intersection-related crashes represent 23% of all total crashes and 22% of fatal and serious injury crashes. The average annual fatalities involving Intersections increased 29% between the 2019 and 2024 SHSP reporting periods.





The 2024 SHSP lists 5 STRATEGIES and 21 **SUPPORTING ACTIONS for INTERSECTIONS** 

Stakeholders reported activity related to 21 of the 21 SUPPORTING ACTIONS (2024/2025)

#### **Key Partners in Implementation:**

- Greensboro DOT
- ITRE
- **NCDOT IMD**
- **NCDOT TMU**
- **NCDOTTSU**





Supporting Action		2024/2025 Key Accomplishments	
1.1	Implement North Carolina's approach for the use of the all-way stop countermeasure.	NCDOT funded over 570 All-Way-Stop-Control (AWSC) spot safety projects and over 450 projects are complete.	
1.2	Communicate North Carolina's approach for the use of the all-way stop countermeasure to local agencies, including use as an interim measure, building from existing materials.	NCDOT published documentation supporting AWSC: All-Way-Stop Evaluation One-Pager, All-Way-Stop Summary Brief, and SaFID Chart.	
1.3	Educate the public on the safety benefit of all-way stop and how to navigate an all-way stop by expanding existing materials and engaging media/ communication experts to support implementation success.	NCDOT created a website on AWSC.	
Strat	egy 2: Consider the exposure of pedestrians, bicyclists,	and users of personal mobility when designing intersections	
	nanage speeds at conflict points.		
Supp	orting Action	2024/2025 Key Accomplishments	
2.1	Establish and communicate an approach for implementing or reconfiguring channelized right-turn	NCDOT incorporated geometric design considerations at corners and their impact on pedestrian safety into TIP project	
	lanes at appropriate locations to control speeds.	review.	
2.2	Establish and communicate an approach for using the NCDOT Demand Estimation Map and the 20 flags method discussed in NCHRP 948 Guide for Pedestrian and Bicyclist Safety at Alternative and Other Intersections and Interchanges in intersection design and operations efforts.	NCDOT continued to implement the 20 flags method in pedestrian crossing TIP project reviews.	
2.2 2.3	Establish and communicate an approach for using the NCDOT Demand Estimation Map and the 20 flags method discussed in NCHRP 948 Guide for Pedestrian and Bicyclist Safety at Alternative and Other Intersections and Interchanges in intersection design	NCDOT continued to implement the 20 flags method in	





	the use of permissive left-turn phasing and the impact	NCDOT continued to address research projects based on data
	on those walking and bicycling.	trends and predominate needs of the Department.
	Leverage national research on the safety effectiveness	NCDOT continued to implement their practice for right-turn-on-
2.5	of right turn on red restrictions to establish	red prohibition of reviewing specific locations on a case-by-
	North Carolina's approach for this countermeasure and	case basis and making necessary adjustments.
	communicate that approach.  Review the traffic impact analysis (TIA) process to	NCDOT TMLL and TCLL Degians continued to most to improve
	identify opportunities to incorporate both safety and	NCDOT TMU and TSU Regions continued to meet to improve lines of communication between units when safety
2.6	capacity considerations for all modes of	conversations are needed.
	transportation.	NCDOT conducted approximately 800 Traffic Impact Analyses.
Strate	egy 3: Increase implementation of quick-build intersect	
	orting Action	2024/2025 Key Accomplishments
оирр	Promote local Traffic Safety Task Forces as noteworthy	NCDOT promoted quick build projects, such as flexible
	practices (e.g., Greenville, Robeson County) to help	delineator RCIs, mini roundabouts, and curb extensions for
3.1	garner support for highway safety efforts from the	pedestrians.
	community, including local businesses.	NCDOT TSU continued to actively participate in local Traffic
	,	Safety Task Forces.
	Engage NCDOT Divisions to gain buy-in, using lessons	NCDOT IMD initiated a pilot project as part of the Interim
3.2	learned from NCDOT's Interim Design Safety Pilot	Design Safety Pilot Program to assess the feasibility of
3.2	Program.	deploying low-cost, interim design safety countermeasures
		focused on state-owned and maintained roadways.
	Document and communicate the process for quick-	NCDOT promoted quick build projects, such as flexible
	build countermeasures on State and local roadways,	delineator RCIs, mini roundabouts, and curb extensions for
	such as curb extensions, right-in right-out (RIRO),	pedestrians.
	flexible delineators posts, transverse rumble strips at	
3.3	rural intersection approaches, sight distance training,	
	and channelization of RIRO	
	at driveways. Support Safe Streets and Roads for All	
	(SS4A) recipients (and other interested local agencies)	
	to engage in this process.	100000000000000000000000000000000000000
	Measure effectiveness of quick-build countermeasure	NCDOT installed flexible delineator posts for RCI safety
3.4	installations and use successes to develop case	projects.
	studies for other local agencies in the State.	NCDOT installed and monitored mini roundabouts.





		Greensboro DOT and NC AT&T collaborated to configure a street near NC AT&T campus to enhance safety and multimodal use.  Greensboro DOT extended bike lanes to enhance connectivity near UNCG campus.  Greensboro DOT implemented mini roundabouts, installed an offset intersection and chicanes using temporary and then permanent infrastructure and pavement markings.
Strate	egy 4: Support ongoing and new campaigns for public a	cceptance of intersection safety treatments and designs.
Supp	orting Action	2024/2025 Key Accomplishments
4.1	Continue to support and promote the use of restricted crossing intersections (RCIs) to reduce vehicle conflicts at intersections.	NCDOT funded over 230 RCI spot safety projects and completed over 180.  NCDOT evaluated RCI crash reduction factors and added them to the NCDOT CRF list.  NCDOT developed the Safest Feasible Intersection Design Decision Guide.
4.2	Communicate the considerations for the use of other innovative intersection/interchange designs, such as roundabouts, Median U-Turn (MUT) intersections, Quadrant Roadway (QR) intersections, Displaced Left Turn (DLT) intersections, and Diverging Diamond Interchanges (DDI), identifying the situations when the designs present safety benefits compared to other alternatives.	NCDOT evaluated and added crash reduction factors to the NCDOT CRF list.  NCDOT completed NCDOT Research Project 2023-20  Evaluating Benefits and Drawbacks of Intersections with Three-Phase Traffic Signals.
4.3	Provide explanation to the general public of safety needs and expected safety benefits of planned NCDOT Spot Safety projects through an interactive online map and expanding to State Transportation Improvement Program (STIP) in future years.	NCDOT developed and maintained an online map of NC Safety Projects that are in progress or completed.





Strategy 5: Educate roadway designers, planners, law enforcement, and officials/decision-makers on intersection design principles proven to reduce fatalities and serious injuries.

Supp	orting Action	2024/2025 Key Accomplishments	
5.1	Leverage existing knowledge sharing platforms, such as NCDOT's CLEAR Program to disseminate information.	NCDOT hosted CLEAR webinars.  NCDOT Research Project 2024-42 Urban Applications of Innovative Intersection Designs research team was the keynote speaker at the North Carolina Association of MPOs 2024 Annual Conference.  GHSP hosted the 2024 Traffic Safety Conference.	
5.2	Educate law enforcement officers on transportation laws related to intersection safety, new traffic control devices, and alternative/innovative intersections so they are equipped to effectively enforce traffic laws at intersections.	NCDOT produced public educational material about the operation of new intersections and traffic control devices.	
5.3	Continue to inform new and existing intersection project decisions using the latest research as gathered in safest intersection feasible design (SaFID), pedestrian optimum feasible intersection design (POFID), and bicyclist optimum feasible intersection design (BOFID) charts.	NCDOT compiled a preliminary set of data on three-leg intersections to add to SaFID.  Engineers continued to use SaFID charts.	
5.4	Organize an educational series on NCHRP Research Report 1087 regarding Intersection Control Evaluation (ICE).	NCDOT reviewed alternatives through express intersection design.  NCHRP 1087 project team presented at the NCSITE Traffic Engineering Council meeting.	
5.5	To address concerns about the cost of roundabouts, expand research on modular roundabouts and mini roundabouts, including tracking existing locations in the state, implementing pilot projects, and determining an approach for feasible future locations.	NCDOT completed or continued monitoring crash data at seven mini and modular roundabouts.	

