NORTH CAROLINA
Traffic Safety Information Systems
STRATEGIC PLAN

2022

Developed by the
UNC Highway Safety Research Center
in collaboration with the
NC Traffic Records Coordinating Committee

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Commonly Used Abbreviations

AASHTO – American Association of State Highway and Transportation Officials

ACIS – Automated Criminal Infraction System

CSC – Clerk of Superior Court

EMSPIC – Emergency Medical Services Performance Improvement Center

FARS – Fatality Analysis Reporting System

FHWA – Federal Highway Administration

HSRC – Highway Safety Research Center

IPRC – Injury Prevention Research Center

ITRE – Institute for Transportation Research and Education

IVPB – Injury and Violence Prevention Branch

LEA – Law Enforcement Agencies

NC DHHS – North Carolina Department of Health and Human Services

NC DPS – North Carolina Department of Public Safety

NC ECHS – North Carolina Executive Committee for Highway Safety

NC GHSP – North Carolina Governor's Highway Safety Program

NC TRCC – North Carolina Traffic Records Coordinating Committee

NCAOC – North Carolina Administrative Office of the Courts

NCAWARE – North Carolina Warrant Repository

NCDMV – North Carolina Department of Transportation Division of Motor Vehicles

NCDOT – North Carolina Department of Transportation

NCDPH – North Carolina Division of Public Health

NCOEMS – North Carolina Office of Emergency Medical Services

NCSHP – North Caroline State Highway Patrol

NHTSA – National Highway Traffic System Administration

PI – Principal Investigator

PreMIS – Prehospital Medical Information System

SADLS – State Automated Driver License System

SHSP – Strategic Highway Safety Plan

Commonly Used Abbreviations

STARS – State Titling and Registration System

TEAAS – Traffic Engineering Accident Analysis System

TRCS – Traffic Records Communication System

TraCS – Traffic and Criminal Software

TR – Traffic Records

UNC – University of North Carolina

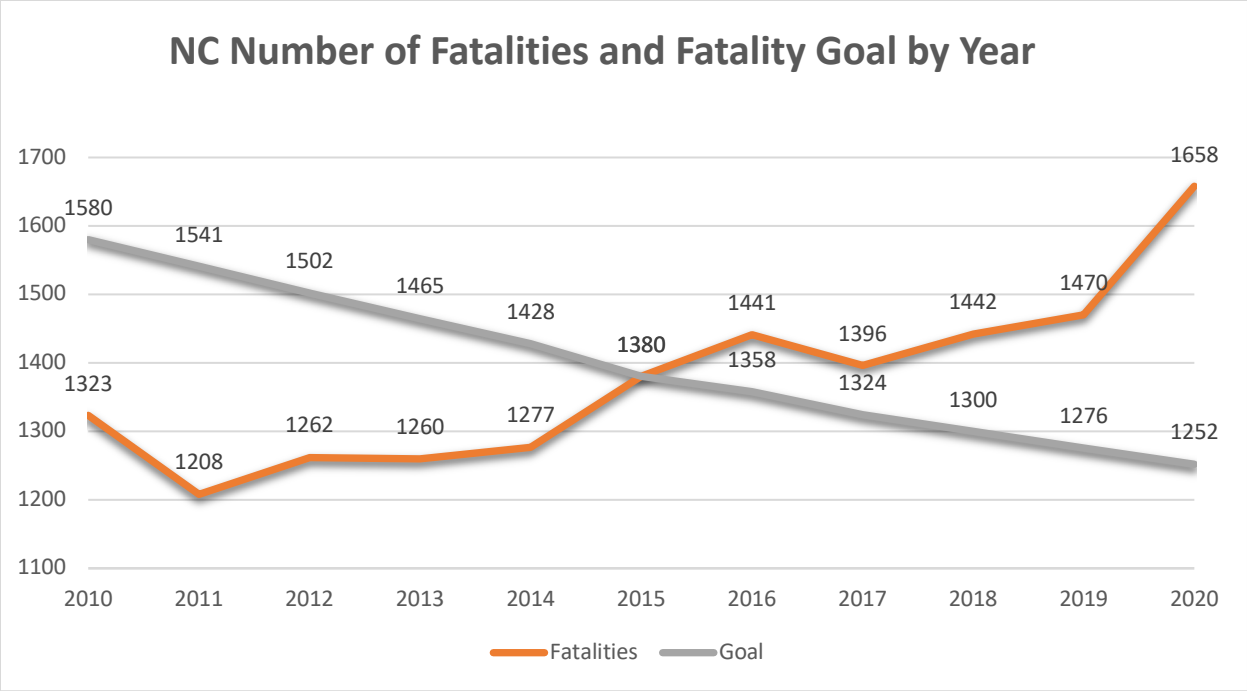
Introduction

Background

While North Carolina has made progress in reducing the toll that results from traffic crashes on our roadways, the number of people killed and injured remains unacceptably high. In 2020 (the year influenced by the pandemic), there were 247,285 reported crashes (down nearly 40,000 crashes from 2019) on public roads that resulted in 1,658 people killed (up 188 from 2019) and 105,382 injured (down nearly 20,000 from 2019). The economic impact of these crashes is costly, resulting in an estimated loss of over $28 billion to the economy of North Carolina annually (based on a three-year average as noted on page 38 of the 2020 NC Traffic Crash Facts Report).

In 2020, the North Carolina Department of Transportation (NCDOT) updated the state's Strategic Highway Safety Plan (SHSP). North Carolina is a Vision Zero State: even one fatality is too many on our roadways. The Plan's vision, mission, and goals guide the development and implementation of strategies and actions to achieve Vision Zero. It aims to cut the fatalities and serious injuries in North Carolina in half by 2035, moving towards zero by 2050. The SHSP is available here: https://spatial.vhb.com/ncdotshsp/. Progress toward meeting goals will be tracked on the Vision Zero online dashboard: https://ncvisionzero.org/data-analytics/visualizations/.

The previous goal established by NCDOT to reduce fatalities by 2.5% each year from 2008 onward have been mostly successful. However, as shown in the chart below, the actual state fatality numbers began falling after 2015 (the fatality rate has stayed low if you control for the NC population growth, but it is still slightly above the 2012 rate – see page 12 of the 2020 NC Traffic Crash Facts Report). The graph below shows the annual number of fatalities on North Carolina's roads versus the annual fatality goal of the NCDOT.



For North Carolina to continue to make progress toward these goals and reach the vision of multi-disciplinary and multi-agency approaches to the challenges we face, improvements in the quality and utility of traffic safety information data and systems must continue to evolve.

These data systems include 1) crash records, 2) vehicle and driver records, 3) roadway inventory and geographic information systems, 4) medical outcome systems, and 5) citation and adjudication systems. Ultimately, the hope is to increase the effectiveness and efficiency of linking crash data to the other systems for improved reporting and analysis, while protecting the privacy rights of our citizens' data and abiding by the appropriate laws and regulations.

Coordination, communication, and cooperation are the defining attributes for success of the North Carolina Traffic Records Coordinating Committee (NC TRCC). Each stakeholder will learn from various data collectors, data users, data managers, and traffic records systems owners. The NC TRCC will be using the 2017 NC Traffic Records (TR) Assessment suggestions and recommendations cited on an overall level as well as on a question-by-question level in the new assessment format. Note: North Carolina is currently completing the 2022 Traffic Records Assessment using the NHTSA self-assessment tool. The recommendations -from the 2022 Traffic Records Assessment will be included in next year's 2023 Traffic Safety Information Systems Strategic Plan.

North Carolina's Traffic Safety Information Systems Strategic Plan documents progress toward the overall goal of providing high-quality data to users with timely and efficient processes. This document records the progress of the NC TRCC's efforts and will serve as the guide for planning and implementing change.

Organization of the Report

This report includes an overview of the organizational structure that is in place in the state to address traffic safety information needs, a strategic plan that was developed with input from the NC TRCC membership, and a description of safety information projects that have been conducted with specific objectives of improving traffic safety information systems.

Organizational Structure

The multidisciplinary approach to traffic system information systems requires multiple agencies to be included in the planning and implementation of programs and processes designed to improve the components of the various systems and the linkages among the systems in the interest of reducing the level of harm on the roads of North Carolina. There are two committees that have been established in North Carolina to ensure that all information stewards and stakeholders are included in the decision-making process for improving our traffic safety information: the North Carolina Executive Committee for Highway Safety (NC ECHS) and the NC TRCC. The purpose and role of these groups are described below.

Executive Committee for Highway Safety

The NC ECHS, established in 2003,is empowered to address the motor vehicle crash epidemic and coordinate the many safety initiatives both within and outside of the NCDOT, with an emphasis on efficiency of resources and the prioritization of programs. The NC ECHS includes top management of selected disciplines involved in highway safety. The committee endorsed and adopted the American Association of State Highway and Transportation Official's (AASHTO) SHSP as its working plan with the understanding that this is a dynamic document subject to modifications as necessary to address North Carolina's needs.

The committee has adopted the goal of reducing fatalities on North Carolina's roads by 2.5 percent per year for the next 20 years (this goal may have to be re-evaluated as fatalities nationwide have gone up in the last three years – from 32,479 in 2011 to 36,560 in 2018 which is down 913 from 2107). Implementation of the strategies and directives of the NC ECHS and the AASHTO SHSP are viewed as the key mechanism to reach this goal and thereby significantly reduce the annual number of fatalities and deaths on our highways.

The energy generated and knowledge of the multi-disciplined NC ECHS team members has provided many opportunities for innovative strategies. Representatives from different agencies are teamed up to find solutions to a common goal. A key "facilitator" works closely with all of the working groups through meetings and discussions with members. This central point of reference provides assistance in eliminating roadblocks, suggests champions for strategy involvement and ensures elimination of redundant strategies.

The NC ECHS endorses and supports NC TRCC. NC TRCC, as necessary and appropriate, will provide strategies for the Executive Committee to support and endorse. These strategies could include legislative initiatives, inter-agency projects requiring significant resources and other important strategies.

NC ECHS Membership

The NC ECHS is now chaired by NCDOT Secretary of Transportation Eric Boyette. The membership is listed below and includes representatives for the NCDOT, municipal transportation departments, state and local law enforcement, universities, and other state and local agencies.

- Eric Boyette, Secretary of Transportation, NCDOT (Committee Chair)
- Isaac T. Avery, III, Attorney at Law, NC Conference of District Attorneys
- Wayne Goodwin, Commissioner, NC DMV
- Lydia McInTyre, Transportation Engineer, City of Greensboro
- Laura Sandt, Interim Director, UNC HSRC
- W. A. "Tony" Hayes, President and CEO, Transformative Ideas Calculated Success
- Chris Lukasina, NC Association of MPOs
- James K. Lacy, State Traffic Engineer, Transportation Mobility and Safety, NCDOT
- Brian K. Mayhew, State Safety Traffic Engineer, Traffic Safety Unit, NCDOT
- Jon R. McCormick, Division Administrator, Federal Motor Carrier Safety Administration
- Freddy Johnson, Colonel, NCSHP
- John Sullivan, III, Federal Highway Administration
- Mark Ezzell, Director, NC GHSP
- Scott Proescholdbell, NCDPH, Injury and Violence Prevention Branch
- Bradley Hibbs, Operations Engineer, FHWA
- Brent Heath, Regional Director, NC DOI
- Nicole McGarity, AAA Carolinas
- Suzanne LaFollette-Black, AARP
- Jennifer Smith, retired

Traffic Records Coordinating Committee

The NC TRCC was established in 2006. The vision of the NC TRCC reads as follows:

> *To improve safety by significantly reducing the number of fatalities and injuries to the citizens and visitors of our state.*

In support of this vision, the mission of the NC TRCC is to:

> *Provide the leadership to establish and maintain a level of coordination, communication and cooperation between agencies and stakeholders to maximize utilization and improve functionality, data accuracy, timeliness and linkages, and to advance electronic data collection, protect privacy, minimize redundancies in traffic records systems and better accomplish individual agencies' goals.*

The specific roles and functions of this group include:

- Provide for coordination, cooperation, and collaboration of agency activities that could affect or improve the state traffic safety data or systems, while also ensuring the protection of confidential information.
- Prepare, update, and maintain the NC TRCC Traffic Safety Information Systems Strategic Plan and provide a guide for the implementation of traffic safety systems and data improvements.
- Recommend and provide strategies to NC ECHS for endorsement and action.
- Develop inter-agency project teams to create implementation plans for carrying out the objectives of the guide as necessary.
- Provide a forum for review and endorsement of programs, regulations, projects, and methodologies to implement the improvements identified in the implementation guide.
- Review programs, regulations, projects, and methodologies for alignment with the NC TRCC's mission, goals, and objectives.
- Provide coordination for programs, projects, and regulations as they become operational.
- Receive periodic updates from the project teams.
- Endorse and/or implement projects to achieve quality traffic safety data from state traffic records systems.
- Encourage and provide for the sharing of data among all members, owners, users and collectors, and collaborate on interagency projects.
- Provide for adequate communication and review between members of all changes or modifications to systems, regulations, collection procedures, or usage, and analysis needs.
- Support electronic data collection for all types of data including crash, roadway (including volume and asset management), vehicle, driver, medical, and citation or adjudication data.
- Simplify all data collection wherever possible for any record.
- Increase automation and only collect data necessary from field efforts.
- Encourage and provide for the marketing of traffic safety information to increase public and political awareness of its necessity for decision making, resource allocation and improving quality of life.

NC TRCC Membership

The NC TRCC consists of a diverse membership that includes representation from the data stewards for each primary data or information system: crash records; vehicle and driver records; roadway inventory and geographic information systems; court, citation and adjudication systems; and medical outcome systems. Several key stakeholder agencies also serve in a membership role on the committee, including law enforcement, the NCDOT Traffic Safety Unit, the North Carolina Governor's Highway Safety Program (NC GHSP) and a university research center. The current list of members is provided below.

- Brian Mayhew (NC TRCC Co-chairperson – no longer attending the TRCC meetings, but is on the ECHS), State Safety Traffic Engineer, Traffic Safety Unit, NCDOT
- Eric Rodgman (NC TRCC Co-chairperson), UNC HSRC
- Nancy Lefler (NC TRCC – TR Strategic Plan Project PI), UNC HSRC
- Courtney Blake (NC TRCC – TR Strategic Plan Project Key Member), UNC HSRC
- Scott Proescholdbell, NCDPH, Injury and Violence Prevention Branch
- Greg Ferrara, NCSU ITRE
- Carlton Williams, NC AOC
- Jason Dempsey, NC DMV (Driver)
- Janna Allison, NC DMV (Crash)
- Clyde Noble, NC DMV (Crash)
- April Smith, NC DMV (Crash)
- Jackie Mitchell (State Traffic Records Coordinator), NC GHSP
- Warren Smith, NC GHSP
- Mark Ezzell, NC GHSP
- Brian Murphy, NC DOT Safety Planning Group
- Shawn Troy, NC DOT Traffic Safety Unit
- Faith Johnson, NC DOT Operations Program Management Unit
- Erin Lesh, NCDIT-T GIS Unit
- Ryan Koschatzky, NCDIT-T GIS Unit
- Reba Calvert, NC DMV (Vehicle)
- Brian Crissman, NCSHP
- Alan Stokes, Raleigh PD
- Sharon Schiro, NC Trauma Registry
- Vish Tharuvesanchi, NCDIT-T Traffic Records Systems
- Michael Thomas, NCDIT-T Traffic Records Systems
- Anna Waller, UNC Department of Emergency Medicine, Carolina Center for Health Informatics; IPRC
- Katie Harmon, UNC HSRC
- Bill Naff, NHTSA (regional representative for NC)

In addition to the official membership, there are a number of additional stakeholders, including representatives from the Federal Highway Administration (FHWA) and NHTSA, who routinely

participate in NC TRCC meetings. A complete list of active participants is included in Appendix B.

NC State Traffic Safety Data Coordinator

One of the members of the NC TRCC is the state traffic safety data coordinator. This individual serves as the primary point of contact for information about traffic safety systems for NHTSA, the state of North Carolina, and the NC TRCC. This person is aware of all the primary traffic records systems in North Carolina and maintains communications with the NC TRCC. This person can report on, or obtain status information on, all projects within the state. The current representative is Jackie Mitchell from NC GHSP who has replaced the previous Coordinator, Warren Smith.

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Phone: (919) 814-3655
Email: jsmitchell@ncdot.gov

Traffic Safety Information System Summaries

Provided in this section of the report are descriptive summaries of the traffic safety information systems that are available in North Carolina. Summaries are included for systems within the following agencies:

- North Carolina Administrative Office of the Courts (NCAOC)
- North Carolina Department of Health and Human Services (NC DHHS)
- North Carolina Department of Public Safety (NC DPS)
- North Carolina Department of Transportation (NCDOT)
- North Carolina Department of Information Technology - Transportation (NCDIT-T)
- North Carolina Department of Transportation Division of Motor Vehicles (NCDMV)
- North Carolina Office of Emergency Medical Services (NCOEMS)

NC Administrative Office of the Courts

Automated Criminal Infraction System (ACIS)

The Automated Criminal/Infractions System (ACIS) is a mainframe application that was created by the NCAOC to provide the North Carolina Superior and District Courts with accurate and timely criminal and infraction case information. AOC has maintained and supported ACIS for over 30 years. ACIS data is available to the public through the Court Information Public Record Search (CIPRS) tool at public access terminals located in each Clerk of Court's office, through private vendors via the Internet, and to other government agencies through system interfaces and nightly downloads. ACIS interfaces with several in-house systems, including the North Carolina Warrant Repository (NCAWARE), Financial Management System (FMS), Civil Case Processing System (VCAP), and CCIS (Criminal Court Information System). ACIS also interfaces with many government agencies as well, including the NC Division of Adult Corrections and Juvenile Justice (NCDACJJ), State Bureau of Investigation (SBI), and the NC Department of Motor Vehicles (NCDMV). These integrations include sending NC reportable traffic offenses nightly to the NCDMV. In addition, charges and convictions for all serious misdemeanor and felony offenses (including death by motor vehicle) are reported nightly to the SBI which, in turn, updates ACIS, and NCAWARE with state fingerprint identification numbers. ACIS is also a major data feed to the Criminal Justice Law Enforcement Automated Data Service (CJLEADS). All North Carolina State Highway Patrol (NCSHP) citation data is transferred to CJLEADS nightly.

In March 2012, the NCAOC added the Eastern Band of Cherokee Indians (EBCI) to ACIS, allowing the EBCI to process their court cases in the ACIS system. Additionally, in May 2016 the NCAOC provided an automated means for ECBI to report their traffic cases to the NCDMV.

Criminal Court Information System – Clerks Component (CCIS-CC)
CCIS-CC is a robust web-based application developed to record court information for all criminal cases in an efficient and accurate manner. CCIS-CC incrementally replaced existing ACIS screens and functions accessed primarily by clerks of court. Replacement of Court Flow functionality for clerks was completed in 2014. The system is designed to enhance the current workflow by consolidating multiple functions on a single screen to allow for speedy data entry and recovery for users. As replacement components with enhanced capability are built in CCIS-CC, those components are disabled in ACIS.

