State of North Carolina

Traffic Records Assessment

May 5, 2017

National Highway Traffic Safety Administration

Technical Assessment Team

Table of Contents

Index of Figures

Executive Summary

Out of 391 assessment questions, North Carolina met the Advisory ideal for 204 questions (52.2%), partially met the Advisory ideal for 66 questions (16.9%), and did not meet the Advisory ideal for 121 questions (30.9%).

As Figure 1 illustrates, within each assessment module, North Carolina met the criteria outlined in the *Traffic Records Program Assessment Advisory* 89.5% of the time for Traffic Records Coordinating Committee Management, 56.3% of the time for Strategic Planning, 61.4% of the time for Crash, 59% of the time for Vehicle, 40% of the time for Driver, 36.8% of the time for Roadway, 64.8% of the time for Citation / Adjudication, 44.7% of the time for EMS / Injury Surveillance, and 46.2% of the time for Data Use and Integration.

Figure 1: Rating Distribution by Module

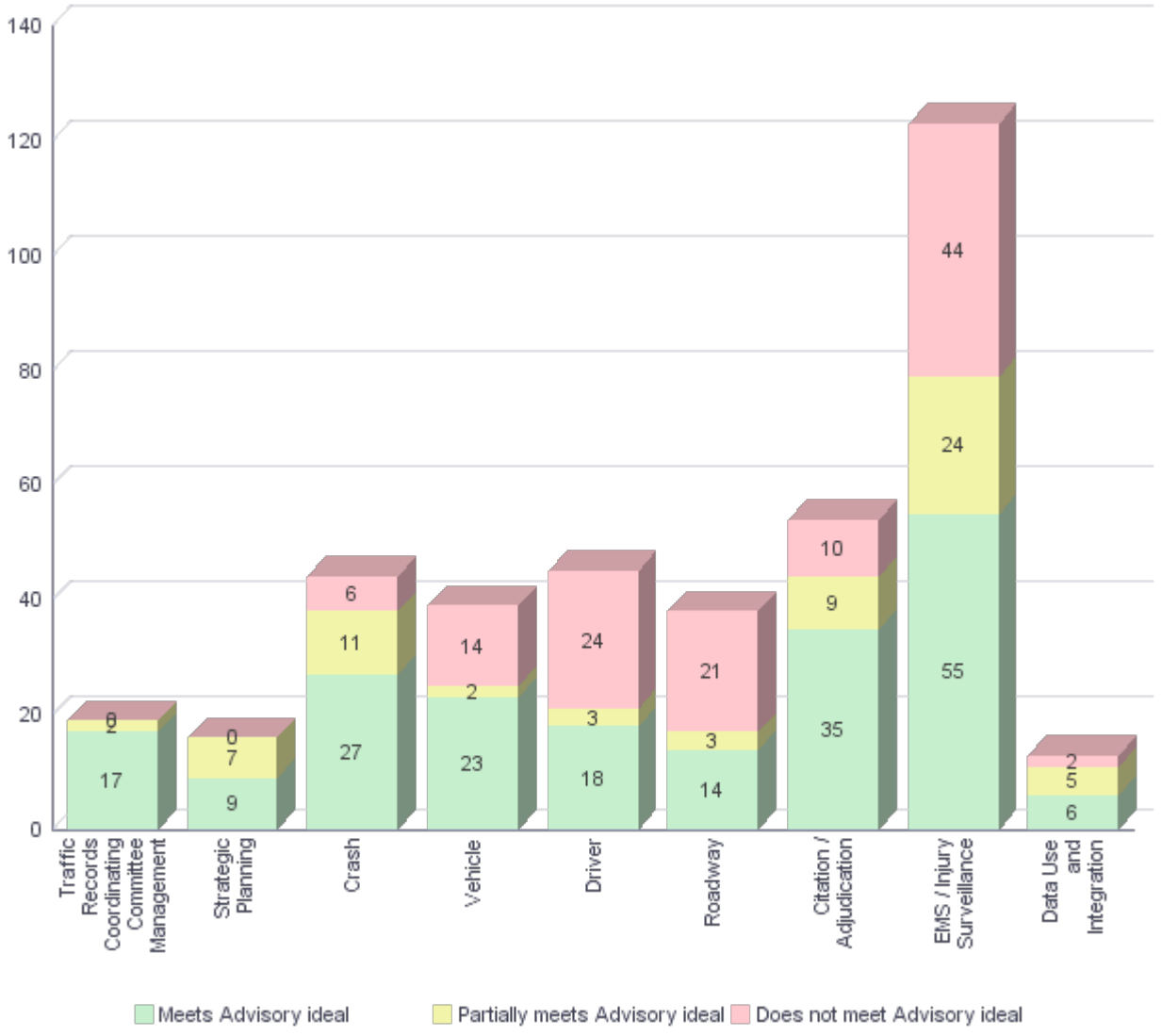


Figure 2: Assessment Section Ratings

	Crash	Vehicle	Driver	Roadway	Citation / Adjudication	EMS / Injury Surveillance
Description and Contents	100.0%	100.0%	80.0%	93.3%	91.2%	90.2%
Applicable Guidelines	100.0%	81.8%	100.0%	66.7%	93.0%	93.0%
Data Dictionaries	100.0%	100.0%	33.3%	100.0%	100.0%	73.3%
Procedures / Process Flow	83.3%	75.8%	68.6%	70.8%	86.4%	82.0%
Interfaces	66.7%	93.9%	100.0%	66.7%	81.0%	33.3%
Data Quality Control Programs	71.7%	57.7%	38.5%	38.0%	55.1%	56.5%
Overall	**83.5%**	**74.1%**	**62.5%**	**62.3%**	**83.3%**	**69.5%**

	Overall
Traffic Records Coordinating Committee Management	96.7%
Strategic Planning for the Traffic Records System	84.9%
Data Use and Integration	77.8%

Recommendations

Figure 2 shows the aggregate ratings by data system and assessment module. Each question's score is derived by multiplying its rank and rating (very important = 3, somewhat important = 2, and less important = 1; meets = 3, partially meets = 2, and does not meet = 1). The sum total for each module section is calculated based upon the individual question scores. Then, the percentage is calculated for each module section as follows:

$$Section\ average\ (\%) = \frac{Section\ sum\ total}{Section\ total\ possible}$$

The cells highlighted in red indicate the module sub-sections that scored below that data system's weighted average. The following priority recommendations are based on improving those module subsections with scores below the overall system score.

According to 23 CFR Part 1200, §1200.22, applicants for State traffic safety information system improvements grants are required to maintain a State traffic records strategic plan that—

"(3) Includes a list of all recommendations from its most recent highway safety data and traffic records system assessment; (4) Identifies which such recommendations the State intends to implement and the performance measures to be used to demonstrate quantifiable and measurable progress; and (5) For recommendations that the State does not intend to implement, provides an explanation."

North Carolina can address the recommendations below by implementing changes to improve the ratings for the 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.

Crash Recommendations

Improve the procedures/ process flows for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Improve the interfaces with the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Improve the data quality control program for the Crash data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Vehicle Recommendations

Improve the data quality control program for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Driver Recommendations

Improve the data dictionary for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Improve the data quality control program for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Roadway Recommendations

Improve the data quality control program for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Citation / Adjudication Recommendations

Improve the interfaces with the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Improve the data quality control program for the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.

EMS / Injury Surveillance Recommendations

Improve the interfaces with the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.
Improve the data quality control program for the Injury Surveillance systems to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Introduction

A traffic records system consists of data about a State's roadway transportation network and the people and vehicles that use it. The six primary components of a State traffic records system are: Crash, Driver, Vehicle, Roadway, Citation/Adjudication, and Injury Surveillance. These components address driver demographics, licensure, behavior and sanctions; vehicle types, configurations, and usage; engineering, education, enforcement measures; crash-related medical issues and actions; and how they affect highway traffic safety.

Quality traffic records data exhibiting the six primary data quality attributes—timeliness, accuracy, completeness, uniformity, integration, and accessibility—is necessary to improve traffic safety and effectively manage the motor vehicle transportation network, at the Federal, State, and local levels. Such data enables problem identification, countermeasure development and application, and outcome evaluation. Continued application of data-driven, science-based management practices can decrease the frequency of traffic crashes and mitigate their substantial negative effects on individuals and society.

State traffic records systems are the culmination of the combined efforts of collectors, managers, and users of data. Collaboration and cooperation between these groups can improve data and ensure that the data is used in ways that provide the greatest benefit to traffic safety efforts. Thoughtful, comprehensive, and uniform data use and governance policies can improve service delivery, link business processes, maximize return on investments, and improve risk management.

Congress has recognized the benefit of independent peer reviews for State traffic records data systems. These assessments help States identify areas of high performance and areas in need of improvement in addition to fostering greater collaboration among data systems. In order to encourage States to undertake such reviews regularly, Congress' Moving Ahead for Progress in the 21st Century (MAP-21) legislation requires States to conduct or update an assessment of its highway safety data and traffic records system every 5 years in order to qualify for §405(c) grant funding. The State's Governor's Representative must certify that an appropriate assessment has been completed within five years of the application deadline.

Background

In 2012, the National Highway Traffic Safety Administration published an updated *Traffic Records Program Assessment Advisory* (Report No. DOT HS 811 644). This *Advisory* was drafted by a group of traffic safety experts from a variety of backgrounds and affiliations, including: State highway safety offices, the Governors Highway Safety Association (GHSA) and the Association of Transportation Safety Information Professionals (ATSIP), as well as staff from NHTSA, FMCSA, and FHWA. The *Advisory* provides information on the contents, capabilities, and data quality of effective traffic records systems by describing an ideal that supports quality data driven decisions and improves highway safety. In addition, the *Advisory* describes in detail the importance of quality data in the identification of crash causes and outcomes, the development of effective interventions, implementation of countermeasures that prevent crashes and improve crash outcomes, updating traffic safety programs, systems, and policies, and evaluating progress in reducing crash frequency and severity.

The *Advisory* is based upon a uniform set of questions derived from the ideal model traffic records data system. This model and suite of questions is designed to be used by independent subject matter experts in their assessment of the systems and processes that govern the collection, management, and analysis of traffic records data in a given State.

Methodology

A State initiates the assessment process by submitting a formal request to its NHTSA Regional Administrator. Once that request is passed onto the NHTSA National Center for Statistics and Analysis Traffic Records Team, it appoints an assessment facilitator to work with the State Governor's Representative to identify a State assessment coordinator and appropriate State respondents for each assessment question. Respondents enter the data into NHTSA's State Traffic Records Assessment Program (STRAP), the Web-based application for the assessment. The assessment facilitator works with the State assessment coordinator to prepare for the assessment and establish a schedule consistent with the example outlined in Figure 3. Actual schedules can vary as dates may be altered to accommodate State-specific needs.

Figure 3: Traffic Records Assessment Time Table

Upon NHTSA TR Team receipt of request		Initial pre-assessment conference call
1 month prior to kickoff meeting		Facilitator introduction pre-assessment conference call
Between facilitator conference call and kickoff		State Coordinator assigns questions, enters contact information into STRAP, and builds initial document library
Assessment	Monday, Week 1	On-site kickoff meeting
	Tuesday, Week 1 – 12pm EST, Friday, Week 3	**Round 1 Data Collection**: State answers standardized assessment questions
	Friday, Week 3 – Wednesday, Week 5	**Round 1 Analysis**: Assessors review State answers and rate the responses and, if needed, request necessary clarifications
	Thursday, Week 5 – 12pm EST, Friday, Week 7	**Round 2 Data Collection**: State responds to the assessors' initial ratings and requests for more information and clarification
	Friday, Week 7 – Wednesday, Week 9	**Round 2 Analysis**: Assessors review additional information from the State and, if needed, adjust initial ratings
	Thursday, Week 9 – 12pm EST, Friday, Week 11	**Round 3 Data Collection**: State provides final response to the assessors' ratings
	Friday, Week 11 – Monday, Week 13	**Round 3 Analysis**: make final ratings
	Tuesday, Week 13 – Monday, Week 14	Facilitator prepares final report
Week 15		NHTSA delivers final report to State and Region
(After completion of assessment, date set by State)		NHTSA hosts webinar to debrief State participants
(After completion of assessment)		(OPTIONAL) State may request GO Team targeted technical assistance or training

Following a kickoff meeting that explains the assessment process, schedule, and confirms question assignments, each respondent is sent an email with a token enabling them to log onto STRAP and answer assessment questions that had been assigned to them. The respondents may (a) answer a question, (b) answer the question and refer that question to another person to answer it as well, (c) refer the question—decline the question and send the question to someone else to answer—or (d) decline the question.

The traffic records assessment is an iterative process that includes three question-answer cycles. In each, State respondents have the opportunity to answer each question assigned to them before the assessors examine their answers and supporting evidence, at which point the

assessors rate each response. The second and third question and answer cycles are used to clarify responses and provide the most accurate rating for each question. In an attempt to prioritize the capabilities of each system being assessed, each question is ranked as "very important," "somewhat important" or "less important." To assist the State in responding to each question, the *Advisory* also provides State respondents with standards of evidence that identify the specific information necessary to answer each assessment question.

A group of qualified independent assessors rates the responses and determines how closely a State's capabilities match those of the ideal system outlined in the *Advisory*. Each system component is evaluated independently by two or more assessors, who reach a consensus on the ratings. Specifically, the assessors rate each response and determine if a State (a) meets the description of the ideal traffic records system, (b) partially meets the ideal description, or (c) does not meet the ideal description. The assessors write a brief narrative to explain their rating for each question.

In order for NHTSA to accept and approve an assessment each question must have an answer. When appropriate, however, a State may answer questions with "no, we do not have this capability/use this practice" etc. These responses constitute an acceptable answer and will receive a "does not meet" rating. An assessment with unanswered or blank questions will not be acceptable and cannot be used to qualify for §405 grant funds.

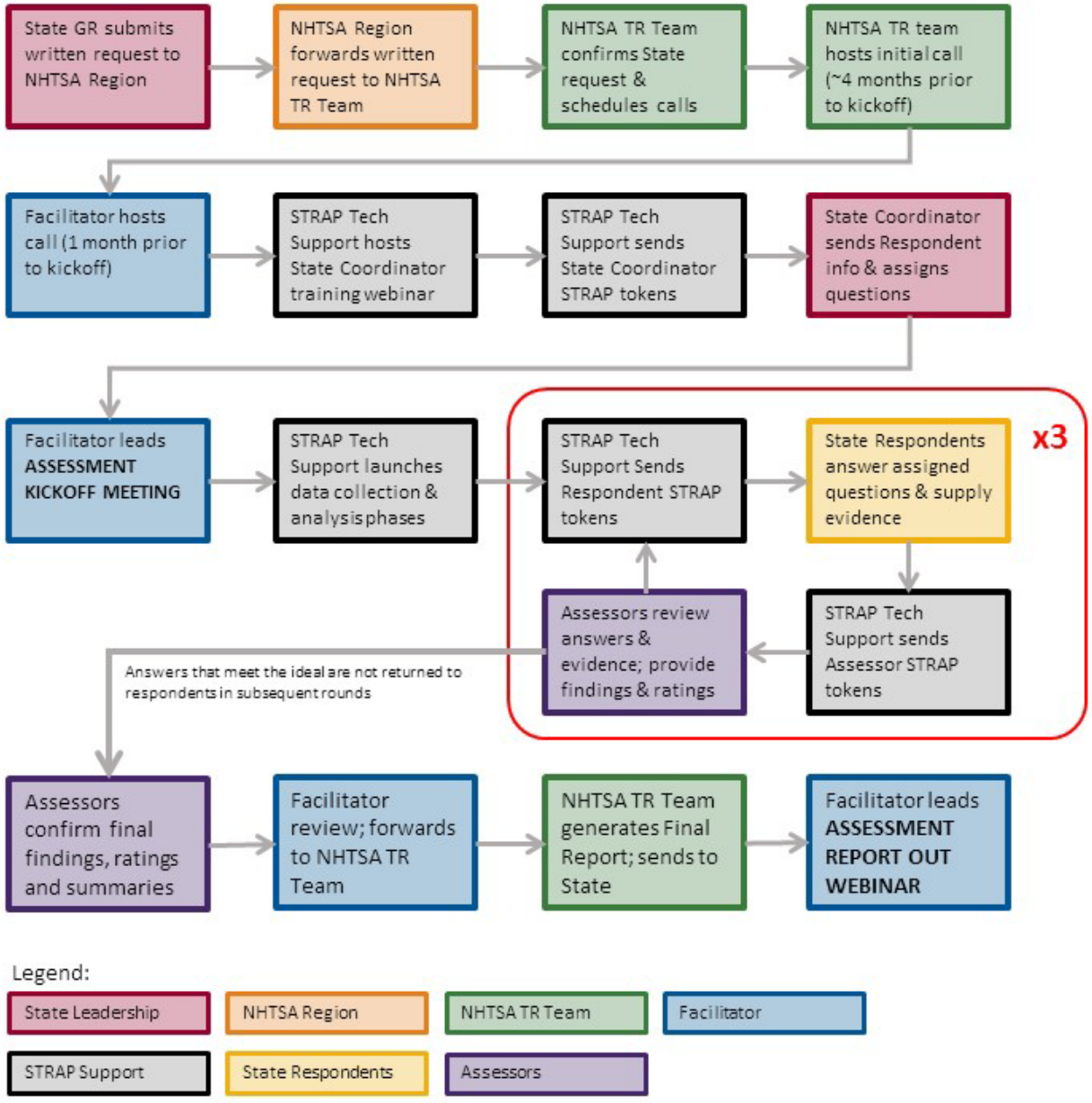
The complete traffic records assessment process is outlined in Figure 5 below.

States are encouraged to use the conclusions of this report as a basis for the State data improvement program strategic planning process, and are encouraged to review the conclusions at least annually to gauge how the State is addressing the items in this report. NHTSA can provide support in addressing these conclusions by means of GO Teams. NHTSA's Traffic Records GO Team program helps States improve their traffic records systems by deploying teams of subject matter experts to deliver tailored technical assistance and training based on States' actual needs.

Figure 4: State Schedule for the Traffic Records Assessment

Kickoff	January 31, 2017
Begin first Q&A Cycle	February 01, 2017
End first Q&A Cycle	February 17, 2017
Begin second Q&A Cycle	March 02, 2017
End second Q&A Cycle	March 17, 2017
Begin third Q&A Cycle	March 30, 2017
End third Q&A Cycle	April 14, 2017
Assessors' Final Results Complete	April 27, 2017
Final Report Due	May 09, 2017
Debrief	May 16, 2017

Figure 5: State Traffic Records Assessment Process



Results

For each question, a rating was assigned based on the answers and supporting documentation provided by the State. The ratings are shown as three icons, depicting ‘meets’, ‘partially meets’, or ‘does not meet’.

Legend:


Meets


Partially meets


Does not meet

Traffic Records Coordinating Committee Management

North Carolina has two active committees with traffic records responsibilities: an Executive Committee for Highway Safety, and a technical Traffic Records Coordinating Committee (TRCC). The executive committee has the role of an upper-tier TRCC with oversight of the technical committee, although it has much broader scope than a typical upper-tier executive TRCC. Communications between the two committees rest upon three individuals having memberships in both. Major decisions on policy or funding allocations must have the endorsement of the executive committee as well as, in some cases, the support of higher levels of government. This committee structure works well for the State, achieving the Advisory ideal for the executive and technical functions of a TRCC. There is a Charter containing signatures of the agreement partners found in the Appendix of the traffic records strategic plan.

The technical TRCC has co-chairs plus a State Data Coordinator. Co-chair Brian Mayhew is the State Traffic Safety Engineer in the Traffic Safety Unit. He also represents the TRCC on the Executive Committee for Highway Safety. Co-chair Eric Rodgman is a retired Traffic Safety Research Database Analyst. State Data Coordinator Frank Hackney is an employee of the NC DOT Governor's Highway Safety Program, where he also serves as a project manager. The co-chairs and data coordinator work together to set meeting dates, arrange for key presentations, assist with data system problems, update the annual Traffic Records Strategic Plan, provide meeting minutes, and coordinate presentations as well as attendance at the annual Traffic Records Forum.

The TRCC enjoys regular attendance by a group of key individuals acting in a collegiate manner. The formal meeting notes for both tiers provided a sense of the interaction and participation within the meetings (three per year for the executive committee, four per year for the technical committee). Through collaborative effort with the State Highway Safety Office and the North Carolina Highway Safety Research Center, the TRCC provides the leadership and coordination necessary to develop, implement, and monitor the TRCC strategic plan. Regarding prioritization of potential projects for the plan, the TRCC has drafted a more formal process that is expected to be implemented soon. A variety of federal funds may be utilized for traffic records improvement projects.

North Carolina's TRCC enables meaningful coordination among stakeholders and serves as a forum for discussion. Technical TRCC members make recommendations to their agency superiors, rather than as a committee unit to the executive committee as a unit. There are times when it is advantageous for a TRCC to have a voice of its own and provide input to higher authority as a unit. This potential limitation is counterbalanced by good representation from the State Highway Safety Office on the technical TRCC. The TRCC is well integrated with the Information Technology (IT) offices that matter to traffic records improvement projects. Much of that IT expertise sits on the TRCC, such as the IT Manager for DMV Systems.

There are three specific performance measures in the core areas of crash and citation/adjudication, and North Carolina is working on others. In addition to adding performance measures on more core systems, North Carolina should consider having core system representatives update the TRCC during quarterly meetings on the results of their quality control activities. These quality descriptors need not be limited to formal performance measures, but

rather could consist of informal gauges of data quality that are available to system data managers on a routine basis.

North Carolina satisfies the standard for training and technical assistance in a variety of ways. Among them, the TRCC encourages attendance at the annual Traffic Records Forum. It also encourages Forum attendees to share with colleagues the knowledge and ideas thus acquired.

North Carolina laments the lack of local participants in its TRCC and indicates that recruitment efforts are always underway, without success. It is good to think of what motivates local law enforcement, traffic engineers, or others to take the time to travel to a meeting each quarter. They are essentially volunteers, and they may have to defend their attendance to their supervisor. Local members especially need to give something at each meeting and take something back from each meeting.

What they can give is their perspective on various traffic records initiatives, as well as problem areas that they see. They can explain how things work in practice, in the field. They should be asked for their opinions, observations, and comments at least once each meeting. It helps if everyone is given an opportunity to speak in a round robin at the end of the meeting. What they can take back is their special access to traffic records managers and administrators, a better understanding of the federal programs, and new knowledge. They can tell their supervisor that local perspectives were represented by virtue of an opportunity to speak during the meeting.

Consideration should also be given to other ways of obtaining local participation than via full members of the TRCC. For example, one TRCC meeting per year could be held in a different locality of the State, with the State employees being the ones to van-pool over. Arrangements could be made with a host-sponsor agency there to bolster attendance by local safety, traffic records, and research personnel, as invited guests of the TRCC. Agenda time could be allotted for local people to make presentations, as well as for TRCC members to explain their mission and ongoing projects. New collaborations may form as a result, and local interest in becoming TRCC members could be generated.

Question 1:

Does the State have both an executive and a technical TRCC?

Standard of Evidence:

Provide a charter and/or MOU. Also provide a roster with all members' names, affiliations, and titles for both the executive and technical TRCC.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has two active committees: an Executive Committee for Highway Safety, and a technical Traffic Records Coordinating Committee (TRCC). The State refers to the executive committee as having the role of an upper-tier TRCC with oversight of the technical committee. The executive committee has much broader scope than a typical upper-tier executive TRCC, a condition that has advantages as well as disadvantages. An advantage is that the executive committee is active year round with many concerns. The disadvantage is that traffic records concerns may get lost in the competition for time. Each of these committees has a member roster with appropriate State level stakeholder representation, although lacking local representation. There is also a Charter giving the TRCC official standing. However, the copy of the Charter included in an appendix in the 2016 Strategic Plan is better than the one provided for this question. The Plan copy is on official letterhead, it contains signatures of the parties in the agreement, and it is associated with the date of the updated plan (2016). These features are missing from the latter copy, and they all matter. Please use the "best" copy of the Charter for assessments from now on. Keeping it in an Appendix of the updated strategic plan is an excellent practice, but everyone needs to be aware it is there.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 2:

Do the executive TRCC members have the power to direct the agencies' resources for their respective areas of responsibility?

Standard of Evidence:

Provide a charter and/or memorandum of understanding (MOU). Also provide a roster with all members' names, affiliations, and titles for the executive TRCC.

Question Rank:
Very Important

Assessor conclusions:

There is no question that the members of the Executive Committee for Highway Safety hold positions that enable them to direct their agencies' resources towards traffic records system needs. Since the executive committee has a broad scope, it remains unclear how much benefit the technical TRCC actually derives from its existence.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 3:

Does the executive TRCC review and approve actions proposed by the technical TRCC?

Standard of Evidence:

Provide a narrative example of recent actions or programs approved by the executive TRCC (e.g., an approved project or funding proposal).

Question Rank:
Very Important

Assessor conclusions:

The North Carolina technical TRCC is typical of many States in its general organization and conceptual similarity to the Advisory. The executive TRCC, on the other hand, is unique to the State. It is a highway safety committee that provides functions of an executive TRCC. Communications between the two committees seem to rest upon three individuals having memberships in both. As the State reports: "... any funds (i.e., 405 (c) account) spent on typical projects within the NC TRCC would not have to be formally approved by the Executive Committee. Major decisions on policy issues or money allocations would have to have the endorsement of the Executive Committee as well as the support from the TR area director, the Governor's office, and in some cases, the NC legislature." The nature of these two committees and their interaction appears to be a situation where the desired outcome of the Advisory is attained. North Carolina's TRCC set up seems to work well for the State.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 4:

Does the TRCC include representation from the core data systems at both the executive and technical levels?

Standard of Evidence:

Identify the executive and technical TRCC members that represent the core data systems: crash, driver, vehicle, roadway, citation and adjudication, and injury surveillance.

Question Rank:
Very Important

Assessor conclusions:

The North Carolina TRCC includes representation from the core data systems both in the Executive Committee for Highway Safety and in the technical TRCC. It appears that technical TRCC members make recommendations to their agency superiors, rather than as a committee unit to the executive committee as a unit. There are times when it is advantageous to all stakeholders that a TRCC have a voice of its own and can provide input to higher authorities as a group. That potential limitation is counterbalanced by good representation by the Highway Safety Office (HSO) on the TRCC. There is direct input by the TRCC to the funding agency.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 5:

Does the TRCC consult with the appropriate State IT agency or offices when planning and implementing technology projects?

Standard of Evidence:

Provide a narrative example of the TRCC's process of consulting the appropriate IT agency or offices. Identify the appropriate agency or offices and their responsibilities.

Question Rank: Somewhat Important

Assessor conclusions:

The TRCC is well integrated with the IT offices that matter to traffic records improvement projects. Much of that IT expertise sits on the TRCC itself, such as the IT Manager for DMV Systems. This allows the TRCC to say, "When a member agency determines that the TRCC as a collective group can assist in any consulting of IT for any planning or implementation of a project, they can engage the TRCC." It is the technical TRCC itself that is often a go-to resource when IT is involved.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 6:

Is there a formal document authorizing the TRCC?

Standard of Evidence:

Provide the authorizing document (e.g. MOU, charter).

Question Rank: Very Important

Assessor conclusions:

North Carolina established a Charter authorizing the TRCC in 2002. To avoid future confusion, the State should circulate only formal copies of the Charter (on government letterhead, with signatures) such as the one attached to the 2016 Traffic Records Strategic Plan.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 7:

Does the TRCC provide the leadership and coordination necessary to develop, implement, and monitor the TRCC strategic plan?

Standard of Evidence:

Provide a narrative describing the TRCC's role in developing the TRCC strategic plan as well as implementation of a project detailed in the plan.

Question Rank:
Very Important

Assessor conclusions:

Through collaborative effort involving the State Highway Safety Office, the NC Highway Safety Research Center, and the TRCC, this trio of focal points provides the leadership and coordination necessary to develop, implement, and monitor the TRCC strategic. The specific project noted is a great example. An all-day session each May to update the Traffic Records Strategic Plan is facilitated via consultant services of the HSRC. That allows adequate time for communication and consideration of goals and performance measures.

Meeting minutes of the TRCC are reassuring. The TRCC is an advisory group to the HSO, but also more than that. It is more than project development meetings for the newest technology improvement. The TRCC enjoys regular attendance by a group of key individuals acting in a collegiate manner with time well spent. That said, there are ways for the TRCC to improve its effectiveness. Progress on project implementation and quality monitoring should be reported at each meeting, such as by short agenda items. The process by which projects go from concept through approval of funding and then of project monitoring needs clarification as to how these three entities work together.

One shortcoming that compromises the leadership potential of the TRCC is the lack of local stakeholder participation. The TRCC is encouraged to try new avenues for acquiring local participation and input. Suggestions for doing so are provided under other questions.

Respondents assigned	**1**	**Responses received**	**1**	**Response rate**	**100%**

Question 8:

Does the TRCC influence policy decisions that impact the State's traffic records system?

Standard of Evidence:

Provide a narrative describing a specific example of how the TRCC is engaged by component agencies in the course of their decision-making processes.

Question Rank: Somewhat Important

Assessor conclusions:

The TRCC has influenced its member agencies to enter projects that would not have happened without a TRCC. An example involves the users and owners of crash and health outcome data, who now are working on linking and combining data sets. This is an excellent example of the impact of the TRCC.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 9:

Does the TRCC allocate federal traffic records improvement grant funds?

Standard of Evidence:

Specify what funds the TRCC is responsible for allocating (e.g., §405(c)) and provide a narrative describing how the TRCC allocated the most recent program year's funding.