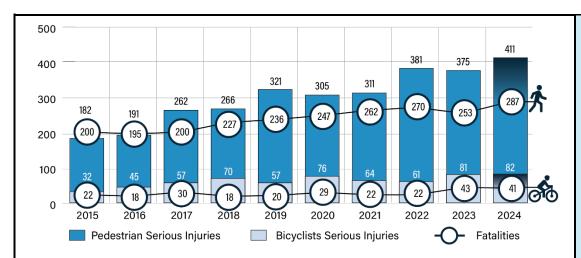




### **Pedestrians, Bicyclists, and Personal Mobility**

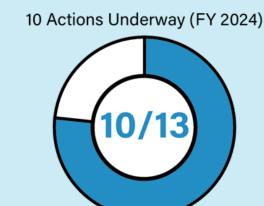
**EMPHASIS AREA DEFINITION:** Pedestrians, bicyclists, and users of personal mobility, which includes transportation modes such as scooters, skateboards, assistive devices, and other emerging mobility options that lack physical protection from other vehicles.

**EMPHASIS AREA GOAL:** Reduce pedestrian, bicyclist, and personal mobility fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Pedestrian and Bicyclist Fatalities and Serious Injuries 2015 – 2024. Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Pedestrian-involved crashes represent 1% of all total crashes and 10% of fatal and serious injury crashes. Bicyclist-involved crashes represent 0.3% of all total crashes and 2% of all fatal and serious injury crashes. The average annual fatalities involving Pedestrian crashes increased 24% and Bicyclist crashes increased 45% between the 2019 and 2024 SHSP reporting periods. Crash data from 2024 is considered preliminary and is subject to change.



The 2024 SHSP lists 5 STRATEGIES and 13 SUPPORTING ACTIONS for INTERSECTIONS

Stakeholders reported activity related to 10 of the 13 SUPPORTING ACTIONS (2024/2025)

#### **Key Partners in Implementation:**

- AARP
- BikeWalk NC
- City of Charlotte
- Greensboro DOT
- NC Vision Zero Task Force
- NCDOT IMD
- NCDOT PPD
- NCDOTTSU





Many of the strategies and supporting actions developed by the SHSP Emphasis Area Working Group complement or mirror the strategies in the VRUSA, as indicated within the Pedestrians, Bicyclists, and Personal Mobility Action Plan table. The numbers in the VRUSA column refer to the section in the VRUSA report.

Supp	oorting Action	2024/2025 Key Accomplishments	VRUSA
1.1	Develop and apply guidance for including bicyclist and pedestrian safety improvements at signalized intersections, including but not limited to the following features:  • Bicycle signals  • Bicycle detection  • Leading Pedestrian Interval  • Exclusive pedestrian phases  • Right Turn on Red restrictions  • Left-Turn Phasing	NCDOT developed and posted guidance on Leading Pedestrian Interval (LPI) Implementation, Multimodal Guidance, and NCDOT Trail Crossing Guidance.  NCDOT conducted assessments of signals, trail crossings, HSIP pedestrian locations, and RAISE grant locations and initiated reviewing signalized intersections (first 500 of 3,500) and trail crossing (800) for pedestrian improvements.	1.1, 4.2, 5.1
1.2	Update NCDOT resources for selecting cross- sections, including separated bikeway types and pedestrian crossings, in STIP and other major roadway projects in all development contexts.	NCDOT TSU developed and posted Multimodal Guidance and Traffic Control Devices.  NCDOT TSU initiated a process to coordinate with IMD on pedestrian crossing reviews for TIP projects.	4.1
1.3	Integrate multimodal safety considerations into TIAs and other routine congestion management analyses using a model Safe System Approach-aligned methodology.	Greensboro DOT initiated an update to their Street Design Study.  Greensboro MPO continued to acquire the Streetlight data package, including active transportation metrics.  Greensboro MPO received FY 24 SS4A funding for intersection improvements at bicycle and pedestrian crossings.  Greensboro DOT implemented the Safe Routes to School program for NCDOT, supporting walk and bike to school days and participating in public events to promote SRTS over the past year.	





Strategy 2: Improve pedestrian, bicyclist, and personal mobility data collection practices to support safety analysis and				
decision-making.				
	orting Action	2024/2025 Key Accomplishments	VRUSA	
2.1	Review the <u>Pedestrian and Bicycle Infrastructure</u> <u>Network (PBIN)</u> framework and identify missing components. Update and maintain the PBIN as an inventory of existing conditions for planning safety improvements.	NCDOT assessed pedestrian and bicycle count data availability in agencies across the state (Non-Motorized Volume Monitoring Program).  NCDOT initiated a project to machine read pedestrian count reports and compile database.  NCDOT initiated exploring the use of probe-based data for pedestrian and bicycle counts.  NCDOT TSU maintained and published the current version of PBIN on ArcGIS Online.	6.1	
2.2	Improve and standardize statewide pedestrian and bicyclist count data collection practices and develop associated guidance. Create statewide pedestrian and bicyclist count data repository and investigate development of an integrated count database with standardized format and process.	NCDOT conducted research to develop initial pedestrian safety risk factors for systemic analysis (RP2022-11 - Quantification of Systemic Risk Factors for Pedestrian Safety on North Carolina Roadways).  NCDOT continued a project to machine read pedestrian count reports and compile a database.	6.4	
2.3	Gather input and buy-in from law enforcement liaisons on creating a sustainable, comprehensive framework for a statewide law enforcement education program on effectively capturing pedestrian, bicyclist, and personal mobility crash information on the North Carolina Crash Report Form DMV-349.	No progress reported this period.		
	egy 3: Improve funding and project development strat			
Supp	orting Action	2024/2025 Key Accomplishments	VRUSA	
3.1	Create clear and sustainable funding programs for Safe Routes to School (SRTS) activities, encompassing infrastructure and education projects. Review eligible federal aid programs such as the	No progress reported this period.		





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	Transportation Alternatives Program (TAP) and the				
	Highway Safety Improvement Program (HSIP).				
	Develop guidance on the use of various funding	The Prioritization 8.0 Workgroup Recommendations			
	sources (TAP, Community Multiscale Air Quality	included an updated methodology for the bicycle			
	Model [CMAQ], STIP, HSIP) for safety project. Work	and pedestrian safety risk measure and increased			
3.2	with the SPOT workgroup to review the project	weight for safety in Modernization projects.			
	prioritization process for opportunities to prioritize	Troight for edicty in redefinization projector			
	safety projects.				
	Work with lawmakers to amend the Strategic	BikeWalk NC held a Lobby Day at the North Carolina			
	Transportation Investments (STI) legislation to	General Assembly to advocate for amendments to			
3.3	increase flexibility of NCDOT funding for bicyclist and	the Strategic Transportation Investments legislation			
	pedestrian safety needs.	to increase flexibility of NCDOT funding for bicyclist			
	podeounamounos, nooder	and pedestrian safety needs. The bill was defeated.			
Strat	egy 4: Explore, demonstrate, and implement innovativ		or		
	strians, bicyclists, and users of personal mobility dev				
Supp	orting Action	2024/2025 Key Accomplishments	VRUSA		
	Develop formal guidance on the use of tools such as	NCDOT TSU initiated a process to coordinate with			
4.4	the NCDOT TDI in planning, prioritization, and review	IMD on pedestrian crossing reviews for TIP projects.	4.4		
4.1	of NCDOT projects to include bicycle and pedestrian		4.1		
	safety improvements.				
	Develop a statewide community of practice for	The NC Vision Zero Taskforce worked with ITRE to			
	collaborating with other disciplines (e.g., healthcare,	update the NC Vision Zero website resource library,			
	higher education) to review grants and alternative	with a focus on the accessibility of the information			
4.2	funding sources, increase awareness, identify and	and ease of use.	3.3		
	navigate obstacles, and incorporate innovative	NCDOT incorporated public health professionals	1		
	solutions for pedestrian and bicyclist safety.	into steering committees of local safety action			
		plans.			
Strat	egy 5: Develop and promote public education prograr	ns that support education for all road users on safet	y for		
pedestrians, bicyclists, and personal mobility users.					
Supp	orting Action	2024/2025 Key Accomplishments	VRUSA		
5.1	Develop a comprehensive education program that	No progress reported this period.			
- <b>3.</b> I	includes teaching walking, bicycling, and bus safety				





	skills. Determine the cost of implementation and		
	conduct a pilot in five school districts.		
	Incorporate interactions with pedestrians, bicyclists,	No progress reported this period.	
5.2	and users of personal mobility in the driver education		
	curriculum.		