CCIS-CC is designed to reduce manual processes and streamline the flow of information. The application provides user friendly features such as system-calculated and pre-filled fields, search capabilities, calendar lookup and drop-down lists, all of which save time, and reduce data entry errors. The system provides multiple entry functions for court continuances and results, speeding dispositions and monies paid. Case disposition with extended DWI data capture is provided in CCIS-CC, along with courtroom generation and electronic storage of judgment forms, and a NCDMV interface for electronic notification and reporting.

CCIS-CC ensures that data consistency is maintained across the state by providing flexibility to accommodate user preferences while enforcing rules for business. Additionally, CCIS-CC is designed to be intuitive and flexible enough to handle large volumes of data accurately and efficiently while maintaining historical records. The system is available statewide.

Criminal Court Information System – District Attorneys Component (CCIS-DA)
CCIS-DA is a web-based criminal case management system developed specifically for district attorneys to manage the caseload within their offices. CCIS-DA captures individualized case notes and tracks and schedules action-oriented events and decision points relevant to the prosecution of each case, including DWI case management.

CCIS-DA interfaces with ACIS to download case data in real-time. The system also interfaces with the Discovery Automation System, which allows uploads of law enforcement discovery documents. As of October 2011, CCIS-DA was implemented in all 100 counties.

Electronic Compliance and Dismissal (ECAD)
ECAD is a web-based system designed to save NC citizens a trip to court by providing them a quick, convenient means of requesting dismissal online for certain traffic offenses if they have complied with the NCDMV. ECAD also provides an efficient, simple interface to CCIS-DA allowing the district attorney the ability to view and approve or deny requests, as well as a reporting interface to CCIS-CC to assist clerks with the management of case records. ECAD directly interfaces with NCDMV data to determine whether someone is in compliance before allowing them to submit a request. Once the district attorney approves a request, the case is electronically dismissed with no data entry required by the clerk. There is no cost for the public to request dismissal through ECAD.

The ECAD rollout began May 2016 with Wake County and has been live statewide since July 2016.

Legacy eCitation

The eCitation system automated the issuing of cite-and-release citations in North Carolina. Six hundred law enforcement agencies issue more than one million traffic and infraction citations annually. Prior to the implementation of the eCitation system, North Carolina law enforcement officers wrote all citations by hand. Copies of the handwritten citation were given to the recipient, delivered to the local clerk of superior court (CSC) office, and kept on file by both the LEA and CSC involved. This process could be rather cumbersome and lengthy, as it involved entering the same information multiple times in different systems. Additionally, there was a high probability of mistakes being introduced due to illegible handwriting.

eCitation, the first such system in the nation, was conceived and developed as a solution to this manual process. eCitation fully automates the citation process, producing the North Carolina Uniform Citation in an electronic format and reducing data entry to a single iteration. Using existing wireless connections, eCitation allows officers to create citations and schedule court dates electronically from the patrol car. A portable printer produces the copy of the citation for the cited person. After issuance of the eCitation, the officer transmits the data directly to NCAOC where it can be accessed immediately statewide in both the Automated Criminal Infraction System (ACIS) and the Criminal Court Information System – Clerks Component (CCIS-CC).

eCitation was developed as a joint venture between the NCAOC and the NCSHP with NC GHSP and the Governor's Crime Commission providing significant funding. During October 1999 through September 2001, a pilot project was conducted in Cumberland County, and after a successful pilot, eCitation was implemented in all 100 counties at no cost to law enforcement agencies.

The eCitation Officer Component was upgraded from Visual Basic/COBOL to Java platform in 2016 and implemented statewide in 2017. This rewrite was a major upgrade of the technology allowing for future enhancements such as an NCAWARE interface to handle arrest offenses and the use of hand-held devices.

In February 2019, eCitation was enhanced to efficiently transition from a cite-and-release process in eCitation to the arrest process through an electronic interface between eCitation and NCAWARE, the North Carolina Warrant Repository system. This enhancement prevents officers from duplicate data entry between eCitation and NCAWARE.

Enforcement Mobile powered by Brazos

The eCitation system was phased out of use as the Administrative Office of the Courts replaced it with Enforcement Mobile powered by Brazos, a ticket-writer system from Tyler Technologies, Inc. The contract with Tyler was signed in January 2020. A pilot phase consisting of five law enforcement agencies (State Highway Patrol, Raleigh PD, Guilford Sheriff Office, Alcohol Law

Enforcement, and Johnston County Sheriff Office) began in December 2020, and full statewide rollout was completed Spring 2021. The Enforcement Mobile was modified to meet specific North Carolina needs, including interfaces with ACIS and the North Carolina Warrant Repository (NCAWARE).

Another key modification includes the ability for an officer to charge up to ten offenses on a single citation, rather than the current limit of two in eCitation. This expansion of offenses is in response to the North Carolina Court of Appeals case of the State vs Rieger.

Enforcement Mobile includes the following components:

- Officers' component: This component is loaded on the computer in the patrol car for entering and printing eCitations. It is capable of operating with or without communication coverage.
- Records management systems component: This component provides law enforcement agencies with the capability to electronically download eCitation data for use by the local law enforcement agency without requiring dual data entry. It also provides a citation printing function.
- Clerks' component: This is a browser-based component used by county clerk staff to monitor and print judgment copies of the transmitted citations. It also allows the clerk to set court schedules and court room limits which the officer can then use to assign a court date to the defendant.
- Interface to NCAOC ACIS: This interface receives and stores citation data in ACIS and CCIS-CC, making the information available statewide.
- Interface to NCDMV: This interface automatically prefills demographic and vehicle data using the driver's license or vehicle plate number.

North Carolina Warrant Repository (NCAWARE)
NCAWARE is a custom-developed, web-based system that was designed, developed and implemented by the NCAOC. The system maintains detailed information about criminal processes such as warrants, magistrate orders, citations that lead to an arrest, criminal summons, orders for arrest, release orders and appearance bonds. It also tracks information and details for all people and businesses involved in such processes. With the implementation of NCAWARE and accompanying legislation that provided for a statewide electronic repository, law enforcement can view and serve any electronic unserved process in the state without having paper in hand. Officers are also able to pre-fill arrest and warrant information prior to appearing before the magistrate, thus decreasing processing time.

All NCAWARE judicial and law enforcement users also have access to the unserved warrants in both the NCAWARE system and the ACIS through the Statewide Warrant Search, which combines information from both systems. Prior to implementation in each county, the NCAOC worked with local criminal justice and public safety entities to certify the validity of all outstanding processes for the year 2000 and forward. Additionally, the NCAOC staff continues to work with counties to convert paper-based orders for arrest to NCAWARE so that older

processes are also available electronically.

NCAWARE is the first point of entry for all arrests, including DWI cases, into the courts databases. Via a user prompt, demographic driver and vehicle data is pre-populated in NCAWARE through a host-to-host DB2 connection with NCDMV. Court case information in NCAWARE automatically populates ACIS through real-time XML and MQ interfaces. The NCAOC is planning a real-time interface between eCitation and NCAWARE to provide for the automatic creation of a process where a traffic citation leads to an arrest – such as DWI, driving while license revoked, and driving with no operator's license.

In August 2018, NCAWARE was enhanced to allow a system generated Tracking Number in lieu of a citation number for the EC/IR II instrument. This enhancement reduces the need for paper citations.

payNCticket

payNCticket is a web-based system which allows persons who have received citations for offenses not requiring a court appearance (primarily traffic tickets) to query and pay their tickets online. Prior to payNCticket, citizens had to pay fines and related court costs by going to the courthouse to pay in cash or by mailing a money order or cashier's check. In addition to providing a more convenient payment method for the public, the system also allows for quicker disposition of cases because as payment is received, the citation is also disposed in ACIS and CCIS-CC. In conjunction with eCitation, which allows citations to be transmitted to ACIS and CCIS-CC immediately, payNCticket can potentially allow for a ticket to be paid and disposed within minutes after it was issued.

Payments made through payNCticket are processed by an independent payment processing vendor.

payNCticket was piloted in March 2010 and released statewide in June 2010.

Online Request for Reduction of Speeding

Online request for reduction of speeding is the latest addition to the suite of online services offered by the NCAOC as part of eCourts, the larger initiative to modernize the North Carolina court system. The service provides a fast, convenient means of requesting reduction for speeding offenses online and potentially avoiding a trip to court. Currently, the service is limited to two speeding offenses and subject to eligibility requirements. The primary eligibility requirements to request a reduction online include:

- Defendant must be 18 years of age or older and have a valid NC driver license.
- Driver license must not be a commercial driver license (CDL).
- Arraigned/charged speed must be between 10 and 19 miles over the posted limit.
- Arraigned/charged speed must not exceed 80 mph.
- If citation has a second offense (apart from speeding) the offense must be a driver license, registration, or inspection offense for which the defendant has complied with the NCDMV, or a driving without insurance offense, for which the defendant must

upload an image of a valid DL-123 or FS-1 through online services as a proof of compliance.

Online requests must be submitted at least seven business before the assigned court date. If the district attorney offers a reduction, the requestor will receive an email confirming what offense the district attorney is offering to reduce to, along with the cost associated with that offense. Online reduction offers are limited to nine miles over the posted limit or improper equipment, in the district attorney's discretion. If the reduction offer is accepted, the defendant must pay the cost online through NC courts' Online Services page by 5:00 p.m. the day before the assigned court date or the offer will be vacated.

AOC Contract Award Recently Signed

The Administrative Office of the Courts announced the award of a contract for the Integrated Case Management System (ICMS) to Tyler Technologies. The contract was signed June 2019 and statewide rollout is anticipated to begin in 2022. The configuration and statewide rollout are expected to occur over a five-year period in 12 tracks with Wake, Johnston Harnett and Lee as our pilot counties and Mecklenburg as an early adopter. ICMS will eventually replace all our legacy applications.

In addition to the contract awarded to Tyler Technologies for an eCitation replacement (signed in January 2020), Enforcement Mobile, a contract for an NCAWARE replacement, eWarrants, was signed in March 2020. eWarrants is anticipated statewide in Summer 2022**.**

NC Department of Health and Human Services

NC Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT)

NC DETECT is North Carolina's statewide syndromic surveillance system. NC DETECT was created by the North Carolina Division of Public Health in 2004 in collaboration with the Carolina Center for Health Informatics (CCHI) in the University of North Carolina (UNC) Department of Emergency Medicine to address the need for early event detection and timely public health surveillance using a variety of secondary data sources. Authorized users are currently able to view data from emergency departments, the North Carolina Poison Center, and EMS response data from ESO, as well as data from select urgent care centers. NC DETECT is designed, developed and maintained by CCHI staff with funding by the North Carolina Division of Public Health (NCDPH). New functionality is added regularly based on end user feedback.

NC Hospital Patient Discharge System

Prior to 1995, the Medical Database Commission (MDC) collected hospital discharge data in NC. On September 30, 1995, the North Carolina General Assembly eliminated the MDC and set up an alternate system for the reporting of hospital discharge data. Since 1996, hospitals have reported data, currently through IBM and the North Carolina Healthcare Association, as set forth by the Medical Care Data Act of 1995 (Article 11a of Chapter 131E of the North Carolina General Statutes).

Since 1996, the Cecil G. Sheps Center for Health Services Research has worked under contract with the North Carolina Division of Health Service Regulation to store, maintain, and analyze the North Carolina Hospital Discharge Databases. The data contained in the discharge databases are secondary claims data used by facilities to bill payers.

NC Medical Examiner System

The North Carolina Medical Examiner System is a network of over 600 medical doctors throughout North Carolina who voluntarily devote their time, energy, and medical expertise to investigate deaths of a suspicious, unusual, or unnatural nature are adequately investigated. This resource is maintained by the Office of the Chief Medical Examiner of the state of North Carolina (OCME), a division of the North Carolina Department of Health and Human Resources. OCME also functions as the Division of Forensic Pathology of the UNC School of Medicine Department of Pathology.

The Medical Examiner's office has detailed data on each death in North Carolina. For the cases that are associated with motor vehicle crashes, these death reports are used to determine the presence of alcohol for the North Carolina crash data driver fatalities and the Fatality Analysis Reporting System (FARS).

NC State Center for Health Statistics (SCHS)

The SCHS is the North Carolina agency responsible for data collection, health-related research, production of reports, and maintenance of a comprehensive collection of health statistics. SCHS provides high quality health information for better informed decisions and effective health policies. The goal is to improve the health of all North Carolinians and their communities. These data include statewide records on all births, fetal deaths, deaths, pregnancies, marriages, and divorces as part of their Vital Statistics Program. These records have data on age, race, sex, county, name, and key dates, as required by the state. SCHS also maintains a registry of all cancer cases as part of the North Carolina Central Cancer Registry and a registry of all birth defects as part of the North Carolina Birth Defects Monitoring Program. In addition to these two registries and the Vital Statistics Program, SCHS performs the following three surveys, the Behavioral Risk Factor Surveillance System, Child Health Assessment and Monitoring Program, and the Pregnancy Risk Assessment Monitoring Program. More information about SCHS's role in statewide data collection and research can be found here: https://schs.dph.ncdhhs.gov/aboutus.htm.

North Carolina Office of Emergency Medical Services (NCOEMS)

The North Carolina Office of Emergency Medical Services (NCOEMS) is located within the Department of Health and Human Services, under the Division of Health Service Regulation. The NCOEMS is the regulatory agency responsible for statewide coordination of Emergency Medical Services through licensing, education, credentialing, and compliance. The Office of Emergency Medical Services is also responsible for Emergency Support Function 8 (Health and Medical) under the N.C. Emergency Management framework, and accomplishes this mission in coordination with N.C. Division of Public Health through Healthcare Preparedness Coalitions at the eight Level I and II trauma centers across the state.

The North Carolina Office of Emergency Medical Services contracts with a private vendor, ESO, based in Austin, Texas, to manage the NC EMS Data System. They currently maintain and support the state data repository, in addition to the regulatory database (Continuum), Credentialing Testbank Generator and the NC Trauma Registry. This platform encompasses a multitude of linkages to external stakeholders that are both uni-directional and bi-directional. These linkages are currently with, but not limited to: Administrative Office of the Courts (AOC), NC DETECT, NC Stroke Registry, National EMS Information System (NEMSIS).

NC Trauma Registry

Since 1987, all North Carolina trauma centers and several non-trauma center hospitals have submitted data to the North Carolina Trauma Registry. Seventeen of these facilities are designated by the state of North Carolina as level I, II, or III trauma centers. The NCOEMS maintains the North Carolina Trauma Registry through a contract with ESO. All state designated trauma centers are required to submit data for the purposes of performance improvement, outcomes measurement, resource utilization, injury prevention, and clinical research. A designated trauma center is a local hospital voluntarily meeting the state's guidelines for care of the injured patient. Each of the state's centers has the responsibility of providing care and of developing and supporting a regional trauma system. NC's trauma system includes 6 Level I, 3 Level II and 8 Level III centers. Two of the Level III centers are military hospitals located on federal installations, but all accept civilian patients.

State Data Repository

The State Data Repository provides data entry and reporting capability for the evaluation of EMS patient care and system performance. The benefits of this repository include a standard method of documenting patient care to facilitate tracking of hospital diagnoses and patient outcome information; system comparison across agencies; involvement in public health and injury prevention initiatives and EMS research; EMS strategic planning on a statewide basis; fiscal accountability; leadership in developing EMS outcome measurements; links to other state and national data sets for researchers; quality management of patient care, services, and resource tracking; required billing information; offsite data warehousing; feedback on technician procedures for evaluation and certification; and storage of medical device data.

Continuum™

Continuum™ is the NC Office of EMS regulatory information system, compliant with the NEMSIS version 3 data specification, which collects data on each EMS call report made within the state. Continuum™ also allows for the regulatory oversight of 471 EMS agencies, 2,820 vehicles, 41,469 EMS personnel and all teaching institutions statewide. OEMS uses Continuum to track EMS credentials, agency licenses, vehicle permits, educational classes, disciplinary actions, and various other regulatory functions.

NC Department of Public Safety

Commercial Vehicle Enforcement Resource Lab (COVERLAB)
The COVERLAB is a university-based program for helping to reduce truck-involved crashes by improving commercial vehicle enforcement effectiveness. Located at North Carolina State University's Institute for Transportation Research and Education (ITRE), COVERLAB provides the Motor Carrier Enforcement (MCE) section of the NCSHP with online data-driven analytics, geospatial analysis, program development support, and research for improving commercial vehicle safety outcomes.

COVERLAB Analytics
COVERLAB Analytics is web-based data visualization decision support tool that helps the MCE section of the NCSHP improve its tactical enforcement planning for reducing truck-involved fatal crashes and protecting road/bridge infrastructure from heavy truck damage. COVERLAB Analytics provides MCE supervisors with online scorecards to track crash reduction performance goals, dashboards for in-depth trend and comparison analysis, and map analytics to prioritize times and locations for improving enforcement effectiveness.

NC Vision Zero
NC Vision Zero is a collaborative initiative to eliminate roadway deaths and injuries in North Carolina. The goal of the NC Vision Zero initiative is to unify all safety stakeholders to reduce traffic fatalities. The NC Vision Zero website provides centralized access to program content and crash data visualization tools, for both the public and traffic safety partners.

NC Vision Zero Analytics
NC Vision Zero Analytics is a suite of data visualization tools for helping traffic safety partners and the general public measure and understand traffic fatality trends, locations, contributing circumstances, demographics, and more.

- ***NC Vision Zero Target Tracking Dashboard***
  A gated online data visualization system for safety stakeholders to track traffic safety goals and identify effective data-informed strategies for reducing traffic fatalities in North Carolina. The state's crash reduction goals are visually presented to (and co-tracked by) both the North Carolina State Highway Patrol and NC GHSP staff. Users can see how well they are performing with "views" specific for their geographic location. This provides a common version of the truth and the capability to more effectively prioritize safety countermeasure activities for reducing traffic crashes and fatalities.

- ***NC Vision Zero Public Dashboards***
  A series of public-facing data visualization tools for helping the general public answer questions about crash data, identify problem areas by geographic area, and understand crash data trends.

  - ***Safety Dashboard*** – Visualize and filter trends of fatalities and serious injury collisions over time
  - ***Distracted Driving*** – View locations and trends of distracted driving crashes
  - ***Commercial Vehicle Crashes*** - Explore commercial vehicle crashes and interactively filter for crash severity, date, time, and location
  - ***Crash Query Tool*** - Find answers to questions about crash data and visualize the results
  - ***Seat Belt Use Dashboard*** - Interactive map of statewide and county-level weighted seat belt use rates for North Carolina
  - ***Vision Zero Maps*** – Map-centric tool for visualizing overlapping contributing circumstances by geographic area.