Question Rank: Very Important

Assessor conclusions:

The North Carolina TRCC lacks a formal process for prioritizing candidate projects for funding and for incorporation into the strategic plan, relating to the allocation of federal traffic records grant funds (405c). A process has been devised by the TRCC for prioritization and is expected to be implemented soon. This is a good step and will add needed documentation to the deliberations of the TRCC. However, a formal prioritization process is not essential in this question. The TRCC does have a reasonable role in the allocation of traffic records federal funds.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 10:

Does the TRCC identify core system performance measures and monitor progress?

Standard of Evidence:

Provide at least one performance measure for each of the six core systems and describe how the TRCC identified it and has tracked its progress over time.

Question Rank:
Very Important

Assessor conclusions:

The North Carolina TRCC has three specific performance measures monitoring the progress in the core areas of crash and citation/adjudication. All six core areas should be represented in the performance measures. The State noted they are working on the others, which should be a footnote to this rating.

Respondents assigned	**1**	**Responses received**	**1**	**Response rate**	**100%**

Question 11:

Does the TRCC enable meaningful coordination among stakeholders and serve as a forum for the discussion of the State's traffic records programs, challenges, and investments?

Standard of Evidence:

Provide the charter or MOU and minutes from the two most recent technical TRCC meetings.

Question Rank:
Somewhat Important

Assessor conclusions:

The North Carolina TRCC enables meaningful coordination among stakeholders and serves as a forum for discussion. Although the TRCC meeting minutes were not attached to this question as the evidence requirement indicated, they were attached to another question in this module. Those minutes are instrumental in determining not only who attends TRCC meetings regularly, but also the quality of interaction and whether enough time is spent in meetings per year to allow for meaningful coordination. As the State pointed out numerous times in the course of responding to this assessment, local participation in the TRCC is difficult to obtain in spite of TRCC efforts. This is true almost everywhere. Efforts to recruit local participation should continue in spite of the obstacles. Consideration could be given to other ways of obtaining local participation. For example, the TRCC could hold one meeting per year in a different locality of the State and make arrangements with a host-sponsor agency there to bolster attendance by local safety and traffic records personnel. Time could be allotted for local people to make presentations, as well as for TRCC members to explain their mission and ongoing projects. If TRCC participants who are essentially volunteers are going to stay involved with the TRCC, there are a few practices of the co-chairs/coordinator that greatly enhance success. One practice is to plan meetings so that everyone gives something and everyone leaves with something. It could be making a presentation, answering a question, or gaining a few moments of time to hear or to speak with those in policy positions. One way to insure no one is missed is to go around the room asking each person to make a comment if they wish, about anything on their mind. Another practice is for occasional or regular attendance at TRCC meetings by members of the executive committee--even if those executives only say a few words (encourage the troops) and then just listen for a while. Never underestimate the morale that such appearances generate. The peripheral stakeholders, especially local ones, whose attendance is necessary for a fully functional TRCC, are especially appreciative of hearing directly from management, and of being heard by them.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 12:

Does the TRCC have a traffic records inventory?

Standard of Evidence:

Provide the traffic records inventory.

Question Rank: Somewhat Important

Assessor conclusions:

While the State has done a fine job with identifying the core systems and documenting their functions and several linkages, the development of a complete traffic records system inventory includes all data dictionaries, data definitions, linkage variables, linkages useful to the State, and data access policies.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 13:

Does the technical TRCC have a designated chair?

Standard of Evidence:

Provide a position description, identify the individual, and describe the chair's responsibilities.

Question Rank: Very Important

Assessor conclusions:

The North Carolina TRCC has Co-chairs. Brian Mayhew is the State Traffic Safety Engineer in the Traffic Safety Unit. Brian also serves as a TRCC representative on the North Carolina Executive Committee for Highway Safety. Eric Rodgman is a retired Traffic Safety Research Database Analyst. Eric helps coordinate the TRCC meetings and assists with organizing the agendas for the meetings to update the Traffic Records Strategic Plan each year. The two co-chairs work together with the State Data Coordinator to set meeting dates, arrange for key presentations from members or invited guests, assist with traffic records data system problems, update the annual Traffic Records Strategic Plan, provide the minutes for each TRCC meeting, and coordinate presentations as well as attendance at the annual Traffic Records Forum.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 14:

Does the TRCC have a designated coordinator?

Standard of Evidence:

Provide a position description, identify the individual, and describe the coordinator's responsibilities.

Question Rank: Very Important

Assessor conclusions:

The North Carolina TRCC has a position called State Data Coordinator. The position is held by Frank Hackney, an employee of the NC DOT Governor's Highway Safety Program, where he also serves as a project manager. The State Data Coordinator is to provide direction and facilitate coordination among the safety data stakeholders and to improve the transportation safety information systems in North Carolina through on-going Traffic Records Coordinating Committee activities. The Coordinator also is a member of the TRCC who serves as the liaison between the TRCC and the GHSP.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 15:

Does the executive TRCC meet at least once annually?

Standard of Evidence:

Provide a schedule of executive meeting dates from the past two program years.

Question Rank: Somewhat Important

Assessor conclusions:

The Executive Committee for Highway Safety, which serves as the executive committee for the TRCC, met three times per year in 2015 and 2016. This committee keeps formal meeting notes, and those for the 2016 meetings were provided to assessors.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 16:

Does the technical TRCC meet at least quarterly?

Standard of Evidence:

Provide a schedule of technical TRCC meeting dates for the past program year. If the TRCC has topical sub-committees, identify these groups, their purposes, and meeting dates as well.

Question Rank: Somewhat Important

Assessor conclusions:

The technical TRCC met quarterly during 2016. The TRCC Meeting notes were very much appreciated. They indicate meetings lasting at least two hours, and one was an all-day meeting. The minutes provide a sense of the interaction and participation within meetings.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 17:

Does the TRCC oversee quality control and quality improvement programs impacting the core data systems?

Standard of Evidence:

Provide meeting minutes or reports that document the quality control activities that the TRCC undertakes regularly.

Question Rank: Very Important

Assessor conclusions:

The North Carolina TRCC addresses quality control issues of the core data systems in a variety of ways, good taken together. Three Interim Reports of Progress were submitted as evidence for year to year performance measures undertaken by the TRCC. Ongoing quality control that is documented in TRCC meeting minutes would have added to the quality control activities. It is suggested that a representative from each of the core systems could provide the information from their own system as part of their remarks to the committee each quarter. These quality descriptors need not be limited to the formal performance measures, but rather could consist of informal gauges of data quality that are available to system data managers on a routine basis.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 18:

Does the TRCC address technical assistance and training needs?

Standard of Evidence:

Document TRCC discussion of technical assistance and training needs with meeting agendas or minutes.

Question Rank: Somewhat Important

Assessor conclusions:

All of the training going on related to the implementation of traffic records improvement projects, and the training done on an ongoing basis by TRCC member Sgt. Schaberg, is commendable. However, these types of training would occur to some extent without a TRCC. The Advisory ideal is looking for added concern and support for training much more broadly. North Carolina satisfies the ideal because the TRCC encourages attendance of traffic records staff at the premier meeting for traffic records education, the annual Traffic Records Forum. It also encourages attendees to share with other TRCC colleagues the knowledge and ideas thus acquired, so that training and technical assistance are always being added to the TRCC culture within the State.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 19:

Does the TRCC use a variety of federal funds to strategically allocate resources for traffic records improvement projects?

Standard of Evidence:

Provide an inventory of federal funds used to support traffic records improvement projects in the last program year.

Question Rank: Very Important

Assessor conclusions:

The TRCC may use a variety of federal funds for traffic records improvement projects. The 2016 Traffic Records Strategic Plan provides an inventory of federal funds used for the last program year.

Respondents assigned	1	Responses received	1	Response rate	100%

Strategic Planning

North Carolina's Strategic Plan is updated annually by the TRCC, most recently in June 2016. The Strategic Plan addresses data and data system deficiencies, lists projects and related funding, considers lifecycle costs and new technologies, and includes performance measures. The TRCC membership takes an active role in the review and update of the Strategic Plan, and it is through the individual members that project and training needs are identified, standards are set, and local needs are considered.

The weakest aspects of the Strategic Plan relate to documentation of processes used by the TRCC to prioritize projects, establish traffic records system performance measures, capture technical assistance and training needs, and establish timelines and agency responsibilities. While the informal processes provide some insight, more formal processes involving the TRCC as a whole, in an open, collective forum, allows a State to truly develop a Strategic Plan that consider traffic records systems comprehensively; data or system deficiencies are more readily identified and prioritized, coordination with key federal traffic records systems are more broadly considered, and project coordination, timing, and responsibilities are improved. The TRCC recognizes the need to formalize processes and has established sub-committees to propose ideas for adoption.

The TRCC considers federal funding and provides input to the GHSP on the selection of traffic records projects for federal funding. This process is also informal and ad hoc. The TRCC proposes to develop a set of evaluation criteria for future use, which is encouraging.

The TRCC struggles to obtain consistent participation from local agencies, yet clearly desires their input and persists in efforts to recruit local membership. The member agencies do appear to consider local needs, which may be where efforts are better spent. The aim is to consider local input, where directly through local agency representation on the TRCC or through other channels.

Question 20:

Does the TRCC develop the TRCC strategic plan?

Standard of Evidence:

Document the process undertaken by the TRCC in developing the strategic plan.

Question Rank:
Very Important

Assessor conclusions:

The North Carolina TRCC has an established process for creating and updating the North Carolina Traffic Records Strategic Plan each year. The process includes review of the prior year's Strategic Plan, a two-meeting discussion by all members, and approval of the final version by the TRCC. The most recent plan was published June 2016.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 21:

Does the TRCC strategic plan address existing data and data systems deficiencies and document how these deficiencies are identified?

Standard of Evidence:

Identify, with appropriate citations, how the strategic plan addresses existing data and data systems deficiencies and documents how they were identified.

Question Rank:
Very Important

Assessor conclusions:

The Strategic Plan generally addresses data and data system deficiencies. The TRCC uses the previous traffic records assessment as well as other external assessments to help identify deficiencies. Some deficiencies arise through the data quality controls applied by the custodial agencies and corrections are made within the quality control feedback loop. There is no comprehensive list of deficiencies within the plan, nor any information about how the deficiencies were identified, for example, which ones derive from previous assessments, which from in-state problem identification, and so forth.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 22:

Does the TRCC strategic plan identify strategies that address the timeliness, accuracy, completeness, uniformity, integration, and accessibility of the six core data systems?

Standard of Evidence:

Identify, with appropriate citations, how the strategic plan identifies strategies that address the timeliness, accuracy, completeness, uniformity, integration, and accessibility of the six core data systems.

Question Rank:
Very Important

Assessor conclusions:

The TRCC Strategic Plan addresses timeliness, accuracy, completeness, uniformity, integration and accessibility measures for some of the six core data systems, but not all. Strategies should be identified for each for the six core data systems. The TRCC discusses these measures in context of reported issues or concerns for some traffic records systems. It is not apparent that the TRCC considers these in the Strategic Plan, nor is it clear whether the TRCC periodically evaluates systems considered healthy and meeting performance expectations. The format of the Plan makes it difficult to determine which data attributes in which core systems are being addressed by current projects.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 23:

Does the TRCC strategic plan indicate what funds are used to undertake efforts detailed in the plan and describe how these allocations contribute to the plan's stated goals?

Standard of Evidence:

Identify, with appropriate citations, how efforts detailed in the plan are funded and explain how these allocations address the plan's stated goals as specified in the strategic plan.

Question Rank:
Very Important

Assessor conclusions:

The Strategic Plan, on pages 38-39, includes a list of projects and related funding, including both federal and State funding. These projects support the goals and objectives of the TRCC. For clarity, please consider linking the funded projects to the goals and objectives they support.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 24:

Does the TRCC have a process for prioritizing traffic records improvement projects in the TRCC strategic plan?

Standard of Evidence:

Identify, with appropriate citations, how the TRCC prioritizes traffic records improvement projects as specified in the strategic plan.

Question Rank:
Very Important

Assessor conclusions:

The TRCC does not have a documented process for project prioritization. It is noted that a TRCC sub-committee is working on developing a new process for project prioritization. The State is currently using an informal process for prioritization that includes proposed project presentation and discussion by the entire TRCC. It is significant that proposals are being reviewed by the entire TRCC, and that this input is highly regarded by the Governor's Highway Safety Program (GHSP) in dealing with project requests.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 25:

Does the TRCC have a process for identifying performance measures and corresponding metrics for the six core data systems in the TRCC strategic plan?

Standard of Evidence:

Identify, with appropriate citations, how the TRCC identifies performance measures and any corresponding metrics for each of the six core data systems as specified in the strategic plan.

Question Rank:
Very Important

Assessor conclusions:

The Strategic Plan includes some performance measures for crash, citation, and roadway systems; performance metrics are not included otherwise. The TRCC generated the existing performance measures during the Strategic Planning process; this process does not require measures for all six of the core data sets. It is understandable to rely on member agencies to establish standards for their own data systems, yet those standards should be considered in totality within the goals of the State with respect to traffic records.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 26:

Does the TRCC have a process for identifying and addressing technical assistance and training needs in the TRCC strategic plan?

Standard of Evidence:

Identify, with appropriate citations, how the TRCC identifies and addresses technical assistance and training needs as specified in the strategic plan.

Question Rank: Somewhat Important

Assessor conclusions:

Although the TRCC does not have a specific process to capture technical assistance and training needs, these needs are considered and reflected, at least to some degree, in the Strategic Plan. The TRCC relies on its members to identify training and technical assistance needs. As with most States, training and technical assistance is tied in with implementation of specific improvement projects that involve these components, such as the change to electronic crash reporting. While very important, that level of training support falls short of the Advisory's ideal, which is broader in scope. North Carolina has an ongoing contract with UNC HSRC to provide technical assistance and training to the TRCC regarding strategic planning and performance metrics.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 27:

Does the TRCC have a process for leveraging federal funds and assistance programs in the TRCC strategic plan?

Standard of Evidence:

Identify, with appropriate citations, how the TRCC leverages federal funds and assistance programs as specified in the strategic plan.

Question Rank: Somewhat Important

Assessor conclusions:

The TRCC considers federal funding as part of its Strategic Plan, as evidenced by the project funding chart. The TRCC provides feedback to GHSP on the selection of traffic records projects for federal funding. However, this process is informal and ad hoc. It is noted that a TRCC proposes to develop a set of evaluation criteria for future use.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 28:

Does the TRCC have a process for establishing timelines and responsibilities for projects in the TRCC strategic plan?

Standard of Evidence:

Identify, with appropriate citations, how the TRCC establishes timelines and responsibilities for projects in the plan.

Question Rank:
Very Important

Assessor conclusions:

TRCC members provide input on project timelines and the agency responsible for each project is listed in the Strategic Plan. The Strategic Plan does not explain this process, although an example of a detailed project scope with timelines was provided. The Strategic Plan should describe the processes associated with establishing timelines and project responsibilities.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 29:

Does the TRCC have a process for integrating State and local data needs and goals into the TRCC strategic plan?

Standard of Evidence:

Identify, with appropriate citations, how the TRCC integrates State and local data needs and goals into the TRCC strategic plan.

Question Rank:
Very Important

Assessor conclusions:

The TRCC considers State and local data needs, as a general expectation of the TRCC. The TRCC membership does not include local representation, for example, from MPOs, local law enforcement agencies, or local governments. Some projects may consider local data needs by their very nature, like the eCitation system, yet representation from local agencies provide a different perspective on traffic record needs and is highly encouraged. The TRCC includes local stakeholders in many data system improvement projects, and products/outputs are provided back to the local agencies, often at no cost.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 30:

Does the TRCC consider the use of new technology when developing and managing traffic records projects in the strategic plan?

Standard of Evidence:

Identify, with appropriate citations, a project or projects in the strategic plan whose development included the application or consideration of new technology.

Question Rank: Somewhat Important

Assessor conclusions:

The TRCC considers new technologies, based on proposals from the originating agency. The CCIS-CC and CCIS-DA systems currently in development are examples of web-based systems using newer technology to replace the legacy ACIS. North Carolina certainly could be considered an early adapter for technology trends in traffic records.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 31:

Does the TRCC consider lifecycle costs in implementing improvement projects?

Standard of Evidence:

Identify, with appropriate citations, a project or projects in the strategic plan whose development included consideration of lifecycle costs.

Question Rank: Somewhat Important

Assessor conclusions:

The TRCC appears aware of the need to consider lifecycle costs in project implementation. Examples in the Plan are available. Lifecycle cost addresses system maintenance or other needs to maintain functionality after initial funding is expended, and maintenance or upgrades are usually done by TRCC member agencies to keep costs low. Some requests are suggested to the TRCC for follow-up funding.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 32:

Is the strategic plan responsive to the needs of all stakeholders, including local users?

Standard of Evidence:

Identify, with appropriate citations, specific instances demonstrating that local stakeholder needs are incorporated into the TRCC's strategic plan.

Question Rank: Somewhat Important

Assessor conclusions:

The TRCC has intermittently included local law enforcement representatives, but admittedly the TRCC struggles with consistent participation. The effort by the TRCC to recruit such members has not diminished. The TRCC desires their input and perspective. Partial credit is awarded because of the extensive interactions that occur with local police and engineering staff in the course of implementing projects in the plan. The goals, objectives, and projects in the Strategic Plan do appear to consider local needs - like law enforcement training, for example. However, due to poor participation in the TRCC by local representatives, needs of local stakeholders are likely not considered to the extent they could be.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 33:

Does the strategic plan make provisions for coordination with key federal traffic records data systems?

Standard of Evidence:

Provide a narrative demonstrating how the strategic plan coordinates with key federal traffic records data systems. Provide citations from the strategic plan if appropriate.

Question Rank: Somewhat Important

Assessor conclusions:

The Strategic Plan includes numerous examples of coordination with key federal traffic records data systems, like FARS and SAFTETYNET, and crash reporting is MMUCC compliant. In the future, the TRCC might also want to consider other key federal systems, like NDR/PDPS and CDLIS, which help ensure that drivers who cause crashes or violate traffic laws are appropriately sanctioned. This is an important part of a crash prevention strategy and Vision Zero - the overall goal for the State.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 34:

Does the TRCC have a process for identifying and addressing impediments to coordination with key Federal traffic records data systems?

Standard of Evidence:

Provide a narrative detailing the processes used by the TRCC to identify and address impediments to coordination with key Federal traffic records data systems. Provide citations from the strategic plan if appropriate.

Question Rank:
Very Important

Assessor conclusions:

While the TRCC does not have a specific process for identifying and addressing impediments to coordination with key Federal traffic records data systems, the narrative explains how impediments are identified and handled. "Anytime a TRCC agency has needs related to interacting with key Federal traffic records systems they would be expected to make the TRCC aware and to present an approach to address any gaps or issues within reason." The TRCC meeting minutes support the narratives of how the TRCC deals with such issues and arrives at a strategic plan. As a coordinating committee, there is benefit in establishing a process to review and discuss federal data integration or reporting. In some cases, these federal reporting requirements also bring to light data quality issues that the State should address regardless of the federal requirements.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 35:

Is the TRCC's strategic plan reviewed and updated annually?

Standard of Evidence:

Provide a narrative detailing the frequency and depth of strategic plan reviews and updates. Identify the stakeholder agencies represented in the review process. Provide a schedule or cite the plan itself if appropriate.

Question Rank:
Very Important

Assessor conclusions:

The TRCC updates the Strategic Plan annually, through a two-meeting process involving its full membership. The North Carolina Highway Safety Research Center facilitates an all-day meeting and incorporates TRCC input into the document.

Respondents assigned	1	Responses received	1	Response rate	100%

Crash

The North Carolina Crash System is consolidated into a single database housed within the North Carolina Department of Transportation, Department of Motor Vehicles. North Carolina continues to make progress in recent years and currently has improved to approximately 73% of crash reports submitted electronically to the State. While the State tracks which agencies still submit paper, there is no requirement mandating electronic reporting, though elimination of paper reporting is desirable. There does not appear to be a formal plan or timeline for 100% electronic crash reporting. It would be beneficial for the State to establish a timeline with agency-by-agency goals for adoption of electronic crash reporting to help address and facilitate the transition of the remaining agencies still submitting paper-based crash reports. It would also be helpful to identify obstacles that may be hindering each respective agency's transition to full electronic reporting and could be used to help guide decision-makers at all levels. If lack of equipment is preventing adoption, there is often State Highway Safety Office grant funding available to local agencies that could help facilitate the conversion.

North Carolina uses its Safety Evaluation Group (SEG) to evaluate safety countermeasure programs following implementation of safety enhancements. Analysis of the results of converting two-way stop sign control to all-way stop sign control was conducted for 50 intersections, with the results indicating significant reductions in crashes at these locations. A number of other countermeasure program evaluations are available on their web site, including roundabouts, flashing yellow arrow, pedestrian, safety edge, and others. This analysis of countermeasure programs was well-organized and quite impressive. These countermeasure program evaluations should serve as a model for other States and could be considered a best practice.

North Carolina utilizes MMUCC, ANSI D-16, and D-20 as primary sources for defining its crash system. Recently, reviews have been conducted comparing North Carolina's data elements and attributes to the MMUCC standards utilizing the new NHTSA MMUCC mapping guidelines. Measuring a crash system against MMUCC standards is beneficial to the State and can help determine if further improvements or revisions to the crash report form are needed or desired. NHTSA will likely release the 5th edition of MMUCC in 2017. It may be useful to conduct a new MMUCC analysis once those new standards are available.

Given the rising importance of traffic safety data which often starts with the crash system, it would be extremely helpful to establish useful performance measures and to implement a more robust quality control program for improving and monitoring completeness, timeliness, and accuracy. More in-depth and detailed agency-level feedback for local law enforcement agencies would also be useful. Strengthening performance measures and performance measure reporting is an important aspect of a successful crash system. There is an opportunity to improve and expand the performance measures used by North Carolina's crash system by making use of NHTSA resources and the FHWA CDIP program. Performance measures should be designed to provide important actionable information to the data system managers. The "NHTSA Model Performance Measures for State Traffic Records Systems" document is a good resource for identifying and implementing measures for all the traffic records data-sets. It can be found at http://www-nrd.nhtsa.dot.gov/Pubs/811441.pdf. There will also be opportunities to utilize NHTSA Go-Teams to help improve traffic records systems processes following the completion of the assessment.

Population of data elements in the crash system from other traffic records systems such as Driver, Vehicle, EMS, Injury Surveillance, or Roadway can have great benefits. North Carolina has taken positive steps in the area of data integration by linking its TraCS collection tool to the NC Driver system (SADLS) as well as the NC Vehicle System (STARS). This allows investigating officers to auto-populate driver and vehicle data into the crash report, thus saving the officer time and allowing for complete and accurate collection of data for North Carolina drivers and vehicles. The ability to auto-populate driver and vehicle data into the crash report is of great advantage to the investigating officer and leads to a more streamlined process and improves data quality in North Carolina's crash system. Additional integration with Roadway and Health systems should also be explored, as well as expansion of the driver/vehicle system integration to agencies using a 3rd party vendor for crash submissions.

Continuing the discussion regarding possible opportunities for improvement or expansion of data linkages, interfaces, and integration amongst the State traffic records systems should be ongoing among membership within the TRCC where all core traffic records systems managers and stakeholders are represented. As traffic records systems data becomes more widely used, system interfaces and data integration will be crucial. Improved data linkage will assist in streamlining processes, improve data quality, reduce duplication of effort, and allow data to be more fully utilized to make roadways safer.

Overall, the North Carolina Crash System is functioning well, with continuing increases in the percentage of electronic crash reporting, exceptional data integration with driver and vehicle systems, and user friendly accessibility to crash data. Data accessibility is vital for crash data users. By focusing engineering and law enforcement efforts on locations with the greatest crash risk, traffic fatalities and injuries can be reduced resulting in safer roadways.

Opportunities for crash system growth in the coming years include: establishing a formal plan and targeted timeline to achieve 100% electronic crash reporting prior to the next traffic records assessment specific to the remaining paper reporting agencies; researching emerging technologies and equipment which may assist remaining paper-based law enforcement agencies with migration to electronic crash data collection; expanding system interfaces and data integration efforts to improve data quality across core component traffic records systems, from what is already a solid foundation from which to build; and instituting a more formal performance measurement monitoring program that can be frequently monitored by stakeholders.

Question 36:

Is statewide crash data consolidated into one database?

Standard of Evidence:

Provide a description of the statewide database and specify how the data is consolidated.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina crash data since 1990 is consolidated and resides in a single Oracle database. The repository includes both reportable crashes, and when available, non-reportable crashes.

Respondents assigned	2	Responses received	2	Response rate	100%

Question 37:

Is the statewide crash system's organizational custodian clearly defined?

Standard of Evidence:

Identify what agency has the custodial responsibility for the statewide crash system, detail the extent of the agency's role, and provide all relevant statutes.

Question Rank: Very Important

Assessor conclusions:

North Carolina State Statutes 20-166, 20-42, and 20-43 establishes the NCDOT DMV as the custodian of crash records and 20-4.01 includes the definition of a reportable crash. Among their duties is the preparation of certified accident reports, as well as providing partial crash data collected pursuant to G.S. 20-166. Local law enforcement must submit copies of all reportable crashes to the department within 10 days.

Respondents assigned	2	Responses received	2	Response rate	100%

Question 38:

Does the State have criteria requiring the submission of fatal crashes to the statewide crash system?

Standard of Evidence:

Provide the fatal crash inclusion criteria for the statewide crash system.

Question Rank:
Very Important

Assessor conclusions:

According to the DMV-349 Instruction Manual and North Carolina State Statute 20-166.1, crashes that meet the following criteria are considered reportable crashes and must be reported to the Division of Motor Vehicles statewide crash repository: crashes involving death or injury of a human being, total property damage of one thousand dollars ($1,000) or more, or property damage of any amount to a vehicle seized pursuant to G.S. 20-28.3.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 39:

Does the State have criteria requiring the submission of injury crashes to the statewide crash system?

Standard of Evidence:

Provide the injury crash inclusion criteria for the statewide crash system.

Question Rank:
Very Important

Assessor conclusions:

According to the DMV-349 and North Carolina State Statute 20-166.1, crashes that meet the following criteria are considered reportable crashes and must be reported to the Division of Motor Vehicles statewide crash repository: crashes involving death or injury of a human being, total property damage of one thousand dollars ($1,000) or more, or property damage of any amount to a vehicle seized pursuant to G.S. 20-28.3.

Respondents assigned	2	Responses received	2	Response rate	100%

Question 40:

Does the State have criteria requiring the submission of PDO crashes to the statewide crash system?

Standard of Evidence:

Provide the PDO crash submission criteria for the statewide crash system.

Question Rank: Very Important

Assessor conclusions:

According to the DMV-349 and North Carolina State Statute 20-166.1, crashes that meet the following criteria are considered reportable crashes and must be reported to the Division of Motor Vehicles statewide crash repository: crashes involving death or injury of a human being, total property damage of one thousand dollars ($1,000) or more, or property damage of any amount to a vehicle seized pursuant to G.S. 20-28.3.

Respondents assigned	2	Responses received	2	Response rate	100%

Question 41:

Does the statewide crash system record crashes occurring in non-trafficway areas (e.g., parking lots, driveways)?

Standard of Evidence:

Provide the non-trafficway reporting criteria for the statewide crash system.

Question Rank: Somewhat Important

Assessor conclusions:

Based on the DMV-349 Crash Instruction Manual, crashes occurring in non-trafficway areas are recorded in the crash system as non-reportable crashes. These crashes can be coded as "Outside Trafficway" for Location of First Harmful Event, and the Route Classification can be coded as "Public Vehicular Area" or "Private Road, Property, or Driveway." Investigating officers are also asked to enter "Non-Traffic" in the Local Use or Patrol Area boxes on the crash report form.

Respondents assigned	2	Responses received	2	Response rate	100%

Question 42:

Is data from the crash system used to identify crash risk factors?

Standard of Evidence:

Provide example reports and/or analyses that examine locations, roadway features, behaviors, driver characteristics, or vehicle characteristics as they relate to crash risk. If referencing large documents like the SHSP, please cite relevant page numbers.

Question Rank:
Very Important

Assessor conclusions:

Data from North Carolina's crash system is regularly used to identify crash risk factors. Risk factors are identified in the Strategic Highway Safety Plan based on roadway characteristics, driver behavior, impaired driving, and vehicle characteristics. In addition, 3-year crash rates are calculated based on roadway classification and injury type, wet roadways, night crashes, and run off the road crashes.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 43:

Is data from the crash system used to guide engineering and construction projects?

Standard of Evidence:

Describe the State's network screening and countermeasure selection processes. Describe how construction projects are funded based on the analysis of crash data. If referencing large documents like the SHSP, please cite relevant page numbers.

Question Rank:
Very Important

Assessor conclusions:

The North Carolina Strategic Transportation Investments (STI) Fact Sheet illustrates the formula utilized for allocation of funding for transportation projects. This includes a heavy emphasis on utilization and analysis of data captured in the crash system. In addition, the benefit cost often drives project selection, which is based off of the monetary value of the expected reduction in crashes. When selecting safety projects for funding, crash data is also used as the predominant factor.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 44:

Is data from the crash system regularly used to prioritize law enforcement activity?

Standard of Evidence:

Provide a sample location-based analysis and any associated law enforcement activities. If a State DDACTS program exists, provide details.

Question Rank:
Very Important

Assessor conclusions:

Crash data is used by the State Highway Patrol for prioritization of both commercial vehicle and non-CMV enforcement efforts. There are a number of tools available for law enforcement which aids them in identifying the common contributing factors for crashes occurring in their area of responsibility. The coverlab.org web site provides analytics tools and reports that officers can use to identify what driver behaviors or crash characteristics to focus enforcement efforts. Many of these tools are also available to local law enforcement as well. And a number of local law enforcement agencies also utilize DDACTS programs which incorporates crash data into a proactive data-driven approach for law enforcement.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 45:

Is data from the crash system used to evaluate safety countermeasure programs?

