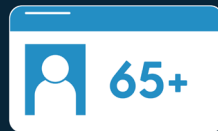




NORTH CAROLINA
Department of Transportation

2024 North Carolina SHSP EMPHASIS AREA ACTION PLANS



The North Carolina Strategic Highway Safety Plan (SHSP) 2024 Update identifies safety problems and opportunities, establishes statewide goals, and outlines implementable solutions for reducing roadway fatalities and serious injuries in North Carolina. The Emphasis Area Action Plans are a component of the North Carolina SHSP and build upon the quick-reference pages that provide the background on the nine emphasis areas. The content was developed through input from and collaboration with the Emphasis Area Working Groups and other safety partners. The purpose of the Emphasis Area Action Plan is to provide safety partners direction for taking actionable steps to improve roadway safety.

The 2024 Emphasis Area Action Plans are presented in order of North Carolina Department of Transportation's Highway Safety Improvement Program priorities followed by magnitude of the safety problem in terms of fatal and serious crashes.

Click on an icon to jump to the
Emphasis Area Action Plan.

2024 North Carolina SHSP 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

How to Use the Emphasis Area Action Plans

The Action Plans contain the following information:

- 1 The **Strategy** details how North Carolina will achieve the objectives of reducing fatalities and serious injuries related to the emphasis area.
- 2 The **Opportunities for Coordination** drives home the redundancy is crucial portion of the Safe System Approach. This row acknowledges efforts may impact other emphasis areas and recommends coordination between specific emphasis area strategies.
- 3 The **Supporting Actions** describes the specific steps needed to implement the strategy. The supporting actions build upon each other, with the goal of creating a Safer System.
- 4 The **Champions** are the agencies, groups, or organizations that have a leadership or supporting role in implementing, monitoring, or measuring the supporting action. The listed champions and supporting actions are not restrictive, any person or agency that is able to help with implementation is encouraged to do so.
- 5 The **Timeline** sets an anticipated timeline to initiate the work; ongoing efforts are noted in this area as well. The estimated dates are guides and much of the work will depend on the status of previous supporting action and evolving safety practice.

LANE DEPARTURE				
1	Strategy 1: Implement lane departure countermeasures.			
	Opportunities for coordination: Older Drivers 1, 2; Motorcyclists 3			
3	Supporting Action	Champion(s)	4	Timeline
	Develop or update design policy to integrate proven lane departure countermeasures and materials in standard design policy.	North Carolina Department of Transportation (NCDOT)		2026
	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) that considers the impacts on safety in North Carolina.	NCDOT		2028
	Implement North Carolina's approach for lane departure countermeasures, where appropriate, including: <ul style="list-style-type: none"> • 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.	Cities, NCDOT, NCDOT Divisions		2029

Acronyms

BAC	Blood Alcohol Concentration
DWI	Driving While Impaired
FHWA	Federal Highway Administration
FTA	Forensic Tests for Alcohol
HSIP	Highway Safety Improvement Program
ITRE	Institution for Transportation Research and Education
LEP	Limited English Proficiency
MPO	Metropolitan Planning Organization
NCAS	North Carolina Alliance for Safe Transportation
NCDMV	North Carolina Department of Motor Vehicles
NC GHSP	North Carolina Governor's Highway Safety Program
NCDPH	Department of Public Health
NCDPI	Department of Public Instruction
NCDOT	North Carolina Department of Transportation
NCHRP	National Cooperative Highway Research Program
NCSHP	North Carolina State Highway Patrol
NC TRCC	North Carolina Traffic Records Coordinating Committee
NHTSA	National Highway Traffic Safety Administration
OEMS	Office of Emergency Medical Services
PBIN	Pedestrian and Bicycle Infrastructure Network
RIRO	Right-in, right-out
RPO	Rural Planning Organization
SRTS	Safe Routes to School
SS4A	Safe Streets and Roads for All
STIP	State Transportation Improvement Program
TAP	Transportation Alternatives Program
TDI	Transportation Disadvantage Index
TIA	Traffic Impact Analysis
TSMO	Transportation Systems Management and Operations
UNC HSRC	University of North Carolina Highway Safety Research Center

Equity Integration

The 2024 SHSP Action Plan was developed with a focus on transportation equity. Data analysis identified the top counties with a high transportation disadvantage index (TDI) value that are also in the top 10 counties for fatal and serious injury crashes and rates within each emphasis area. The TDI identifies communities based on race (Black, Indigenous and Persons of Color), income, personal vehicle access, people with mobility impairments, the elderly, youth, and populations with Limited English Proficiency (LEP). Transportation safety is not just about addressing reported crashes, but also proactively improving safety for those communities who are disproportionately impacted by fatal and severe crashes. The TDI data, combined with the crash data, provide a more complete picture of the identities and locations of those communities. With this understanding, each Emphasis Area Action Plan includes a map highlighting counties with higher proportions of both people at a higher risk and fatal and serious injury crashes.

In planning for implementation, stakeholders can use the 2024 SHSP TDI emphasis area maps (starting on [page 35](#)) to prioritize safety initiative implementation in these areas. During implementation, the unique circumstances and needs of the people in these communities should be considered and can be informed by developing strong local partnerships.

The following is a sampling of considerations related to the TDI elements:



Population age 15 and under

Consider...

- Collaborating with local schools to create youth-focused safety campaigns.
- Coordinating efforts with existing school safety-related programs (e.g., Safe Routes to School).



Population age 65 and over

Consider...

- Partnering with senior-serving facilities, health organizations, and AARP to provide education and outreach on older driver-specific safety messages.
- Including safety improvements proven effective for older adult populations in the project.
- Providing training for EMS and law enforcement officers on the unique needs and challenges of older adults, specifically in areas with disproportionately high populations of adults over 65.



People in poverty below 150% of poverty line

Consider...

- Partnering with community organizations to pursue grants and other funding sources to make safety equipment (e.g., bicycle helmets, car seats) more accessible to low-income road users.



Zero-vehicle households

Consider...

- Prioritizing safety projects that promote connectivity and protection for non-motorized road users.
- Analyzing data on land use, destinations, transit, connectivity, and people living in zero-vehicle households in the project area.



Adult population with a disability

Consider...

- Implementing improvements, signage, markings, or pathways designed with persons with disabilities in mind.
- Engaging with disabled persons or disability advocacy organizations to develop design standards.
- Conducting an accessibility audit that identifies accessibility deficiencies and partnering with local and regional agencies and advocacy groups to address identified deficiencies.
- Partnering with transportation agencies to confirm transit stops are safe and accessible.



Black, Indigenous, and Persons of Color (BIPOC) population

Consider...

- Thinking critically about who is delivering the intended message or asking questions of minority or minority-majority communities, as well as the community resources that are helping facilitate that outreach.
- Engaging with local community organizations, leaders, and residents to gain direct insight into the specific challenges/needs/concerns.
- Tailoring messages and interventions to community-specific safety.
- Prioritizing infrastructure improvements in communities where roadway projects have had adverse impacts such as widened roads or roads with fast moving traffic and truck traffic built within neighborhoods.



Limited English Proficiency (LEP) households

Consider...

- Producing outreach and educational materials in multiple languages.
- Partnering with organizations that serve communities that speak limited English to understand the unique transportation challenges of LEP households.
- Translating essential safety information, signage, and transportation-related communications into multiple languages.
- Training local EMS and law enforcement on the unique needs and challenges of individuals with LEP.



Overarching

Consider...

- Feedback from communities/individuals on specific initiatives may reflect broader concerns (such as displacement, employment, health concerns, etc.). This is an opportunity to engage other local, regional, and state agencies/resources to make sure those concerns are heard and addressed through the implementation process.

Among the top-ranking counties for population weighted TDI, **Cumberland County** is in the top ten for both the number of fatal and serious crashes and crash rates for all nine emphasis areas. **Robeson County** is second with eight emphasis areas, followed by **McDowell County** with six. Considering these findings, state, regional, and local stakeholders could collaborate to initiate targeted and comprehensive high-visibility safety campaigns tailored to each county's unique circumstances and needs.

Prioritizing countermeasure implementation in these counties first is important in driving the effectiveness of these campaigns and, subsequently, reducing the rate of fatal and serious injury. This inclusive and strategic approach, grounded in data, affirms North Carolina's commitment to transportation equity, making safety a tangible reality for all road users, regardless of social or economic well-being or geographic location.



LANE DEPARTURE

EA 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.

EA GOAL: Reduce lane departure-related fatalities and serious injuries by half by 2035, moving towards zero by 2050.

The Crossroads of Data and Vision

Detailed data analysis revealed the following key contributing factors to crashes involving lane departure:¹

- 76% of lane departure fatal and serious injury crashes occur in rural areas; 64% of which involve a fixed object.
- 53% of rural, two-lane fatal and serious injury lane departure crashes occurred on a curve.
- 62% of all motor vehicle fatalities involve lane departure.
- 54% of all teen motor vehicle fatalities involve lane departure.