NC Department of Transportation

North Carolina Geographic Information System (NC DIT-T GIS Unit)
The NCDIT-T GIS Spatial Data Operations Group's roadway linear referencing system (LRS) represents all public roads in NC and serves as the spatial representation roads officially maintained by the state. The LRS is maintained in an enterprise environment using ESRI Roads & Highways software. Road features are edge-matched, split at county and state boundaries, and corrected to match the latest available orthophotography. System roads are updated based on actions approved by either the Board of Transportation or traffic ordinances issued by the State Traffic Engineer. Non-system roads are updated based on new road additions, deletions, and spatial or attribute changes identified by running a change detection process between old and new authoritative sources (i.e. county GIS centerline). Change detection is also used to update other state-maintained roads (i.e. Wildlife Resources Commission), federal roads (i.e. National Forest Service), and roads belonging to the Eastern Band Cherokee Nation. The NCDIT-T GIS Unit provides access to LRS data as web services, web maps and downloadable files through the team's website (https://connect.ncdot.gov/resources/gis/Pages/GIS-Data-Layers.aspx) and/or GO!NC (https://ncdot.maps.arcgis.com/home/index.html).

Traffic Engineering Accident Analysis System (TEAAS)
TEAAS consists of an oracle database and custom client software developed for the purposes of performing engineering and location-based analysis of crash data. TEAAS went into production in 1999 and contains crash data for analysis purposes back to 1990. The TEAAS database is a replication of the crash database maintained by the NCDMV. Crash data is typically available in the analysis system within a few weeks of the date of the crash. This time is much shorter for crashes that are submitted electronically.

TEAAS software is available for download via the internet free of charge to state or local government personnel, law enforcement agencies, planning organizations, and research entities.

TEAAS also contains all traffic ordinance information for state-maintained roadways. Roadway information is also available in the system for the purposes of locating crashes and ordinance data.

NCDOT Division of Motor Vehicles

Fatality Analysis Reporting System (FARS)
FARS contains data for fatal traffic crashes that occur within the 50 states, the District of Columbia, and Puerto Rico. To be included in FARS, a crash must involve a motor vehicle traveling on a public roadway and result in the death of a person (including occupant of a vehicle or a non-motorist) within 30 days of the crash.

FARS was developed by the National Center for Statistics and Analysis (NCSA) of the NHTSA in 1975. The FARS objectives include: providing an overall measure of highway safety, identifying traffic safety problems and solutions, and providing an objective basis to evaluate the effectiveness of motor vehicle safety standards and highway safety initiatives.

NHTSA has a cooperative agreement with an agency in each state's government to provide information on all qualifying crashes in the state. In North Carolina, the NCDMV is the lead agency for FARS reporting. FARS data are obtained solely from the state's existing documents, including the following police crash reports, state vehicle registration files, state driver licensing files, state Highway Division data, vital statistics, death certificates, coroner/medical examiner reports, hospital medical reports, emergency medical service reports, and other state records.

More than 100 FARS data elements are coded from the documents above. The specific data elements may be modified slightly each year to conform to changing use needs, vehicle characteristics and highway safety emphasis areas. The data included in FARS do not include any personal identifying information such as names, addresses or social security numbers. Thus, data kept in FARS files and made available to the public fully conform to the federal Driver Privacy Protection Act.

Fatal crash data for each state are entered into a local microcomputer data file and daily updates are sent to NHTSA's central computer database. Data are automatically checked when entered for acceptable range values and for consistency. This makes it possible for corrections to be made immediately.

Each year, FARS data are utilized by the NCSA to publish a Traffic Safety Facts report. The report compiles fatal crash data from FARS and non-fatal crash data from the General Estimates

System. The purpose of the Traffic Safety Facts report is to present statistics about traffic crashes of all severities.

NC Crash Data

The NCDMV maintains a database that contains information on all reported crashes in the state. The database was assembled to serve as a single electronic repository for all crash data. One of the main objectives of the crash database is to make records and related data available to the law enforcement community. The current Crash Reporting System (CRS) was established in 1999, and the earliest record dates back to 1991. Crash data may either be submitted electronically using either the NCDMV Traffic Records Communication System (TRCS) application or NCDMV Electronic Crash Reporting System (ECRS), and manually through a written crash report form. The TRCS application enables law enforcement to electronically complete and submit crash reports directly to the CRS from the field. The ECRS application allows the law enforcement to electronically send crash reports in an XML format from the law enforcement repository. Written crash reports are received by NCDMV and scanned. Data entry staff key information from the scanned images stored in the database. Crash report data that are electronically submitted through TRCS are typically available within two days after NCDMV receives the report. Crash data that must be manually entered from the DMV-349 form are usually available within 30 days after the NCDMV receives the report. Updates to the CRS database are made on a daily basis. The data are never purged. A CRS data dictionary is available upon request. It is updated periodically, as needed or as request by the NCDMV Traffic Records Branch. Business rules are in place to ensure the completeness of the data. Only reportable crash data are typically entered into the CRS database; however, data are entered for all crashes that are reported, even those that may not fit the criteria of a reportable crash.

A reportable crash must meet at least one of the following criteria:

- The crash resulted in a fatality, or
- The crash resulted in a non-fatal personal injury, or
- The crash resulted in total property damage amounting to $1,000.00 or more, or
- The crash resulted in property damage of any amount to a vehicle seized, or
- The vehicle has been seized and is subject to forfeiture under G. S. 20-28.3.

All law enforcement agencies are required to report crashes that they respond to that meet one or more of the criteria.

Traffic and Criminal Software (TraCS)

The North Carolina TraCS is the NCDMV's implementation of the national model of the TraCS package. TraCS enables law enforcement officers to record and retrieve incident information from the field wherever and whenever an incident occurs. The NCDMV TraCS is an enhancement of the current CRS that enables NCDMV to receive and process crash reports electronically.

NC TraCS and NCDMV TRCS are collectively referred to as TraCS and work together to allow officers to electronically collect and transmit crash information from the field to a central repository (i.e., CRS). TraCS allows an officer to collect and validate information in his or her vehicle using a notebook computer or at a local office using a workstation. TraCS can obtain driver and vehicle information corresponding to a driver license or a vehicle (plate or VIN) from the State Titling and Registration System (STARS) and State Automated Driver License System (SADLS) through the crash database.

The primary objective of TraCS is to maintain a paperless system where creation, validation, and transmission of crash data are performed electronically. In the process of accomplishing this objective, TraCS also helps to reduce the time needed to create a crash report in the field. This translates to faster submittal of crash reports to DMV, and in turn, expedited public availability of crash data.

NC Driver License Record System Data

The NCDMV maintains the SADLS, which contains North Carolina driving records data. SADLS went into live production on November 24, 1994. The earliest driver license record stored in the system is from October 14, 1966.

Online data are processed in real time as received from various states/agencies via the American Association of Motor Vehicle Administrators Network (AAMVANet) interface. Some data files provided by outside agencies, such as the NCAOC, are not received through AAMVANet and are processed by batch each workday. Updates made to a driver record as the result of the driver turning in his or her North Carolina license and applying for a license in another state are made in real time. In addition, another example of real time updates include any updates resulting from receipt of customer information from the Social Security Administration. Overnight data updating is primarily adjudicatory in nature and involves updating the driving record based on convictions received from the NCAOC. The updated record is then applied against the standards to determine whether a suspension should result. It could also involve updating the driving record when a suspension ends or updating status information for the recently deceased.

Summary of the number of licensed drivers issued during the most recent NC Traffic Records Project year are noted in the table below. Thanks to NC DMV for providing this update to the NC TRCC.

Number of NC Licensed Drivers Issued Between 04/01/2020 & 03/31/2021 (from NC DMV)

License Group Code	Non-CDL/CDL Indicator	Category	Number of Drivers
	N	Non-CDL DL	1,395,848
	Y	CDL	92,256
I	N	ID Cards	214,093
M	N	Motorcycle Only	5
P	N	Non-CDL Permits	82,603
P	Y	CDL Permits	15,346
1	N	Limited Learner Permits	64,457
2	N	Limited Provisional Licenses	76,392
3	N	Full Provisional Licenses	32,828
4	N	Motorcycle Permits	8,210
		Total	**1,982,038**

NC Vehicle Registration Record Data

The STARS is a database maintained by the NCDMV that was created to provide automated vehicle titling and registration services. STARS represents a comprehensive automation of all vehicle titling and registration business functions and was implemented in 1996. It is one of North Carolina's largest systems and requires a high level of support and maintenance. STARS currently (as of 2020) stores information on 12,700,000 vehicles; 12,100,000 active titles; 6,860,000 active registrations; historical information on 2,900,000 cancelled titles; and 25,800,000 previous years' registrations. The major system components of STARS include titling, registration, fiscal, correspondence, inquiry, police network, imaging, inventory, printing, interface processing, headquarters, batch, and other services.

SAFETYNET – Commercial Motor Vehicle Crash Reporting

SAFETYNET is a computer system utilized by state law enforcement agencies and the Federal Motor Carrier Safety Administration (FMCSA) for the collection and management of commercial vehicle safety data. Data are collected from all safety inspections and compliance reviews performed in North Carolina and all qualifying crashes that occur on North Carolina highways. The NCDMV maintains commercial motor vehicle (CMV) crash data in the crash database. The division is responsible for forwarding CMV crash data to the NCSHP, who enter the data into SAFETYNET. SAFETYNET data are routinely transferred to the Motor Carrier Management Information System for analysis by FMCSA and are used to help determine a motor carriers' safety fitness rating. The system also allows for the electronic collection of inspection data from roadside inspection software.

FMCSA's SAFETYNET Crash Module records qualifying vehicles involved in crashes that are motor vehicle traffic crashes as defined in the ANSI D-16 Manual on the Classification of Motor Vehicle Traffic Accidents. To satisfy the definition of a motor vehicle traffic crash, the crash must not be the result of a deliberate act (e.g., suicide, police intervention) or a cataclysm (e.g., hurricane, flood). The crash must result in at least one of the following: a fatality, an injury or involve a towed vehicle. In addition, a crash must also meet the following criteria to be sent to SAFETYNET:

1. Commercial vehicles must have a gross vehicle weight rating (GVWR) > 10,000 pounds or carry hazardous materials.
2. Non-commercial vehicles must have one of the following vehicle styles: commercial bus, school bus, activity bus, other bus, light truck (carrying nine or more occupants), sport utility vehicle (carrying nine or more occupants), or van (carrying nine or more occupants).

2022 Strategic Plan

Overview

In 2022, the NC TRCC began the process of updating the 2021 Strategic Plan. The UNC Highway Safety Research Center (HSRC) worked with NC GHSP and NCDOT to review relevant materials, gather input from key agencies, and develop a plan to guide improvements to be made in traffic safety information systems over the next five years. Agencies who participated in the development of this plan included:

- NCSU ITRE
- NC DHHS
- NC GHSP
- NCAOC
- NCDOT
- NCDIT-T
- NCDMV
- NCOEMS
- NCSHP
- UNC HSRC
- UNC IPRC
- UNC CCHI

Gathering input for the plan began with the initial task of reviewing the following documents:

- *North Carolina Traffic Safety Information Systems Strategic Plan, 2021.* This plan became the benchmark for progress with respect to improvements made over the past year.
- *State of North Carolina Traffic Records Assessment, 2017*. The assessment was completed by a NHTSA Technical Assessment Team in May 2017 and included several recommendations related to traffic safety information systems.
- *North Carolina Governor's Highway Safety Program FY 2021 Highway Safety Plan*. This plan was reviewed for specific recommendations related to traffic safety information systems and for data-related recommendations related to targeted safety strategies.

The primary source of input to the plan was a strategic planning session with representatives from the agencies listed above. This session was used to review goals and objectives and monitor progress toward performance measures, which were set last year.

The plan in this current form, first developed in 2010, was intended to address improvements in traffic safety information systems over five years. However, the plan was and will continue to be reviewed on an annual cycle and modified as necessary to ensure that progress is being made in each of the areas and that new objectives are added to address changes in the state and take advantage of improvements that may lead to better systems. In other words, this is a dynamic plan.

Vision and Mission

Vision

To improve safety by significantly reducing the number of fatalities and injuries to the citizens and visitors of our state.

Mission

Provide the leadership to establish and maintain a level of coordination, communication and cooperation between agencies and stakeholders to maximize utilization and improve functionality, data accuracy, timeliness and linkages, and to advance electronic data collection, protect privacy, minimize redundancies in traffic records systems and better accomplish individual agencies' goals.

Goals and Objectives

Goals are established for the NC TRCC as an entity and for each of the six primary data systems that are required for addressing traffic safety in the state. For each of these seven goals, specific objectives, and performance measures were developed that represent the priorities for each group/system.

Traffic Records Coordinating Committee

Goal – Provide direction and facilitate coordination among the safety data stewards and stakeholders to improve the transportation safety information systems in North Carolina.

**Note: The official annual performance period for measuring performance is April to March each year. However, some of the activities described in this section include items undertaken or completed in May or June, as the final plan is delivered at the end of June each year.*

Objective	***Performance Measure/Target***	***4/1/20-3/31/21****	***4/1/21-3/31/22****
Ensure that the membership of the TRCC consists of all key stakeholders, including the owners, stewards and users of the data in NC.	An annual review of stakeholders and expansion of the TRCC membership as necessary.	Ongoing. Annual review has been conducted. TRCC is still seeking additional members to fill the gaps identified.	Ongoing. Annual review has been conducted. TRCC is still seeking additional members to fill the gaps identified.
Updating the State TR Assessment as required by NHTSA Every five years).	NC TR Self Assessment process is underway.		Ongoing. There is an active project to complete the NHTSA Self-Assessment Tool and develop a 2022 TRA Final Report.
Add a fourth TRCC meeting – basically have quarterly meetings.	AS required by NHTSA to qualify for 405 (c) funding.		Adding another TRCC meeting to be held in August 2022.
In collaboration with the NC GHSP, review and improve upon the protocol used in the identification	Annual review and improvement upon the project identification and prioritization process. *(Note: Schedule for the*	Ongoing. Formal project identification form has been created. See below – used for the first time this year.	Ongoing. Formal project identification form has been created. This process has been in place and utilized when there are project idea submittals.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
and prioritization of projects.	*approved protocol will need to align with the GHSP proposal process.)*		
	A set of guidelines created for use in identifying and prioritizing projects.	The initial TRCC project rating policy and procedure has been agreed on. See Appendix G for the policy description, project description form, and the rating sheet for the TRCC members.	The initial TRCC project rating policy and procedure has been agreed on. See Appendix G for the policy description, project description form, and the rating sheet for the TRCC members.
	A prioritized list of recommended projects provided to NC GHSP and other funding sources and agencies that align with the specific objectives of the Strategic Plan.	Used during this project year for the second time successfully.	Ongoing. We did not receive any applications this year, but the process was in place if there were project ideas.
Monitor and measure progress on existing goals and objectives.	Annual update of TRCC Strategic Plan.	Completed	Completed.
	Periodic review of ongoing projects, focusing on progress toward meeting performance measures outlined in the strategic plan.	Completed	Completed.
	Feedback to NC ECHS to report on progress made and new strategies	Updates provided at quarterly NC ECHS meetings.	Updates provided at quarterly NC ECHS meetings as requested.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
	proposed by the TRCC. Review NHTSA recommendations for TRCC activities to align our goals with the assessment document focus questions.	Ongoing	Ongoing.
Identify gaps in the current traffic records systems and explore new solutions.	Establishment and revision of goals and objectives as part of development of the next strategic plan. (*Note: Explore external funding opportunities. Examples include: 405C, NC ECHS, FHWA, NHTSA, CDC).*	Completed (June 2020)	Completed (June 2021).
Explore the value and feasibility of capturing detailed lat/long location information for citations, crashes and asset management (results have implications for multiple data systems).	Feasibility study report.	Possible future effort if resources available. Collecting Lat/long for all severe injury (K & A) crashes from ITRE.	Coordinate data is being coded from crash reports in an ongoing way for fatal and serious injury crashes, as well as bicycle and pedestrian crashes. TEAAS has been recently updated to provide tools to allow for the import and organization of coordinate data. The Traffic Safety Unit has been working with municipalities in the state that post process crashes with coordinate data to import that information into the North Carolina Crash Database so it is available for all

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
			analysis users. Relationships have been established that will allow for regular updates of this data. The Traffic Safety Unit has recently begun engagement with municipal law enforcement agencies to encourage the collection of coordinate data by officers as part of the crash reporting process. As part of this process, other post processed coordinate data has been discovered and imported into the crash database.
Share NC achievements and best practices in traffic safety information systems with other states.	Participation in regional and national conferences and peer-to-peer exchanges.	Ongoing. Presentations were made in 2020 and will be made in 2021 at the Traffic Records forum. Several TRCC members attended the 2020 on-line Traffic Records forum. The 2021 meeting will be moved to a virtual conference. Several TRCC members plan to participate. Division of Public Health is collaborating with CDC National Center for Injury Prevention and Control	Ongoing. Presentations were made in 2021 at the Traffic Records forum. Several TRCC members attended the 2021 on-line Traffic Records forum. The 2022 meeting will be in-person virtual conference. TRCC members plan to participate. Division of Public Health is collaborated with CDC National Center for Injury Prevention and

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
		linking traffic records with health data. Major changes in personnel have put a GoTeam effort on hold for a while. NC CRIS (formerly the eCrash project) continues to work with NC peers to build the new crash data system facilitated by Nancy Lefler (project PI).	Control linking traffic records with health data. Effort completed August 2021. At this time, there are no current plans to utilize a GO Team; continue to look for opportunities where a GoTeam might be beneficial. NC CRIS (formerly the eCrash project) wrapping up Phase II, and working on getting Phase III underway. Stakeholder contributions are vital component to this project to design and to build the new crash data system facilitated by Nancy Lefler (project PI).
Monitor and evaluate the achievements and best practices in traffic safety information systems in other states for potential implementation in NC.	Review of promising strategies from other states, or items shared w/ other states, and sharing back with group. Monitor USDOT/other state's TRCCs for ideas for consideration.	Continued involvement and attendance at Traffic Records Forum in Austin (August 2020) on-line. NC is a HSIS state and has an annual HSIS peer exchange on traffic record topics on-line.	Continued involvement and attendance at Virtual Traffic Records Forum in August 2021). Several members plan to attend the 2022 in-person meeting in Denver, CO August 2022. Continued. NC is a HSIS state and has an annual HSIS peer exchange on traffic record topics on-line.
Ensure that state highway safety plans include traffic safety information	Review of NC State Highway Safety Plan (SHSP).	Next update will be in 2022.	Next update will be in 2023.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
systems as a major component.	Review of Highway Safety Improvement Plan (HSIP). Review of NC Highway Safety Plan (HSP).	HSIP 2020 plans were completed and submitted. Completed (HSP 2021).	HSIP 2021 plans were completed and submitted. Completed (HSP 2022).
Expand performance measures for remaining Core Data Systems.	Performance measures for vehicle, driver, roadway, and injury surveillance.	Plans for a new project is still under consideration to assist TR agencies with this effort.	August 2022 Workshop is being planned. Plans for a project is still under consideration to assist TR agencies with this effort.