#### **VRUSA**

The following table provides the actions listed in the VRUSA. The strategies developed through the VRUSA effort represent NCDOT's primary focus and responsibility for improving pedestrian, bicyclist, and personal mobility user safety over the next five years.

VRUSA Action		2024/2025 Key Accomplishments	
Policy	Create and publish guidance for developing and implementing more safety projects for vulnerable road users.	NCDOT completed Road Diet Guidance (for publication next period).	
Planning	Partner with regional planning organizations and local agencies to develop safety plans and studies across all high-risk contexts.	NCDOT presented the <u>Trail Crossing Guidance</u> at the March 2025 IMD Webinar.  NCDOT completed 14 pedestrian road safety reviews (Ayden, Fayetteville, Garner, Hickory, High Point, New Bern, Raleigh, Rocky Mount, Thomasville, Whiteville, Wilmington)	
Program	Identify new partners for city-wide and regional engagement with disadvantaged communities to inform safety strategies and projects.	NCDOT completed 4 pedestrian road safety reviews for corridors in Fayetteville and Wilmington.  NCDOT conducted exploratory analysis to rank small cities for safety assessment priority.	
Projects	Develop safety projects that are responsive and risk-based.	NCDOT evaluate and scores VRU projects submitted for safety funding using a combination of responsive (crash based) and risk based (e.g., speed limit, crossing distance) criteria.	
Education	Provide training and increase opportunities for NCDOT and local agency partners to develop safety projects.	NCDOT conducted research to develop guidance on bicycle and pedestrian road safety reviews.  NCDOT developed and maintain a non-motorist crash information dashboard and public facing website on pedestrian safety program and improvements.	
Implementation	Leverage data sources and methods to prioritize needs and assess performance of vulnerable road user safety.	No progress reported this period.	

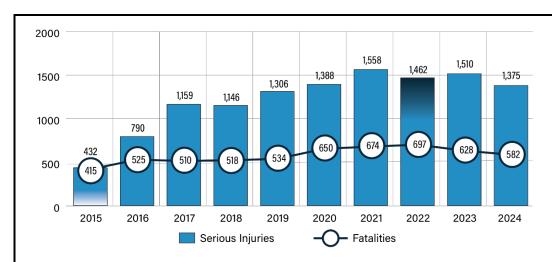




#### **Seat Belts and Car Seats**

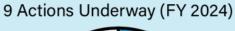
EMPHASIS AREA DEFINITION: Crashes involving unrestrained or improperly restrained motor vehicle occupants.

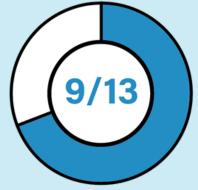
**EMPHASIS AREA GOAL:** Reduce unrestrained or improperly restrained fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Seat Belts and Car Seats Fatalities and Serious Injuries 2015 – 2024. Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Seat Belts and Car Seats-related crashes represent 3% of all total crashes and 27% of fatal and serious injury crashes. The average annual fatalities involving Seat Belts and Car Seats increased 29% between the 2019 and 2024 SHSP reporting periods. Data for 2024 is preliminary and subject to future revision.





The 2024 SHSP lists 3 STRATEGIES and 13 SUPPORTING ACTIONS for SEAT BELTS and CAR SEATS

Stakeholders reported activity related to 9 of the 13 SUPPORTING ACTIONS (2024/2025)

**Key Partners in Implementation:** 

- ITRE
- NC GHSP
- Safe Kids NC
- UNC HSRC





Stra	tegy 1: Increase seat belt use and car seat use statewide.	
Sup	porting Action	2024/2025 Key Accomplishments
1.1	Encourage Vision Zero communities, SS4A recipient communities, or others developing regional or local safety plans to include seat belt and car seat efforts in their safety action plans.	No progress reported this period.
1.2	Develop and promote sample workplace seat belt policy language for public agencies and private business with fleet vehicles and promote to relevant organizations.	No progress reported this period.
1.3	Continue to monitor national research and implement best practices on effective messaging to improve proper seat belt, booster seat, and car seat use in children, with a particular focus on populations that often have lower restraint use:  • Children 8-15 years old • Immigrant and LEP populations • Over-occupied vehicles • Commercial vehicles	Occupant Protection Task Force (supported by NC GHSP) updated the Occupant Protection Plan.  Robeson County Diversion (supported by NC GHSP) program supported 33 classes.
1.4	Increase law enforcement participation in statewide enforcement campaigns and develop tools, such as non-English language materials, for reporting officers that may be the first line in education for some road users.	GHSP funded 2 "Click It or Ticket" mobilizations with additional mini-mobilizations.  HSRC (supported by NC GHSP) developed Buckle Up materials in Spanish.
	tegy 2: Strengthen statewide child passenger safety program.	0004/0005 Karr A a a grand l'alama anta
2.1	Increase awareness of State resources and consolidate resources as able (i.e., buckleupnc.org and the Vision Zero data visualization dashboards).	ITRE improved website materials and coordinated efforts to spread awareness of the available resources.
2.2	Identify resource gaps in Child Passenger Safety educational materials and create materials to address that gap (e.g., Spanish and Mandarin language materials).	No progress reported this period.
2.3	Increase the number of Child Passenger Safety Technicians and Programs, particularly through healthcare providers, schools, and religious organizations, with a specific focus on underserved	GHSP funded 228 Permanent Checking Station programs across 95 counties.





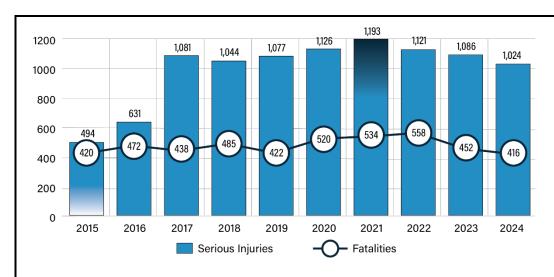
	communities (i.e., those without sufficient Child Passenger Safety resources).	
	Provide opportunities for Child Passenger Safety Technicians to earn continuing education credits needed to maintain	Safe Kids NC conducted 35 Child Passenger Safety Certification classes and 5 Certification classes.
2.4	certification and continue to provide high-quality education.	GHSP supported the NC Traffic Safety Conference and Safe Kids Injury Prevention Conference.
		Safe Kids NC provided 3 free regional CPS Symposia in Davidson, Moore, and Vance County.
		Safe Kids NC continued to email technicians with upcoming expiration dates.
_	tegy 3: Improve child passenger safety outreach to at-risk and un	derserved communities.
Sup	porting Action	2024/2025 Key Accomplishments
3.1	Determine the impact of the Infrastructure Investment and Jobs Act (IIJA) on funding to purchase car seats for distribution.	Safe Kids NC continued to purchase and distribute additional car seats using IIJA funding.
3.2	Encourage expansion of the Child Passenger Safety Diversion Program to additional counties.	GHSP continued to operate the Child Passenger Safety Diversion Program in 40 counties.
3.3	Develop a tracking mechanism for monitoring the number of families that receive the diversion and determine other measures of success.	Certified Child Passenger Safety Technicians (CPS Technicians) checked 6,782 car seats at North Carolina car seat checking stations.
3.4	Expand awareness and develop tracking mechanisms (e.g., downloads, page views) for Child Passenger Safety materials distributed by Safe Kids North Carolina to other potential partners (e.g., state and local law enforcement agencies, community centers, health departments, schools, and religious organizations).	UNC HSRC and Safe Kids NC continued to maintain a tracking system.
3.5	Increase distribution of Child Passenger Safety materials to non-traditional partners (e.g., schools, daycares, aftercare programs, and other youth-focused organizations).	No progress reported this period.