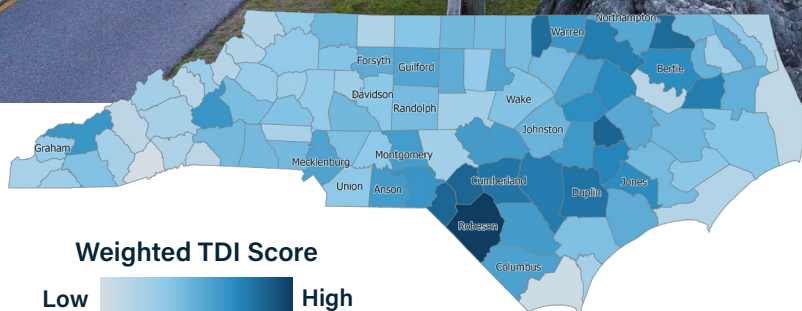
Stakeholders' vision of addressing lane departure in North Carolina included:

- Continue improving data quality and analysis to identify contributing factors in lane departure crashes and the impact of interventions to address such crashes.
- Implement effective, safe road design and traffic control with the latest technological innovations.
- Manage travel speeds to reduce the amount of kinetic energy in crashes, thereby increasing the likelihood of crash survivability.
- Increase coordination among organizations, particularly between statewide and regional and local entities to enhance project identification and prioritization.
- Promote safe road user behavior through outreach and training programs.

1 NC Crash Database as of 04/14/24



Image Credit: VisitNC.com



Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.



LANE DEPARTURE

Strategy 1: Implement lane departure countermeasures.

Opportunities for coordination: Motorcyclists 3; Older Drivers 1, 2

Supporting Action	Champion(s)	Timeline
Develop or update design policy to integrate proven lane departure countermeasures and materials in standard design policy.	North Carolina Department of Transportation (NCDOT)	2026
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) that considers the impacts on safety in North Carolina.	NCDOT	2028
Implement North Carolina's approach for lane departure countermeasures, where appropriate, including: <ul style="list-style-type: none">▪ 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.	Local Agencies, NCDOT, NCDOT Divisions	2029



Strategy 2: Continue research to better understand the contributing factors in lane departure crashes and to identify opportunities to mitigate the problem.

Opportunities for coordination: Motorcyclists 2; Safer Speeds 2

Supporting Action	Champion(s)	Timeline
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.	MPOs, NCDOT, RPOs	2024
Review crash data collection practices to identify and implement improvements in methods (e.g., crash geo-location) or additional data fields needed to address lane departure crashes.	Law Enforcement Agencies, NCDOT	2025

Strategy 3: Conduct outreach to educate the public, agencies, and officials on critical issues related to lane departure crashes.

Opportunities for coordination: Intersections 1, 5; Safer Speeds 3

Supporting Action	Champion(s)	Timeline
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	2024
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.	MPOs, NCDOT, RPOs	2024
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, NC State Institution for Transportation Research and Education (ITRE)	2024



INTERSECTIONS

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

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

The Crossroads of Data and Vision

Detailed data analysis revealed the following characteristics and key contributing factors to crashes involving intersections:²

- In 2023, left-turn crashes (31%) and angle crashes (29%) were the most prevalent crash type for fatalities and serious injuries at intersections.
- For two- and four-lane roads, 31% of intersection crashes occur on a roadway with a posted speed limit of 55 mph or higher, but these same roads account for 54% of fatal and serious injury crashes (2018 to 2022).
- Fatal and serious injury intersection crashes are overrepresented for roads functionally classified as a collector. These are roads that provide connection or circulation between residential, commercial, and/or industrial areas and arterials (i.e., urban and rural roads that provide a high level of mobility, with relatively higher volumes and speeds) (2018 to 2022):
 - Major collectors account for 13% of total crashes, but 18% of fatal and serious injury crashes.

- Minor collectors account for 2% of total crashes, but 4% of fatal and serious injury crashes.
- Combined, both major and minor collectors account for 15% of total crashes, but 22% of fatal and serious injury crashes.

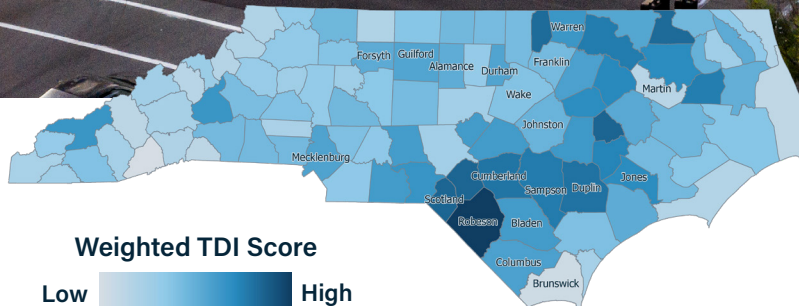
Stakeholders' vision of intersection safety in North Carolina included:

- Reduce frequency and severity of intersection crashes.
- Slow speeds to minimize the impact of a crash if it does occur.
- Implement low-cost, quick-build intersection designs and countermeasures with proven safety effectiveness and consider all roadway users.
- Increase awareness and reduce aggression between all users of the roadway.
- Provide education and training for public acceptance and understanding of intersection design, and for transportation professionals in state-of-the-practice methods and tools.

2 NC Crash Database as of 04/14/24



Image Credit: VisitNC.com



Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.



INTERSECTIONS

Strategy 1: Increase implementation of all-way stop intersections at appropriate locations.

Opportunities for coordination: Lane Departure 3, Older Drivers, Safer Speeds 2

Supporting Action	Champion(s)	Timeline
Implement North Carolina's approach for the use of the all-way stop countermeasure.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2024
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.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2024
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, NCDOT Divisions	2026

Strategy 2: Consider the exposure of pedestrians, bicyclists, and users of personal mobility when designing intersections and manage speeds at conflict points.

Opportunities for coordination: Older Drivers 1; PBPM 1, 2; Safer Speeds 1, 2

Supporting Action	Champion(s)	Timeline
Establish and communicate an approach for implementing or reconfiguring channelized right-turn lanes at appropriate locations to control speeds.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2024
Establish and communicate an approach for using the NCDOT Demand Estimation Map and the 20 flags method discussed in <i>NCHRP 948 Guide for Pedestrian and Bicyclist Safety at Alternative and Other Intersections and Interchanges</i> in intersection design and operations efforts.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2025
Establish and communicate an approach to using leading pedestrian intervals in the State.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2025
Support and encourage research at the national level (including National Cooperative Highway Research Program (NCHRP) or federal pooled fund studies) on the use of permissive left-turn phasing and the impact on those walking and bicycling.	Local and Regional Agencies, NCDOT, NCDOT Divisions, Universities	2027



Leverage national research on the safety effectiveness of right turn on red restrictions to establish North Carolina's approach for this countermeasure and communicate that approach.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2026
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Review the traffic impact analysis (TIA) process to identify opportunities to incorporate both safety and capacity considerations for all modes of transportation.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2028
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Strategy 3: Increase implementation of quick-build intersection safety countermeasures.

Opportunities for coordination: Older Drivers 1; Safer Speeds 2, 3

Supporting Action	Champion(s)	Timeline
Promote local Traffic Safety Task Forces as noteworthy practices (e.g., Greenville, Robeson County) to help garner support for highway safety efforts from the community including local businesses.	Federal Highway Administration (FHWA) NC Division, NC Governor's Highway Safety Program (NC GHSP), Local and Regional Agencies, NCDOT, NCDOT Divisions	2024
Engage NCDOT Divisions to gain buy-in, using lessons learned from NCDOT's Interim Design Safety Pilot Program.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2024
Document and communicate the process for quick-build countermeasures on State and local roadways, such as curb extensions, right-in right-out (RIRO), flexible delineators posts, transverse rumble strips at 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.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2025
Measure effectiveness of quick-build countermeasure installations and use successes to develop case studies for other local agencies in the State.	Implementing Agencies including the City of Greensboro, NCDOT, NCDOT Divisions	2026



Strategy 4: Support ongoing and new campaigns for public acceptance of intersection safety treatments and designs.

Opportunities for coordination: Older Drivers 1; Safer Speeds 2, 3

Supporting Action	Champion(s)	Timeline
Continue to support and promote the use of restricted crossing intersections (RCIs) to reduce vehicle conflicts at intersections.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2024
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.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2024
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 Divisions, NCDOT Traffic Safety Unit	2026

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

Opportunities for coordination: Lane Departure 3; Motorcyclists 2; Pedestrians, Bicyclists, and Personal Mobility 1, 2; Seat Belts and Car Seats 1, Safer Speeds 2

Supporting Action	Champion(s)	Timeline
Leverage existing knowledge sharing platforms, such as NCDOT's <u>CLEAR Program</u> to disseminate information.	NCDOT	2024
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.	GHSP, ITRE, NCDOT	2024
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.	Local and Regional Agencies, NCDOT, NCDOT Divisions	2024
Organize an educational series on <u>NCHRP Research Report 1087</u> regarding Intersection Control Evaluation (ICE).	Local and Regional Agencies, NC Conservation Network, NCDOT, NCDOT Divisions	2025
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.	Local and Regional Agencies, NC Conservation Network, NCDOT, NCDOT Divisions	2028



PEDESTRIANS, BICYCLISTS, AND PERSONAL MOBILITY

EA 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.

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

The Crossroads of Data and Vision

Detailed data analysis and results from the VRUSA revealed the following key contributing factors to crashes involving pedestrians, bicyclists, and personal mobility users:³

- 46% of fatal or serious injury pedestrian and bicyclist crashes occurred on arterial roadways, while only 8% of road miles in North Carolina are classified as arterials.
- 73% of fatal or serious injury pedestrian and bicyclist crashes occurred at non-intersection locations, such as along roadways or crossing midblock.
- 69% of fatal or serious injury pedestrian and bicyclist crashes occurred in non-daylight conditions.