Crash Information Systems

Goal – Maintain the crash data system and expand the capabilities of the system to allow the state to use this data to track crash injury/fatality experience for use in court cases, safety improvement studies, and evaluating State driving statutes.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21*	*4/1/21-3/31/22*
Continue to enhance and expand electronic crash reporting by all enforcement agencies in the State.	Number or percentage of law enforcement agencies submitting to the electronic crash reporting system (minimum of 50% electronic submissions). Number or percentage of reported crashes submitted via the electronic crash reporting system.	45.39% (significant increase since paper reporting agencies have reduced possibly due to COVID-19.) 82.45%	50.85% (significant increase since paper reporting agencies have reduced possibly due to COVID-19.) 85.07%

Objective	*Performance Measure/Target*	*4/1/20-3/31/21*	*4/1/21-3/31/22*
	Integration and use of additional features or options for crash reporting. *(Example: geo-locating using an XML based pdf form.)*	Ongoing – collecting x and y coordinates for fatal and A-level injury crashes in NC + bike/ped crashes (Note: Brian Murphy had additional input about coordinates from Charlotte and Greensboro)	Coordinate data is being coded from crash reports in an ongoing way for fatal and serious injury crashes, as well as bicycle and pedestrian crashes. TEAAS has been recently updated to provide tools to allow for the import and organization of coordinate data.
Continue to communicate data collection and data submission protocols and business rules with third-party software vendors of electronic crash submission products to keep them apprised of changes in the North Carolina crash data systems that need to be accommodated in their software applications.	Periodic meetings with third-party vendors to share business rules and communicate changes. Periodic review and validation of third-party vendors' compliance capabilities. Initial review and validation for new third-party vendors.	Ongoing When DMV makes changes, we check to see the vendor changes are accurate. Currently 3 vendors in place	Ongoing. When DMV makes changes, we check to see the vendor changes are accurate. Currently 3 vendors in place, Southern Software, Interplat, and Central Square.
Explore the feasibility of LEA-level metrics for improving crash reporting.	Feasibility study on the potential range and use of LEA-specific metrics. *(Note: Report on types of errors made and time period for reporting, compared to peers)*	Ongoing	Ongoing.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21*	*4/1/21-3/31/22*
	Next: Review and see if it can be enhanced or built upon in the future/broadened to include quality.		
Continue to enhance the integration of crash data systems.	Continuing to correct CRS records on the basis of analysis of TEAAS data. Periodic review of the integration process between the traffic safety unit and DMV.	Ongoing Ongoing	Ongoing. Ongoing.
Ensure that crash data continue to be submitted accurately and in a timely manner to the CRS.	Average lapsed time between the time of the crash and the time of the submission. Percentage of crash reports submitted within 10 days. (GS 20-166.1 indicates that a law enforcement agency who receives an accident report must forward it to the NCDMV within 10 days after receiving the report.)	43.44 days (print submissions) 5.13 days (electronic submissions) 76.27%	59.28 days (print submissions) 5.52 days (electronic submissions) 74.57%
Ensure that crash data continue to be accurately recorded and reported to the CRS.	The percentage of rejected crash reports. (Note: no reports are accepted to the CRS until the errors in mandated data elements are corrected.) Periodic summary of crash report rejection reasons. Periodic review of business rules to target inaccurate fields.	3.73% (electronic submission only) Ongoing. Also identify any potential corrections Ongoing	4.14% (electronic submission only) Ongoing. Also identify any potential corrections Ongoing

Objective	*Performance Measure/Target*	*4/1/20-3/31/21*	*4/1/21-3/31/22*
Ensure that crash data continues to be recorded as completely as possible.	Percentage of reports that have no missing critical data elements. *(Note: Must define critical elements; see notes under prior objective.)*	Complete	Completed
	Periodic review of business rules to address completeness.	Ongoing	Ongoing.
	Feedback to LEAs with respect to their data quality.	Ongoing	Ongoing.
	Year-to-year comparison of the number of reports received to review for possible missing data.	Ongoing	Ongoing.
Ensure that crash data is recorded uniformly.	Percentage of data elements that are MMUCC compliant.	Complete	Completed.
	Year-to-year comparison of reportable vs. non-reportable crashes by LEAs.	75.99% reportable 24.01% non-reportable	75.92% reportable 24.08% non-reportable
Ensure that the crash data are accessible to key stakeholders.	Annual survey of crash data accessibility by stakeholder groups, including internal users within the NCDOT and external users such as other state agencies and universities.	Ongoing	Ongoing.
	Potential workshop with stakeholders including IT to discuss accessibility issues.	Still a future effort.	Still a future effort.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21*	*4/1/21-3/31/22*
	Provide NC Crash Data to key Stakeholders – special version of the sanitized data.	Sanitized crash data has been completed.	Sanitized crash data has been completed.
Enhance law enforcement training that will result in more complete and accurate crash reporting.	Review of alternative training methods, including distance learning and blended training options, and methods used in other fields. *(Note: EMS as an example.)* Number of law enforcement officers who receive training, including a breakdown of standard and more extensive training. Review of the current Basic Law Enforcement Training.	Brian Crissman from the NC Highway Patrol provided 42 cadets with in-person training and 23 cadets with on-line training. Update not available.	Brian Crissman provided these statistics on his training cadets in the SHP in person. Basic School cadets trained. Section 150-42 151-23 152-50 153-65 154-39 155-16.
Explore the feasibility of creating a statewide streamlined or "limited" data entry protocol for non-injury crashes within the electronic crash reporting system at the time the DMV349 is updated.	Review of the implications on the CRS database. Review of the implications on safety analysis and decision making. *Note: The issues addressed should include data acquisition, compliance with NHTSA data guidance (e.g., MMUCC), legal considerations, and*	Will be addressed from ongoing efforts of NC CRIS Future effort	NC CRIS Stakeholders discussed and decided to not pursue a "short" form; there are no plans for a limited data entry form. Future effort

Objective	*Performance Measure/Target*	*4/1/20-3/31/21*	*4/1/21-3/31/22*
	possible degradation in the information being captured in the crash report.		
Develop standards for reporting location information.	Publication of spatial location reporting standards available to third-party vendors for ECRS.	Ongoing	Completed and provided to vendors.
	Determine the best method of implementing electronic crash reporting by all LEAs statewide.	Work will continue as part of NC CRIS project	DMV provides 3 options for electronic reporting- Created fillable "smart" xpdf report form, makes TraCS available free to LEAs, and ECRS for vendor submissions.

Data Use & Integration

Goal - Provide direction and facilitate coordination among the safety data stewards to improve the integration of transportation safety information systems in North Carolina.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
Conduct a feasibility assessment of the value of and most effective means of sharing data across multiple systems within the data collection process, such as crash and citation, for consistency and accuracy of data.	Feasibility study report. *(Note: This is a project that will be addressed in the future, when all stewards are ready and funding is available to support the study.)*	Future effort	Possible future effort.
Conduct demonstration projects to illustrate the feasibility and value of data integration.	MVC Injury Data Linkage Project Repeat Offenders Project	Completed the data analysis using linked crash, driver licensing, and citation (AOC) data. The project	Completed Sept 2021. Produced NC Transportation Safety & Public Health Data Dashboard. https://cchi.web.unc.edu/nc-

		team is currently preparing a final report with recommendations for reducing crashes caused by repeat offenders in NC.	transportation-safety-public-health-data-dashboard/

Citation/Adjudication Systems

Goal – Maintain and update North Carolina AOC databases and oversee the proper movement of court information and data, while centralizing information and creating citation/sharing procedures for the citation and adjudication records.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
Continue to improve electronic citation audit procedures and implement the most promising improvements to ensure citations are tracked from time of issuance to disposition of citations.	Implementation of a tracking system for unused citations.	Brazos, the replacement eCitation system is currently being roll-out statewide. This system has the capabilities to quickly identify data transmission errors. This feature allows users to resolve data issues and transmit citations to the court in a timely manner.	Enforcement Mobile, powered by Brazos, the replacement eCitation system was implemented statewide in the Spring of 2021. This system has the capabilities to quickly identify data transmission errors. This feature allows users to resolve data issues and transmit citations to the court in a timely manner.
Continue to improve the electronic citation submission statewide.	Length of time for citations to be received at AOC.	91.28% received within 3 days	87.60% received within 3 days. Drop due to the Covid pandemic.
Increase data capture surrounding the case management of DWI charges and convictions to aide in the analysis and	Number of DWI data element fields added to the file.	Next steps have not been defined.	AOC is working with Tyler Technologies to establish a strategic plan for the design and implementation of its e-Courts information

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
tracking of these cases.			technology initiative configure an Integrated Case Management Solution (ICMS). The e-Courts initiative, when fully implemented, will provide for the automation of all court processes, including the electronic filing, retrieval, and processing of documents.
Capture and store large video as evidence in a secure location in data center.	Expand discovery automation system to handle remote blob storage.	Future effort	AOC is working with Tyler Technologies to establish a strategic plan for the design and implementation of its e-Courts information technology initiative configure an Integrated Case Management Solution (ICMS). The e-Courts initiative, when fully implemented, will provide for the automation of all court processes, including the electronic filing, retrieval, and processing of documents.
Paperless process in court room with workflow between district attorney, judges and clerks.	Design and develop automated workflow process for citation in the courtroom.	AOC is working with Tyler Technologies to establish a strategic plan for the design and implementation of its e-Courts information technology initiative	AOC is working with Tyler Technologies to establish a strategic plan for the design and implementation of its e-Courts information

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
		configure an Integrated Case Management Solution (ICMS). The e-Courts initiative, when fully implemented, will provide for the automation of all court processes, including the electronic filing, retrieval, and processing of documents.	technology initiative configure an Integrated Case Management Solution (ICMS). The e-Courts initiative, when fully implemented, will provide for the automation of all court processes, including the electronic filing, retrieval, and processing of documents.
Reduce the time to disposition for the trial court backlog due to COVID-19.	Research, design and implement a toolkit for judicial officials to employ in their localized efforts to reduce case backlog.	N/A	AOC launched an Backlog Reduction and Swifter Justice Toolkit. The toolkit includes the following: 1. Tools to develop local action plans including a form 2. Create WebEx meeting for questions and answers working sessions to make data driven decisions Developed data integrity initiatives to electronically update large volumes of data at once.

Injury Surveillance Systems

Goal – Evaluate the need for and feasibility of a Statewide Surveillance Injury System.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
Conduct a demonstration project that links injury surveillance data with crash data to identify issues associated with linkage.	Identification of a project with defined objectives that requires linking injury surveillance data and crash data. Development of a work plan for the demonstration project. Demonstration project report.	Continuing the data linkage project to connect crash data and health data. Established NC Crash Injury Surveillance System (NC-CISS) Established MVC and Health Data Advisory Committee which first met in April 2021 and will meet again in June 2021. Work still in progress related to project sustainability. Established the NC-CISS which is incorporating the NC Crash, ED, and Death Certificate data and is almost finished	Completed project Sept 2021. Established NC Crash Injury Surveillance System (NC-CISS) Established MVC and Health Data Advisory Committee which met in June 2021. Work still in progress related to project sustainability. Established the NC-CISS which is incorporating the NC Crash, ED, and Death Certificate data. Completed the NC Transportation Safety & Public Health Data Dashboard. https://cchi.web.unc.edu/nc-transportation-safety-public-health-data-dashboard/ Completed and available online. https://cchi.web.unc.edu/transportation-health-data/

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
		completing the NC-CISS Dashboard which will make these data available to the public. Completed.	
Meet with key stakeholders to i**mprove interfaces across** the health care **databases** (EMS, Emergency Department, Hospital Discharge, Trauma Registry, Vital Records) and examine transportation injury data**.**	Develop process flow diagrams, data dictionaries, policies and procedures, data quality guidelines, annual reporting from the medical data systems to TRCC, and explore the collection of rehabilitation data.	Completed. Completed. Ongoing. Ongoing. Approval received.	Completed. Completed. Available: https://cchi.web.unc.edu/data-sources-for-motor-vehicle-crash-injury-in-north-carolina/ Completed. Completed. Completed.

Roadway Information Systems

Goal – Continue to maintain and expand an up-to-date statewide inventory of all North Carolina roadways that allows the State to track roadway changes and improvements and permits enhanced safety analysis.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
Improve the interoperability and linkage between the linear referencing system, road characteristics data, and the crash data system (TEAAS).	Successful implementation of a distributed ownership model for capturing and maintaining roadway data elements. Ability of external customers to add or edit data to the primary roadway characteristics file. Ability to integrate crashes from non-system roadways into the statewide LRS.	Completed. Future effort. Completed. Ongoing adding updates.	Completed migration to next version of software. Possible future effort. Continuously updated as data come in for 99 Counties.
	Feasibility report that includes priorities for the development of supplemental files.	Data collected – ongoing.	Data collected – still ongoing.
Data collected – ongoing.	Feasibility report.	Completed.	On Phase II of AEGIST Pooled Fund Study. Focusing on Intersections for MIRE FDE Requirements and Data Governance.
Improve data quality control for roadway data elements.	Investigate what data quality control measures are in place currently.	Ongoing.	Still ongoing. RDIP completed virtually. Quarterly data quality reports published internally, working on how best to utilize and distribute.

Driver Information Systems

Goal – Continue to maintain and update the North Carolina driver license record data to be used in road safety studies and statistical analysis and to track all North Carolina drivers and their driving records according to North Carolina law.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
Provide online a basic summary of the number of licensed North Carolina drivers, which includes their age, race, sex and county of residence. *(Note: the publication should include motorcycle endorsements, commercial licenses and learner's permits.)*	Annual online publication as part of NC Crash Facts.	2020 NC Traffic Crash Facts Report will be completed soon.	2020 NC Traffic Crash Facts Report was published, 2021 will be completed soon.
Hold mini-assessment meeting(s) with key individuals in driver license sections to address the issues of the data dictionary and improve data quality control.	Working on.	Meeting delayed due to Covid-19 pandemic.	Improved data dictionary with all of the fields.

Vehicle Information Systems

Goal – Continue to maintain and update all North Carolina vehicle registration record data for the state to be used in road safety studies and statistical analysis and to ensure all vehicles are properly licensed according to the laws of NC.

Objective	*Performance Measure/Target*	*4/1/20-3/31/21**	*4/1/21-3/31/22**
Publish a summary of the number of NC registered vehicles – by type of vehicle and county.	Annual publication as part of NC Crash Facts.	Updated for 2020.	Updated for 2021.
Hold a mini-assessment meeting(s) with key individuals in vehicle registration information systems to address the issue of data quality control.	Improve communication efforts and obtain a better understanding of the information available in the Vehicle Data System, data quality control procedures, validation of VINs, vehicle data information flow diagrams, and vehicle record purging procedures. Develop summary reports on each topic.	Still working on this important meeting – delayed due to the Covid-19 pandemic.	As a result of the TR Assessment, new contacts have been added. New TRCC contacts will be able to help.

Traffic Safety Information System Projects

Provided in this section of the report is a discussion of the process that is currently used by the NC TRCC to provide input to the NC GHSP on the selection of projects to be funded using Section 405(c) funds from NHTSA. At the end of this section is a table showing current traffic safety information system projects that are ongoing in the state.

Project Identification

The following section of this report will be dynamic and will reflect the ongoing efforts of the NC TRCC to effectively identify and prioritize initiatives to reflect its goals. The priorities and projects will change as available resources are identified. This section will also evolve as Traffic Records Assessments are completed and as information, data, and opportunities become clearer. In addition, the status of information technology directives or legislative actions can have significant effects on the items in this section.

Projects will primarily be identified by each agency effort to address a deficiency in a traffic records system, the data collection process (accuracy, completeness), achieving necessary compliance, customer service improvements (availability of data), or improving the timeliness of the data. Projects involving the linking of data for improved utilization and establishing partnerships will also be identified and receive full consideration by the NC TRCC. All projects must fully address all federal and state laws or policies concerning the privacy or protection of information. Formal and informal traffic records assessments will be a significant resource for projects and strategies.

Project Prioritization

All strategies or projects included in this report are considered important to both the short-term and long-term success of the NC TRCC, each agency and North Carolina. Each initiative will have measurable benefits. In addition to addressing data systems, data collection, the technical ability to link data or systems, or other technical components, some projects may focus on increasing the general knowledge, understanding, or marketability of the data. Projects demonstrating the results of a successful NC TRCC partnership should also be considered.

The NC TRCC also recognizes that many projects or strategies will be easier to implement and may yield high payoff and have few obstacles to archive relatively quick success. If resources become available to the NC TRCC, typically in the form of grants or possibly through the NC ECHS, a process should be in place to select these projects. As of this year, the NC TRCC has agreed on a project prioritization protocol and policy (see Appendix G for details).

Traffic Safety Information System Projects Listing

The table on the following page includes a list of current traffic safety information system projects, with the projects funded entirely or partially by Section 405(c) funds listed. Descriptions of these projects, as well as a list and description of past projects is available in Appendix C.

2022 Current 405 (c) Projects and One 402 Project

Cross Ref. #	Project	Project Number	Coordinating Agency	Budget	Budget Source
	405(c)-funded projects				
1	Automated Document Capture of Updates to DR	M3DA-22-14-02	NCDMV	$104,375	GHSP
2	NC Vision Zero & Program Support 2021-2022	M3DA-22-14-01/SA-22-09-04	NC State University/ITRE	$443,143	GHSP
3	2022 NC Traffic Safety information Systems Strategic Plan Update	TR-22-07-01	UNC/HSRC	$61,486	GHSP
4	Improving Timeliness, Accuracy & Completeness of TR Data in Haw River	M3DA-22-14-05	Haw River	$12,000	GHSP
5	eCitation Printers	M3DA-22-14-03	NC Judicial Department	$300,000	GHSP
6	NC CRIS (eCrash) Replacement Program	M3DA-22-14-04	NCDMV – Traffic Records (UNC HSRC PI – Nancy Lefler)	$500,000	GHSP
7	NC ’22 TR Assessment	TR-22-07-22	UNC/HSRC	$42,820	GHSP
8	Improving Crash Data Management Performance Measures via the xPDF	M3DA-22-14-06	NCDMV	$39,083	GHSP

Total Funded FY2022: $1,502,907

Appendix A – Conference Participation

Presentations by NC TRCC members

Current Year List of Presentations and Reports

1. North Carolina Motor Vehicle Crash Data Linkage Project. Anna Waller, Katie Harmon, Erika Redding. Presented to the North Carolina Vision Zero Meeting – Third Quarter, May 2021.
2. Linking Motor Vehicle Crash data to 3 injury datasets: Methods, Opportunities, & Limitations. Mike Dolan Fliss, Katherine J. Harmon, Anna E. Waller, Katherine A. Peticolas, Erika Redding, Sharon Schiro. Presented by Mike Fliss to the Annual Conference of the Council of State and Territorial Epidemiologists, June 2021.
3. North Carolina Motor Vehicle Crash Injury Data Linkage Project. Anna Waller, Katie Harmon, Erika Redding, Jonathan Fix. Presented by Anna Waller and Katie Harmon to the Charlotte Vision Zero meeting, July 2021.
4. The North Carolina Crash Injury Surveillance System: Data Linkage Challenges. Mike Dolan Fliss, Katherine J. Harmon, Katherine Peticolas, Erika Redding, Anna E. Waller. Presented by Mike Fliss to the 2021 ATSIP Traffic Records Forum, August 2021.
5. The North Carolina Crash Injury Surveillance System: Data Dashboard Development. Mike Dolan Fliss, Katherine J. Harmon, Erika Redding, Anna E. Waller. Presented by Mike Fliss to the 2021 ATSIP Traffic Records Forum, August 2021.
6. Data don't drive: the limitations of crash data for understanding community pedestrian and bicycle safety. Tab Combs, Dan Gelinne, and Katherine J. Harmon. Presented by Katherine Harmon to the Association of Pedestrian and Bicycle Professionals Annual Conference, August 2021.
7. Data Linkage/Integration. Katie Harmon. Presented as an HSRC Webinar. September 2021.
8. The North Carolina Crash Injury Surveillance System: Creating a motor vehicle crash injury dashboard for evidence-based decision-making. Katherine J. Harmon, Mike Dolan Fliss, Katherine A. Peticolas, Erika Redding, Anna E. Waller. Presented by Katie Harmon to the Safe States Alliance Annual Conference, September 2021.
9. NC Transportation Safety & Public Health Data Dashboard. Webinar presented by Amy Ising for the Carolina Center for Health Informatics and NC-CISS, September 2021.
10. An Innovative Approach for Characterizing Child Pedestrian Injury: An Underestimated and Understudied Problem in North Carolina. Katherine J. Harmon, Luke Morin, and

Nancy Pullen-Seufert. Presented by Katherine Harmon to the NC DOT Research & Innovation Summit, October 2021.