Standard of Evidence:

Describe how crash data is used to evaluate safety countermeasure programs. If referencing large documents like the SHSP, HSP, or Crash Facts, please cite relevant page numbers.

Question Rank:
Very Important

Assessor conclusions:

North Carolina provided several examples of where data from the crash system was used to evaluate safety countermeasure programs following implementation of safety enhancements. Analysis of the results of converting two-way stop sign control to all-way stop sign control was conducted for 50 intersections, with the results indicating significant reductions in crashes at these locations. North Carolina has a Safety Evaluation Group (SEG) whose primary responsibility is to evaluate and assess the safety of roads across the State. A number of other countermeasure program evaluations are available on their web site, including roundabouts, flashing yellow arrow, pedestrian, safety edge, and others. These countermeasure program evaluations could serve as a model for other States.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 46:

Is MMUCC a primary source for identifying what crash data elements and attributes the State collects?

Standard of Evidence:

Provide a narrative description of the process by which MMUCC was used to identify what crash data elements and attributes are included in the crash database and on the Police Accident Report (PAR).

Question Rank: Very Important

Assessor conclusions:

North Carolina uses MMUCC as a primary source for identifying crash data elements and attributes for its crash system, as evidenced by the MMUCC Mapping Analysis completed in 2016 using the new MMUCC Mapping tool and guidelines available from NHTSA. Conducting periodic review of a crash system's MMUCC compliance is a good exercise for ensuring that elements and attributes are kept up to date and stay relevant for law enforcement and crash system users. The State's data dictionary also shows the use of MMUCC data elements and attributes.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 47:

Are the ANSI D-16 and ANSI D-20 used as sources for the definitions in the crash system data dictionary?

Standard of Evidence:

Provide a narrative description of the process by which ANSI D-16 and ANSI D-20 were used to define data elements in the crash system's data dictionary and user manual.

Question Rank: Somewhat Important

Assessor conclusions:

Portions of ANSI D16 and ANSI D20 were consulted and utilized as primary sources for the North Carolina crash system. These sources provided guidance for the development of North Carolina's Crash Data Dictionary. The State described the usage of the ANSI D-16 in deriving their data dictionary and edits. Crash data referring to crash classification by damage severity, classification of persons by injury severity, vehicle maneuver/action, and contributing circumstances roadway, are all referred to within the ANSI D-16.1 and the DMV-349 during all updates to the North Carolina Crash Data Element Dictionary.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 48:

Does the data dictionary provide a definition for each data element and define that data element's allowable values?

Standard of Evidence:

Provide a copy of the crash system data dictionary.

Question Rank: Very Important

Assessor conclusions:

Between the data dictionary provided and the DMV-349 Crash Instruction Manual, data elements and allowable values are thoroughly defined.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 49:

Does the data dictionary document the system edit checks and validation rules?

Standard of Evidence:

Provide a copy of the crash system data dictionary. If the crash system edit checks and validation rules are documented elsewhere, provide the appropriate document.

Question Rank: Somewhat Important

Assessor conclusions:

Crash system edit checks and validation rules are contained in a document separate from the Data Dictionary entitled, "Business Rules/Field Validations and Data Derivations for Crash Reporting System User Interfaces." All edit checks and validation rules are thoroughly defined.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 50:

Is the data dictionary up to date and consistent with the field data collection manual, coding manual, crash report, and any training materials?

Standard of Evidence:

Describe the processes to update the crash system's data dictionary, field data collection manual, coding manual, crash report, and training manuals. Specify which of the documents exist and describe processes to keep them consistent with each other.

Question Rank: Very Important

Assessor conclusions:

The NCDMV Traffic Records Supervisor is responsible for reviewing all documents to verify that all documents have been updated correctly and simultaneously when a change is made to the system. Depending on the release, the team updates all internal documentation as well as request DMV Traffic Records business owners update the DMV-349 form, form pad, DMV-349 Instruction Manual. The DMV-349 instructional manual has a detailed revision history which directly corresponds to the State's data dictionary. Also, the State in its 2015 MMUCC standards review, shows the steps the State takes when adding or changing any data element or attribute which demonstrates how the data dictionary, collection manual, coding manual, crash report and training materials would be kept consistent. Notifications are also sent to local agencies to update their crash collection applications, instruct law enforcement, and update training materials.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 51:

Does the crash system data dictionary indicate the data elements populated through links to other traffic records system components?

Standard of Evidence:

Provide a list of data elements that are populated in the crash system through linkages to other traffic records system components (e.g., the driver file, the vehicle file, the roadway inventory, or statewide mapping system).

Question Rank: Somewhat Important

Assessor conclusions:

Multiple data elements are listed in the data dictionary "Fields" section as linking to other data sources. In the "Comments" column for a given data element, it indicates if they are "populated or validated against the (driver, vehicle, NCID, or CVIEW) system."

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 52:

Do all law enforcement agencies collect crash data electronically?

Standard of Evidence:

Provide a list of all reporting agencies and specify their data collection methods. Specify any State plans for achieving 100% electronic in-field data collection.

Question Rank: Somewhat Important

Assessor conclusions:

Some law enforcement agencies still collect crash data on paper forms. While there has been some increase in electronic crash reporting, there is no statewide mandate or requirement for electronic crash reporting. The State has three ways of collecting crash data: hand written, electronically filled out then printed and mailed, and electrically completed and submitted. There does not appear to be a plan for migrating the remaining agencies to electronic collection.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 53:

Do all law enforcement agencies submit their data to the statewide crash system electronically?

Standard of Evidence:

Describe—using a narrative or flow diagram—all data submission processes used to transmit data from collecting agencies to the statewide crash data system. Include the percentage of total data submitted for each specified method.

Question Rank: Very Important

Assessor conclusions:

Some law enforcement agencies still submit crash data on paper forms to the State. While there has been some increase in electronic crash reporting, there is no statewide mandate or requirement for electronic crash reporting. Approximately 73% of crashes are reported to the State electronically. There are a few cases where data is collected electronically, however, paper reports are still sent to the State for processing. There does not appear to be a plan for transitioning the remaining agencies to electronic submission.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 54:

Do all law enforcement agencies collecting crash data electronically apply validation rules that are consistent with those in the statewide crash system prior to submission?

Standard of Evidence:

Describe the validation processes used by the collecting agencies. Specify if the validation rules are applied to the data prior to submission to the statewide crash system. Include, in the description, how the validation rules are distributed to the collecting agencies and how the State checks the submitted data for consistency to rules in the statewide crash system.

Question Rank:
Very Important

Assessor conclusions:

While validation rules are applied to all crashes being submitted to the State system through the TraCS tool, it is unclear if local agencies using 3rd party software are consistently applying all of the same validation rules and edit checks, though all must pass the State Crash validation rules or they are rejected. With that said, all ECRS agencies and vendors have to be certified by the State in order to submit crash reports to the State.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 55:

Does the State maintain accurate and up to date documentation detailing the policies and procedures for key processes governing the collection, reporting, and posting of crash data—including the submission of fatal crash data to the State FARS unit and commercial vehicle crash data to SafetyNet?

Standard of Evidence:

Provide a process flow diagram (preferred) or narrative description documenting key processes governing the collection, reporting, and posting of crash data—including the submission of fatal crashes to the State FARS unit and commercial vehicle crashes to SafetyNet.

Question Rank:
Very Important

Assessor conclusions:

North Carolina appears to have several processes in place to ensure policies and procedures for crash data are kept up to date. The processes for reporting of commercial vehicle crash data and FARS data are outlined in several documents in great detail including the DMV-349 instruction manual, FARS procedural manual, LEA's fatal notification process, and a flow chart showing the process for qualified CMV crashes being exported to SafetyNet.

Respondents assigned	5	Responses received	2	Response rate	40%

Question 56:

Are the processes for managing errors and incomplete data documented?

Standard of Evidence:

Provide a process flow diagram (preferred) or narrative description documenting the processes for managing errors and incomplete data.

Question Rank: Very Important

Assessor conclusions:

North Carolina has extensive processes for managing errors and incomplete data submitted to the crash system. These mechanisms are well documented in the ECRS Errors Guide, Technical Architecture System Design Document, and Data Capture User Manual. They also appear to have reports to track deletion requests and rejections for re-submission and correction of errors.

Respondents assigned	4	Responses received	3	Response rate	75%

Question 57:

Do the document retention and archival storage policies meet the needs of safety engineers and other users with a legitimate need for long-term access to the crash data reports?

Standard of Evidence:

Provide a copy of the retention policy.

Question Rank: Somewhat Important

Assessor conclusions:

In accordance with State statutes, North Carolina maintains a records retention and disposition schedule regarding crash records. Currently, crash data and report images dating back to 1990 are available to safety engineers and other users, and are sufficient to meet their needs.

Respondents assigned	4	Responses received	2	Response rate	50%

Question 58:

Does the crash system interface with the driver system?

Standard of Evidence:

Provide narrative description of the crash-to-driver system interfaces that enable: verification and validation of the driver's personal information, access to driver records, identification of inconsistencies between the crash and driver records, and/or identification of the driver's prior crash involvement?

Question Rank: Somewhat Important

Assessor conclusions:

The crash system currently interfaces with the driver system when utilizing the TraCS tool for crash data collection. The investigating officer can query SADLS (for NC Driver License) to retrieve and populate driver data into the crash report form. This is a great tool which greatly increases the accuracy and completeness of data captured by the crash system. It also helps to decrease the length of time it takes for an officer to complete a crash report form.

If this service could be expanded for utilization by 3rd party vendor software, or by individuals keying paper reports, that could lead to even greater data quality for driver data. Alternatively, increasing the percentage of reports submitted electronically from 73% towards 100% would also improve driver data as more would likely utilize these tools.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 59:

Does the crash system interface with the vehicle system?

Standard of Evidence:

Provide narrative descriptions of the crash-to-vehicle system interfaces that enable: verification and validation of the vehicle information, access to vehicle records, and/or identification of inconsistencies between the crash and vehicle records.

Question Rank: Somewhat Important

Assessor conclusions:

The crash system currently interfaces with the vehicle system when utilizing the TraCS tool for crash data collection. The investigating officer can query STARS (for NC plate number) to retrieve and populate vehicle data into the crash report form. This is a great tool which greatly increases the accuracy and completeness of data captured by the crash system. It also helps to decrease the length of time it takes for an officer to complete a crash report form.

If this service could be expanded for utilization by 3rd party vendor software, or by individuals keying paper reports, that could lead to even greater data quality for vehicle data. Alternatively, increasing the percentage of reports submitted electronically from 73% towards 100% would also improve vehicle data as more investigating officers would have access to utilize these tools.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 60:

Does the crash system interface with the roadway system?

Standard of Evidence:

Provide narrative descriptions of the crash-to-roadway interfaces that enable: verification and validation of the roadway information, and/or identification of inconsistencies between the crash and roadway records.

Question Rank: Somewhat Important

Assessor conclusions:

The Crash database is replicated nightly to the TEAAS database on a nightly basis. There is a process in place to electronically transmit data from the crash to the roadway system. There may be an opportunity to explore further integration through the sharing of some roadway data back to the crash database. In addition, integration to capture or verify roadway system data at the time of data collection by the investigating officer would improve the timeliness and accuracy of crash data used for engineering purposes, safety improvements, and transportation enhancements.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 61:

Does the crash system interface with the citation and adjudication systems?

Standard of Evidence:

Provide narrative descriptions of the crash-to-citation and -adjudication interfaces that enable: verification and validation of citations and/or alcohol or drug test information in the crash record; identification of any inconsistencies between crash and citation records; and access to criminal history, contact history, and location history.

Question Rank: Somewhat Important

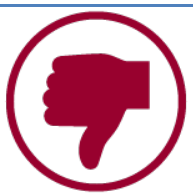
Assessor conclusions:

The crash system does not currently interface with the citation and adjudication systems.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 62:

Does the crash system interface with the injury surveillance system?



Standard of Evidence:

Provide narrative descriptions of the crash-to-injury surveillance interfaces that enable: verification and validation of EMS information, and identification of inconsistencies between crash and EMS records.

Question Rank: Somewhat Important

Assessor conclusions:

The crash system does not currently interface with the injury surveillance system.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 63:

Are there automated edit checks and validation rules to ensure that entered data falls within a range of acceptable values and is logically consistent among data elements?

Standard of Evidence:

Provide the formal methodology or describe the process by which automated edit checks or validation rules ensure entered data falls within the range of acceptable values and is logically consistent between fields.

Question Rank:
Very Important

Assessor conclusions:

All electronic submissions (both TraCS and ECRS) have to go through the same State Crash validation rules (used by the paper process) before reports are accepted by the State Crash repository. Reports not meeting the Crash business rules are rejected and successful reports receive an official crash identifier to submit any future report supplements. It is still a bit unclear if local agencies using 3rd party software are consistently applying all of the same validation rules and edit checks, though all must be certified and pass the core set of State Crash validation rules.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 64:

Is limited state-level correction authority granted to quality control staff working with the statewide crash database to amend obvious errors and omissions without returning the report to the originating officer?

Standard of Evidence:

Provide the formal methodology or describe the process by which limited state-level correction authority is granted to quality control staff working with the statewide crash database.

Question Rank:
Somewhat Important

Assessor conclusions:

Members of the DOT-IT Crash-TEASS team have the authority to amend crash reports to correct obvious errors and address omissions. This group has established standard operating procedures to follow and guide them when these instances arise. User errors or those made by the investigating officer are rejected and sent back to the originating officer for correction and re-submission.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 65:

Are there formally documented processes for returning rejected crash reports to the originating officer and tracking resubmission of the report in place?

Standard of Evidence:

Provide the formal methodology or describe the process by which rejected crash reports are returned to the originating officer and then resubmitted to the statewide crash database.

Question Rank:
Very Important

Assessor conclusions:

Formal process are documented and in place regarding the rejection of crash report to the investigating officer for correction and re-submission. These processes have been defined for both electronically submitted crash reports as well as crash reports submitted on paper forms. In addition, local law enforcement agencies can track their crash report submissions online via the CrashWeb portal.

Respondents assigned	4	Responses received	3	Response rate	75%

Question 66:

Are there timeliness performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of crash system timeliness measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

Assessor conclusions:

The State has several timeliness performance measures in place with baselines and goals contained within their Traffic Records Strategic Plan. Measures include: percentage of crash reports submitted within 10 days, and the average lapsed time between the time of the crash and the time of submission to the crash system (for both paper and electronic submissions).

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 67:

Are there accuracy performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of crash system accuracy measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

Assessor conclusions:

The State has an accuracy performance measure in place within their Traffic Records Strategic Plan. The measure references the percentage of rejected crash reports for electronic submissions. While not explicitly stated, it is assumed that the goal would be 0% rejected reports, though there are no baselines or goals associated with this measure.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 68:

Are there completeness performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of crash system completeness measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

Assessor conclusions:

While the State has a performance measure listed in their Traffic Records Strategic Plan for completeness relating to the percentage of reports that have no missing critical data elements, there are no baselines or goals, and no figures have been reported for these measures. There are several other potential measures listed that have not yet been thoroughly established. All appear to be considered "future efforts."

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 69:

Are there uniformity performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of crash system uniformity measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

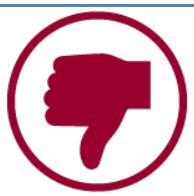
Assessor conclusions:

The State has two uniformity performance measures in their Traffic Records Strategic Plan, one which references the percentage of data elements that are MMUCC compliant, and one which compares reportable vs. non-reportable crashes. It's a bit unclear what the baselines, goals, or targets are for these measures.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 70:

Are there integration performance measures tailored to the needs of data managers and data users?



Standard of Evidence:

Provide a complete list of crash system integration measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

Assessor conclusions:

The State does not appear to have integration performance measures in place with baselines and goals. Though, given that there is some established integration between the crash system and driver/vehicle systems, performance measures could be easily identified and adopted relating to this important and meaningful integration between traffic records systems.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 71:

Are there accessibility performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of crash system accessibility measures the State uses, including the most current baseline and actual values for each.

Question Rank: Somewhat Important

Assessor conclusions:

The State has a performance measure for accessibility in the Traffic Records Strategic Plan relating to an annual survey of stakeholders as well as both internal and external users, though there does not appear to be any baselines or goals. This measure is currently classified as a "future effort."

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 72:

Has the state established numeric goals—performance metrics—for each performance measure?

Standard of Evidence:

Provide the specific, State-determined numeric goals associated with each performance measure in use.

Question Rank: Very Important

Assessor conclusions:

The State has established some performance metrics with baselines and goals for the Crash system; however some performance measures currently listed in the Traffic Records Strategic Plan are incomplete, or are still listed as future efforts. While there are several good established performance metrics in place, there is still some room for improvement with some areas such as integration for which performance measures could be easily added to the plan. In particular, relating to integration already in place with the driver and vehicle systems to populate data into the crash reporting system.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 73:

Is there performance reporting that provides specific timeliness, accuracy, and completeness feedback to each law enforcement agency?

Standard of Evidence:

Provide a sample report, list of receiving law enforcement agencies, and specify the frequency of issuance.

Question Rank:
Very Important

Assessor conclusions:

There are several reports illustrating completeness and timeliness of submissions by law enforcement agency. And there are multiple mechanisms by which this information can be accessed by local agencies via the CrashWeb portal. Agencies are sent quarterly reports with metrics regarding their crash submissions, as well as email communications when their submission volumes are lower than normal. An example email of this correspondence was provided. This is an excellent way in which to monitor crash submissions and keep local law enforcement partners informed regarding their performance.

Other methods for dissemination of information back to local agencies regarding accuracy and data quality should also be explored. This will help to improve the overall reliability of the data collected by the crash system.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 74:

Is the detection of high frequency errors used to generate updates to training content and data collection manuals, update the validation rules, and prompt form revisions?

Standard of Evidence:

Provide the formal methodology or describe the process by which high frequency errors are used to generate new training content and data collection manuals, update the validation rules, and prompt form revisions.

Question Rank:
Very Important

Assessor conclusions:

High frequency errors are tracked by the Traffic Records unit. When detected, changes are made to the data collection forms and manuals accordingly. Any changes that get made are thoroughly documented in the introduction section of the ECRS CRSXML DMV-349 Translations document as well as in the introduction section of the DMV-349 manual. This ensures that any changes made are detailed and documented in both documents, along with the dates that the changes went into effect.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 75:

Are quality control reviews comparing the narrative, diagram, and coded contents of the report considered part of the statewide crash database's data acceptance process?

Standard of Evidence:

Provide the formal methodology or describe the process by which quality control reviews comparing the narrative, diagram, and coded contents of the report are considered part of the statewide crash database's data acceptance process.

Question Rank: Somewhat Important

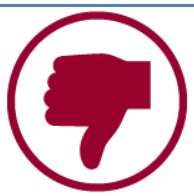
Assessor conclusions:

Quality control reviews are not currently part of the crash database's data acceptance process. Though there are cross-field data validation rules to ensure that data elements are consistent with each other, there are no quality reviews comparing narrative, diagram, and coded fields. However, while supervisors do have the ability to optionally review a report prior to its submission, this is not a requirement. It is unclear how often that review may occur.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 76:

Are independent sample-based audits periodically conducted for crash reports and related database contents?



Standard of Evidence:

Describe the formal audit methodology, provide a sample report or other output, and specify the audits' frequency.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina submits test reports following updates to the system to independently verify that the new changes and database contents are functioning properly. The evidence provided appear to be sample reports solely used for testing purposes. The State does not however, conduct sample-based audits of actual crash reports from the production environment to review and ensure data elements are being captured and coded to the database correctly.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 77:

Are periodic comparative and trend analyses used to identify unexplained differences in the data across years and jurisdictions?

Standard of Evidence:

Describe the analyses, provide a sample report or other output, and specify the analyses' frequency.

Question Rank: Very Important

Assessor conclusions:

Evidence was provided illustrating several periodic comparative and trend analysis across years and jurisdictions which help identify potential issues in reporting. One report examined crash reports submitted by local law enforcement agency across years, and another report analyzed data by field or data element as part of the HSIS program. Other trend analyses comparing reporting by investigating agency can also be valuable and can help to identify underreporting or gaps in data.

Respondents assigned	4	Responses received	1	Response rate	25%

Question 78:

Is data quality feedback from key users regularly communicated to data collectors and data managers?

Standard of Evidence:

Describe the process for transmitting and utilizing key users' data quality feedback to inform changes.

Question Rank: Somewhat Important

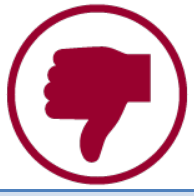
Assessor conclusions:

While a bulletin demonstrating the number of crashes by agency accepted by the crash system is produced and distributed quarterly, there does not appear to be a formal process for regular communication with data collectors and data managers detailing information regarding the quality of data being received by the crash system. Regular communications specifically about data quality are essential in ensuring good data is being collected by the crash system.

Respondents assigned	5	Responses received	1	Response rate	20%

Question 79:

Are data quality management reports provided to the TRCC for regular review?



Standard of Evidence:

Provide a sample quality management report and specify how frequently they are issued to the TRCC.

Question Rank:
Very Important

Assessor conclusions:

Data quality management reports are not currently provided to the TRCC.

Respondents assigned	**4**	**Responses received**	**1**	**Response rate**	**25%**

Vehicle

The North Carolina vehicle database, State Titling and Registration System (STARS), and its administration meet all of the system description elements of the Advisory Ideal. STARS maintains all vehicle information in a single location, validates every VIN using a verification software application, and both titles and registration cards have 2D barcodes.

STARS also meets most of the guideline's features of the Advisory ideal. It applies appropriate brand codes to titles as needed and preserves brand information on vehicles previously titled in other States, and it participates in the PRISM system.

The system provides information to NMVTIS daily but presently is not able to check NMVTIS before issuing new titles. A system upgrade slated for 2018 is planned, and it will enable checking NMVTIS before issuing new titles.

The data dictionary has a documented definition for all fields requiring a definition, and the definitions are readily accessible for system operators.

The vehicle data system includes edit checks and data collection guidelines for data values. Acceptable data values, edit rules, and validation procedures are applied through STARS computer application. The State maintains formal documentation (a User's Manual for STARS) related to the collection, reporting, and posting procedures for registration and titling.

STARS meets half of the elements in the procedures and processes section of the Advisory ideal: posting flags for stolen vehicles and removing them when notified by law enforcement, maintaining brands from other States, and having the steps from initial event (titling, registration) to final entry into the statewide vehicle system documented. Although a process flow diagram is not yet available, written documentation is present.

The North Carolina vehicle and driver systems are unified and therefore use the same personal identifiers in both systems, with VIN, title number, and license plate number as key data elements for accessing vehicle records. These data elements are accessible for law enforcement to auto-populate crash and citation reports. Thus elements from those reports are not used to flag vehicle records for possible updating.

Quality control features of STARS are positive for having automated edits and error checking, and the State has authority to correct errors in STARS data. High frequency errors are identified and used with key user feedback for training input operators, and the DMV's Quality Assurance section checks random segments daily for quality.

STARS does not meet any of the performance measures cited in the Advisory ideal.

Opportunity

The State produces monthly and weekly error reports for all branch offices. If the information from

those reports were used a numerators, over the denominator of total records processed, a gross measure of performance might be computed for use by the State. If the types of errors were segregated and compared with the denominator(s), that might also be useful and could lead to exploration of other performance measures.

Question 80:

Does custodial responsibility of the identification and ownership of vehicles registered in the State—including vehicle make, model, year of manufacture, body type, and adverse vehicle history (title brands)—reside in a single location?

Standard of Evidence:

Provide the custodial agency's name.

Question Rank: Somewhat Important

Assessor conclusions:

The custodial responsibility for the complete description of all personal, commercial, and State-owned vehicles, the identification and ownership of vehicles resides in a single location. Included in the vehicle records is the title, the title history including any brands from other States. The computer application that manages the vehicle information and transactions is the State Titling and Registration System (STARS) database system that operates in real time. Images from current screens display the scope of information for the vehicle records.

Respondents assigned	3	Responses received	3	Response rate	100%

Question 81:

Does the State or its agents validate every VIN with a verification software application?

Standard of Evidence:

Describe the circumstances in which the VIN is validated and used.

Question Rank: Less Important

Assessor conclusions:

North Carolina uses the VINTelligence software package for every vehicle titled. A vehicle record screen shot was provided showing the field that would document a VIN error if applicable.

Respondents assigned	3	Responses received	3	Response rate	100%

Question 82:

Are vehicle registration documents barcoded—using at a minimum the 2D standard—to allow for rapid, accurate collection of vehicle information by law enforcement officers in the field using barcode readers or scanners?

Standard of Evidence:

Provide a sample document, and identify the information encoded.

Question Rank: Very Important

Assessor conclusions:

Both titles and registration cards have 2D barcodes. Examples of each were provided.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 83:

Does the vehicle system provide title information data to the National Motor Vehicle Title Information System (NMVTIS) at least daily?

Standard of Evidence:

Explain how and how often the State uploads data to NMVTIS, specifying the manner of transmittal and its frequency (e.g., real-time, nightly, weekly).

Question Rank: Somewhat Important

Assessor conclusions:

The State provides information to the National Motor Vehicle Title Information System (NMVTIS) in an overnight batch process for each vehicle title printed that day. There is currently an ongoing project to send titles to NMVTIS in real time. The project is anticipated to be completed in July 2018.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 84:

Does the vehicle system query the National Motor Vehicle Title Information System (NMVTIS) before issuing new titles?

Standard of Evidence:

Provide the NMVTIS query processing instructions or provide a screen print of the query tool.

Question Rank:
Very Important

Assessor conclusions:

The State does not yet query NMVTIS before issuing new titles. North Carolina anticipates to start utilizing the NMVTIS inquiry function after the implementation of the real time interface in July 2018.

Respondents assigned	2	Responses received	2	Response rate	100%

Question 85:

Does the State incorporate brand information on the vehicle record that are recommended by AAMVA and/or received through NMVTIS, whether or not the brand description matches the State's brand descriptions?

Standard of Evidence:

Provide the list of the State's title brands and their definitions.

Question Rank:
Very Important

Assessor conclusions:

The State incorporates brand information recommended by AAMVA. North Carolina specifies six brands (Flood, Non-USA, Reconstructed, Salvage, Salvage Rebuilt, and Junk). Some of the State's brand descriptions are not identical to those recommended by AAMVA. To transfer brand information for vehicles from other States, North Carolina applies the brand that is closest match to that from the other State.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 86:

Does the State participate in the Performance and Registration Information Systems Management (PRISM) program?

Standard of Evidence:

Provide the PRISM processing instructions or a screen print.

Question Rank: Very Important

Assessor conclusions:

The State is a participant in the Performance and Registration Information Systems Management (PRISM) program. However, based on the evidence provided by the State, it appears that North Carolina is not fully compliant with the PRISM at this point.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 87:

Does the vehicle system have a documented definition for each data field?

Standard of Evidence:

Provide a narrative description of the data dictionary and provide an extract.

Question Rank: Somewhat Important

Assessor conclusions:

The State has a documented definition for a majority of the data fields, evident from the provided documentation. Screen shots were provided showing how to access the data field definitions.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 88:

Does the vehicle system include edit check and data collection guidelines that correspond to the data definitions?

Standard of Evidence:

Provide a narrative description of the data dictionary's edit check and data collection guidelines and provide an extract.

Question Rank: Somewhat Important

Assessor conclusions:

The State vehicle data system includes edit checks and data collection guidelines for data values. Acceptable data values, edit rules, and validation procedures are applied through STARS computer application. A screen shot of the vehicle screen was submitted that shows edit errors that have been flagged.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 89:

Are the collection, reporting, and posting procedures for registration, title, and title brand information formally documented?

Standard of Evidence:

Provide a narrative description of the data dictionary's procedure for applying title brands and provide a copy of the brands applied.

Question Rank: Very Important

Assessor conclusions:

The State maintains formal documentation (User's Manual for STARS) related to the collection, reporting, and posting procedures for registration and titling.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 90:

Is there a process flow diagram describing the vehicle data system?

Standard of Evidence:

Provide the process flow diagram.

Question Rank: Somewhat Important

Assessor conclusions:

The State does not have a process flow diagram describing the vehicle data system. The evidence provided by the State does not relate directly to a flow of data that is collected, entered, and maintained in the State's vehicle data system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 91:

Does the vehicle system flag or identify vehicles reported as stolen to law enforcement authorities?

Standard of Evidence:

Provide a narrative description of the procedures for flagging and identifying vehicles reported as stolen. Provide the appropriate excerpt from the instruction manual.

Question Rank: Very Important

Assessor conclusions:

The North Carolina vehicle data system flags in STARS vehicles reported by law enforcement as stolen. Upon law enforcement inquiry into the system, a message will be displayed indicating stolen vehicle information.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 92:

If the vehicle system does flag or identify vehicles reported as stolen to law enforcement authorities, are these flags removed when a stolen vehicle has been recovered or junked?

Standard of Evidence:

Provide a narrative description of how the flags are removed. Provide the appropriate excerpt from the instruction or procedures manual.

Question Rank:
Very Important

Assessor conclusions:

The stolen vehicle flags are removed when law enforcement reports that a stolen vehicle has been recovered. A vehicle cannot be junked when flagged as stolen if the stolen flag is not removed. The State does not allow any services on a stolen vehicle.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 93:

Does the State record and maintain the title brand history (previously applied to vehicles by other States)?

Standard of Evidence:

Provide a narrative description of how title brand information is applied.

