



## Emphasis Area: Lane Departure

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Implement lane departure countermeasures.</b>	1.1 Develop or update design policy to integrate proven lane departure countermeasures and materials in standard design policy.	✓	✓
	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) that considers the impacts on safety in North Carolina.	✓	✓
	1.3 Implement North Carolina's approach for lane departure countermeasures, where appropriate.	✓	✓
<b>Continue research to better understand the contributing factors in lane departure crashes and to identify opportunities to mitigate the problem.</b>	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.	✓	✓
	2.2 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.	✓	✓
<b>Conduct outreach to educate the public, agencies, and officials on critical issues related to lane departure crashes.</b>	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.	✓	✓
	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.	✓	✓
	3.3 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.	✓	✓



## Emphasis Area: Intersections

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Increase implementation of all-way stop intersections at appropriate locations.</b>	1.1 Implement North Carolina's approach for the use of the all-way stop countermeasure.	✓	✓
	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.	✓	✓
	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.	✓	✓
<b>Consider the exposure of pedestrians, bicyclists, and users of personal mobility when designing intersections and manage speeds at conflict points.</b>	2.1 Establish and communicate an approach for implementing or reconfiguring channelized right-turn lanes at appropriate locations to control speeds.	✓	✓
	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.	✓	✓
	2.3 Establish and communicate an approach to using leading pedestrian intervals in the State.	✓	✓
	2.4 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.	✓	✓
	2.5 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.	✓	✓
	2.6 Review the traffic impact analysis (TIA) process to identify opportunities to incorporate both safety and capacity considerations for all modes of transportation.	✓	✓

Emphasis Area: Intersections Continued

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Increase implementation of quick-build intersection safety countermeasures.</b>	3.1 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.	✓	✓
	3.2 Engage NCDOT Divisions to gain buy-in, using lessons learned from NCDOT's Interim Design Safety Pilot Program.		
	3.3 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.	✓	✓
	3.4 Measure effectiveness of quick-build countermeasure installations and use successes to develop case studies for other local agencies in the State.	✓	✓
<b>Support ongoing and new campaigns for public acceptance of intersection safety treatments and designs.</b>	4.1 Continue to support and promote the use of restricted crossing intersections (RCIs) to reduce vehicle conflicts at intersections.	✓	✓
	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.	✓	✓
	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.		
<b>Educate roadway designers, planners, law enforcement, and officials/decision-makers on intersection design principles proven to reduce fatalities and serious injuries.</b>	5.1 Leverage existing knowledge sharing platforms, such as NCDOT's CLEAR Program to disseminate information.	✓	✓
	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.		✓
	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.	✓	✓
	5.4 Organize an educational series on NCHRP Research Report 1087 regarding Intersection Control Evaluation (ICE).	✓	✓
	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.	✓	✓



## Emphasis Area: Pedestrians, Bicyclists, Personal Mobility

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS	VRUSA STRATEGY
<b>Develop and adopt formal policies, practices, and guidance documents supporting the implementation of pedestrian- and bicyclist- focused safety improvements.</b>	1.1 Develop and apply guidance for including bicyclist and pedestrian safety improvements at signalized intersections.	✓	✓	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.	✓	✓	4.1
	1.3 Integrate multimodal safety considerations into TIAs and other routine congestion management analyses using a model Safe System Approach-aligned methodology.			
<b>Improve pedestrian, bicyclist, and personal mobility data collection practices to support safety analysis and decision-making.</b>	2.1 Review the Pedestrian and Bicycle Infrastructure Network (PBIN) framework and identify missing components. Update and maintain the PBIN as an inventory of existing conditions for planning safety improvements.	✓	✓	6.1
	2.2 Improve and standardize statewide pedestrian and bicyclist count data collection practices and develop associated guidance. Create statewide pedestrian and database with standardized format and process.	✓	✓	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.			
<b>Improve funding and project development strategies that support effective multimodal safety infrastructure.</b>	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 Transportation Alternatives Program (TAP) and the Highway Safety Improvement Program (HSIP).	✓		
	3.2 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.			
	3.3 Work with lawmakers to amend the Strategic Transportation Investments (STI) legislation to increase flexibility of NCDOT funding for bicyclist and pedestrian safety needs.			