### **Substance Impaired Driving**

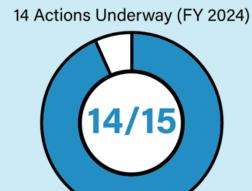
**EMPHASIS AREA DEFINITION:** Crashes that involve a driver in which alcohol or drug impairment is suspected or detected. **EMPHASIS AREA GOAL:** Reduce substance impaired driving-related fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Impaired Driving Fatalities and Serious Injuries 2015–2024.

Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Substance Impaired Driving-related crashes represent 5% of all total crashes and 22% of fatal and serious injury crashes. The average annual fatalities involving Substance Impaired Driving increased 11% between the 2019 and 2024 SHSP reporting periods. Please note that crash statistics for 2024 are preliminary and may change in future updates.



The 2024 SHSP lists 5 STRATEGIES and 15 SUPPORTING ACTIONS for SUBSTANCE IMPAIRED DRIVING

Stakeholders reported activity related to 14 of the 15 SUPPORTING ACTIONS (2024/2025)

#### **Key Partners in Implementation:**

- Atrium Health
- Impaired Driving Task Force
- NC Conference of District Attorneys
- NC DHHS FTA
- NC GHSP





Supp	orting Action	2024/2025 Key Accomplishments
	Partner with military bases in North Carolina and	Robeson County Sherrif's Office (supported by NC GHSP)
.1	provide educational materials on the risks of impaired	supported 3 deputies to conduct educational and outreach
	driving.	events with a focus on impaired driving.
	Partner with cities/towns within North Carolina who	No progress reported this period.
	have a Sip and Stroll community (i.e., allow pedestrians	
.2	to walk with alcohol within a boundary) and distribute	
	educational material on impairment and planning for	
	safe transportation.	
.3	Collaborate with NHTSA and disseminate materials	NHTSA disseminated materials, which is part of GHSP's media
	they have available on the effects of "buzzed" driving.	plan.
	Partner with cities/towns within North Carolina with a	No progress reported this period.
	Sip and Stroll or Main Street community and encourage	
4	a proactive review of the environment, using methods	
	such as a road safety audit, to identify potential safety	
	concerns or opportunities to improve safety before the	
	concept is implemented.	
	egy 2: Increase training for prosecutors and law enforce	ment officers on the medical effects of substance use
iso	der and alcohol use disorder.	
upp	orting Action	2024/2025 Key Accomplishments
	Provide education to prosecutors and law enforcement	NC Conference of District Attorneys (supported by NC GHSP)
	officers on the medical effects of substance use	provided training for over 4,500 prosecutors, law enforcement
	disorder and alcohol use disorder.	officers, and other traffic safety professionals.
.1		GHSP expanded the Traffic Safety Resource Prosecutor
		Program.
		Atrium Health presented data on impaired driving at multiple
		state meetings.
2.2	Continue programs that provide law enforcement	NC Conference of District Attorneys (supported by NC GHSP)
	training on impairment.	funded law enforcement training on impairment.
2		
.2		Law enforcement agents (supported by NC GHSP) continued to





		NC DHHS Forensic Tests for Alcohol Branch (FTA) trained law
		enforcement officers.
	Train local hospital staff and primary doctors to fill out and suggest a referral with the North Carolina Crash	Atrium Health initiated meetings with NC DMV.
2.3	Report Form DMV-349 to a more formal behavioral health assessment.	
Strat	egy 3: Increase the number of Drug Recognition Experts	(DREs) across the state.
	orting Action	2024/2025 Key Accomplishments
3.1	Updated basic law enforcement training to include standardized field sobriety testing.	The Law Enforcement Training and Standards Commissions added Standardized Field Sobriety Testing Program (SFST) training to the Basic Law Enforcement Training (BLET) curriculum.
	Increase the number of Drug Recognition Experts	NC DHHS FTA Branch SFST Program (supported by NC GHSP)
	(DREs) in rural areas across North Carolina.	conducted 99 Basic SFST classes, 206 SFST Refresher Training classes, 9 SFST Instructor Refresher Training classes, and 3
3.2		SFST Instructor Initial Training courses.
		NC DHHS FTA Branch (supported by NC GHSP) hosted the largest DRE Class since its adoption in NC in 2000.
	Expand the advanced roadside impaired driving	NC DHHS FTA Branch DRE Program (supported by NC GHSP)
3.3	enforcement (ARIDE) training to focus on all types of	conducted 34 Advanced Roadside Impaired Driving
	impairment, not solely alcohol.	Enforcement classes.
	egy 4: Strengthen intervention policies to reduce recidi	
Supp	orting Action	2024/2025 Key Accomplishments
4.1	Provide support for ignition interlock for any DWI conviction.	HB 108: 0.5 BAC legislative bill was introduced.
4.2	Expand screening and intervention services to identify current at-risk drivers in hospitals to reduce recidivism.	No progress reported this period.
	Include the blood alcohol concentration and	The inclusion of BAC and substance use data in the NC trauma
4.3	substance use data in the North Carolina trauma	database has been integrated into the National Emergency
	database.	Medical Services Information System (NEMSIS) database.





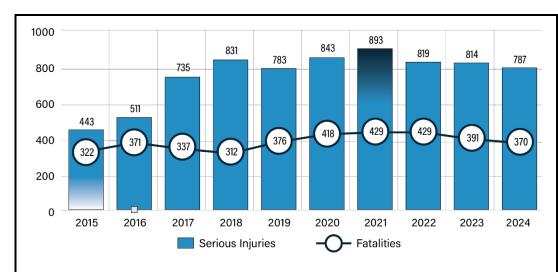
Strat	Strategy 5: Research lowering BAC levels for driving in North Carolina.		
Supp	orting Action	2024/2025 Key Accomplishments	
5.1	Study other states (e.g., Utah) or other countries that	NC GHSP continued an ongoing comparative analysis of crash	
5.1	have lowered the BAC and compare their crash rates.	rates between Utah and North Carolina.	
	Work with NCDMV, the Administrative Office of the	Impaired Driving Task Force continued collaborating with	
5.2	Courts (AOC), and other agencies that are potentially	NCDMV, AOC, and other relevant agencies to address potential	
5.2	impacted by BAC change to gather input and work	impacts of BAC changes.	
	together on potential changes.		



### **Safer Speeds**

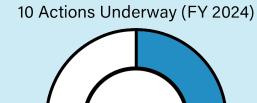
**EMPHASIS AREA DEFINITION:** Crashes where the reporting officer noted the driver's contributing circumstances as "exceeding authorized speed limit" or "exceeding safe speed for conditions."

EMPHASIS AREA GOAL: Reduce speed-related fatalities and serious injuries by 50 percent by 2035, moving towards zero by 2050.



Safer Speeds Fatalities and Serious Injuries 2015 – 2024. Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Speed-related crashes represent 6% of all total crashes and 17% of fatal and serious injury crashes. The average annual fatalities involving Safer Speeds increased 19% between the 2019 and 2024 SHSP reporting periods.