Question Rank:
Very Important

Assessor conclusions:

Title brands received from other States are posted and kept as are brands applied by NC. As noted previously, some brands from other States do not match those recommended by AAMVA.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 94:

Are the steps from initial event (titling, registration) to final entry into the statewide vehicle system documented in a process flow diagram?

Standard of Evidence:

Provide the process flow diagram. If diagram does not exist, provide a narrative describing the process in detail.

Question Rank:
Very Important

Assessor conclusions:

A complete narrative description of the procedure was provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 95:

Is the process flow diagram or narrative annotated to show the time required to complete each step?

Standard of Evidence:

Provide the process flow diagram. If diagram does not exist, provide a narrative describing the process in detail.

Question Rank: Somewhat Important

Assessor conclusions:

The State does not have a process flow diagram that shows the time required to complete each step.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 96:

Does the process flow diagram or narrative show alternative data flows and timelines?

Standard of Evidence:

Provide the process flow diagram that specifies alternative data flows and timelines. If diagram does not exist, provide a narrative describing the process in detail.

Question Rank: Somewhat Important

Assessor conclusions:

The steps from initial titling event to final entry into the vehicle system are not documented in a process flow diagram. The evidence provided by the State indicates steps regarding the titling and registration transactions specifying alternative processing options. However, there is no evidence regarding the alternative data flows into the vehicle system including timeline information.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 97:

Does the process flow diagram or narrative include processes for error correction and error handling?

Standard of Evidence:

Provide the process flow diagram that specified the processes for error correction and error handling. If diagram does not exist, provide a narrative describing the process in detail.

Question Rank: Somewhat Important

Assessor conclusions:

Although there is no diagram, the documentation provides instructions for handling some of the errors detected and displayed on the vehicle system screens.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 98:

Does the process flow diagram or narrative explain the timing, conditions, and procedures for purging records from the vehicle system?

Standard of Evidence:

Provide the process flow diagram that specifies the schedule and process for purging records. If diagram does not exist, provide a narrative describing the process in detail.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina does not purge title records from the vehicle data system before 20 years.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 99:

Are the driver and vehicle files unified in one system?

Standard of Evidence:

Provide a narrative description of the unified system's main components and identify the variables that link the vehicle and driver files.

Question Rank: Somewhat Important

Assessor conclusions:

The driver and vehicle files are unified in a single customer information DB2 database.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 100:

If the driver and vehicle files are separate, is personal information entered into the vehicle system using the same conventions used in the driver system?

Standard of Evidence:

When the driver and vehicle systems are separate, provide extracts from the driver and vehicle system manuals detailing the data entry conventions for each.

Question Rank:
Very Important

Assessor conclusions:

The vehicle and driver systems are unified in one system sharing personal customer information.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 101:

Can vehicle system data be used to verify and validate the vehicle information during initial creation of a citation or crash report?

Standard of Evidence:

Provide a narrative description of the procedures governing the use of vehicle system data to verify and validate vehicle information during initial creation of a citation or crash report. ALTERNATIVE EVIDENCE: Describe how the vehicle system is accessed, if it is, to validate and verify vehicle information during crash report creation.

Question Rank:
Somewhat Important

Assessor conclusions:

Law enforcement officers are provided access to the vehicle data electronically as they complete electronic crash reports in their vehicles. The crash system uses TraCS to enable the connection, and officers obtain vehicle registration data, license numbers, and the identification of the owner. The officer can also check the driver license number and record of the driver and see if their license is valid. The information can be used also to issue a citation if the situation requires it. The Traffic Records System document was provided that contains the details of the system and it usages.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 102:

When discrepancies are identified during data entry in the crash data system, are vehicle records flagged for possible updating?

Standard of Evidence:

Provide an appropriate extract from the vehicle system manual that details the process for addressing a record flagged by the crash system.

Question Rank:
Less Important

Assessor conclusions:

Vehicle records are not flagged for possible updating. Note: there would be no discrepancies if the vehicle data were captured from the DMV vehicle database.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 103:

Are VIN, title number, and license plate number the key variables used to retrieve vehicle records?

Standard of Evidence:

Identify the key variables used to retrieve vehicle records.

Question Rank:
Very Important

Assessor conclusions:

VIN, title number, and license plate number are key data elements for accessing vehicle records. The vehicle record can also be retrieved using the driver license number and/or the driver name (assuming that the driver is the vehicle owner).

Respondents assigned	1	Responses received	1	Response rate	100%

Question 104:

Is the vehicle system data processed in real-time?

Standard of Evidence:

Provide a narrative statement explaining the answer.

Question Rank:
Very Important

Assessor conclusions:

The vehicle system data is processed in real-time. Some transactions with customers may be processed by mail or web access.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 105:

Are there automated edit checks and validation rules to ensure that entered data falls within a range of acceptable values and is logically consistent among data elements?

Standard of Evidence:

Provide the formal methodology or describe the process by which automated edit checks or validation rules ensure entered data falls within the range of acceptable values and is logically consistent between fields.

Question Rank: Very Important

Assessor conclusions:

Other than in freeform fields, there are automated edit checks and validation rules to ensure that entered data falls within a range of acceptable values where code tables apply.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 106:

Is limited state-level correction authority granted to quality control staff working with the statewide vehicle system to amend obvious errors and omissions?

Standard of Evidence:

Name the authority that allows quality control staff to correct the statewide vehicle database.

Question Rank: Somewhat Important

Assessor conclusions:

The State has the authority to correct errors and omissions. The Help Desk Manual was provided.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 107:

Are there timeliness performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of vehicle system timeliness measures the State uses, including the most current baseline and actual values for each.

Question Rank: Very Important

Assessor conclusions:

There are no timeliness performance measures.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 108:

Are there accuracy performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of vehicle system accuracy measures the State uses, including the most current baseline and actual values for each.

Question Rank: Very Important

Assessor conclusions:

The State produces monthly and weekly error reports for all branch offices. However, these error reports are related to transactions and they do not appear to be related to the accuracy of particular data elements in the vehicle data system, which could present the accuracy performance measure of the vehicle data system.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 109:

Are there completeness performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of vehicle system completeness measures the State uses, including the most current baseline and actual values for each.

Question Rank: Very Important

Assessor conclusions:

There are no completeness performance measures. The State indicated "that title and or registration service must be complete and accurate to in order to not receive an error."

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 110:

Are there uniformity performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of vehicle system uniformity measures the State uses, including the most current baseline and actual values for each.

Question Rank: Very Important

Assessor conclusions:

There are no uniformity performance measures.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 111:

Are there integration performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of vehicle system integration measures the State uses, including the most current baseline and actual values for each.

Question Rank: Very Important

Assessor conclusions:

There are no integration performance measures.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 112:

Are there accessibility performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of vehicle system accessibility measures the State uses, including the most current baseline and actual values for each.

Question Rank: Somewhat Important

Assessor conclusions:

There are no accessibility performance measures.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 113:

Has the State established numeric goals—performance metrics—for each performance measure?

Standard of Evidence:

Provide the specific, State-determined numeric goals associated with each performance measure in use.

Question Rank: Very Important

Assessor conclusions:

The State maintains an audit report related to particular performance aspects for each branch. However, these reports do not contain any performance metrics or established numeric goals for each of the six performance measures of the vehicle data system.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 114:

Is the detection of high frequency errors used to generate updates to training content and data collection manuals, update the validation rules, and prompt form revisions?

Standard of Evidence:

Provide the formal methodology or describe the process by which high frequency errors are used to generate new training content and data collection manuals, update the validation rules, and prompt form revisions.

Question Rank: Very Important

Assessor conclusions:

The detection of high frequency errors is used to update training, develop new training materials or methods, update validation rules, and make changes in transaction processing protocols.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 115:

Are independent sample-based audits conducted periodically for vehicle reports and related database contents for that record?

Standard of Evidence:

Describe the formal audit methodology, provide a sample report or other output, and specify the audits' frequency.

Question Rank: Somewhat Important

Assessor conclusions:

The DMV's Quality Assurance section checks random segments daily for quality.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 116:

Are periodic comparative and trend analyses used to identify unexplained differences in the data across years and jurisdictions?

Standard of Evidence:

Describe the analyses, provide a sample report or other output, and specify the analyses' frequency.

Question Rank: Very Important

Assessor conclusions:

Periodic comparative and trend analyses are not used to identify unexplained differences in the data across years and jurisdictions.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 117:

Is data quality feedback from key users regularly communicated to data collectors and data managers?

Standard of Evidence:

Describe the process for transmitting and utilizing key users' data quality feedback to inform changes.

Question Rank: Somewhat Important

Assessor conclusions:

The State has established the License Plate Agent Advisory Committee that focuses on feedback related to efficient and excellent customer service with respect to vehicle titling and registrations. The committee meets at least quarterly and reviews all forms and instructions used in the vehicle titling and registration process to ensure that they are understandable and without duplication.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 118:

Are data quality management reports provided to the TRCC for regular review?

Standard of Evidence:

Provide a sample quality management report and specify how frequently they are issued to the TRCC.

Question Rank: Very Important

Assessor conclusions:

Data quality management reports are not provided to the TRCC.

Respondents assigned	5	Responses received	2	Response rate	40%

Driver

The Division of Motor Vehicles of the North Carolina Department of Transportation has custodial responsibility for the North Carolina driver data system. Driver records, including those of commercially licensed drivers, reside in a single location in the State Automation Driver License System (SADLS). All critical information on driver identities, driver license type, license status, history of convictions, crash involvements, and driver license control actions is maintained in the SADLS.

The State driver data system (SADLS) captures and retains the original issuance date for permits, licensing, and endorsements. North Carolina maintains the Card Manager electronic filing system where documents related to the novice driver training (e.g., driver education certificates, driving logs, etc.), required for the provisional license issuance, are scanned and stored. The SADLS also captures traffic violations and detailed information related to the driver improvement history. Driver records are updated with DUI convictions that are transferred electronically from the Administrative Office of Courts. However, North Carolina does not have a separate DUI system.

The SADLS interacts with the National Driver Register's Problem Driver Pointer System (PDPS) and the Commercial Driver's License Information System (CDLIS). However, the contents of the State driver data system are not well documented. At the present, the State does not have documentation containing information related to edit checks and data collection guidelines for data fields in the driver data system. North Carolina is in the process of developing the data dictionary for SADLS.

The State maintains accurate and up-to-date documentation for some of the policies and procedures for the driver data system such as the reporting and recording of the driver education and improvement courses. However, licensing, permitting, and endorsement issuance procedures are not documented. While SADLS is linked to the Administrative Office of Courts (AOC) citation and conviction data, it is not evident that the State maintains documentation related to reporting and recording of relevant citations and convictions. North Carolina does not maintain any documentation related to changes in driver license status. The State also does not have a process flow diagram related to key data process flows. Although North Carolina does not currently purge any data from the driver data system, the State is in the process of developing data purge procedures for SADLS.

North Carolina has established different procedures to detect fraud pertaining to the driver data system such as the use of facial recognition software and/or social security verification procedure. In addition, to detect internal fraud, the State has the License and Theft Unit that audits the reports of transactions. The State also has the Internal User Tracking document to track all transactions and to identify the individuals performing them. North Carolina has established procedures to prevent CDL fraud and appropriately maintain system and information security. Furthermore, there are established procedures to guarantee appropriate access and release of driver information from the driver system that is in accordance with the Federal Driver's Privacy Protection Act (DPPA) and the North Carolina Statute.

North Carolina has established impressive linkages with other data systems. The State’s driver

data system, SADLS, is linked with the crash, citations, and adjudication data, which enables conducting analyses and performing research studies. The Integrated Citation/Adjudication system that is linked with SADLS is maintained by the AOC. The SADLS and AOC share restricted access between systems.

There is an interface link between the North Carolina driver system and the Problem Driver Pointer System (PDPS), the Commercial Driver License Information System (CDLIS), the Social Security Online Verification (SSOLV), and the Systematic Alien Verification for Entitlements (SAVE) system. An access to the North Carolina driver data system can be granted to an authorized law enforcement agencies, court personnel, and authorized personnel from other States through CDLIS, PDPS, the Administrative Office of the Courts, the North Carolina Transportation Notification System, law enforcement network systems, and by submitting the Record Request forms.

The State does not have a formal, comprehensive data quality control program for the driver system. However, North Carolina is in the process of developing a comprehensive data quality management program that includes the SADLS. Also, the State does not have established performance measures for accuracy, completeness, uniformity, integration, and accessibility of the driver data system.

Opportunities

North Carolina should complete a creation of the data dictionary for SADLS which should have edit checks and data collection guidelines for each data element in the driver data system. The State should also have accurate and up-to-date documentation related to policies and procedures for the collecting, reporting, and posting of license, conviction, crash, and license control actions information. A process flow diagram that includes information on the driver system key data process flows, including input from other data systems can be developed.

The State should continue to pursue a development of a formal data quality control program which would increase the State's capability to recognize whether the quality of the driver data system is satisfactory at any point in time. Establishing performance measures such as timeliness, accuracy, completeness, uniformity, integration, and accessibility, would serve as indicators to data managers and data users what areas within the driver system need to be improved. Performing periodic independent sample-based audits for the driver data system as well as conducting periodic comparative and trend analyses to identify unexplained differences in data across years and jurisdictions should also be considered. Finally, data quality reports based on performance measures can be created and provided to the State's TRCC committee for regular review.

Question 119:

Does custodial responsibility for the driver system—including commercially-licensed drivers—reside in a single location?

Standard of Evidence:

Provide a narrative identifying the custodial agency.

Question Rank:
Very Important

Assessor conclusions:

The Division of Motor Vehicles of the North Carolina Department of Transportation has custodial responsibility of the North Carolina driver data system. Driver records, including those of commercially licensed drivers, reside in the single location in the State Automation Driver License System (SADLS).

Respondents assigned	1	Responses received	1	Response rate	100%

Question 120:

Can the State's DUI s data system be linked electronically to the driver system?

Standard of Evidence:

Provide a narrative explanation of a State's linking protocols that demonstrated how a citation on the DUI data system is linked to a record on the driver system. Include identification of the linkage portal and organizations responsible for maintaining the link and the linking fields used.

Question Rank:
Very Important

Assessor conclusions:

The DUI conviction information is transferred electronically from the Administrative Office of the Courts to the State driver data system. Driver records are updated with DUI convictions. However, the State does not maintain a separate DUI data system of the type recommended by NHTSA.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 121:

Does the driver system capture novice drivers' training histories, including provider names and types of education (classroom or behind-the-wheel)?

Standard of Evidence:

Provide a narrative documenting the availability of novice driver training history (including motorcycle and commercial license training), and specify the pertinent data fields and audit checks in the data dictionary or provide a sample system report.

Question Rank:
Less Important

Assessor conclusions:

Novice driver training information such as driver education certificate and driving logs are scanned and maintained in the Card Manager electronic filing system as a proof that requirements are satisfied for the provisional license issuance. Seven documents were attached that, in fact, address each type of test or training by samples.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 122:

Does the driver system capture drivers' traffic violation and/or driver improvement training histories, including provider names and types of education (classroom or behind-the-wheel)?

Standard of Evidence:

Provide a narrative documenting the availability of traffic violation and/or driver improvement training history, including motorcycle and commercial license training, by specifying the pertinent data fields and audit checks in the data dictionary or provide a sample report.

Question Rank:
Less Important

Assessor conclusions:

The State driver data system captures traffic violations and driver improvement history information including details such as provider name, location, and completion date.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 123:

Does the driver system capture and retain the dates of original issuance for all permits, licensing, and endorsements (e.g., learner's permit, provisional license, commercial driver's license, motorcycle license)?

Standard of Evidence:

Provide a narrative documenting the availability of original issuance dates for all permits, licensing, and endorsements by specifying the pertinent data fields and audit checks in the data dictionary or provide a sample report.

Question Rank: Somewhat Important

Assessor conclusions:

The State driver data system (SADLS) captures and retains the original issuance date for permits, licensing, and endorsements.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 124:

Is driver information maintained in a manner that accommodates interaction with the National Driver Register's Problem Driver Pointer System (PDPS) and the Commercial Driver's License Information System (CDLIS)?

Standard of Evidence:

Demonstrate functional integration with the PDPS and CDLIS. AAMVA audit reports can be provided as supporting documentation.

Question Rank: Very Important

Assessor conclusions:

The State driver data system interacts with the National Driver Register's Problem Driver Pointer System (PDPS) and the Commercial Driver's License Information System (CDLIS). A multi-page PDF was provided that displayed the SADLS linkage with the PDPS and CDLIS.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 125:

Are the contents of the driver system documented with data definitions for each field?

Standard of Evidence:

Provide, at a minimum, a table of contents and sample elements from the data dictionary or a sample data dictionary report.

Question Rank:
Very Important

Assessor conclusions:

The State is currently in the process of developing the data dictionary for SADLS. It is not clear if there is currently any documentation for the driver data system containing data definitions for each field.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 126:

Are all valid field values—including null codes—documented in the data dictionary?

Standard of Evidence:

Provide sample valid data field values from the data dictionary.

Question Rank:
Very Important

Assessor conclusions:

The State is currently in the process of developing the data dictionary for SADLS. An Excel example was sent that shows only a field name and a business definition but contains no details such as field size, contents, edits, etc.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 127:

Are there edit checks and data collection guidelines for each data element?

Standard of Evidence:

Provide an example edit check and data collection guideline.

Question Rank:
Very Important

Assessor conclusions:

The State is in the process of developing the data dictionary for SADLS. It is not evident that there is currently any documentation containing information in regards to edit checks and data collection guidelines for data fields in the driver data system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 128:

Is there guidance on how and when to update the data dictionary?

Standard of Evidence:

Provide a narrative explanation of the controls and procedures that ensure the data dictionary is kept up to date.

Question Rank:
Very Important

Assessor conclusions:

The State is in the process of developing the data dictionary for the driver data system. The development of the data dictionary does not yet show how and when to be updated.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 129:

Does the custodial agency maintain accurate and up to date documentation detailing the licensing, permitting, and endorsement issuance procedures (manual and electronic, where applicable)?

Standard of Evidence:

Provide a process flow document for this specific process area, or provide a narrative explaining how these processes are documented and how that documentation is maintained. Include the percentage of reporting that is accomplished manually and electronically.

Question Rank: Somewhat Important

Assessor conclusions:

The State does not have documentation detailing procedures for licensing, permitting, and endorsement issuance.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 130:

Does the custodial agency maintain accurate and up to date documentation detailing the reporting and recording of relevant citations and convictions (manual and electronic, where applicable)?

Standard of Evidence:

Provide a process flow document for this specific process area, or provide a narrative explaining how these processes are documented and how that documentation is maintained. Include the percentage of reporting that is accomplished manually and electronically.

Question Rank: Somewhat Important

Assessor conclusions:

The driver data system SADLS is linked to the Administrative Office of Courts (AOC) citation data. However, there was no narrative or documentation providing specific details for reporting and recording of conviction and citation information from AOC to SADLS. The supporting documents provided do not constitute suggested relevant evidence.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 131:

Does the custodial agency maintain accurate and up to date documentation detailing the reporting and recording of driver education and improvement course (manual and electronic, where applicable)?

Standard of Evidence:

Provide a process flow document for this specific process area, or provide a narrative explaining how these processes are documented and how that documentation is maintained. Include the percentage of reporting that is accomplished manually and electronically.

Question Rank: Somewhat Important

Assessor conclusions:

Documentation detailing the reporting and recording of driver education and improvement courses are submitted electronically by the providers in the field. Upon receipt of the transmissions, the documents are scanned into the Card Manager filing system and then entered electronically to SADLS.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 132:

Does the custodial agency maintain accurate and up to date documentation detailing the reporting and recording of other information that may result in a change of license status (manual and electronic, where applicable)?

Standard of Evidence:

Provide a process flow document for this specific process area, or provide a narrative explaining how these processes are documented and how that documentation is maintained. Include the percentage of reporting that is accomplished manually and electronically.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina maintains documentation for reporting and recording convictions as well as for information from PDPS and CDLIS. However, the State does not maintain documentation detailing the reporting and recording of other information (e.g., failure to appear in court, failure to pay child support etc.) that may result in a change of license status.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 133:

Does the custodial agency maintain accurate and up to date documentation detailing any change in license status (e.g., sanctions, withdrawals, reinstatement, revocations, and restrictions)?

Standard of Evidence:

Provide a narrative or flow diagram describing the processes and procedures governing the actual change to the license status, including timelines for each type of change.

Question Rank: Somewhat Important

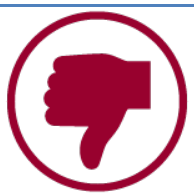
Assessor conclusions:

The State does not maintain any documentation related to changes in driver license status. While the evidence provided by the State shows a change in license status (suspension) as a result of conviction, these documents do not indicate the existence of documentation (e.g., flow diagram, procedure manual, or similar) related to processes and procedures for any change in license status.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 134:

Is there a process flow diagram that outlines the driver data system's key data process flows, including inputs from other data systems?



Standard of Evidence:

Provide the process flow diagram.

Question Rank: Very Important

Assessor conclusions:

The State does not have a process flow diagram related to key data process flows.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 135:

Are the processes for error correction and error handling documented for: license, permit, and endorsement issuance; reporting and recording of relevant citations and convictions; reporting and recording of driver education and improvement courses; and reporting and recording of other information that may result in a change of license status?

Standard of Evidence:

Provide the documentation or flow diagram that describes the processes and procedures for error correction and error handling in each of the listed process areas.

Question Rank: Somewhat Important

Assessor conclusions:

The State maintains documentation for various error correction procedures (e.g., Examiner's manual) related to 1) reporting and recording of various critical information that reside in the driver data system and 2) issuance procedures for license, permits, and endorsements. However, the supporting documents do not contain information related to error detection and/or correction. A search of the Examiner's Manual did not provide such information either.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 136:

Are there processes and procedures for purging data from the driver system documented?

Standard of Evidence:

Provide the documentation or flow diagram that describes the processes and procedures for purging data and the timelines for these actions.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina does not currently purge any data from the driver data system. The State is in the process of developing data purge procedures for SADLS.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 137:

In States that have the administrative authority to suspend licenses based on a DUI arrest independent of adjudication, are these processes documented?

Standard of Evidence:

Provide the documentation or flow diagram that describes the processes and procedures for administrative license suspension.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina does not have the authority to impose administrative license suspension based on a DUI arrest. Therefore, the processes and procedures for such license action do not exist.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 138:

Are there established processes to detect false identity licensure fraud?

Standard of Evidence:

Provide a narrative describing the systems or processes used to detect individuals attempting licensure under a new identity.

Question Rank: Very Important

Assessor conclusions:

The State has established procedures to detect false identity license fraud such as use of facial recognition software, social security verification, and fraud unit back processes.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 139:

Are there established processes to detect internal fraud by individual users or examiners?

Standard of Evidence:

Provide a narrative describing the systems or processes used to detect internal fraud by individual users or examiners.

Question Rank:
Very Important

Assessor conclusions:

The License and Theft Unit audits the reports of transactions to detect internal fraud. The Internal User Tracking document identifies all transactions and the individuals performing them. A copy of the Internal User Tracking document was provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 140:

Are the established processes to detect CDL fraud (including hazmat endorsements)?

Standard of Evidence:

Provide a narrative describing the systems or processes used to detect commercial driver's license fraud, including for hazmat endorsements.

Question Rank:
Very Important

Assessor conclusions:

The State conforms to federal requirements for the issuance of CDL license and performs the Transportation Security Administration (TSA) security threat assessments and fingerprinting for hazmat endorsements. In addition, to detect fraud, CDL examiners conduct overt and covert observations, all skill tests are reviewed by compliance officers, and third party audits are performed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 141:

Are there policies and procedures for maintaining appropriate system and information security?

Standard of Evidence:

Provide copies of the relevant policies and procedure manuals.

Question Rank:
Very Important

Assessor conclusions:

The State indicated that security training, fingerprinting, and identity tracking on transaction histories are maintained in SADLS and submitted a screen shoot showing 10 up-to-date security factors have been satisfied.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 142:

Are there procedures in place to ensure that driver system custodians track access and release of driver information adequately?

Standard of Evidence:

Provide copies of the relevant procedures or manuals.

Question Rank:
Very Important

Assessor conclusions:

The State has established procedures related to appropriate access and release of driver information from the driver system. For this purpose, North Carolina uses the Request For Access To Multiple Records form to ensure that release of driver data is in accordance with the Federal Driver's Privacy Protection Act (DPPA) and the North Carolina Federal Statute 20-43. In addition, the State relies on use of contracts and restricted access for outside vendors to ensure adequacy of the relevant procedures.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 143:

Can the State's crash system be linked to the driver system electronically?

Standard of Evidence:

Provide a narrative explanation of a State's linkage protocols that demonstrates how records in the crash system are linked to the driver record. Include identification of the linkage portal and the organization responsible for maintaining the link and the linking fields used.

Question Rank:
Very Important

Assessor conclusions:

The driver system is linked with SADLS, and a document, CRS to SADLS Interface, lists the internal program components that occur through the linkage. Those references do not translate well into identification of linking fields, but they clearly show that the data provided to the crash system includes access to the medical records database that would enable crash analyses beyond the capability of merely posting the crash data to the appropriate driver histories. This may be a notable factor for crash data analysis.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 144:

Can the State's citation system be linked to the driver system electronically?

Standard of Evidence:

Provide a narrative explanation of a State's linkage protocols that demonstrates how records in the citation system are linked to the driver record. Include identification of the linkage portal and the organization responsible for maintaining the link and the linking fields used.

Question Rank:
Very Important

Assessor conclusions:

The Automated Criminal Infraction System (ACIS) of the Administrative Office of the Courts (AOC) is responsible for the electronic interfaced with SADLS. Among the several supporting documents were charts showing the full connectivity from the AOC/ACIS with the SADLS and other related organizations such as the Highway Safety Research center, a user of the crash and driver data for analytic studies.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 145:

Can the State's adjudication system be linked to the driver system electronically?

Standard of Evidence:

Provide a narrative explanation of a State's linkage protocols that demonstrates how records in the adjudication system are linked to the driver record. Include identification of the linkage portal and the organization responsible for maintaining the link and the linking fields used.

Question Rank:
Very Important

Assessor conclusions:

The adjudication system is part of the integrated Citation/Adjudication system maintained by the AOC/ACIS that is linked with SADLS and explained in the previous question. The same supporting documents apply.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 146:

Is there an interface link between the driver system and: the Problem Driver Pointer System, the Commercial Driver Licensing System, the Social Security Online Verification system, and the Systematic Alien Verification for Entitlement system?

Standard of Evidence:

Provide a narrative description of the policy for checking the PDPS, CDLIS, SSOLV, and SAVE for licensing commercial and non-commercial drivers (both original issuances and renewals).

Question Rank:
Very Important

Assessor conclusions:

PDPS, CDLIS and SSOLV are programmed to be checked automatically for all original, renewal and duplicate license transactions. SAVE is checked separately through the U.S. Citizenship and Immigration Services website. A copy of the logon screen was provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 147:

Does the custodial agency have the capability to grant authorized law enforcement personnel access to information in the driver system?

Standard of Evidence:

Provide a narrative description of the protocols granting authorized law enforcement personnel access to information in the driver system.

Question Rank:
Very Important

Assessor conclusions:

The State grants access to the driver data system to law enforcement. The information in the driver system is accessed through the Department of Criminal Investigation (DCI), the Criminal Justice Law Enforcement Data Service (CJLEADS), and TransUnion.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 148:

Does the custodial agency have the capability to grant authorized court personnel access to information in the driver system?

Standard of Evidence:

Provide a narrative description of the protocols granting authorized law enforcement personnel access to information in the driver system.

Question Rank:
Very Important

Assessor conclusions:

The Administrative Office of the Courts (AOC) and SADLS share restricted access between systems. Documents were provided showing the external and internal interfaces.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 149:

Does the custodial agency have the capability to grant authorized personnel from other States access to information in the driver system?

Standard of Evidence:

Provide a narrative description of the protocols granting authorized law enforcement personnel access to information in the driver system.

Question Rank:
Very Important

Assessor conclusions:

The State has the capability to grant access to information in the driver data system to authorized personnel from other States through CDLIS, PDPS, the Administrative Office of the Courts, the North Carolina Transportation Notification System, by submitting the Record Request forms, and through law enforcement network systems.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 150:

Is there a formal, comprehensive data quality management program for the driver system?

Standard of Evidence:

Provide a narrative description of the driver system's data quality management programs and the most recent data quality reports issued.

Question Rank:
Very Important

Assessor conclusions:

The State does not have established a formal, comprehensive data quality management program for the driver system. North Carolina is in the process of developing a comprehensive data quality management program that includes the SADLS.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 151:

Are there automated edit checks and validation rules to ensure entered data falls within a range of acceptable values and is logically consistent among data elements?

Standard of Evidence:

Provide the formal methodology or describe the process by which automated edit checks or validation rules ensure entered data falls within the range of acceptable values and is logically consistent between fields.

Question Rank:
Very Important

Assessor conclusions:

The State has automated edit checks and validation rules for some data elements to ensure entered data falls within a range of acceptable values and to identify inconsistency among data elements or missing information in certain data fields.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 152:

Are there timeliness performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of driver system timeliness measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

Assessor conclusions:

There are not any timeliness performance measures of the driver data system tailored to the needs of data managers and data users.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 153:

Are there accuracy performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of driver system accuracy measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

Assessor conclusions:

There are not any accuracy performance measures of the driver data system tailored to the needs of data managers and data users.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 154:

Are there completeness performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of driver system completeness measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

Assessor conclusions:

There are not any completeness performance measures of the driver data system tailored to the needs of data managers and data users.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 155:

Are there uniformity performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of driver system uniformity measures the State uses, including the most current baseline and actual values for each.