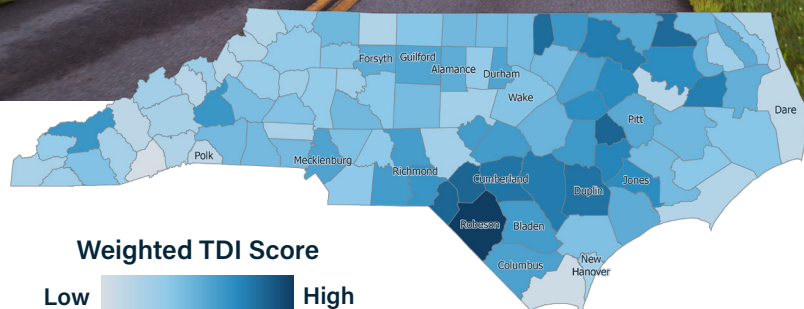
Stakeholders' vision of pedestrian, bicyclist, and personal mobility safety in North Carolina included:

- Increase communication and collaboration between state, regional, and local agencies, as well as advocacy groups and other organizations, in improving pedestrian, bicyclist, and personal mobility safety.
- Explore and use innovative data sources, tools, and analysis methods.
- Find solutions to common obstacles to funding pedestrian, bicyclist, and personal mobility safety projects.
- Educate and interface with key populations, including law enforcement officers, elected officials, and students.

3 NC Crash Database as of 04/14/24



Image Credit: VisitNC.com



Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.



PEDESTRIANS, BICYCLISTS, AND PERSONAL MOBILITY

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. Many of the strategies and supporting actions developed by the SHSP Emphasis Area Working Group complement or mirror those strategies, as indicated within the Pedestrians, Bicyclists, and Personal Mobility Action Plan table.

Strategy 1: Develop and adopt formal policies, practices, and guidance documents supporting the implementation of pedestrian- and bicyclist-focused safety improvements.

Opportunities for coordination: [Intersections 2](#)

Supporting Action	Connection to VRUSA	Champion(s)	Timeline
Develop and apply guidance for including bicyclist and pedestrian safety improvements at signalized intersections, including but not limited to the following features: <ul style="list-style-type: none">▪ Bicycle signals▪ Bicycle detection▪ Leading Pedestrian Interval▪ Exclusive pedestrian phases▪ Right Turn on Red restrictions▪ Left-Turn Phasing	1.1, 4.2, 5.1	Local Agencies, NCDOT Mobility and Safety Division	2025
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.	4.1	NCDOT	2025
Integrate multimodal safety considerations into TIAs and other routine congestion management analyses using a model Safe System Approach-aligned methodology.		City of Greensboro, University of North Carolina Highway Research Center (UNC HSRC)	2026



Strategy 2: Improve pedestrian, bicyclist, and personal mobility data collection practices to support safety analysis and decision-making.

Opportunities for coordination: Intersections 2, 5; Safer Speeds 5

Supporting Action	Connection to VRUSA	Champion(s)	Timeline
Review the <u>Pedestrian and Bicycle Infrastructure Network (PBIN)</u> framework and identify missing components. Update and maintain the PBIN as an inventory of existing conditions for planning safety improvements.	6.1	NCDOT Integrated Mobility Division, NCDOT Traffic Safety Unit	2025
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.	6.4	NCDOT Integrated Mobility Division, UNC HSRC	2026
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.		BikeWalkNC, NC Department of Motor Vehicles (NCDMV), NC GHSP, UNC HSRC	2027

Strategy 3: Improve funding and project development strategies that support effective multimodal safety infrastructure.

Opportunities for coordination: Safer Speeds 3; Younger Drivers 2

Supporting Action	Connection to VRUSA	Champion(s)	Timeline
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 Transportation Alternatives Program (TAP) and the Highway Safety Improvement Program (HSIP).		GHSP, NC Department of Public Instruction (DPI), NCDOT	2024
Develop guidance on the use of various funding sources (TAP, Community Multiscale Air Quality Model [CMAQ], STIP, HSIP) for safety project. Work with the SPOT workgroup to review the project prioritization process for opportunities to prioritize safety projects.		City of Greenville, Local Agency Partners, NCDOT Planning and Programming Division	2025
Work with lawmakers to amend the Strategic Transportation Investments (STI) legislation to increase flexibility of NCDOT funding for bicyclist and pedestrian safety needs.		AARP, BikeWalkNC, NC Conservation Network	2025



Strategy 4: Explore, demonstrate, and implement innovative and emerging tools to support improving safety for pedestrians, bicyclists, and users of personal mobility devices.

Opportunities for coordination: Safer Speeds 3; Younger Drivers 1

Supporting Action	Connection to VRUSA	Champion(s)	Timeline
Develop formal guidance on the use of tools such as the NCDOT <u>TDI</u> in planning, prioritization, and review of NCDOT projects to include bicycle and pedestrian safety improvements.	4.1	NCDOT Integrated Mobility Division	2025
Develop a statewide community of practice for collaborating with other disciplines (e.g., healthcare, higher education) to review grants and alternative funding sources, increase awareness, identify and navigate obstacles, and incorporate innovative solutions for pedestrian and bicyclist safety.	3.3	City of Charlotte, NCDOT, NC Vision Zero Task Force, UNC HSRC, Universities and Colleges	2026

Strategy 5: Develop and promote public education programs that support education for all road users on safety for pedestrians, bicyclists, and personal mobility users.

Supporting Action	Connection to VRUSA	Champion(s)	Timeline
Develop a comprehensive education program that includes teaching walking, bicycling, and bus safety skills. Determine the cost of implementation and conduct a pilot in five school districts.		NC Department of Public Instruction (NCDPI), UNC HSRC	2026
Incorporate interactions with pedestrians, bicyclists, and users of personal mobility in the driver education curriculum.		BikeWalkNC, NCDPI	2027



SEAT BELTS AND CAR SEATS

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

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

The Crossroads of Data and Vision

Detailed data analysis revealed the following key contributing factors to crashes involving unrestrained or improperly restrained occupants:

- The 2023 North Carolina Seat Belt Study observed a 92.2% combined driver and front right seat passenger seat belt usage rate, up from 88.4% in 2019.⁴
- FARS data between 2017 and 2021:⁵
 - 46% of passenger occupants and 44% of drivers killed were unrestrained.
 - 49% of male vehicle occupants killed were unrestrained.
 - 47% of children 20 years and younger killed were unrestrained.
- In 2021, 51% of pickup truck occupants killed were unrestrained.⁶

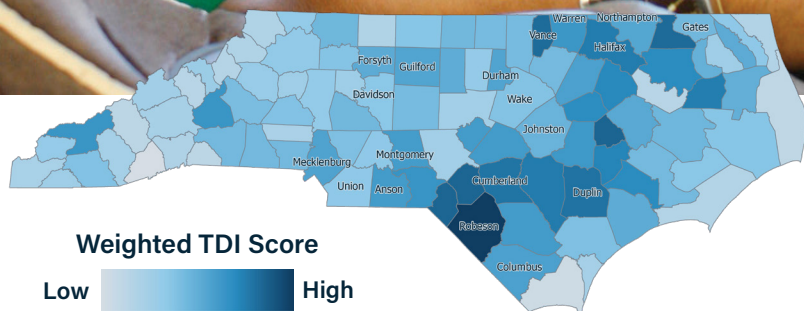
Stakeholders' vision of increased seat belt and car seat usage in North Carolina included:

- Increase proper use of restraints for all occupants, regardless of the seat position or vehicle type.
- Promote more access to education about appropriate types of car seats and proper installation.
- Increase access to free car seats as part of recidivism efforts.

⁴ <https://www.clickitorticket.org/Style%20Library/assets/nc-seat-belt-survey-2023.pdf>

⁵ FARS (2017 - 2021)

⁶ <https://cdan.dot.gov/DataVisualization/DataVisualization.htm>



Weighted TDI Score

Low High

Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.



SEAT BELTS AND CAR SEATS

Strategy 1: Increase seat belt use and car seat use statewide.

Opportunities for coordination: Intersections 5

Supporting Action	Champion(s)	Timeline
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.	FHWA Division Office, Municipal EMS, NC Vision Zero Task Force	2025
Develop and promote sample workplace seat belt policy language for public agencies and private business with fleet vehicles and promote to relevant organizations.	VHB	2025
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: <ul style="list-style-type: none">▪ Children 8-15 years old▪ Immigrant and LEP populations▪ Over-occupied vehicles▪ Commercial vehicles	Chamber of Commerce, NC GHSP, UNC HSRC, ITRE, NC Department of Insurance, NC Trucking Association, NHTSA, NC State Highway Patrol (NCSHP)	2027
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.	NC GHSP, Law Enforcement	2028



Strategy 2: Strengthen state-wide Child Passenger Safety Program.

Supporting Action	Champion(s)	Timeline
Increase awareness of State resources and consolidate resources as able (i.e., buckleupnc.org and the Vision Zero data visualization dashboards).	ITRE, NC Child Fatality Task Force, NC Occupant Protection Task Force	2026
Identify resource gaps in Child Passenger Safety educational materials and create materials to address that gap (e.g., Spanish and Mandarin language materials).	NC GHSP, Safe Kids North Carolina, UNC HSRC	2027
Increase the number of Child Passenger Safety Technicians and Programs, particularly through healthcare providers, schools, and religious organizations, with a specific focus on underserved communities (i.e., those without sufficient Child Passenger Safety resources).	NC GHSP, NC Council of Churches, Safe Kids North Carolina, UNC HSRC	2028
Provide opportunities for Child Passenger Safety Technicians to earn continuing education credits needed to maintain certification and continue to provide high-quality education.	GHSP, Safe Kids North Carolina, UNC HSRC	2028

Strategy 3: Improve Child Passenger Safety outreach to at-risk and underserved communities.