Stakeholders reported activity related to 10 of the 15 SUPPORTING ACTIONS (2024/2025)

#### **Key Partners in Implementation:**

- NCDOT GIS Unit
- NCDOT TIMS
- NC TRCC
- NCDOT TSU
- UNC HSRC





	egy 1: Improve speed-related data collection, complet orting Action	2024/2025 Key Accomplishments
Supp		
	Continue to acquire/collect statewide probe speed	NCDOT TSU and TIMS used probe data to inform decisions on
	data and use the data to inform decisions, including	speed limit changes and before/after comparisons for specific
	disseminating information to partners.	higher volume corridors.
1.1		NCDOT TSU used probe speed data for bridge safety studies, post-Helene.
		NCDOT signed a DUA to enable NC public agencies to access
		INRIX speed data, including real-time and historical averages,
		and facilitate their access to RITIS or Clearguide.
1.2	Communicate and implement North Carolina's	NCDOT TSU developed a Road Diet Guidance (to be published).
1.2	approach to speed countermeasures.	
	Encourage local enforcement agencies within United	NCDOT continued to assist local communities in developing
	States Department of Transportation (USDOT) SS4A	safety action plans.
1.3	grant recipient communities to explore collection and	
	use of citation data in local safety action planning	
	activities.	
	Review existing speed-related data sources (e.g.,	UNC HSRC and the NC TRCC initiated an analysis on the quality
	probe data, location specific speed data) to identify	of the speed probe data.
1.4	data collection gaps. Map the results to fatal and	
	serious injury crashes to prioritize data collection	
	efforts.	
	egy 2: Use data analysis to identify and address speed	
Supp	orting Action	2024/2025 Key Accomplishments
	Conduct systemic analysis using integrated datasets	NCDOT TSU used speed data to evaluate hot spot locations.
	(e.g., speed, crash, roadway, citation data) to identify	
2.1	risk factors for speed-related crashes, considering the	
	survivability of those crashes. Use the results to	
	prioritize projects and to prioritize additional data	
	collection (fill gaps in existing speed data).	NODOT TOLL LOIDLE II
2.2	Share speed-related safety issues (e.g., maps of crash	NCDOT TSU and GIS Unit continued to maintain a <u>statewide</u>
	or citation locations, dashboards, etc.) with state,	speed limit map.





	regional, and local stakeholders (planners, engineers, law enforcement, and public outreach) for use in decision-making.	
	Determine appropriate proven safety	NCDOT continued to implement countermeasures to address
	countermeasures for systemic and spot improvement	speed limit related issues.
	locations. Communicate and implement the approach	NCDOT TSU evaluated safety treatments for crash reductions.
2.3	for those countermeasures.	NCDOT promoted the Crash Reduction Factor (CRF)
2.0		Information list as a repository for countermeasure
		effectiveness.
		NCDOT released the Safety Countermeasure Glossary with
		information on speed-related countermeasures (2024).
	Evaluate the effectiveness of implemented speed	NCDOT TSU completed the first round of the <u>Secondary Route</u>
	countermeasures.	Safety Program (SRSP) evaluation (10k miles of roadway).
		NCDOT TSU completed a road diet evaluation on Merrimon
2.4		Avenue.
		NCDOT TSU completed NCDOT Research Project 2020-028
		Driver Behavior and Performance in High to Low Speed
		Transitionson high- to low-speed transitions.
_		NCDOT TSU completed <u>spot safety program evaluations</u> .
Strategy 3: Enhance state-local partnerships in addressing s		
Supp	orting Action	2024/2025 Key Accomplishments
3.1	Develop and disseminate tools to educate the public on the safety impacts of speeding.	NCDOT continued to host websites on speed limits and speed-related crash statistics.
	Develop and implement local/regional speed	No progress reported this period.
3.2	management plans and prioritize proven safety	
3.2	countermeasures that reduce travel speeds on high-	
	risk roadways.	
	Identify statewide speed limit setting practices. Use	NCDOT continued to use the forms that resulted from NCDOT
	that information to develop and implement a	Research Project 2017-10 Developing Guidelines and
3.3	consistent statewide approach to reviewing and	Documentation of Engineering Studies for Establishing NC
3.3	setting context-appropriate speed limits, using state	Speed Limits when making speed limit decisions.
	and national noteworthy practices (e.g., USLIMITS2) as	
	a starting point.	





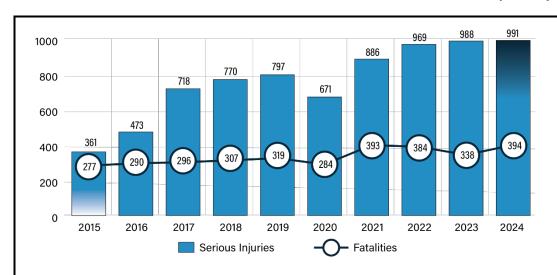
3.4	Develop and distribute educational materials for local agencies and decision-makers to explain how speed limit decisions are made, using state and national guides and research as a starting point.	No progress reported this period.
		nology options to enforce and limit speeds for highway safety
	th Carolina.	
Suppo	orting Action	2024/2025 Key Accomplishments
	Explore the feasibility of automated speed enforcement in North Carolina, starting with work	NCDOT TSU initiated a work zone speed safety camera assessment.
4.1	zones and school zones.	Senate Bill 391 passed by the General Assembly in June 2025 authorized local governments to use speed safety cameras to detect speed limit violations in school zones effective October 2025.
4.2	Learn about best practices from other national leaders and identify opportunities in North Carolina for vehicle-based technology to deter speeding (e.g., intelligent speed assistance).	No progress reported this period.
4.3	Explore the application of policy to support technologies such as intelligent speed assistance, starting with public or commercial fleets and with high-risk speed offenders. Model efforts on previous successes with technologies in North Carolina (e.g., ignition interlock).	No progress reported this period.



## **Older Drivers**

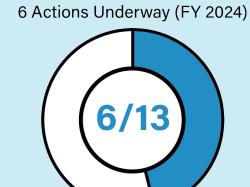
EMPHASIS AREA DEFINITION: Crashes involving older drivers (ages 65 and older).

EMPHASIS AREA GOAL: Reduce older driver-involved fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Older Driver Fatalities and Serious Injuries 2015 – 2024. Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Older Driver-related crashes represent 17% of all total crashes and 17% of fatal and serious injury crashes. The average annual fatalities involving Older Drivers increased 20% between the 2019 and 2024 SHSP reporting periods.



The 2024 SHSP lists 4 STRATEGIES and 13 SUPPORTING ACTIONS for OLDER DRIVERS

Stakeholders reported activity related to 6 of the 13 SUPPORTING ACTIONS (2024/2025)

**Key Partners in Implementation:** 

- AARP
- East Carolina University
- NCDOTTSU





Sup	porting Action	2024/2025 Key Accomplishments
1.1	Conduct systemic analysis and screening to identify and address high-risk locations for older drivers.	NCDOT TSU continued to maintain a map of older driver crashes
1.2	Communicate and implement North Carolina's approach to designing crash countermeasures that accommodate older drivers.	NCDOT continued to install long-life markings, enhanced signing projects, and rumble strips.
1.3	Implement proven design practices to accommodate older road users, such as those from FHWA's Handbook for Designing Roadways for the Aging Population and NHTSA's Countermeasures That Work.	NCDOT RDU received training on older driver safety issues.
	ategy 2: Implement strategies and programs that asses rnatives to driving.	s cognitive abilities of older drivers and identify adequate
Sup	porting Action	2024/2025 Key Accomplishments
2.1	Monitor and support research on older drivers and medically-at-risk drivers.	No progress reported this period.
2.2	Improve monitoring and assessment activities for atrisk drivers, working with the medical review program.	No progress reported this period.
2.3	Implement proven assessment tools that identify medically at-risk drivers as part of a fair and evidence-based licensure process.	No progress reported this period.
Stra	ntegy 3: Educate older drivers on factors that increase	crash risk and alternatives to driving.
Sup	porting Action	2024/2025 Key Accomplishments
3.1	Provide resources and guidance to older drivers for prolonging driving lifetime and managing risk.	UNC HSRC (supported by NC GHSP) developed a <i>Getting Started Guide</i> for the CarFit program and hosted 5 CarFit trainings and 3 events.
3.2	Develop marketing materials advertising alternative transportation options during driving retirement transition, including how to use ride share, and distribute the materials in doctor offices, senior centers, and the DMV.	No progress reported this period.