Emphasis Area: Pedestrians, Bicyclists, and Personal Mobility Continued

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS	VRUSA STRATEGY
<b>Explore, demonstrate, and implement innovative and emerging tools to support improving safety for pedestrians, bicyclists, and users of personal mobility devices.</b>	4.1 Develop formal guidance on the use of tools such as the NCDOT TDI in planning, prioritization, and review of NCDOT projects to include bicycle and pedestrian safety improvements.	✓	✓	4.1
	4.2 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
<b>Develop and promote public education programs that support education for all road users on safety for pedestrians, bicyclists, and personal mobility users.</b>	5.1 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.			
	5.2 Incorporate interactions with pedestrians, bicyclists, and users of personal mobility in the driver education curriculum.			



## Emphasis Area: Seat Belts and Car Seats

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Increase seat belt use and car seat use Statewide.</b>	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.		
	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.		
	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.	✓	✓
	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.	✓	✓
<b>Strengthen Statewide Child Passenger Safety Program</b>	2.1 Increase awareness of State resources and consolidate resources as able (i.e., buckleupnc.org and the Vision Zero data visualization dashboards).	✓	✓
	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).	✓	✓
	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 communities (i.e., those without sufficient Child Passenger Safety resources).	✓	✓
	2.4 Provide opportunities for Child Passenger Safety Technicians to earn continuing education credits needed to maintain certification and continue to provide high-quality education.	✓	
<b>Improve Child Passenger Safety Outreach to At-Risk and Underserved Communities</b>	3.1 Determine the impact of the Infrastructure Investment and Jobs Act (IIJA) on funding to purchase car seats for distribution.	✓	✓
	3.2 Encourage expansion of the Child Passenger Safety Diversion Program to additional counties.	✓	✓
	3.3 Develop a tracking mechanism for monitoring the number of families that receive the diversion and determine other measures of success.	✓	
	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).	✓	✓
	3.5 Increase distribution of Child Passenger Safety materials to non-traditional partners (e.g., schools, daycares, aftercare programs, and other youth-focused organizations).		✓



## Emphasis Area: Substance Impaired Driving

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Work with the North Carolina GHSP to Educate the Public on the Risks of Impaired Driving</b>	1.1 Partner with military bases in North Carolina and provide educational materials on the risks of impaired driving.	✓	
	1.2 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.		✓
	1.3 Collaborate with NHTSA and disseminate materials they have available on the effects of “buzzed” driving.	✓	✓
	1.4 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.		✓
<b>Increase Training for Prosecutors and Law Enforcement Officers on the Medical Effects of Substance Use Disorder and Alcohol Use Disorder</b>	2.1 Provide education to prosecutors and law enforcement officers on the medical effects of substance use disorder and alcohol use disorder.	✓	
	2.2 Continue programs that provide law enforcement training on impairment.	✓	✓
	2.3 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.		
<b>Increase the Number of Drug Recognition Experts (DREs) across the State</b>	3.1 Updated basic law enforcement training to include standardized field sobriety testing.		
	3.2 Increase the number of Drug Recognition Experts (DREs) in rural areas across North Carolina.	✓	✓
	3.3 Expand the advanced roadside impaired driving enforcement (ARIDE) training to focus on all types of impairment, not solely alcohol.	✓	
<b>Strengthen Intervention Policies to Reduce Recidivism</b>	4.1 Provide support for ignition interlock for any DWI conviction.	✓	✓
	4.2 Expand screening and intervention services to identify current at-risk drivers in hospitals to reduce recidivism.		✓
	4.3 Include the blood alcohol concentration and substance use data in the North Carolina trauma database.		
<b>Research Lowering BAC Levels for Driving in North Carolina</b>	5.1 Study other states (e.g., Utah) or other countries that have lowered the BAC and compare their crash rates.		
	5.2 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.		



## Emphasis Area: Safer Speeds

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Improve speed-related data collection, completeness/coverage, accessibility, and applications</b>	1.1 Continue to acquire/collect statewide probe speed data and use the data to inform decisions, including disseminating information to partners.	✓	✓
	1.2 Communicate and implement North Carolina's approach to speed countermeasures.	✓	✓
	1.3 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.		
	1.4 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.	✓	✓
<b>Use data analysis to identify and address speed-related issues.</b>	2.1 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).	✓	✓
	2.2 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.	✓	✓
	2.3 Determine appropriate proven safety countermeasures for systemic and spot improvement locations. Communicate and implement the approach for those countermeasures.	✓	✓
	2.4 Evaluate the effectiveness of implemented speed countermeasures.	✓	✓
<b>Enhance state-local partnerships in addressing speed-related issues.</b>	3.1 Develop and disseminate tools to educate the public on the safety impacts of speeding.	✓	✓
	3.2 Develop and implement local/regional speed management plans and prioritize proven safety countermeasures that reduce travel speeds on high-risk roadways.		✓
	3.3 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.	✓	✓
	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.		