11. Restraint Use and Severe Injury Patterns Among Pediatric Passengers in Motor Vehicle Crashes: Exploring the Utility of Linked Health Data and Implications of Database Selection. Jonathan Fix, Erika M. Redding, Mike Dolan Fliss, Katherine J. Harmon, Sharon E. Schiro, Kathy Peticolas, Anna E. Waller. Presented by Jonathan Fix to the annual AAAM Conference, October 2021.
12. Building a MVC injury system of linked data: Lessons learned & questions answered about pedestrian injuries. Anna E. Waller and Katherine J. Harmon. Presented as a CSCRS Webinar. January 2022.
13. Data Linkage in North Carolina. Jonthan Fix, Mike Fliss, Katherine J. Harmon, Scott Proescholdbell, and Anna E. Waller. Presented as a CDC Webinar. February 2022.
14. Racial/Ethnicity Differences in Crash and Hospital Outcomes using linked NC Motor Vehicle Crash and Trauma Registry Data. Nandi Taylor. Presented by Nandi Taylor to the annual SAVIR Conference, March 2022.

Publications: April 2021-March 2022

1. Harmon KJ, Peticolas K, Redding EM, Ising A, Waller AE. Examining the effect of pedestrian crashes on vulnerable populations in North Carolina. *North Carolina Medical Journal*. 2021 Jul; 82 (4) 237-243. DOI:10.18043/ncm.82.4.237
2. Fix J, Redding EM, Fliss MD, Harmon KJ, Schiro SE, Peticolas K, Waller AE. Restraint use and severe injury patterns among pediatric passengers in motor vehicle crashes: Exploring the utility of linked health data and implications of database selection. *Traffic Injury Prevention*. 2021;22(sup1): S193-S194. doi: 10.1080/15389588.2021.1983393. Epub 2021 Nov 30. PMID: 34846956.
3. Taylor N, Harmon K. Racial/ethnicity differences in crash and hospital outcomes using linked North Carolina motor vehicle crash and trauma registry data. *Injury Prevention* 2022;28: A57.

Appendix B – NC TRCC Participants

Provided below is a list of the active participants in the NC TRCC meetings.

Name	Agency	Email Address
Brian Mayhew (Co-chair)	NCDOT	bmayhew@ncdot.gov
Eric Rodgman (Co-chair)	UNC HSRC	rodgman@hsrc.unc.edu
Brad Hibbs	FHWA	bradley.hibbs@fhwa.dot.gov
Aaron Williams	FHWA	aaron.williams@dot.gov
Bill Naff	NHTSA	Bill.Naff@dot.gov
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Eleanor Fleming	NC DHHS	eleanor.fleming@dhhs.nc.gov
Mark Ezzell	NC GHSP	mezzell@ncdot.gov
Warren Smith	NC GHSP	wgsmith@ncdot.gov
Jackie Mitchell	NC GHSP	jsmitchell@ncdot.gov
Kimberly Rutledge	NCAOC	kimberly.d.rutledge@nccourts.org
Emily Mehta	NCAOC	Emily.E.Mehta@nccourts.org
Carlton Williams	NCAOC	j.carlton.williams@nccourts.org
Brian Murphy	NCDOT	bgmurphy@ncdot.gov
Shawn Troy	NCDOT	stroy@ncdot.gov
Faith Johnson	NCDOT	fsjohnson@ncdot.gov
Roger Smock	NCDOT	rdsmock@ncdot.gov
Vishwatheja Tharuvesanchi	NCDOT-IT	vtharuvesanchi@ncdot.gov
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Erin Lesh	NCDIT-T GIS Unit	ealesh@ncdot.gov
Ryan Koschatzky	NCDIT-T GIS Unit	rjkoschatzky@ncdot.gov
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Jason Dempsey	NCDMV	jldempsey@ncdot.gov
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Cynthia Willingham	NCDMV	cmwinningham@ncdot.gov
Todd Messer	NCOEMS	todd.messer@dhhs.nc.gov
David Langley	NCSHP	david.langley@ncdps.gov
Brian Crissman	NCSHP	brian.crissman@ncshp.org
Cameron Taylor	NCSHP	cameron.taylor@ncshp.org
J Alan Stokes	Raleigh PD	james.stokes@raleighnc.gov

Greg Ferrara	NCSU ITRE	gpferrar@ncsu.edu
Matthew Kuliana	NCSU ITRE	mlkull@ncsu.edu
Nancy Lefler	UNC HSRC	lefler@hsrc.unc.edu
Katie Harmon	UNC HSRC	harmon@hsrc.unc.edu
Courtney Blake	UNC HSRC	cblake@hsrc.unc.edu
Mike Fliss	UNC IPRC	mike.dolan.fliss@unc.edu
Sharon Schiro	UNC School of Medicine	sharon_schiro@med.unc.edu
Anna Waller	UNC School of Medicine	anna_waller@med.unc.edu

Included in the table below are the historical (completed) traffic safety information system projects.

Completed (historical) projects

Project	Project Number	Coordinating Agency	Budget	Budget Source
408/405(c)-funded Projects				
Air Cards Technology to Reduce Speed Related Crashes and Increase Seat Belt Use	K9-13-11-02	NCSHP	$608,160	GHSP
ASU In-car Computer Grant	K9-14-11-06	Appalachian State University	$30,000	GHSP
Division of Motor Vehicles (DMV) Gap Analysis	K9-09-11-05	NCDMV	$56,109	GHSP
eCitation Printers	K9-13-11-03	NCAOC	$214,500	GHSP
eCitation Printers	M3DA-15-16-05	NCAOC	$303,050	GHSP
eCitation Printers	M3DA-17-14-01	NCAOC	$303,421	GHSP
eCitation/Electronic Crash Reporting	K9-13-11-05	Enfield PD	$8,000	GHSP
eCitation/Electronic Crash Reporting	K9-12-11-15	NCSHP	$46,000	GHSP
eCitation to NCAWARE interface update	M3DA-17-14-02	NCAOC	$711,660	GHSP
eCitation/NCAWARE Arrestables Interface	K9-13-11-06	NCAOC	$133,572	GHSP
eCitation Upgrade	M3DA-16-14-01	NCAOC	$288,104	GHSP
Electronic Submission of Crash Reports (DMV-349) from NCSHP	K9-08-11-04	NCSHP	$331,240	GHSP
Geocode Pedestrian Crashes Statewide and Traffic Records Strategic Plan	K9-12-11-04	HSRC	$51,421	GHSP

Project	Project Number	Coordinating Agency	Budget	Budget Source
eCitation Upgrade	M3DA-15-16-03	NCAOC	$282,804	GHSP
GIS location of Crashes	K9-11-11-03	ITRE	$15,898	GHSP
Linking Crash Reports to Medical Data in North Carolina	M3DA-17-14-04	IPRC	$215,526	GHSP
Linking EMS, Trauma, Healthcare and Crash Data Systems	K9-10-11-03	EMSPIC	Unknown	GHSP
MDTs to Enable More Officers to Perform eCitation and Electronic Crash - GPD (Garner)	K9-10-11-11	Garner Police Department	$10,000	GHSP
MDTs to Enable More Officers to Perform eCitation and Electronic Crash - GPD (Gastonia)	K9-10-11-08	Gastonia Police Department	$3,340	GHSP
MDTs to Enable More Officers to Perform eCitation and Electronic Crash – LPD	K9-10-11-04	Lenoir Police Department	$44,000	GHSP
MDTs to Enable More Officers to Perform eCitation and Electronic Crash – MCSO	K9-10-11-05	Macon County Sheriff's Office	$16,000	GHSP
MDTs to Enable More Officers to Perform eCitation and Electronic Crash - NC Highway Patrol	K9-10-11-07	NCSHP	$331,240	GHSP
MDTs to Enable More Officers to Perform eCitation and Electronic Crash – NPD	K9-10-11-12	Norwood Police Department	$4,850	GHSP
MDTs to Enable More Officers to Perform eCitation and Electronic Crash – TPD	K9-10-11-06	Taylorsville Police Department	$11,372	GHSP
NC Crash Data Website	M3DA-16-14-04	HSRC	$61,222	GHSP

Project	Project Number	Coordinating Agency	Budget	Budget Source
NC DOT Traffic Engineering TR Guidebook	K9-09-11-06	NCDOT	$6,342	GHSP
NC DOT Traffic Engineering TRCC Support	K9-09-11-07	NCDOT	$33,000	GHSP
NC Traffic Safety Information Systems Strategic Plan Update	M3DA-16-16-03	HSRC	$90,843	GHSP
NC Traffic Safety Information Systems Strategic Plan Update	M3DA-15-16-04	HSRC	$39,263	GHSP
NCAOC-Batmobile for purchase of MDTs to Place Aboard Each BAT Units	K9-10-11-09	NCAOC	$10,992	GHSP
NCSHPGIS Decision Support from Motor Carrier Enforcement to Traditional Enforcement	K9-12-11-02	ITRE	$28,049	GHSP
Performance-based Web Analytic Solution for NCSHP	M3DA-15-16-06	ITRE	$135,648	GHSP
Purchase of MDTs for Electronic Crash Reporting – MDPS	K9-11-11-06	Morganton Department of Public Safety	$8,000	GHSP
Purchase of MDTs for Electronic Crash Reporting – RMPD	K9-11-11-11	Rocky Mount Police Department	$4,000	GHSP
Purchase of MDTs for Electronic Crash Reporting – SPD	K9-11-11-07	Sylva Police Department	$4,132	GHSP
Purchase of MDTs for Electronic Crash Reporting – WPD	K9-11-11-12	Warrenton Police Department	$5,425	GHSP
Purchase of Printers	K9-10-11-02	NCAOC	$325,000	GHSP
Purchase/Distribution of Printers to Expand the eCitation Program	K9-11-11-02	NCAOC	$325,000	GHSP
Records Management Grant FY2017-2018	M3DA-18-14-04	Unknown	Unknown	Unknown

Project	Project Number	Coordinating Agency	Budget	Budget Source
Salary and Benefits for a State Traffic Records Coordinator	K9-10-11-01	GHSP-Traffic Records	$67,000	GHSP
State Highway Patrol (SHP) Mobile Data Computers	K9-09-11-03	SHP	$445,639	GHSP
Systems Gap Analysis	K9-10-11-10	NCDMV	$117,420	GHSP
Quick Response System	M3DA-16-14-02	HSRC	$43,841	GHSP
TRACS Upgrade	K9-14-11-03	NCDMV	$43,300	GHSP
Vision Zero- North Carolinas Fatality Reduction Program	M3DA-17-14-03	ITRE	$422,231	GHSP
eCitation to NCAWARE interface update	M3DA-17-14-02	NCAOC	$711,660	GHSP
eCitation Printers	M3DA-17-14-01	NCAOC	$303,421	GHSP
Non-408/405(c)-funded Projects				
2013 North Carolina Traffic Safety Information Systems Strategic Plan Update	TR-13-10-03	HSRC	$22,807	GHSP
A Performance-Based Web Analytic Solution for NCSHP Operational Planning Decision Support - PHASE II	Unknown	ITRE	$142,909	GHSP
ACIS/Eastern Band of Cherokee Indians (ECBI)	Unknown	NCAOC	$67,990	EBCI/NCAOC
Administrative Office of the Courts (NCAOC) e-Citation Printers	K9-09-11-04	NCAOC	$328,157	GHSP
Alcohol Facts Website 2016	TR-16-07-03	HSRC	$40,030	GHSP
Alcohol Facts Web Site 2014	TR-14-10-03	HSRC	$40,066	GHSP
Automated Criminal Infraction System (ACIS)	Unknown	NCAOC	Unknown	NCAOC

Project	Project Number	Coordinating Agency	Budget	Budget Source
eCitation	Unknown	NCAOC	$2,001,616	GHSP/Governor's Crime Commission
Criminal Court Information System – Clerk Component (CCIS-CC)	Unknown	NCAOC	$6,301,022	NCAOC
Criminal Court Information System – District Attorney Component (CCIS-DA)	Unknown	NCAOC	$3,333,348	NCAOC
E-citation/Electronic Crash Reporting	TR-12-10-06	Roxboro PD	$40,000	GHSP
E-citation/Electronic Crash Reporting	TR-12-10-04	Enfield PD	$16,000	Enfield PD/GHSP
ECRS Program Manager Position Continuation	K9-11-11-13	NCDMV-TR	$27,400	NCDMV-TR
EMS PIC Linkage Project	Unknown	EMSPIC		GHSP, NCDOT, AOC, NCSHP, etc.
Electronic Compliance and Dismissal (ECAD)	Unknown	NCAOC	$338,000	NCAOC
Ignition Interlock Management System	Unknown	NCDOT	$1,308,089	NTSA, NCDOT
Local Law Enforcement MDT Projects	Unknown	Local PD	$19,682	GHSP
Linkage Project	Unknown	EMSPIC	Unknown	EMSPIC
Motor Vehicle Crash Injuries in Wake County, NC: Exploring available data sources and potential data linkages	TR-16-07-02	IPRC	$136,474	GHSP
Motor Vehicle Crash Injuries in Wake County, NC: Exploring available data sources and potential data linkages	TR-15-14-02	Carolina Center for Health Informatics and IPRC	$135,430	GHSP
NC Crash Data website	TR-12-10-02	HSRC	$51,782	GHSP

Project	Project Number	Coordinating Agency	Budget	Budget Source
NC Crash Data Web Site	K9-15-15-03	HSRC	$59,656	GHSP
payNCticket	Unknown	NCAOC	$185,459	NCAOC
North Carolina Traffic Safety Information Systems Strategic Plan Update	TR-17-07-03	HSRC	$72,573	GHSP
North Carolina Warrant Repository/NCAWARE	Unknown	NCAOC	$13,000,000	NCAOC
PreMIS migration to NEMSIS v3 Standard	Unknown	EMSPIC	Unknown	OEMS
Quantifying and Describing EMS Patient Transports following Motor Vehicle Crashes in North Carolina	Unknown	EMSPIC	Unknown	EMSPIC
Quick Response System	TR-18-07-02	HSRC	$24,975	GHSP
Quick Response System	TR-17-07-02	HSRC	$24,687	GHSP
Quick Response System	K9-15-15-02	HSRC	$44,640	GHSP
Quick Response System	TR-12-10-01	HSRC	$45,537	GHSP
Quick Response System for GHSP Inquiries: A Continuation	TR-13-10-01	HSRC	$44,146	GHSP
SADIP 2009	SD-09-37-G-00000	NCDMV-TR, NCSHP	$562,651	NCDMV- TR, NCSHP
SADIP 2010	SD-10-37-01-000000	NCDMV-TR	$90,218	NCDMV-TR
SADIP 2011	FM-SAD-003-11-01-00	NCDMV-TR	$872,400	NCDMV- TR, NCSHP
SADIP 2012	FM-SAD-0022-12-01-00	NCDMV-TR	$946,400	NCDMV-TR
Traffic Records	TR-18-07-01	NC GHSP	$111,800	GHSP
Traffic Records	TR-17-07-01	GHSP	$119,800	GHSP

Project	Project Number	Coordinating Agency	Budget	Budget Source
Traffic Records Support Position	M3DA-14-20-02	NCDMV	$176,800	GHSP
Truck Crash Geocoding	Unknown	ITRE	$69,000	NCSHP
Vision Zero- North Carolinas Fatality Reduction Program	M3DA-16-14-03	ITRE	$299,863	GHSP
UNC HSRC Crash Web Site Update	Unknown	HSRC	$48,483	GHSP
Weldon Electronics Enhancement	TR-15-14-03	Weldon PD	$18,000	GHSP
Web Site Using NC Crash Data	TR-13-10-02	HSRC	$55,421	GHSP

2021 Traffic Records Current Project Status Reports

See below for project descriptions for current traffic safety information system projects.

1. Highway Safety Plan and Annual Report 2021

Number(s): SA-21-09-03
Agency(ies): UNC HSRC
Project Leader(s): Arthur Goodwin
Performance Period: 10/01/2020 – 09/30/2021
Description: The goal of this project is to prepare the North Carolina Highway Safety Plan for FY2021, and the GHSP Annual Report for 2021.

All states are required to develop both a Performance Plan and a Highway Safety Plan that identifies key highway safety problem areas and develops targets for how to improve performance in these problem areas. Additionally, the Performance Plan/Highway Safety Plan includes a description of the projects and effective countermeasures the state plans to implement to reach the identified targets. The first objective of this project is to assist GHSP in preparing the Highway Safety Plan for FY2021.

The Highway Safety Plan will be developed in collaboration with NC GHSP through a statistically-based problem identification process. We will analyze statewide traffic safety data to identify the major highway safety problems facing the state. This process will involve the study of statistical relationships between traffic crashes and the characteristics of population, licensed drivers, registered vehicles and vehicle miles traveled. Trends in the data will be used to establish specific, measurable, action-oriented, realistic and time-framed (SMART) targets accompanied by one or more performance measures. The Highway Safety Plan will also describe the projects and effective countermeasures North Carolina plans to implement to reach the targets identified in the Performance Plan. The overall objective will be to demonstrate how North Carolina is addressing identified priority areas to prevent and reduce traffic fatalities and injuries. The HSP will meet the reporting criteria outlined under current Federal requirements.