Question Rank:
Very Important

Assessor conclusions:

There are not any uniformity performance measures of the driver data system tailored to the needs of data managers and data users.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 156:

Are there integration performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of driver system integration measures the State uses, including the most current baseline and actual values for each.

Question Rank: Very Important

Assessor conclusions:

There are not any integration performance measures of the driver data system tailored to the needs of data managers and data users.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 157:

Are there accessibility performance measures tailored to the needs of data managers and data users?

Standard of Evidence:

Provide a complete list of driver system accessibility measures the State uses, including the most current baseline and actual values for each.

Question Rank: Somewhat Important

Assessor conclusions:

There are not any accessibility performance measures of the driver data system tailored to the needs of data managers and data users.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 158:

Has the state established numeric goals—performance metrics—for each performance measure?

Standard of Evidence:

Provide the specific, State-determined numeric goals associated with each performance measure in use.

Question Rank: Very Important

Assessor conclusions:

The State has not established numeric goals—performance metrics—for each performance measure.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 159:

Is the detection of high frequency errors used to generate updates to training content and data collection manuals, update the validation rules, and prompt form revisions?

Standard of Evidence:

Provide the formal methodology or describe the process by which high frequency errors are used to generate new training content and data collection manuals, update the validation rules, and prompt revisions.

Question Rank:
Very Important

Assessor conclusions:

The detection of high frequency errors initiates changes for improvements in all procedures related to the driver data system. More specific details pertaining to processes by which high frequency errors are used to make changes and prompt revisions in procedures related to the driver system would improve this rating.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 160:

Are independent sample-based audits conducted periodically for the driver reports and related database contents for that record?

Standard of Evidence:

Describe the formal audit methodology, provide a sample report or other output, and specify the audits' frequency.

Question Rank:
Somewhat Important

Assessor conclusions:

Independent sample-based audits are not conducted.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 161:

Are periodic comparative and trend analyses used to identify unexplained differences in the data across years and jurisdictions?

Standard of Evidence:

Describe the analyses, provide a sample report or other output, and specify the analyses' frequency.

Question Rank: Very Important

Assessor conclusions:

The State does not perform periodic comparative and trend analyses related to data in the driver system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 162:

Is data quality feedback from key users regularly communicated to data collectors and data managers?

Standard of Evidence:

Describe the process for transmitting and utilizing key users' data quality feedback to inform changes.

Question Rank: Somewhat Important

Assessor conclusions:

Data quality feedback from key users is not communicated to data collectors and data managers.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 163:

Are data quality management reports provided to the TRCC for regular review?

Standard of Evidence:

Provide a sample quality management report and specify how frequently they are issued to the TRCC.

Question Rank: Very Important

Assessor conclusions:

Data quality management reports are not provided to the TRCC for regular review.

Respondents assigned	1	Responses received	1	Response rate	100%

Roadway

Safety data is the key to making sound engineering decisions for the design and operations of roadways. Critical safety data includes not only crash information but also traffic data, speed data, and roadway geometrics. The backbone of all data analysis is dependent on an accurate and up-to-date roadway information system that all other data events can be associated to within an enterprise system. This integrated system allows for the storing of improved data and provides the access to more robust safety data. The ability to produce quality, timely and sharable data is important to improving traffic safety not only for those State maintained roadways but also for the metropolitan and local entities. In the Moving Ahead for Progress in the 21st Century Act (MAP 21) and continuing with the Fixing America's Surface Transportation Act (FAST Act), the importance of using multiple data sources to understand any highway safety issues has been recognized. Additionally with limited resources available, allocation of funding for safety should be based on effective data-driven decision making.

North Carolina does not currently have an enterprise roadway system containing all public roadways. Of the approximate 106,305 miles the State maintains 75%. The State uses a single compatible referencing system for their data location. They are currently in the process of updating their system using ESRI Roads & Highways. This is a new system and they are also in the process of having it integrate with multiple business systems. Presently the current system contains State maintained roads and not all public roadways.

The State does not collect all MIRE FDEs for all public roads. The concentration is on State maintained roadways and others as may be necessary for various reporting. They do have some additional MIRE elements being collected which are outlined in the data dictionary. The State's data dictionary covers all roads where data is expected to be collected and applies to all public roadways. The data dictionary is reviewed and updated if necessary on a quarterly schedule. The State does maintain steps for updating information and incorporating new elements into the roadway information system. North Carolina collects very little information from localities so does not have procedures in place to monitor their collection practices.

North Carolina has stated that there are interface linkages connecting the State's discrete roadway information systems. The State's linear referencing system for all public roads is based on a county / route / milepost system. Any external systems that feed data into the roadway inventory system can all relate to this location referencing procedure. The State does say that roadway systems maintained by localities do not interface with the State. There is also no direct access by localities to the data other than information placed through a web-based map.

The State does not have regular reports for data managers to analyze for quality of information. Through the ARID Data Manual they describe some of their edit checks as data is entered into the system. If prompted a correction is made. There are no documented procedures for prioritizing and addressing detected errors. The decision is left to management depending on the need and severity of the problems. Currently there are no formal procedures for sharing quality control information with data collectors through agency-level feedback and training.

North Carolina does not have in place established performance measures for timeliness,

accuracy, completeness, uniformity, accessibility or integration for the roadway system.

There does exist some potential opportunities to enhance and improve the State's roadway system:

Of extreme importance are having a set of performance measures. These can be useful to communicate areas of need to management within the broader organization and are of utmost use for establishing goals for data and/or system improvement and measuring success. NHTSA has published the Model Performance Measures for State Traffic Records Systems that provides guidance in developing performance measures and formal quality control programs. FHWA has published a guidance document titled Performance Measures for Roadway Data. These documents could assist Program Managers in their data improvement efforts.

The State should also consider formalizing the guidelines and processes relating to data collection and include within the data dictionary. These should also include flow charts showing how new data is entered, tracked and by who. This will be extremely important as the State progresses with the new systems being implemented. Good documentation will enable future employees to gain the knowledge to perform their assignments. These processes and guidelines should be continually updated whenever changes occur.

Lastly, as North Carolina's new systems are brought into being, consideration should be to communicate with the locals and ascertain their needs and how their data can be incorporated in the State's database. One of the new requirements is to capture all roadways and data for 100% of the public roadway system. It would be recommended that the TRCC be engaged in this effort with local municipalities on how best to accomplish this task. As part of this process an open portal should be created for all users to retrieve and be able to analyze safety data.

Question 164:

Are all public roadways within the State located using a compatible location referencing system?

Standard of Evidence:

Provide a map displaying all public roads that represents the system's statewide capabilities. Identify what percentage of the public road system is State owned or maintained. Explain whether the State uses a single compatible location referencing system for all public roads or if it has a set of compatible location referencing systems. Prior reports are acceptable.

Question Rank:
Very Important

Assessor conclusions:

The State has indicated that all public roadways are located using a single compatible location referencing system. Of the 106,305 miles the State maintains 75%. Those maps from other questions provide the evidence of the State's capabilities.

Respondents assigned	**1**	**Responses received**	**1**	**Response rate**	**100%**

Question 165:

Are the roadway and traffic data elements located using a compatible location referencing system (e.g., LRS, GIS)?

Standard of Evidence:

Provide a map displaying roadway features and traffic volume (FDEs) for all public roads (State and non-State routes) that is representative of the system's statewide capabilities. Explain whether the State uses a single compatible location referencing system for all public roads or if it has a set of compatible location referencing systems. Prior reports are acceptable.

Question Rank: Very Important

Assessor conclusions:

The State has indicated that traffic data elements are located on the LRS for State maintained roadways and the non-system roadways are not yet available in their newly implemented system. Traffic data collected statewide is available and published on-line. A map was provided showing traffic capabilities.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 166:

Is there an enterprise roadway information system containing roadway and traffic data elements for all public roads?

Standard of Evidence:

Describe the enterprise roadway information system, which should enable linking between the various roadway information systems including: roadway, traffic, location reference, bridge, and pavement data.

Question Rank: Very Important

Assessor conclusions:

North Carolina has provided a detailed description of the State's enterprise roadway information system. The State uses ESRI Roads & Highways for the management of the system. The system is new and is in the process of being integrated into multiple business systems. At this time, the system only contains State maintained roads and not all public roads.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 167:

Does the State have the ability to identify crash locations using a referencing system compatible with the one(s) used for roadways?

Standard of Evidence:

Provide a map displaying crash locations on all public roads that is representative of the system's statewide capabilities. Explain whether the State uses a single compatible location referencing system for crash, roadway features, and traffic volume on all public roads or if it has a set of compatible location referencing systems. Prior reports are acceptable.

Question Rank:
Very Important

Assessor conclusions:

The State uses a single compatible location referencing system for crashes. They have recently added the linework for all non-system roads and have begun to relate all other data to those roadways. There is a process to keep the crash referencing in sync with the official statewide LRS. They have provided the necessary evidence to rate this as meets.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 168:

Is crash data incorporated into the enterprise roadway information system for safety analysis and management use?

Standard of Evidence:

Describe how the crash data is incorporated into the enterprise roadway information system and provide an example of how it is used for safety analysis.

Question Rank:
Very Important

Assessor conclusions:

Crash data does not reside in the roadway inventory system but is linked as needed for analysis. The data resides in the same Oracle environment as roadway. Examples of crash rates and network screening for projects were provided showing capabilities of using the crash data for safety analysis.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 169:

Are all the MIRE Fundamental Data Elements collected for all public roads?

Standard of Evidence:

Provide a list of FDEs collected and their definitions. Specify if the data collected is for all public roads or State roads only. If the State wishes to cite the data dictionary directly, please identify the FDEs.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina has provided a spreadsheet that contains a list of roughly 80 data elements. While this is not the complete list of MIRE FDEs, the State does collect some. The respondent has stated some MIRE FDEs are collected but not all for all public roadways. With the future linework being completed this should improve.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 170:

Do all additional collected data elements for any public roads conform to the data elements included in MIRE?

Standard of Evidence:

Provide a list of additional MIRE data elements collected beyond the FDEs. Specify if the data elements are collected for all public roads or State roads only.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina has provided a spreadsheet that indicates the list of additional fields collected. The State has determined that they do have some additional MIRE elements of varying extents which conform to MIRE.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 171:

Are all the MIRE Fundamental Data Elements for all public roads documented in the enterprise system's data dictionary?

Standard of Evidence:

Identify, with appropriate citations, the MIRE FDE-related contents of the enterprise system's data dictionary. Specify if the data dictionary applies to all public roads or to State roads only.

Question Rank: Somewhat Important

Assessor conclusions:

The State has indicated that all MIRE FDE's collected are documented in the enterprise data dictionary. A copy was provided for review. The data dictionary covers all roads where data would be collected.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 172:

Are all additional (non-Fundamental Data Element) MIRE data elements for all public roads documented in the data dictionary?

Standard of Evidence:

Identify, with appropriate citations, the additional (non-FDE) MIRE data elements included in the data dictionary. Specify if the data dictionary applies to all public roads or to State roads only.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina has previously stated that they do not collect all the additional non-FDE MIRE data elements. The ones that the State collects are documented in the State's enterprise roadway information system. The data dictionary applies to all public roads.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 173:

Does roadway data imported from local or municipal sources comply with the data dictionary?

Standard of Evidence:

Provide a narrative statement explaining, how and if any roadway data are accepted and included in the statewide roadway database from local or municipal sources. Describe if the data from local or municipal sources meet the data dictionary standards.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has stated that the only information the State imports from local sources is the geometry and street name. The State has said that this data does comply with the State's data dictionary.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 174:

Is there guidance on how and when to update the data dictionary?

Standard of Evidence:

Provide a narrative explanation of the controls and procedures that ensure the data dictionary is kept up to date.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has stated that data dictionary is reviewed, updated (if necessary), and published to a public facing website on a quarterly basis.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 175:

Are the steps for incorporating new elements into the roadway information system (e.g., a new MIRE element) documented to show the flow of information?

Standard of Evidence:

Provide documentation or a narrative explaining the process for adding new data elements (e.g., a new MIRE element) to the roadway system. Identify who is responsible for each step in the process.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has provided a detailed narrative on the steps for incorporating new elements into the roadway information system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 176:

Are the steps for updating roadway information documented to show the flow of information?

Standard of Evidence:

Provide documentation or a narrative explaining the process for updating data elements in the roadway system. Identify who is responsible for each step in the process.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has provided a detailed narrative that describes the steps for updating roadway information documented to show the flow of information. While this is a detailed explanation it is recommended this become a formal document for the future.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 177:

Are the steps for archiving and accessing historical roadway inventory documented?

Standard of Evidence:

Provide documentation or a narrative explaining the process of archiving and accessing historical roadway data. Identify who is responsible for each step in the process.

Question Rank: Somewhat Important

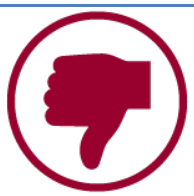
Assessor conclusions:

The State has responded there are no documented steps for archiving and retrieving historical roadway data. They are progressing with ESRI's Roads and Highways to be able to have snapshots available.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 178:

Are the procedures that local agencies (e.g., county, MPO, municipality) use to collect, manage, and submit roadway data to the statewide inventory documented?



Standard of Evidence:

Provide documentation or a narrative explaining the local agency procedures for collecting, managing, and submitting data to the State roadway inventory. Identify who is responsible for each step in the process.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina has stated that there are no procedures that local agencies (e.g., county, MPO, municipality) use to collect, manage, and submit roadway data to the statewide inventory. The State has noted that they import very little data from local agencies.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 179:

Are local agency procedures for collecting and managing the roadway data compatible with the State's enterprise roadway inventory?

Standard of Evidence:

Provide official documentation or a narrative explanation of how compatibility between local data systems and the State roadway inventory is achieved. Identify who is responsible for each step in the process.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has stated that the State imports very little data from local agencies. Therefore the State has no local agency procedures for collecting and managing the roadway data compatible with the State's enterprise roadway inventory.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 180:

Are there guidelines for collection of data elements as they are described in the State roadway inventory data dictionary?

Standard of Evidence:

Provide the guidelines and cite an example of data collection pursuant to the data dictionary.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has provided a document entitled ARID that describes the process for collection of data elements as they are described in the State roadway inventory data dictionary.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 181:

Are the location coding methodologies for all State roadway information systems compatible?

Standard of Evidence:

Describe the location referencing system and the information systems that use it. If there is more than one location referencing system in use, list each and the associated systems.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has provided a narrative that states the linear referencing system for all public roads is based on a county / route / milepost system. Also, all routes have a unique route id. All external systems that feed data into the roadway inventory system can all relate data to the system based on the county / route / milepost associated with the data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 182:

Are there interface linkages connecting the State's discrete roadway information systems?

Standard of Evidence:

Provide a narrative that describes the interface links connecting the State's roadway information systems. Provide the result of a single query (e.g., table, view) that includes both roadway features and traffic data for a segment of road.

Question Rank:
Very Important

Assessor conclusions:

North Carolina has stated that there are interface linkages connecting the State's discrete roadway information systems. At this time there is one linkage and the State is in the process of linking more. The State has provided documentation that describes the types of data that is linked.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 183:

Are the location coding methodologies for all regional and local roadway systems compatible?

Standard of Evidence:

Provide a narrative describing the location referencing system and the associated regional and local roadway systems. If there is more than one location referencing system in use, list each and the associated regional and local systems.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina has stated that there are no location coding methodologies for all regional and local roadway systems. The State mentions that the reason is due to the small amount of roadways the State does not own. This should be discussed with the TRCC in order to gain a clearer picture of data that might be available.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 184:

Do roadway data systems maintained by regional and local custodians (e.g., MPOs, municipalities) interface with the State enterprise roadway information system?

Standard of Evidence:

Provide a narrative that describes the interface links connecting the regional or local roadway information systems to the State's enterprise roadway information system. Provide the result of a single query (e.g., table, view) that includes both roadway features and traffic data for a local road segment.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina has stated that roadway data systems maintained by regional and local custodians (e.g., MPOs, municipalities) do not interface with the State enterprise roadway information system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 185:

Does the State enterprise roadway information system allow MPOs and local transportation agencies on-demand access to data?

Standard of Evidence:

Provide a narrative that describes the system or process that enables localities to query the data system.

Question Rank: Somewhat Important

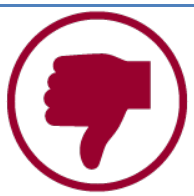
Assessor conclusions:

North Carolina has stated that the State enterprise roadway information system does not allow MPOs and local transportation agencies on-demand access to data. However the State has stated that the State does provide access to published data via online web-based maps. The evidence requirement for this question was not provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 186:

Do Roadway system data managers regularly produce and analyze data quality reports?



Standard of Evidence:

Provide a sample report and specify the release schedule for the reports.

Question Rank: Very Important

Assessor conclusions:

North Carolina has stated that Roadway system data managers do not regularly produce and analyze data quality reports.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 187:

Is the overall quality of information in the Roadway system dependent on a formal program of error/edit checking as data is entered into the statewide system?

Standard of Evidence:

Describe the formal program of error/edit checking, to include specific procedures for both automated and manual processes.

Question Rank:
Very Important

Assessor conclusions:

There are business rules, some described in the ARID Data Manual. They are applied to data as it is entered into the system to ensure values entered are within a specified range of valid values. These rules edit checks are applied real time as data is entered into the system. If a rejection occurs the user is prompted to enter a value within the acceptable range.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 188:

Are there procedures for prioritizing and addressing detected errors?

Standard of Evidence:

Describe the procedures for prioritizing and addressing detected errors in both automated and manual processes. Please specify where these procedures are formally documented.

Question Rank:
Very Important

Assessor conclusions:

The State has responded there are not any documented and defined procedures for prioritizing and addressing detected errors. Any decisions made typically come from management depending on the magnitude of error and importance of the data field involved.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 189:

Are there procedures for sharing quality control information with data collectors through individual and agency-level feedback and training?

Standard of Evidence:

Describe all the procedures used for sharing quality control information with data collectors.

Question Rank: Very Important

Assessor conclusions:

North Carolina has stated that there are no formal procedures for sharing quality control information with data collectors through individual and agency-level feedback and training. The State indicates that some of this is handled through traditional employee/management feedback.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 190:

Is there a set of established performance measures for the timeliness of the State enterprise roadway information system?

Standard of Evidence:

Provide the metrics used.

Question Rank: Very Important

Assessor conclusions:

The State does not have a set of established performance measures for the timeliness of the State enterprise roadway information system. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 191:

Is there a set of established performance measures for the timeliness of the roadway data maintained by regional and local custodians (municipalities, MPOs, etc.)?

Standard of Evidence:

Provide the metrics used.

Question Rank: Somewhat Important

Assessor conclusions:

There is not a set of established performance measures for the timeliness of the roadway data maintained by regional and local custodians. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 192:

Is there a set of established performance measures for the accuracy of the State enterprise roadway information system?

Standard of Evidence:

Provide the metrics used.

Question Rank: Very Important

Assessor conclusions:

The State does not have a set of performance measures for the accuracy of the State enterprise roadway system. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 193:

Is there a set of established performance measures for the accuracy of the roadway data maintained by regional and local custodians (municipalities, MPOs, etc.)?

Standard of Evidence:

Provide the metrics used.

Question Rank: Somewhat Important

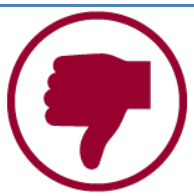
Assessor conclusions:

There is not a set of established performance measures for the accuracy of the roadway data maintained by regional and local custodians. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 194:

Is there a set of established performance measures for the completeness of the State enterprise roadway information system?



Standard of Evidence:

Provide the metrics used.

Question Rank: Very Important

Assessor conclusions:

The State does not have a set of established performance measures for the completeness of the State enterprise roadway information system. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 195:

Is there a set of established performance measures for the completeness of the roadway data maintained by regional and local custodians (municipalities, MPOs, etc.)?

Standard of Evidence:

Provide the metrics used.

Question Rank: Somewhat Important

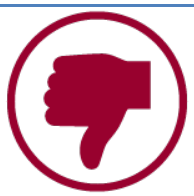
Assessor conclusions:

There is not a set of established performance measures for the completeness of the roadway data maintained by regional and local custodians. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 196:

Is there a set of established performance measures for the uniformity of the State enterprise roadway information system?



Standard of Evidence:

Provide the metrics used.

Question Rank: Very Important

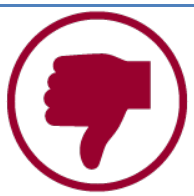
Assessor conclusions:

The State does not have a set of established performance measures for the uniformity of the State enterprise roadway information system. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 197:

Is there a set of established performance measures for the uniformity of the roadway data maintained by regional and local custodians (municipalities, MPOs, etc.)?



Standard of Evidence:

Provide the metrics used.

Question Rank: Somewhat Important

Assessor conclusions:

There is not a set of established performance measures for the uniformity of the roadway data maintained by regional and local custodians. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 198:

Is there a set of established performance measures for the accessibility of State enterprise roadway information systems?

Standard of Evidence:

Provide the metrics used.

Question Rank: Very Important

Assessor conclusions:

The State does not have a set of established performance measures for the accessibility of State enterprise roadway systems. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 199:

Is there a set of established performance measures for the accessibility of the roadway data maintained by regional and local custodians (municipalities, MPOs, etc.)?

Standard of Evidence:

Provide the metrics used.

Question Rank: Somewhat Important

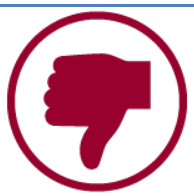
Assessor conclusions:

There is not a set of established performance measures for the accessibility of the roadway data maintained by regional and local custodians. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 200:

Is there a set of established performance measures for the integration of State enterprise roadway information systems and other critical data systems?



Standard of Evidence:

Provide the metrics used.

Question Rank: Very Important

Assessor conclusions:

The State does not have a set of established performance measures for the integration of State enterprise roadway information systems and other critical data systems. There were no metrics provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 201:

Is there a set of established performance measures for the integration of the roadway data maintained by regional and local custodians (municipalities, MPOs, etc.) and other critical data systems?

Standard of Evidence:

Provide the metrics used.

Question Rank:
Very Important

Assessor conclusions:

There is not a set of established performance measures for the integration of the roadway data maintained by regional and local custodians with other critical data systems. There were no metrics provided.

Respondents assigned	**1**	**Responses received**	**1**	**Response rate**	**100%**

Citation / Adjudication

North Carolina has taken a major step in improving its citation/adjudication systems with the introduction of an electronic citation system. Electronic citations have several positive impacts on the data, particularly in terms of accuracy and timeliness. However, it is important to note other positive results of such a system, including less time for officers and citizens at the roadside, which results in improved officer safety and less delay and inconvenience for the citizens involved. At this point, increasing the participation in the e-citation project is pivotal. Development of a business plan for adding local law enforcement agencies would be a good project for the Traffic Records Coordinating Committee and could serve to increase local participation on the committee.

The State has developed data edits and other means to ensure accuracy in its data, but lacks a comprehensive data quality management program. It is not enough to assume that data edits are preventing errors; some type of measure should be developed and taken regularly. When data quality is good, it often seems redundant to take measures, but regular review of the data quality helps the State to quickly recognize any minor degradation of data quality. This enables quick action to find and address the problem and return the data quality to former levels. When goals are present, but not measures, it is impossible to know if the goal is being met, exceeded or not met. These findings help the State to ensure that its efforts are effective and that improvements are occurring. While the e-citation program is expanding, it would be a good time to develop baseline measures of data accuracy, timeliness, and completeness. As additional departments move to the program, these measures should show marked improvement and should help the State to assess the effectiveness of electronic processes and technology investments.

The State can track DUI arrests, but does not have an interactive tracking system for such arrests. Such a system, particularly if it is interactive among those who deal with various aspects of DUI education, treatment, therapy, assessment and sanctions, can improve cooperation between agencies and help to find the best overall treatment modalities for various types of DUI offenders. It would be helpful to enhance DUI tracking and interactions between agencies.

Finally, there appears to be means by which to link or integrate components of the traffic records data system, but these have not been used for analytical purposes on a large scale. Integration of data should be a topic of discussion for the TRCC and means by which to ensure that it is most efficient include an assessment of common data elements between systems. Such discussions can also foster communication about further uses for data and analyses to be conducted.

Question 202:

Is there a statewide system that provides real-time information on individuals' driving and criminal histories?

Standard of Evidence:

Provide a narrative description of the statewide system that provides realtime information on individuals' driving and criminal histories.

Question Rank:
Very Important

Assessor conclusions:

North Carolina's criminal and driver history data is available as appropriate to the public through CIPRS, the Court Information Public Records System, and to Law Enforcement through an integrated system (CJLEADS) which combines driver, criminal, probation and other State databases to provide information about violators to State and local law enforcement / criminal justice officials.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 203:

Do all law enforcement agencies, parole agencies, probation agencies, and courts within the State participate in and have access to a system providing real-time information on individuals driving and criminal histories?

Standard of Evidence:

Name the groups that have real time access and describe the system that these agencies use to access driver or criminal histories, i.e., police dispatch, direct system access, telephone help desk.

Question Rank:
Very Important

Assessor conclusions:

The Automated Criminal / Infraction System (ACIS) is available to all law enforcement, probation and parole and courts and contains data from all 100 counties within the State.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 204:

Is there a statewide authority that assigns unique citation numbers?

Standard of Evidence:

Identify the agency responsible and describe the protocols used to generate and assign unique citation numbers. Provide a copy of the relevant statute or gubernatorial order.

Question Rank:
Very Important

Assessor conclusions:

The Administrative Office of the Courts maintains the eCitation system, which issues unique citation numbers. The eCitation system is used in all counties in North Carolina and any paper citations issued contain unique citation numbers.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 205:

Are all citation dispositions—both within and outside the judicial branch—tracked by the statewide data system?

Standard of Evidence:

If a statewide data tracking system exists, describe the means by which citation dispositions are transmitted and posted. If the system is the driver history file, note if deferrals or dismissals are posted. If the statewide system is managed through the courts, indicate whether all courts that handle traffic violations report to the same tracking system.

Question Rank:
Somewhat Important

Assessor conclusions:

Electronic citation dispositions are tracked through ACIS for all law enforcement agencies in the State. Paper citations, however, may or may not be formally tracked by the individual law enforcement agencies to which they are issued. Gaps in accountability appear to exist for both paper and electronic citations, as there are inconsistent controls in place to account for each citation issued through to disposition. This results in some defendants presenting to court before the court receives the citation, and may also result in some citations never being disposed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 206:

Are final dispositions (up to and including the resolution of any appeals) posted to the driver data system?

Standard of Evidence:

Provide a flow chart or audit report documenting how all types of dispositions are posted to the driver file.

Question Rank: Somewhat Important

Assessor conclusions:

All final dispositions, through the appeals process, are part of the Automated Criminal / Infraction System. Once final, the appropriate dispositions are transmitted to the North Carolina State Automated Driver License System (SADLS).

Respondents assigned	5	Responses received	2	Response rate	40%

Question 207:

Are the courts' case management systems interoperable among all jurisdictions within the State (including local, municipal and State)?

Standard of Evidence:

Provide the number of case management systems in use in the State and detail which are interoperable. Indicate if the State has a unified judicial system and if municipal or other local level courts share the same case management system.

Question Rank: Very Important

Assessor conclusions:

North Carolina has a unified court system, with all courts having the same, interoperable case management system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 208:

Is citation and adjudication data used for traffic safety analysis to identify problem locations, areas, problem drivers, and issues related to the issuance of citations, prosecution of offenders, and adjudication of cases by courts?

Standard of Evidence:

Provide an example analysis and describe the policy or enforcement actions taken as a result.

Question Rank:
Very Important

Assessor conclusions:

The State has conducted an analysis to determine the impact of driver improvement classes on subsequent driving behavior for violators charged with exceeding the speed limit. No indication of studies to identify hot-spots for enforcement, appropriate sanctions for repeat offenders, and safety enforcement needs have been conducted. These are all important aspects of driver behavior that could be studied based on data collected in the driver system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 209:

Do the appropriate components of the citation and adjudication systems adhere to the National Crime Information Center (NCIC) data guidelines?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to the NCIC guidelines. If not, specify if a comparable guideline is being used.

Question Rank:
Less Important

Assessor conclusions:

Citation and adjudication data is provided to North Carolina's Department of Justice, which provides the interface with NCIC.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 210:

Do the appropriate portions of the citation and adjudication systems adhere to the Uniform Crime Reporting (UCR) Program guidelines?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to the UCR program guidelines. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

Very few traffic related charges are part of the Uniform Crime Reporting system. However, the State of North Carolina does automatically include NIBRS coding for charged offenses.

Respondents assigned	**1**	**Responses received**	**1**	**Response rate**	**100%**

Question 211:

Do the appropriate portions of the citation and adjudication systems adhere to the National Incident-Based Reporting System (NIBRS) guidelines?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to the NIBRS guidelines. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

NIBRS codes are automatically generated by the Court software for use by law enforcement, and can be incorporated into the Records Management Systems used by Law Enforcement entities.

Respondents assigned	**1**	**Responses received**	**1**	**Response rate**	**100%**

Question 212:

Do the appropriate portions of the citation and adjudication systems adhere to the National Law Enforcement Telecommunications System (NLETS) guidelines?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to the NLETS guidelines. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

Court-generated information is available through NLETS and adherent with NLETS guidelines.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 213:

Do the appropriate portions of the citation and adjudication systems adhere to the National Law Enforcement Information Network (LEIN) guidelines?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to the LEIN guidelines. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

LEIN is, in fact, Michigan-only and is not applicable to other states and territories.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 214:

Do the appropriate portions of the citation and adjudication systems adhere to the Functional Requirement Standards for Traffic Court Case Management?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to the Functional Requirement Standards for Traffic Court Case Management. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina courts adhere to portions of the Functional Requirements for Traffic Court Case Management, from case initiation to transmission to the DMV for posting on the driver history file.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 215:

Do the appropriate portions of the citation and adjudication systems adhere to the NIEM Justice domain guidelines?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to the NIEM Justice domain guidelines. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

The State transfers data from its Automated Criminal / Infraction System to the North Carolina Arrest Warrant Repository (NCAWARE) via NIEM-compliant transfer standards. All interfaces being developed in the North Carolina Court System are NIEM compliant.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 216:

Does the State use the National Center for State Courts guidelines for court records?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to NCSC guidelines for court records. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

The State follows NCSC guidelines for public access to court records. Court records are open and available for public access.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 217:

Does the State use the Global Justice Reference Architecture (GRA)?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to GRA guidelines. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina's compliance with the GRA is pursuant to an information exchange package in the State warrants service which is complete with artifacts, schemas and samples.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 218:

Does the State have an impaired driving data tracking system that meets the specifications of NHTSA's Model Impaired Driving Records Information System (MIDRIS)?

Standard of Evidence:

Provide a narrative statement detailing the systems and their adherence to MIDRIS guidelines. If not, specify if a comparable guideline is being used.

Question Rank: Somewhat Important

Assessor conclusions:

The State's DUI information includes sanctions and compliance, administrative sanctions, reinstatement, probation, jail and court-ordered programs. DUI data is recorded in NCAWARE.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 219:

Does the citation system have a data dictionary?

Standard of Evidence:

Provide the data dictionary for the Statewide citation tracking system if one exists. If not, provide the data dictionary for the most widely used court case management system.

Question Rank: Very Important

Assessor conclusions:

A thorough data dictionary for the e-citation system was provided to the assessors.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 220:

Do the citation data dictionaries clearly define all data fields?

Standard of Evidence:

If a statewide citation tracking system exists, does its data dictionary clearly define all data fields. If there are two or more repositories of citation data, provide data dictionaries for the two largest. NOTE: This response does not require data dictionaries from individual law enforcement agencies that track their own citations—it refers to a statewide system or one used by multiple agencies.

Question Rank:
Very Important

Assessor conclusions:

The data dictionary contains all data elements and defines each.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 221:

Are the citation system data dictionaries up to date and consistent with the field data collection manual, training materials, coding manuals, and corresponding reports?

Standard of Evidence:

Provide a narrative describing the process—including timelines and the summary of changes—used to ensure uniformity in the field data collection manuals, training materials, coding manuals, and corresponding reports.

Question Rank:
Very Important

Assessor conclusions:

The State's eCitation User's Guide is up-to-date and thorough and includes revision date(s). The State updates documentation as changes are made to the eCitation system and the NCSHP conducts training.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 222:

Do the citation data dictionaries indicate the data fields that are populated through interface linkages with other traffic records system components?

Standard of Evidence:

Provide a list of data fields populated through interface linkages with other traffic records system components.

Question Rank:
Very Important

Assessor conclusions:

The Use Case provided indicates which citation data fields are populated from DMV if a driver license number or vehicle plate is entered and a search is performed. The linkages are noted in the eCitation data dictionary.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 223:

Do the courts' case management system data dictionaries provide a definition for each data field?

Standard of Evidence:

Provide a list of Case Management Systems used by both State and local level courts and note if a data dictionary is available for each one. Provide a data dictionary for one State, one county/district, and one local (municipal) court if they do not use the same case management systems.

Question Rank:
Very Important

Assessor conclusions:

The State provided data dictionaries for the court's case management system, which defines each data field. The data dictionaries include general descriptions of the data fields, along with field size and transmittal to other systems. The dictionaries do not list which fields are mandatory; that information should be added to the data dictionary.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 224:

Do the courts' case management system data dictionaries clearly define all data fields?

Standard of Evidence:

Use the data dictionaries provided in response to Question 223.

Question Rank: Somewhat Important

Assessor conclusions:

All data elements are listed and data definitions are present for each data field.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 225:

Do the courts' case management system data dictionaries indicate the data fields populated through interface linkages with other traffic records system components?

Standard of Evidence:

Provide a list of data fields populated through interface linkages with other traffic records system components.

Question Rank: Somewhat Important

Assessor conclusions:

The data layout shows data that is imported from the DMV and from ECBI.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 226:

Do the prosecutors' information systems have data dictionaries?

Standard of Evidence:

Provide a data dictionary for the State prosecutors' office (State level courts that handle the most traffic violations). Indicate whether local prosecutors (cities, counties) have one or numerous types of data systems.

Question Rank: Somewhat Important

Assessor conclusions:

Due to the unified court system in North Carolina, all District Attorneys' data systems are available through ACIS and have data dictionaries.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 227:

Can the State track citations from point of issuance to posting on the driver file?

Standard of Evidence:

Provide a flow diagram documenting citation lifecycle process that identifies key stakeholders. Ensure that alternative flows are included (e.g., manual and electronic submission).

Question Rank:
Very Important

Assessor conclusions:

Both electronic and paper citations are tracked throughout the issuance and adjudication processes. The AOC tracks paper citations to the agency to which the ticket books have been distributed and the law enforcement agency is responsible for tracking of citations in each book. Used citations books, which contain an audit copy of each citation, are returned to the clerk. Some agencies regularly audit the use and submission of citations, which it is unclear if all local agencies perform such audits. ACIS tracks the electronic citations numbers issued.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 228:

Does the State measure compliance with the process outlined in the citation lifecycle flow chart?

Standard of Evidence:

Provide a narrative describing how the State measures compliance with the citation lifecycle process specified in the flow chart. If there are official guidance documents, provide them.

Question Rank:
Somewhat Important

Assessor conclusions:

The State provided a flow chart showing the life cycle of an electronic traffic citation. Some controls are in place to ensure compliance with the lifecycle, for example, the law enforcement officer verifies the court received the e-Citation by the receipt of an AOC file number. The State's rules require control of traffic citation booklets. The rule does not appear to require regular audits, and it is not clear how discrepancies are detected otherwise. It is also not clear if citations issued are somehow reconciled with those transmitted to the courts.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 229:

Is the State able to track DUI citations?

Standard of Evidence:

Provide a flow chart that documents the criminal and administrative DUI processes, identifies all key stakeholders, and includes disposition per the criminal and administrative charges.

Question Rank:
Very Important

Assessor conclusions:

The State's ACIS serves as a tracking system, of a sort, for traffic cases. This is a court system and suffices as a tracking mechanism for criminal processing. The flow chart provided did not address administrative handling of DUI charges.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 230:

Does the DUI tracking system include BAC and any drug testing results?

Standard of Evidence:

If no statewide DUI tracking system is in place, indicate whether the driver history record contains the BAC test results.

Question Rank:
Very Important

Assessor conclusions:

While the BAC is sometimes tracked in the ACIS, drug test results are not tracked. With a fully functional interactive DUI tracking system, such tracking would be available. Drug and alcohol test results are critical in determinations of substance use and / or abuse, and can provide a great deal of information to be used in impaired driving programs and prevention. The State should make every effort to capture this information in ACIS.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 231:

Does the State have a system for tracking administrative driver penalties and sanctions?

Standard of Evidence:

Provide a narrative describing the protocol for reporting (posting) the penalty and/or sanction to the driver and/or vehicle file.

Question Rank:
Very Important

Assessor conclusions:

The State tracks administrative driver penalties and sanctions through its driver license system and these sanctions appear to be transmitted from ACIS to the DMV. Licenses administratively suspended for unlawful BAL, points or other reasons not specifically triggered by court imposed penalties and are tracked through SADLS. The process for obtaining data that triggers administrative suspensions and results in updating the driver file was not fully explained.

Respondents assigned	5	Responses received	2	Response rate	40%

Question 232:

Does the State have a system for tracking traffic citations for juvenile offenders?

Standard of Evidence:

Provide a flow chart that documents the processing of juvenile offenders' traffic citations, specifying any charges or circumstances that cause juveniles to be processed as adult offenders.

Question Rank:
Very Important

Assessor conclusions:

While no system is in place in the State to specifically track juvenile offenders, they can be identified by Date of Birth and segregated. Juvenile drivers who commit violations prior to licensure are noted on the system to prevent license issuance when a revocation or other withdrawal is noted.

Respondents assigned	5	Responses received	2	Response rate	40%

Question 233:

Does the State distinguish between the administrative handling of court payments in lieu of court appearances (mail-ins) and court appearances?

Standard of Evidence:

Provide a flow chart documenting the processing of administrative handling of court payments (mail-ins).

Question Rank: Somewhat Important

Assessor conclusions:

North Carolina's AOC can distinguish between fines paid on line versus those paid as a result of court appearance. There do not appear to be any administrative agencies that handle "payment only" processes.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 234:

Does the State track deferral and dismissal of citations?

Standard of Evidence:

Provide a flow chart documenting the deferral and the dismissal of citations.

Question Rank: Somewhat Important

Assessor conclusions:

The States Automated Criminal / Infraction System captures deferrals and dismissals. It would be helpful to incorporate this information on the driver history during the period of deferral, so that any incoming violation / disposition, even from another State, could be noted and reported to the appropriate authority.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 235:

Are there State and/or local criteria for deferring or dismissing traffic citations and charges?

Standard of Evidence:

Provide the criteria for deferring or dismissing traffic citations and charges.

Question Rank: Somewhat Important

Assessor conclusions:

The rules and statutory guidelines for deferrals and dismissals were provided. There remains discretion of individual prosecutors' offices related to which violations to dismiss or defer.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 236:

If the State purges its records, are the timing conditions and procedures documented?

Standard of Evidence:

Provide a narrative documenting whether or not the State purges records. If so, list the types of records the State purges and provide the criteria for doing so.

Question Rank: Somewhat Important

Assessor conclusions:

The courts have specific criteria about what violation data may be purged from its system, generally after a 5-year period.

Respondents assigned	5	Responses received	2	Response rate	40%

Question 237:

Are the security protocols governing data access, modification, and release officially documented?

Standard of Evidence:

Provide the official security protocols governing data access, modification, and release.

Question Rank: Somewhat Important

Assessor conclusions:

The NCAOC's system security protocols are provided and include password management, and management of confidentiality, integrity and availability of information. A Quality Control Team is also used and system redundancy/recovery is addressed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 238:

Is citation data linked with the driver system to collect driver information, to carry out administrative actions (e.g., suspension, revocation, cancellation, interlock) and determine the applicable charges?

Standard of Evidence:

Describe how citation, adjudication and driver data are linked and by what means administrative actions are carried out or posted using these linkages.

Question Rank: Very Important

Assessor conclusions:

The court dispositions are sent to the DMV for posting on the driver history each day upon final disposition.

Respondents assigned	5	Responses received	2	Response rate	40%

Question 239:

Is adjudication data linked with the driver system to collect certified driver records and administrative actions (e.g., suspension, revocation, cancellation, interlock) to determine the applicable charges and to post the dispositions to the driver file?

Standard of Evidence:

Provide the results of a sample query and describe how the linked information is used to collect certified driver records and administrative charges and to post dispositions to the driver file.

Question Rank: Very Important

Assessor conclusions:

While District Attorneys require driver histories in some cases, the defendant is required to provide a paper driver transcript obtained from the DMV. This process is not automated. Dispositions are transmitted from ACIS to SADLS nightly and SADLS electronically posts the citation and adjudication to the driver file and adds court-ordered sanctions. Withdrawals or restrictions administered by the DMV, rather than the courts, result from conviction data relayed by the courts.

Respondents assigned	5	Responses received	2	Response rate	40%

Question 240:

Is citation data linked with the vehicle file to collect vehicle information and carry out administrative actions (e.g., vehicle seizure, forfeiture, interlock)?

Standard of Evidence:

Provide the results of a sample query and describe how the linked information is used to collect vehicle information and carry out administrative actions.

Question Rank: Somewhat Important

Assessor conclusions:

ACIS transmits citation dispositions to SADLS nightly, which links to the North Carolina vehicle file, STARS, to note ignition interlock requirements, seizures or other vehicle sanctions.

Respondents assigned	5	Responses received	2	Response rate	40%

Question 241:

Is adjudication data linked with the vehicle file to collect vehicle information and carry out administrative actions (e.g., vehicle seizure, forfeiture, interlock mandates and supervision)?

Standard of Evidence:

Provide the results of a sample query and describe how the linked information is used to collect vehicle information and carry out administrative actions.

Question Rank: Somewhat Important

Assessor conclusions:

ACIS transmits disposition data to SADLS nightly. SADLS links to NC STARS to note ignition interlock requirements, seizures, or other vehicle sanctions. A sample query was provided.

Respondents assigned	5	Responses received	2	Response rate	40%

Question 242:

Is citation data linked with the crash file to document violations and charges related to the crash?

Standard of Evidence:

Provide the results of a sample query and describe how the linked information is used to document violations and charges related to the crash.

Question Rank: Somewhat Important

Assessor conclusions:

There is no direct link from the crash file to the citation files, although this information may be gleaned for various law enforcement agencies through their Records Management Systems.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 243:

Is adjudication data linked with the crash file to document violations and charges related to the crash?

Standard of Evidence:

Provide the results of a sample query and describe how the linked information is used to document violations and charges related to the crash.

Question Rank: Somewhat Important

Assessor conclusions:

There is no direct linkage between the crash file and the adjudication files. As is true of driver files and other traffic records data system component, the driver license can be used to link datasets. It appears that the driver license number is the common data element for several types of potential linkage, and integration should be considered using that data element in order to make analysis more efficient and likely to be accomplished.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 244:

Is there a set of established performance measures for the timeliness of the citation systems?

Standard of Evidence:

If there is a statewide citation tracking system in the State, provide timeliness measures used. If there are two or more centralized citation tracking systems, provide timeliness measures for one of them.

Question Rank: Somewhat Important

Assessor conclusions:

The courts measure the amount of time in days from citation issuance to entry into the court system. Statistics were provided. It would be helpful to include statistics separately for paper versus electronic citations. While the response does not note this, it is important that the State addresses the 318 citations that took more than 6 months. The value of performance measure is to gauge overall data quality, but it should also be used to address outliers and problems. It is important to develop metrics with any performance measure so that those who contribute data to the system understand expectations for timeliness.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 245:

Is there a set of established performance measures for the accuracy of the citation systems?

Standard of Evidence:

Provide accuracy measures for the statewide citation tracking system. If there are several citation tracking systems, provide accuracy measures for one of them.

Question Rank:
Very Important

Assessor conclusions:

Accuracy is tracked for fatal errors based on the inability of a citation to pass data edits. For paper citations, errors which prevent the citation from being entered require that the citation be returned for correction. No statistics are kept on these errors, and their eventual return for data entry is not tracked. For electronic citations, the error rate shows that fewer than 1 percent of citations have fatal errors.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 246:

Is there a set of established performance measures for the completeness of the citation systems?

Standard of Evidence:

Provide completeness measures for the statewide citation tracking system. If there are several citation tracking systems, provide completeness measures for one of them.

Question Rank:
Somewhat Important

Assessor conclusions:

Completeness is considered to be 100 percent based on system edits that provide quality control. System edits require data entry for certain key elements before transmittal to ACIS. Key elements are one component of completeness. Completeness is also a measure of the percentage of citations that are actually entered into ACIS. No audit of citations issued to officers is completed, to ensure that citations issued to citizens are actually entered into the ACIS system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 247:

Is there a set of established performance measures for the uniformity of the citation systems?

Standard of Evidence:

Provide uniformity measures for the statewide citation tracking system. If there are several citation tracking systems, provide uniformity measures for one of them.

Question Rank: Somewhat Important

Assessor conclusions:

With electronic citations, uniformity is governed by data edits. Entry of non-uniform data is not accepted in the system. Data is validated prior to acceptance into the system. However, no measure of the number or percentage of these paper citations that are rejected is available. Review of the number and types of errors that cause citations to be rejected is an effective way to determine if additional training is required, or if manuals need to be updated.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 248:

Is there a set of established performance measures for the integration of the citation systems?

Standard of Evidence:

Provide integration measures for the statewide citation tracking system. If there are several citation tracking systems, provide integration measures for one of them.

Question Rank: Somewhat Important

Assessor conclusions:

The citation system has some linkages to other components of the traffic records system, but no actual performance measure was provided. A simple measure would be the number of other traffic records component systems which are linked to the citation system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 249:

Is there a set of established performance measures for the accessibility of the citation systems?

Standard of Evidence:

Provide accessibility measures for the statewide citation tracking system. If there are several citation tracking systems, provide accessibility measures for one of them.

Question Rank:
Less Important

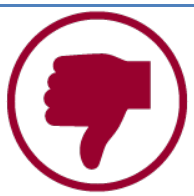
Assessor conclusions:

Accessibility of citation data does not appear to be an issue, but no actual performance measure has been established. A possible measure is: Percentage of law enforcement agencies \ officers in the State with access to the citation system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 250:

Is there a set of established performance measures for the timeliness of the adjudication systems?



Standard of Evidence:

Provide timeliness measures for the statewide adjudication tracking system. If there are several adjudication tracking systems, provide timeliness measures for one of them.

Question Rank:
Somewhat Important

Assessor conclusions:

No specific measure of timeliness of the adjudication system has been provided. It would benefit the State to measure a baseline and keep track of the time it takes for disposal of cases, or percentage of cases that age past the scheduled hearing date. The State has a goal of 72 hours, but no measure is taken to ensure that it is being met. Notifications are made, but numerical percentages of cases that are dealt with in this timeframe are not tracked accordingly.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 251:

Is there a set of established performance measures for the accuracy of the adjudication systems?

Standard of Evidence:

Provide accuracy measures for the statewide adjudication tracking system. If there are several adjudication tracking systems, provide accuracy measures for one of them.

Question Rank: Very Important

Assessor conclusions:

While the adjudication system has edits and validation rules to prevent errors, there is no measure established to ensure such edits are working or to note where additional edits might be required. Tracking corrections made by clerks (type and number) would help to determine where additional training or changes to manuals might be warranted.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 252:

Is there a set of established performance measures for the completeness of the adjudication systems?

Standard of Evidence:

Provide completeness measures for the statewide adjudication tracking system. If there are several adjudication tracking systems, provide completeness measures for one of them.

Question Rank: Somewhat Important

Assessor conclusions:

No specific completeness measures have been developed, since the State depends on the editing by the systems itself and data entry personnel. One measure of completeness would be to audit for "unknown" in a data field where "unknown" is not an appropriate entry.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 253:

Is there a set of established performance measures for the integration of the adjudication systems?

Standard of Evidence:

Provide integration measures for the statewide adjudication tracking system. If there are several adjudication tracking systems, provide integration measures for one of them.

Question Rank: Somewhat Important

Assessor conclusions:

While there is obvious monitoring of the system, no specific performance measure for integration has been developed. Simple measures are available and could be utilized easily, such as the number of court case management systems that are interoperable. Also available as an integration measure is: Number of traffic records component systems with which the adjudication system is integrated, i.e., citation system, driver system, vehicle system, crash system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 254:

In States that have an agency responsible for issuing unique citation numbers, is information on intermediate dispositions (e.g., deferrals, dismissals) captured?

Standard of Evidence:

Provide documentation detailing the numbers of citations issued from the 10 largest law enforcement agencies and the number of dispositions for those citations that are in the driver file over a three month period.

Question Rank: Very Important

Assessor conclusions:

The ACIS acts as a citation tracking system, including charges that may have been deferred of dismissed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 255:

Do the State's DUI tracking systems have additional quality control procedures to ensure the accuracy and timeliness of the data?

Standard of Evidence:

Provide a narrative description of the additional quality control measures for the DUI tracking systems and specify which systems use which measures.

Question Rank: Somewhat Important

Assessor conclusions:

ACIS tracks traffic cases, including DUIs. ACIS includes data edits and other quality control measures are in place, like reports and logging, to assist with data accuracy and timeliness. The State does not have a separate DUI tracking system or additional quality controls specifically for DUI offenses.

Respondents assigned	1	Responses received	1	Response rate	100%

EMS / Injury Surveillance

There are several key components of a statewide injury surveillance system including emergency medical services (EMS), acute care (emergency department and hospital discharge), trauma centers, and vital records databases. These databases provide a valuable resource to evaluate and understand the clinical outcomes and consequences of motor vehicle crashes, both acute and long-term. The information contained in the injury surveillance system can be helpful in the definition and analysis of serious injuries.

North Carolina collects and maintains data from all five main components of the injury surveillance system addressed by the Advisory. The Prehospital Medical Information System (PreMIS) and North Carolina Trauma Registry (NCTR) are collected by the North Carolina Office of EMS. Information on emergency department visits is available through the State's syndromic surveillance system, North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT), created by the North Carolina Division of Public Health (NC DPH) and the Carolina Center for Health Informatics (CCHI). Truven Analytics compiles hospital discharge data and the NC DPH's Injury and Violence Prevention Branch (IVPB) accesses it as part of its injury surveillance activities. Death certificate data is collected by the North Carolina State Center for Health Statistics and utilized by IVPB. All five systems have been used together to address public health and traffic safety issues. All have dictionaries that adhere to the appropriate national standards. All five systems have edit checks and validation rules to ensure data accuracy and quality. Data from all five systems are available to decision makers and researchers and have the ability to track the frequency, nature, and severity of injuries sustained in motor vehicle crashes.

While North Carolina is to be commended for these achievements in providing data and information regarding the toll of motor vehicle crashes within the State, there are some common themes for improving each of these systems. Information allowing the TRCC and other members of the traffic records community to understand and assess these databases is missing. Other than for NC DETECT, the surveillance systems lack detailed process flow diagrams. Data regarding the strengths, weaknesses, and limitations of each data element such as might be found in a summary document does not exist for each of the systems.

Performance measures for each database should be established to evaluate and improve the data quality of these systems. While statues and guidelines have been established related the timeliness, and completeness for some systems, numeric performance measures are lacking. Performance measures can be used to track each system's function, progress, and success. The 'Model Performance Measures for State Traffic Records Systems' publication provides example performance measures for each attribute and data system. Once performance measures have been established, each should be monitored and reported in data quality reports that can be shared with the TRCC.

Strengths

North Carolina has developed databases from each of the five core injury surveillance systems. Data from these systems has been used to address traffic safety issues and to quantify the burden of injury from motor vehicle crashes.

Data from all five systems can be accessed by researchers and others pending completion and approval of the appropriate data request procedures.

Opportunities

Develop documentation for each of the data systems including process flow diagrams and summary information describing the strengths and weaknesses of the data contained within each system.

Develop performance measures for each data system in each of the six core areas: timeliness, accuracy, completeness, uniformity, accessibility, and integration.

Develop reports that numerically track the performance measures over time and share the results with the TRCC.

Question 256:

Does the injury surveillance system include EMS data?

Standard of Evidence:

Provide an injury surveillance report that illustrates the use of EMS data and data from other injury surveillance systems.

Question Rank:
Very Important

Assessor conclusions:

The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is a statewide syndromic surveillance system that receives and manages emergency department data, making it accessible through a web interface, along with EMS data and poison control data.

Respondents assigned	**1**	**Responses received**	**1**	**Response rate**	**100%**

Question 257:

Does the injury surveillance system include emergency department (ED) data?

Standard of Evidence:

Provide an injury surveillance report that illustrates the use of emergency department (ED) data and data from other injury surveillance systems.

Question Rank:
Very Important

Assessor conclusions:

Emergency department data has been linked and used in conjunction with other surveillance databases, such as hospital discharge and emergency medical services.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 258:

Does the injury surveillance system include hospital discharge data?

Standard of Evidence:

Provide an injury surveillance report that illustrates the use of hospital discharge data and data from other injury surveillance systems.

Question Rank:
Very Important

Assessor conclusions:

Hospital data is utilized by the Injury and Violence Prevention Branch (IVPB) at the North Carolina Division of Public Health. The IVPB conducts injury surveillance activities. Hospital discharge data has been used in conjunction with emergency department data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 259:

Does the injury surveillance system include trauma registry data?

Standard of Evidence:

Provide an injury surveillance report that illustrates the use of trauma registry data and data from other injury surveillance systems.

Question Rank:
Very Important

Assessor conclusions:

Trauma registry data is available and used as part of the State's injury surveillance activities. The Advisory does not require linkage across the injury surveillance components, just its use and availability in conjunction with other injury related data sets.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 260:

Does the injury surveillance system include rehabilitation data?

Standard of Evidence:

Provide an injury surveillance report that illustrates the use of rehabilitation data and data from other injury surveillance systems.

Question Rank:
Very Important

Assessor conclusions:

Rehabilitation data is not available.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 261:

Does the injury surveillance system include vital records data?

Standard of Evidence:

Provide an injury surveillance report that illustrates the use of vital data and data from other injury surveillance systems.

Question Rank:
Very Important

Assessor conclusions:

The North Carolina State Center for Health Statistics provides vital records data to the Injury and Violence Prevention Branch (IVPB) at the North Carolina Division of Public Health. This data is used by IVPB to generate fact sheets related to motor vehicle injury.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 262:

Does the injury surveillance system include other data?

Standard of Evidence:

List any other databases or sources included in the injury surveillance system and provide a sample report using data from each of these sources. Additional data resources may include medical examiner reports, payer-related databases, traumatic brain injury registry, and spinal cord injury registry.

Question Rank:
Very Important

Assessor conclusions:

Additional information is available through the North Carolina Violent Death Reporting System (NC-VDRS), including vehicular homicide.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 263:

Does the EMS system track the frequency, severity, and nature of injuries sustained in motor vehicle crashes in the State?

Standard of Evidence:

Provide the most recent motor vehicle-related incident counts for the EMS system, any injury severity categorizations applied, and the provider's primary impression (if applicable).

Question Rank:
Very Important

Assessor conclusions:

EMS data is collected using a NEMSIS compliant database. There were over 64,000 responses for motor vehicle crashes in the State in 2016. No severity measures or description of injury types were provided.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 264:

Does the emergency department data track the frequency, severity, and nature of injuries sustained in motor vehicle crashes in the State?

Standard of Evidence:

Provide the most recent motor vehicle-related incident counts for the emergency department data, any injury severity categorizations applied (e.g., Abbreviated Injury Score, Injury Severity Scale), and principal diagnosis.

Question Rank:
Very Important

Assessor conclusions:

NC DETECT has the capability to track emergency department's visits resulting from a motor vehicle crash but is not doing so on a regular basis. The North Carolina Hospital Association Patient Data System collects ICD codes but injury severity measures are not calculated. NC DETECT data was used for a pilot linkage project in Wake County that looked at motor vehicle crashes.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 265:

Does the hospital discharge data track the frequency, severity, and nature of injuries sustained in motor vehicle crashes in the State?

Standard of Evidence:

Provide the most recent motor vehicle-related incident counts for the hospital discharge data, any injury severity categorizations applied (e.g., Abbreviated Injury Score, Injury Severity Scale), and principal diagnosis.

Question Rank:
Very Important

Assessor conclusions:

North Carolina hospital discharge data tracks the frequency and nature of injures. While ICD codes are collected, no additional measure of severity is calculated

Respondents assigned	1	Responses received	1	Response rate	100%

Question 266:

Does the trauma registry data track the frequency, severity, and nature of injuries sustained in motor vehicle crashes in the State?

Standard of Evidence:

Provide the most recent motor vehicle-related incident counts for the trauma registry data, any injury severity categorizations applied (e.g., Abbreviated Injury Score, Injury Severity Scale), and principal diagnosis.

Question Rank:
Very Important

Assessor conclusions:

The Trauma Registry is able to track the frequency of motor vehicle related cases. The nature and severity of injury is captured in AIS and ISS codes.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 267:

Does the vital records data track the frequency, severity, and nature of injuries sustained in motor vehicle crashes in the State?

Standard of Evidence:

Provide the most recent motor vehicle-related incident counts from the vital records data and the cause of death.

Question Rank:
Very Important

Assessor conclusions:

The frequency of motor vehicle deaths are tracked and vital records data includes ICD-10 codes that are able to track the cause of death.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 268:

Is the EMS data available for analysis and used to identify problems, evaluate programs, and allocate resources?

Standard of Evidence:

Provide a sample report or narrative description of a highway safety project that utilized EMS data to identify a problem, evaluate a program, or allocate resources.

Question Rank:
Very Important

Assessor conclusions:

EMS data is collected statewide and is made available to individual agencies, and others, with an appropriate data use agreement. The State Medical Asset Resource Tracking Tool (SMARTT) is a web-based system used to provide daily information to State partners particularly in the event of a disaster.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 269:

Is the emergency department data available for analysis and used to identify problems, evaluate programs, and allocate resources?

Standard of Evidence:

Provide a sample report or narrative description of a highway safety project that utilized emergency department data to identify a problem, evaluate a program, or allocate resources.

Question Rank:
Very Important

Assessor conclusions:

Emergency department data is available for analysis with IRB and/or data use agreements. It has been used for a data linkage project and report in Wake County.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 270:

Is the hospital discharge data available for analysis and used to identify problems, evaluate programs, and allocate resources?

Standard of Evidence:

Provide a sample report or narrative description of a highway safety project that utilized hospital discharge data to identify a problem, evaluate a program, or allocate resources.

Question Rank:
Very Important

Assessor conclusions:

Hospital discharge data is available for research and has been used for evaluation of the motorcycle helmet law with regards to traumatic brain injury.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 271:

Is the trauma registry data available for analysis and used to identify problems, evaluate programs, and allocate resources?

Standard of Evidence:

Provide a sample report or narrative description of a highway safety project that utilized trauma registry data to identify a problem, evaluate a program, or allocate resources.