Supporting Action	Champion(s)	Timeline
Determine the impact of the Infrastructure Investment and Jobs Act (IIJA) on funding to purchase car seats for distribution.	NC GHSP, Safe Kids North Carolina	2025
Encourage expansion of the Child Passenger Safety Diversion Program to additional counties.	NC Conference of District Attorneys, NC GHSP, Safe Kids North Carolina	2026
Develop a tracking mechanism for monitoring the number of families that receive the diversion and determine other measures of success.	NC Conference of District Attorneys, NC GHSP, Safe Kids North Carolina	2026
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).	NC GHSP, NC Child Fatality Task Force, NC Occupant Protection Task Force, Safe Kids North Carolina, UNC HSRC	2027
Increase distribution of Child Passenger Safety materials to non-traditional partners (e.g., schools, daycares, aftercare programs, and other youth-focused organizations).	NC GHSP, Safe Kids North Carolina, UNC HSRC	2028



SUBSTANCE IMPAIRED DRIVING

EA DEFINITION: Crashes that involve a driver in which alcohol or drug impairment is suspected or detected.

EA GOAL: Reduce substance impaired driving-related fatalities and serious injuries by half by 2035, moving towards zero by 2050.

The Crossroads of Data and Vision

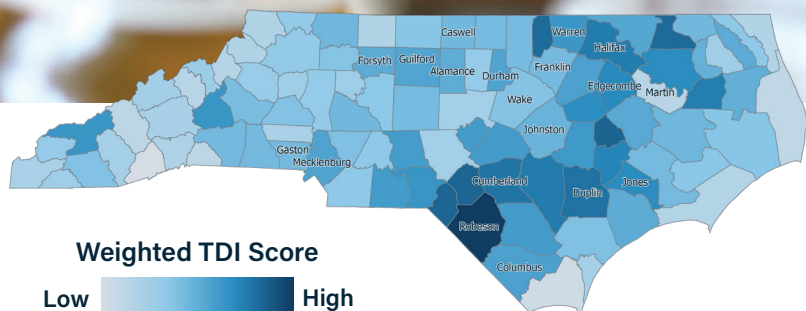
Detailed data analysis revealed the following key contributing factors to crashes involving substance impaired driving:⁷

- 84% of substance impaired crashes involved alcohol.
- 85% of substance impaired fatal and serious injury crashes involved alcohol.
- 23% of substance impaired crashes involved drugs.
- 26% of substance impaired fatalities and serious injuries involved drugs.

Stakeholders' vision of reduced substance impaired crashes in North Carolina included:

- An educated public that understands how substances impact the ability to walk, bike, or drive even when below the legal limit.
- Enhance prosecutor and law enforcement officer training to properly identify and report alcohol and drug impairment on the NCDMV short form.
- Lower the 0.08 blood alcohol concentration (BAC) limit and establish limits for THC levels while driving.
- Strengthen the use of ignition interlock devices for any Driving While Impaired conviction.
- Improve trauma center and crash data integration to reduce recidivism.

7 NC Crash Database as of 04/14/24



Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.



SUBSTANCE IMPAIRED DRIVING

Strategy 1: Work with the North Carolina Governors Highway Safety Program to educate the public on the risks of impaired driving.

Opportunities for coordination: Younger Drivers 3

Supporting Action	Champion(s)	Timeline
Partner with military bases in North Carolina and provide educational materials on the risks of impaired driving.	NC GHSP, NC Department of Military & Veterans Affairs	2024
Partner with cities/towns within North Carolina who have a Sip and Stroll community (i.e., allow pedestrians to walk with alcohol within a boundary) and distribute educational material on impairment and planning for safe transportation.	Atrium Health, NC GHSP, NC League of Municipalities	2025
Collaborate with NHTSA and disseminate materials they have available on the effects of "buzzed" driving.	NC GHSP	2025
Partner with cities/towns within North Carolina with a Sip and Stroll or Main Street community and encourage 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.	NCDOT	2026

Strategy 2: Increase training for prosecutors and law enforcement officers on different forms of impaired driving.

Supporting Action	Champion(s)	Timeline
Provide education to prosecutors and law enforcement officers on the medical effects of substance use disorder and alcohol use disorder.	Atrium Health, Conference of District of Attorneys, NC GHSP, NCDPH	2024
Continue programs that provide law enforcement training on impairment.	NC GHSP, UNC HSRC, ITRE	2024
Train local hospital staff and primary doctors to fill out and suggest a referral with the North Carolina Crash Report Form DMV-349 to a more formal behavioral health assessment.	Atrium Health, Level 1 Trauma Centers	2026



Strategy 3: Increase the number of drug recognition experts (DREs) across the State.

Supporting Action	Champion(s)	Timeline
Updated basic law enforcement training to include standardized field sobriety testing.	North Carolina Criminal Justice Education and Training Standards	2025
Increase the number of Drug Recognition Experts (DREs) in rural areas across North Carolina.	Chiefs of Police, Forensic Tests for Alcohol (FTA), NC GHSP, North Carolina Sheriffs' Association	2026
Expand the advanced roadside impaired driving enforcement (ARIDE) training to focus on all types of impairment, not solely alcohol.	FTA, NC GHSP, North Carolina Sheriffs' Association, North Carolina Association of Chiefs of Police	2027

Strategy 4: Strengthen intervention policies to reduce recidivism.

Supporting Action	Champion(s)	Timeline
Provide support for ignition interlock for any DWI conviction.	NC GHSP, Mothers Against Drunk Driving (MADD), NC Alliance for Safe Transportation (NCAST)	2024
Expand screening and intervention services to identify current at-risk drivers in hospitals to reduce recidivism.	Atrium Health, NC GHSP, Level 1 Trauma Centers	2026
Include the blood alcohol concentration and substance use data in the North Carolina trauma database.	Atrium Health, NC Division of Public Health	2027

Strategy 5: Research lowering BAC levels for driving in North Carolina.

Supporting Action	Champion(s)	Timeline
Study other states (e.g., Utah) or other countries that have lowered the BAC and compare their crash rates.	Atrium Health, Independent Insurance Agents of NC	2025
Work with NCDMV, the Administrative Office of the Courts, and other agencies that are potentially impacted by BAC change to gather input and work together on potential changes.	Atrium Health	2026



SAFER SPEEDS

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

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

The Crossroads of Data and Vision

Detailed data analysis revealed the following key contributing factors to crashes involving speed:

- 69% of unbelted, speed-related fatalities and serious injuries occurred in rural areas.⁸
- In 2022, 22% of speeding drivers involved in fatal crashes had a BAC of 0.15 or higher.⁹
- Between 2018 and 2022, 36% of speeding drivers involved in fatal crashes had a previous recorded crash.¹⁰
- 49% of male and 38% of female drivers aged 15 to 20 and killed in fatal crashes were speeding.¹¹

Stakeholders' vision of safer speeds in North Carolina included:

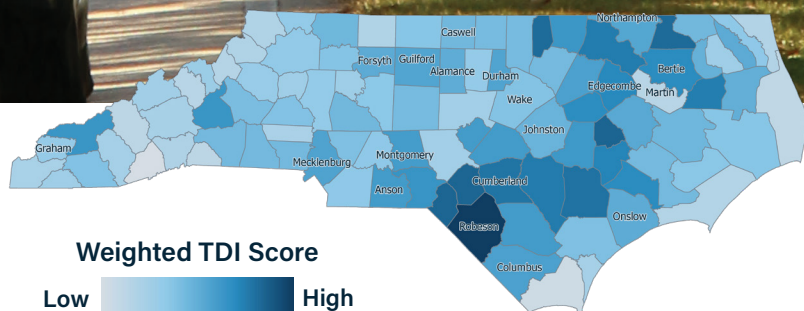
- Create a system that encourages slower speeds, and behavior change will follow.
- Invest in self-explaining roadways, rather than reliance on deterrence alone.
- Train and educate engineers, planners, and decision-makers on selecting appropriate speeds for the context.
- Improve and expand speed data collection to inform decision-making.
- Adopt speed safety cameras as an effective tool to supplement enforcement practices and other speed management strategies.

8 NC Crash Database as of 04/14/24

9 FARS (2022)

10 FARS (2018 to 2022)

11 FARS (2018 to 2022)



Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.



SAFER SPEEDS

Strategy 1: Improve speed-related data collection, completeness/coverage, accessibility, and applications.

Opportunities for coordination: Motorcyclists 2; Pedestrians, Bicyclists, and Personal Mobility 2

Supporting Action	Champion(s)	Timeline
Continue to acquire/collect statewide probe speed data and use the data to inform decisions, including disseminating information to partners.	NCDOT	2024
Communicate and implement North Carolina's approach to speed countermeasures.	NCDOT	2025
Encourage local enforcement agencies within United States Department of Transportation (USDOT) SS4A grant recipient communities to explore collection and use of citation data in local safety action planning activities.	FHWA North Carolina Division Office	2025
Review existing speed-related data sources (e.g., probe data, location specific speed data) to identify data collection gaps. Map the results to fatal and serious injury crashes to prioritize data collection efforts.	NC Traffic Records Coordinating Committee (TRCC)	2026

Strategy 2: Use data analysis to identify and address speed-related issues.