3.3	of NCDOT.	No progress reported this period.
3.4	Prioritize transit and alternative transportation options in locations with high concentrations of older adults.	No progress reported this period.
Str	ategy 4: Educate the public and agency stakeholders or	n older driver issues.
Su	pporting Action	2024/2025 Key Accomplishments
4.1	Provide training to law enforcement agencies on interacting with older drivers and identifying physical and cognitive deficiencies affecting safe road use.	East Carolina University expanded the use of "Between the Lines" to educate law enforcement officers and EMS service provides in 3 counties on proper protocols for identifying reporting medically atrisk older drivers.
4.2	Provide education and counseling to older patients who have been hospitalized after an at-fault crash, partnering with injury prevention coordinators and medical staff.	No progress reported this period.
4.3	Implement proven assessment tools and provide more educational resources to medical providers to identify medically at-risk drivers as part of an evidence-based medical exam.	East Carolina University conducted 3 presentations to educate nurse practitioners at Area Health Education Centers.

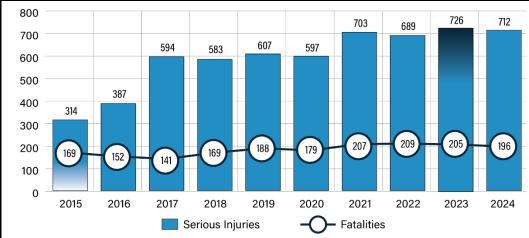




# **Motorcyclists**

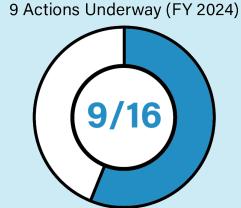
**EMPHASIS AREA DEFINITION:** Crashes involving motorcyclists. Motorcycles are defined as a two-wheeled motor vehicle having one or more riding saddles, and sometimes a third wheel for the support of a sidecar. The sidecar is considered a part of the motorcycle.

**EMPHASIS AREA GOAL:** Reduce motorcyclist-involved fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Motorcyclists Fatalities and Serious Injuries 2015 – 2024. Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Motorcycle-related crashes represent 1% of all total crashes and 14% of fatal and serious injury crashes. The average annual fatalities involving Motorcyclists increased 22% between the 2019 and 2024 SHSP reporting periods.



The 2024 SHSP lists 4 STRATEGIES and 16 SUPPORTING ACTIONS for INTERSECTIONS

Stakeholders reported activity related to 9 of the 16 SUPPORTING ACTIONS (2024/2025)

### **Key Partners in Implementation:**

- BikeSafe North Carolina
- DriveNC
- NC Department of Public Safety
- NC DMV
- NCDOT Signing and Delineation Unit
- NCDOT TSU
- NC GHSP
- NC State Highway Patrol





Strategy 1: Build a foundation to strengthen motorcycle endorsement/training practices, legislation, and policy.		
Supporting Action		2024/2025 Key Accomplishments
1.1	Create a Motorcycle Safety Council or working group to lead motorcyclist-safety related initiatives in North Carolina.	North Carolia Department of Public Safety (supported by NC GHSP) continues to fund and support BikeSafe North Carolina.  NC DMV Driver Services (supported by NC GHSP) continued to collaborate with the NC Motorcycle Safety Foundation to align credentialing practices with programmatic and legislative goals.
1.2	Support graduated motorcycle licensing in North Carolina based on effective practices from other countries and States.	No progress reported this period.
1.3	Partner with insurance agencies to explore new and promote existing incentives for licensing, endorsements, and safety courses.	No progress reported this period.
Strategy 2: Improve data collection to better understand motorcycle crash and injury contributing factors.		
Supp	orting Action	2024/2025 Key Accomplishments
2.1	Update law enforcement training on motorcycle crash investigations to improve diagnosis of crash and severity contributing factors.	No progress reported this period.
2.2	Conduct systemic analysis to identify factors and priority locations associated with motorcycle crashes.	NCDOT TSU continued to maintain an annual map of motorcycle involved crashes.
2.3	Educate law enforcement at all levels on motorcycle safety, including emerging vehicles classified as motorcycles in North Carolina law and provide education on motorcycle-related needs and crashes to local safety efforts (e.g., Vision Zero and Safety Action	BikeSafe NC (supported by NC GHSP) conducted 140 BikeSafe classes.  North Carolina State Highway Patrol (supported by NC GHSP) conducted outreach on a variety of social media platforms.
2.4	Plans, law enforcement liaisons).  Partner with first responders and trauma health to improve injury outcomes (e.g., understanding when and why to send helmet with the ambulance, provide introductory training on motorcycle safety needs).	No progress reported this period.





	Track outcomes with the National EMS Information System (NEMSIS) dataset.	
2.5	Partner with insurance agencies to establish a tracking mechanism for the safety courses taken by riders.	The 2024 BikeSafe Motorcycle Summit (supported by NC GHSP) engaged 60 motorcycle offices representing 47 agencies.
2.6	Investigate data to understand crash risk by number of months/years of rider experience, ages of returning riders, types of motorcycles, and rider characteristics.	No progress reported this period.
2.7	Develop and implement a mechanism for law enforcement and first responders to collect data on gear (e.g., helmet type/age, foot protection, full body gear), including indicators for gear not worn.	No progress reported this period.
	egy 3: Implement strategies to address high priority loc	
Supp	orting Action	2024/2025 Key Accomplishments
3.1	Update design, construction, and maintenance policies and practices to address motorcyclist vulnerabilities (e.g., warning signs, motorcyclist-safer barriers). Use existing research, such as FHWA's Motorcycle Safety Noteworthy Practices: Infrastructure and Engineering as the basis.	NCDOT used motorcycle attenuator in spot safety projects.
3.2	Explore roadway striping that has more friction for motorcyclists and determine safer alternatives.	No progress reported this period.
3.3	Implement strategies to address high priority locations for motorcycle crashes.	No progress reported this period.
	egy 4: Update maintenance and operation policies and octeristics of motorcyclists.	practices to accommodate the unique vulnerabilities and
Supp	orting Action	2024/2025 Key Accomplishments
4.1	Develop and distribute educational materials to NCDOT contractors to raise awareness of motorcyclist vulnerabilities and the challenges construction and maintenance practices present for motorcyclists (e.g.,	NCDOT TSU continued to implement increased signing (e.g., advanced warnings for motorcyclists regarding areas of concern).





	grooved pavements, temporary lanes markings, gravel/sand, metal plates, motorcyclist-safer barrier designs). Use existing research as a starting point, such as FHWA's Synthesis on Roadway Geometry, Pavement Design, and Pavement Construction and Maintenance Practices.	NCDOT TSU continued to address motorcyclist safety through spot-specific practices.
4.2	Publicize construction zones and alternative routes to alert motorcyclists of areas of potential hazards.	DriveNC continued to provide information on work zones and alternative routes.
4.3	Develop terms within contracts with construction crews to adhere to proper clean up practices that account for motorcycle safety during and after maintenance and construction.	NCDOT's Standard Specifications continued to mandate the cleanup and removal of loose material or debris.

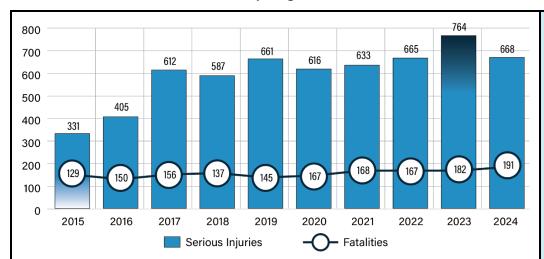




# **Younger Drivers**

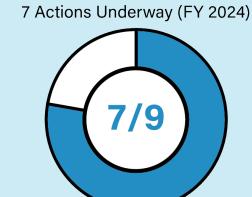
EMPHASIS AREA DEFINITION: Crashes involving younger drivers (ages 15 to 19).