Emphasis Area: Safer Speeds Continued

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
Implement and expand the use of available technology options to enforce and limit speeds for highway safety in North Carolina.	4.1 Explore the feasibility of automated speed enforcement in North Carolina, starting with work zones and school zones.	✓	✓
	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).		
	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).		



## Emphasis Area: Older Drivers

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Design a roadway system that better accommodates the needs of older drivers.</b>	1.1 Conduct systemic analysis and screening to identify and address high-risk locations for older drivers.	✓	✓
	1.2 Communicate and implement North Carolina's approach to designing crash countermeasures that accommodate older drivers.	✓	✓
	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.	✓	✓
<b>Implement strategies and programs that assess cognitive abilities of older drivers and identify adequate alternatives to driving.</b>	2.1 Monitor and support research on older drivers and medically-at-risk drivers.	✓	
	2.2 Improve monitoring and assessment activities for at-risk drivers, working with the medical review program.		
	2.3 Implement proven assessment tools that identify medically at-risk drivers as part of a fair and evidence-based licensure process.		
<b>Educate older drivers on factors that increase crash risk and alternatives to driving.</b>	3.1 Provide resources and guidance to older drivers for prolonging driving lifetime and managing risk.	✓	✓
	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.		
	3.3 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.		
	3.4 Prioritize transit and alternative transportation options in locations with high concentrations of older adults.		
<b>Educate the public and agency stakeholders on older driver issues.</b>	4.1 Provide training to law enforcement agencies on interacting with older drivers and identifying physical and cognitive deficiencies affecting safe road use.	✓	✓
	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.		
	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.	✓	



## Emphasis Area: Motorcyclists

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Build a foundation to strengthen motorcycle endorsement/training practices, legislation, and policy.</b>	1.1 Create a Motorcycle Safety Council or working group to lead motorcyclist-safety related initiatives in North Carolina.	✓	✓
	1.2 Support graduated motorcycle licensing in North Carolina based on effective practices from other countries and States.		✓
	1.3 Partner with insurance agencies to explore new and promote existing incentives for licensing, endorsements, and safety courses.		
<b>Improve data collection to better understand motorcycle crash and injury contributing factors.</b>	2.1 Update law enforcement training on motorcycle crash investigations to improve diagnosis of crash and severity contributing factors.		
	2.2 Conduct systemic analysis to identify factors and priority locations associated with motorcycle 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 Plans, law enforcement liaisons).	✓	✓
	2.4 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.		
	2.5 Partner with insurance agencies to establish a tracking mechanism for the safety courses taken by riders.	✓	✓
	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.	✓	✓
	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.		
<b>Implement strategies to address high priority locations for motorcycle crashes.</b>	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.	✓	
	3.2 Explore roadway striping that has more friction for motorcyclists and determine safer alternatives.	✓	
	3.3 Implement strategies to address high priority locations for motorcycle crashes.		✓

Emphasis Area: Motorcyclists Continued

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Update maintenance and operation policies and practices to accommodate the unique vulnerabilities and characteristics of motorcyclists.</b>	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., 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.		
	4.2 Publicize construction zones and alternative routes to alert motorcyclists of areas of potential hazards.		
	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.		



## Emphasis Area: Younger Drivers

STRATEGY	ACTIONS	REPORTED PROGRESS TO DATE	PLANNED PROGRESS
<b>Reinforce the driver education curriculum and licensing procedures to promote safe driving habits and how to share the road with all users.</b>	1.1 Continue to monitor the comprehensiveness of driver education curricula, including those that address special education needs.		
	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.		✓
	1.3 Continue to improve instructor training and professional development to encourage consistent delivery of driver education courses.		
	1.4 Investigate impacts of changes to the graduated driver licensing system on younger driver fatal and serious injury crashes.		✓
<b>Continue research to better understand the contributing factors in young driver crashes and to identify opportunities to mitigate the problem.</b>	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.		✓
	2.2 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.	✓	✓
<b>Educate the public and agency stakeholders on younger driver issues and safer driving habits.</b>	3.1 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).	✓	✓
	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.	✓	✓
	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.	✓	✓