To assist HSRC with this effort, GHSP will provide information needed for the successful completion of the Highway Safety Plan. This will include current and previously funded projects in each of the identified problem areas. In addition, GHSP will provide relevant data which may include: observational seat belt use data, seatbelt citation data during grant funded enforcement activities, citation results from grant funded enforcement activities, and results from statewide attitudes and awareness surveys. GHSP will also provide information about equipment requests and a cost summary.

In addition to the Highway Safety Plan, HSRC will assist GHSP in preparing North Carolina's applications for 405 funding under the Federal requirements of the FAST Act. Separate applications will be prepared for occupant protection, traffic records, impaired driving, and motorcycle safety. The application will include the Certifications and Assurances and all requirements as set forth under the FAST Act.

In the second part of this study, we will assist GHSP in preparing the 2021 Annual Report. The Annual Report will describe North Carolina's progress in reducing motor vehicle crashes and fatalities. It will document initiatives and programming efforts funded by GHSP, outline major accomplishments, and examine how closely GHSP met the targets outlined within the Highway Safety Plan. The report will also discuss relevant highway safety legislation passed and a description of projects funded during FY2021.

Specific tasks required to complete this task:

1. Identify and access data sources for examining highway safety problems in North Carolina, such as the Fatality Analysis Reporting System (FARS), NC crash data, and observational survey data.
2. Analyze at least 5 years of traffic safety data to identify the major highway safety problems in North Carolina.
3. Define highway safety targets and performance measures for the 15 core outcomes, behavior, and activity measures identified by NHTSA and GHSA.
4. Define additional targets and performance measures for other identified high-priority highway safety problems.
5. Describe criteria used to identify the state's highway safety problems and define targets.
6. Describe GHSP programs and activities that have been implemented to address each problem area and reach stated targets.

Performance Areas: Accuracy, Accessibility, Completeness, Timeliness, Uniformity
Performance Measures: Prepare and submit the FY2021 Highway Safety Plan to GHSP by June 15, 2021.
Status: In progress.
Sponsoring Agency: NC GHSP
Total budget: $108,471? (budget last year)
For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

2. 2021 North Carolina Traffic Safety Information Systems Strategic Plan Update
Number(s): TR-21-07-01
Agency(ies): UNC HSRC
Project Leader(s): Nancy Lefler
Performance Period: 10/01/2020 – 09/30/2021
Description: The North Carolina Traffic Records Coordinating Committee (TRCC) includes members from NC GHSP, NC DOT, NC AOC, NC DHHS, state and local law enforcement, EMS, and university research centers. These stakeholders are both stewards of the data and users of the data. Coordination, communication and cooperation are the defining attributes for success of the TRCC. Each stakeholder should be aware of the requirements and needs of the various data collectors, data users, data managers and traffic records systems owners. The objective of this project is to: 1) provide technical and logistics support to the TRCC to enable coordination, communication, and cooperation among the TRCC membership and other stakeholders, and 2) update the North Carolina Strategic Plan for Traffic Safety Information Systems 2021, 3) attend the 2021 North Carolina Traffic Safety Conference and the 2020 Association of Transportation

Safety Information Professionals (ATSIP) Traffic Records Forum in order to engage with national and state representatives and stay informed on traffic safety data issues at the state and national level that could impact and potentially benefit the NC TRCC.
Performance Areas: Accuracy, Accessibility, Completeness, timeliness, Uniformity
Performance Measures: HSRC staff will provide technical and logistics support to the TRCC and HSRC staff will participate in all three required TRCC meetings during the year.

Tasks associated with project:

a) Manage all logistics associated with the TRCC meetings, which includes 1) corresponding with the TRCC chair/co-chair regarding ideas for future meetings; 2) contacting members and invited speakers to make presentations; 3) setting the place, date and time for the meetings, which will be completed by January of FY2021; 3) reserving the meeting facilities; 4) sending email invitations and announcements; 5) facilitating the meetings, and 6) preparing and distributing meeting minutes.
b) Work with the NCDOT web coordinator to provide presentations, links, and meeting minutes in a timely manner for inclusion on the TRCC web site.
c) Work with the NC State Data Coordinator at NCGHSP to fulfill any communication and reporting requirements with NHTSA. This will include correspondence with NHTSA regional staff to address NHTSA questions and requests for information from NC.
d) HSRC staff members (goal=minimum of 2) will be in attendance at each TRCC meeting. As members of state, regional, and national committees on traffic information systems topics, attendees will provide updates on activities and initiatives that are related to the NC TRCC.
e) Staff may make presentations at the TRCC meetings, as requested by the TRCC Co-chairs, on topics of interest to the TRCC membership. Resources have been budgeted for up to three presentations to be conducted during the year and include preparation and analysis time in advance of the meeting.
f) Attend the 2021 North Carolina Traffic Safety Conference. HSRC staff that are currently members of the NC TRCC would attend this conference to provide an opportunity to confer with many NC representatives of state agencies such as local & state law enforcement agencies, County Health Departments, etc.

Status: In progress.
Sponsoring Agency: NC GHSP ($57,828)
Total budget: $57,828 ? (previous year budget)
For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

3. Linking Crash Reports to Medical Data in North Carolina
Number(s): 2000022645
Agency(ies): CCHI
Project Leader(s): Anna Waller, Katie Harmon, Erika Redding (manager)
Performance Period: 10/01/2020 – 09/30/2021

Description: This project began in October 2016. In Year 1, a coalition of stakeholders, including data owners and users, was convened to develop a strategy for integrating motor vehicle crash and health outcome data for NC. A primary outcome of this meeting was to identify a suitable health outcome dataset to "demonstrate" the utility of linking health outcome and motor vehicle crash data. Three health outcome data sources were prioritized for linkage: EMS, emergency department/hospital discharge, and mortality data. Three follow-up topic-specific small group meetings were held to discuss the pros/cons of each health outcome data source. Based on these meetings, EMS and emergency department/hospital discharge data were prioritized. In addition, the project team developed an implementation plan for data linkage with input from stakeholders, the TRCC, and a NHTSA GO Team. In Year 2 of this project, selected components from the implementation plan were initiated. Two pilot projects were initiated to link crash reports and EMS records, and with hospital encounter data, for pedestrian and bicycle crashes. These data linkages were evaluated, and reports of results were prepared. A second stakeholder meeting was convened to update the group on project progress and to solicit ideas for future data linkage projects. In year 3 of this project, additional linkage pilot projects, such as linkage to the NC Trauma Registry, were undertaken, while we continued to expand collaborative work to establish the framework necessary to address ongoing data integration in NC. Currently in year 4, we are continuing to expand our use of the data we successfully linked in the past, including developing and posting additional web-based reports, fact sheets and other products using linked crash-health outcome data, for use by our stakeholders and other end users. We are also expanding our health data sources to include Medicaid claims data for North Carolina, working with the Cecil G. Sheps Center for Health Services Research (Sheps Center) at UNC-Chapel Hill.
Performance Areas: Integration
Performance Measures: The success of this project will be measured by the ability to successfully link health outcome data with crash report data, evaluate the linkage process, and describe health outcomes for pedestrians, bicyclists and other road users involved in crashes.
Status: This project is in its fourth year. Three full stakeholder meetings and three smaller topic-specific small-group meetings have been conducted. A fourth full stakeholder meeting was scheduled for 3/30/2020 but had to be postponed due to COVID-19. Results of the pilot/demonstration projects completed in years 1- 3 have been reported; an implementation plan was developed and is being followed. We continue to negotiate agreements for data sources and work on pilot/demonstration projects to show the utility of linked crash and health outcome data for NC. Now completed.
Sponsoring Agency: NC GHSP ($299,879)
Total budget: same
For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

4. NC Vision Zero Technical and Program Support 2020-2021
Number(s): SA-20-09-12/M3DA-20-14-02 (20.216)
Agency(ies): ITRE
Project Leader(s): Greg Ferrara
Performance Period: 10/01/2020 – 09/30/2021

Description: For FY2020-2021, ITRE proposes to continue its program and technical support for the NC Vision Zero program in the areas of Public Stakeholder Outreach, Safety Stakeholder Coordination, and Technology Services.

1. Public Stakeholder Outreach – ITRE will continue to develop and implement a NCVZ public outreach program that promotes a unified "traffic safety culture" message delivered to the public that is focused on preventing roadway injuries and fatalities. Activities include NCVZ events, campaign development, public messaging coordination with GHSP staff, and publishing content on the NC Vision Zero website (ncvisionzero.org), as well as the NC Vision Zero social media platforms (Facebook, Twitter, Instagram).
2. Safety Stakeholder Coordination – ITRE will continue to facilitate collaboration and coordination with internal safety stakeholders (NC Vision Zero Task Force, Local LE organizations, ECHS, NCSHP, NCDOT, LEL's, etc.) for the development of North Carolina's Vision Zero program. ITRE will also provide digital resources and materials for NCVZ safety partners for enabling them to educate constituent audiences with uniform NCVZ messaging. Activities will also include hosting meetings, presentations, event assistance, and event coordination.
3. Technology Services – ITRE will continue to develop, host, and maintain data-driven data visualization tools including NC Vision Zero Analytics, NC Vision Zero Safety Dashboard, NC Vision Zero Maps, and the NC Vision Zero Crash Query Tool for visualizing crash causation factors, geographic patterns, crash trends, and performance measure goal tracking, for driving solutions that work. ITRE will also continue to develop, host, and maintain the NCVZ website (ncvisionzero.org) for enabling public and stakeholder audiences access to NCVZ content, resources, and the data visualization tools.

PUBLIC STAKEHOLDER OUTREACH

ITRE will spread awareness of North Carolina's Vision Zero program, provide additional support to current NCDOT and NHTSA campaigns, and distribute traffic safety resources and information to stakeholders through the following tasks:

- NC Vision Zero Communities – Provide support, resources, and information for North Carolina Vision Zero Community programs across the state.
- Visionaries Program – Develop and launch a pilot of a young driver safety program in at least one local high school. Participating group(s) will receive public recognition for completing traffic safety activities aimed at changing the traffic safety culture in the participating high school(s).
- Support student activities, approve and award points.
- Host a memorial display at participating school(s) to represent the number of young drivers killed in NC last year.
- Present at least once per semester to the participating school(s), including students, staff, and/or parents.
- Resource Development and Distribution – Develop and distribute traffic safety materials for education and awareness, including graphics, messaging, and social media content.

Distribute the outreach materials to a minimum of ten organizations in the state, including traffic safety groups, educators, and law enforcement.

- Public Outreach Activities – Continue public outreach activities that support the mission of the NCVZ program. Activities may include the following:
  - Safety City Traffic Safety Culture Survey – conduct third annual Traffic Safety Culture Survey to measure beliefs, attitudes, and values related to roadway safety. Information gained from the survey will be used to build campaigns, which emphasize a positive social norm of safety.
  - Assist and support GHSP NCVZ activities and events as needed.
  - Promote highway safety in North Carolina through social media campaigns and other marketing activities.
  - Post regular social media updates and road safety promotions supporting NCDOT and NHTSA safety and enforcement campaigns to the NCVZ website. ITRE will post traffic safety promotions via social media at least once a week.
  - Radio PSAs highlighting existing safety campaigns in collaboration with Vision Zero. ITRE will distribute PSAs to a minimum of five local radio stations in North Carolina.
  - Coordinate and host a World Day of Remembrance recognition exhibit.
  - Blog posts featuring updates on safety and enforcement campaigns, updated crash data, relevant news, and recognition of key stakeholders. ITRE will publish a minimum of five blog posts in FY 2018-2019.

SAFETY STAKEHOLDER ENGAGEMENT

ITRE will continue to organize and engage internal safety stakeholders for delivering NCVZ program content, driving initiatives, and conducting activities with the following tasks:

- NC Vision Zero Task Force – ITRE will continue to coordinate and host quarterly NC Vision Zero Task Force meetings. The purpose of these meetings is to provide a consistent communication stream from NC Vision Zero activities to the Executive Committee on Highway Safety, provide project updates and status reports, collect feedback and use this feedback to drive activities.
- Stakeholder Coordination - Collaborate with North Carolina's Executive Committee for Highway Safety (ECHS) members to increase visibility of the NCVZ program in current safety campaigns across the state. Present NCVZ initiatives and updates at quarterly ECHS meetings to facilitate coordinated activities. A member of the ITRE project team will plan to work at the GHSP office location one or two days per week, depending on project tasks and the mutual availability of the team member and relevant GHSP staff.
- Feedback Collection/Dissemination – Collect and disseminate feedback to stakeholders for future improvements on NC Vision Zero Analytics, public-facing visualization tools, the NC Vision Zero website, and other emerging issues. Feedback will be gathered quarterly at NC Vision Zero task force meetings.
- Presentations. Present at stakeholder conferences and meetings across the state. ITRE will present about NC Vision Zero at a minimum of five conferences in FY 2018-2019. Attendance / presentation at NCVZ-related conferences include the Bike Walk Summit, NCDTSEA Conference, NCAMPO conference, Safe Routes to School Conference, and the Safe Kids Conference.

As part of its NCVZ outreach and support role, ITRE will purchase a laptop computer to provide support staff with the capability to access NCVZ resources, content, and deliver presentations for NCVZ events, conferences, support requests, and planning activities in the field.

TECHNOLOGY SERVICES

ITRE will continue to host, maintain, and develop the NC Vision Zero website (ncvisionzero.org), as well as its constituent NCVZ data visualization / analytic applications listed below. All of these applications will be accessible via the NC Vision Zero website. Combined, these technology services provide the foundation for exposing the NCVZ program content to the general public, as well as safety partner stakeholders.

ITRE proposes to attend the annual Tableau Conference, ATSIP Traffic Records Forum, NC GHSP Traffic Safety Conference and Expo, GHSA, LifeSavers Conference, Vision Zero Cities Conference, TRB Annual Meeting, TRB Vision Zero Symposiums, the NHTSA Communication Conference, and technical training classes. Attendance and participation in national conferences, symposiums, and technical training is critical for effective implementation of technologies that provide core NCVZ decision support tools. These events are critical for keeping up with rapidly changing technologies, software, Vision Zero best practices, and industry trends. Specific knowledge gained from these events are transferred directly to development, maintenance, and dissemination of analytics, mapping, and business intelligence services.

NC Vision Zero Website (Public)

ITRE will continue to host, maintain, and develop the NC Vision Zero website (ncvisionzero.org).

- Website Hosting - ITRE will continue to host and maintain North Carolina's Vision Zero website. This includes services for website availability, analytics, search engine optimization, and domain registry.
- Architecture Maintenance - Maintain existing architecture, software, security, and updates necessary to support Vision Zero website.
- Content Development – Content will be developed and updated at least once per month. These updates include social media postings, blog posts, event announcements, press releases, and changes to individual pages. Content updates will highlight emphasis areas that GHSP and the NCVZ Task Force deem relevant, and reflect the changing requirements as the NCVZ program evolves.

NC Vision Zero Analytics (Internal)

ITRE will continue to maintain and develop the existing NC Vision Zero Analytics (NCVZA) scorecard and dashboard, as well as maintain data updates, and architecture. Functional improvements will be based on user feedback, interactive user sessions, and surveys. These maintenance and improvements tasks are listed below:

- Provision Accessibility and Availability – Continue to provision NC Vision Zero Analytics to be continuously available and accessible via the NC Vision Zero website.
- Scorecard Services – ITRE will continue to provide data visualization tools for tracking statewide, troop, troop district, Rural Planning Organization districts (RPO), and county-level online performance measures of Highway Safety Plan (HSP) goals on a monthly basis.

- Dashboard Services - ITRE will continue to provide interactive dashboard visualization tools for each geography level and user type mentioned above. These dashboards provide crash trend visualizations and maps for identifying gaps in enforcement specific to HSP focus areas, and provide visual tools for identifying countermeasure strategies specific to HSP emphasis areas.
- Performance Measure Updates - Update scorecard performance measures annually to align with the GHSP Highway Safety Plan (HSP) for the said performance period.
- Data Updates – Update scorecard and dashboard data monthly with crash data obtained from NCDOT.
- Architecture Maintenance - Maintain existing architecture, security, and updates necessary to support NC Vision Zero Analytics.
- Adjust Content - Adapt dashboard reports to meet the needs of both NCSHP and GHSP audiences. Needs will be filled based on user feedback.
- User Training – Continue to provide training to end-users as necessary. Continue to adapt NCSHP "train the trainer" program to changing conditions.
- Geo-Locate CMV Crashes - ITRE will continue to geo-locate approximately 67% of all vehicle crashes statewide and provide these crash locations for use in data visualization applications (NCVZA, NCVZ Maps, NCVZ Safety Dashboard). This task will be coordinated with ITRE's parallel project with NCDOT for infilling and increasing the percent of geolocated fatal and serious injury crashes to approximately 98%.
- GHSP Dashboard Services – ITRE will provide a minimum of 10 custom dashboard requests to GHSP staff for purposes of identifying specific NC Vision Zero gaps.
- Technology Improvements – ITRE will continue to develop and improve NC Vision Zero Analytics by providing a minimum of 10 custom dashboard requests to GHSP staff for purposes of identifying specific NC Vision Zero needs.

NC Vision Zero Maps (Public)

ITRE will continue to maintain and improve the public-facing map analytic application referred to as "NC Vision Zero Maps", a web-based crash map for seeing geographic patterns of fatal and serious injury crash points, filterable by geographic location and HSP crash factors. The tool also provides the capability to view crash reports of mapped crashes, view filtered crash data tables, and share filtered results via social media or email. ITRE will provision data updates, hosting capabilities, and technology updates as necessary. NCVZ Maps capabilities include:

- Display locations of fatalities and serious injury crashes in North Carolina
- See groupings of fatal and serious injury crashes as clusters
- Filter Location: Troop/Troop District/LEL Region/County/Municipality (intersection, railroad)
- Filter Driver Factors: Alcohol, Unbelted, Speed, Distracted Driving / Lane Departure
- Filter Driver Age: Older and Younger Driver
- Filter Vehicle Type: Bike, Pedestrian, Motorcycle, CMV
- Print and share maps via social media / email
- View detailed crash reports

NC Vision Zero Safety Dashboard (Public)

ITRE will continue to maintain and develop the NC Vision Zero Safety Dashboard, a public-facing data visualization tool for interactively exploring fatal and serious injury fatal and serious injury crash trends by Highway Safety Plan (HSP) focus areas. ITRE will continue to:

- Provision Accessibility and Availability – Continue to provision NC Vision Zero Safety Dashboard to be continuously available and accessible via the NC Vision Zero website.
- Data Updates – Continue to update and publish dashboard data monthly with crash data obtained from NCDOT.
- Architecture Maintenance - Maintain existing architecture, security, and updates necessary to support NC Vision Zero Safety Dashboard.
- Adjust Content – Develop improvements and adapt dashboard to meet the needs of stakeholder audiences. Improvements will reflect program initiatives, emphasis areas, and feedback from constituent stakeholders.