Opportunities for coordination: Lane Departure 2; Motorcyclists 2; Pedestrians, Bicyclists, and Personal Mobility 2

Supporting Action	Champion(s)	Timeline
Conduct systemic analysis using integrated datasets (e.g., speed, crash, roadway, citation data) to identify 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).	NCDOT	2026
Share speed-related safety issues (e.g., maps of crash or citation locations, dashboards, etc.) with state, regional, and local stakeholders (planners, engineers, law enforcement, and public outreach) for use in decision-making.	Greensboro DOT, NCDOT	2027
Determine appropriate proven safety countermeasures for systemic and spot improvement locations. Communicate and implement the approach for those countermeasures.	Greensboro DOT, NCDOT	2027
Evaluate the effectiveness of implemented speed countermeasures.	NCDOT	2029



Strategy 3: Enhance state-local partnerships in addressing speed-related issues.

Opportunities for coordination: Intersections 2; Lane Departure 3; Younger Drivers 3

Supporting Action	Champion(s)	Timeline
Develop and disseminate tools to educate the public on the safety impacts of speeding.	NCDOT	2025
Develop and implement local/regional speed management plans and prioritize proven safety countermeasures that reduce travel speeds on high-risk roadways.	FHWA NC Division Office, NCDOT	2026
Identify statewide speed limit setting practices. Use that information to develop and implement a consistent statewide approach to reviewing and setting context-appropriate speed limits, using state and national noteworthy practices (e.g., USLIMITS2) as a starting point.	NCDOT	2026
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.	NCDOT Divisions	2026

Strategy 4: Implement and expand the use of available technology options to enforce and limit speeds for highway safety in North Carolina.

Opportunities for coordination: Pedestrians, Bicyclists, and Personal Mobility 3

Supporting Action	Champion(s)	Timeline
Explore the feasibility of automated speed enforcement in North Carolina, starting with work zones and school zones.	NC District Attorneys Office, NC GHSP, NC Vision Zero Task Force	2026
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).	NCDOT	2027
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).	NCDOT	2027

OLDER DRIVERS

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

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

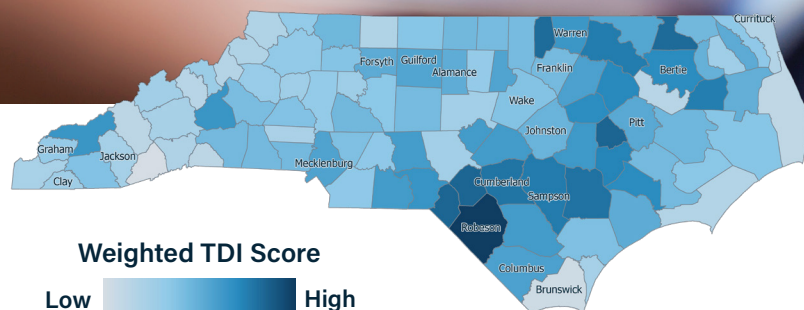
The Crossroads of Data and Vision

Detailed data analysis revealed the following key contributing factors to crashes involving older drivers:¹²

- 64% of older driver fatal and serious injury crashes occur in rural areas.
- 33% of older driver fatal and serious injury crashes occurred at intersections, and 36% of those were left turns.
- 20% of distracted driving crashes involved an older driver.
- 14% of bicyclist involved crashes involved an older driver.

Stakeholders' vision of older driver safety in North Carolina included:

- Continue improvements to programs to address medically at-risk older drivers.
- Strengthen programs to provide training for older drivers.
- Promote greater awareness of older driver issues through outreach and training programs.
- Implement roadway design that accounts for the abilities of older drivers.



Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.

12 NC Crash Database as of 04/14/24



OLDER DRIVERS

Strategy 1: Design a roadway system that better accommodates the needs of older drivers.

Opportunities for coordination: Lane Departure 1

Supporting Action	Champion(s)	Timeline
Conduct systemic analysis and screening to identify and address high-risk locations for older drivers.	NCDOT	2024
Communicate and implement North Carolina's approach to designing crash countermeasures that accommodate older drivers.	Local Agencies, NCDOT	2025
Implement proven design practices to accommodate older road users, such as those from FHWA's <u>Handbook for Designing Roadways for the Aging Population</u> and NHTSA's <u>Countermeasures That Work</u> .	NCDOT	2029

Strategy 2: Implement strategies and programs that assess cognitive abilities of older drivers and identify adequate alternatives to driving.

Supporting Action	Champion(s)	Timeline
Monitor and support research on older drivers and medically-at-risk drivers.	NC GHSP, NC Coalition on Aging, Universities and Colleges	2024
Improve monitoring and assessment activities for at-risk drivers, working with the medical review program.	NCDMV, NCDOT	2026
Implement proven assessment tools that identify medically at-risk drivers as part of a fair and evidence-based licensure process.	NC GHSP, Universities and Colleges	2029



Strategy 3: Educate older drivers on factors that increase crash risk and alternatives to driving.

Supporting Action	Champion(s)	Timeline
Provide resources and guidance to older drivers for prolonging driving lifetime and managing risk.	NC GHSP, NC Coalition on Aging	2025
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.	NC GHSP, NC Coalition on Aging	2026
Provide resources to guide the medically at-risk and/or older drivers through the process of determining fitness to drive, including the medical review process of NCDOT.	NCDOT	2029
Prioritize transit and alternative transportation options in locations with high concentrations of older adults.	NCDOT	2029

Strategy 4: Educate the public and agency stakeholders on older driver issues.

Supporting Action	Champion(s)	Timeline
Provide training to law enforcement agencies on interacting with older drivers and identifying physical and cognitive deficiencies affecting safe road use.	NC GHSP	2029
Provide education and counseling to older patients who have been hospitalized after an at-fault crash, partnering with injury prevention coordinators and medical staff.	NCDPH	2029
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.	NCDMV, NC GHSP, NC Coalition on Aging	2029



MOTORCYCLISTS

EA 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.

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

The Crossroads of Data and Vision

Detailed data analysis revealed the following key contributing factors to crashes involving motorcyclists:¹³

- 59% of motorcyclist fatalities occurred outside an intersection.
- 36% of motorcyclists were killed in a curve.
- 49% of all motorcyclist crashes occurred in rural areas, but represent 63% of fatal and serious injury motorcyclist crashes.
- 91% of motorcyclists killed were helmeted.¹⁴

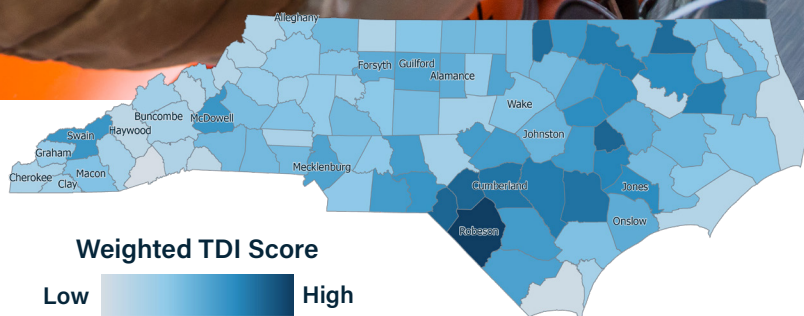
Stakeholders' vision of motorcyclists' safety in North Carolina included:

- Enhance officer training to better understand the nuances of motorcyclist crashes and contributing factors.
- Improve data governance and data collection that will contribute to comprehensive datasets and a data quality management program on motorcyclist behaviors and characteristics.
- Establish infrastructure and maintenance practices that consider the unique needs of motorcycles.
- Create safer riders by expanding existing training to account for riding different bikes and differing levels of experience.
- Promote safe rider practices, like proper helmet use and use of personal protective equipment (PPE).

13 NC Crash Database as of 04/14/24
14 FARS (2018-2022)



Image Credit: VisitNC.com



Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.



MOTORCYCLISTS

Strategy 1: Build a foundation to strengthen motorcycle endorsement/training practices, legislation, and policy.

Supporting Action	Champion(s)	Timeline
Create a Motorcycle Safety Council or working group to lead motorcyclist-safety related initiatives in North Carolina.	Bike Safe, NCDMV, NC GHSP, Universities and Colleges, NCSHP	2025
Support graduated motorcycle licensing in North Carolina based on effective practices from other countries and States.	NC GHSP, Motorcycle Safety Council (once established)	2027
Partner with insurance agencies to explore new and promote existing incentives for licensing, endorsements, and safety courses.	Independent Insurance Agents of NC, Motorcycle Safety Council (once established), NCAST	2028

Strategy 2: Improve data collection to better understand motorcycle crash and injury contributing factors.