EMPHASIS AREA GOAL: Reduce younger driver-involved fatalities and serious injuries by half by 2035, moving towards zero by 2050.



Younger Drivers Fatalities and Serious Injuries 2015 – 2024. Source: NC Crash Data as of May 2025 (2016 to 2024); NC SHSP 2019 (2015)

Younger Driver-related crashes represent 14% of all total crashes and 11% of fatal and serious injury crashes. The average annual fatalities involving Younger Drivers increased 22% between the 2019 and 2024 SHSP reporting periods.



The 2024 SHSP lists 3 STRATEGIES and 9 SUPPORTING ACTIONS for YOUNGER DRIVERS

Stakeholders reported activity related to 7 of the 9 SUPPORTING ACTIONS (2024/2025)

**Key Partners in Implementation:** 

- MADD
- NCAST
- NC DMV Driver Services
- NC DMV Training Division
- NCDOT MSTA
- NCDOT TSU
- NC DPI
- SafeStreet NC
- Students Against Destructive Decisions (SADD)
- The University Health Systems of Eastern North Carolina
- UNC HSRC





Strategy 1: Reinforce the driver education curriculum and licensing procedures to promote safe driving habits and how to share the road with all users.			
	orting Action	2024/2025 Key Accomplishments	
1.1	Continue to monitor the comprehensiveness of driver education curricula, including those that address special education needs.	NC DMV Driver Services collaborated with NC Department of Public Instruction to align driver education and Graduated Licensing programs for young drivers with statutory requirements.	
1.2	Encourage participation in traffic safety education programs through campaign to emphasize inexperience as a risk factor and encourage social norming based on licensing and education data.	NC DMV Driver Services collaborated with NC Department of Public Instruction to ensure driver education and Graduated Licensing programs for young drivers meet statutory requirements.	
		NC DMV Training Division continued to emphasize inexperience risk factors and decreased teen driving fatalities resulting from Graduated Licensing during H584 analysis.	
1.3	Continue to improve instructor training and professional development to encourage consistent delivery of driver education courses.	NC DMV Training Division continued to provide instructor training and professional development focused on business operations, legal updates, and general/adult education strategies.	
1.4	Investigate impacts of changes to the graduated driver licensing system on younger driver fatal and serious injury crashes.	No progress reported this period.	
	Strategy 2: Continue research to better understand the contributing factors in young driver crashes and to identify opportunities to mitigate the problem.		
Supp	orting Action	2024/2025 Key Accomplishments	
2.1	Continue to conduct crash-based analysis of young driver fatal and serious injury crashes to understand contributing factors and identify opportunities for multimodal improvements.	NCDOT TSU continued to maintain an annual map of teen driver crashes.	
2.2	Continue coordination between NCDOT Municipal School Transportation Assistance, school officials, and local municipalities to review and improve safe,	NCDOT TSU and MSTA continued to work together on the SPOT Mobility Program.	





	multimodal school traffic operations, both for new and existing schools.		
Stra	Strategy 3: Educate the public and agency stakeholders on younger driver issues and safe driving habits.		
Sup	porting Action	2024/2025 Key Accomplishments	
3.1	Continue to develop and disseminate educational materials for younger drivers and their	UNC HSRC (supported by NC GHSP) continued to lead the North Carolina Teen Driver Initiative.	
	parents/guardians that explore vehicle safety considerations including vehicle selection (e.g., Insurance Institute for Highway Safety vehicle ratings) and maintenance (e.g., monitoring tire air pressure).	The University Health Systems of Eastern North Carolina (supported by NC GHSP) continued to lead the Distracted Driving in Eastern NC: Expansion in Pitt and Halifax Counties.	
3.2	Continue to develop and implement campaigns for young drivers and their parents/guardians to promote safe driving habits and address the issue of speed and distraction.	SADD (supported by NC GHSP) implemented Strategies in Peer-to-Peer Mobility Safety, with 66 active SADD chapters.  SafeStreet NC (supported by NC GHSP) created the Street Safe Lifesaving Driving Experience to educate teens and young drivers on safe driving practices.	
3.3	Continue to develop and disseminate print and electronic educational materials for young drivers that explain the risks of driving after drinking any amount of alcohol, even below 0.08 BAC, and explain the impact on their license.	NCAST and MADD collaborated on Teen Awareness Week, including social media videos focused on avoiding distraction, obeying traffic laws, and using seat belts.	

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## **Planning for 2025/2026**

The second year of the five-year 2024 Update began in May 2025. This section highlights planned and ongoing efforts, as reported by safety partners, related to implementing the SHSP in 2025 and 2026

### **Action Teams**

In March 2025, the North Carolina Executive Committee for Highway Safety (ECHS) reviewed the safety partner inputs and updated crash data. The ECHS used these data to identify four priority SHSP Emphasis Areas for implementation: Impaired Driving, Safer Speeds, Seat Belts and Car Seats, and Younger Drivers.

In June 2025, nearly 100 safety partners participated in a virtual workshop to review the crash data, safety partner updates, and ECHS priorities. Participants were asked to rank the four topics in order of importance they believed other safety partners would place on the topics. Approximately half of the participants responded to the poll and ranked the Emphasis Areas as follows: (1) Safer Speeds, (2) Impaired Driving, (3) Seat Belts and Car Seats, and (4) Younger Drivers.

The purpose of the two activities was to identify the highest priority Emphasis Areas in North Carolina—in terms of both crash severity/overrepresentation and professional importance. The objective was to select a small set of safety priorities with significant gaps in research, efforts, or knowledge that also have the greatest opportunity for impacting fatalities and serious injuries and a pool of engaged safety partners.

# The Action Teams selected for the second year of the NC SHSP 2024 Update include the following:

- Impaired Driving
- Seat Belts and Car Seats
- Local and Regional Safety

NCDOT, GHSP, and others will engage safety partners across the state to establish Action Teams focused on these topics for the second year of the five year SHSP. Their purpose will be to identify strategies and supporting actions to collectively advance over the next year.

## **Areas of Opportunity**

Safety partners across North Carolina continue to advance safety-related projects, programs, and policies through their ongoing efforts. The following is a selection of SHSP-related efforts that safety partners plan to continue or initiate in the second year of the five-year plan.

## Overall Implementation

Just over 20% of the strategies and supporting actions in the 2024 Update did not have progress reported to date this period. This may be a reflection of underreporting or of a roadblock, such as the strategy lacked a clear champion. As Action Teams build momentum in Year 2, safety partners have the opportunity to continue to reflect on the 2024 Update and review for opportunities to broaden partnerships to expand implementation efforts and the Safe System Approach. Safety

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partners may also review the SHSP and refresh the strategies and supporting actions to reflect the current state of safety.

### Lane Departure

- NCDOT will re-examine guidance regarding paved shoulders for new construction or resurfacing and will issue updates if changes to the guidance are needed.
- NCDOT will continue to support local and regional agencies developing safety action plans and continue to encourage implementation of lane departure countermeasures.
- NCDOT will continue to develop and update the NCDOT website to include new materials on the effectiveness of lane departure countermeasures.
- NCDOT will create maps that show locations of implemented countermeasures.

#### Intersections

- NCDOT will continue to participate in and lead research projects on intersection-related topics.
- NCDOT will increase the distribution of documentation on All-Way-Stop evaluation information, including data sets and evaluation results.
- NCDOT will continue to increase the number of locations with leading pedestrian interval capabilities through the NCDOT and municipal agency partnership.
- NCDOT will continue to promote quick-build projects and summarize results of completed projects.
- NCDOT will continue to provide information on alternative intersection designs, promote safety effectiveness as data become available, and pursue opportunities to engage with the Law Enforcement Liaison to discuss ways to increase engagement with law enforcement officers.
- NCDOT will continue to use the SaFID charts as guidance for intersection design.

## Pedestrians, Bicyclists, Personal Mobility

- NCDOT will revise and update the Pedestrian Crossing Guidance as needed and develop a crosswalk marking policy.
- NCDOT will continue to encourage local agencies to incorporate pedestrian safety considerations into local project reviews.
- NCDOT will continue to evaluate new data sources.