Question Rank:
Very Important

Assessor conclusions:

Trauma registry data is used to support performance improvement efforts at the State's trauma centers by a comparing selected characteristics (e.g. mortality and length of stay), to those of the State.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 272:

Is the vital records data available for analysis and used to identify problems, evaluate programs, and allocate resources?

Standard of Evidence:

Provide a sample report or narrative description of a highway safety project that utilized vital records data to identify a problem, evaluate a program, or allocate resources (e.g., research in support of helmet or GDL legislation).

Question Rank:
Very Important

Assessor conclusions:

Vital records data is available and has been used for problem identification for traffic safety.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 273:

Does the State have a NEMSIS-compliant statewide database?

Standard of Evidence:

Demonstrate submission to the nationwide NEMSIS database and provide any relevant State statutes or regulations. If not compliant, provide narrative detailing the State's efforts to achieve NEMSIS compliance.

Question Rank:
Very Important

Assessor conclusions:

PreMIS is a NEMSIS-compliant data collection system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 274:

Does the State's emergency department and hospital discharge data conform to the most recent uniform billing standard?

Standard of Evidence:

Provide the data dictionaries for both the emergency department and hospital discharge data as appropriate as well as any relevant State statutes or regulations.

Question Rank:
Very Important

Assessor conclusions:

The emergency department and hospital discharge data systems conform to the UB schemas.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 275:

Does the State's trauma registry database adhere to the National Trauma Data Standards?

Standard of Evidence:

Provide the trauma registry data dictionary and any relevant State statutes or regulations.

Question Rank:
Very Important

Assessor conclusions:

Overall, North Carolina's trauma registry data elements match those of the NTDB. Some data elements differ slightly from the NTDS definitions but can be mapped back to the standard.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 276:

Are Abbreviated Injury Scale (AIS) and Injury Severity Scores (ISS) derived from the State emergency department and hospital discharge data for motor vehicle crash patients?

Standard of Evidence:

Provide a distribution of AIS and ISS scores for the most recent year available.

Question Rank: Somewhat Important

Assessor conclusions:

AIS and ISS are not derived from the emergency department and hospital discharge data records.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 277:

Are Abbreviated Injury Scale (AIS) and Injury Severity Scores (ISS) derived from the State trauma registry for motor vehicle crash patients?

Standard of Evidence:

Provide a distribution of AIS and ISS scores for the most recent year available.

Question Rank: Very Important

Assessor conclusions:

AIS scores are assigned to all injury-related diagnosis codes by Trauma Registrars at the individual trauma centers. These scores are used by the trauma registry software to generate the ISS

Respondents assigned	1	Responses received	1	Response rate	100%

Question 278:

Does the State EMS database collect the Glasgow Coma Scale (GCS) data for motor vehicle crash patients?

Standard of Evidence:

Provide a distribution of GCS scores for motor vehicle crash patients for the most recent year available.

Question Rank: Less Important

Assessor conclusions:

GCS scores are captured in the EMS database for all patients.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 279:

Does the State trauma registry collect the Glasgow Coma Scale (GCS) data for motor vehicle crash patients?

Standard of Evidence:

Provide a distribution of GCS scores for motor vehicle crash patients for the most recent year available.

Question Rank: Less Important

Assessor conclusions:

GCS is captured for all patients in the trauma registry.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 280:

Are there State privacy and confidentiality laws that supersede HIPAA?

Standard of Evidence:

Provide the applicable State laws and describe how they are interpreted—including the identification of situations that may impede data sharing within the State and among public health authorities.

Question Rank: Very Important

Assessor conclusions:

Vital records information is publicly available, except for certificate and social security numbers. The lack of statute protecting that information allows for its release. FYI the attachment is extremely difficult to decipher.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 281:

Does the EMS system have a formal data dictionary?

Standard of Evidence:

Provide the data dictionary including, at a minimum, the variable names and definitions.

Question Rank:
Very Important

Assessor conclusions:

It was reported that the State uses a subset of NEMSIS elements, but only the NEMSIS data dictionary was provided for review. It is not clear which elements are and are not collected.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 282:

Does the EMS system have formal documentation that provides a summary dataset—characteristics, values, limitations and exceptions, whether submitted or user created—and how it is collected, managed, and maintained?

Standard of Evidence:

Provide a user's manual or other form of documentation of the EMS data collection system. Such documentation should include a list of the dataset's variables and a description of how the data is collected, managed and maintained.

Question Rank:
Very Important

Assessor conclusions:

The information provided for review identifies which NEMSIS elements are captured in NC, but does not include summary characteristics of the data file.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 283:

Does the emergency department dataset have a formal data dictionary?

Standard of Evidence:

Provide the data dictionary including, at a minimum, the variable names and definitions.

Question Rank: Very Important

Assessor conclusions:

NC DETECT uses data provided by the State's hospitals to support surveillance. The data set is similar to that collected by emergency departments.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 284:

Does the emergency department dataset have formal documentation that provides a summary dataset—characteristics, values, limitations and exceptions, whether submitted or user created—and how it is collected, managed, and maintained?

Standard of Evidence:

Provide the documentation.

Question Rank: Very Important

Assessor conclusions:

NC DETECT does not have a user's manual to accompany the data set.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 285:

Does the hospital discharge dataset have a formal data dictionary?

Standard of Evidence:

Provide the data dictionary including, at a minimum, the variable names and definitions.

Question Rank: Very Important

Assessor conclusions:

The State maintains and makes available a hospital discharge data dictionary.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 286:

Does the hospital discharge dataset have formal documentation that provides a summary dataset—characteristics, values, limitations and exceptions, whether submitted or user created—and how it is collected, managed, and maintained?

Standard of Evidence:

Provide the documentation.

Question Rank:
Very Important

Assessor conclusions:

Truven Analytics collects and maintains the hospital discharge data. A copy is provided to the Division of Public Health to assist with their surveillance activities. The State statute was provided that requires the collection of hospital data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 287:

Does the trauma registry have a formal data dictionary?

Standard of Evidence:

Provide the data dictionary including, at a minimum, the variable names and definitions.

Question Rank:
Very Important

Assessor conclusions:

There is a data dictionary available for the North Carolina Trauma Registry (NCTR).

Respondents assigned	1	Responses received	1	Response rate	100%

Question 288:

Does the trauma registry dataset have formal documentation that provides a summary dataset—characteristics, values, limitations and exceptions, whether submitted or user created—and how it is collected, managed, and maintained?

Standard of Evidence:

Provide the documentation.

Question Rank:
Very Important

Assessor conclusions:

The data dictionary provides much of the information to support this question. The document serves as a user's manual.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 289:

Does the vital records system have a formal data dictionary?

Standard of Evidence:

Provide the data dictionary including, at a minimum, the variable names and definitions.

Question Rank:
Very Important

Assessor conclusions:

There is an NCHS data dictionary used for the State's vital records system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 290:

Does the vital records system have formal documentation that provides a summary dataset—characteristics, values, limitations and exceptions, whether submitted or user created—and how it is collected, managed, and maintained?

Standard of Evidence:

Provide the documentation.

Question Rank:
Very Important

Assessor conclusions:

Some of the summary characteristics of the vital records system are available, but all are not clearly documented outside of the NCHS data dictionary/layout.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 291:

Is there a single entity that collects and compiles data from the local EMS agencies?

Standard of Evidence:

Identify the State agency or third party to which the EMS data is initially submitted.

Question Rank:
Very Important

Assessor conclusions:

The EMS Performance Improvement Center is responsible for collecting and compiling data from the State's EMS agencies.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 292:

Is there a single entity that collects and compiles data on emergency department visits from individual hospitals?

Standard of Evidence:

Identify the State agency or third party to which the data on emergency department visits is initially submitted.

Question Rank:
Very Important

Assessor conclusions:

Truven Analytics, under contract to the Hospital Association, is responsible for managing emergency department records. They also share that information with NC DETECT daily.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 293:

Is there a single entity that collects and compiles data on hospital discharges from individual hospitals?

Standard of Evidence:

Identify the State agency or third party to which the data on hospital discharges is initially submitted.

Question Rank:
Very Important

Assessor conclusions:

North Carolina hospital discharge data are collected, managed and maintained by Truven Analytics (under contract to the hospital association).

Respondents assigned	1	Responses received	1	Response rate	100%

Question 294:

Is there a process flow diagram that outlines the EMS system's key data process flows, including inputs from other systems?

Standard of Evidence:

Provide the flow diagram. Alternatively, provide a narrative description of the EMS data process flows from dispatch to submission of the report to the State EMS repository.

Question Rank:
Very Important

Assessor conclusions:

There is a basic process flow diagram for the EMS data system, but it does not contain details about how records are submitted to the State file or electronically shared with partners.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 295:

Is there a process flow diagram that outlines the emergency department data's key data process flows, including inputs from other systems?

Standard of Evidence:

Provide the flow diagram. Alternatively, provide a narrative description of the emergency department data process flows from patient arrival to submission of the uniform billing data to the State repository.

Question Rank:
Very Important

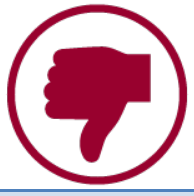
Assessor conclusions:

The diagram provided demonstrates how the emergency department data flows through the system. NC DETECT is able to show how data is captured from hospitals across the State, processed by Truven, and sent to the Carolina Center for Health Informatics where NC DETECT is housed. No inputs from other data sets are required if those connections have not yet been made.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 296:

Is there a process flow diagram that outlines the hospital discharge data's key data process flows, including inputs from other systems?



Standard of Evidence:

Provide the flow diagram. Alternatively, provide a narrative description of the hospital discharge data process flows from patient arrival to submission of the uniform billing data to the State repository.

Question Rank:
Very Important

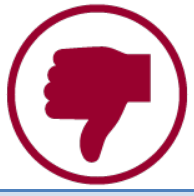
Assessor conclusions:

A process flow diagram has not been developed for the hospital discharge data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 297:

Is there a process flow diagram that outlines the trauma registry's key data process flows, including inputs from other systems?



Standard of Evidence:

Provide the flow diagram. Alternatively, provide a narrative description of the hospital discharge data process flows, from trauma activation to submission of the trauma data to the State registry.

Question Rank:
Very Important

Assessor conclusions:

The State does not have a process flow diagram for the trauma registry.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 298:

Are there separate procedures for paper and electronic filing of EMS patient care reports?

Standard of Evidence:

Provide a copy of the procedures for paper and electronic filing or a narrative describing the procedures.

Question Rank:
Less Important

Assessor conclusions:

All EMS patient care reports are submitted electronically. North Carolina requires submission within 24 hours of the event that generated the patient care report.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 299:

Are there procedures for collecting, editing, error-checking, and submitting emergency department and hospital discharge data to the statewide repository?

Standard of Evidence:

Provide a copy of the procedures or a narrative describing the process of collecting, editing and submitting emergency department and hospital discharge data to the statewide repository.

Question Rank:
Very Important

Assessor conclusions:

There are processes maintained by Truven Analytics and the NC Hospital Association that are conducted on the Patient Data System (PDS) and claims data. These processes include 200 specific edit checks and comprehensive reviews of the data files as well as conversion and relational audits. Submitting hospitals are notified of errors and have opportunities to submit corrected records until the files is closed out. After that point, and in special cases, 'Wisdom Notes' are included in the claims data so users are aware.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 300:

Does the trauma registry have documented procedures for collecting, editing, error checking, and submitting data?

Standard of Evidence:

Provide a copy of the procedures or a narrative describing the process for collecting, error-checking and submitting trauma registry data.

Question Rank:
Very Important

Assessor conclusions:

The trauma registrar's data group has developed recommended procedures and validation systems to be incorporated into the trauma registry system. The data dictionary provided lists all data elements and addresses some aspects of their collection. It is not as complete as a user's manual for the trauma registry system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 301:

Are there procedures for collecting, editing, error-checking, and submitting data to the statewide vital records repository?

Standard of Evidence:

Provide a copy of the procedures or a narrative describing the process for collecting, error-checking and submitting data to the vital records repository.

Question Rank:
Very Important

Assessor conclusions:

The North Carolina State Center for Health Statistics maintains standard procedures for collecting, editing, error checking and submitting data that to the National Center for Health Statistics. Extensive documentation was provided for submitting vital records data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 302:

Are there documented procedures for returning data to the reporting EMS agencies for quality assurance and improvement (e.g., correction and resubmission)?

Standard of Evidence:

Provide a copy of the procedures or a narrative describing the process for returning data to the reporting EMS agencies for correction and resubmission.

Question Rank:
Very Important

Assessor conclusions:

Although there are data quality reports produced, there are no procedures for returning individual PCRs to the submitting agency for correction and tracking them to resubmission.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 303:

Are there documented procedures for returning data to the reporting emergency departments for quality assurance and improvement (e.g., correction and resubmission)?

Standard of Evidence:

Provide a copy of the procedures or a narrative that describes the process for returning data to the reporting emergency departments for correction and resubmission.

Question Rank: Very Important

Assessor conclusions:

There are procedures in place for quality assurance of the hospital data which are conducted to submission to NC DETECT. NC DETECT will send questions back to hospitals whenever issues are identified, but the hospitals may or may not address the issue.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 304:

Are there documented procedures for returning hospital discharge data to the reporting hospitals for quality assurance and improvement (e.g., correction and resubmission)?

Standard of Evidence:

Provide a copy of the procedures or a narrative describing the process for returning data to the reporting hospitals for correction and resubmission.

Question Rank: Very Important

Assessor conclusions:

Truven Analytics would be responsible for identifying data issues and returning records to the individual hospitals for correction. The Department of Public Health has no legal authority to conduct quality assurance follow-up with submitting hospitals. Truven does provide audit reports to the submitting hospitals.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 305:

Are there documented procedures for returning trauma data to the reporting trauma center for quality assurance and improvement (e.g., correction and resubmission)?

Standard of Evidence:

Provide a copy of the procedures or a narrative describing the process for returning data to the reporting trauma center for correction and resubmission.

Question Rank:
Very Important

Assessor conclusions:

Although there are data quality reports produced, there are no procedures for returning individual trauma records to the submitting hospital for correction and tracking them to resubmission.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 306:

Are there documented procedures for returning data to the reporting vital records agency for quality assurance and improvement (e.g., correction and resubmission)?

Standard of Evidence:

Provide a copy of the procedures or a narrative describing the process for returning data to the reporting vital records agency for correction and resubmission.

Question Rank:
Very Important

Assessor conclusions:

The process for correcting error records in the vital records system is fragmented among several agencies: the State Center for Health Statistics (SCHS), the OCME, and the Vital Records (VR) Branch work collaboratively to ensure that data reported to the State is accurate. SCHS works with the Field Services team of VR to follow-back with facilities to correct records found to be in error. VR works with the OCME to adjudicate corrections for ME cases, and the OCME provides supplemental certificates that amend key fields found to be in error before or after certification. These processes are not documented, but they are in place.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 307:

Is aggregate EMS data available to outside parties (e.g., universities, traffic safety professionals) for analytical purposes?

Standard of Evidence:

Provide a copy of the data access policy, data use agreement, or link to appropriate data access website. Alternatively, provide a description of how outside parties may obtain access to the EMS data for analytical purposes.

Question Rank:
Very Important

Assessor conclusions:

EMS data is available to researchers and others after approval and completion of a data use agreement. There is a data request form available to begin the process.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 308:

Is aggregate emergency department data available to outside parties (e.g., universities, traffic safety professionals) for analytical purposes?

Standard of Evidence:

Provide a copy of the data access policy, data use agreement, or link to appropriate data access website. Alternatively, provide a description of how outside parties may obtain access to the emergency department data for analytical purposes.

Question Rank:
Very Important

Assessor conclusions:

Data request can be submitted for specific access for NC DETECT data. Simple queries can be done via a web site.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 309:

Is aggregate hospital discharge data available to outside parties (e.g., universities, traffic safety professionals) for analytical purposes?

Standard of Evidence:

Provide a copy of the data access policy, data use agreement, or link to appropriate data access website. Alternatively, provide a description of how outside parties may obtain access to the hospital discharge data for analytical purposes.

Question Rank:
Very Important

Assessor conclusions:

Truven Analytics has made a non-confidential form of the hospital discharge data set available for public purchase.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 310:

Is aggregate trauma registry data available to outside parties (e.g., universities, traffic safety professionals) for analytical purposes?

Standard of Evidence:

Provide a copy of the data access policy, data use agreement, or link to appropriate data access website. Alternatively, provide a description of how outside parties may obtain access to the trauma registry data for analytical purposes.

Question Rank:
Very Important

Assessor conclusions:

The Office of Emergency Medical Services webpage contains information about the process of requesting data as well as separate forms for Routine and Scientific data requests for the trauma registry.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 311:

Is aggregate vital records data available to outside parties (e.g., universities, traffic safety professionals) for analytical purposes?

Standard of Evidence:

Provide a copy of the data access policy, data use agreement, or link to appropriate data access website. Alternatively, provide a description of how outside parties may obtain access to the vital records data for analytical purposes.

Question Rank: Very Important

Assessor conclusions:

North Carolina death certificate data is considered public record. A public use data file is posted to the Howard W. Odum Institute for Research in Social Science's Website (snapshot of web page provided).

Respondents assigned	1	Responses received	1	Response rate	100%

Question 312:

Is there an interface among the EMS data and emergency department and hospital discharge data?

Standard of Evidence:

Provide a narrative description of the interface link between the EMS data and the emergency department and hospital discharge data. If available provide the applicable data exchange agreement.

Question Rank: Somewhat Important

Assessor conclusions:

Although there is an opportunity for one, there is no interface between EMS and hospital data systems. Integration of the files has been accomplished on the State level.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 313:

Is there an interface between the EMS data and the trauma registry data?

Standard of Evidence:

Provide a narrative description of the interface link between the EMS data and the trauma registry data. If available provide the applicable data exchange agreement.

Question Rank: Very Important

Assessor conclusions:

EMS data and trauma registry data are linked on demand. No automatic process currently exists for EMS data to directly populate the trauma registry.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 314:

Is there an interface between the vital statistics and hospital discharge data?

Standard of Evidence:

Provide a narrative description of the interface link between the vital statistics and hospital discharge data. If available provide the applicable data exchange agreement.

Question Rank: Somewhat Important

Assessor conclusions:

Hospital discharge data and vital records data are two separate systems and no interface has been established between the two.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 315:

Are there automated edit checks and validation rules to ensure that entered data falls within a range of acceptable values and is logically consistent among data elements?

Standard of Evidence:

Provide the formal methodology or describe the process by which automated edit checks and validation rules ensure entered data falls within the range of acceptable values and is logically consistent among fields.

Question Rank: Very Important

Assessor conclusions:

The EMS Performance Improvement Center (EMS PIC) applies business logic models to meet the NEMSIS guidelines. This process ensures that the data entered into the system fall within acceptable ranges.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 316:

Is limited state-level correction authority granted to quality control staff working with the statewide EMS database in order to amend obvious errors and omissions without returning the report to the originating entity?

Standard of Evidence:

Provide the formal methodology or describe the process by which limited state-level correction authority is granted to quality control staff working with the statewide EMS database.

Question Rank: Somewhat Important

Assessor conclusions:

Under the two methods used to submit data - entering directly into EMS PIC or submitting through a separate vendor - errors are identified through the business rules and validation checks and automatically flagged for correction. State-level staff do not appear to edit the data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 317:

Are there formally documented processes for returning rejected EMS patient care reports to the collecting entity and tracking resubmission to the statewide EMS database?

Standard of Evidence:

Provide the formal methodology or describe the process by which rejected EMS patient care reports are returned to the collecting agency and tracked through resubmission to the statewide EMS database.

Question Rank:
Very Important

Assessor conclusions:

EMS PIC provides electronic feedback which is relayed to the local EMS agencies for corrections. Corrections are made at the discretion of the local agency. Data quality scores are provided to the agencies and the State on a weekly basis.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 318:

Are there timeliness performance measures tailored to the needs of EMS system managers and data users?

Standard of Evidence:

Provide a complete list of timeliness performance measures for the EMS system and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

The State requires reports to be submitted within 24 hours. That metric is tracked regularly and an example of the report is provided. The State should set associated targets to allow the State and individual agencies to track their improvement over time.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 319:

Are there accuracy performance measures tailored to the needs of EMS system managers and data users?

Standard of Evidence:

Provide a complete list of accuracy performance measures for the EMS system and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

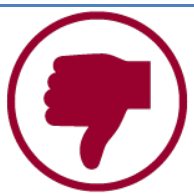
Assessor conclusions:

Data quality scores are used to measure accuracy. The State has set an unofficial target of 2 or less that allows the individual agency to track progress. This metric should be used to establish an official performance measure.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 320:

Are there completeness performance measures tailored to the needs of EMS system managers and data users?



Standard of Evidence:

Provide a complete list of completeness performance measures for the EMS system and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

Although weekly compliance reports are generated for agencies and the State, tracking metrics does not constitute performance measures. Measures include baseline and goal metrics as well as a time range for the goal.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 321:

Are there uniformity performance measures tailored to the needs of EMS system managers and data users?

Standard of Evidence:

Provide a complete list of uniformity performance measures for the EMS system and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

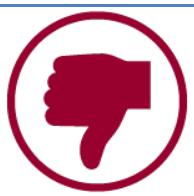
Assessor conclusions:

Although reports are generated for agencies and the State, tracking metrics does not constitute performance measures. Measures include baseline and goal metrics as well as a time range for the goal.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 322:

Are there integration performance measures tailored to the needs of EMS system managers and data users?



Standard of Evidence:

Provide a complete list of integration performance measures for the EMS system and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

Integration is geared toward research purposes and no performance measures have been developed. Since linkages are being conducted in the State, referring to the NHTSA Model Performance Measures document may assist with the development of relevant metrics for the State to use.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 323:

Are there accessibility performance measures tailored to the needs of EMS system managers and data users?

Standard of Evidence:

Provide a complete list of accessibility performance measures for the EMS system and explain how these measures are used to inform decision-making.

Question Rank: Very Important

Assessor conclusions:

There are no accessibility performance measures for the EMS system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 324:

Has the State established numeric goals—performance metrics—for each EMS system performance measure?

Standard of Evidence:

Provide specific numeric goals and related performance measures for each attribute as determined by the State.

Question Rank: Somewhat Important

Assessor conclusions:

Metrics have been established for completeness, timeliness and accuracy but are not used as performance measures through the establishment of annual targets and the tracking of progress over time.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 325:

Is there performance reporting for the EMS system that provides specific timeliness, accuracy, and completeness feedback to each submitting entity?

Standard of Evidence:

Provide a sample report, list of receiving agencies, and specify frequency of issuance.

Question Rank:
Very Important

Assessor conclusions:

Performance reports are provided to individual agencies showing their quality scores, completeness measures and timeliness.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 326:

Are high frequency errors used to update EMS system training content, data collection manuals, and validation rules?

Standard of Evidence:

Provide the formal methodology or describe the process by which high frequency errors are used to update EMS system training content, data collection manuals, and validation rules.

Question Rank:
Very Important

Assessor conclusions:

EMS PIC communicates identified issues back to local agencies. How this information is applied is up to the discretion of the individual agencies.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 327:

Are quality control reviews conducted to ensure the completeness, accuracy, and uniformity of injury data in the EMS system?

Standard of Evidence:

Provide a sample quality control review of injury records that details the system's data completeness.

Question Rank: Somewhat Important

Assessor conclusions:

Timeliness and completeness of EMS reports are evaluated in weekly reports that are submitted and reviewed by the State. The EMS PIC takes findings from these reports to identify areas for improvement. Although informal, this is the State process.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 328:

Are periodic comparative and trend analyses used to identify unexplained differences in the EMS data across years and agencies?

Standard of Evidence:

Describe the analyses, provide a sample record or output, and specify their frequency.

Question Rank: Less Important

Assessor conclusions:

Trend analyses are conducted by the EMS PIC annually and a report is made public.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 329:

Is data quality feedback from key users regularly communicated to EMS data collectors and data managers?

Standard of Evidence:

Describe the process for transmitting and utilizing key users' data quality feedback to inform program changes.

Question Rank: Somewhat Important

Assessor conclusions:

Data quality feedback is completed through EMS PIC outreach and the Office of EMS' regional managers. Weekly compliance reports are provided that allow local agencies to compare themselves to the State and to other agencies.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 330:

Are EMS data quality management reports produced regularly and made available to the State TRCC?

Standard of Evidence:

Provide a sample quality management report and specify frequency of transmission to the State TRCC.

Question Rank: Somewhat Important

Assessor conclusions:

Reports are not generated for the TRCC, but could be upon request.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 331:

Are there automated edit checks and validation rules to ensure that entered data falls within a range of acceptable values and is logically consistent among data elements?

Standard of Evidence:

Provide the formal methodology or describe the process by which automated edit checks and validation rules ensure entered data falls within the range of acceptable values and is logically consistent among fields.

Question Rank: Very Important

Assessor conclusions:

Truven Analytics has policies and procedures in place that provide a quality review of the hospital data. In addition, for the data provided to NC DETECT, there is a second data quality check using additional validation rules.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 332:

Is limited state-level correction authority granted to quality control staff working with the statewide emergency department and hospital discharge databases in order to amend obvious errors and omissions without returning the report to the originating entity?

Standard of Evidence:

Provide the formal methodology or describe the process by which limited state-level correction authority is granted to quality control staff working with the statewide emergency department and hospital discharge databases.

Question Rank: Somewhat Important

Assessor conclusions:

Truven Analytics and the NCHA has processes in place for validating emergency department and hospital discharge data submitted, but there is no State level authority to correct any data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 333:

Are there formally documented processes for returning rejected emergency department and hospital discharge records to the collecting entity and tracking resubmission to the statewide emergency department and hospital discharge databases?

Standard of Evidence:

Provide the formal methodology or describe the process by which rejected emergency department and hospital discharge records are returned to the collecting agency and tracked through resubmission to the statewide emergency department and hospital discharge databases.

Question Rank:
Very Important

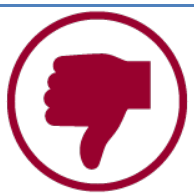
Assessor conclusions:

NC DETECT has a data quality manager that reviews the data received from the Hospital Association through Truven Analytics and works collaboratively to solve data quality issues. NC DETECT does not have the ability to make changes to the data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 334:

Are there timeliness performance measures tailored to the needs of emergency department and hospital discharge database managers and data users?



Standard of Evidence:

Provide a complete list of timeliness performance measures for the emergency department and hospital discharge databases and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

Metrics are tracked but they do not appear to have the form of a performance measure. Effective performance measures have a baseline and a target. Intermediate metrics are collected to track the State or agencies progress toward the established targets. All three components are needed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 335:

Are there accuracy performance measures tailored to the needs of emergency department and hospital discharge database managers and data users?

Standard of Evidence:

Provide a complete list of accuracy performance measures for the emergency department and hospital discharge databases and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

Data quality metrics are collected. To help monitor the health of the hospital data system overall or just the data that's included NC DETECT, baselines and targets should also be established.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 336:

Are there completeness performance measures tailored to the needs of emergency department and hospital discharge database managers and data users?

Standard of Evidence:

Provide a complete list of completeness performance measures for the emergency department and hospital discharge databases and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

NC DETECT does not maintain completeness performance measures other than those monitored as a part of a routine data quality check conducted on data provided by the hospital association.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 337:

Are there uniformity performance measures tailored to the needs of emergency department and hospital discharge database managers and data users?

Standard of Evidence:

Provide a complete list of uniformity performance measures for the emergency department and hospital discharge databases and explain how these measures are used to inform decision-making.

Question Rank: Very Important

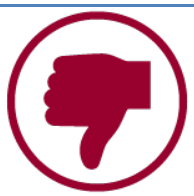
Assessor conclusions:

No specific uniformity measures are collected.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 338:

Are there integration performance measures tailored to the needs of emergency department and hospital discharge database managers and data users?



Standard of Evidence:

Provide a complete list of integration performance measures for the emergency department and hospital discharge databases and explain how these measures are used to inform decision-making.

Question Rank: Very Important

Assessor conclusions:

Emergency department data has been linked for specific projects. This activity would provide a baseline for the development of a performance measure related to integration.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 339:

Are there accessibility performance measures tailored to the needs of emergency department and hospital discharge database managers and data users?

Standard of Evidence:

Provide a complete list of accessibility performance measures for the emergency department and hospital discharge database and explain how these measures are used to inform decision-making.

Question Rank: Very Important

Assessor conclusions:

There are no accessibility performance measures for the hospital data systems.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 340:

Has the State established numeric goals—performance metrics—for each emergency department and hospital discharge database performance measure?

Standard of Evidence:

Provide specific numeric goals and related performance measures for each attribute as determined by the State.

Question Rank: Somewhat Important

Assessor conclusions:

A timeliness requirement is in place (hospitals must report emergency department data on a daily basis), but other metrics have not been established.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 341:

Is there performance reporting for the emergency department and hospital discharge databases that provides specific timeliness, accuracy, and completeness feedback to each submitting entity?

Standard of Evidence:

Provide a sample report, list of receiving agencies, and specify frequency of issuance.

Question Rank:
Very Important

Assessor conclusions:

Submitting hospitals may access and review quality control reports through the North Carolina Hospital Emergency Surveillance System (NCHESS+) and there is regular communication between NCHA, Truven Analytics, and the hospitals.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 342:

Are high frequency errors used to update emergency department and hospital discharge database training content, data collection manuals, and validation rules?

Standard of Evidence:

Provide the formal methodology or describe the process by which high frequency errors are used to update emergency department and hospital discharge database training content, data collection manuals, and validation rules.

Question Rank:
Very Important

Assessor conclusions:

Much of this process would be handled by Truven Analytics. NC DETECT will bring data issues to the attention of individual facilities as they are identified but it is unknown to what extent issues are addressed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 343:

Are quality control reviews conducted to ensure the completeness, accuracy, and uniformity of injury data in the emergency department and hospital discharge databases?