Opportunities for coordination: Intersections 5; Safer Speeds 2; Lane Departure 2

Supporting Action	Champion(s)	Timeline
Update law enforcement training on motorcycle crash investigations to improve diagnosis of crash and severity contributing factors.	Justice Academy, Office of Emergency Medical Services (OEMS), NCSHP	2025
Conduct systemic analysis to identify factors and priority locations associated with motorcycle crashes.	NC GHSP, NCDOT, NCSHP	2026
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 Plans, law enforcement liaisons).	County Coordinators, EMS, NC GHSP, Justice Academy, Law Enforcement Liaison Networks/Coordinator, NCSHP	2026
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). Track outcomes with the National EMS Information System (NEMSIS) dataset.	OEMS, NCSHP, State and Regional	2026



Partner with insurance agencies to establish a tracking mechanism for the safety courses taken by riders.	NC GHSP, Independent Insurance Agents of NC, NCAST, NCTRCC	2027
Investigate data to understand crash risk by number of months/years of rider experience, ages of returning riders, types of motorcycles, and rider characteristics.	NC GHSP, NCDOT	2028
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.	NC GHSP, NCSHP	2028

Strategy 3: Update highway design policies and practices to accommodate the unique vulnerabilities and characteristics of motorcyclists.

Opportunities for coordination: Intersections 3, 5; Lane Departure 1

Supporting Action	Champion(s)	Timeline
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 <i>Motorcycle Safety Noteworthy Practices: Infrastructure and Engineering</i> as the basis.	NCDOT	2027
Explore roadway striping that has more friction for motorcyclists and determine safer alternatives.	NCDOT	2027
Implement strategies to address high priority locations for motorcycle crashes.	NCDOT	2028

Strategy 4: Update maintenance and operation policies and practices to accommodate the unique vulnerabilities and characteristics of motorcyclists.

Supporting Action	Champion(s)	Timeline
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., grooved pavements, temporary lanes markings, gravel/sand, metal plates, motorcyclist-safer barrier designs). Use existing research as a starting point, such as FHWA's <i>Synthesis on Roadway Geometry, Pavement Design, and Pavement Construction and Maintenance Practices</i> .	NCDOT	2026
Publicize construction zones and alternative routes to alert motorcyclists of areas of potential hazards.	NCDOT	2026
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	2027

YOUNGER DRIVERS

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

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

The Crossroads of Data and Vision

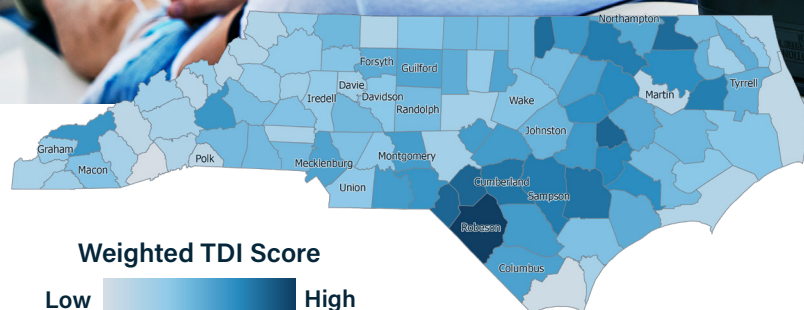
Detailed data analysis revealed the following key contributing factors to crashes involving younger drivers:¹⁵

- 20% of younger driver-related crashes involved distraction.
- 20% of younger driver-related crashes involved lane departure.
- 53% of younger drivers killed in crashes were in lane departure crashes.
- 28% of younger driver-related crashes occurred at intersections.
- 17% of speed-related crashes involved younger drivers.
- 44% of younger driver-related fatalities were unbelted.

Stakeholders' vision of younger driver safety in North Carolina included:

- Emphasize the practice of driving at safe speeds to younger drivers.
- Implement more comprehensive training opportunities for younger drivers.
- Continue to implement outreach programs.

Image Credit: VisitNC.com



Counties with the highest total number of fatalities and serious injuries and/or the highest fatality and serious injury rates are labeled on the map.

15 NC Crash Database as of 04/14/24



YOUNGER DRIVERS

Strategy 1: Reinforce the driver education curriculum and licensing procedures to promote safe driving habits and how to share the road with all users.

Opportunities for coordination: Pedestrians, Bicyclists, and Personal Mobility 5

Supporting Action	Champion(s)	Timeline
Continue to monitor the comprehensiveness of driver education curricula, including those that address special education needs.	NCDMV, NCDPH	2024
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.	NCDMV, NCDPI, ITRE	2024
Continue to improve instructor training and professional development to encourage consistent delivery of driver education courses.	NCDMV, NCDPI	2029
Investigate impacts of changes to the graduated driver licensing system on younger driver fatal and serious injury crashes.	NC GHSP	2029

Strategy 2: Continue research to better understand the contributing factors in young driver crashes and to identify opportunities to mitigate the problem.

Opportunities for coordination: Pedestrians, Bicyclists, and Personal Mobility 3

Supporting Action	Champion(s)	Timeline
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	2024
Continue coordination between NCDOT Municipal School Transportation Assistance, school officials, and local municipalities to review and improve safe, multimodal school traffic operations, both for new and existing schools.	NCDOT, SRTS	2024



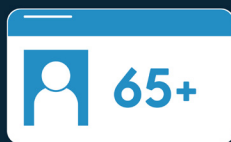
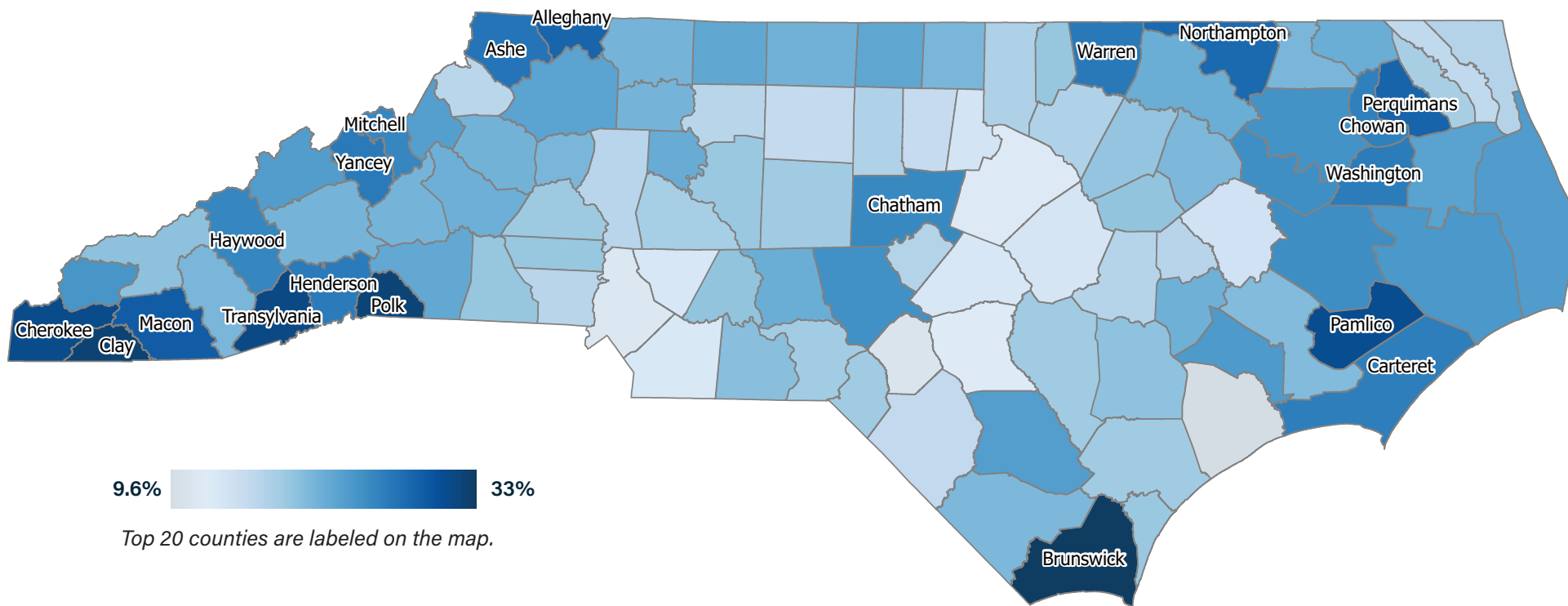
Strategy 3: Educate the public and agency stakeholders on younger driver issues and safe driving habits.