#### Seat Belts and Car Seats

- ITRE will explore the results of the statewide traffic safety culture survey to develop campaigns about seat belts.
- NC GHSP will expand permanent car seat checking stations and increase the number of certified technicians.
- NC GHSP will promote the FY2025 Occupant Protection Strategic Plan to strengthen and maintain North Carolina laws and regulations and identify challenges for law enforcement officers.

## **Substance Impaired Driving**

- Atrium Health will conduct a study on the effectiveness of Screening, Brief Intervention, and Referral to Treatment (SBIRT).
- NC GHSP will continue to promote materials provided by NHTSA.

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- NC GHSP will continue to support standard field sobriety education provided during basic training for law enforcement.
- NC GHSP is exploring establishing a toxicology working group.
- NCDHHS Forensics Tests for Alcohol will launch educational events at military installations.
- NCDHHS Forensics Tests for Alcohol will provide training on substance misuse/abuse and impairment signs and symptoms to law enforcement and prosecutors.
- NCDHHS Forensics Tests for Alcohol plans to increase ARIDE offerings by 40%, focusing on rural areas.

### Safer Speeds

- NCDOT will continue to add routes to the probe speed data set, expand coverage, and monitor data usage, including a statewide speed management program.
- NCDOT will develop a Statewide Speed Management Plan.
- NCDOT will continue completing speed limit reviews through the Secondary Route Safety Program and will monitor progress.
- NC Vision Zero Task Force will explore applications of the results of the work zone effort.
- HSRC will develop guidelines and best practices related to speed safety cameras in school zones.

#### **Older Drivers**

- NCDOT will review roadway design guidance on sight distance and lines of sight at intersections, considering older driver limitations.
- NCDOT will continue to communicate the effectiveness of long-life markings, enhanced signing projects, and rumble strips.
- NC GHSP will initiate conversations with the NC Justice Academy to confirm partnerships on the "Between the Lines" education program.

## Motorcyclists

- NCDOT will publicize maps on motorcycle crashes.
- NC Department of Public Safety and NC GHSP will continue to support BikeSafe NC.

### **Younger Drivers**

- NCDHHS Forensics Tests for Alcohol BAT Mobile program will expand collaboration with programs to engage more with younger drivers.
- NCDMV Driver Services will continue to work with NCDPI on driver education and Graduated Licensing programs.
- NCDMV Driver Services will expand education and awareness of CMVs, including educating younger drivers on how to drive around large trucks.

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## **Key Resources**

## **Lane Departure**

#### NCDOT Safety Countermeasure Glossary (2024)

https://connect.ncdot.gov/resources/safety/TrafficSafetyResources/NCDOT%20Safety%20Countermeasure%20Glossary.pdf

#### **NCDOT Safety Project Evaluations**

https://connect.ncdot.gov/resources/safety/Pages/Safety-Evaluation.aspx

# NCDOT Standard Practice for Milled Rumble Strips/Stripes on Non-Full-Controlled Facilities (2023)

https://connect.ncdot.gov/resources/safety/Teppl/TEPPL%20All%20Documents%20Library/NCDOT%20Rumble%20Strip%20Policy.pdf

### **Intersections**

#### **NCDOT CLEAR**

https://connect.ncdot.gov/projects/Value-Management/CLEAR-Program/Pages/LnL.aspx

# NCDOT Evaluating the Benefits and Drawbacks of Intersections with Three-Phase Traffic Signals (2024)

https://connect.ncdot.gov/projects/research/ResearchAnalysis/RP2023-20\_Final%20Report.pdf

#### NCDOT Guidelines for Leading Pedestrian Interval (LPI) Implementation (2025)

https://connect.ncdot.gov/resources/safety/Teppl/TEPPL%20All%20Documents%20Library/NCDO T%20Leading%20Pedestrian%20Interval%20(LPI)%20Guidance.pdf

#### **NCDOT LPI Case Studies**

https://connect.ncdot.gov/resources/safety/Teppl/TEPPL%20All%20Documents%20Library/NC%20Leading%20Pedestrian%20Interval%20(LPI)%20Case%20Studies.pdf

# NCDOT Research Project 2022-12 Comparing Intersection Safety Performance Using the "20-Flags" Methods and Crash Data (2023)

https://connect.ncdot.gov/projects/research/RNAProjDocs/RP2022-12%20Final%20Report.pdf

## Pedestrians, Bicyclists, and Personal Mobility

#### Bike Durham and Durham Public Schools Safe Routes to School

https://bikedurham.org/safe-routes-to-school

#### NCDOT Environmental Justice / Transportation Disadvantaged Index Tool

https://connect.ncdot.gov/projects/planning/Pages/EJ-TDI-maps.aspx

#### NCDOT Prioritization 8.0 Workgroup Recommendations (2025)

https://www.ncdot.gov/about-us/board-offices/boards/board-transportation/Documents/Prioritization\_8\_Workgroup\_Recommendations.pdf

# NCDOT Research Project 2022-11 Quantification of Systemic Risk Factors for Pedestrian Safety on North Carolina (2022)

https://connect.ncdot.gov/projects/research/RNAProjDocs/RP2022-11%20Final%20Report.pdf

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### **Seat Belts and Car Seats**

NC Department of Insurance Office of State Fire Marshal Child Passenger Diversion Program

https://www.ncosfm.gov/community-risk-reduction/safe-kids/child-passenger-safety

**Safe Kids NC** https://www.ncosfm.gov/community-risk-reduction/safe-kids/safe-kids-nc-information#WhatisSafeKidsNC-1184

Car Seat to Booster https://www.buckleupnc.org/resources/BuckleUpNC\_PostcardESP.pdf

Booster to Belt https://www.buckleupnc.org/resources/BUNC\_BoosterToBeltESP.pdf

**NC Child Passenger Safety Laws & Recommendations** 

https://www.buckleupnc.org/resources/BuckleUpNC\_PostcardESP.pdf

## **Substance Impaired Driving**

NC House Bill 108 The Sober Operator Act of 2025

https://www.ncleg.gov/Sessions/2025/Bills/House/PDF/H108v1.pdf

NC Session Law 2021-182 Senate Bill 183

https://www.ncleg.gov/Sessions/2021/Bills/Senate/PDF/S183v6.pdf

## **Safer Speeds**

NCDOT Developing Guidelines and Documentation of Engineering Studies for Establishing NC Speed Limits (2017)

https://connect.ncdot.gov/projects/research/Pages/ProjDetails.aspx?ProjectID=2017-10

NCDOT Speed Limits <a href="https://www.ncdot.gov/initiatives-policies/Transportation/safety-mobility/speed-limits/Pages/default.aspx">https://www.ncdot.gov/initiatives-policies/Transportation/safety-mobility/speed-limits/Pages/default.aspx</a>

NCDOT Speed a Little. Lose a Lot. <a href="https://www.ncdot.gov/initiatives-policies/safety/speed-a-little-lose-a-lot/Pages/default.aspx">https://www.ncdot.gov/initiatives-policies/safety/speed-a-little-lose-a-lot/Pages/default.aspx</a>

### **Older Drivers**

**AARP Roadmap to Livability Collection** <a href="https://www.aarp.org/livable-communities/tool-kits-resources/info-2017/roadmap-to-livability-collection.html">https://www.aarp.org/livable-communities/tool-kits-resources/info-2017/roadmap-to-livability-collection.html</a>

## **Motorcyclists**

#### **NCDOT Sample Spot Safety Project Evaluation**

https://connect.ncdot.gov/resources/safety/Safety%20Evaluation%20Completed%20Projects/SS %2014-13-216%20Web.pdf

#### NCDOT Standard Specifications for Roads and Structures (2024)

https://connect.ncdot.gov/resources/Specifications/2024StandardSpecifications/2024%20Standard%20Specifications%20for%20Roads%20and%20Structures.pdf