Standard of Evidence:

Provide a sample quality control review of injury records that details the system's data completeness.

Question Rank: Somewhat Important

Assessor conclusions:

NC DETECT conducts some quality reviews of the data submitted to their system. Other review would be conducted by Truven Analytics. Additionally, quality control reports may be reviewed through the North Carolina Hospital Emergency Surveillance System. However, no official documentation of this process has been compiled.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 344:

Are periodic comparative and trend analyses used to identify unexplained differences in the emergency department and hospital discharge data across years and agencies?

Standard of Evidence:

Describe the analyses, provide a sample record or output, and specify their frequency.

Question Rank: Less Important

Assessor conclusions:

NC DETECT has conducted trend analyses of the emergency department data in the past, but do not do so on a regular basis.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 345:

Is data quality feedback from key users regularly communicated to emergency department and hospital discharge data collectors and data managers?

Standard of Evidence:

Describe the process for transmitting and utilizing key users' data quality feedback to inform program changes.

Question Rank: Somewhat Important

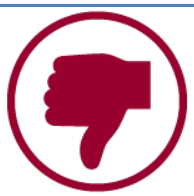
Assessor conclusions:

There is no formal process for communicating feedback from users (researchers) to data managers of clinical data systems.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 346:

Are emergency department and hospital discharge data quality management reports produced regularly and made available to the State TRCC?



Standard of Evidence:

Provide a sample quality management report and specify frequency of transmission to the State TRCC.

Question Rank: Somewhat Important

Assessor conclusions:

Quality management reports would be compiled by Truven Analytics. They are not made available to the Division of Public Health. Updates are given to the TRCC on the use of NC DETECT and individual projects that make use of the data.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 347:

Are there automated edit checks and validation rules to ensure that entered data falls within a range of acceptable values and is logically consistent among data elements?

Standard of Evidence:

Provide the formal methodology or describe the process by which automated edit checks and validation rules ensure entered data falls within the range of acceptable values and is logically consistent among fields.

Question Rank: Very Important

Assessor conclusions:

Validation rules are incorporated into the Digital Innovations software used to collect trauma registry information, but is not available for review.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 348:

Is limited state-level correction authority granted to quality control staff working with the statewide trauma registry in order to amend obvious errors and omissions without returning the report to the originating entity?

Standard of Evidence:

Provide the formal methodology or describe the process by which limited state-level correction authority is granted to quality control staff working with the statewide trauma registry.

Question Rank: Somewhat Important

Assessor conclusions:

The State does not have authority to make any changes to trauma registry records.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 349:

Are there formally documented processes for returning rejected data to the collecting entity and tracking resubmission to the statewide trauma registry?

Standard of Evidence:

Provide the formal methodology or describe the process by which rejected data is returned to the collecting agency and tracked through resubmission to the statewide trauma registry.

Question Rank:
Very Important

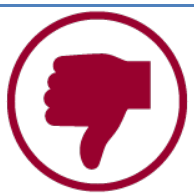
Assessor conclusions:

Trauma registrars are notified of errors in their submissions, but individual record numbers are not sent for correction unless the error count is small. There is no process for tracking those records to resubmission.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 350:

Are there timeliness performance measures tailored to the needs of trauma registry managers and data users?



Standard of Evidence:

Provide a complete list of timeliness performance measures for the trauma registry and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

Although there are State submission requirements, those do not constitute performance measures. Measures include baseline and goal metrics as well as a time range for the goal.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 351:

Are there accuracy performance measures tailored to the needs of trauma registry managers and data users?

Standard of Evidence:

Provide a complete list of accuracy performance measures for the trauma registry and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

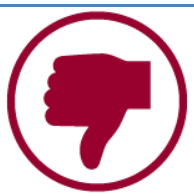
Assessor conclusions:

The North Carolina Trauma Registry has established a goal of having at least 80% of the values for all data points be complete and correct. However, no specific performance measure has been built around this metric.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 352:

Are there completeness performance measures tailored to the needs of trauma registry managers and data users?



Standard of Evidence:

Provide a complete list of completeness performance measures for the trauma registry and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

No specific performance measures related to the completeness of data in the trauma registry have been developed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 353:

Are there uniformity performance measures tailored to the needs of trauma registry managers and data users?

Standard of Evidence:

Provide a complete list of uniformity performance measures for the trauma registry and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

All required data point values must adhere to the data dictionary. However, this is more a standard than a performance measure.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 354:

Are there integration performance measures tailored to the needs of trauma registry managers and data users?

Standard of Evidence:

Provide a complete list of integration performance measures for the trauma registry and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

The trauma registry is not linked to other data sources on an on-going basis and no associated performance measures have been developed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 355:

Are there accessibility performance measures tailored to the needs of trauma registry managers and data users?

Standard of Evidence:

Provide a complete list of accessibility performance measures for the trauma registry and explain how these measures are used to inform decision-making.

Question Rank: Very Important

Assessor conclusions:

There are no accessibility performance measures for the trauma registry.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 356:

Has the State established numeric goals—performance metrics—for each trauma registry performance measure?

Standard of Evidence:

Provide specific numeric goals and related performance measures for each attribute as determined by the State.

Question Rank: Somewhat Important

Assessor conclusions:

Some standards have been established for timeliness and accuracy but a complete set of metrics has not been developed.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 357:

Is there performance reporting for the trauma registry that provides specific timeliness, accuracy, and completeness feedback to each submitting entity?

Standard of Evidence:

Provide a sample report, list of receiving agencies, and specify frequency of issuance.

Question Rank: Very Important

Assessor conclusions:

Although it's a goal, the NCTR does not provide regular quality reporting to each registrar.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 358:

Are high frequency errors used to update trauma registry training content, data collection manuals, and validation rules?

Standard of Evidence:

Provide the formal methodology or describe the process by which high frequency errors are used to update trauma registry training content, data collection manuals, and validation rules.

Question Rank: Very Important

Assessor conclusions:

Common errors are discussed with registrars, as well as other concerns, and used to update training content and manuals.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 359:

Are quality control reviews conducted to ensure the completeness, accuracy, and uniformity of injury data in the trauma registry?

Standard of Evidence:

Provide a sample quality control review of injury records that details the system's data completeness.

Question Rank: Somewhat Important

Assessor conclusions:

Periodic quality controls are conducted and the results are provided to the submitting hospital.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 360:

Are periodic comparative and trend analyses used to identify unexplained differences in the trauma registry data across years and agencies?

Standard of Evidence:

Describe the analyses, provide a sample record or output, and specify their frequency.

Question Rank: Less Important

Assessor conclusions:

Reports are prepared as needed and are used to evaluate changes trends and data quality. These reports have been used to examine various data quality issues including record counts, chief complaint frequencies, transport method, hospital dispositions, and frequency of Glasgow Coma Scores.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 361:

Is data quality feedback from key users regularly communicated to trauma registry data collectors and data managers?

Standard of Evidence:

Describe the process for transmitting and utilizing key users' data quality feedback to inform program changes.

Question Rank: Somewhat Important

Assessor conclusions:

Feedback is given on a periodic basis but no set schedule has been established.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 362:

Are trauma registry data quality management reports produced regularly and made available to the State TRCC?

Standard of Evidence:

Provide a sample quality management report and specify frequency of transmission to the State TRCC.

Question Rank: Somewhat Important

Assessor conclusions:

Data quality reports are not regularly produced and provided to the TRCC.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 363:

Are there automated edit checks and validation rules to ensure that entered data falls within a range of acceptable values and is logically consistent among data elements?

Standard of Evidence:

Provide the formal methodology or describe the process by which automated edit checks and validation rules ensure entered data falls within the range of acceptable values and is logically consistent among fields.

Question Rank: Very Important

Assessor conclusions:

Automatic edit checks are conducted at time of data entry. Error alerts allow the data entry operator to identify and immediately correct problems such as data out of range or inconsistent with other information.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 364:

Is limited state-level correction authority granted to quality control staff working with vital records in order to amend obvious errors and omissions without returning the report to the originating entity?

Standard of Evidence:

Provide the formal methodology or describe the process by which limited state-level correction authority is granted to quality control staff working with vital records.

Question Rank: Somewhat Important

Assessor conclusions:

Once submitted, changes may not be made to the vital records document without an official request for change.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 365:

Are there formally documented processes for returning rejected data to the collecting entity and tracking resubmission to vital records?

Standard of Evidence:

Provide the formal methodology or describe the process by which rejected data is returned to the collecting agency and tracked through resubmission to vital records.

Question Rank:
Very Important

Assessor conclusions:

Vital Statistics staff work through the Field Services Unit of the Vital Records Branch to get records corrected once errors are identified.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 366:

Are there timeliness performance measures tailored to the needs of vital records managers and data users?

Standard of Evidence:

Provide a complete list of timeliness performance measures for vital records and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

Standards for reporting have been established by the National Center for Health Statistics. These requirements help States with their timeliness and completeness targets but are not developed as performance measures that would help the State identify problems or track progress with the vital records data system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 367:

Are there accuracy performance measures tailored to the needs of vital records managers and data users?

Standard of Evidence:

Provide a complete list of accuracy performance measures for vital records and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

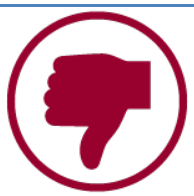
Assessor conclusions:

Standards for reporting have been established by the National Center for Health Statistics. These requirements help States establish data quality targets but are not developed as performance measures that would help the State identify problems or track progress with the vital records data system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 368:

Are there completeness performance measures tailored to the needs of vital records managers and data users?



Standard of Evidence:

Provide a complete list of completeness performance measures for vital records and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

Standards for reporting have been established by the National Center for Health Statistics. These requirements help States establish data quality targets but are not developed as performance measures that would help the State identify problems or track progress with the vital records data system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 369:

Are there uniformity performance measures tailored to the needs of vital records managers and data users?

Standard of Evidence:

Provide a complete list of uniformity performance measures for vital records and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

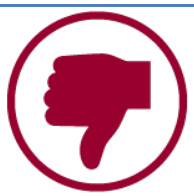
Assessor conclusions:

Standards for reporting have been established by the National Center for Health Statistics. These requirements help States establish data quality targets but are not developed as performance measures that would help the State identify problems or track progress with the vital records data system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 370:

Are there integration performance measures tailored to the needs of vital records managers and data users?



Standard of Evidence:

Provide a complete list of integration performance measures for vital records and explain how these measures are used to inform decision-making.

Question Rank:
Very Important

Assessor conclusions:

Standards for reporting have been established by the National Center for Health Statistics. These requirements help States establish data quality targets but are not developed as performance measures that would help the State identify problems or track progress with the vital records data system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 371:

Are there accessibility performance measures tailored to the needs of vital records managers and data users?

Standard of Evidence:

Provide a complete list of accessibility performance measures for vital records and explain how these measures are used to inform decision-making.

Question Rank: Very Important

Assessor conclusions:

There are no accessibility performance measures for the vital records system.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 372:

Has the State established numeric goals—performance metrics—for each vital records performance measure?

Standard of Evidence:

Provide specific numeric goals and related performance measures for each attribute as determined by the State.

Question Rank: Somewhat Important

Assessor conclusions:

Standards for reporting have been established by the National Center for Health Statistics. These requirements help States establish data quality targets. The NCHS standards do not address each element included in the 'six-pack.'

Respondents assigned	1	Responses received	1	Response rate	100%

Question 373:

Is there performance reporting for vital records that provides specific timeliness, accuracy, and completeness feedback to each submitting entity?

Standard of Evidence:

Provide a sample report, list of receiving agencies, and specify frequency of issuance.

Question Rank:
Very Important

Assessor conclusions:

Performance reports are provided by the NCHS once the State submits a file, but those reports are not shared with submitting entities. Ideally, the State should provide feedback on timeliness, accuracy, and completeness to submitting agencies as a means to improve data quality.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 374:

Are high frequency errors used to update vital records training content, data collection manuals, and validation rules?

Standard of Evidence:

Provide the formal methodology or describe the process by which high frequency errors are used to update vital records training content, data collection manuals, and validation rules.

Question Rank:
Very Important

Assessor conclusions:

The Vital Records Field Services staff conducts training with local staff on an as needed basis. Statewide training is held in the event of large scale changes.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 375:

Are quality control reviews conducted to ensure the completeness, accuracy, and uniformity of injury data in the vital records?

Standard of Evidence:

Provide a sample quality control review of injury records that details the system's data completeness.

Question Rank: Somewhat Important

Assessor conclusions:

The State Center for Health Statistics conducts an internal review of the data, but does not focus exclusively on injury records.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 376:

Are periodic comparative and trend analyses used to identify unexplained differences in the vital records data across years and agencies?

Standard of Evidence:

Describe the analyses, provide a sample record or output, and specify their frequency.

Question Rank: Less Important

Assessor conclusions:

Trend analyses are conducted by the SCHS regularly to identify any irregularities in the data, but the reports are not available for review.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 377:

Is data quality feedback from key users regularly communicated to vital records data collectors and data managers?

Standard of Evidence:

Describe the process for transmitting and utilizing key users' data quality feedback to inform program changes.

Question Rank: Somewhat Important

Assessor conclusions:

Although not a formal process, data users/researchers communicate with the SCHS when anomalies are noted and need investigated.

Respondents assigned	1	Responses received	1	Response rate	100%

Question 378:

Are vital records data quality management reports produced regularly and made available to the State TRCC?

Standard of Evidence:

Provide a sample quality management report and specify frequency of transmission to the State TRCC.

Question Rank: Somewhat Important

Assessor conclusions:

Data quality reports are not regularly produced and shared with the TRCC.

Respondents assigned	1	Responses received	1	Response rate	100%

Data Use and Integration

Establishing linkages between the six major traffic records components allows for analyses and generates insights otherwise impossible based solely on the content of any singular data system. These linkages and resulting analyses provide decision-makers the ability to better understand a crash event, the roadway environment and the people and vehicles involved. It allows program managers a more comprehensive method for identifying problems, determining priorities, allocating resources and evaluating program effectiveness. North Carolina clearly understands this.

The State was quick to demonstrate that behavioral managers who were members of the State's TRCC had access to traffic records data systems through various research organizations. Studies showed linkages between crash, driver license history, citation and vehicle registration, which examined the behavior of young drivers, older drivers, commercial motor vehicle drivers and others. It was shown how the TRCC was actively involved in facilitating data integration in accordance with State law and the individual policies of its multi-disciplinary membership. Promoting data integration is part of the 2016 NC TRCC Strategic Plan.

By utilizing live Oracle replication of crash data into the Traffic Engineering Accident Analysis System (TEAAS), the State established integration of crash data and roadway inventory. TEAAS reporting and analysis tools are used to single out high crash locations, to perform intersection and strip analysis. In general TEAAS can be used to identify roadway features associated with increased crash frequency and severity and to provide decision-makers the integrated dataset needed to design effective countermeasures.

It's worth noting the distinction between the terms "interface" and "integration." Interface linkages are routinely performed in real-time to support business processes. An example of this provided by NC would be the State's support of a roadside crash report collection application that can retrieve the vehicle and owner information to populate the crash report. The motor vehicle lookup (interface) does promote good data integrity. However, integration, for the purposes used here, is the linking of databases to support in-depth analysis across domains and doesn't need to be necessarily automated.

The State provided several examples, and were given credit for, integration based on research projects. For one such study, the crash database was linked to the citation and adjudication database by person name, date of birth, and/or driver license number. A study, with similar linkage, showed the effect of post-violation driver education classes on subsequent traffic convictions and crashes. Another example was an older study that linked crash, driver license history, medical data and the NC Medical Examiner database. Though the State reports this older analysis is still relevant, it would be beneficial to demonstrate more current efforts.

As noted, the State is keenly aware of the value of integrated data. However, it is still taking some first steps, which call into question the relevancy of the older study just mentioned. A new two-year study ("NC Linkage Project for Crash and Injury") for integrating crash with medical data sources was started in the fall of 2016. The goal of this current project is to establish a linkage methodology that could be repeated annually for future studies of injury and crashes. The State

hopes that this current project will eventually lead to the ability to track a patient from a crash scene through all medical services received related to that original crash event. The State has also requested a NHTSA GO Team to help further develop possible integrative linkage with other sources of traffic safety data.

The State provided a technical architecture system design document for data governance. The document listed links between various databases. However, data governance refers to higher level topics, such as identifying the personnel or agencies involved in managing the data systems, as well as how integration and data quality efforts are coordinated. Establishing a more formal data governance would be beneficial especially with the work that will be provided by the NHTSA GO Team.

As the State outlines its next steps, it should be cognizant that integrative linkages should be driven by questions that require integrated datasets to answer. Linked datasets are not the end goal. It's the ability to provide decision-makers and data users with the information necessary for problem identification, countermeasure development and evaluation and increase the relevancy of information available for legislative and policy analysis.

Question 379:

Do behavioral program managers have access to traffic records data and analytic resources for problem identification, priority setting, and program evaluation?

Standard of Evidence:

Identify the data source(s), (crash, roadway, driver, vehicle, citation adjudication, injury surveillance), discuss and provide examples of program specific analysis (e.g., reports, fact sheets, web pages, ad hoc analyses.

Question Rank:
Very Important

Assessor conclusions:

Several studies provided showed utilizing data from several sources. Behavioral managers have access to traffic records data for general purpose analytics.

Respondents assigned	**3**	**Responses received**	**2**	**Response rate**	**66.7%**

Question 380:

Does the State have a data governance process?

Standard of Evidence:

Provide a narrative detailing the State's data governance process, identifying the personnel involved and describing how it supports traffic safety data integration and formal data quality management.

Question Rank: Somewhat Important

Assessor conclusions:

A technical architecture system design document was provided with a flow chart. However, there was no narrative detailing any State governance process regarding traffic safety integration or data quality management. Data governance refers to higher level topics, such as identifying the personnel or agencies involved in managing the data systems, as well as how integration and data quality efforts are coordinated.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 381:

Does the State have a formal traffic records system inventory that identifies linkages useful to the State and data access policies?

Standard of Evidence:

Provide a copy of the system inventory specifying all traffic records data sources, system custodians, data elements and attributes, linkage variables, linkages useful to the State, and data access policies.

Question Rank: Very Important

Assessor conclusions:

The State does not have a formal traffic record system inventory. The State does document component systems and several linkages in the Traffic Records Systems Technical Architecture System Design Document, including Oracle replication to TEAAS, which links crash data with roadway.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 382:

Does the TRCC promote data integration by aiding in the development of data governance, access, and security policies for integrated data?

Standard of Evidence:

Identify, with appropriate citations, the TRCC strategic plan sections that demonstrate the promotion of data integration.

Question Rank: Somewhat Important

Assessor conclusions:

The State reported that the TRCC promotes data integration, and the State provided a report of a recent data linkage project that covered one county. The State provided another study on a linkage project for crash and injury funded in part through the efforts of the TRCC.

Respondents assigned	2	Responses received	1	Response rate	50%

Question 383:

Is driver data integrated with crash data for specific analytical purposes?

Standard of Evidence:

Document an integrative crash-driver link, the linkage variables, and example analysis, and the frequency of linkage. Example analyses could include an assessment of graduated drivers' license (GDL) law effectiveness or of crash risk associated with motorcycle rider training, licensing, and behavior.

Question Rank: Very Important

Assessor conclusions:

The State queries the Driver data to fill the crash report and uploads the crash data to the driver system. By storing the data on the driver history it can be utilized for further analysis.

Respondents assigned	3	Responses received	3	Response rate	100%

Question 384:

Is vehicle data integrated with crash data for specific analytical purposes?

Standard of Evidence:

Document an integrative crash-vehicle link, the linkage variables, and example analysis, and the frequency of linkage. Example analyses could include crash trends among vehicle types or vehicle weight restriction by road classification.

Question Rank:
Very Important

Assessor conclusions:

The State provided analysis of crash data and vehicle type, but the data was from the crash report and no evidence of integration with data from the vehicle database. Although MV lookup is good for data integrity, integration would provide analysis capability. The State also uploads the data to the LITES system, making it possible for analysis of data across the two domains.

Respondents assigned	3	Responses received	3	Response rate	100%

Question 385:

Is roadway data integrated with crash data for specific analytical purposes?

Standard of Evidence:

Document an integrative crash-roadway link, the linkage variables, and example analysis, and the frequency of linkage. Example analyses could include the identification of high crash locations and locations with similar roadway attributes or an assessment of engineering countermeasures' effectiveness.

Question Rank:
Very Important

Assessor conclusions:

By utilized live Oracle replication of the crash data into TEAAS, the State demonstrates integration of crash data and roadway inventory data for analysis. The State provided several examples of studies and reports using integrated crash and roadway data.

Respondents assigned	3	Responses received	3	Response rate	100%

Question 386:

Is citation and adjudication data integrated with crash data for specific analytical purposes?

Standard of Evidence:

Document an integrative crash-citation or adjudication link, the linkage variables, and example analysis, and the frequency of linkage. Example analyses could include an assessment of the relationship between illegal actions and crashes for specific driver subpopulations (e.g., older drivers) or of crash-involved DUI offenders' adjudications.

Question Rank: Very Important

Assessor conclusions:

Citation and adjudication data does not integrate with crash data. But can be integrated on an Ad Hoc basis as evident from the study provided. The State provided a sample report studying the effect of post-violation driver education classes on subsequent traffic convictions and crashes. The linkage is performed as needed and is not automated.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 387:

Is injury surveillance data integrated with crash data for specific analytical purposes?

Standard of Evidence:

Document an integrative crash-injury surveillance link, the linkage variables, and example analysis, and the frequency of linkage. Example analyses could include injury outcomes by specific crash type or injuries associated with occupant protection.

Question Rank: Very Important

Assessor conclusions:

In North Carolina Injury surveillance data is not currently integrated with crash data per se, but they do exchange data annually which allows for integration. The State is further pursuing methods for true integration including requesting a NHTSA GO Team for assistance.

Respondents assigned	3	Responses received	2	Response rate	66.7%

Question 388:

Are there examples of data integration among crash and two or more of the other component systems?

Standard of Evidence:

Document an integrative link among crash and multiple data systems, the linkage variables, and example analysis, and the frequency of linkage. Example analyses could include an assessment of the safety impact of differential speed limits for different vehicle types.

Question Rank: Somewhat Important

Assessor conclusions:

Through the LITES system it appears that the State integrates driver, citation and crash data. A study was also provided done by Dr. Waller which integrated data from crash, driver history, and medical examiner data. The State reports that the analysis is still relevant; however, it does not demonstrate current capabilities.

Respondents assigned	3	Responses received	3	Response rate	100%

Question 389:

Is data from traffic records component systems—excluding crash—integrated for specific analytical purposes?

Standard of Evidence:

Document an integrative link using at least two traffic record component systems excluding the crash system. Include the systems, their linkage variables, example analysis, and the frequency of linkage. Example analyses could include an assessment of recidivism among specific driver populations.

Question Rank: Somewhat Important

Assessor conclusions:

The motorcycle rider survey, as provided by the State, does not appear to span traffic records component systems for analytical purposes. It is stated that they "could" link Driver license with Motor vehicle records but the "potential" links "may not be helpful in producing reliable study results." As noted, medical researchers do not have the means to link to other special Injury databases.

Respondents assigned	3	Responses received	1	Response rate	33.3%

Question 390:

Do decision-makers have access to resources—skilled personnel and user-friendly access tools—for the use and analysis of integrated datasets?

Standard of Evidence:

Identify the analytical resources available: personnel, software, or online resources. Specify the decision-makers who have access to these resources.

Question Rank: Somewhat Important

Assessor conclusions:

The State does provide access to resources through several on-line systems documented in the Traffic Records Systems Technical Architecture System Design Document, including web-based access to crash data, mapping, location, and roadway data for use by city, county, and State government. The DOT provides dedicated staff to respond to data requests and provide user help.

Respondents assigned	3	Responses received	3	Response rate	100%

Question 391:

Does the public have access to resources—skilled personnel and user-friendly access tools—for the use and analysis of integrated datasets?

Standard of Evidence:

Identify the analytical resources available to the public: personnel, software, or online resources. Specify how the public has access to these resources.

Question Rank: Somewhat Important

Assessor conclusions:

The State has crash data available through several web sites including a University of North Carolina web portal, which allows for some basic crash analysis, as well as access to crash data through their data request process.

Respondents assigned	3	Responses received	3	Response rate	100%

Appendix A

Assessment Participants

State Highway Safety Office Representative(s)

Mr. Frank Hackney
NC Department of Transportation
NC State Traffic Records Coordinator

Mr. Don Nail
Governor's Highway Safety Program
Director

Mr. Mark A Scaringelli
NC DOT
Assistant Director

State Assessment Coordinator(s)

Mr. Eric D Bellamy Sr.
NC DMV
Manager

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Appendix B

National Acronyms and Abbreviations

AADT	Average Annual Daily Traffic
AAMVA	American Association of Motor Vehicle Administrators
AASHTO	American Association of State Highway and Transportation Officials
ACS	American College of Surgeons
AIS	Abbreviated Injury Score
ANSI	American National Standards Institute
ATSIP	Association of Transportation Safety Information Professionals
BAC	Blood Alcohol Concentration
CDC	Center for Disease Control
CDIP	NHTSA's Crash Data Improvement Program
CDLIS	Commercial Driver License Information System
CODES	Crash Outcome Data Evaluation System
DDACTS	Data Driven Approaches to Crime and Traffic Safety
DHS	Department of Homeland Security
DMV	Department of Motor Vehicles
DPPA	Drivers Privacy Protection Act
DOH	Department of Health
DOJ	Department of Justice
DOT	Department of Transportation
DOT-TRCC	The US DOT Traffic Records Coordinating Committee
DRA	Deputy Regional Administrator (NHTSA)
DUI	Driving Under the Influence
DUID	Driving Under the Influence of Drugs
DWI	Driving While Intoxicated
ED	Emergency Department
EMS	Emergency Medical Service
FARS	Fatality Analysis Reporting System
FDEs	Fundamental Data Elements
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
GCS	Glasgow Coma Scale
GDL	Graduated Driver Licensing
GES	General Estimates System
GHSA	Governors Highway Safety Association
GIS	Geographic Information System
GJXDM	Global Justice XML Data Model
GPS	Global Positioning System
GRA	Government Reference Architecture
HIPAA	Health Information Privacy and Accountability Act
HPMS	Highway Performance Monitoring System
HSIP	Highway Safety Improvement Plan
HSP	Highway Safety Plan

ICD-10	International Classification of Diseases and Related Health Problems
IRB	Institutional Review Board
ISS	Injury Severity Score
IT	Information Technology
JIEM	Justice Information Exchange Model
LEIN	Law Enforcement Information Network
MADD	Mothers Against Drunk Driving
MCMIS	Motor Carrier Management Information System
MIDRIS	Model Impaired Driving Records Information System
MIRE	Model Inventory of Roadway Elements
MMUCC	Model Minimum Uniform Crash Criteria
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
NAPHSIS	National Association for Public Health Statistics and Information Systems
NCHIP	National Criminal History Improvement Program
NCHS	National Center for Health Statistics
NCIC	National Crime Information Center
NCSC	National Center for State Courts
NDR	National Driver Register
NEMSIS	National Emergency Medical Service Information System
NGA	National Governor's Association
NHTSA	National Highway Traffic Safety Administration
NIBRS	National Incident-Based Reporting System
NIEM	National Information Exchange Model
NLETS	National Law Enforcement Telecommunication System
NMVTIS	National Motor Vehicle Title Information System
NTDS	National Trauma Data Standard
PAR	Police Accident Report
PDPS	Problem Driver Pointer System
PDO	Property Damage Only
PII	Personally Identifiable Information
RA	Regional Administrator (NHTSA)
RDIP	FHWA's Roadway Data Improvement Program
RPM	Regional Program Manager (NHTSA)
RTS	Revised Trauma Score
RMS	Records Management System
RPC	Regional Planning Commission
SaDIP	FMCSA's Safety Data Improvement Program
SAVE	Systematic Alien Verification for Entitlements
SHSP	Strategic Highway Safety Plan
SME	Subject Matter Expert
SSOLV	Social Security Online Verification
STRAP	State Traffic Records Assessment Program
SWISS	Statewide Injury Surveillance System
TCD	Traffic Control Devices
TRA	Traffic Records Assessment
TRIPRS	Traffic Records Improvement Program Reporting System
TRCC	Traffic Records Coordinating Committee
TRS	Traffic Records System

UCR	Uniform Crime Reports
VIN	Vehicle Identification Number
VMT	Vehicle Miles Traveled
XML	Extensible Markup Language

State-Specific Acronyms and Abbreviations

ACIS	Automated Criminal Infraction System
ACIS	Automated Criminal / Infraction System
AOC	Administrative Office of Courts
CCHI	Carolina Center for Health Informatics
CIPRS	Court Information Public Records System
CJLEADS	Criminal Justice Law Enforcement Data Service
DCI	Department of Criminal Investigation
ECBI	Easternmost Band of Cherokee Indians
EMS PIC	Emergency Medical Services Performance Improvement Center
IVPB	Injury and Violence Prevention Branch
NC DETECT	North Carolina Disease Event Tracking and Epidemiologic Collection Tool
NC DPH	North Carolina Division of Public Health
NC VDRS	North Carolina Violent Death Reporting System
NCAOC	North Carolina Administrative Office of Courts
NCAWARE	North Carolina Statewide Warrant Repository
NCHESS	North Carolina Hospital Emergency Surveillance System
NCTR	North Carolina Trauma Registry
PreMIS	Prehospital Medical Information System
SADLS	State Automation Driver License System
SMARTT	State Medical Asset Resource Tracking Tool
STARS	State Titling and Registration System
TEASS	Traffic Engineering Accident Analysis System