Opportunities for coordination: Safer Speeds 3; Substance Impaired Driving 1

Supporting Action	Champion(s)	Timeline
Continue to develop and disseminate educational materials for younger drivers and their 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).	NC GHSP	2024
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.	NC GHSP	2024
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	2024

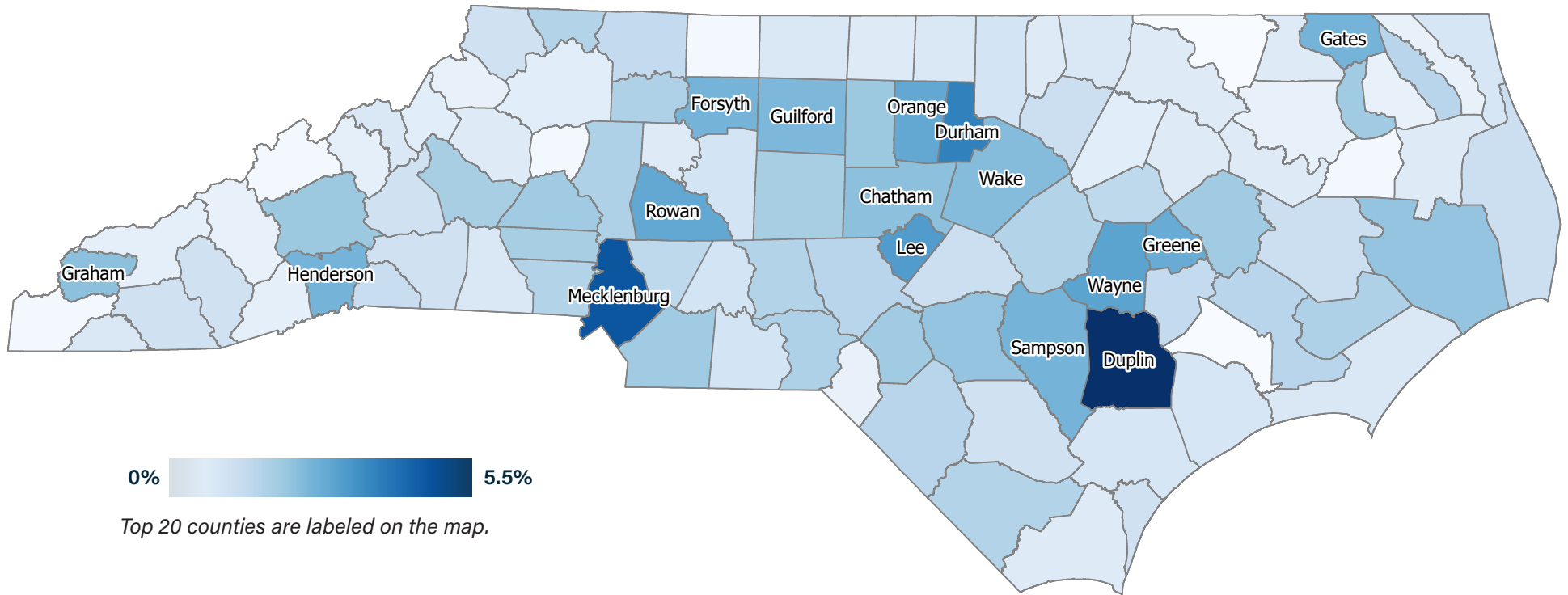
A stylized, abstract map of a city grid is rendered in light blue lines on a dark blue background. The grid consists of various rectangular blocks of different sizes, some with internal street patterns. The lines are hand-drawn in style, with some irregularities and varying thicknesses. The map covers the entire background, with a solid dark blue horizontal band at the bottom.

TDI MAPS



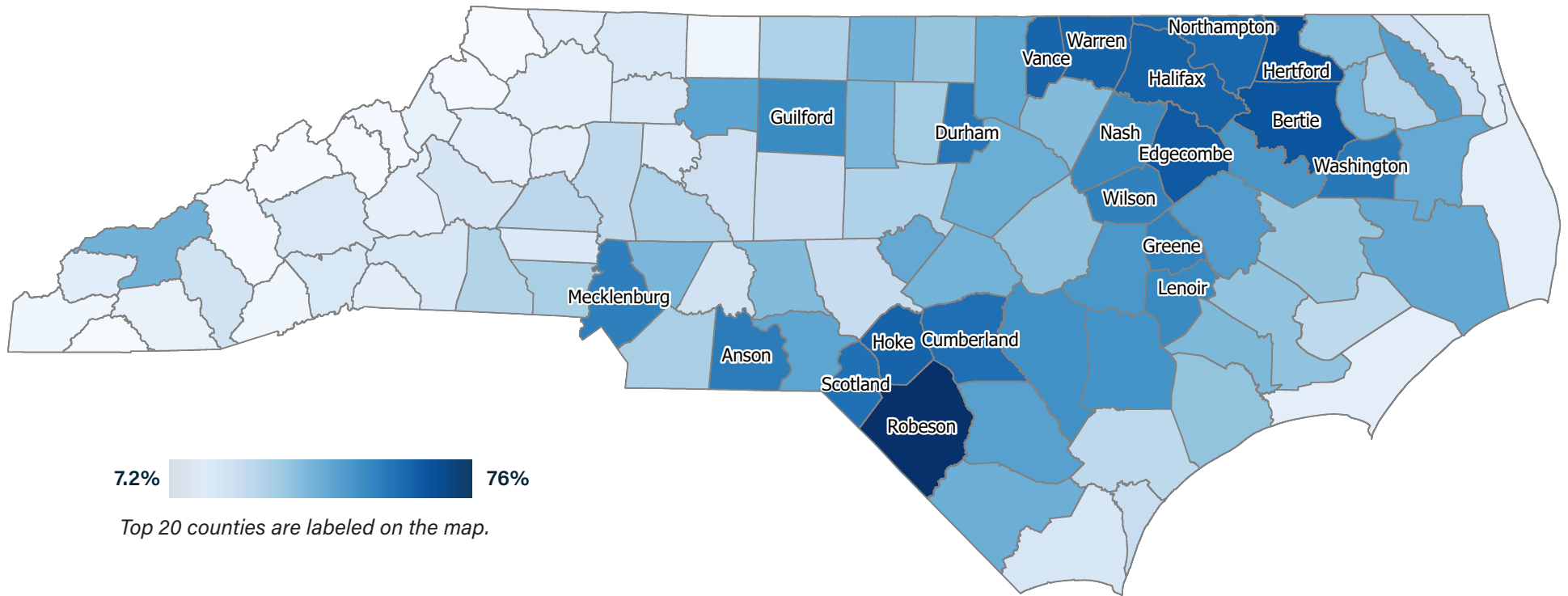
Proportion of County Population Aged 65 and Over

Source: U.S. Census Bureau (2022)



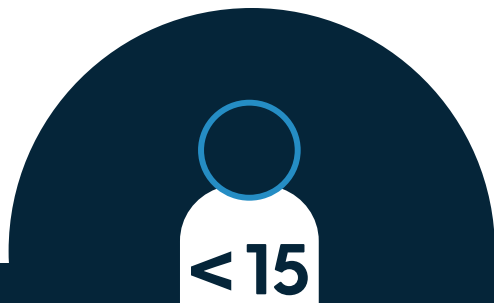
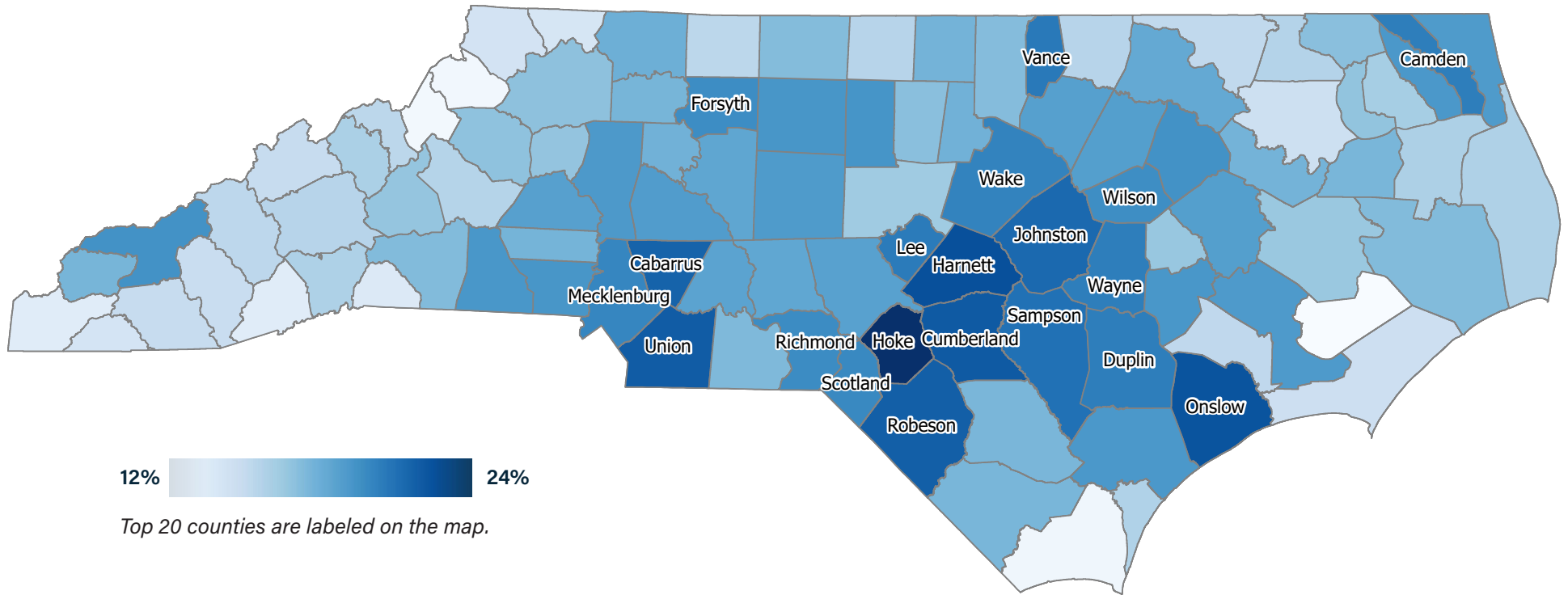
Proportion of County Households with Limited English Proficiency

Source: U.S. Census Bureau (2022)



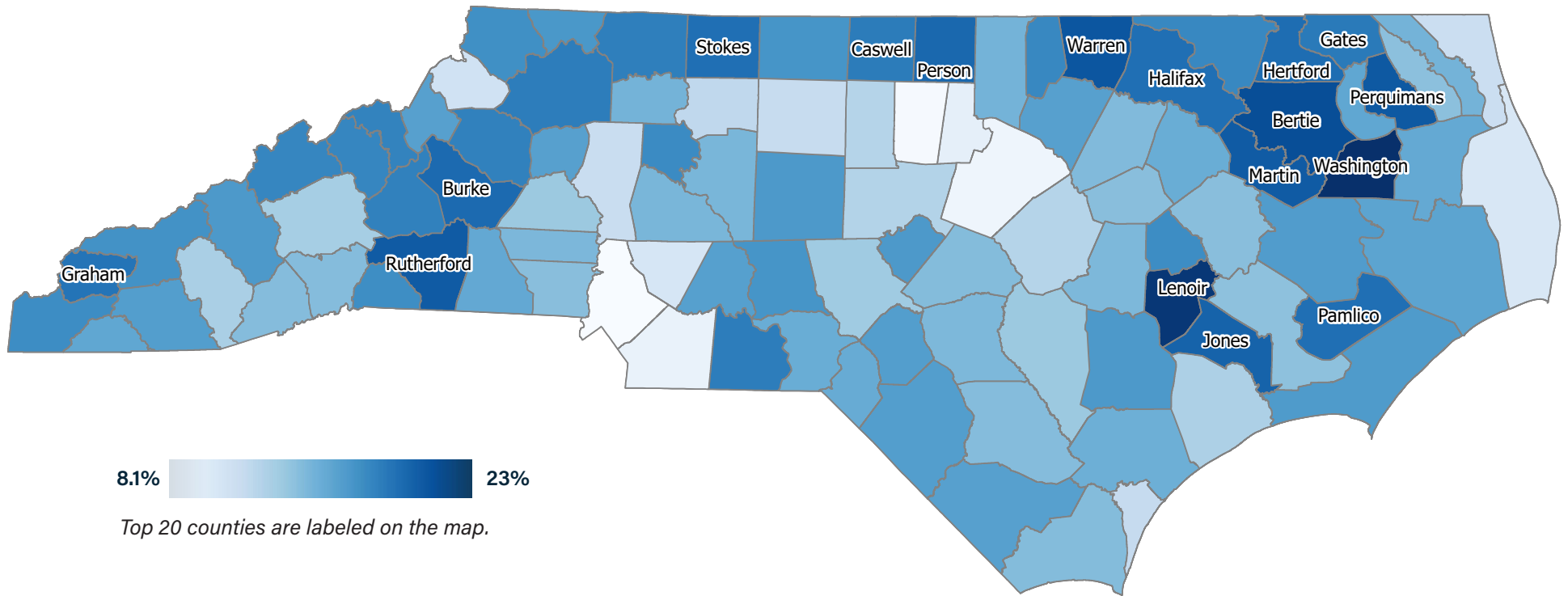
Proportion of BIPOC Population in County

Source: U.S. Census Bureau (2022)



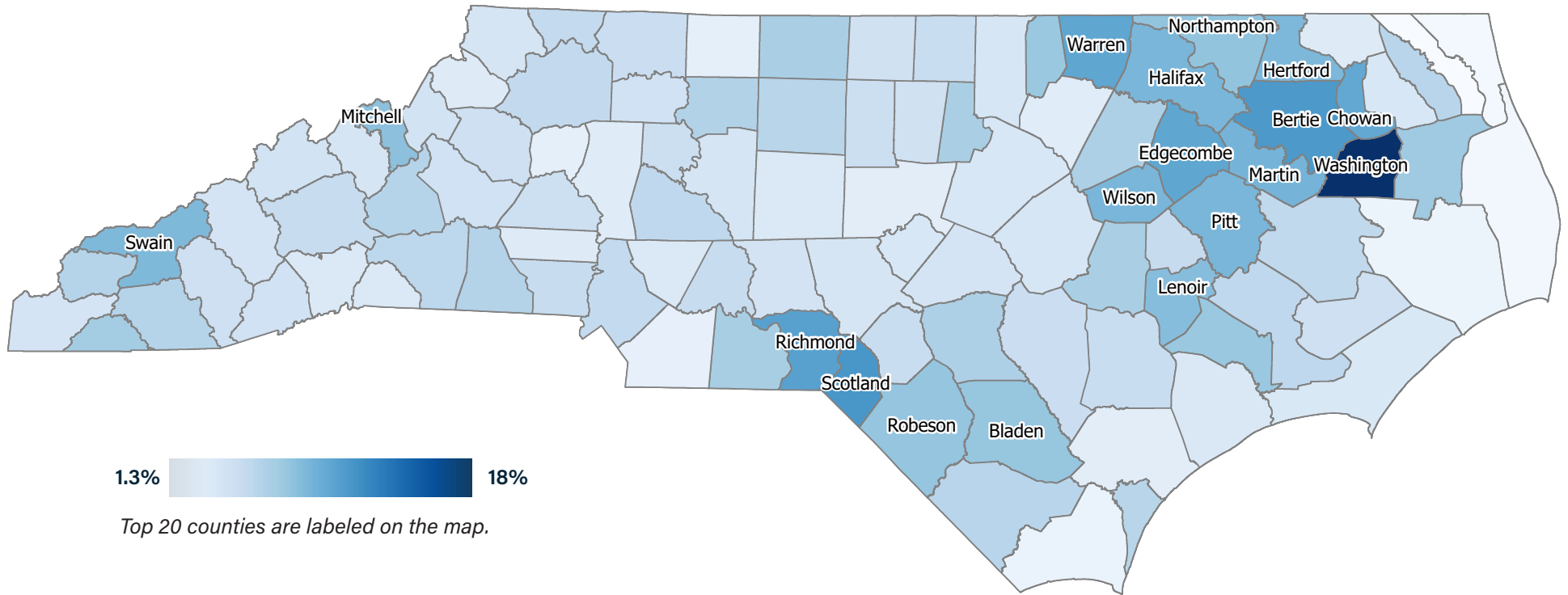
Proportion of County Population Aged 15 and Under

Source: U.S. Census Bureau (2022)



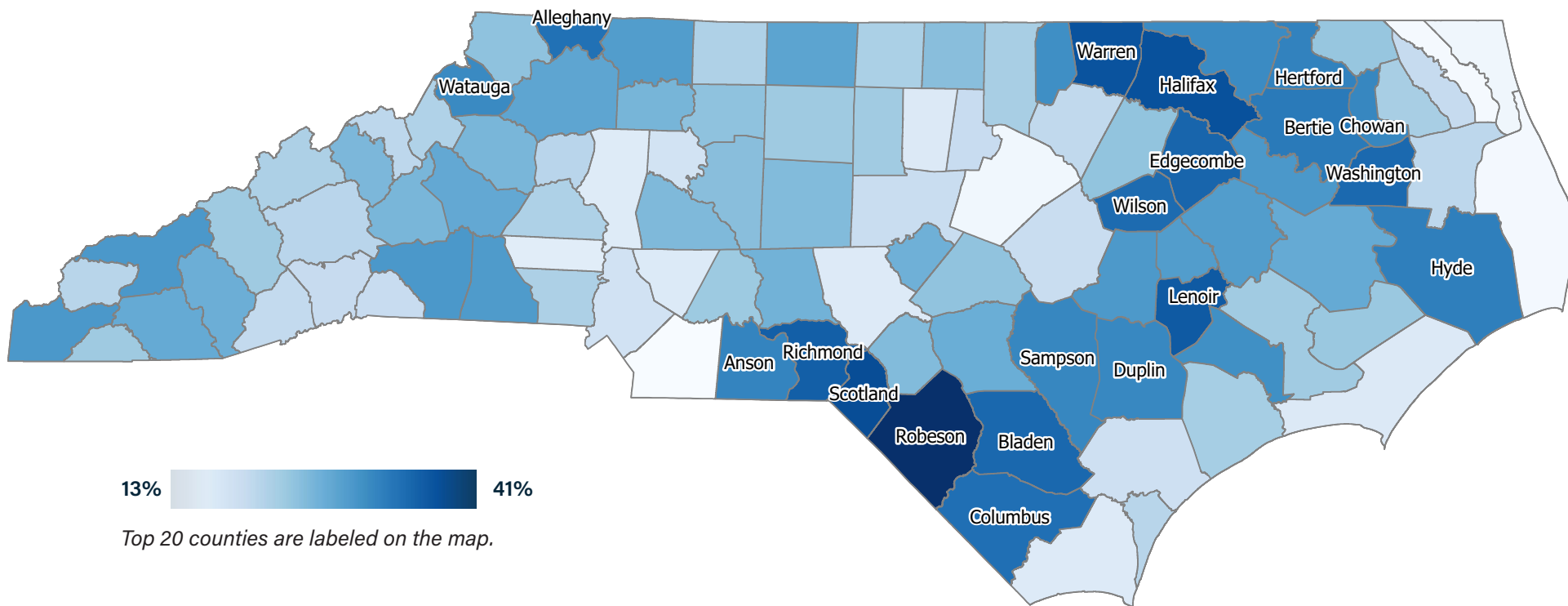
Proportion of County Population with Disabilities

Source: U.S. Census Bureau (2022)



Proportion of County Households with Zero-Vehicles

Source: U.S. Census Bureau (2022)



Proportion of County Households below 150% of Poverty Line

Source: U.S. Census Bureau (2022)



NORTH CAROLINA
Department of Transportation