NC Vision Zero Crash Query Tool (Public)

ITRE will continue to maintain and develop the NC Vision Zero Crash Query Tool, a public-facing data visualization tool that provides detailed crash query capabilities for answering specific questions about crashes in North Carolina. Data will be available from 2012 thru the latest available month from NCDOT. Capabilities include filtering by contributing circumstances, vehicle types, crash severity, location, time and others. The tool also includes time-of-day/day-of-week heat grid, mapping, and data download capability. ITRE will continue to:

- Provision Accessibility and Availability – Continue to provision NC Vision Zero Crash Query Tool for continuous availability and accessibility via the NC Vision Zero website.
- Data Updates – Continue to update and publish data monthly with crash data obtained from NCDOT.
- Architecture Maintenance - Maintain existing architecture, security, and updates necessary to support the Crash Query Tool.
- Adjust Content - Develop improvements and adapt dashboard to meet the needs of stakeholder audiences. Improvements will reflect program initiatives, emphasis areas, and feedback from constituent stakeholders.

Performance Areas:

Performance Measures: Provide Data Driven Traffic Safety Planning Tools – Provide online scorecards, dashboards, and maps (NC Vision Zero Analytics) for tracking Highway Safety Plan performance measures and identifying gaps in safety focus areas.

- Continue to provide accessibility to 100% of all SHP supervisors
- Continue to provide accessibility to 100% of all Law Enforcement Liaison's (LELs)
- Provide accessibility to 100% of all MPO (Metropolitan Planning Organization) representatives
- Continue to provide accessibility to performance-based tools for GHSP staff to prioritize safety activities
- Provision and maintain Vision Zero website and data visualization tools for public consumption.
- Continue to provide continuous public accessibility (99.9% uptime) to the NCVZ website and data visualization tools

- Continue to provide access to NCVZ data visualization tools for 100% of county coordinators
- Continue to provide access to NCVZ data visualization tools for 100% of LEL's
- Increase total number of website page views by 15% over the performance period from 30,442 to 35,008.

Actively Engage Public and Internal Safety Stakeholders.

- Distribute outreach materials to a minimum of 10 organizations in the state, including traffic safety groups, educators, and law enforcement
- Distribute PSAs to a minimum of 5 local radio stations in North Carolina
- Host a minimum of 4 NC Vision Zero Task Force meetings
- Provide the ECHS with NCVZ program updates a minimum of once per ECHS meeting.

Status: In progress.
Sponsoring Agency: NC GHSP ($499,567)
Total budget: Same
For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

5. eCitation Printers Distribution
Number(s): M3DA-21-14-01
Agency(ies): NCAOC
Project Leader(s): Kim Rutledge
Performance Period: 10/01/2020 – 09/30/2021
Description: The eCitation program is available to all law enforcement agencies (LEAs) statewide. The NCAOC provides the software and support, while SHP provides the law enforcement training, all free of charge. The LEAs are responsible for providing the necessary computer equipment. In many instances, LEAs are unable to participate in the eCitation program due to a lack of available resources for the purchase of compatible printers. Grant proceeds will be utilized to purchase and distribute mobile printers compatible for use with the eCitation system to LEAs statewide. The goal of the project will be to further expand the adoption and utilization of the eCitation system, thereby increasing the percentage of eCitations issued versus paper citations statewide. This grant will provide printers to agencies specifically identified by GHSP to be recipients, as well as providing other agencies the opportunity to obtain printers earned through participation in the Statewide Traffic Enforcement Program (STEP). This project will also allow for attendance of the 2019 ATSIP Forum and 2019 Lifesavers Conference for the benefit of staying abreast of national trends in traffic records data collection and utilization to improve citizen and law enforcement traffic safety.
Performance Areas: Accuracy, Completeness, Timeliness, Accessibility
Performance Measures: Increase the percentage of eCitations issued versus paper citations from 88% to 91% during October 2020 to September 2021
Status: In progress. Completed.
Sponsoring Agency: NC GHSP ($301,200)
Total budget: $301,200

For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

6. NC CRIS Electronic Crash Data (old eCrash) Replacement Program
Number(s): M3DA-20-14-04
Agency(ies): NCDMV – Traffic Records
Project Leader(s): Nancy Lefler
Performance Period: 10/01/2020 – 09/30/2021 (Year 2)
Description: The Governor's Highway Safety Program funding will provide a portion of the funds necessary to facilitate the efforts of the University of North Carolina's Highway Safety Research Center (collectively referred to as HSRC) to modernize North Carolina's Division of Motor Vehicles' crash reporting program.
Based on preliminary estimates by HSRC, the total project length is expected to last approximately 5 years. HSRC expects the following time-table:

Phase I: Planning: 4 months
Phase II: Refining: 8 months
Phase III: Development and Testing: 2 Years
Phase IV: Deployment 2 years

Furthermore, HSRC estimates the total project cost of the above phases to range from $5 to $8 million over 5 years. This amount will be further refined through Phase I. Phase I will include the development of a Draft Work Plan for Phases II through IV that will define scope and monetary obligations. Phase I will take place during Fiscal Year 2019.

General Background

The North Carolina Legislature and federal laws have delegated the collection, storage, and distribution of crash records to the Division of Motor Vehicles ("DMV"). See generally N.C. Gen. § 20-166.1, N.C. Gen. § 20-43.1, 18 U.S.C. § 2721.

In 2003, DMV committed to the development of TraCS (Traffic and Criminal Software), which went into production and began accepting electronic crash data in 2006. Since its implementation, minimal substantial updates and features have been implemented, adoption has slowed, and its security now threatens personally identifiable information (PII).

In 2011, the Electronic Crash Reporting System (ECRS) began supplementing electronic crash submissions through third party vendors. However, ECRS is not a complete solution that will allow North Carolina to move towards its goal of 100% electronic submissions due to third-party pricing models.

In 2016, with the impetus from the legislature through House Bill 1030, DMV now seeks funding for replacement of DMV's dated crash reporting systems. Specifically, DMV seeks assistance from HSRC to fulfill the intentions and spirit of the North Carolina legislature to include HSRC providing:

1. A comprehensive data repository for collision data;
2. A document repository for all collision reports in the State;
3. A system or series of systems that provide DMV the capability to process and submit crash reports, electronically, reports, including that includes validation of data against business edits, a quality control application for reviewing reports, the ability to return or reject reports, and the ability to reprocess corrected reports;
1. 4.The creation of an electronic submission application that incorporates all State validation rules to ensure that submitted reports are complete, accurate and error free.
4. A database capable of sharing statewide collision data with State and federal traffic safety partners, State law enforcement agencies, and the public;
5. Compatibility with all data file formats and submission requirements for State and federal entities that require access to State collision data.
6. Interface and system to manage the delivery of crash reports with the ability for redaction for protection of PII

DMV's Current Systems
TraCS and Its Limited Future

TraCS has proven to be a buggy, labor-intensive, and resource heavy commitment. It is a client-based application that requires installation on every computer used to collect crash data. Law enforcement agencies' (LEAs) administrators are required to touch every computer whenever there are major updates to the application. The most recent update to TraCS (TRCS Version 7.1.0) led to several LEAs losing valuable crash data after updating. DOT-IT was unable to reproduce the errors experienced by the LEAs and NCDMV had to roll back the changes to an older version of TraCS. In addition to crash data submission and installation issues, Traffic Records Help Desk routinely receives complaints from LEAs using new or current versions of Windows OS. DMV's lag in the use of technology hinders the support it can offer agencies that are utilizing computers with newer operating systems (e.g. Windows 10). Although TraCS has minimal requirements for hardware, it remains a limitation or ultimately prevents LEAs from using the application due to LEA's financial constraints.

The version of TraCS that DMV is using (10.04.52) is no longer supported by the developer. The developer is now supporting TraCS 17, and based on prior experiences with updates, DMV is in a challenging position whether it can efficiently move to TraCS 17. Specifically, when DMV upgraded from TraCS 7.3 to TraCS 10 in 2013, it went through a period of several years where the current version of TraCS that was being used was not supported. The same situation presents itself again. In addition, DOT-IT recently notified DMV that the TraCS 10 application does not meet North Carolina's security requirements.
Due to these reasons, DMV management believes that TraCS is not the ideal solution to help North Carolina reach its goal of 100% electronic crash submissions.

ECRS – The Incomplete Alternative

As an alternative to TraCS, in 2011, DMV implemented ECRS to accept electronic crash submissions from LEAs utilizing third-party vendors for crash data collection.

Since inception, ECRS has proven to be more attractive to LEAs. Many agencies (including North Carolina State Highway Patrol) have stopped using TraCS and have implemented the ECRS process regardless of the costs associated with submitting electronically through ECRS. For smaller agencies, a lack of financial resources prevents them from utilizing the ECRS process. Therefore, full reliance on ECRS to meet 100% electronic submission goal is not feasible. Ultimately, 38% of crash reports submitted are through non-ECRS means.

Five Years of Stagnation and Falling Behind by National Standards and Other States

From 2006 until appropriately 2013, North Carolina experienced significant increase in electronic crash submissions. However, during the last five years, the electronic submission rate has stagnated at the low 70th percentile.

Furthermore, assessments by the National Highway Traffic Safety Administration (NHTSA) and NHTSA's Crash Data Improvement Program (CDIP) have noted deficiencies within our program. Specifically, NHTSA noted that our system currently fails to meet in the following areas:

(1) procedures and process flow;
(2) interfaces;
(3) data quality control programs

Both NHTSA and CDIP have recommended North Carolina develop a timeline with a goal for 100 percent electronic submissions of crash data to DMV. This is in part to improve the timeliness, accuracy, completeness, uniformity, and accessibility of North Carolina crash data, all of which are Traffic Records performance metrics.

Simply stated: our current means and systems do not allow us to meet or address any of these recommendations. Without a comprehensive overhaul by HSRC, DMV will continue to fail to meet these objectives and will be unable to reach 100 percent electronic crash submissions as recommended by NHTSA and CDIP. **When needed, this may require a new CDIP.**

Notably, other states are making progress in the areas recommended by NHTSA and CDIP. In a 2017 AAMVA survey, seven out of twenty states reported that they successfully mandated electronic crash submissions. Without redesigning and re-visioning how DMV processes crash reports, North Carolina will continue to fall behind a growing list of states that have dedicated the resources to achieve these objectives.
Performance Areas: Accuracy, Uniformity, Completeness, Timeliness, Accessibility
Performance Measures: Produce a written multi-year plan and estimated budget to replace North Carolina's crash data systems in an effort to improve the timeliness, accuracy, completeness, uniformity, and accessibility of the state's crash data.
Status: New DMV Crash Report Form has been agreed on. Moving forward.

Sponsoring Agency: NC GHSP ($638,000)
Total budget: Unknown
For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

7. Haw River Mobile Data Terminal GHSP Grant Request
Number(s): M3DA-21-14-05
Agency(ies): Haw River P.D.
Project Leader(s): Haw River PD
Performance Period: 10/01/2019 – 09/30/2020
Description: The acquisition of the Mobile Data Terminals by **the Haw River** Police Department will allow its officers to issue a greater percentage of its traffic citations through the E-Citation program and a means to report traffic crash data to the North Carolina Division of Motor Vehicles through the E-Crash program. The use of the E-Citation program ensures accurate and timely dissemination of information to the court system to facilitate adjudication.
Performance Areas: Accuracy, Uniformity, Completeness, Timeliness, Accessibility
Performance Measures: Utilize electronic crash reporting software to submit at least 50% of the agency's crash reports to the NCDMV
Status: In progress.
Sponsoring Agency: NC GHSP ($12,000), Town of Haw River
Total budget: $12,000
For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

8. Elizabeth City PD Mobile Data Terminal GHSP Request
Number(s): M3DA-19-14-06
Agency(ies): Elizabeth City P.D.
Project Leader(s): Elizabeth City PD
Performance Period: 10/01/2019 – 09/30/2020
Description: Elizabeth City PD

The acquisition of the Mobile Data Terminals by Elizabeth City PD will allow its officers to issue a greater percentage of its traffic citations through the E-Citation program and a means to report traffic crash data to the North Carolina Division of Motor Vehicles through the E-Crash program. Department the ability to be better prepared in identifying, prioritizing, and addressing traffic safety issues.
Performance Areas: Accuracy, Uniformity, Completeness, Timeliness, Accessibility
Performance Measures: Utilize electronic crash reporting software to submit at least 50% of the agency's crash reports to the NCDMV.
Status: Completed.
Sponsoring Agency: NC GHSP ($30,000)
Total budget: $30,000
For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

10. Macon County Sheriff's Office Mobile Data Terminal GHSP Request
Agency(ies): Macon County Sheriff's Office

Project Leader(s): Macon County Sheriff's Office
Performance Period: October 1, 2019 – September 30, 2020
Description: The acquisition of the Mobile Data Terminals by Elizabeth City PD will allow its officers to issue a greater percentage of its traffic citations through the E-Citation program and a means to report traffic crash data to the North Carolina Division of Motor Vehicles through the E-Crash program. Department the ability to be better prepared in identifying, prioritizing, and addressing traffic safety issues.
Performance Areas: Accuracy, Uniformity, Completeness, Timeliness, Accessibility
Performance Measures: Utilize electronic crash reporting software to submit at least 50% of the agency's crash reports to the NCDMV.
Status: Completed
Sponsoring Agency: NC GHSP
Total budget: $48,000
For more information, contact: Jackie Mitchell, 919-814-3655, jsmitchell@ncdot.gov

11. Truck Crash Geocoding
Agency(ies): ITRC/NCSU
Project Leader(s): Greg Ferrara
Performance Period: 2001-Present
Description: ITRE, in partnership with the Motor Carrier Enforcement (MCE) section of the North Carolina State Highway Patrol, have been developing a geospatial database of truck crashes in North Carolina since 2001. Approximately 98% of all commercial motor vehicle (CMV) crashes have been and continue to be geo-located. This project is part of an NCSHP-sponsored technical assistance program in support of FMCSA's Motor Carrier Safety Assistance Program (MCSAP). The intent is to provide accessibility to truck crash locations for enforcement personnel to help increase enforcement effectiveness.
Performance Areas: Accessibility
Performance Measures: MCE planning staff are provided access to CMV crash locations through an online application called COVERLAB Analytics, as well as a public facing data visualization tool available at coverlab.org. Accessibility is measured with page hits and site login frequencies.
Sponsoring Agency: NCSHP
Status: This project is being continuously updated annually, and dependent on sponsorship funding. Currently, the holdings are from 2001-present, with 2021 in progress.

12. xPDF Electronic Crash Reporting Form
Agency(ies): NCDMV
Project Leader(s): NCDMV – Traffic Records Leadership
Performance Period: November 2019 – October 2020
Description: The xPDF DMV-349 crash reporting form is a fillable PDF that can be utilized by law enforcement to electronically collect and send crash data in an XML format to NCDMV. NCDMV would like this to be our top priority; however, TraCS 10 is no longer supported by the developer (TEG) and is not security compliant. At this time, IT is pushing to update TraCS to the latest version (TraCS 17). IT does not have enough resources to implement the xPDF at the

same time; therefore, Traffic Records plans on writing a grant request for one programmer to code and implement the xPDF. This effort is being introduced due to the recommendations to push for 100 percent electronic crash collection and submission included in the 2013 CDIP and 2017 Traffic Records Assessment.
Performance Areas: Accuracy, Accessibility, Completeness, timeliness, Uniformity
Performance Measures: Electronic submissions help with timeliness, accuracy, uniformity, and completeness. The Electronic Submission Success Rates Report is analyzed to foster a competition amongst the LEAs submitting crashes electronically. The report encourages the LEAs to correct rejections in a timely manner. This helps with timeliness, completeness, and accuracy. The LEA Monthly Report helps track electronic crash submission volumes and is analyzed to identify irregularities so that Traffic Records can notify the LEA of any issues. This helps with timeliness and completeness.
Sponsoring Agency: GHSP
Status: The project is in the beginning/planning stages – on hold. Traffic Records management has requested a meeting with executive leadership but has not heard back from them regarding our plan. The project stems from recommendations of the 2017 NC Traffic Records Assessment, the 2013 CDIP, and the 2018 MMUCC 5 Mapping of North Carolina's Crash Data. NCDMV-Traffic Records Management met with the State of Connecticut to discuss how they were able to reach 100 percent eSubmission through the use of an XML-based pdf (xPDF) crash reporting form. At the conclusion of the meeting, the State of Connecticut offered to share their source code for the XML-based PDF (xPDF) Crash Reporting Form. NCDMV's plan for this project is to work with Law Enforcement Agency stakeholders, NCDOT (IT Support), and NCDMV executive leadership to create a similar crash reporting form for North Carolina. Currently on hold.

Traffic Records Coordinating Committee Certification

The following NC TRCC members have electronically certified this document:

Name	Agency	Email Address
Eric Rodgman	UNC HSRC	rodgman@hsrc.unc.edu
Clyde Noble	NCDMV	cnoble@ncdot.gov
Kim Rutledge	NCAOC	kimberly.d.rutledge@nccourts.org
Scott Proescholdbell	NCDPH, Injury/Violence Prev.	scott.proescholdbell@dhhs.nc.gov
Greg Ferrara	ITRE	gpferrar@ncsu.edu
Mark Ezzell	NCGHSP	mezzell@ncdot.gov
Brian Murphy	NCDOT Safety Planning Group	bgmurphy@ncdot.gov
Brian Crissman	NCSHP	brian.crissman@ncdps.gov
Vish Tharuvesanchi	NCDOT-IT	vtharuvesanchi@ncdot.gov
Anna Waller	UNC Dept of Emergency Med., CCHI	anna_waller@med.unc.edu

Model Minimum Uniform Crash Criteria

The TRCC recognizes the Model Minimum Uniform Crash Criteria (MMUCC) and recommends continuing adherence and implementation of standardized data elements to promote comparability of data within the highway safety community. The use of standardized data elements provides the necessary foundation for North Carolina's crash data system.

The crash report form (DMV-349) was last revised in the year 2000 and has been in use since January 1, 2000. The form was revised in a collaborative effort involving numerous agencies, law enforcement, research interests, medical outcome interests, as well as outside input from MMUCC expert panel members, and others. In 2010, the form was reviewed and decisions were made regarding updating form elements and attributes. However, due to the State fiscal crisis, the effort to implement these changes was postponed.

Plans are to update and modify the North Carolina crash report form in the future when funding is available to revise the form and associated databases and IT systems. When this is initiated, effort will be made to increase compliance on the crash report form and in the data dictionaries. The goal would be to adopt the MMUCC elements and attribute recommendations as much as possible and document the reasoning for any deviations from MMUCC. The current 67% compliance on the crash report form demonstrates this intent.

A recent summary of NC's MMUCC compliance from NHTSA is displayed in the table below. Contact UNC HSRC for a complete copy of the noted summary document.

NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual Structure and Mappings
Generated on 12-FEB-20

Mapping Info

State Structure Name	Guideline Name	Guideline Version	Version Comment
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	MMUCC GUIDELINES VERSION - 5	5	2019 MMUCC 5 Mapping

Total Percent Mappable for All Elements

Data Structure Name	System	Percent (%)
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	Crash	75.58 %
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	Vehicle	53.42 %

Data Structure Name	System	Percent (%)
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	Person	57.13 %
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	Roadway	56.88 %
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	Fatal Section	0 %
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	Large Vehicles & Hazardous Materials Section	18.44 %
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	Non-Motorist Section	40.83 %
NC Crash Database - DMV 349 Data Element Dictionary - 9.2015 & 2018 Crash Manual	Dynamic Data Elements	0 %

National EMS Information System NEMSIS

North Carolina's emergency medical data system is the PreHospital Medical Information System (PreMIS). PreMIS is technically located within the North Carolina Office of EMS, but it is administered through the University of North Carolina, Department of Emergency Medicine, EMS Performance Improvement Center in Chapel Hill. North Carolina has been one of the founding states involved with the NEMSIS and Greg Mears, MD was the principal investigator for NEMSIS for NHTSA's Office of Emergency Medical Services.

NC is one of the initial five states to begin submitting data into the National EMS Database. North Carolina collects all of the NEMSIS "national elements" with the exception of the two outcome data elements, Emergency Department Disposition and Hospital Disposition. The information required for these two data elements is not known at the time of an EMS event and therefore is not currently collected by EMS Systems across the state. Linkage has been done with hospital, trauma registry and plans for linking the medical examiner data sources to obtain the required information for these two elements. These two data elements would also be extremely valuable to highway safety as well as traffic records, which could be linked to EMS records containing this outcome information. It is a goal of the TRCC to obtain funding to work on this linkage.

A summary of NC's NEMSIS compliance can be found in the table below.

NC's NEMSIS Compliance can be summarized as follows:

- The State of North Carolina ***does*** maintain a state EMS pre-hospital database.
- The database currently collects all of the national data elements with the exception of the outcome data elements, E22_01 (Emergency Department Disposition) and E22_02 (Hospital Disposition) currently defined in NEMSIS.
- The system currently collects data per the NEMSIS standard from all 100 EMS Systems within NC.
- The state of North Carolina certifies that it currently ***is*** capable of exporting data to the NHTSA EMS data repository.
- The State of North Carolina certifies that it will undertake project as part of the State Traffic Safety Information System Improvement Program which will establish a NEMSIS compliant, state EMS pre-hospital database to collect the missing national data elements and attributes; and to be able to export data to the NHTSA EMS data repository as soon as practical.

Model Inventory of Roadway Elements Fundamental Data Elements (MIRE FDE) Data Collection Plan

This section provides and overview of North Carolina's strategy for meeting the Model Inventory of Roadway Elements Fundamental Data Elements (MIRE FDE) data requirements in accordance with 23 CFR, Part 924.11.

Current Status of the MIRE FDE Collection

There are approximately 107,000 miles of public roads in the State of North Carolina. Of those, the NCDOT maintains approximately 80,000, which equates to approximately 75% of all public roadways in the State. It is important to note that for the purposes of this plan, when referencing State and Non-State in terms of what the State collects it refers to ownership/maintenance; when referencing Non-Local and Local in terms of the MIRE FDE, it refers to functional class.

The Operations Program Management Unit is responsible for collecting and maintaining the roadway inventory, and the GIS unit is responsible for the line work. ESRI Roads and Highways is used to maintain the LRS and many roadway inventory elements. A roadway characteristics file is published every quarter. Anyone can access the roadway inventory GIS files; they are available on the Connect NCDOT website, (https://connect.ncdot.gov/resources/gis/Pages/GIS-Data-Layers.aspx).

The Division of Highways has the authority/responsibility for determining the improvements needed to achieve compliance with the MIRE FDE requirements. These decisions are made jointly between Safety, GIS, and the Operations Program Management Unit, with safety driving the need for new elements.

NCDOT completed a gap assessment in January 2017 comparing their roadway inventory to the FDE listing. The gap assessments results are summarized in this section.

Non-Local Paved Roads

Segments
NCDOT collects and maintains all of the segment elements on all State-owned Non-Local Paved roads. NCDOT collects and maintains almost all of the segment elements on all Non-State owned, Non-Local Paved roads. The exceptions are Surface Type, Median Type, Access Control, One/Two Way Operations, and Type of Governmental Ownership.

Intersections
The largest gaps in the FDEs for NCDOT are for Intersection data elements. NCDOT does not currently have the majority of the intersection FDEs on Non-Local Paved roads.

Interchange/Ramp
Of the 11 Interchange/Ramp elements on non-local paved roads, NCDOT maintains 7 on both State and Non-State roads. The 4 missing elements are Interchange Identifier, Location Identifier for Beginning Ramp Terminal, Roadway Type at Beginning Ramp Terminal, and Interchange Type.

Local Paved Roads
Of the nine (9) FDEs on Local Paved Roads, all but one (1) (AADT) are collected on all State Roads; and all but 4 (Surface Type, Number of Through Lanes, AADT, and Type of Governmental Ownership) are collected on all Non-State roads.

Unpaved Roads
NCDOT intends to opt out of collecting FDEs on unpaved roads. NCDOT understands: no HSIP funds can be spent on these roadways; they must consult with affected Indian tribes; and they must notify their FHWA Division Office via letter to the Division Administrator.

Appropriate Data Collection Methodology

For the MIRE FDE currently collected, the elements are updated as new roads are added. The GIS group updates the line work annually based on snapshots provided by the Counties.

There are business edits and data checks built into the system to help ensure the quality of the data, however there are no additional formal QA/QC processes. NCDOT is looking into developing performance measures to help formalize their quality practices.

There are two current pilot projects underway to help NCDOT fill the two biggest data gaps – Intersection elements and AADT. NCDOT conducted a pilot to collect data at 3,000 intersections, with the goal of developing a framework for a larger scale data collection effort. With regard to AADT, NCDOT has contracted with the University of North Carolina Charlotte on a research effort to develop a process for developing AADT on all public roads. The project is scheduled for completion in calendar year 2020.

NCDOT is currently working on an interchange inventory that will satisfy MIRE requirements for interchanges. It is anticipated that this work will be completed within calendar year 2020. NCDOT has also begun work on developing an intersection inventory. It is anticipated that the identification of intersections will be complete within calendar year 2020. Once the identification is complete, the work to begin attributing the intersections will begin.

NCDOT also became a member of the Applications of Enterprise GIS for Transportation, Guidance for a National Transportation Framework (AEGIST) pooled fund study in 2020. This pooled fund study will develop standards for a national transportation dataset as well as document best practices for linear referencing systems to maximize data quality and interoperability. One of the initial focuses of the group will be to evaluate preferred methods for managing intersection data in a linear referencing system. MIRE accommodations are a large part of this effort.

Coordination with Other Agencies

The largest data gaps exist on Non-State roads. NCDOT plans to analyze the mileage and ownership for the roadways with missing FDEs. Once that effort is complete, NCDOT can determine where there are the largest data gaps and what outreach mechanism might be most effective to working with those local agencies. This will help NCDOT determine if they can utilize information already being collected by local agencies, or if a State sponsored data collection effort is needed to obtain the data on these roadways.

Prioritization Criteria for Collection MIRE FDE on All Public Roads

The FDE collection priorities are:

- Short-term: Interchange elements and Non-Local Paved Roads Segment elements, as well as AADT on all public roads.
- Mid-term: Intersection elements, and any other remaining Non-Local paved road elements.
- Long-term: Remaining needed Local Paved Roads elements.

The data will be collected using a variety of tools including deriving elements from existing data, collecting from video logs, utilizing current pavement collection efforts to determine what else might be able to be collected at the same time, and utilizing data already being collected from local agencies. This includes exploring what additional information might be collected when the

annual linework is collected from the Counties and what additional mechanisms might need to be put in place to be able to obtain these data. NCDOT is also exploring if the E911 effort might be able to be utilized to obtain additional data. NCDOT will also explore utilizing the available FHWA technical assistance programs, primarily the Roadway Data Extraction Technical Assistance Program (RDETAP), to help fill in data gaps.

The Safety Group will be responsible for the data collection effort, with support from the Operations Program Management Unit. The data will be integrated into the existing GIS system and be made available through the same portal as other roadway inventory data. The update cycle will vary based on element.

Costs and Resources for Data Collection

NCDOT has not yet developed any cost estimates, but recognizes that this is one of the next steps needed to be conducted. NCDOT will review the FHWA *MIRE Fundamental Data Elements Cost-Benefit Estimation* report as a starting point,

https://safety.fhwa.dot.gov/rsdp/downloads/fhwasa16035_051916v10.pdf.

As mentioned above, NCDOT will also explore utilizing the available FHWA technical assistance programs, namely the RDETAP, to help fill in data gaps, as well as utilizing available TRCC funds for data collection efforts.

Appendix F – Responses to the 2017 NC TR Assessment Overall Recommendations

Responses to the 2017 NC TR Assessment Overall Recommendations:

As taken from the 2017 NC TR Assessment published on May 5, 2017 on pages 4-5, North Carolina should address the recommendations below by implementing changes to improve the ratings for the assessment questions in those section modules with lower than average scores. North Carolina can also apply for a NHTSA Traffic Records GO Team, for targeted technical assistance. Here are the responses to the current overall TR Assessment recommendations:

Crash Recommendations

Recommendation	Addressed	Not Addressed
Improve the procedures/process flows for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory	NC DMV and DOT have process flow checks in place for the Crash data being submitted by NC LE. Errors and consistency are monitored as noted in the Advisory.	NC DOT and NC DMV are both working on additional improvements to comply better with this recommendation. See pages 32-37 of the 2022 Plan.
Improve the interfaces with the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.	NC DOT has met regularly with independent vendors helping submit NC Crash data with specific LE agencies to improve the interface procedure for NC Crash data as noted in the Advisory.	NC DOT and NC DMV are both working on additional improvements to comply better with this recommendation. See pages 32-27 of the 2022 Plan.
Improve the data quality control program for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.	Procedures are in place addressing the Crash data quality and error rates are monitored as noted in Advisory.	NC DOT and NC DMV are both working on additional improvements to comply better with this recommendation. See pages 32-37 of the 2022 Plan.

Appendix F – Responses to the 2017 NC TR Assessment Overall Recommendations

Vehicle Recommendations

Recommendation	Addressed	Not Addressed
Improve the data quality control program for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.	For now, this is a future effort.	Agency has data quality control procedures for the vehicle registration data but has not yet provided documentation consistent with the Advisory best practices. The TRCC has only recently added vehicle registration agency representatives to assist with this recommendation. See pages 45 of the 2022 Plan.

Driver Recommendations

Recommendation	Addressed	Not Addressed
Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.	For now, this is a future effort.	Agency has data quality control procedures for the Driver License data but has not yet provided documentation consistent with the Advisory best practices. The TRCC has only recently added driver license agency representatives to assist with this recommendation. See page 45 of the 2022 Plan.
Improve the data dictionary for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.	For now, this is a future effort.	Agency has an informal data dictionary but has not yet provided a formal data dictionary consistent with the Advisory best practices. The TRCC has only recently added Driver License agency representatives to assist with this recommendation. See page 45 of the 2022 Plan.
Improve the data quality control program for the Driver data	For now, this is a future effort.	Agency has data quality control system parts in place for the

system to reflect best practices identified in the Traffic Records Program Assessment Advisory.		Driver License data but has not yet provided formal documentation consistent with the Advisory best practices. The TRCC has only recently added Driver License agency representatives to assist with this recommendation. See page 41 of the 2021 Plan.

Roadway Recommendations

Recommendation	Addressed	Not Addressed
Improve the data quality control program for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.	For now, this is an ongoing effort.	Agency has data quality control system parts in place for the Roadway System data but has not yet provided formal documentation consistent with the Advisory best practices. The agency has been working on improving the quality control procedures for their Roadway data. See pages 44-45 of the 2022 Plan.

Citation / Adjudication Recommendations

Recommendation	Addressed	Not Addressed
Improve the interfaces with the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.	For now, this is an ongoing effort.	Agency has interfaces for the Citation and Adjudication systems but has not yet provided formal documentation consistent with the Advisory best practices. The agency has been working on improving the interfaces for the Citation and Adjudication systems. See pages 38-41 of the 2022 Plan.

Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.	For now, this is an ongoing effort.	Agency has data quality control system parts in place for the Citation and Adjudication systems but has not yet provided formal documentation consistent with the Advisory best practices. The agency has been working on improving the quality control procedures for their Citation and Adjudication systems. See pages 38-41 of the 2022 Plan.

EMS / Injury Surveillance Recommendations

Recommendation	Addressed	Not Addressed
Improve the interfaces with the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.	For now, this is an ongoing effort.	Agency has interfaces for all the Injury Surveillance systems but has not yet provided formal documentation consistent with the Advisory best practices. The agency has been working on improving the interfaces for all the Injury Surveillance data systems. See pages 42-43 of the 2022 Plan.
Improve the data quality control program for the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.	For now, this is an ongoing effort.	Agency has data quality control system parts in place for all the Injury Surveillance data systems but has not yet provided formal documentation consistent with the Advisory best practices. The agency has been working on improving the quality control procedures for all their Injury Surveillance data systems. See pages 42-43 of the 2022 Plan.

Appendix G – NC TRCC Project Rating Policy and Procedure Description

North Carolina TRCC Project Prioritization Process

The North Carolina TRCC has developed a process to discuss, refine, and prioritize data improvement projects. That process is listed below:

- May: Discuss potential projects for the next fiscal year to help meet the goals of the Plan and address recommendations from the Traffic Records Assessment.
- July: TRCC Members use the "TRCC Project Selection Template" to submit a project application by July 30 and submit to the GHSP TRCC representative, currently Jackie Mitchell (jsmitchell@ncdot.gov).
- August: Jackie compiles and provides all of the projects applications to TRCC co-chair Eric Rodgman. Eric shares the projects with the TRCC Members.
- September: Members use the scoring sheet to develop a score for each project. Using the score and their professional judgment, members prioritize the projects numbering them from 1-#, with 1 being the highest priority. (highest score does not necessitate the ranking, some criteria may be most important that others to each member). Members send their list prioritized 1-# to Eric by the end of September.
- October: Eric compiles the list with priority scores. During the October meeting, the TRCC will review the scores and discuss each project. Based on the scores and additional discussion the TRCC will decide what the prioritized projects should be.

January: The TRCC members will use the input from the prioritization meeting to revise their project applications if needed and submit the applications to GHSP.

Appendix G – NC TRCC Project Rating Policy and Procedure Description

North Carolina Traffic Records Coordinating Committee
Fiscal Year 2020 Project Proposal Form

This form will be used by the TRCC to evaluate proposed projects for fiscal year 2020. Additional information may be requested. Please fill out this form completely and email to Jackie Mitchell by August 30, 2022 at jsmitchell@ncdot.gov

Questions? Please contact Jackie Mitchell at jsmitchell@ncdot.gov or 919-814-3655.

APPLICANT INFORMATION

Name:	
Agency:	
Address:	
City:	**County:**
Phone:	
E-mail:	

PROJECT OVERVIEW

Title: *Please include a short description for the title of the project.*

Objective: *Please include a brief 1-2 sentence statement of the purpose of the project.*

Overview/Scope: *Please include 1-2 paragraph description of the proposed effort.*

Appendix G – NC TRCC Project Rating Policy and Procedure Description

Is this project a continuation of an existing project? ☐ Yes / ☐ No **If Yes, which one:**

Safety Impact/Benefits: *Please provide a brief description of the safety impact/benefits of this project. If possible provide an estimate of the anticipated lives saved or percentage reduction in crashes that would be expected from this project.*

Covered/Impacted: Please *select one category **and** insert specific location name.*

☐ **City**	
☐ **County**	
☐ **Region**	
☐ **Statewide**	*(Additional information N/A if project covers/impacts entire state of North Carolina.)*
☐ **Other**	

Approximate Budget: *Please include an approximate budget, this can be a range, as well as any cost considerations that may be helpful for the reviewers to know. If it is anticipated that this is a multi-year project, include the budget estimate for each year.*

Budget: $
Other Cost Considerations:

SELECTION CRITERIA

1. **This project meets the following goal(s) of North Carolina Traffic Safety Information Systems:** (*Check all that apply*)

☐ **Crash Information Systems** - Maintain the crash data system and expand the capabilities of the system to allow the state to use this data to track crash injury/fatality experience for use in court cases, safety improvement studies and evaluating State driving statutes.

☐ **Citation/Adjudication Systems** - Maintain and update North Carolina AOC databases and oversee the proper movement of court information and data, while centralizing information and creating citation/sharing procedures for the citation and adjudication records.

☐ **Injury Surveillance Systems** - Evaluate the need for and feasibility of a Statewide Surveillance Injury System.

Appendix G – NC TRCC Project Rating Policy and Procedure Description

☐ **Roadway Information Systems** - Continue to maintain and expand an up-to-date statewide inventory of all North Carolina roadways that allows the State to track roadway changes and improvements and permits enhanced safety analysis.
☐ **Driver Information Systems** - Continue to maintain and update the North Carolina driver license record data to be used in road safety studies and statistical analysis and to track all North Carolina drivers and their driving records according to North Carolina law.
☐ **Vehicle Information Systems** - Continue to maintain and update all North Carolina vehicle registration record data for the state to be used in road safety studies and statistical analysis and to insure all vehicles are properly licensed according to the laws of NC.
☐ **Data Use & Integration** - Provide direction and facilitate coordination among the safety data stewards to improve the integration of transportation safety information systems in North Carolina.
☐ **Traffic Records Coordinating Committee** - Provide direction and facilitate coordination among the safety data stewards and stakeholders to improve the transportation safety information systems in North Carolina.

Addresses NHTSA data quality "6-pack" through numeric and measurable improvements *(Select all that apply, and provide description of the measures for each applicable metric)*

☐ Timeliness	
☐ Completeness	
☐ Accuracy	
☐ Uniformity	
☐ Integration	
☐ Accessibility	

2. Address Recommendations/Considerations of Federal Assessments/Reviews *(Select one)*

☐ NHTSA Traffic Records Assessment
☐ FHWA Crash Data Improvement Program
☐ FHWA Roadway Data Improvement Program
☐ FHWA Roadway Safety Data Capabilities Assessment
☐ Other:_____

3. Fills Agency Need: *Please describe how this project fulfills an agency need.*

Appendix G – NC TRCC Project Rating Policy and Procedure Description

Appendix G – NC TRCC Project Rating Policy and Procedure Description

NC TRCC Project Scoring Sheet

Project Title:

The purpose of this sheet is to provide parameters to help you prioritize projects; it is for your internal use. Assign a score from 1-10, with 10 being the highest, based on how well the project meets the stated criteria. If you think some criteria are more important than others, you can use weights in calculating the total score.

Criteria	Score (1-10, 10 being highest)	Weight	Comments
Demonstrates positive impact on safety			
Meets the goal of the relevant North Carolina Traffic Safety Information System(s)			
Addresses NHTSA data quality "6-pack" through numeric and measurable improvements			
Addresses Recommendation(s) in NHTSA Traffic Records Assessment			
Addresses Recommendations/ Considerations from other Federal Assessments/Reviews			
Fills Agency Need(s)			

Total Score: